

- 1. ALL SHOWN EQUIPMENT IS EXISTING TO REMAIN UNLESS SHOWN OTHERWISE.
- 2. FOR EQUIPMENT TO BE DEMOLISHED:
  ALL EXISTING CONDUIT AND WIRING SHALL BE
  REMOVED BACK TO SOURCE OR AS INDICATED.

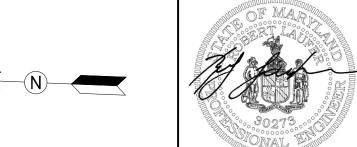
### **KEYNOTES**:

- EXISTING CHILLER OIL PUMP AND CONTROLLER EQUIPMENT TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE WIRING AND CONDUIT BACK TO EXISTING CHILLER STARTER.
- 2 EXISTING CHILLER STARTER TO BE DEMOLISHED.
  DISCONNECT AND REMOVE WIRING AND CONDUIT BACK
  TO SWITCHBOARD "MDPC".
- (3) EXISTING UNIT HEATER TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE CONDUIT AND WIRING BACK TO PANEL "CP".
- 4 EXISITNG CHEMICAL FEEDER EQUIPMENT TO BE REMOVED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE ASSOCIATED POWER CONDUIT AND WIRING BACK TO PANEL "CPL".
- 5 EXISTING PUMP MOTOR TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE ASSOCIATED STARTER, WIRING AND CONDUIT BACK TO MCC CHP-A06.
- 6 EXISTING COOLING TOWER FAN VFD TO BE
  DISCONNECTED AND REMOVED (CURRENTLY USED AS
  FEED-THROUGH FOR COOLING TOWER FAN WIRING.
  REROUTE AND RECONNECT WIRING TO ASSOCIATED MCC
  CHP-A06 CIRCUIT.
- 7 EXISTING PANEL "CPL" TO BE DEMOLISHED.
  PRESERVE EXISTING CIRCUITS FOR RECONNECTION TO
  NEW PANEL IN THE SAME LOCATION.

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

= 1'-0"

A Gannett Fleming/Parsons
JOINT VENTURE



State of Maryland 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. 030273, Expiration Date: 05/18/2018

				REFERENCE DRAWINGS	REVISIONS					
550101155	R. LAUFER	03/16/18	NUMBER	TITLE	DATE	NUM	DESCRIPTION	meti		
DESIGNED	K. LAUFER	DATE			03/30/2018	0	FINAL CONTRACT DRAWINGS	men		
DRAWN	O. FAYEMI	03/16/18								
		DATE								
CHECKED	D. KHAN	03/23/18								
		DATE						APPR		
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**ELECTRICAL PLAN - DEMOLITION** 

### WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

APPROVED Mark W. Magnusse 03/2018

MARK MAGNUSSEN DATE

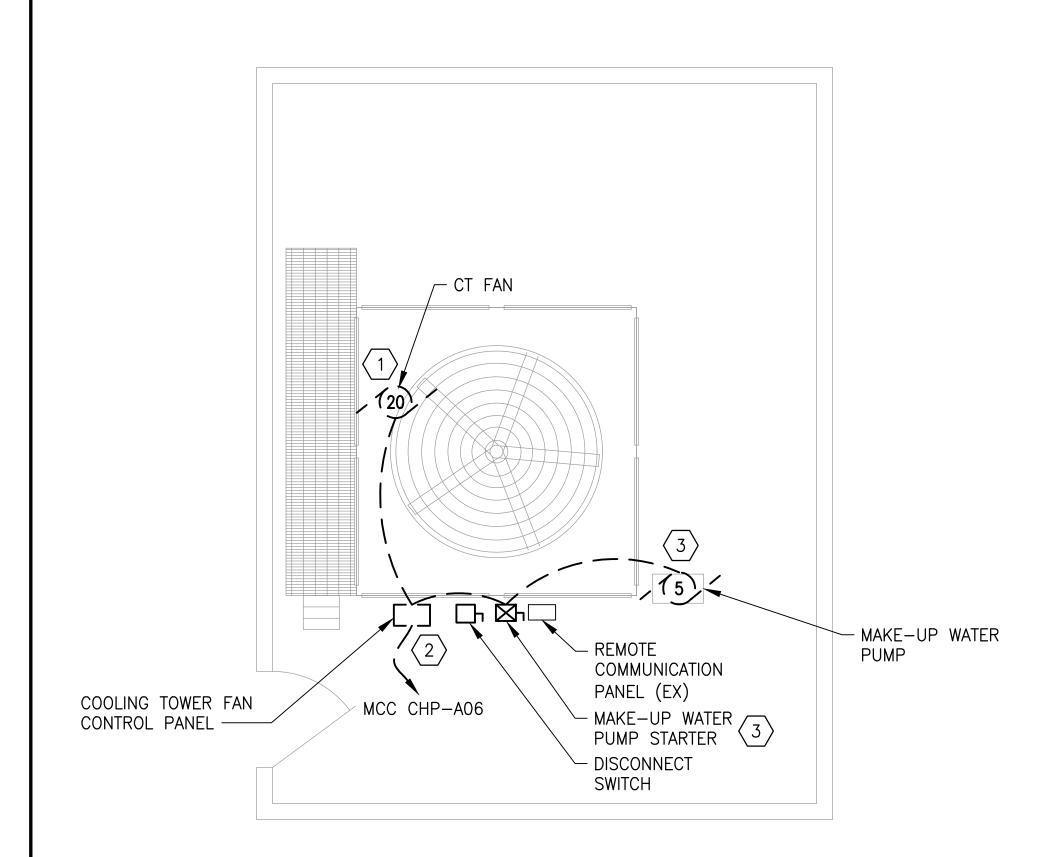
MANAGER, ENV. PLANNING AND COMP

APPROVED 03/2018 M
GRAHAM SPILLER
GFP DEPUTY PROGRAM MANAGER

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REPLACEMENT OF CHILLERS
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS
CWPA6 - MEDICAL CENTER (A10)
ELECTRICAL PLAN - DEMOLITION

			W DEMOETTON	
M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
M1304	FQ-18102	1/4" = 1'-0"	CWPA6-E-100	67 of 173



**ELECTRICAL PLAN - DEMOLITION** 

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

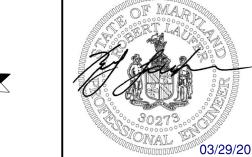
### **GENERAL NOTES:**

- 1. ALL SHOWN EQUIPMENT IS EXISTING TO REMAIN UNLESS SHOWN OTHERWISE.
- 2. FOR EQUIPMENT TO BE DEMOLISHED: ALL EXISTING CONDUIT AND WIRING SHALL BE REMOVED BACK TO SOURCE OR AS INDICATED.

