

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 MANUFACTURER'S RECOMMENDATION. PROVIDE ACCESS CLEARANCE AT ALL LOCATIONS OF VALVES, STRAINER, INSTRUMENTATION, AND EQUIPMENT AS REQUIRED BY MANUFACTURER AND FOR EASE OF MAINTENANCE.

KEYNOTES:

- 1 PROVIDE AND INSTALL NEW THERMOSTATICALLY CONTROLLED AIR HANDLING UNIT (AHU-1) INCLUDING PIPING, VALVES, WIRING, CONDUIT, AND SUPPORTS. CHWS TO THE UNIT SHALL BE TAPPED FROM THE CHWS MAIN AS INDICATED; CHWR SHALL BE TAPPED INTO THE CHWR MAIN AS INDICATED. CHWS AND CHWR PIPING SHALL BE FIELD ROUTED. UNIT SHALL BE MOUNTED AT A MINIMUM 7'-0" AFF. FIELD COORDINATE FINAL MOUNTING ELEVATION WITH OTHER TRADES.

2 PRIMARY CONDENSATE DRAINAGE FROM AHU-1 SHALL BE FIELD ROUTED DOWN TO AND ALONG FLOOR SLAB TO A NEARBY FLOOR DRAIN AS SHOWN. OVERFLOW CONDENSATE DRAINAGE FROM AHU-1 SHALL BE FIELD ROUTED TO VISIBLE LOCATION NEAR THE SAME FLOOR DRAIN. DRAINAGE RISERS DOWN TO FLOOR SHALL BE MOUNTED FLUSH WITH STRUCTURAL COLUMN. PROVIDE PIPING ALONG FLOOR SLAB WITH NON-SLIP PIPE COVER WHERE THERE IS A TRIP HAZARD.

3 PROVIDE AND INSTALL NEW THERMOSTAT AND INTEGRATE WITH NEW AHU-1, EF-1, AND EF-2.

4 PROVIDE AND INSTALL NEW EXHAUST DUCTWORK, INCLUDING ALL NECESSARY FITTINGS, SUPPORTS, AND DAMPERS. CONTRACTOR SHALL FIELD COORDINATE THE HEIGHT OF DUCTWORK ABOVE FLOOR TO AVOID ANY INTERFERENCE WITH OTHER PIPING, EQUIPMENT, SUPPORTS, CONDUIT, AND LIGHTING.

5 TERMINATE EXHAUST DUCT WITH A 34x17 WIRE MESH SCREEN AT A 45° ANGLE AND AT 18" ABOVE FINISHED FLOOR. WIRE MESH SCREEN SHALL BE 1/4"x1/4".

6 PROVIDE AND INSTALL NEW EXHAUST FANS (EF-1, EF-2) INCLUDING WIRING, CONDUIT, AND SUPPORTS. CONTRACTOR SHALL UTILIZE FLEXIBLE CONNECTIONS AND TRANSITION AS REQUIRED AT FAN INLETS AND OUTLETS FOR CONNECTION TO NEW DUCTWORK. PROVIDE SUPPORTS WITH SPRING VIBRATION ISOLATORS. EXHAUST FANS SHALL BE SIZED TO MEET THE REQUIREMENTS OF ASHRAE 15.

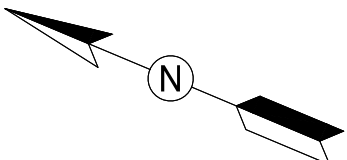
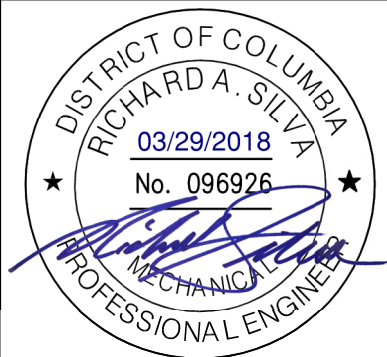
7 PROVIDE AND INSTALL NEW REFRIGERANT LEAK MONITORING AND CONTROL SYSTEM, INCLUDING REFRIGERANT INFRARED GAS SENSORS, STROBE LIGHTS, ALARM, AND WIRING. INTEGRATE WITH NEW EXHAUST FANS AND CHILLER PLANT MONITORING PANEL. REFRIGERANT DETECTION SYSTEM SHALL UTILIZE SHERLOCK 402-4 CONTROL MODULE AND TWO SHERLOCK REFRIGERANT INFRARED GAS SENSORS FOR R134A. CONTRACTOR SHALL FIELD VERIFY AND INSTALL REFRIGERANT INFRARED GAS SENSOR 18" ABOVE FINISHED FLOOR LEVEL AT CHILLER PLANT FLOOR LEVEL AS INDICATED. REFER TO EXHAUST FAN SEQUENCE OF OPERATION ON DRAWING CWP1-M-610.

