

MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2025-020
Item to be Scouted	Enclosed Controllers
Days to be scouted	15
Response Due By	01/30/2025
Description	Enclosed manual and magnetic motor controllers and enclosed contactors.
Notify Requester Immediately	No
State item to be used in	Alabama

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	An enclosed controller is built by assembling various electrical control components, like motor starters, transformers, and pilot lights, within a pre-designed enclosure, typically made of sheet metal, with a sealed cover, where all wiring and connections are made inside, ensuring protection against environmental elements and providing a safe, pre-tested unit for installation; essentially, the enclosure is the primary structural element, with all control components mounted and wired within it, ready to be used once connected to power and control signals.
Provide dimensions / size / tolerances / performance specifications for the item	<p>MANUAL MOTOR CONTROLLERS A Description: NEMA ICS 2, AC general-purpose, Class A, manually operated, full-voltage controller for small motors, with bimetal type overload relay, (NO) (NC) auxiliary contact, and pushbutton operator.</p> <p>2.3 FRACTIONAL-HORSEPOWER MANUAL CONTROLLERS A Description: NEMA ICS 2, AC general-purpose, Class A, manually operated, full-voltage controller for fractional horsepower induction motors, with melting alloy type overload relay, green pilot light, and toggle operator.</p> <p>2.4 MOTOR STARTING SWITCHES A Description: NEMA ICS 2, AC general-purpose Class A manually operated, full-voltage controller for fractional horsepower induction motors, without thermal overload unit, with green pilot light ,and toggle operator.</p> <p>2.5 FULL-VOLTAGE NON-REVERSING MAGNETIC MOTOR CONTROLLERS A Description: NEMA ICS 2, AC general-purpose, Class A, magnetic controller for induction motors rated in horsepower, three-phase and single-phase, as scheduled, except where single-phase motors scheduled to be provided with built-in overload elements: 1. Size 1 minimum 2. Control Voltage: 120 V, 60 Hz 3. Overload Relays: NEMA ICS 2, solid-state bimetal , 1 overload relay per phase: a. Solid-state type: 1) Class 10 inverse-time tripping characteristics. 2) Non-volatile operating memory. 3) 3:1 current adjustment range. 4) Phase loss/phase unbalance protection. 5) Ambient temperature insensitive. 6) Self-powered.</p>

7) Manual reset. Automatic recent not acceptable.

8) Manual trip.

9) Visible trip indication.

4. Features:

a. Auxiliary Contacts: 2 form-C contacts in addition to seal-in contact.

b. Pushbuttons: Shrouded type.

c. Pilot Lights NEMA ICS 5: push-to-test LED

d. Hand-Off-Auto (H-O-A) Selector Switches: Rotary type switch with fully wired normally open and normally closed contacts for switch position indication.

e. Control Power Transformers: 120V secondary, adequate capacity to operate connected pilot, indicating and control devices, plus 100% spare capacity in each motor controller, but not less than 100VA. Fused primary and secondary, and unfused leg of secondary bonded to enclosure.

f. Terminals: NEMA ICS 4.

g. Other accessories detailed or required by drawings.

2.6 COMBINATION CONTROLLERS

A Factory-assembled motor controllers with externally operable disconnect, molded-case circuit breaker type, in common enclosure; means for locking disconnect handle and means for defeating cover interlock.

2.7 FULL VOLTAGE NON-REVERSING MULTI-SPEED MAGNETIC MOTOR CONTROLLERS

A Description: Same as full voltage non-reversing single-speed magnetic motor controllers with addition of the following:

1. Speed selector switch

2. Auto-Off-Low-High selector switch

2.8 REDUCED VOLTAGE MOTOR CONTROLLERS

A Motor controllers for NEMA rated 230 V motors 25 hp and above.

B Motor controllers for NEMA rated 460 V motors 60 hp and above.

2.9 MOTOR CONTROLLER ACCESSORIES

A Factory installed devices in controller enclosure, unless otherwise indicated, as follows:

1. "On-Off" and "Start-Stop" pushbutton stations, pilot lights, selector switches: NEMA ICS

2, heavy duty, oiltight type.

2. 120 V control circuits and pilot light, unless otherwise noted.

3. Red pilot light to indicate motor operation.

4. Green pilot light to indicate motor stopped.

5. Minimum wire size for control circuits: #14 AWG.

6. Stop and Lockout Pushbutton Station: Momentary-break pushbutton station with a factory-applied hasp arranged so a padlock can be used to lock pushbutton in depressed position with control circuit open, where indicated.

B Control services: As scheduled on motor schedule or indicated.

2.10 LUGS

A Labeled for 75°C copper and aluminum conductors.

B Multiple lugs to match number of conductors per phase.

C Termination of field installed conductors: Pressure wire connectors, except wire-binding screws for #10 AWG or smaller conductors.

D For equipment specified in this section and for equipment furnished under other Divisions of this specification and/or by others.

2.11 MOTOR CONTROLLERS AND CONTACTOR ENCLOSURES

A NEMA 250, NEMA ICS 6.

B NEMA Type 1, Type 3R (outdoor locations) Type 4, wet and damp indoor locations enclosure.

C Code-gauge galvanized steel.

D Manufacturer's standard gray enamel finish over prime coat.

E Surface-mounted. Flush-mounted where indicated.

List required materials needed to make the product, including materials of product components	Contactors, relays, circuit breakers, transformers, pilot lights, switches, motors, terminals, and lugs.
Are there applicable certification requirements?	No
Are there applicable regulations?	No
Are there any other standards, requirements, etc.?	Yes
Details	<p>BABA</p> <p>ANSI/NECA 1 – Standard Practices for Good Workmanship in Electrical Contracting</p> <p>NEMA AB 1 – Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit Breakers Enclosures</p> <p>NEMA 250 – Enclosures for Electrical Equipment (1000 V Maximum)</p> <p>NEMA ICS 2 – Industrial Control and Systems: Controllers, Contactors and Overload Relays, Rated Not More Than 2000 VAC or 750 VDC</p> <p>NEMA ICS 4 – Industrial Control and Systems: Terminal Blocks</p> <p>NEMA ICS 5 – Industrial Control and Systems: Control Circuit and Pilot Devices</p> <p>NEMA ICS 6 – Industrial Control and Systems: Enclosures</p> <p>NEMA KS 1 – Enclosed and Miscellaneous Distribution Equipment Switches (600 V Maximum)</p> <p>NEMA MG 1 – Motors and Generators</p> <p>NFPA 70 – National Electrical Code</p> <p>UL 98 – Enclosed and Dead Front Switches</p> <p>UL 486A-486B – Wire Connectors</p> <p>UL 489 – Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit Breakers Enclosures</p> <p>UL 508 – Industrial Control Equipment</p>
NAICS 1	335314 Relay and industrial control manufacturing
NAICS 2	
Additional Technical Comments	

Section 4: Business Information

Estimated potential business volume	25
Estimated target price / unit cost information (if unavailable explain)	As this is related to BABA, acceptable pricing is to be determined in negotiation.
When is it needed by?	9/1/2025
Describe packaging requirements	Store in clean, dry space. Maintain factory wrapping or provide additional canvas or plastic cover to protect units from dirt, water, construction debris, and traffic.
Where will this item be shipped?	Tuscaloosa, AL

Additional Comments

Is there other information you would like to include?	State of Alabama, University of Alabama
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SECTION 262913 - ENCLOSED CONTROLLERS

PART 1 - GENERAL

1.1 RELATED WORK

- A Section 260519 - Low-Voltage Electrical Power Conductors and Cables
- B Section 260526 - Grounding and Bonding for Electrical Systems
- C Section 260529 - Hangers and Supports for Electrical Systems
- D Section 250553 - Instrumentation Tagging
- E Section 260548 - Vibration and Seismic Controls For Electrical Systems
- F Section 260553 - Electrical Systems Identification
- G Section 260812 - Power Distribution Acceptance Tests
- H Section 260813 - Power Distribution Acceptance Test Tables
- I Section 262813 - Fuses

1.2 REFERENCE

- A Products shall comply with the Build America, Buy America Act (BABBA). Provide all information to certify compliance. Refer to Division 00 and Division 01 for additional information.

1.3 DESCRIPTION

- A Section includes enclosed manual and magnetic motor controllers and enclosed contactors.
- B Motors shown on the drawings or specified in other Divisions of these specifications shall be provided with motorized equipment and connected under this section. Provide motor controllers and power circuit disconnect devices for all motors, unless shown or specified to be furnished with motorized equipment under other Divisions of these specifications, and by others, for installation by this contract.
- C Motor Voltage Information:
 - 1. Voltages available are: 208 and 480 V, 3-phase and 120, 208 and 277V single phase.

1.4 REFERENCE STANDARDS

- A ANSI/NECA 1 – Standard Practices for Good Workmanship in Electrical Contracting

- B NEMA AB 1 – Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit Breakers Enclosures
- C NEMA 250 – Enclosures for Electrical Equipment (1000 V Maximum)
- D NEMA ICS 2 – Industrial Control and Systems: Controllers, Contactors and Overload Relays, Rated Not More Than 2000 VAC or 750 VDC
- E NEMA ICS 4 – Industrial Control and Systems: Terminal Blocks
- F NEMA ICS 5 – Industrial Control and Systems: Control Circuit and Pilot Devices
- G NEMA ICS 6 – Industrial Control and Systems: Enclosures
- H NEMA KS 1 – Enclosed and Miscellaneous Distribution Equipment Switches (600 V Maximum)
- I NEMA MG 1 – Motors and Generators
- J NFPA 70 – National Electrical Code
- K UL 98 – Enclosed and Dead Front Switches
- L UL 486A-486B – Wire Connectors
- M UL 489 – Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit Breakers Enclosures
- N UL 508 – Industrial Control Equipment

1.5 SUBMITTALS

A Product Data:

1. Motor controllers: Submit catalog cut sheets showing voltage, size, rating and size of switching and overcurrent protective devices, dimensions, and enclosure details.
2. Contactors: Submit catalog cut sheets showing voltage, size, current rating, dimensions, and enclosure details.
3. Factory settings and time-current curves of individual protective devices.
4. Confirm motor sizes and voltages with submittals of other Divisions of specifications, and/or by others, prior to Section submittals.

B Manufacturer's Installation Instructions:

1. Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and/or starting of product.

C Test Reports: Indicate field test and inspection procedures and interpret test results and corrective action taken for compliance with specification requirements.

D Closeout Submittals:

1. Project Record Documents:
 - a. Record actual locations and ratings of enclosed motor controllers and enclosed contactors.
2. Operation and Maintenance Data:
 - a. Include manufacturer's recommended operating instructions, maintenance procedures and intervals, and preventive maintenance instructions.
 - b. Include spare parts data listing, source, and current prices of replacement parts and supplies.

1.6 QUALITY ASSURANCE

A Obtain motor controllers, and contactors from one source and by single manufacturer.

B Regulatory Requirements:

1. Comply with NFPA 70 for components and installation.
2. Furnish products listed and classified by Underwriters Laboratories, Inc., as suitable for purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

A Store in clean, dry space. Maintain factory wrapping or provide additional canvas or plastic cover to protect units from dirt, water, construction debris, and traffic.

1.8 WARRANTY

A Refer to Division 01 and Section 260000 - General Electrical Requirements for general warranty requirements.

B Manufacturer shall provide standard 1 yr warranty against defects in materials and workmanship for products specified in this Section. Warranty period shall begin on date of substantial completion.

1.9 MAINTENANCE

A Extra Materials: Furnish extra materials described below that match product installed, are packaged with protective covering for storage, and are identified with labels describing contents.

1. Spare pilot lights: Furnish 1 spare lamp for every 5 installed units, but not less than 1 set of 3 of each kind.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A Schneider Square D
- B ABB-GE Industrial Solutions
- C Eaton Cutler-Hammer
- D Siemens
- E Allen Bradley

2.2 MANUAL MOTOR CONTROLLERS

- A Description: NEMA ICS 2, AC general-purpose, Class A, manually operated, full-voltage controller for small motors, with bimetal type overload relay, (NO) (NC) auxiliary contact, and pushbutton operator.

