

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES:  
 1. PROVIDE CONDUIT FOR CONTROL WIRING AS SHOWN ON DETAIL SHEET.  
 2. COORDINATE HEIGHT OF JUNCTION BOX WITH MECHANICAL CONTRACTOR. PROVIDE POWER CONNECTION TO CONDENSATE PUMP (WHERE INSTALLED). REFER TO DETAIL SHEET.  
 3. FOR ALL HVAC EQUIPMENT, PROVIDE MINIMUM OF 1/2" FROM ACCESSIBLE CEILING. CONTROL DEVICE AND/OR CONTROL PANEL TO UNIT CONNECTION POINT FOR CONTROL WIRING. LINE VOLTAGE CONTROL WIRING SHALL BE BY DIVISION 26. LOW-VOLTAGE CONTROL WIRING SHALL BE BY OTHERS.  
 4. PROVIDE ALL CONDUIT AND WIRING FOR CONNECTION TO PUMP OR FAN MOTOR THROUGH VFD. COORDINATE EXACT LOCATION WITH HVAC CONTRACTOR. ALL WIRING FROM VFD SHALL BE XHHW.  
 5. SHADED ROWS INDICATE ROWS UPDATED IN THE LATEST REVISION.

**MECHANICAL EQUIPMENT CONNECTION SCHEDULE**

Equipment ID	Voltage	Number of Poles	Disconnect Type	Enclosure Rating	Comments
<b>BOILER</b>					
B-1	120 V	1	MOTOR RATED SWITCH	NEMA 1	
B-2	120 V	1	MOTOR RATED SWITCH	NEMA 1	
B-3	120 V	1	MOTOR RATED SWITCH	NEMA 1	
B-4	120 V	1	MOTOR RATED SWITCH	NEMA 1	
B-5	120 V	1	MOTOR RATED SWITCH	NEMA 1	
<b>CIRC PUMP</b>					
CP-1	208 V	2	MOTOR RATED SWITCH	NEMA 1	
CP-2	208 V	2	MOTOR RATED SWITCH	NEMA 1	
CP-3	208 V	2	MOTOR RATED SWITCH	NEMA 1	
CP-4	208 V	2	MOTOR RATED SWITCH	NEMA 1	
CP-5	208 V	2	MOTOR RATED SWITCH	NEMA 1	
<b>COOLING TOWER</b>					
CT-1 (FAN 1)	480 V	3	60A FUSIBLE SAFETY SWITCH	NEMA 3R	NOTE 4
CT-1 (FAN 2)	480 V	3	60A FUSIBLE SAFETY SWITCH	NEMA 3R	NOTE 4
<b>CT (BASIN HTR)</b>					
BASIN HTR-1	480 V	3	30A FUSIBLE SAFETY SWITCH	NEMA 3R	
BASIN HTR-2	480 V	3	30A FUSIBLE SAFETY SWITCH	NEMA 3R	
<b>GAS UNIT HEATER</b>					
GUH-1	120 V	1	MOTOR RATED SWITCH	NEMA 1	
<b>HEAT TAPE</b>					
HT-1	120 V	1	MOTOR RATED SWITCH	WP	
HT-2	120 V	1	MOTOR RATED SWITCH	WP	
HT-2	120 V	1	MOTOR RATED SWITCH	WP	
<b>PARTICULATE FILTER</b>					
PF-1	120 V	1	30A FUSIBLE SAFETY SWITCH	NEMA 3R	
<b>PUMP</b>					
P-1	480 V	3	200A FUSIBLE SAFETY SWITCH	NEMA 3R	NOTE 4
P-2	480 V	3	100A FUSIBLE SAFETY SWITCH	NEMA 3R	NOTE 4
P-3	480 V	3	200A FUSIBLE SAFETY SWITCH	NEMA 3R	NOTE 4
P-4	480 V	3	100A FUSIBLE SAFETY SWITCH	NEMA 3R	NOTE 4

**ELECTRICAL SYMBOLS LEGEND**

note: all symbols do not necessarily appear on drawings

LA-2 RACEWAY CONCEALED IN CEILING, WALL, OR BELOW FLOOR. HASH MARKS INDICATE QUANTITY OF CABLES OR CURRENT CARRYING CONDUCTORS. NO MARKS INDICATES 2 #12 AWG COPPER CONDUCTORS. USE #10 AWG FOR 120V CIRCUITS EXCEEDING 100 FT IN LENGTH AND 277V CIRCUITS EXCEEDING 230 FT. ALL RACEWAYS SHALL CONTAIN ONE EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC. ISOLATED GROUND RECEPTACLE RACEWAYS SHALL CONTAIN AN ADDITIONAL ISOLATED GROUNDING CONDUCTOR. REFER TO PANEL SCHEDULES FOR CONDUIT AND CONDUCTOR SIZES. ARROW INDICATES HOMERUN TO PANEL-CIRCUIT. RACEWAY EXPOSED ON STRUCTURE, WITH MARKS AS ABOVE. PAINT TO MATCH STRUCTURE.