8 PROVIDE AND INSTALL NEW UNIT HEATER INCLUDING WIRING, CONDUIT, AND SUPPORTS.
- 9 PROVIDE AND INSTALL NEW EYEWASH, UTILITY SINK, FAUCET, AND INSTANTANEOUS WATER HEATER, INCLUDING PIPING, WIRING, CONDUIT, AND SUPPORTS. WATER SUPPLY SHALL BE FIELD ROUTED TO CONNECT UPSTREAM OF THE EXISTING MAKE-UP WATER BACKFLOW PREVENTERS. PROVIDE INLINE ISOLATION VALVE, STRAINER, AND REDUCED PRESSURE TYPE BACKFLOW PREVENTER AT AN ACCESSIBLE LOCATION. FIELD ROUTE UTILITY SINK DRAINAGE PIPING ALONG FLOOR SLAB TO NEARBY FLOOR DRAIN. PROVIDE PIPING ALONG FLOOR SLAB WITH NON-SLIP PIPE COVER WHERE THERE IS A TRIP HAZARD. EYEWASH DRAINAGE SHALL BE STRAIGHT TO FLOOR. REFER TO DETAIL 1 ON DRAWING M-502.

1 MECHANICAL PLAN - NEW WORK
CWPA1-M-103

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

GFP A Gannett Fleming/Parsons
JOINT VENTURE



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

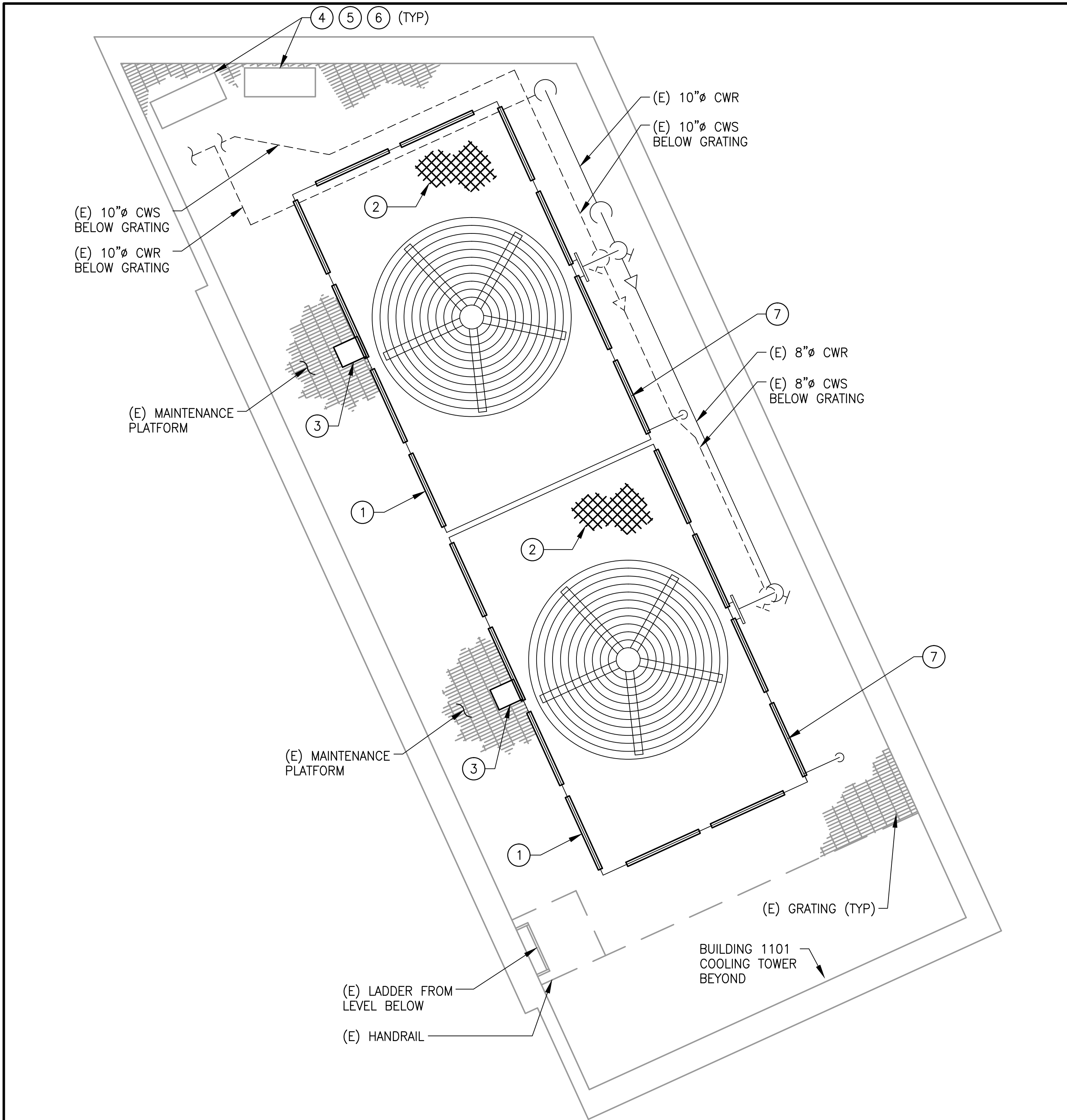
DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP

APPROVED *Mark H. Magnusson* 03/2018
MARK MAGNUSSEN
MANAGER, ENV. PLANNING AND COMP

APPROVED *Gabe Spiller* 03/2018
GRAHAM SPILLER
GFP DEPUTY PROGRAM MANAGER

REPLACEMENT OF CHILLERS
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS
CWPA1 - FARRAGUT NORTH (A02)
MECHANICAL PLAN - NEW WORK


M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
M1304	FQ-18102	1/4" = 1'-0"	CWPA1-M-103	15 of 173







- 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 TOWER IS LOCATED ON THE PENTHOUSE LEVEL OF BUILDING 1101 CONNECTICUT AVENUE NW, WASHINGTON, DC.

- KEYNOTES:
- 1 PROVIDE AND INSTALL NEW LOUVER GRILLES ON COOLING TOWER. COORDINATE WITH COOLING TOWER MANUFACTURER FOR EXACT PART. THE LOUVER DIMENSIONS SHALL MATCH EXISTING.
 - 2 PROVIDE AND INSTALL NEW PLASTIC FILL IN THE COOLING TOWER. COORDINATE WITH THE COOLING TOWER MANUFACTURER FOR EXACT PART. THE NEW FILL DIMENSION AND TYPE SHALL MATCH EXISTING.
 - 3 PROVIDE AND INSTALL NEW DIRECT DRIVE FAN MOTOR, DRIVE ASSEMBLY, AND MOUNTING HARDWARE. FAN MOTOR SHALL BE INVERTER DUTY RATED. COORDINATE WITH COOLING TOWER MANUFACTURER FOR EXACT PARTS.
 - 4 PROVIDE AND INSTALL NEW DISCONNECT AND CONTROLS.
 - 5 PROVIDE AND INSTALL NEW VARIABLE FREQUENCY DRIVE CONTROLLER FOR THE COOLING TOWER FAN. VFD SHALL BE LOCATED ON THE ROOF IN THE SAME LOCATION AS EXISTING, AND INSIDE A NEMA 4X ENCLOSURE.
 - 6 COOLING TOWER FAN MODULATION SHALL BE INTEGRATED WITH THE COOLING TOWER CONTROLLER.
 - 7 PROVIDE NEW SUMP PUMP. FIELD COORDINATE EXACT LOCATION OF SUMP PUMP.

1 MECHANICAL PLAN - NEW WORK
CWPA1-M-104
SCALE: 3/8" = 1'-0"

A Gannett Fleming/Parsons
JOINT VENTURE



DESIGNED <u>D. ROMNESS</u> 08/11/17 DATE DRAWN <u>D. ROMNESS</u> 08/11/17 DATE CHECKED <u>R. SILVA</u> 03/23/18 DATE			REFERENCE DRAWINGS		REVISIONS			 WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP		REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA1 - FARRAGUT NORTH (A02) MECHANICAL PLAN - NEW WORK				
			NUMBER	TITLE	DATE	NUM	DESCRIPTION							
					03/30/2018	0	FINAL CONTRACT DRAWINGS	<div>APPROVED  03/2018 MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div> <div>APPROVED  03/2018 GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div>						
M NO.		CONTRACT NO.		SCALE		DRAWING NO.		SHEET NO.						
M1304		FQ-18102		3/8" = 1'-0"		CWPA1-M-104		16 of 173						

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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:

REFER TO CWP1-M-102 FOR KEYNOTES USED ON THIS DRAWING.
- A SECTION - MECHANICAL**
CWP1-M-300

B SECTION - MECHANICAL
CWP1-M-300

SCALE: 3/8" = 1'-0"
- DESIGNED **D. ROMNESS** 08/11/17
DATE

DRAWN **D. ROMNESS** 08/11/17
DATE

CHECKED **R. SILVA** 03/23/18
DATE

REFERENCE DRAWINGS		REVISIONS	
NUMBER	TITLE	DATE	DESCRIPTION
		03/30/2018	0 FINAL CONTRACT DRAWINGS

M
metro

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP

APPROVED *Mark H. Magnusson* 03/2018
MARK MAGNUSSEN
MANAGER, ENV. PLANNING AND COMP

DATE

APPROVED *Gabe Spiller* 03/2018
GRAHAM SPILLER
GFP DEPUTY PROGRAM MANAGER

DATE

**REPLACEMENT OF CHILLERS
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS**
CWP1 - FARRAGUT NORTH (A02)
MECHANICAL SECTIONS - SHEET 1 OF 2