2.3 FRACTIONAL-HORSEPOWER MANUAL CONTROLLERS

- A Description: NEMA ICS 2, AC general-purpose, Class A, manually operated, full-voltage controller for fractional horsepower induction motors, with melting alloy type overload relay, green pilot light, and toggle operator.

2.4 MOTOR STARTING SWITCHES

- A Description: NEMA ICS 2, AC general-purpose Class A manually operated, full-voltage controller for fractional horsepower induction motors, without thermal overload unit, with green pilot light ,and toggle operator.

2.5 FULL-VOLTAGE NON-REVERSING MAGNETIC MOTOR CONTROLLERS

- A Description: NEMA ICS 2, AC general-purpose, Class A, magnetic controller for induction motors rated in horsepower, three-phase and single-phase, as scheduled, except where single-phase motors scheduled to be provided with built-in overload elements:

1. Size 1 minimum
2. Control Voltage: 120 V, 60 Hz
3. Overload Relays: NEMA ICS 2, solid-state bimetal, 1 overload relay per phase:
 - a. Solid-state type:
 - 1) Class 10 inverse-time tripping characteristics.
 - 2) Non-volatile operating memory.
 - 3) 3:1 current adjustment range.
 - 4) Phase loss/phase unbalance protection.
 - 5) Ambient temperature insensitive.
 - 6) Self-powered.

- 7) Manual reset. Automatic recent not acceptable.
 - 8) Manual trip.
 - 9) Visible trip indication.
4. Features:
- a. Auxiliary Contacts: 2 form-C contacts in addition to seal-in contact.
 - b. Pushbuttons: Shrouded type.
 - c. Pilot Lights NEMA ICS 5: push-to-test LED
 - d. Hand-Off-Auto (H-O-A) Selector Switches: Rotary type switch with fully wired normally open and normally closed contacts for switch position indication.
 - e. Control Power Transformers: 120V secondary, adequate capacity to operate connected pilot, indicating and control devices, plus 100% spare capacity in each motor controller, but not less than 100VA. Fused primary and secondary, and unfused leg of secondary bonded to enclosure.
 - f. Terminals: NEMA ICS 4.
 - g. Other accessories detailed or required by drawings.

2.6 COMBINATION CONTROLLERS

- A Factory-assembled motor controllers with externally operable disconnect, molded-case circuit breaker type, in common enclosure; means for locking disconnect handle and means for defeating cover interlock.

2.7 FULL VOLTAGE NON-REVERSING MULTI-SPEED MAGNETIC MOTOR CONTROLLERS

- A Description: Same as full voltage non-reversing single-speed magnetic motor controllers with addition of the following:
1. Speed selector switch
 2. Auto-Off-Low-High selector switch

2.8 REDUCED VOLTAGE MOTOR CONTROLLERS

- A Motor controllers for NEMA rated 230 V motors 25 hp and above.
- B Motor controllers for NEMA rated 460 V motors 60 hp and above.

2.9 MOTOR CONTROLLER ACCESSORIES

- A Factory installed devices in controller enclosure, unless otherwise indicated, as follows:
1. "On-Off" and "Start-Stop" pushbutton stations, pilot lights, selector switches: NEMA ICS 2, heavy duty, oiltight type.
 2. 120 V control circuits and pilot light, unless otherwise noted.
 3. Red pilot light to indicate motor operation.
 4. Green pilot light to indicate motor stopped.
 5. Minimum wire size for control circuits: #14 AWG.
 6. Stop and Lockout Pushbutton Station: Momentary-break pushbutton station with a factory-applied hasp arranged so a padlock can be used to lock pushbutton in depressed position with control circuit open, where indicated.

- B Control services: As scheduled on motor schedule or indicated.

2.10 LUGS

- A Labeled for 75°C copper and aluminum conductors.
- B Multiple lugs to match number of conductors per phase.
- C Termination of field installed conductors: Pressure wire connectors, except wire-binding screws for #10 AWG or smaller conductors.
- D For equipment specified in this section and for equipment furnished under other Divisions of this specification and/or by others.

2.11 MOTOR CONTROLLERS AND CONTACTOR ENCLOSURES

- A NEMA 250, NEMA ICS 6.
- B NEMA Type 1, Type 3R (outdoor locations) Type 4, wet and damp indoor locations enclosure.
- C Code-gauge galvanized steel.
- D Manufacturer's standard gray enamel finish over prime coat.
- E Surface-mounted. Flush-mounted where indicated.

PART 3 - EXECUTION

3.1 COORDINATION

- A Coordinate motor control wiring with Division 23 of these specifications.
- B Coordinate motor sizes and voltages with submittals of other Divisions of these specifications and/or by others.
- C Verify with manufacturer that "touch-up" paint kit is available for repainting.

3.2 EXAMINATION

- A Examine areas and surface to receive motor controllers and contactors for compliance with requirements, installation tolerances, and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.
- B Verify that space indicated for motor controllers and contactors mounting meets code-required working clearances.

- C Notify Architect/Engineer of any discrepancies prior to submittal of product data.

3.3 INSTALLATION

- A Install motor controllers and contactors in accordance with ANSI/NECA 1.
- B Install level and plumb, in accordance with manufacturer's written instruction.
- C Tighten electrical connectors and terminals according to equipment manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- D Install engraved plastic nameplates under provisions of Section 260553 - Electrical Systems Identification. Attach nameplate to exterior of each motor controller and contactor, using small corrosion resistant metal screws or rivets. Do not use contact adhesive:
 - 1. Indicate motor served, nameplate horsepower, full load amperes, code letter, service factor, voltage/phase rating, and fuse size and type, when applicable.
- E Connect each motor terminal box to rigid conduit system with maximum 18" of flexible liquid-tight metal conduit. Install conduit per requirements in Section 26 0533 – Raceway and Boxes for Electrical Systems.
- F Check for proper rotation and phase relationship of each motor.
- G Install fuses in fusible switch at job site per requirements in Section 262813 - Fuses.
- H Control Wiring Installation:
 - 1. Install wiring between motor control devices according to Section 260519 - Low-Voltage Electrical Power Conductors and Cables.
 - 2. Install motor control wiring in accordance with control wiring diagrams and in raceways where indicated or required by contract drawings.
 - 3. Bundle, train, and support wiring in enclosures.
 - 4. Connect hand-off-automatic switch and other automatic-control devices where applicable.
 - a. Connect selector switches to bypass only manual- and automatic-control devices that have no safety functions when switch is in hand position.
 - b. Connect selector switches with motor-control circuit in both hand and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts, and motor overload protectors.

3.4 APPLICATION

- A Select features of each motor controller to coordinate with ratings and characteristics of supply circuit and motor; required control sequence; duty cycle of motor, and configuration of pilot device and control circuit affecting controller functions.

3.5 CONNECTIONS

- A Provide green wire ground through flexible conduit to interconnect motor frame and rigid conduit system.
- B Ground and bond motor controller and contactor enclosures according to Section 260526 - Grounding and Bonding for Electrical Systems.
- C Connect power and control wiring according to Section 260519 - Low-Voltage Electrical Power Conductors and Cables.
- D Connect control wiring for operation, control and supervision of motorized equipment as shown on drawings and/or specified in this and other Divisions of these specifications.

3.6 FIELD QUALITY CONTROL

- A Inspect motor controllers and contactors for physical damage, proper alignment, connections, anchorage, seismic restraints and grounding.
- B Correct malfunctioning motor controllers and contactors on-site and retest to demonstrate compliance. Remove and replace with new units and retest.
- C Test continuity of each circuit.
- D Test motor controllers per requirements in Sections 260812 - Power Distribution Acceptance Tests and 260813 - Power Distribution Acceptance Test Tables
- E Interpret test results in writing and submit to Engineer.

3.7 REPAINTING

- A Remove paint splatters and other marks from surface of equipment.
- B Touch-up chips, scratches or marred finishes to match original finish, using manufacturer-supplied paint kit. Leave remaining paint with Owner.

3.8 ADJUSTING

- A Set field-adjustable circuit breakers trip settings or change the trip settings as indicated on drawings.
- B Adjust motor circuit protectors.

3.9 CLEANING

- A Vacuum dirt and construction debris from interior and exterior of equipment; do not use compressed air to assist in cleaning.

High Performance Computing and Data Center
University of Alabama
UA Project No. 008-23-3287C

October 11, 2024
DAI Project No. 4014

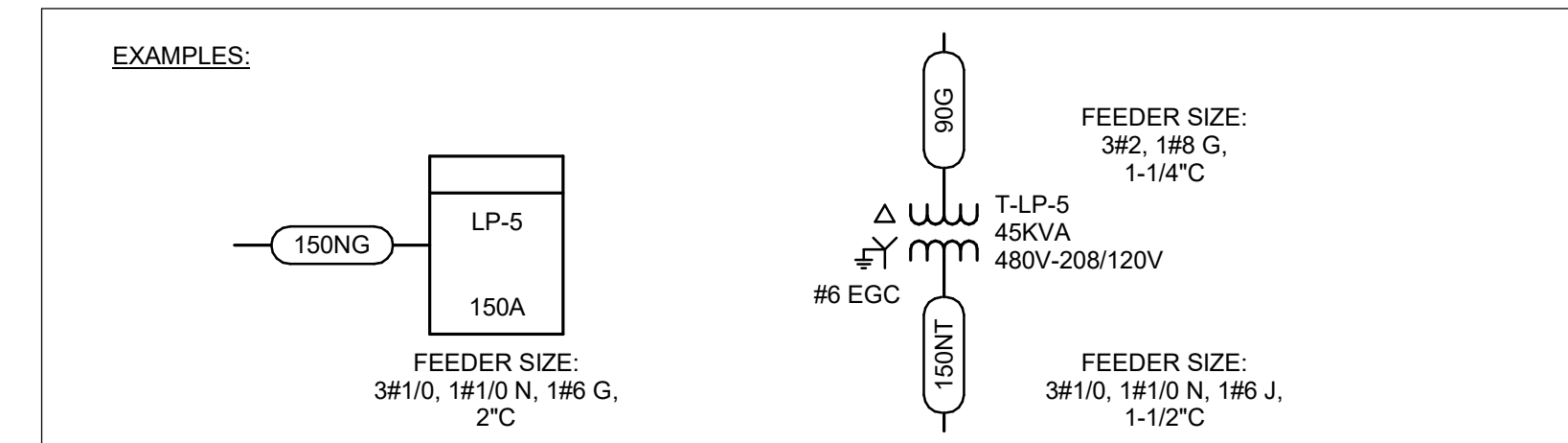
END OF SECTION 262913

BRANCH CIRCUIT SCHEDULE

BRANCH CIRCUIT	BREAKER SIZE	WIRE	CONDUIT
SINGLE POLE - SINGLE PHASE	20A-1P	2#12+1#12G	3/4" C
	30A-1P	2#10+1#10G	3/4" C
	40A-1P	2#8+1#10G	3/4" C
	50A-1P	2#6+1#10G	3/4" C
TWO POLE - SINGLE PHASE	60A-1P	2#4+1#10G	1 1/4" C
	20A-2P	2#12+1#12G	3/4" C
	30A-2P	2#10+1#10G	3/4" C
	40A-2P	2#8+1#10G	3/4" C
TWO POLE - SINGLE PHASE WITH NEUTRAL	50A-2P	2#6+1#10G	3/4" C
	60A-2P	2#4+1#10G	1 1/4" C
	20A-2P	3#12+1#12G	3/4" C
	30A-2P	3#10+1#10G	3/4" C
THREE POLE - THREE PHASE	40A-2P	3#8+1#10G	3/4" C
	50A-2P	3#6+1#10G	3/4" C
	60A-2P	3#4+1#10G	1 1/4" C
	20A-3P	3#12+1#12G	3/4" C
THREE POLE - THREE PHASE 4-WIRE WITH NEUTRAL	30A-3P	3#8+1#10G	3/4" C
	40A-3P	3#6+1#10G	3/4" C
	50A-3P	3#4+1#10G	1 1/4" C
	60A-3P	3#4+1#10G	1 1/4" C