### <u>KEYNOTES</u>:

- EXISTING COOLING TOWER FAN MOTOR TO BE REMOVED AND SALVAGED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE WIRING AND CONDUIT BACK TO CONTROL PANEL.
- EXISTING CONTROL PANEL TO BE DEMOLISHED. DISCONNECT AND PRESERVE WIRING AND CONDUIT.
- EXISTING MAKE-UP WATER PUMP TO BE REMOVED AND SALVAGED BY MECHANICAL CONTRACTOR. EXISTING STARTER TO BE DEMOLISHED. DISCONNECT AND REMOVE WIRING AND CONDUIT BACK TO CONTROL PANEL.





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				REFERENCE DRAWINGS			REVISIONS		
DESIGNED R. LAU	LIEED	03/16/18	NUMBER	TITLE	DATE	NUM	DESCRIPTION	metr	
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DRAWN O. FA	YEMI	03/16/18							
		DATE							
CHECKED D. KH	IAN	03/23/18							
		DATE						APPRO	
								MARK	

## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES

OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP

Mark H. Magnuser

03/2018

DATE

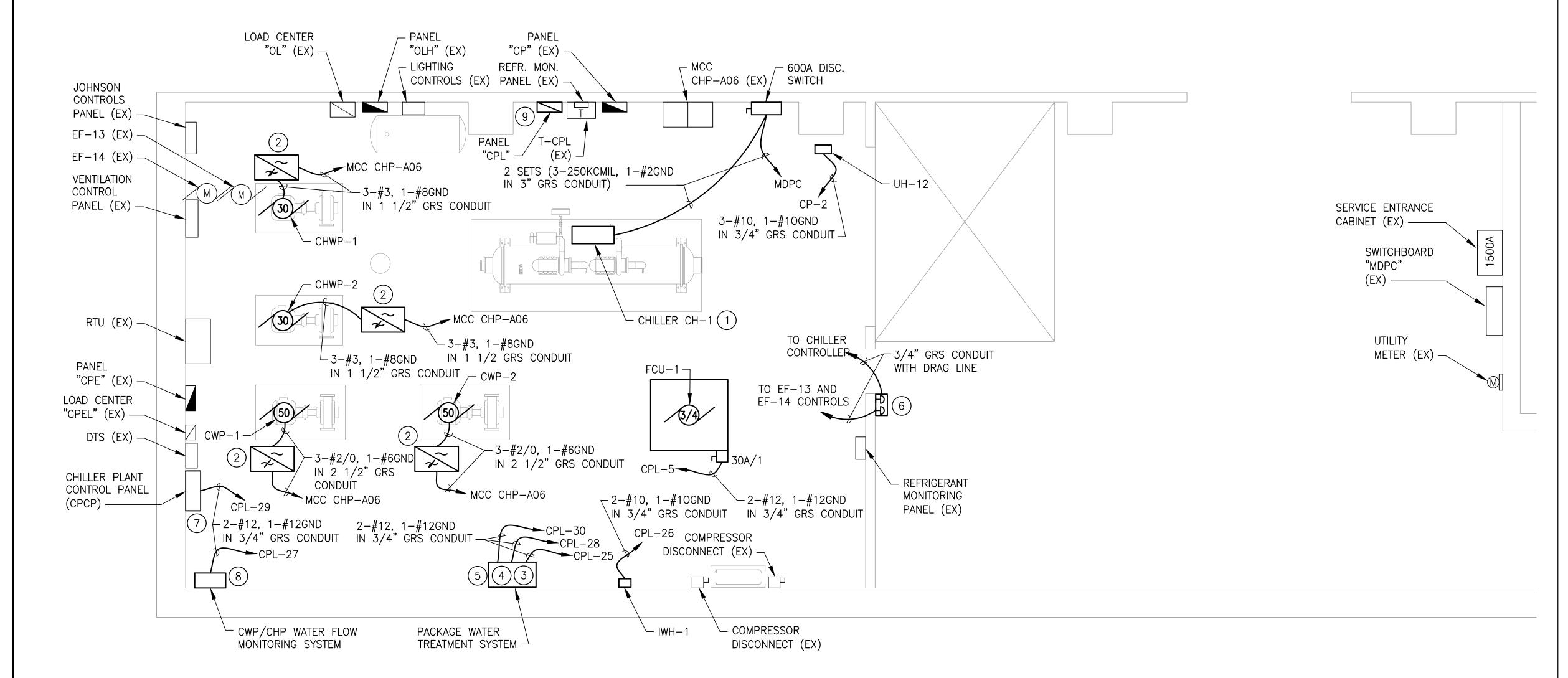
APPROVED

GRAHAM SPILLER MANAGER, ENV. PLANNING AND COMP

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	APPROVED Sub-Sub-Sub-Sub-Sub-Sub-Sub-Sub-Sub-Sub-	03/2018	M NO
	GRAHAM SPILLER GEP DEPUTY PROGRAM MANAGER	DATE	M13

REPLACEMENT OF CHILLERS
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS
CWPA6 - MEDICAL CENTER (A10)
ELECTRICAL PLAN - DEMOLITION

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_	M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.							
	M1304	FQ-18102	1/4" = 1'-0"	CWPA6-E-101	68 of 173							



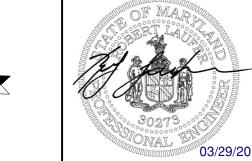
- 1. ALL SHOWN EQUIPMENT IS EXISTING TO REMAIN UNLESS SHOWN OTHERWISE.
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  ALL EXISTING CONDUIT AND WIRING SHALL BE REMOVED
  BACK TO SOURCE OR AS INDICATED.