M NO. M1304	CONTRACT NO. FQ-18102	SCALE 3/8" = 1'-0"	DRAWING NO. CWP1-M-300	SHEET NO. 17 of 173
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GFP
A Gannett Fleming/Parsons
JOINT VENTURE

DISTRICT OF COLUMBIA
RICHARD A. SILVER
03/29/2018
No. 096925
MECHANICAL
PROFESSIONAL ENGINEER

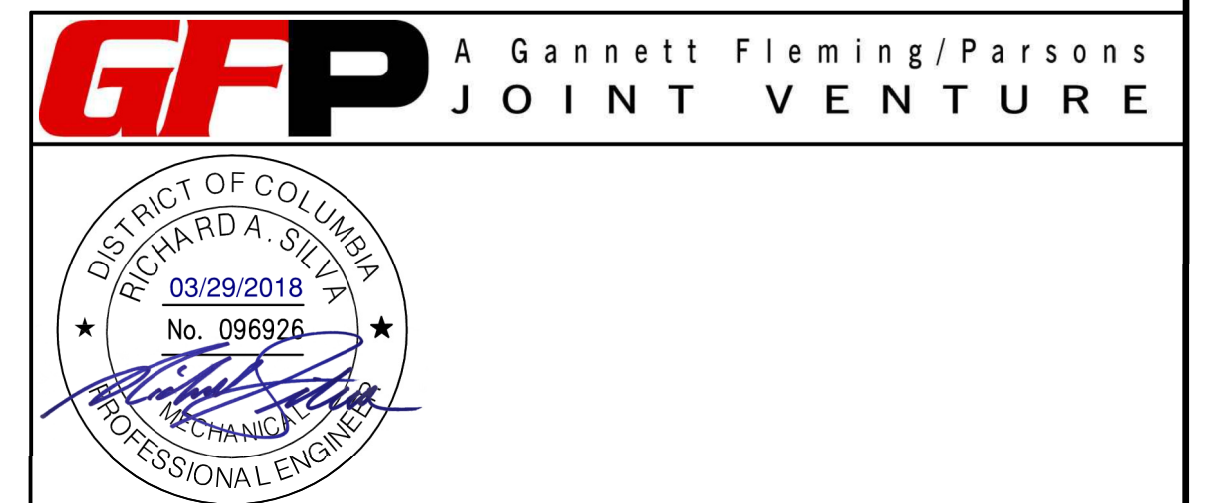
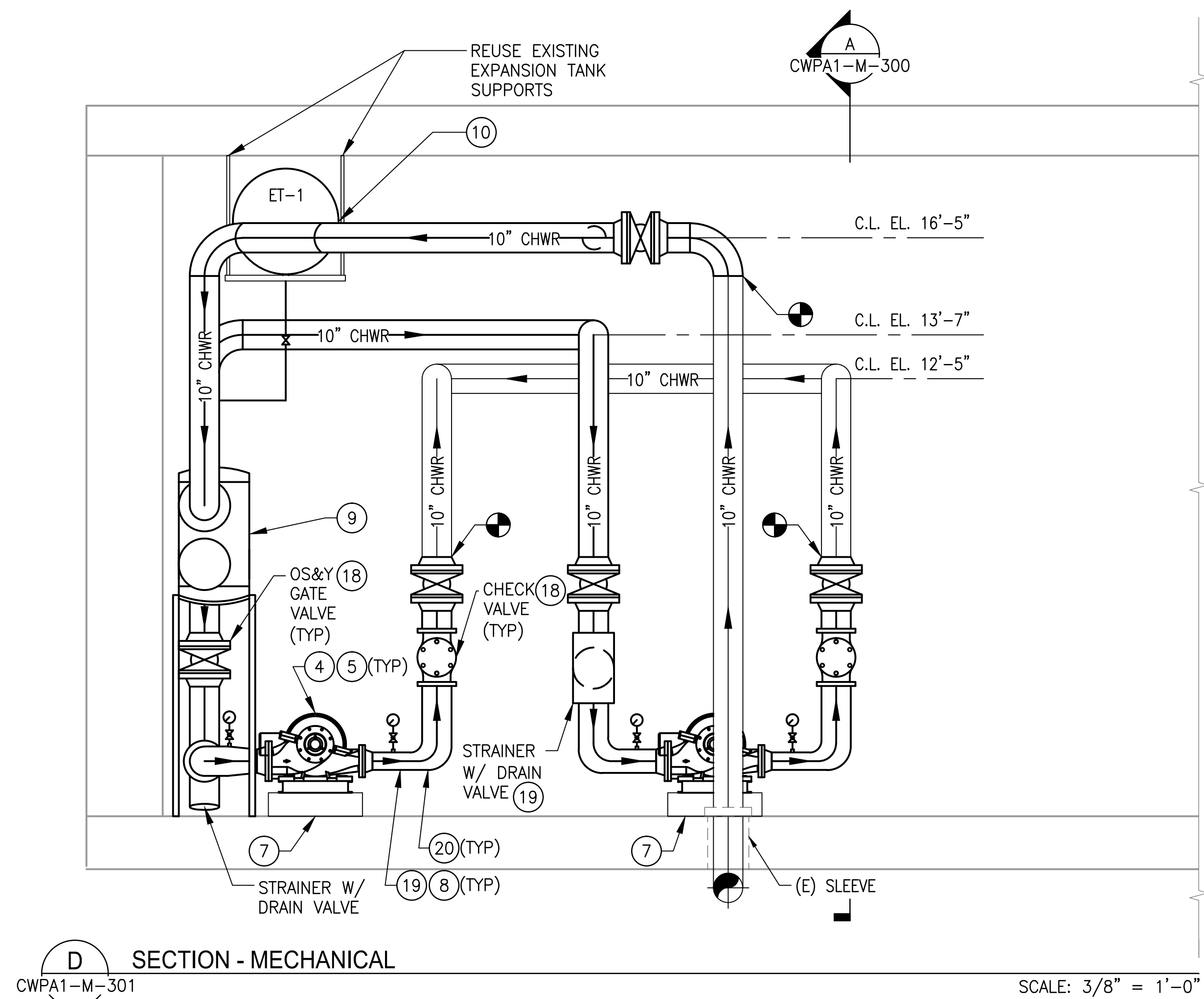