FEEDER TAG	CONDUCTORS (SUFFIX NG) 4W + G 100% N (NEUTRAL NOT CURRENT CARRYING CONDUCTOR)
15NG	3#12, 1#12 N, 1#12 G, 3/4" C
20NG	3#12, 1#12 N, 1#12 G, 3/4" C
25NG	3#10, 1#10 N, 1#10 G, 3/4" C
30NG	3#10, 1#10 N, 1#10 G, 3/4" C
35NG	3#8, 1#8 N, 1#10 G, 3/4" C
40NG	3#8, 1#8 N, 1#10 G, 3/4" C
45NG	3#6, 1#6 N, 1#10 G, 1" C
50NG	3#6, 1#6 N, 1#10 G, 1" C
60NG	3#4, 1#4 N, 1#10 G, 1-1/4" C
70NG	3#4, 1#4 N, 1#8 G, 1-1/4" C
80NG	3#3, 1#3 N, 1#8 G, 1-1/4" C
90NG	3#2, 1#2 N, 1#8 G, 1-1/4" C
100NG	3#1, 1#1 N, 1#8 G, 1-1/2" C
110NG	3#1, 1#1 N, 1#6 G, 1-1/2" C
125NG	3#1/0, 1#1/0 N, 1#6 G, 1-1/2" C
150NG	3#1/0, 1#1/0 N, 1#6 G, 1-1/2" C
175NG	3#2/0, 1#2/0 N, 1#6 G, 2" C
200NG	3#3/0, 1#3/0 N, 1#6 G, 2" C
225NG	3#4/0, 1#4/0 N, 1#4 G, 2-1/2" C
250NG	3-250kcmil, 1-250kcmil N, 1#4 G, 2-1/2" C
300NG	3-350kcmil, 1-350kcmil N, 1#4 G, 3" C
350NG	3-500kcmil, 1-500kcmil N, 1#3 G, 3-1/2" C
400NG	[2 SETS] 3#3/0, 1#3/0 N, 1#3 G, 2" C
450NG	[2 SETS] 3#4/0, 1#4/0 N, 1#2 G, 2-1/2" C
500NG	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#2 G, 2-1/2" C
600NG	[2 SETS] 3-350kcmil, 1-350kcmil N, 1#1 G, 3" C
700NG	[2 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 G, 3-1/2" C
750NG	[2 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 G, 3-1/2" C
800NG	[3 SETS] 3-300kcmil, 1-300kcmil N, 1#1/0 G, 3" C
900NG	[3 SETS] 3-350kcmil, 1-350kcmil N, 1#2/0 G, 3" C
1000NG	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#2/0 G, 3" C
1200NG	[4 SETS] 3-350kcmil, 1-350kcmil N, 1#3/0 G, 3" C
1600NG	[5 SETS] 3-400kcmil, 1-400kcmil N, 1#4/0 G, 3" C
2000NG	[6 SETS] 3-400kcmil, 1-400kcmil N, 1-250kcmil G, 3" C
2500NG	[7 SETS] 3-500kcmil, 1-500kcmil N, 1-350kcmil G, 3-1/2" C
3000NG	[8 SETS] 3-500kcmil, 1-500kcmil N, 1-400kcmil G, 3-1/2" C
3200NG	[9 SETS] 3-500kcmil, 1-500kcmil N, 1-500kcmil G, 3-1/2" C
4000NG	[11 SETS] 3-500kcmil, 1-500kcmil N, 1-500kcmil G, 3-1/2" C
5000NG	[14 SETS] 3-500kcmil, 1-500kcmil N, 2-350kcmil G, 3-1/2" C

XFMR RATING KVA	FEEDER TAG	CONDUCTORS (SUFFIX NT) 4W + J 100% N (NEUTRAL NOT CURRENT CARRYING CONDUCTOR)	TRANSFORMER GROUNDING ELECTRODE CONDUCTOR (SUFFIX NT)
9	35NT	3#8, 1#8 N, 1#8 J, 1" C	#8
15	50NT	3#6, 1#6 N, 1#8 J, 1" C	#8
30	70NT	3#4, 1#4 N, 1#8 J, 1-1/4" C	#8
	100NT	3#1, 1#1 N, 1#6 J, 1-1/2" C	#6
45	80NT	3#1, 1#1 N, 1#6 J, 1-1/2" C	#6
	150NT	3#1/0, 1#1/0 N, 1#6 J, 1-1/2" C	#6
75	125NT	3#1/0, 1#1/0 N, 1#6 J, 1-1/2" C	#6
	250NT	3-250kcmil, 1-250kcmil N, 1#2 J, 2-1/2" C	#2
112.5	400NT	[2 SETS] 3#3/0, 1#3/0 N, 1#4 J, 2" C	#2
150	500NT	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#2 J, 2-1/2" C	#1/0
225	600NT	[3 SETS] 3-300kcmil, 1-300kcmil N, 1#2 J, 3" C	#2/0
300	1000NT	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3" C	#3/0
500	1600NT	[5 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3" C	#3/0
750	2500NT	[7 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 J, 3-1/2" C	#3/0



FEEDER TAG	CONDUCTORS (SUFFIX MV) 3W + (3)1/3N, G MV-105, 133% EPR, 1/3 CONCENTRIC NEUTRAL, 600V GEC	NOTES
165MV	[1 SET] 3#2 + 1/3 N, 1#8 G, 5" C	
275MV	[1 SET] 3#3/0 + 1/3 N, 1#2 G, 5" C	
415MV	[1 SET] 3#350KCMIL + 1/3 N, 1#2 G, 5" C	
1000MV	[2 SETS] 3#500KCMIL + 1/3 N, 1#1/0 G, 5" C	

FEEDER TAG	CONDUCTORS (SUFFIX S) 4W + J	NOTES
3000S	[8 SETS] 4#800KCMIL, 1#1/0 J, 4" C	

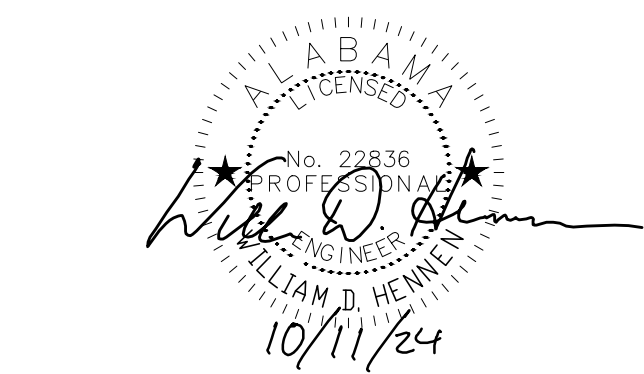
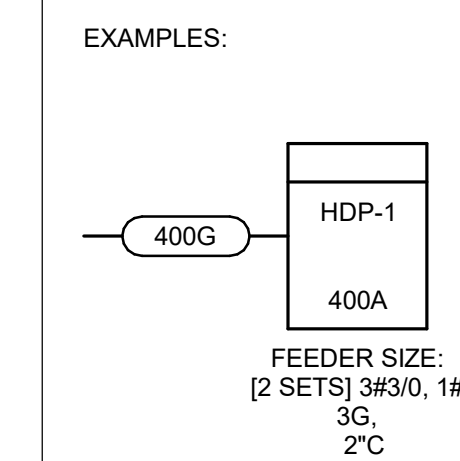
COPPER FEEDER SCHEDULE

FEEDER TAG	CONDUCTORS (SUFFIX G) 3W + G
15G	3#12, 1#12 G, 3/4" C
20G	3#12, 1#12 G, 3/4" C
25G	3#10, 1#10 G, 3/4" C
30G	3#10, 1#10 G, 3/4" C
35G	3#8, 1#10 G, 3/4" C
40G	3#8, 1#10 G, 3/4" C
45G	3#6, 1#10 G, 3/4" C
50G	3#6, 1#10 G, 3/4" C
60G	3#4, 1#10 G, 1" C
70G	3#4, 1#8 G, 1" C
80G	3#3, 1#8 G, 1-1/4" C
90G	3#2, 1#8 G, 1-1/4" C
100G	3#1, 1#8 G, 1-1/4" C
110G	3#1, 1#6 G, 1-1/2" C
125G	3#1/0, 1#6 G, 1-1/2" C
150G	3#1/0, 1#6 G, 1-1/2" C
175G	3#2/0, 1#6 G, 1-1/2" C
200G	3#3/0, 1#6 G, 2" C
225G	3#4/0, 1#4 G, 2" C
250G	3-250kcmil, 1#4 G, 2" C
300G	3-350kcmil, 1#4 G, 2-1/2" C
350G	3-500kcmil, 1#3 G, 3" C
400G	[2 SETS] 3#3/0, 1#3 G, 2" C
450G	[2 SETS] 3#4/0, 1#2 G, 2" C
500G	[2 SETS] 3-250kcmil, 1#2 G, 2" C
600G	[2 SETS] 3-350kcmil, 1#1 G, 2-1/2" C
700G	[2 SETS] 3-500kcmil, 1#1/0 G, 3" C
750G	[2 SETS] 3-500kcmil, 1#1/0 G, 3" C
800G	[3 SETS] 3-300kcmil, 1#1/0 G, 2-1/2" C
900G	[3 SETS] 3-350kcmil, 1#2/0 G, 2-1/2" C
1000G	[3 SETS] 3-400kcmil, 1#2/0 G, 3" C
1200G	[4 SETS] 3-350kcmil, 1#3/0 G, 2-1/2" C
1600G	[5 SETS] 3-400kcmil, 1#4/0 G, 3" C
2000G	[6 SETS] 3-400kcmil, 1-250kcmil G, 3" C
2500G	[7 SETS] 3-500kcmil, 1-350kcmil G, 3" C
3000G	[8 SETS] 3-500kcmil, 1-400kcmil G, 3" C
3200G	[9 SETS] 3-500kcmil, 1-500kcmil G, 3" C
4000G	[11 SETS] 3-500kcmil, 1-500kcmil G, 3" C
5000G	[14 SETS] 3-500kcmil, 2-350kcmil G, 3-1/2" C

SCHEDULE LEGEND:
 N = NEUTRAL
 G = EQUIPMENT GROUNDING CONDUCTOR
 J = SUPPLY SIDE BONDING JUMPER SIZED FOR BONDING A SINGLE RACEWAY PER SET OF CONDUCTORS
 C = CONDUIT

FEEDER DESIGNATOR
 400G
 L FEEDER MODIFIER (IF NEEDED)