### **KEYNOTES**:

- 1 CHILLER CONTROLLER SUPPLIED WITH CHILLER.
  INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
- PROVIDE AND INSTALL VFD/DISCONNECT FOR CHILLED WATER AND CONDENSER WATER PUMPS. PROVIDE CHANNEL SUPPORT SYSTEM AS NECESSARY. PROVIDE AND INSTALL WIRING FROM MOTOR TO VFD AND FROM VFD TO MCC CHP-A06.
- WATER TREATMENT CONTROL PANEL; 2#12, 1#12 GND IN 3/4"C TO 20A/1P GFCI BREAKER. COORDINATE WITH OTHER WMATA CONTRACT INSTALLING WATER TREATMENT SYSTEM.
- 4) BIOCIDE FEEDERS; 2#12, 1#12 GND IN 3/4"C TO 20A/1P BREAKER. COORDINATE WITH OTHER WMATA CONTRACT INSTALLING WATER TREATMENT SYSTEM.
- (5) INHIBITOR FEED PUMP; 2#12, 1#12 GND IN 3/4"C TO 20A/1P BREAKER. RUN EMPTY 3/4" GRS WITH DRAG LINE CONDUIT FOR COMMUNICATION TO AEMS. COORDINATE WITH OTHER WMATA CONTRACT INSTALLING WATER TREATMENT SYSTEM.
- 6) EMERGENCY PUSH BUTTONS IN A TAMPER PROOF BOX. ONE FOR SHUTTING DOWN THE CHILLER, AND THE OTHER FOR TURNING ON THE VENTILATION FAN(S). REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (7) CHILLER PLANT CONTROL PANEL (CPCP); 2#12, 1#12 GND IN 3/4"C TO 20A/1P BREAKER.
- 8) CHILLER WATER AND CONDENSER WATER FLOW MONITORING SYSTEM; 2#12, 1#12 GND IN 3/4"C TO 20A/1P BREAKER.
- (9) PANEL "CPL", INSTALL IN EXISTING LOCATION.
  RECONNECT EXISTING BRANCH CIRCUITS (EXTEND AS NEEDED).

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

A Gannett Fleming/Parsons
JOINT VENTURE



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				REFERENCE DRAWINGS			REVISIONS	N
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DRAWN		DATE						
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**ELECTRICAL PLAN - NEW WORK** 

CWPA6-E-102

### WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

APPROVED Mark Magnussen DATE
MANAGER, ENV. PLANNING AND COMP

APPROVED WAL PROGRAM GROUP

APPROVED APPROVED 03/2018

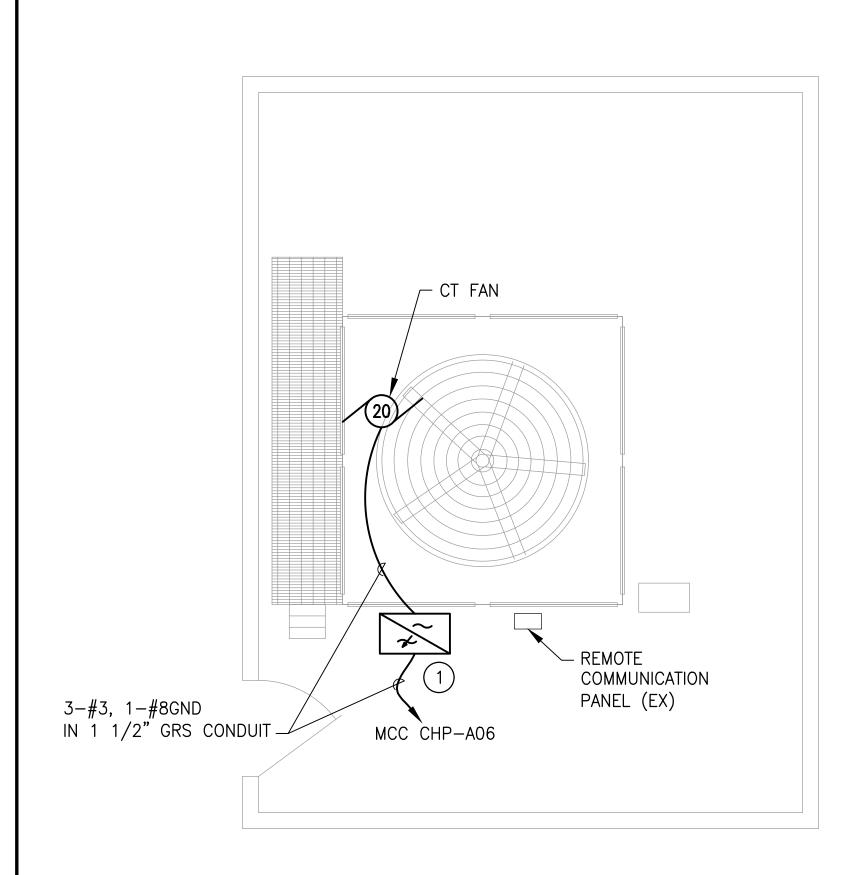
GRAHAM SPILLER
GFP DEPUTY PROGRAM MANAGER

		LLLOTRIOALTL	AN - NEVV VVOIN	
M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
M1304	FQ-18102	1/4" = 1'-0"	CWPA6-E-102	69 of 173

- 1. SEE DWG. E-602 FOR ONE-LINE DIAGRAM.
- 2. ALL WIRING FROM VFDs SHALL BE VFD RATED CABLE.