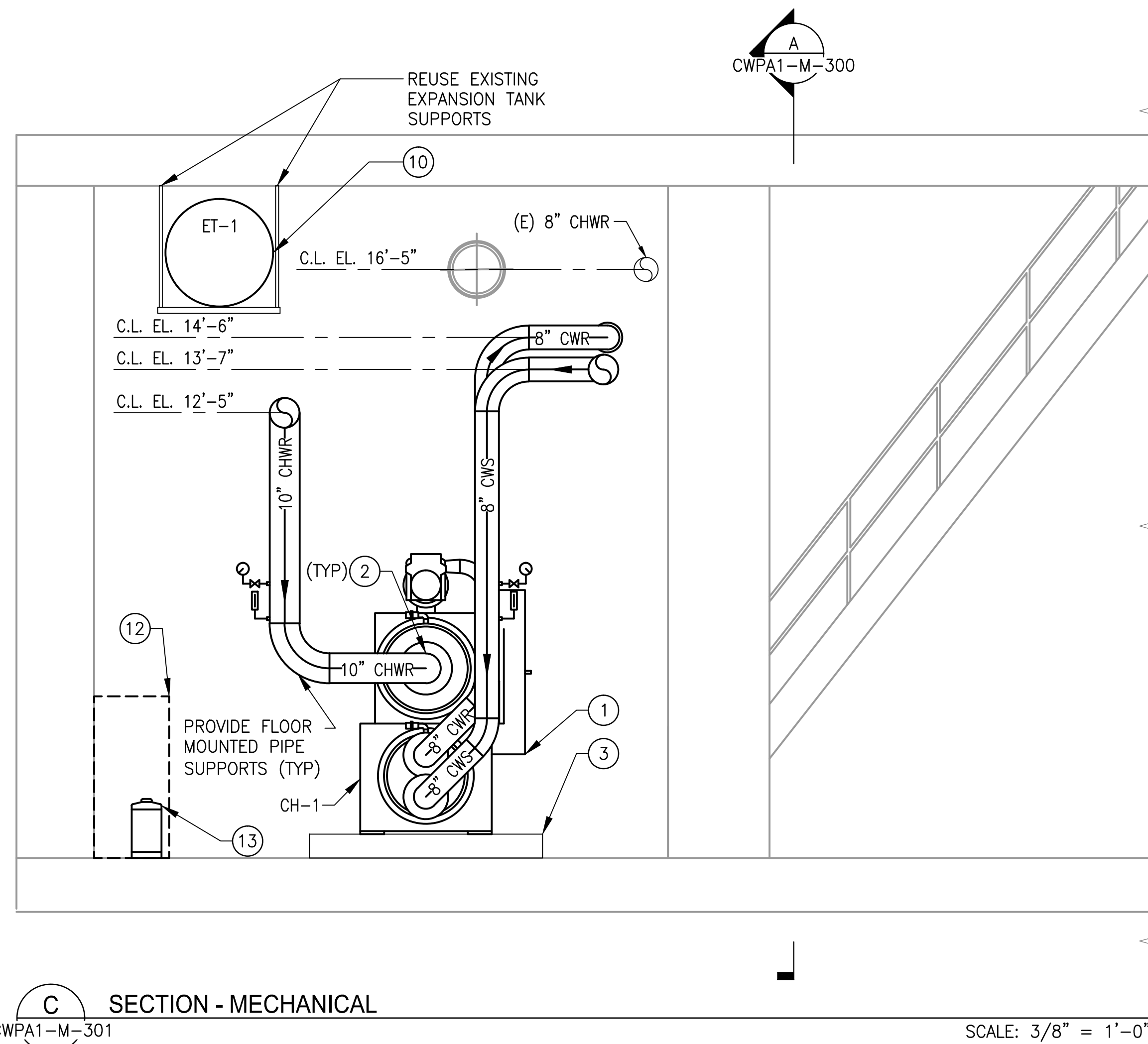
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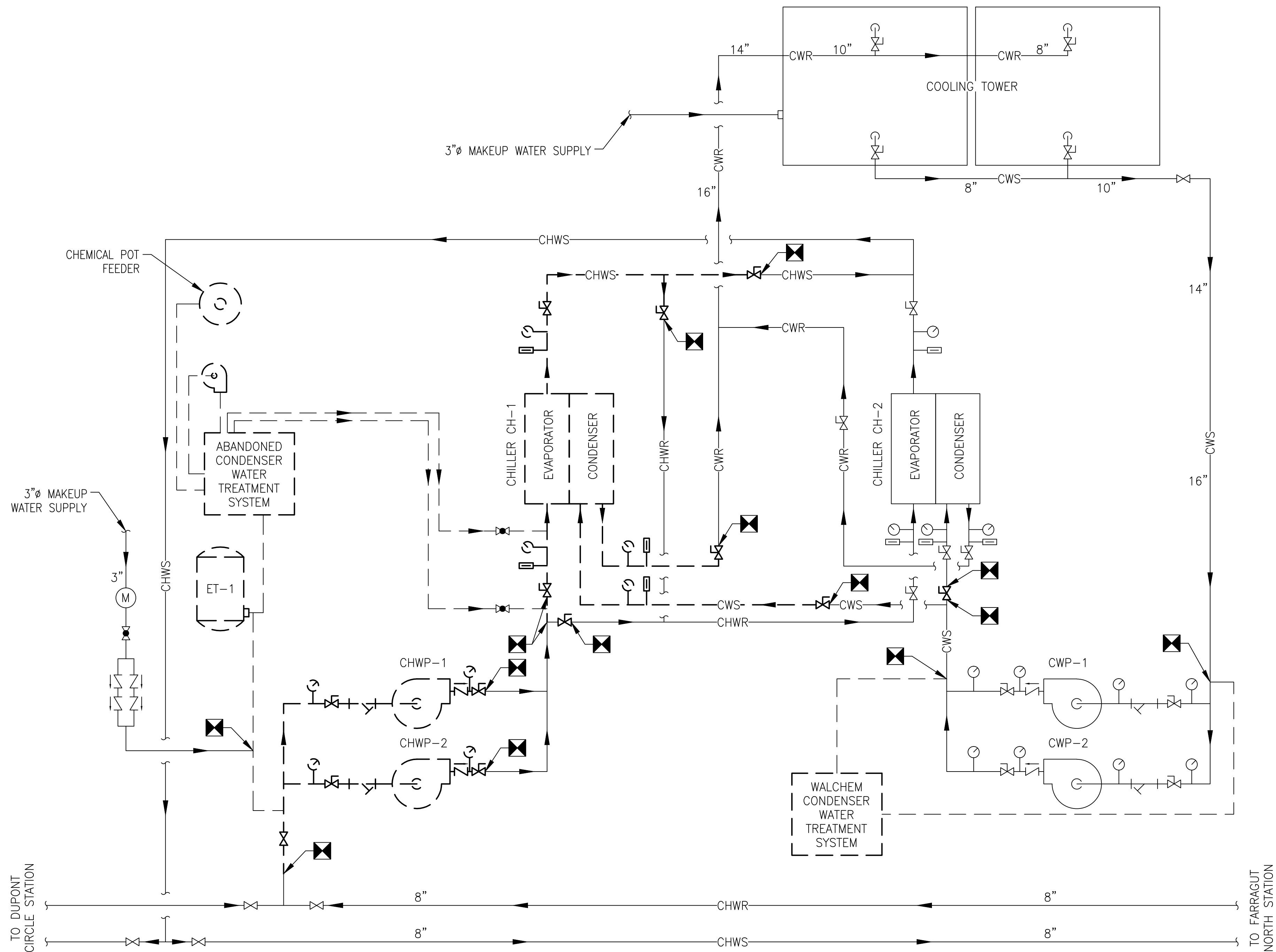
REFER TO CWP1-M-102 FOR KEYNOTES USED ON
THIS DRAWING.