FEEDER MODIFIERS:
 T = UPSIZED FOR AMBIENT TEMPERATURE



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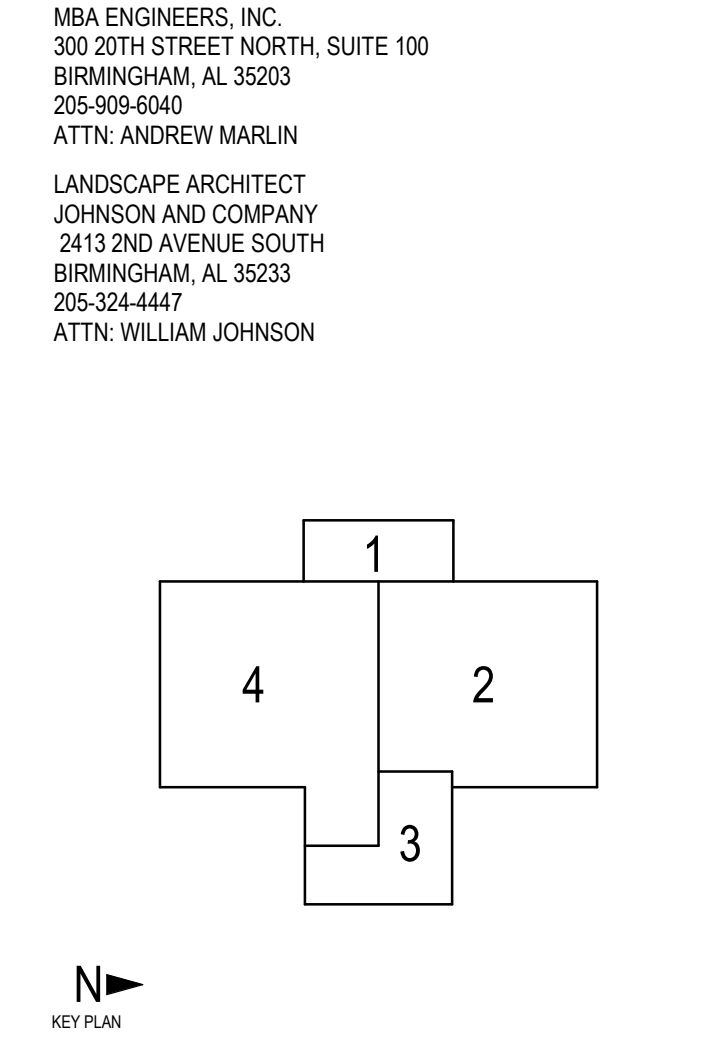
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 302 MERCHANTS WALK, SUITE 250
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 300 20TH STREET NORTH, SUITE 100
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 205.909.6040
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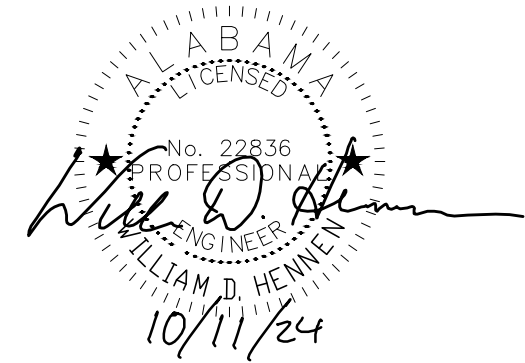
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 JOHNSON AND COMPANY
 2413 2ND AVENUE SOUTH
 BIRMINGHAM, AL 35233
 205.324.4447
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DATE	10-11-2024
TIME	CONFORMING SET
DRAWN BY	
CHECKED BY	
DESIGNED BY	DAVIS & GENSLER PROJECT NO. 4014
SHEET TITLE	ELECTRICAL FEEDER SCHEDULES

DRAWING NO. **E601**

NOTE: SHEET CONTAINS COLOR ELEMENTS AND MUST BE PRINTED IN COLOR. ARCHITECT IS NOT RESPONSIBLE FOR ERRORS MADE DUE TO IMPROPER PRINTING



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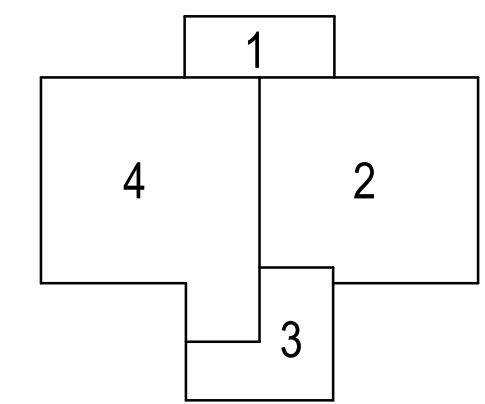
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KEY PLAN

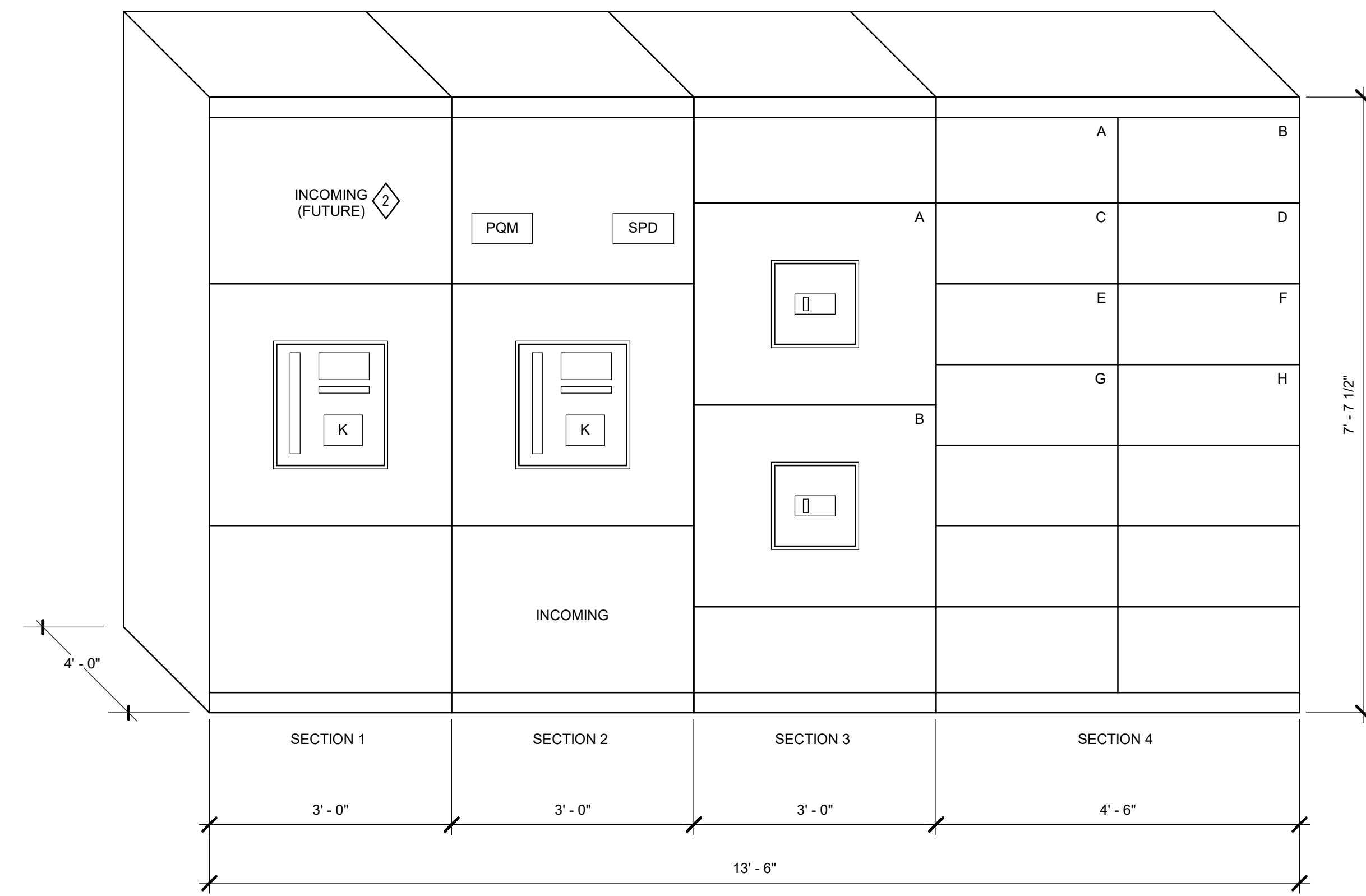
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1	09/26/24	ADDENDUM 1

DATE	10-11-2024
PHASE	CONFORMING SET
ISSUED FOR	ADDENDUM 5
DRAWN BY	DAVIS & GENSLER
PROJECT NO.	4014

SHEET TITLE
ELECTRICAL EQUIPMENT SCHEDULES & ELEVATIONS - SERVICE SWITCHBOARDS - MECHANICAL

DRAWING NO.
E602

NOTE: SHEET CONTAINS COLOR ELEMENTS AND MUST BE PRINTED IN COLOR. ARCHITECT IS NOT RESPONSIBLE FOR ERRORS MADE DUE TO IMPROPER PRINTING



1 SWITCHBOARD M1 ELEVATION
SCALE: NOT TO SCALE

SWITCHBOARD SCHEDULE

Location:	CUP ELIC 1010
Rear Accessible:	No Nema Rating: 1
Bus Rating:	3000A kAIC Rating: 65
Voltage:	277/480 Phase 3 Wire 4
Remarks:	See note 2 regarding neutral bus
Calculated Available Fault Current:	52.9 kA
Total Connected Load, KVA:	1635.3
Total Connected Load, Amps:	1966.9
Total Demand Load, KVA:	1766.2
Total Demand Load, Amps:	2124.4

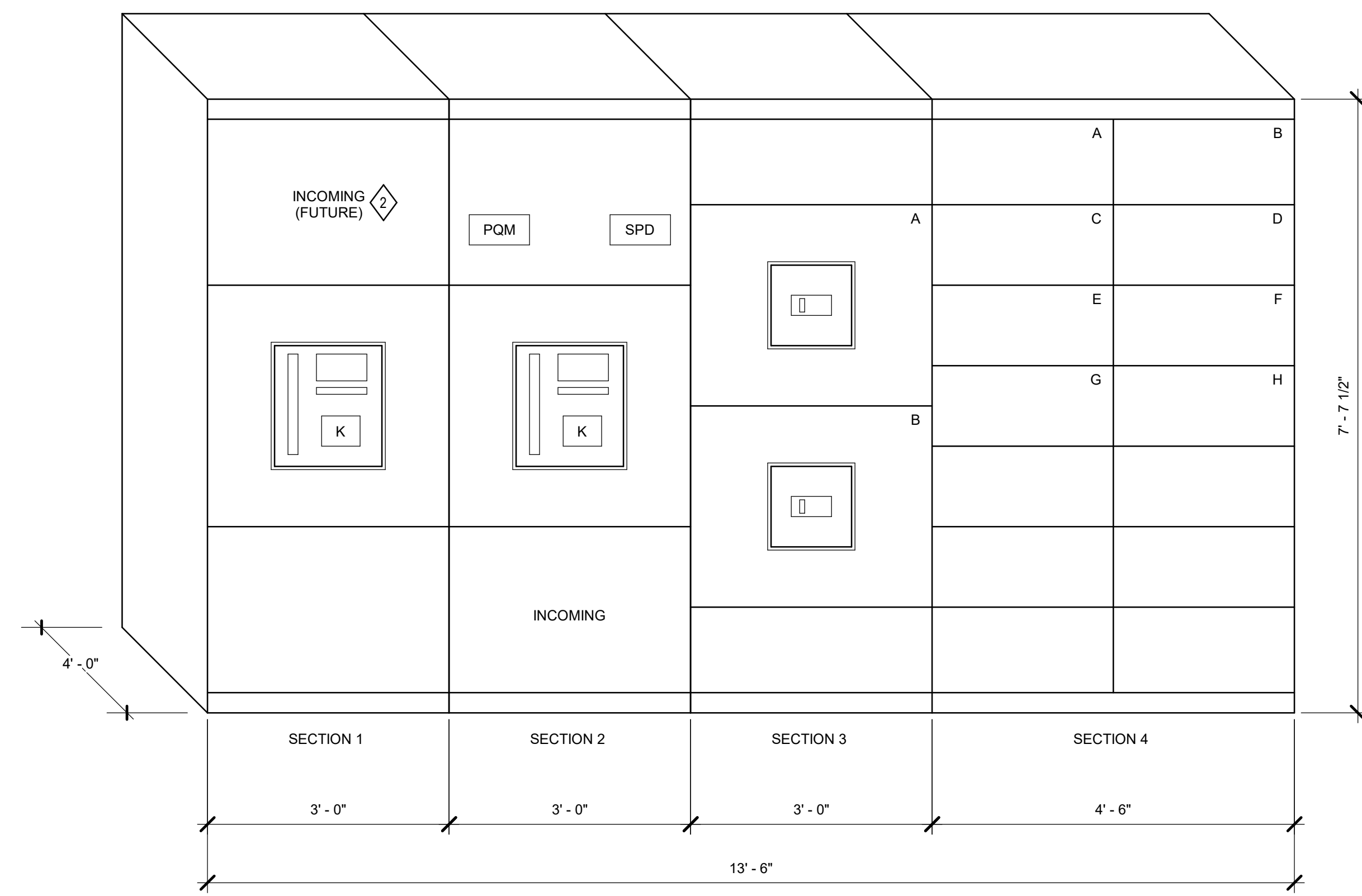
Sect. No.	Unit No.	Description	Circuit Breaker Description							Connected Load (kVA)	Demand Load (kVA)	Comments	
			Pole	Frame	Trip	Type	Func	Opt 1	Opt 2				Opt 3
1	1	BLANK											
1	2	Catcher Reserve Main Breaker	3	3000	3000	IC	LSIG	FR	ERMS	K	--	--	Catcher reserve busduct connection. Key interlock with 2-B. Modified differential ground fault
2	1	SPD / PQM	3	100	100	MC	LSI		SPD		--	--	SPD is internal to SWBD. Digital PQM for Incoming Service
2	2	Utility Main Breaker	3	3000	3000	IC	LSIG	FR	ERMS	K	--	--	Cabling is bottom entry. Key interlock with 1-B. Modified differential ground fault
3	1	ATS-CHM1	3	1600	1600	IC	LSIG	FR	ERMS		1137.1	1268.1	Cabling is bottom exit.
3	2	SPARE (ATS-CHM3)	3	1600	1600	IC	LSIG	FR	ERMS		--	--	
4	1	CHILLER LT-1	3	250	175	MC	LSI				95.4	95.4	Cabling is top exit.
4	2	RTU-2	3	250	110	MC	LSI				46.6	46.6	Cabling is top exit.
4	3	RTU-2 REHEAT	3	250	200	MC	LSI				132.0	132.0	Cabling is top exit.
4	4	INPHM1	3	250	250	MC	LSI				104.3	104.3	Cabling is bottom exit.
4	5	SPARE	3	400	400	MC	LSI				--	--	
4	6	SPARE	3	250	250	MC	LSI				--	--	
4	7	SERVICE ELEVATOR #2.1	3	150	150	MC	LSI				59.90	59.90	
4	8	SERVICE ELEVATOR #2.2	3	150	150	MC	LSI				59.90	59.90	