### KEYNOTES:

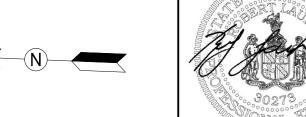
1 PROVIDE AND INSTALL VFD; INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. EXTEND WIRING TO RECONNECT TO EXISTING FEEDER FROM MCC CHP-A06 (PREVIOUSLY CONNECTED TO FAN CONTROL PANEL). INSTALL CONDUIT AND WIRING TO NEW CT FAN MOTOR.



1 ELECTRICAL PLAN - NEW WORK

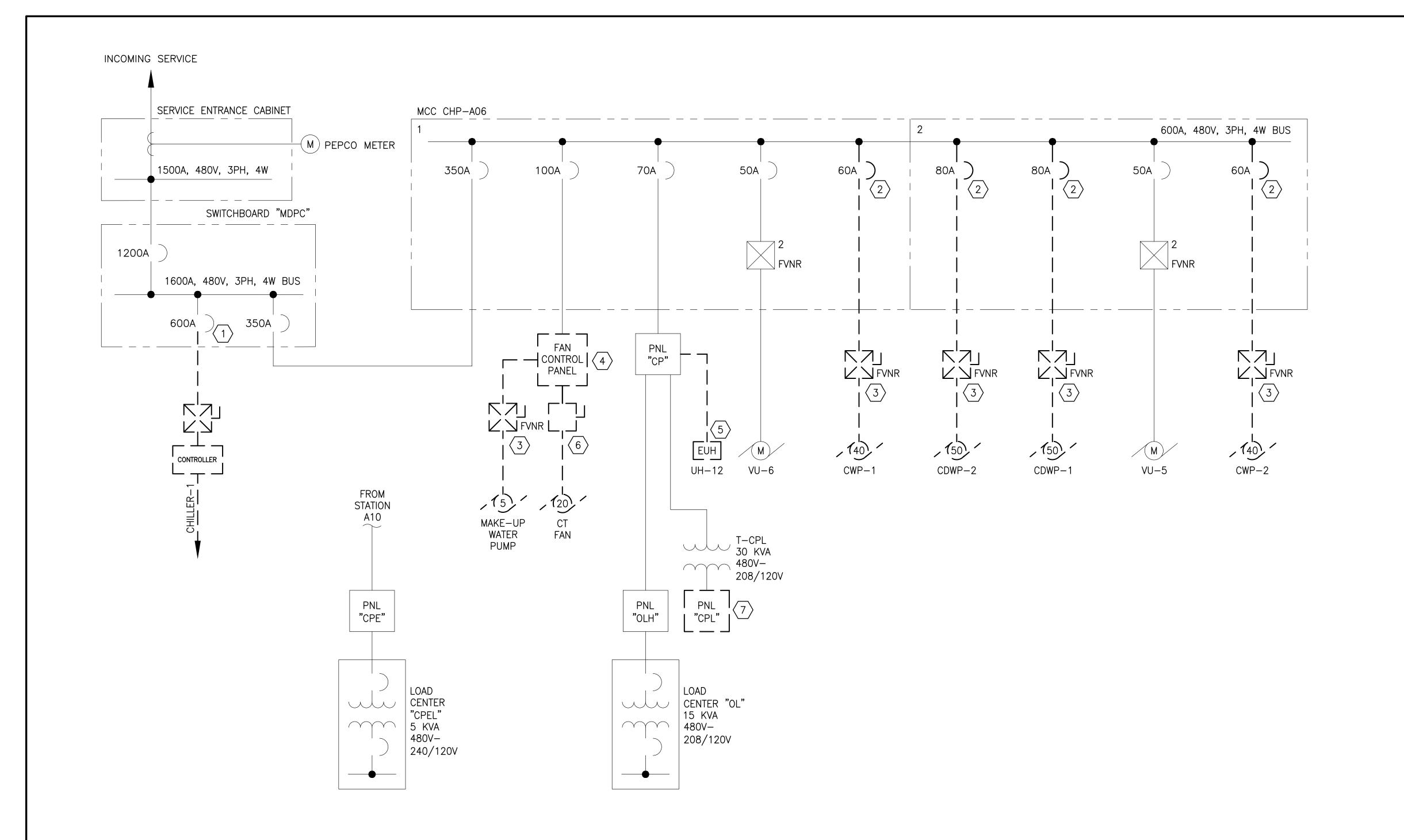
SCALE: 1/4" = 1'-0"





State of Maryland 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. 030273, Expiration Date: 05/18/2018

DESIGNED R. LA	AUFER 03/16/18	NUMBER	REFERENCE DRAWINGS TITLE	DATE NUM	REVISIONS  DESCRIPTION	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY				REPLACEMENT OF CHILLERS AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS					
	DATE  AYEMI 03/16/18  DATE			03/30/2018 0 F	FINAL CONTRACT DRAWINGS	DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP				,	CWPA6 - MEDICAL CENTER (A10) ELECTRICAL PLAN - NEW WORK				
OHEORED	DATE					 PROVED Mark H. IT lagswore RK MAGNUSSEN NAGER, ENV. PLANNING AND COMP	03/2018 DATE	APPROVED  GRAHAM SPILLER  GFP DEPUTY PROGRAM MANAGER	03/2018 DATE	м no. M1304	CONTRACT NO. FQ-18102	SCALE 1/4" = 1'-0"	DRAWING NO.  CWPA6-E-103	SHEET NO. 70 of 173	



- 1. ALL SHOWN EQUIPMENT IS EXISTING TO REMAIN UNLESS SHOWN OTHERWISE.
- 2. FOR EQUIPMENT TO BE DEMOLISHED: ALL EXISTING CONDUIT AND WIRING SHALL BE REMOVED BACK TO SOURCE OR AS INDICATED.
- 3. PERMISSION TO USE EXISTING CONDUIT (WIRES REMOVED) SHALL BE REQUESTED FROM WMATA ENGINEER.