RACEWAY INSTALLED BELOW SLAB, WITH MARKS AS ABOVE.

RACEWAY INSTALLED BELOW GRADE WITH MARKS AS ABOVE.

WP/GFI 20A, 125V DUPLEX TAMPER-RESISTANT TYPE RECEPTACLE MOUNTED 18" AFF, OR AS NOTED. WP DENOTES WATER RESISTANT DEVICE WITH GASKETTED WEATHERPROOF CAST METAL WHILE-IN-USE COVER. GFI DENOTES GROUND FAULT CIRCUIT INTERRUPTING TYPE.

GFI 20A, 125V DUPLEX TAMPER-RESISTANT TYPE RECEPTACLE MOUNTED ABOVE COUNTERTOP BACKSPLASH. COORDINATE EXACT LOCATION WITH MILLWORK INSTALLER. 46" AFF, OR AS NOTED. MARKS AS ABOVE.

GFI 20A, 125V QUADRUPLEX TAMPER-RESISTANT TYPE RECEPTACLE MOUNTED 18" AFF, OR AS NOTED.

SP SPECIAL RECEPTACLE. FLUSH MOUNTED 18" AFF, OR AS NOTED. PROVIDE NEMA TYPE RECEPTACLE AS NOTED, UNLESS OTHERWISE REQUIRED BY EQUIPMENT.

J WALL MOUNTED (LEFT), CEILING MOUNTED (RIGHT) JUNCTION BOX.

J FLOOR MOUNTED JUNCTION BOX. CAST IRON WITH WEATHERPROOF COVER. FOR INSTALLATION IN KITCHEN AREAS, REFER TO DETAIL - KITCHEN FLOOR RECEPTACLE.

CEILING MOUNTED (LEFT) AND WALL MOUNTED (RIGHT) EXIT SIGNS. SHADING INDICATES LIT FACES. SIDE TRIANGLES INDICATE EMERGENCY LAMP HEADS. ARROWS INDICATE CHEVRONS TO BE ILLUMINATED.

A a LIGHTING FIXTURE. TYPE AS INDICATED BY CAPITAL LETTER. REFER TO LIGHTING FIXTURE SCHEDULE. LOWER CASE LETTER DESIGNATION INDICATES SWITCHING OR CONTROL ZONE. NUMERIC DESIGNATION INDICATES CIRCUIT.

EMERGENCY LIGHTING FIXTURE WITH NOTATION AS ABOVE.

SUSPENDED OR SURFACE MOUNTED STRIP OR LINEAR LIGHTING FIXTURE WITH NOTATION AS ABOVE. HALF SHADED IS AN EMERGENCY.

WALL BATTERY PACK EMERGENCY LIGHTING FIXTURE WITH DESIGNATIONS AS ABOVE.

20A, 120/277V SPST LIGHTING TOGGLE SWITCH. '2' DENOTES DPST, '3' DENOTES 3-WAY, '4' DENOTES 4-WAY; 'K' DENOTES KEY OPERATED SWITCH; 'MC' DENOTES MOMENTARY CONTACT; 'HOA' DENOTES HAND/OFF/AUTO SWITCH; 'WP' DENOTES WATERPROOF COVER PLATE.

M MOTOR RATED SWITCH (MANUAL MOTOR STARTER WITHOUT OVERLOADS) IN A NEMA 250 TYPE 1 ENCLOSURE. SINGLE POLE, 16A RATED, UNLESS OTHERWISE NOTED.

DISCONNECT SWITCH, NON-FUSED UNLESS OTHERWISE NOTED. NEMA TYPE PER ENVIRONMENT. AMPERE RATING PER CONNECTION SCHEDULE.

DISCONNECT SWITCH, FUSED UNLESS OTHERWISE NOTED. NEMA TYPE PER ENVIRONMENT. AMPERE RATING PER CONNECTION SCHEDULE.

MAGNETIC MOTOR STARTER, FURNISHED BY DIVISION 23, INSTALLATION AND POWER WIRING BY DIVISION 26.