Notes:
1 Refer to specification 26 2400 for additional information and requirements for switchboards.
2 Neutral bus present in sections 1 & 2 only for the purpose of establishing a Neutral-Ground bond. The neutral bus is not required in distribution sections.
3
4
5

TYPE
PB = Power Breaker
IC = Insulated Case Breaker
MC = Fixed Molded Case Breaker

Circuit Breaker Functional Trip Option:
LI = Long-Instantaneous Settings
LSI = Long-Short-Instantaneous Settings
LSIG = Long-Short-Instantaneous-Ground Fault Settings
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings

Circuit Breaker Option Legend
BL = Breaker Lock
EO = Electrically Operated
FR = 100%
K = Key Interlock
MT = Meter
SPD = Surge Protective Device
ST = Shunt Trip
ERMS = Energy Reduction Maintenance Setting



2 SWITCHBOARD M2 ELEVATION
SCALE: NOT TO SCALE

SWITCHBOARD SCHEDULE

Location:	CUP ELIC 1010
Rear Accessible:	No Nema Rating: 1
Bus Rating:	3000A kAIC Rating: 65
Voltage:	277/480 Phase 3 Wire 4
Remarks:	See note 2 regarding neutral bus
Calculated Available Fault Current:	52.5 kA
Total Connected Load, KVA:	1394.0
Total Connected Load, Amps:	1676.7
Total Demand Load, KVA:	1524.4
Total Demand Load, Amps:	1833.6

Sect. No.	Unit No.	Description	Circuit Breaker Description							Connected Load (kVA)	Demand Load (kVA)	Comments	
			Pole	Frame	Trip	Type	Func	Opt 1	Opt 2				Opt 3
1	1	BLANK											
1	2	Catcher Reserve Main Breaker	3	3000	3000	IC	LSIG	FR	ERMS	K	--	--	Catcher reserve busduct connection. Key interlock with 2-B. Modified differential ground fault
2	1	SPD / PQM	3	100	100	MC	LSI		SPD		--	--	SPD is internal to SWBD. Digital PQM for Incoming Service
2	2	Utility Main Breaker	3	3000	3000	IC	LSIG	FR	ERMS	K	--	--	Cabling is bottom entry. Key interlock with 1-B. Modified differential ground fault
3	1	ATS-CHM2	3	1600	1600	IC	LSIG	FR	ERMS		1194.8	1325.7	Cabling is bottom exit.
3	2	SPARE (ATS-CHM4)	3	1600	1600	IC	LSIG	FR	ERMS		--	--	Cabling is bottom exit.
4	1	INPHM2	3	250	250	MC	LSI				110.9	110.9	Cabling is bottom exit.
4	2	T-INPH1	3	250	225	MC	LSI	BL			15.5	15.0	Cabling is bottom exit.
4	3	T-INPL1	3	150	150	MC	LSI	BL			72.8	72.8	Cabling is bottom exit.
4	4	SPARE	3	800	800	MC	LSI				--	--	
4	5	SPARE	3	400	400	MC	LSI				--	--	
4	6	SPARE	3	250	250	MC	LSI				--	--	
4	7	SPACE	3								--	--	Prepared Space
4	8	SPACE	3								--	--	Prepared Space

Notes:
1 Refer to specification 26 2400 for additional information and requirements for switchboards.
2 Neutral bus present in sections 1 & 2 only for the purpose of establishing a Neutral-Ground bond. The neutral bus is not required in distribution sections.
3
4
5

TYPE
PB = Power Breaker
IC = Insulated Case Breaker
MC = Fixed Molded Case Breaker

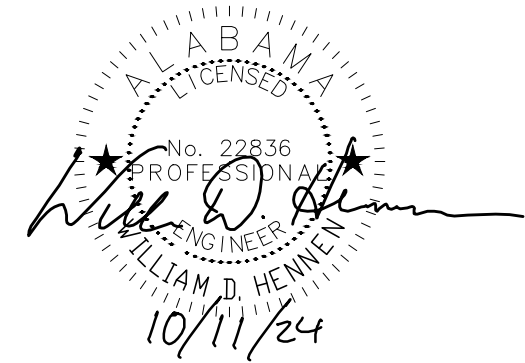
Circuit Breaker Functional Trip Option:
LI = Long-Instantaneous Settings
LSI = Long-Short-Instantaneous Settings
LSIG = Long-Short-Instantaneous-Ground Fault Settings
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings

Circuit Breaker Option Legend
BL = Breaker Lock
EO = Electrically Operated
FR = 100%
K = Key Interlock
MT = Meter
SPD = Surge Protective Device
ST = Shunt Trip
ERMS = Energy Reduction Maintenance Setting

ALL ELECTRICAL EQUIPMENT SHOWN ON THIS SHEET IS INCLUDED IN THE EQUIPMENT PROCUREMENT PACKAGE SCOPE

SHEET KEYNOTES

2. CONFIGURE THIS SECTION TO ALLOW FOR THE FUTURE INSTALLATION OF A TOP-ENTRY BUSDUCT.



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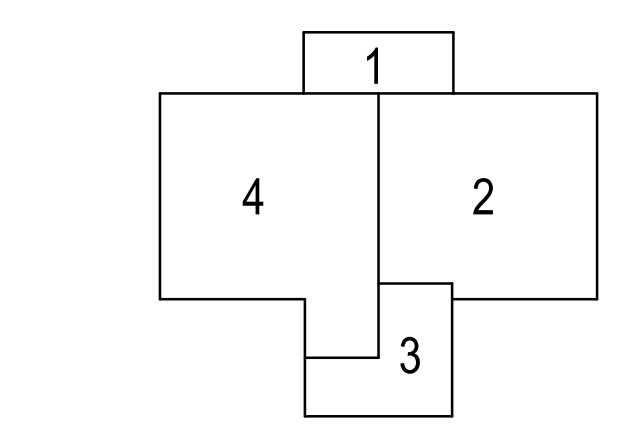
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REV	DATE	DESCRIPTION

DATE: 10-11-2024
 TITLE: CONFORMING SET
 DRAWING NO.: DAVIS & GENSLER PROJECT NO.: 4014
 SHEET TITLE:

ELECTRICAL EQUIPMENT SCHEDULES & ELEVATIONS - SERVICE SWITCHBOARDS - COMPUTE

DRAWING NO. **E603**

NOTE: SHEET CONTAINS COLOR ELEMENTS AND MUST BE PRINTED IN COLOR. ARCHITECT IS NOT RESPONSIBLE FOR ERRORS MADE DUE TO IMPROPER PRINTING

SWITCHBOARD SCHEDULE

Location: HPC Electrical 1018
 Rear Accessible: No Nema Rating: 1
 Bus Rating: 3000A kAIC Rating: 85
 Voltage: 277/480 Phase 3 Wire 4
 Remarks: See note 2 regarding neutral bus

Sect No.	Unit No.	Description	Circuit Breaker Description	Connected Load (kVA)	Demand Load (kVA)	Comments
1	A	BLANK		--	--	
1	B	Catcher Reserve Main Breaker	3 3000 3000 IC LSIG FR ERMS K	--	--	Catcher reserve busduct connection. Key interlock with 2-B
2	A	SPD / PQM	3 100 100 MC SPD	--	--	SPD is internal to SWBD. Digital PQM for Incoming Service
2	B	Utility Main Breaker	3 3000 3000 IC LSIG FR ERMS K	--	--	Cabling is bottom entry. Key interlock with 1-B
3	A	ATS-DC1	3 1600 1600 IC LSIG FR ERMS	0.0	0.0	
3	B	SPARE	3 1600 1600 IC LSIG FR ERMS	--	--	

Calculated Available Fault Current - 41.3 kA

Total Connected Load, KVA	0.0
Total Connected Load, Amps	0.0
Total Demand Load, KVA	0.0
Total Demand Load, Amps	0.0

SWBD HPC1

Sect No.	Unit No.	Description	Circuit Breaker Description	Connected Load (kVA)	Demand Load (kVA)	Comments
4	A	HPC1A	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit.
4	B	HPC1B	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit.
4	C	HPC1C	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit.
4	D	HPC1D	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit.
4	E	HPC1E	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit.
4	F	HPC1F	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit.
4	G	SPARE	3 600 600 MC LSI FR	--	--	
4	H	SPACE	3 800	--	--	Prepared Space

Notes:
 1 Refer to specification 26.2400 for additional information and requirements for switchboards.
 2 Neutral bus present in sections 1 & 2 only for the purpose of establishing a Neutral-Ground bond. The neutral bus is not required in distribution sections.
 3 All loads served by this equipment are OFOI and will be connected at a later date. Refer to service load calc on sheet E400 for design loads.
 4
 5

TYPE
 PB = Power Breaker
 IC = Insulated Case Breaker
 MC = Fixed Molded Case Breaker

Circuit Breaker Functional Trip Option:
 LI = Long-Instantaneous Settings
 LSI = Long-Short-Instantaneous Settings
 LSIG = Long-Short-Instantaneous-Ground Fault Settings
 LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings

Circuit Breaker Option Legend
 BL = Breaker Lock
 EO = Electrically Operated
 FR = 100%
 K = Key Interlock
 MT = Meter
 SPD = Surge Protective Device
 ST = Shunt Trip
 ERMS = Energy Reduction Maintenance Setting

SWITCHBOARD SCHEDULE

Location: HPC Electrical 1018
 Rear Accessible: No Nema Rating: 1
 Bus Rating: 3000A kAIC Rating: 85
 Voltage: 277/480 Phase 3 Wire 4
 Remarks: See note 2 regarding neutral bus

Sect No.	Unit No.	Description	Circuit Breaker Description	Connected Load (kVA)	Demand Load (kVA)	Comments
1	A	BLANK		--	--	
1	B	Catcher Reserve Main Breaker	3 3000 3000 IC LSIG FR ERMS K5	--	--	Catcher reserve busduct connection. Key interlock with 2-B
2	A	SPD / PQM	3 100 100 MC SPD	--	--	SPD is internal to SWBD. Digital PQM for Incoming Service
2	B	Utility Main Breaker	3 3000 3000 IC LSIG FR ERMS K5	--	--	Cabling is bottom entry. Key interlock with 1-B
3	A	ATS-DC2	3 1600 1600 IC LSIG FR ERMS	0.0	0.0	
3	B	SPARE	3 1600 1600 IC LSIG FR ERMS	--	--	

Calculated Available Fault Current - 41.3 kA

Total Connected Load, KVA	0.0
Total Connected Load, Amps	0.0
Total Demand Load, KVA	0.0
Total Demand Load, Amps	0.0