### **KEYNOTES**:

- DISCONNECT AND REMOVE FEEDER; BREAKER TO REMAIN.
- EXISTING CIRCUIT BREAKER TO BE REMOVED.
- EXISTING STARTER AND ASSOCIATED WIRING TO BE REMOVED.
- EXISTING CONTROL PANEL TO BE REMOVED. PRESERVE FEEDER AND CONDUIT.
- EXISTING UNIT HEATER AND ASSOCIATED FEEDER TO BE REMOVED.
- EXISTING DISCONNECT SWITCH AND ASSOCIATED FEEDER TO BE REMOVED.
- EXISTING PANELBOARD TO BE DISCONNECTED AND REMOVED. PRESERVE FEEDER AND BRANCH CIRCUITING FOR RECONNECTION TO NEW PANELBOARD IN THE SAME LOCATION.

A Gannett Fleming/Parsons
JOINT VENTURE



REPLACEMENT OF CHILLERS

AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS

State of Maryland 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. 030273, Expiration Date: 05/18/2018

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM GROUP

**GRAHAM SPILLER** 

GFP DEPUTY PROGRAM MANAGER

M NO. CONTRACT NO. M1304 FQ-18102

03/2018

DATE

SCALE: NTS

CWPA6 - MEDICAL CENTER (A10) ELECTRICAL SINGLE LINE DIAGRAM - DEMOLITION SCALE

DRAWING NO. SHEET NO. CWPA6-E-601 71 of 173

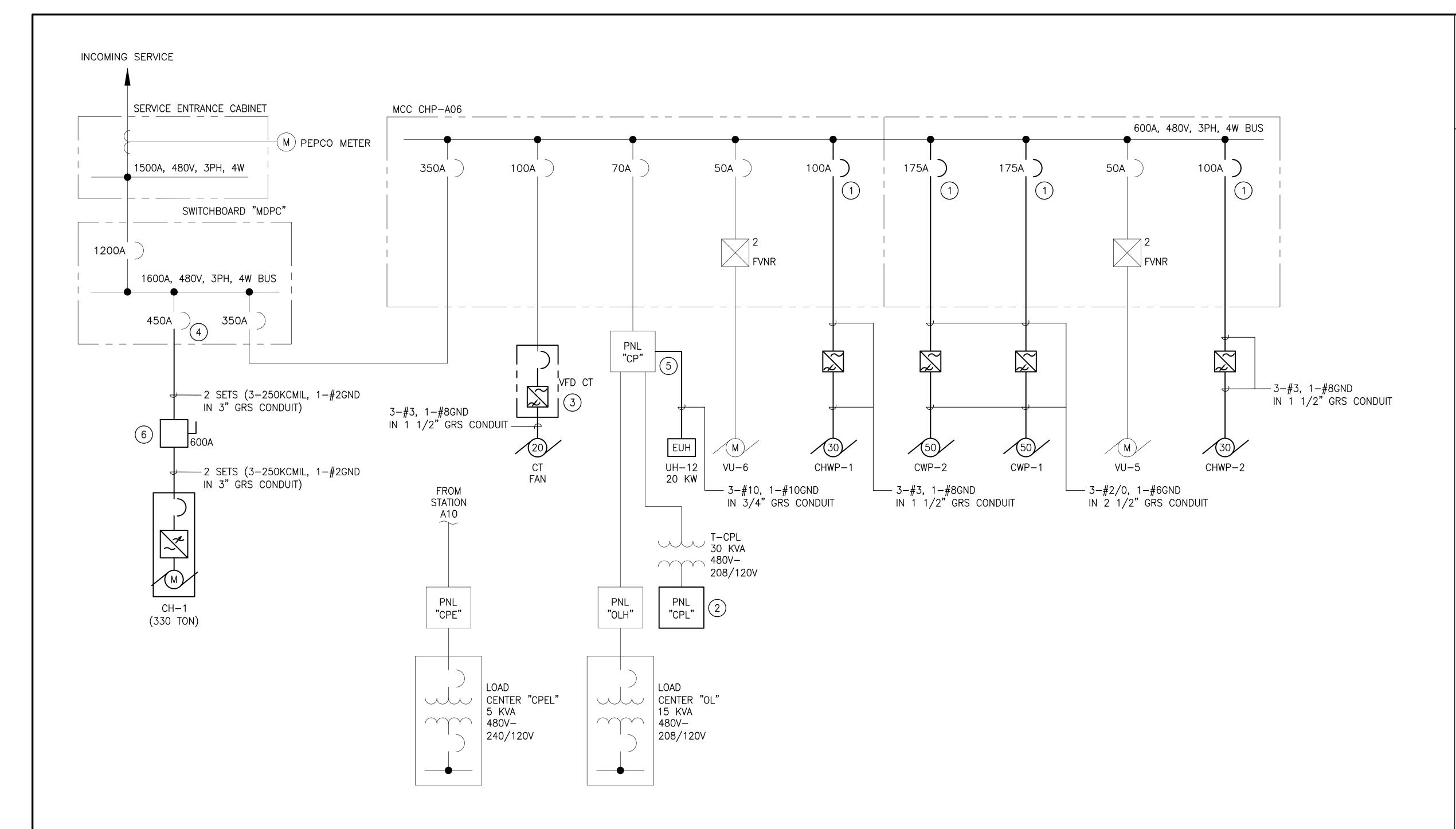
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DRAWN O. FAYEMI 03/16/18 DATE						
CHECKED D. KHAN 03/23/18 DATE						APPROV
						MARK M

**ELECTRICAL SINGLE LINE DIAGRAM - DEMOLITION** 

CWPA6-E-601

DEPARTMENT OF DESIGN AND CONSTRUCTION SERVICES

MANAGER, ENV. PLANNING AND COMP



1. ALL CONDUCTORS BETWEEN VFD'S AND ASSOCIATED MOTOR LOADS TO BE VFD—RATED CABLES.

#### **KEYNOTES**:

- (1) INSTALL IN EXISTING SPACE.
- 2) INSTALL PANEL IN EXISTING LOCATION (REPLACE EXISTING 24 CIRCUIT PANEL WITH 42 CIRCUIT PANEL). REWIRE ALL EXISTING CIRCUITS AS SHOWN ON PANEL SCHEDULE ON DRAWING E-603.
- (3) INSTALL IN EXISTING CONTROL PANEL LOCATION. EXTEND POWER FEEDER AS NEEDED.
- WESTINGHOUSE SELTRONIC CIRCUIT BREAKER. REPLACE 600A RATING PLUG WITH 450A. ADJUST TRIPS ACCORDINGLY.
- REPLACE EXISTING 20A/3P BREAKER #2 (SERVING UNIT HEATER) WITH 30A/3P BREAKER. MATCH EXISTING PANEL DEVICE TYPE AND RATING. PANEL MANUFACTURED BY FPE; BREAKERS BY GENERAL ELECTRIC.
- 6 600A/3 POLE NON-FUSED DISCONNECT SWITCH IN NEMA 12 ENCLOSURE.