DESIGNED <u>D. ROMNESS</u> 08/11/17 DATE			REFERENCE DRAWINGS		REVISIONS			<div><div>Mmetro</div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div>APPROVED <u>Mark H. Magnusson</u> 03/2018 MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div><div>DATE</div><div>APPROVED <u>Graham Spiller</u> 03/2018 GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div><div>DATE</div></div>	REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA1 - FARRAGUT NORTH (A02) MECHANICAL SECTIONS - SHEET 2 OF 2				
DRAWN <u>D. ROMNESS</u> 08/11/17 DATE			NUMBER	TITLE	DATE	NUM	DESCRIPTION		M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
CHECKED <u>R. SILVA</u> 03/23/18 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS		M1304	FQ-18102	3/8" = 1'-0"	CWPA1-M-301	18 of 173

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B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.


KEYNOTES:
REFER TO CWP1-M-100 FOR KEYNOTES USED ON THIS DRAWING.

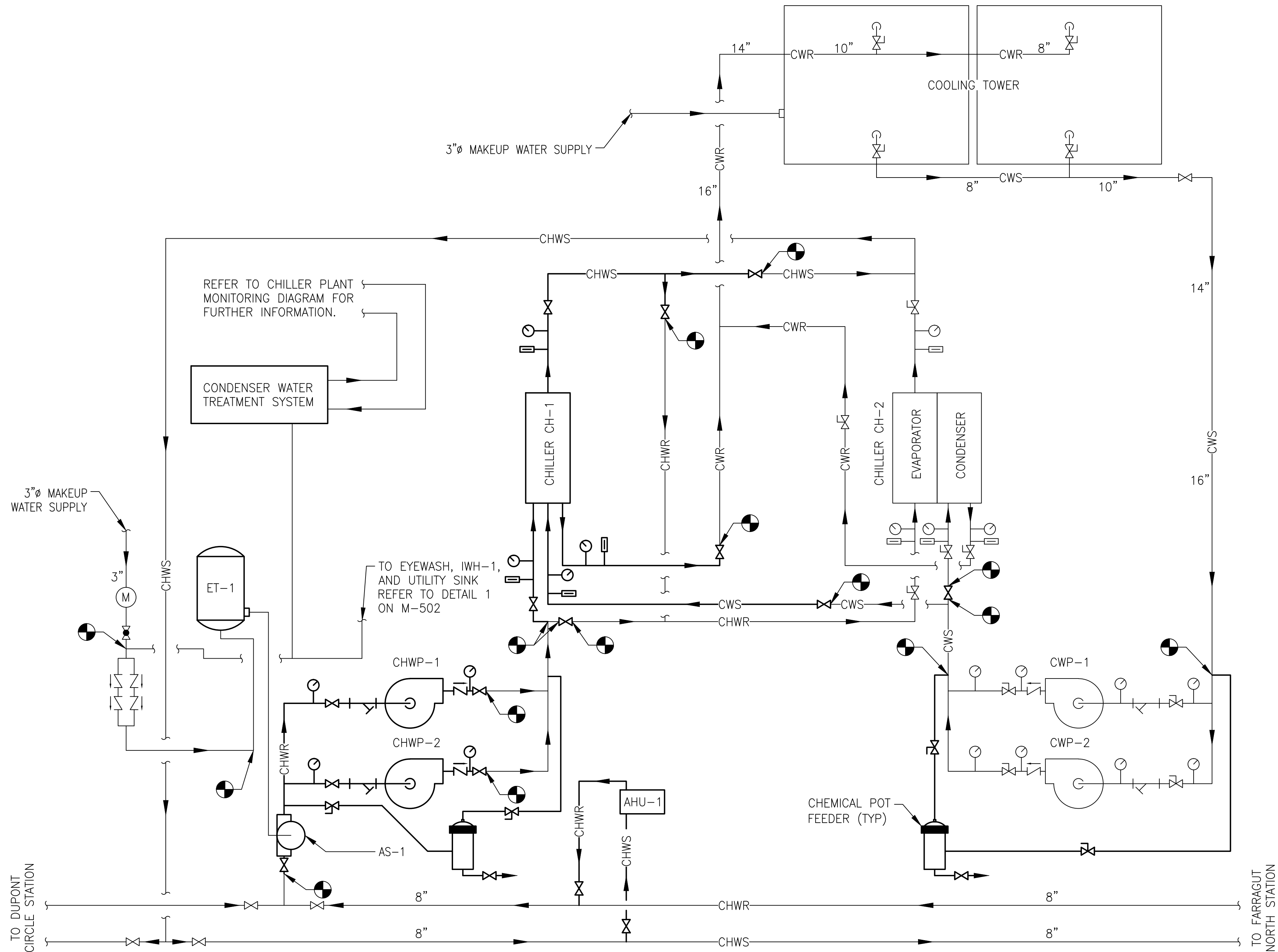


1 MECHANICAL FLOW DIAGRAM - DEMOLITION
CWP1-M-500 NOT TO SCALE

GFP A Gannett Fleming/Parsons
JOINT VENTURE

DISTRICT OF COLUMBIA
RICHARD A. SILVER
03/29/2018
No. 096925
MECHANICAL
PROFESSIONAL ENGINEER

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			NUMBER	TITLE	DATE	NUM	DESCRIPTION		M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
DRAWN <u>D. ROMNESS</u> 08/18/17 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS						
CHECKED <u>R. SILVA</u> 03/23/18 DATE													