SWBD HPC2

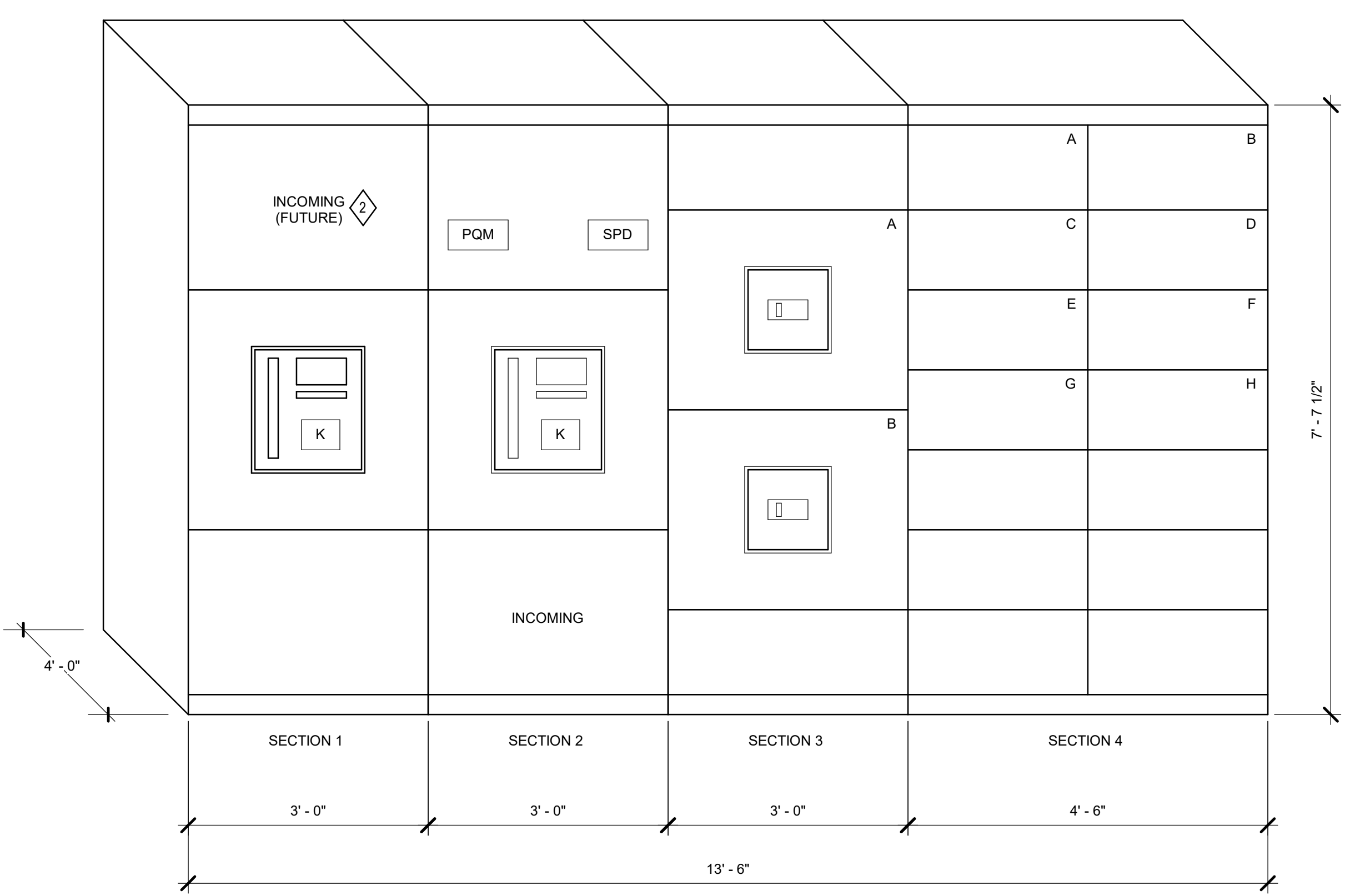
Sect No.	Unit No.	Description	Circuit Breaker Description	Connected Load (kVA)	Demand Load (kVA)	Comments
4	A	HPC2A	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit
4	B	HPC2B	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit
4	C	HPC2C	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit
4	D	HPC2D	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit
4	E	HPC2E	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit
4	F	HPC2F	3 600 600 MC LSI FR	0.0	0.0	Cabling is bottom exit
4	G	SPARE	3 600 600 MC LSI FR	--	--	
4	H	SPACE	3 800	--	--	Prepared Space

Notes:
 1 Refer to specification 26.2400 for additional information and requirements for switchboards.
 2 Neutral bus present in sections 1 & 2 only for the purpose of establishing a Neutral-Ground bond. The neutral bus is not required in distribution sections.
 3 All loads served by this equipment are OFOI and will be connected at a later date. Refer to service load calc on sheet E400 for design loads.
 4
 5

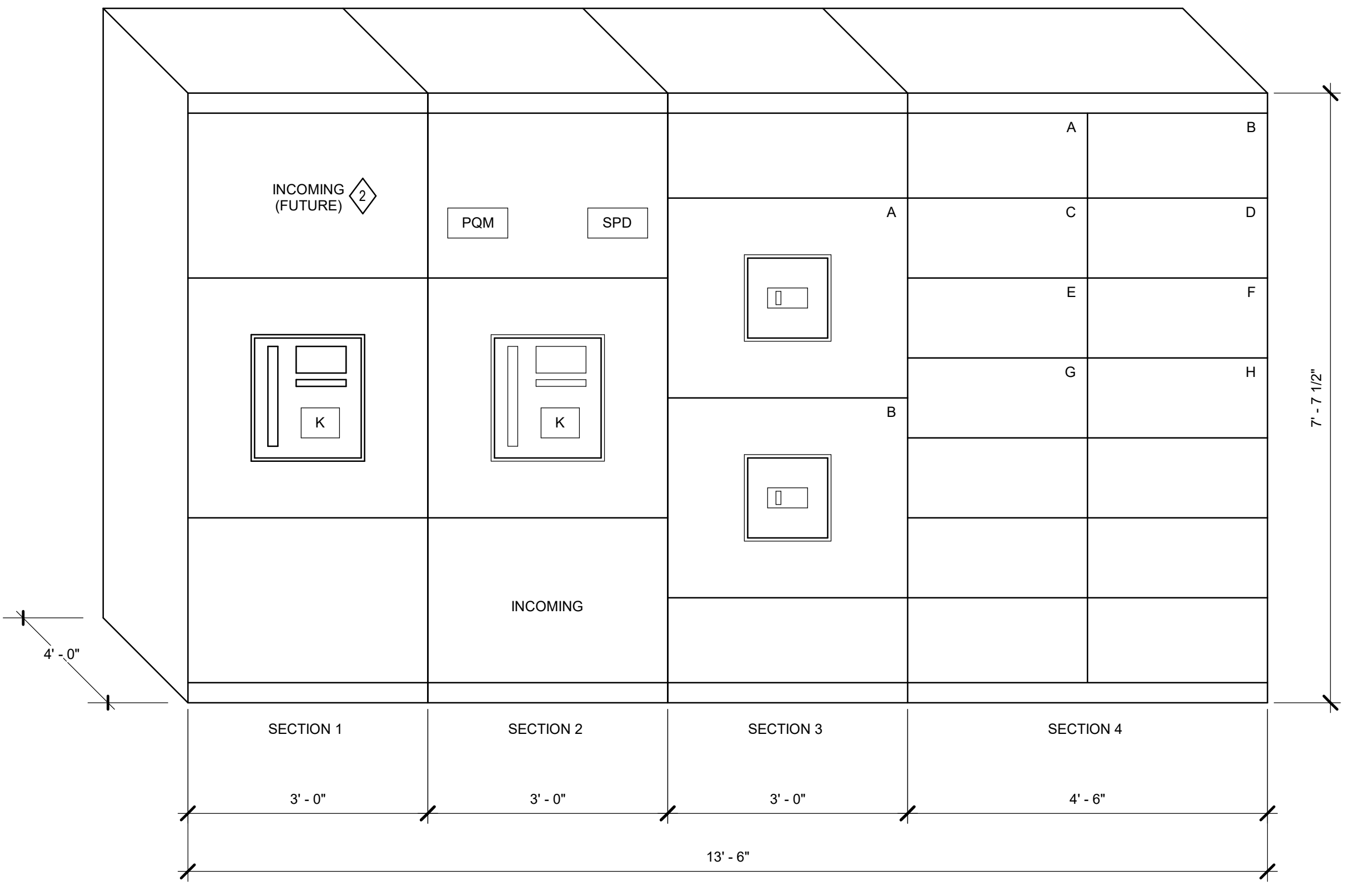
TYPE
 PB = Power Breaker
 IC = Insulated Case Breaker
 MC = Fixed Molded Case Breaker

Circuit Breaker Functional Trip Option:
 LI = Long-Instantaneous Settings
 LSI = Long-Short-Instantaneous Settings
 LSIG = Long-Short-Instantaneous-Ground Fault Settings
 LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings

Circuit Breaker Option Legend
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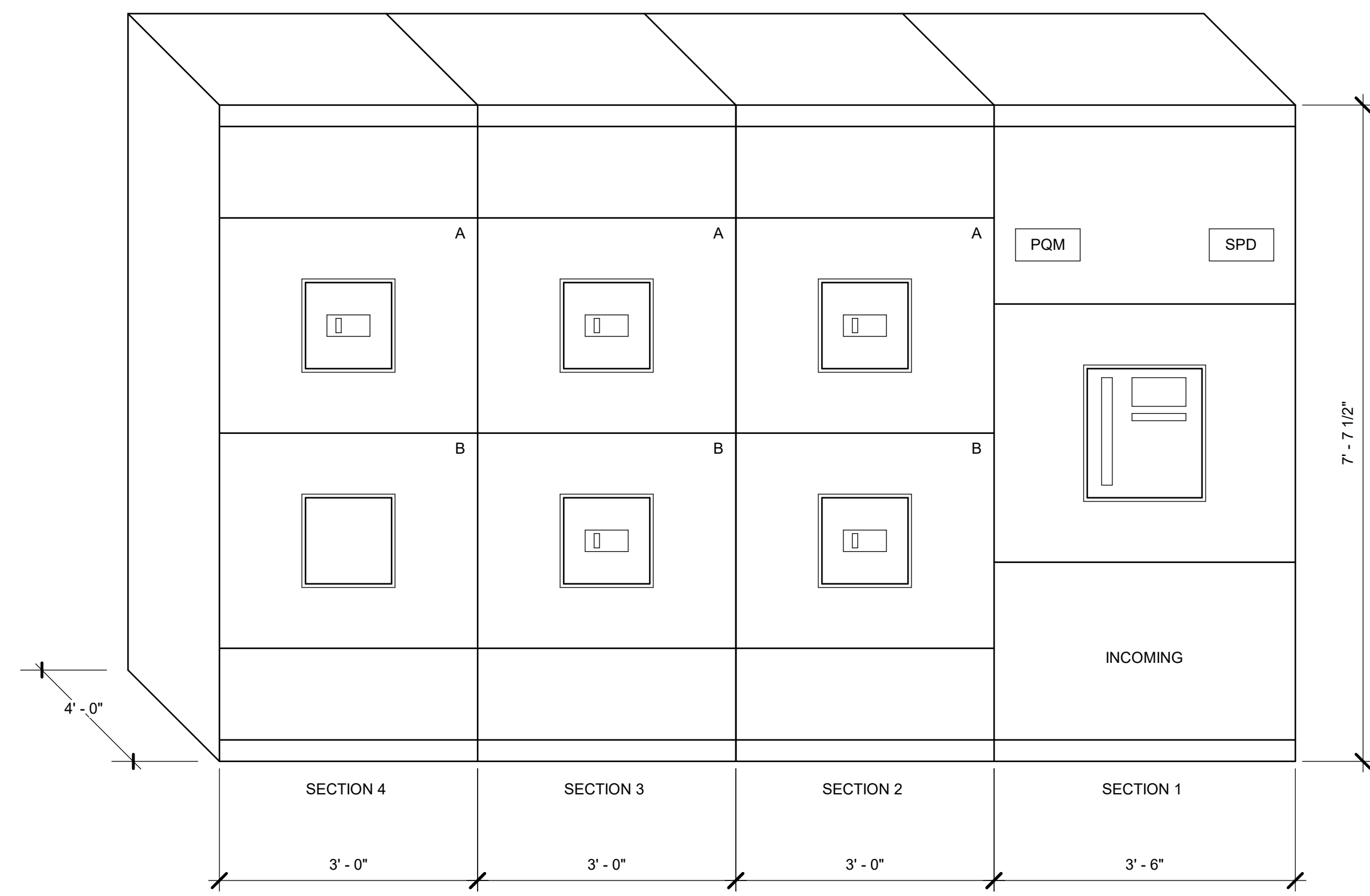