SCALE: NTS

State of Maryland 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. 030273, Expiration Date: 05/18/2018

# REVISIONS TITLE DATE NUM DESCRIPTION 03/30/2018 0 FINAL CONTRACT DRAWINGS WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY WHITE WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

APPROVED 03/2018 M NO.

GRAHAM SPILLER DATE
GFP DEPUTY PROGRAM MANAGER

M NO.

M130

REPLACEMENT OF CHILLERS
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS
CWPA6 - MEDICAL CENTER (A10)
ELECTRICAL SINGLE LINE DIAGRAM - NEW WORK

 M NO.
 CONTRACT NO.
 SCALE
 DRAWING NO.
 SHEET NO.

 M1304
 FQ-18102
 1/4" = 1'-0"
 CWPA6-E-602
 72 of 173

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DIOWIN		DATE							OFFICE OF IN
CHECKED	D. KHAN	03/23/18							1 20
		DATE						APPROVE	Mark D. May
								MARK MAC	
									R, ENV. PLANNING AND COMP

**ELECTRICAL SINGLE LINE DIAGRAM - NEW WORK** 

CWPA6-E-602

208/120 VOLT	MAIN BUS: 100A				MAIN	DEVI	CE: 1	00A									ا	NEUTRA	L BUS: 100%
ENCLOSURE: NEMA 1   MOUNTING: SUFFACE   SUFFACE   SUFFACE   SUBSTATION   CHILLER ROOM   CHILLE									GROL	IND									
CAD   CAD   CAD   CAT   CAD   CAD	•									3140									
DESCRIPTION  VA CKT CND SIZE TRIP PL NMBR A B C NMBR PL TRIP SIZE CND CKT VA DESCRIPT  CHEMICAL WATER TREATMENT 1000 20 1 1 1 1500  EF-14 1000 20 1 3 1500  SUBSTATION RECEPTACLES 600 20 1 7 1100  SUBSTATION RECEPTACLES 800 20 1 1 7 1100  SUBSTATION RECEPTACLES 800 20 1 1 1 1 1300  CW PLANT RECEPTACLES 800 20 1 1 1 1 1300  SUBSTATION RECEPTACLES 500 20 1 1 15 1500  SUBSTATION RECEPTACLES 500 20 1 1 15 1500  SUBSTATION RECEPTACLES 500 20 1 1 15 1500  SUBSTATION RECEPTACLES 500 20 1 1 17 1500  SUBSTATION RECEPTACLES 500 30 - 23 1 1500  SUBSTATION RECEPTACLES 500 20 1 1 77  SUBSTATION RECEPTA	ENGLOSONE. NEMA 1		_		MOON	TING.	301	MACL										LOCATIC	TOOM
CHEMICAL WATER TREATMENT 1000 20 1 1 1 1500	_OAD	LOAD	W	IRE	RCWY	C/	<u>/B</u>	CKT	Ph	HASE K	(VA	CKT	C,	/B	RCWY	WIF	RE	LOAD	LOAD
EF-14	DESCRIPTION	VA	CKT	GND	SIZE	TRIP	PL	NMBR	A	В	С	NMBR	PL	TRIP	SIZE	GND	CKT	VA	DESCRIPTION
FCU-1 900 12 12 3/4" 20 1 5	CHEMICAL WATER TREATMENT	1000	<del>  _</del>	_	_	20	1	1	1500			2	1	20	_	_	_	500	BALCO DOOR ENTRY
SUBSTATION RECEPTACLES	EF-14	1000	_	_	_	20	1	3		1500		4	1	20	_	_	1	500	LTG CONTROL PNL CONT PWR
SUBSTATION & ENTRY RECEPT.  800 20 1 9 1300 10 1 20 500 SUBSTATION&ENTRY RECEPT.  CW PLANT RECEPTACLES 800 20 1 11	FCU-1	900	12	12	3/4"	20	1	5			1900	6	1	20	_	_	-	1000	LIGHTING-PIPE TUNNEL AND VI
CW PLANT RECEPTACLES	SUBSTATION RECEPTACLES	600	_	_	_	20	1	7	1100			8	1	20	_	_	1	500	SUBSTATION RECEPTACLES
REFRIGERANT MONITORING PNL 200 20 1 13 200	SUBSTATION & ENTRY RECEPT.	800		_	_	20	1	9		1300		10	1	20	_	_	1	500	SUBSTATION&ENTRY RECEPT.
SUBSTATION RECEPTACLES   500   -   -   20   1   15   150   16   1   20   -   -   1000   EF-13   SUBSTATION RECEPTACLES   500   -   -   20   1   17   700   18   1   20   -   -   200   VENTILATION CONTROL PANEL   SUBSTATION RECEPTACLES   500   -   -   20   -   19   1500   22   -   20   -   -   1000   INVERTER   AC 95 HEATERS   1000   -   -   30   -   21   1500   22   -   20   -   -   500   PEPCO   METERING   HX CC RECEPTACLES   2000   -   -   30   -   23   4000   24   -   20   -   -   2000   AC SWITCHGEAR HEATER   WATER TREATMENT CONTR PNL   600   12   12   3/4"   20   1   25   3000   28   1   20   3/4"   10   10   2400   WATER HEATER - IWH-1   CWP/CHP MONITORING SYSTEM   800   12   12   3/4"   20   1   29   900   30   1   20   3/4"   12   12   200   BIOCIDE FEEDERS    CHILLER PLANT CONTROL PNL   800   12   12   3/4"   20   1   29   900   30   1   20   3/4"   12   12   100   INHIBITOR FEED PUMP   SPARE   20   1   33   33   34   1   20   SPARE   SPARE   20   1   37   38   1   20   SPARE   SPARE   20   1   37   38   1   20   SPARE   SPARE   20   1   37   SPACE   SPACE   38   1   20   SPACE   SPACE   7300   6800   8300    SPACE   7300   6800   8300	CW PLANT RECEPTACLES	800	_	_	_	20	1	11			800	12	1	20	_	_	-	_	SPARE
SUBSTATION RECEPTACLES 500 20 1 17	REFRIGERANT MONITORING PNL	200	_	_	_	20	1	13	200			14	1	20	_	_	-	_	SPACE
SUBSTATION RECEPTACLES	SUBSTATION RECEPTACLES	500	_	_	_	20	1	15		1500		16	1	20	_		-	1000	EF-13
AC 95 HEATERS 1000 30 - 21 HX CC RECEPTACLES 2000 30 - 23 HX CC RECEPTACLES 2000 500 PEPCO METERING 200 AC SWITCHGEAR HEATER 200 PEPCO METERING 200 AC SWITCHGEAR HEATER 200 PC	SUBSTATION RECEPTACLES	500	_	_	_	20	1	17		_	700	18	1	20	_	_	_	200	VENTILATION CONTROL PANEL
HX CC RECEPTACLES    2000   -   -   30   -   23     4000   24   -   20   -   -   -   2000   AC SWITCHGEAR HEATER	SUBSTATION RECEPTACLES	500	_	_	_	20	_	19	1500			20	1	20	_	_	_	1000	INVERTER