DRY TYPE VENTILATED TRANSFORMER.

480Y/277 VAC PANELBOARD (LEFT) AND 208Y/120 VAC PANELBOARD (RIGHT).

MOTOR: HORSEPOWER RATING AS INDICATED; F INDICATES HORSEPOWER RATING LESS THAN 1/10.

CONTACTOR IN SURFACE WALL MOUNTED ENCLOSURE.

MECHANICAL CONTROL DEVICES (SENSOR, THERMOSTAT, WALL SWITCH, INTERVAL TIMER, NIGHT SETBACK, HUMIDISTAT, CO2 SENSOR, EMERGENCY STOP) TO BE INSTALLED BY DIVISION 23. ELECTRICAL CONTRACTOR SHALL PROVIDE A FLUSH WALL MOUNTED OUTLET BOX WITH CONDUIT STUBBED OUT 6" ABOVE TYPE 2 CEILING WITH BUSHED OPENING AT LOCATION SHOWN. WHERE MULTIPLE DEVICES ARE SHOWN WITHIN A SINGLE RECTANGLE, MULTIPLE DEVICES WILL BE INSTALLED IN A SINGLE OUTLET BOX LOCATION. WALL SWITCH SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY BOX REQUIREMENTS AND MOUNTING HEIGHTS WITH DIVISION 23 AND/OR CONTROLS CONTRACTOR PRIOR TO INSTALLATION.

**ELECTRICAL RISER DIAGRAM NOTES:**

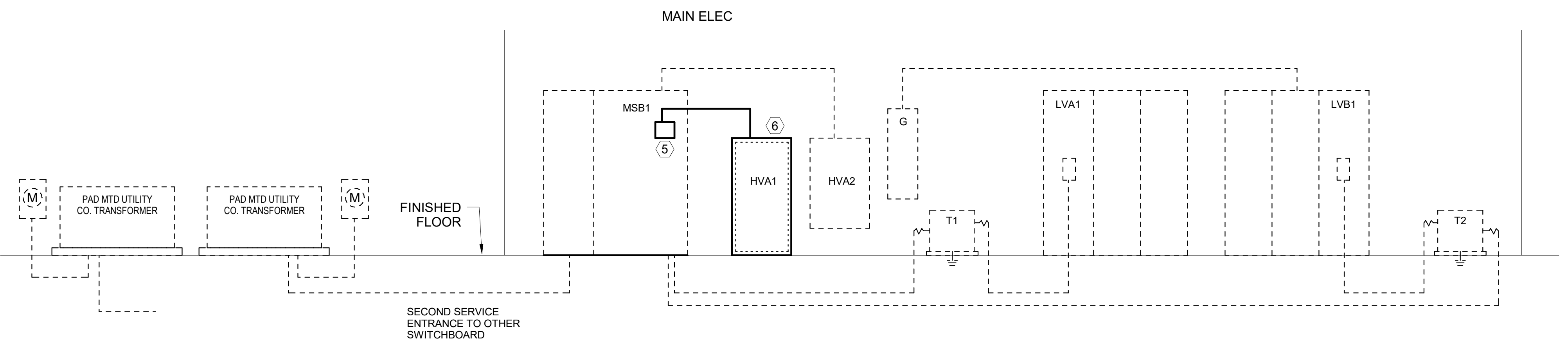
- REFER TO SWITCHBOARD AND PANELBOARD SCHEDULES FOR CONDUIT AND CONDUCTOR SIZES.
  - PROVIDE A DRIVEN GROUND ROD FIVE FEET BEYOND THE BUILDING EXTERIOR WALL FOR EACH TRANSFORMER SECONDARY NEUTRAL. PROVIDE GROUNDING CONDUCTOR SIZED PER SECTION 260526 FROM TRANSFORMER GROUND BAR TO GROUND ROD. REFER TO GROUNDING SCHEMATIC.
  - REFER TO FLOOR PLAN DRAWINGS FOR LOCATIONS OF EQUIPMENT.
  - SURGE PROTECTIVE DEVICE (SPD) PER SECTION 262413 AND/OR 262416. SPD SHALL BE INSTALLED BY AND SHIPPED FROM THE PANELBOARD AND/OR SWITCHBOARD MANUFACTURER'S FACTORY.
  - REPLACE EXISTING 400A/3P ENCLOSED CIRCUIT BREAKER IN MSB1 WITH NEW 600A/3P CIRCUIT BREAKER AND PROVIDE NEW FEEDER TO HVA1 PER PANEL SCHEDULE.
- \*\* WARNING: SWITCHBOARD MSB1 DOES NOT HAVE A MAIN BREAKER. COORDINATE WITH UTILITY COMPANY TO REMOVE POWER FROM SWITCHBOARD DURING MODIFICATIONS. DO NOT PERFORM WORK WHILE ENERGIZED.
- REPLACE EXISTING PANELBOARD HVA1 WITH NEW PER SCHEDULE.