1 SWITCHBOARD HPC1 ELEVATION
SCALE: NOT TO SCALE



2 SWITCHBOARD HPC2 ELEVATION
SCALE: NOT TO SCALE

ALL ELECTRICAL EQUIPMENT SHOWN ON THIS SHEET IS INCLUDED IN THE EQUIPMENT PROCUREMENT PACKAGE SCOPE



1 SWITCHBOARD GSB A ELEVATION
SCALE: NOT TO SCALE

SWITCHBOARD SCHEDULE

Location: HPC Electrical 1018
 Rear Accessible: No Nema Rating: 1
 Bus Rating: 4000A kAIC Rating: 65
 Voltage: 480 Phase 3 Wire 3

Remarks -

Calculated Available Fault Current - 26.60 kA

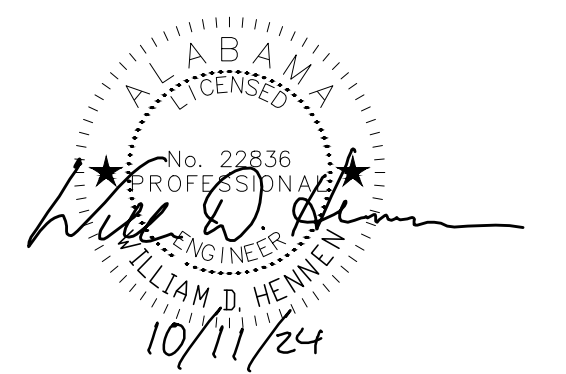
Total Connected Load, KVA	2331.9
Total Connected Load, Amps	2804.9
Total Demand Load, KVA	2462.9
Total Demand Load, Amps	2962.4

Seq. No.	Unit No.	Description	Circuit Breaker Description							Connected Load (kVA)	Demand Load (kVA)	Comments			
			Pole	Frame	Trip	Type	Func	Opt 1	Opt 2				Opt 3		
1	A	SPD / PQM	3	100	100	MC		SPD							SPD is internal to SWBD. Digital PQM for Incoming Service. 120V power supply for PQM fed from building power
1	B	Main Circuit Breaker	3	4000	4000	IC	LSIG	FR	EO	ERMS					Cabling is bottom entry.
2	A	ATS DC1	3	1600	1600	IC	LSIG	FR		ERMS	0.0	0.0			Cabling is bottom exit
2	B	ATS DC2	3	1600	1600	IC	LSIG	FR		ERMS	0.0	0.0			Cabling is bottom exit
3	A	ATS CHM1	3	1600	1600	IC	LSIG	FR		ERMS	1137.1	1268.1			Cabling is bottom exit
3	B	ATS CHM2	3	1600	1600	IC	LSIG	FR		ERMS	1194.8	1194.8			Cabling is bottom exit
4	A	SPACE	3	1600							--	--			Prepared Space
4	B	SPACE	3	1600							--	--			Prepared Space

Notes:
 1 Refer to specification 26-2400 for additional information and requirements for switchboards.
 2 Computing loads are OFOI and will be connected at a later date.
 3
 4
 5

TYPE PB = Power Breaker IC = Insulated Case Breaker MC = Fixed Molded Case Breaker	Circuit Breaker Functional Trip Option LI = Long-Instantaneous Settings LSI = Long-Short-Instantaneous Settings LSIG = Long-Short-Instantaneous-Ground Fault Settings LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings	Circuit Breaker Option Legend BL = Breaker Lock EO = Electrically Operated FR = 100% K = Key Interlock MT = Meter SPD = Surge Protective Device ST = Shunt Trip ERMS = Energy Reduction Maintenance Setting
--	--	--

SWBD GSB A



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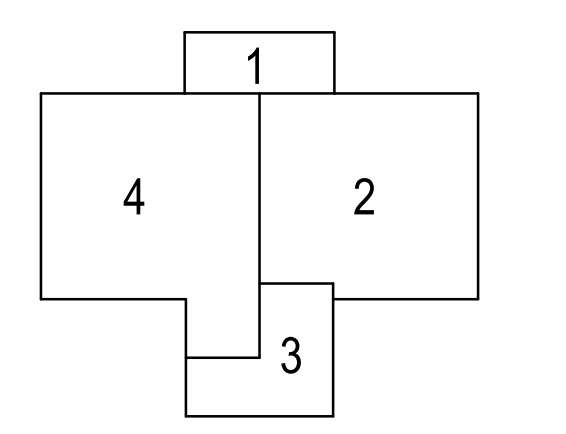
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410-230-7712
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KEY PLAN

REV	DATE	DESCRIPTION

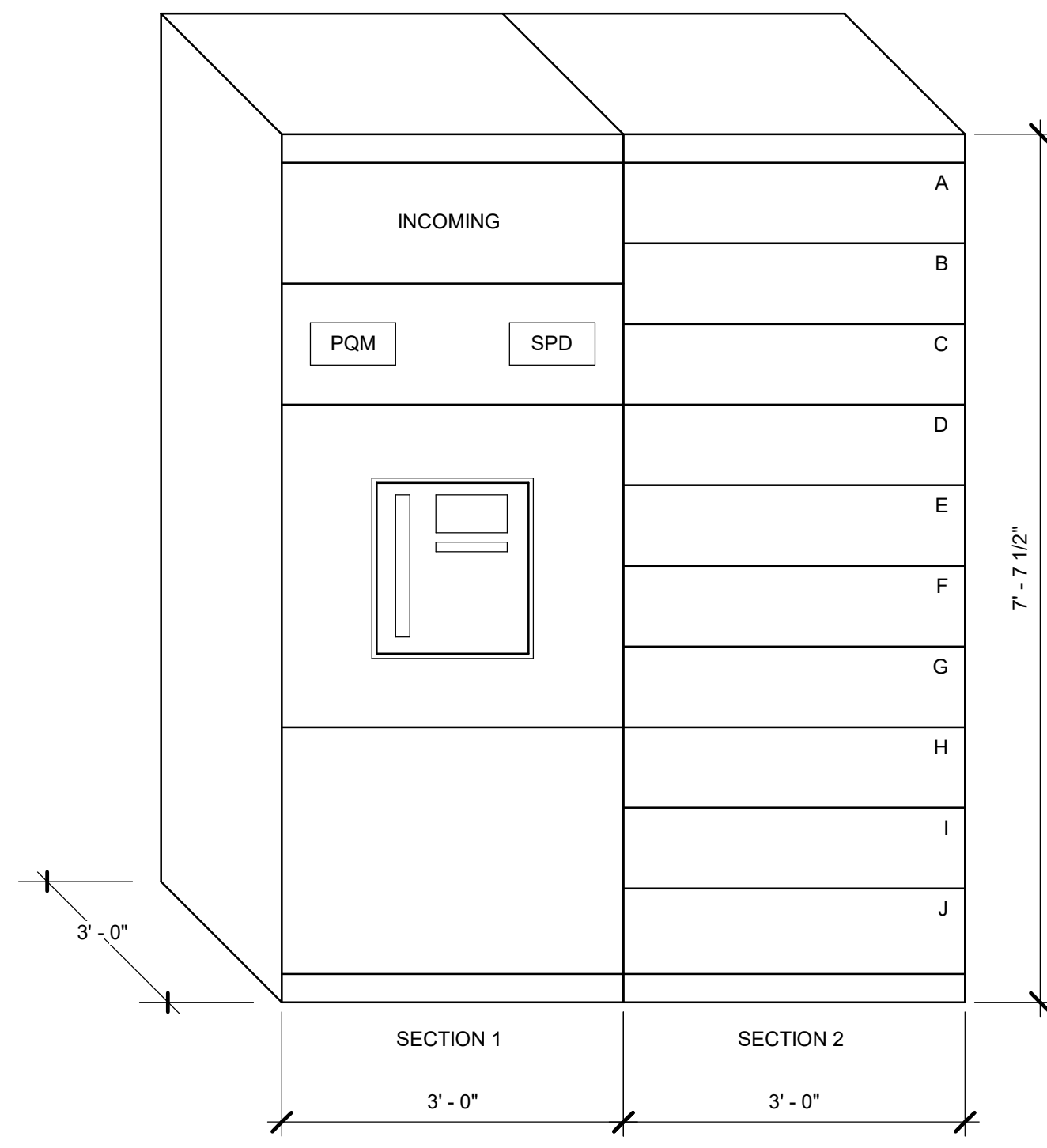
DATE	10-11-2024
TYPE	CONFORMING SET
DRAWN BY	
CHECKED BY	
DESIGN BY	
PROJECT NO.	4014

SHEET TITLE
ELECTRICAL EQUIPMENT SCHEDULES & ELEVATIONS - SERVICE SWITCHBOARDS - GENERATOR

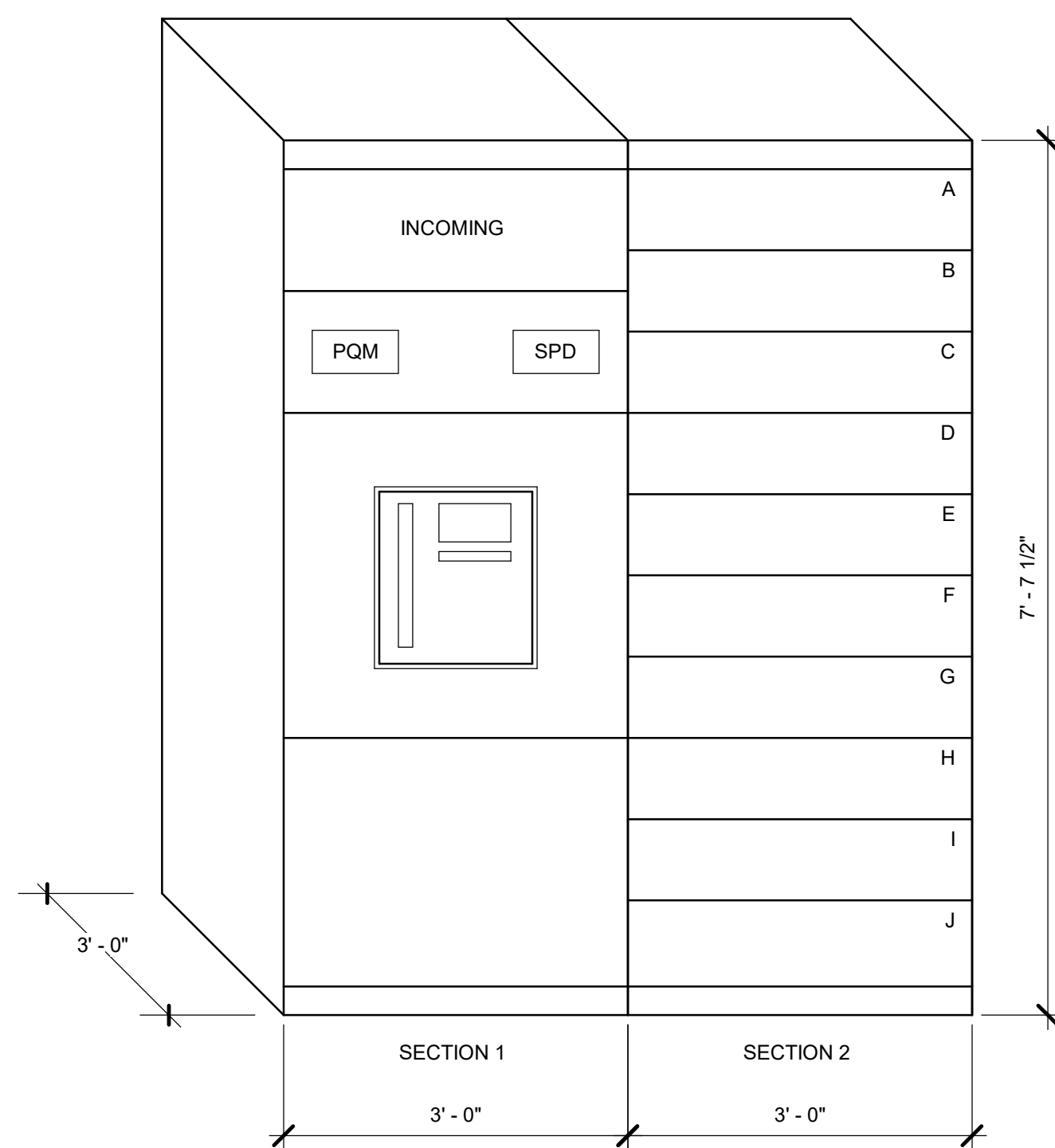
ALL ELECTRICAL EQUIPMENT SHOWN ON THIS SHEET IS INCLUDED IN THE EQUIPMENT PROCUREMENT PACKAGE SCOPE