WATER TREATMENT CONTR PNL 600 12 12 3/4" 20 1 25 3000 28 1 25 3/4" 10 10 2400 WATER HEATER — IWH—1  CWP/CHP MONITORING SYSTEM 800 12 12 3/4" 20 1 27 1000 28 1 20 3/4" 12 12 200 BIOCIDE FEEDERS  CHILLER PLANT CONTROL PNL 800 12 12 3/4" 20 1 29  SPARE  SPARE  SPARE  SPARE  SPARE  SPARE  SPACE  SPACE  FACE  7300 6800 8300	AC 95 HEATERS	1000		_	_	30		21		1500		22		20	_	_	_	500	PEPCO METERING
CWP/CHP MONITORING SYSTEM         800         12         12         3/4"         20         1         27         1000         28         1         20         3/4"         12         12         3/4"         20         1         29         900         30         1         20         3/4"         12         12         1000         28         1         20         3/4"         12         12         1000         1000         28         1         20         3/4"         12         12         200         1000         1000         28         1         20         3/4"         12         12         1000         INHIBITOR FEED PUMP           SPARE         20         1         33         33         34         1         20         3/4"         12         12         1000         INHIBITOR FEED PUMP           SPARE         20         1         33         34         1         20         5PARE         5PARE           SPARE         20         1         37         37         38         1         20         5PARE         5PARE           SPACE         2         2         1         37         40         -         -         5PACE <td>HX CC RECEPTACLES</td> <td>2000</td> <td>_</td> <td>_</td> <td>_</td> <td>30</td> <td>-</td> <td>23</td> <td></td> <td></td> <td>4000</td> <td></td> <td></td> <td></td> <td>_</td> <td>_</td> <td>_</td> <td>2000</td> <td>AC SWITCHGEAR HEATER</td>	HX CC RECEPTACLES	2000	_	_	_	30	-	23			4000				_	_	_	2000	AC SWITCHGEAR HEATER
CHILLER PLANT CONTROL PNL 800 12 12 3/4" 20 1 29 900 30 1 20 3/4" 12 12 100 INHIBITOR FEED PUMP  SPARE 20 1 31 33 34 1 20 5 5 SPARE  SPARE 20 1 35 36 1 20 5 SPARE  SPARE 20 1 37 35 36 1 20 5 SPARE  SPARE 20 1 37 35 38 1 20 5 SPARE  SPACE 30 1 37 4 42 5 SPACE  7300 6800 8300		600	12	12			1		3000				1		<del></del>				WATER HEATER - IWH-1
SPARE         20         1         31         32         1         20         SPARE           SPARE         20         1         33         34         1         20         SPARE           SPARE         20         1         35         36         1         20         SPARE           SPARE         20         1         37         38         1         20         SPARE           SPACE         -         -         39         40         -         SPACE           SPACE         -         41         42         -         SPACE           7300         6800         8300         8300	CWP/CHP MONITORING SYSTEM						1			1000			1	20	3/4"	12	12	200	
SPARE         20         1         33         34         1         20         SPARE           SPARE         20         1         35         36         1         20         SPARE           SPARE         20         1         37         38         1         20         SPARE           SPACE         -         -         39         40         -         -         SPACE           SPACE         -         -         41         42         -         SPACE           7300         6800         8300         8300		800	12	12	3/4"		1				900		1		3/4"	12	12	100	
SPARE         20         1         35         36         1         20         SPARE           SPACE         20         1         37         38         1         20         SPARE           SPACE         -         -         39         40         -         -         SPACE           SPACE         -         -         41         42         -         -         SPACE           7300         6800         8300         8300         8300         8300         8300							1						1						
SPARE         20         1         37         38         1         20         SPARE           SPACE         -         -         -         39         40         -         -         SPACE           SPACE         -         -         41         42         -         -         SPACE           7300         6800         8300						20	1	<b>-</b>					1						
SPACE         -         -         39         40         -         -         SPACE           SPACE         -         -         41         42         -         -         SPACE           7300         6800         8300         - <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							1						1						
SPACE         -         41         42         -         -         SPACE           7300         6800         8300         -						20	1						1	20					
7300 6800 8300						_		<b>-</b>						_					
	SPACE					_	_	41					_	_					SPACE
CONNECTED LOAD: 22,400 VA									7300	6800	8300								
													1	CONV	IECTED	) LO	AD:	22,400	VA
DEMAND LOAD: 22,400 VA												<u></u>		DEMA	ND_LC	)AD:	22,	400 VA	