GENERAL NOTES:

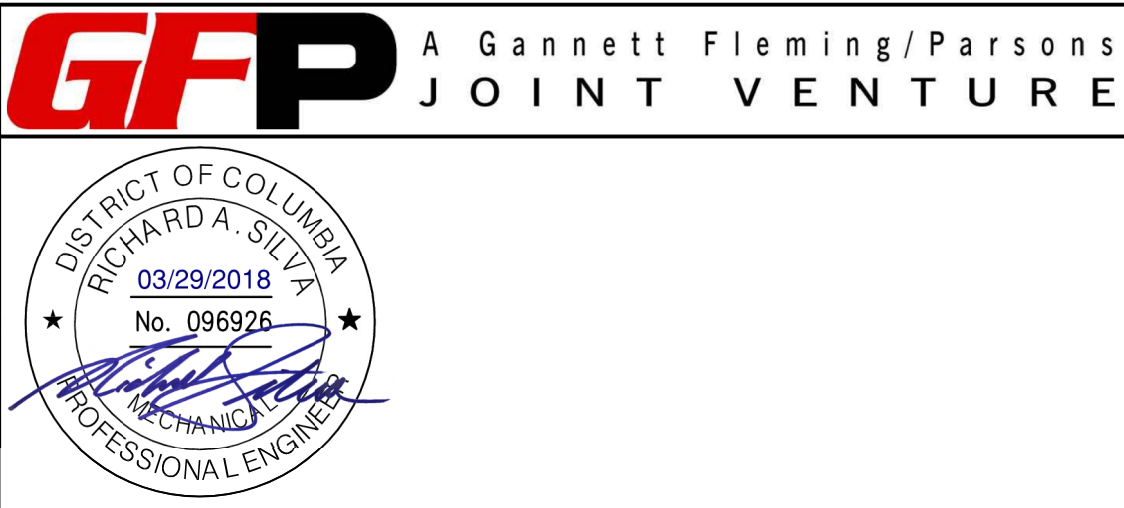
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- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- C. REFER TO REFERENCE DRAWINGS DD-ME-HVAC-007, DD-ME-HVAC-008, AND DD-ME-HVAC-009 FOR WATER TREATMENT CONNECTION TO SYSTEM LOOPS.
- D. PROVIDE VALVE TYPES IN ACCORDANCE WITH SPECIFICATIONS.

KEYNOTES:

REFER TO CWPA1-M-102 FOR KEYNOTES USED ON THIS DRAWING.

1 MECHANICAL FLOW DIAGRAM - NEW WORK
CWPA1-M-501

NOT TO SCALE



DESIGNED <u>D. ROMNESS</u> 08/18/17 DATE			REFERENCE DRAWINGS		REVISIONS			<div><div><div>M</div><div>metro</div></div><div>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</div><div>DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES</div><div>OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP</div><div><div>APPROVED <u>Mark H. Magnusson</u> 03/2018</div><div>MARK MAGNUSSEN MANAGER, ENV. PLANNING AND COMP</div><div>DATE</div></div><div><div>APPROVED <u>Gabe Spiller</u> 03/2018</div><div>GRAHAM SPILLER GFP DEPUTY PROGRAM MANAGER</div><div>DATE</div></div></div> <td colspan="5">REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA1 - FARRAGUT NORTH (A02) MECHANICAL FLOW DIAGRAM - NEW WORK</td>			REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS CWPA1 - FARRAGUT NORTH (A02) MECHANICAL FLOW DIAGRAM - NEW WORK				
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CHECKED <u>R. SILVA</u> 03/23/18 DATE					03/30/2018	0	FINAL CONTRACT DRAWINGS	M1304	FQ-18102	NONE	CWPA1-M-501	20 of 173			