**ELECTRICAL RISER LIFESTYLE LEGEND**

SOLID LIFESTYLE DESIGNATES NEW ELECTRICAL EQUIPMENT AND CONDUCTORS/CONDUIT.

DASHED LIFESTYLE DESIGNATES EXISTING ELECTRICAL EQUIPMENT AND CONDUCTORS/CONDUIT TO REMAIN.

DOT-DOT DESIGNATES EXISTING ELECTRICAL EQUIPMENT AND CONDUCTORS/CONDUIT TO BE DEMOLISHED.



**POWER RISER DIAGRAM**  
NO SCALE

480Y/277V 3-Phase 4-Wire POWER PANEL  
 Name: HVA1  
 Mains: 600A MLO  
 Trim: Surface Door: Yes  
 Branch OCP: Molded case breaker  
 Neutral: S/N  
 Ground bar: Yes  
 Min Sym IC: 50000  
 Fed from: MSB1  
 Feeder: Note 1

CIR DESCRIPTION	TRIP	POLES	PHASE LOADS			CONDUITS	PHASES	NEUTRAL	GROUND	WIRE TYPE
			A	B	C					
1 LOOP PUMP NO 1	175	3	26605	26604	26604	(1)1-1/2"	3Ø2/0	-	#6	THWN Copper
2 COOL TOWER PUMP2	100	3	14411	14411	14410	1"	3Ø3	-	#8	THWN Copper
3 LOOP PUMP NO 2	175	3	26605	26604	26604	(1)1-1/2"	3Ø2/0	-	#6	THWN Copper
4 COOL TOWER PUMP1	100	3	14411	14411	14410	1"	3Ø3	-	#8	THWN Copper
5 ATBN EXH FAN W/S	100	3	14411	14411	14410	1"	3Ø3	-	#8	THWN Copper
6 EXISTING CRT	50	3	9423	9422	9422	3/4"	3Ø4	-	#10	THWN Copper
7 COOL TOWER FAN 2	60	3	9423	9422	9422	3/4"	3Ø4	-	#10	THWN Copper
8 COOL TOWER FAN 1	60	3	9423	9422	9422	3/4"	3Ø4	-	#10	THWN Copper
9 EXHAUST FAN	40	3	5820	5820	5819	3/4"	3Ø4	-	#10	THWN Copper
10 EXHAUST FAN	40	3	5820	5820	5819	3/4"	3Ø4	-	#10	THWN Copper
11 CT BASIN HTR 1	15	3	2334	2333	2333	1/2"	3Ø12	-	#12	THWN Copper
12 CT BASIN HTR 2	15	3	2334	2333	2333	1/2"	3Ø12	-	#12	THWN Copper
13 SPARE	50	3	---	---	---	---	---	---	---	---
14 SPARE	50	3	---	---	---	---	---	---	---	---
15 SPACE ONLY	100	3	---	---	---	---	---	---	---	---
16 SPACE ONLY	100	3	---	---	---	---	---	---	---	---
<b>Phase load totals</b>			<b>141020</b>	<b>141013</b>	<b>141008</b>					

Notes for HVA1:  
 1 Feeder is (2) 3" - 4#35kcmil + #1 GND THWN Copper  
 2 Use breaker suitable for 75C conductors for circuits 2 4 5 6 7 8

SA&E PROJECT NUMBER	<b>01-415-001</b>
BID PACKAGE	BP-1
ISSUED FOR CONSTRUCTION	<b>08-23-2023</b>
<b>Southern A&amp;E</b>	
7951 Troon Circle Austell, Ga 30168 (770) 819-7777	R# 1 Doc # AD3 Date 10/06/23
architects & engineers	
REPLACEMENT OF COOLING TOWER & BOILER: <b>THREADMILL COMPLEX</b>	
5000 AUSTELL POWDER SPRINGS ROAD <b>THE CITY OF AUSTELL</b> 5000 AUSTELL POWDER SPRINGS ROAD	
<b>ELECTRICAL LEGENDS, DETAILS, MECHANICAL EQUIPMENT CONNECTION SCHEDULE</b>	
DRAWING NUMBER	<b>E001</b>