		ELECTRICAL EQUIPMENT SCHEDULE
ITEM	QTY	DESCRIPTION
1	2	MCC BUCKET TO MATCH EXISTING WITH 175AT/250AF BREAKER
2	2	MCC BUCKET TO MATCH EXISTING WITH 100AT/100AF BREAKER
3	1	VFD, 480V, 3PH, 20HP, 60HZ, NEMA 4X ENCLOSURE WITH BYPASS AND FILTERS
4	2	VFD, 480V, 3PH, 30HP, 60HZ, NEMA 4X ENCLOSURE WITH BYPASS AND FILTERS
5	2	VFD, 480V, 3PH, 50HP, 60HZ, NEMA 4X ENCLOSURE WITH BYPASS AND FILTERS
6	1	DISCONNECT SWITCH, 480V, 3PH, 600A, NEMA 12 ENCLOSURE
7	1	PANELBOARD CIRCUIT BREAKER, 30A, 3 POLE
8	1	PANELBOARD, UP TO 100A MCB, 24 CIRCUITS, 1P/20A BRANCH, 208/120V, 3P, 4W
9	LOT	3/4" GRS CONDUIT
10	LOT	1 1/2" GRS CONDUIT
11	LOT	1 1/2" LIQUIDTIGHT FLEXIBLE CONDUIT
12	LOT	2 1/2" GRS CONDUIT
13	LOT	2 1/2" LIQUIDTIGHT FLEXIBLE CONDUIT
14	LOT	3" GRS CONDUIT
15	LOT	3" LIQUIDTIGHT FLEXIBLE CONDUIT
16	LOT	#12 AWG RHW-2 WIRE
17	LOT	#10 AWG RHW-2 WIRE
18	LOT	#8 AWG RHW-2 WIRE
19	LOT	#8 AWG RHW-2 WIRE (VFD RATED)
20	LOT	#6 AWG RHW-2 WIRE
21	LOT	#6 AWG RHW-2 WIRE (VFD RATED)
22	LOT	#3 AWG RHW-2 WIRE
23	LOT	#3 AWG RHW-2 WIRE (VFD RATED)
24	LOT	#2 AWG RHW-2 WIRE
25	LOT	#2/0 AWG RHW-2 WIRE
26	LOT	#2/0 AWG RHW-2 WIRE (VFD RATED)
27	LOT	250 KCMIL RHW-2 WIRE

2 ELECTRICAL EQUIPMENT SCHEDULE - NEW WORK
CWPA6-E-603 SCALE: NTS

600	AMPS,	NTROL C 480/27 -600A,	77V, 3ø,	4W, G	ND BUS			AVAILABLE SH	HILLER PLANT HORT CIRCUIT: 6 TYPE: NEMA 12		RMS SYM	
SEC. NO.	ITEM NO.		UIT BREAFRAMES AMP.		MCP CONTIN. RATING AMP.	CONNECTED LOAD KVA	HP OR KW	DESCRIPTION	NOTES	SECTION 1	SECTION 2	ELEVATION
	Α	3	400	350	_	EX	_	MAIN BREAKER				
	B1	3	100	100	_	23	20HP	CT FAN VFD FEEDER				
	B2	3	70	70	_	EX	_	PANEL "CP"				
1	С	3	50	50	50A	EX	_	VU-6 FVNR STARTER SIZE 2		]   <sub>1A</sub>	2A	
	D	3	100	100	_	33	30HP	CHWP-1 VFD FEEDER			2B	
	Ε	3	ı	_	_	_	_	SPACE		T	2C	
	Α	3	175	175	_	54	50HP	CWP-2 VFD FEEDER		1B1 1B2	2 2D	
	В	3	-	-	_	_	_	SPACE		]   1C		
	С	3	175	175	_	54	50HP	CWP-1 VFD FEEDER		]	2E	
2	D	3	-	-	_	_	_	SPACE		]   15 1E	2F	
	Е	3	50	50	50A	EX	_	VU-5 FVNR STARTER SIZE 2				
	F	3	100	100	_	33	30HP	CHWP-2 VFD FEEDER		MANUEACT	IIDED, EATA	N   CUTLER-HAMMER

MCC SCHEDULE - NEW WORK

SCALE: NONE

SCALE: NTS

A Gannett Fleming/Parsons
JOINT VENTURE

State of Maryland 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. 030273, Expiration Date: 05/18/2018

				REFERENCE DRAWINGS		REVISIONS	N	
	R. LAUFER	03/16/18	NUMBER	TITLE	DATE	NUM	DESCRIPTION	me
DESIGNED	N. LAUFER	DATE			03/30/2018	0	FINAL CONTRACT DRAWINGS	1116
DRAWN	O. FAYEMI	03/16/18						
DIVAVVIV		DATE						
CHECKED	D. KHAN	03/23/18						
3201125		DATE						APP
								APP

CWPA6-E-603

# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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

OFFICE OF INFR	ASTRUCTUR	E RENEWAL I	PROGRAM GROUP	
my I Magni	roser		/////	
APPROVED Mark D. I Regnu	03/2018	APPROVED	Othe Sele	0
MARK MAGNUSSEN	DATE	GRAHAM SPILL	ER	
MANAGER ENV DI ANNING AND COMP		GED DEDLITY D	ROGRAM MANAGER	

REPLACEMENT OF CHILLERS
AND COOLING TOWER ACCESSORIES AT EIGHT METRO-RAIL STATIONS
CWPA6 - MEDICAL CENTER (A10)
ELECTRICAL EQUIPMENT AND PANEL SCHEDULES

		22201141			
_	M NO.	CONTRACT NO.	SCALE	DRAWING NO.	SHEET NO.
	M1304	FQ-18102	NTS	CWPA6-E-603	73 of 173