DRAWING NO.
E604

NOTE: SHEET CONTAINS COLOR ELEMENTS AND MUST BE PRINTED IN COLOR. ARCHITECT IS NOT RESPONSIBLE FOR ERRORS MADE DUE TO IMPROPER PRINTING



1 SWITCHBOARD DC1 ELEVATION
SCALE: NOT TO SCALE



2 SWITCHBOARD DC2 ELEVATION
SCALE: NOT TO SCALE

SWITCHBOARD SCHEDULE

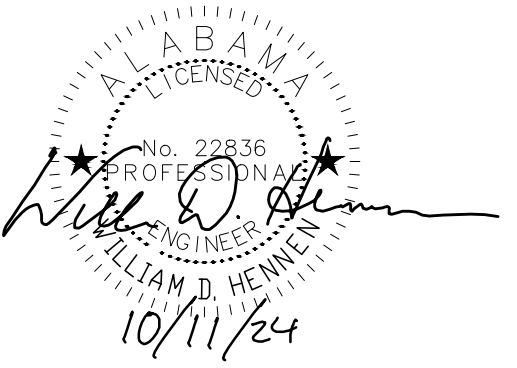
Location: HPC EL C 1018		Circuit Breaker Description										Connected	Demand	Comments
Rear Accessible: No	Nema Rating: 1	Pole	Frame	Trip	Type	Func	Opt 1	Opt 2	Opt 3	Load (kVA)	Load (kVA)			
Bus Rating: 1600A	kAIC Rating: 65	3	100	100	MC		SPD			--	--	SPD is internal to SWBD. Digital PQM for Incoming Service		
Voltage: 480	Phase 3	3	1600	1600	IC	LSIG	FR	ERMS		--	--	Cabling is top entry		
Remarks -														
2 A UPS-A BYPASS 3 1200 1200 MC LSIG ERMS -- --														
2 B UPS-A 3 1200 1200 MC LSIG ERMS 0.00 0.00														
2 C SPARE 3 800 800 MC LSI -- --														
2 D SPARE 3 400 400 MC LSI -- --														
2 E SPARE 3 250 250 MC LSI -- --														
2 F SPARE 3 250 250 MC LSI -- --														
2 G SPACE -- --														
2 H SPACE -- --														
2 I SPACE -- --														
2 J SPACE -- --														
Calculated Available Fault Current - 61.5 kA														
Total Connected Load, kVA 0.0														
Total Connected Load, Amps 0.0														
Total Demand Load, kVA 0.0														
Total Demand Load, Amps 0.0														
Notes:														
1 Refer to specification 26 2400 for additional information and requirements for switchboards.														
2 All loads served by this equipment are OFOI and will be connected at a later date. Refer to service load calc on sheet E400 for design loads.														
3														
4														
5														
TYPE														
PB = Power Breaker														
IC = Insulated Case Breaker														
MC = Fixed Molded Case Breaker														
Circuit Breaker Functional Trip Option														
LI = Long-Instantaneous Settings														
LSI = Long-Short-Instantaneous Settings														
LSIG = Long-Short-Instantaneous-Ground Fault Settings														
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings														
Circuit Breaker Option Legend														
BL = Breaker Lock														
EO = Electrically Operated														
FR = 100%														
K = Key Interlock														
MT = Meter														
SPD = Surge Protective Device														
ST = Shunt Trip														
ERMS = Energy Reduction Maintenance Setting														

DC1

SWITCHBOARD SCHEDULE

Location: HPC EL C 1018		Circuit Breaker Description										Connected	Demand	Comments
Rear Accessible: No	Nema Rating: 1	Pole	Frame	Trip	Type	Func	Opt 1	Opt 2	Opt 3	Load (kVA)	Load (kVA)			
Bus Rating: 1600A	kAIC Rating: 65	3	100	100	MC		SPD			--	--	SPD is internal to SWBD. Digital PQM for Incoming Service		
Voltage: 480	Phase 3	3	1600	1600	IC	LSIG	FR	ERMS		--	--	Cabling is top entry		
Remarks -														
2 A UPS-B BYPASS 3 1200 1200 MC LSIG ERMS -- --														
2 B UPS-B 3 1200 1200 MC LSIG ERMS 0.00 0.00														
2 C SPARE 3 800 800 MC LSI -- --														
2 D SPARE 3 400 400 MC LSI -- --														
2 E SPARE 3 250 250 MC LSI -- --														
2 F SPARE 3 250 250 MC LSI -- --														
2 G SPACE -- --														
2 H SPACE -- --														
2 I SPACE -- --														
2 J SPACE -- --														
Calculated Available Fault Current - 61.5 kA														
Total Connected Load, kVA 0.0														
Total Connected Load, Amps 0.0														
Total Demand Load, kVA 0.0														
Total Demand Load, Amps 0.0														
Notes:														
1 Refer to specification 26 2400 for additional information and requirements for switchboards.														
2 All loads served by this equipment are OFOI and will be connected at a later date. Refer to service load calc on sheet E400 for design loads.														
3														
4														
5														
TYPE														
PB = Power Breaker														
IC = Insulated Case Breaker														
MC = Fixed Molded Case Breaker														
Circuit Breaker Functional Trip Option														
LI = Long-Instantaneous Settings														
LSI = Long-Short-Instantaneous Settings														
LSIG = Long-Short-Instantaneous-Ground Fault Settings														
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings														
Circuit Breaker Option Legend														
BL = Breaker Lock														
EO = Electrically Operated														
FR = 100%														
K = Key Interlock														
MT = Meter														
SPD = Surge Protective Device														
ST = Shunt Trip														
ERMS = Energy Reduction Maintenance Setting														

DC2



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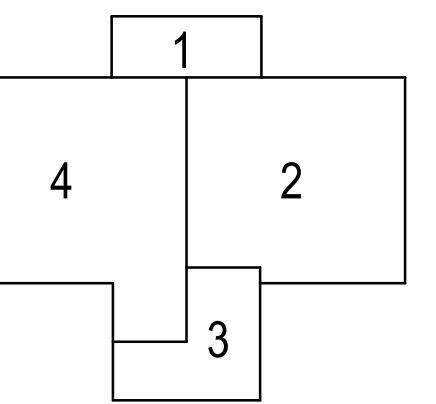
DATA CENTER ARCHITECT
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989 PEACHTREE STREET NORTH EAST, SUITE 1400
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JOHNSON AND COMPANY
2413 2ND AVENUE SOUTH
BIRMINGHAM, AL 35233
205-324-4447
ATTN: WILLIAM JOHNSON



REV	DATE	DESCRIPTION

DATE	10-11-2024
TIME	CONFORMING SET
DRAWN BY	
CHECKED BY	
DESIGNER	DAVIS & GENSLER
PROJECT NO.	4014

SHEET TITLE
ELECTRICAL EQUIPMENT SCHEDULES & ELEVATIONS - DISTRIBUTION SWITCHBOARDS - COMPUTE

DRAWING NO.

E606

NOTE: SHEET CONTAINS COLOR ELEMENTS AND MUST BE PRINTED IN COLOR. ARCHITECT IS NOT RESPONSIBLE FOR ERRORS MADE DUE TO IMPROPER PRINTING

CTDP-1													
Bus Rating		800A Volts 480			kAIC Rating: 25		Location: E-House						
Main Circuit Breaker		600A Phase 3 Wire 3			Nema Rating: 1		Mounting: Surface		Calculated Available Fault Current: 21.9 KA				
Remarks - PQM													
Circuit breakers shall be equipped with field-adjustable electronic trip units.													
Cct. No.	Description	Circuit Breaker Description	Pole	Frame	Trip	Func	Opt 1	Opt 2	Opt 3	Load Type	Connected Load (KVA)	Demand Load (KVA)	
1	PCW-1	3 250 250 LSI								M	149.65	187.06	
2	PCW-4 (FUTR)	3 250 250 LSI									0.00	0.00	
3	CT-1-1	3 100 100 LI								M	54.04	54.04	
4	CT-1-2	3 100 100 LI								M	54.04	54.04	
5	CT-3-1 (FUTR)	3 100 100 LI									0.00	0.00	
6	CT-3-2 (FUTR)	3 100 100 LI									0.00	0.00	
7	T-CLP1	3 80 80 LI BL								G	14.23	14.23	
8	CTHP1	3 100 100 LI								G	0.00	0.00	
9	SPARE	3 15 15 LI									0.00	0.00	
10	SPARE	3 15 15 LI									0.00	0.00	
11	SPARE	3 15 15 LI									0.00	0.00	
12	SPARE	3 15 15 LI									0.00	0.00	
13	SPARE	3 15 15 LI									0.00	0.00	
14	SPARE	3 15 15 LI									0.00	0.00	
Circuit Breaker Functional Trip Option:											Total Connected Load, KVA	272.0	
LI = Long-Instantaneous Settings											Total Connected Load, Amps	327.1	
LSI = Long-Short-Instantaneous Settings											Total Demand Load, KVA	399.4	
LSIG = Long-Short-Instantaneous-Ground Fault Settings											Total Demand Load, Amps	372.1	
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings													
Load Type Legend		Circuit Breaker Option Legend											
R = Receptacle	ST = Shunt Trip	FR = 100% Rated											
L = Lighting	BL = Breaker Lock	AF = Arc Fault											
M = Motor	GF = GFCl (5mA)												
G = General	EG = Equipment Ground (30mA)												

CTDP-2													
Bus Rating		800A Volts 480			kAIC Rating: 25		Location: E-House						
Main Circuit Breaker		600A Phase 3 Wire 3			Nema Rating: 1		Mounting: Surface		Calculated Available Fault Current: 18.5 KA				
Remarks - PQM													
Circuit breakers shall be equipped with field-adjustable electronic trip units.													
Cct. No.	Description	Circuit Breaker Description	Pole	Frame	Trip	Func	Opt 1	Opt 2	Opt 3	Load Type	Connected Load (KVA)	Demand Load (KVA)	
1	PCW-2	3 250 250 LSI								M	149.65	187.06	
2	PCW-4 (FUTR)	3 250 250 LSI									0.00	0.00	
3	CT-2-1	3 100 100 LI								M	54.04	54.04	
4	CT-2-2	3 100 100 LI								M	54.04	54.04	
5	CT-4-1 (FUTR)	3 100 100 LI									0.00	0.00	
6	CT-4-2 (FUTR)	3 100 100 LI									0.00	0.00	
7	SPARE	3 250 250 LSI									0.00	0.00	
8	SPARE	3 100 100 LI									0.00	0.00	
9	SPARE	3									--	--	
10	SPARE	3									--	--	
11	SPARE	3									--	--	
12	SPARE	3									--	--	
13	SPARE	3									--	--	
14	SPARE	3									--	--	
Circuit Breaker Functional Trip Option:											Total Connected Load, KVA	257.7	
LI = Long-Instantaneous Settings											Total Connected Load, Amps	310.0	
LSI = Long-Short-Instantaneous Settings											Total Demand Load, KVA	295.1	
LSIG = Long-Short-Instantaneous-Ground Fault Settings											Total Demand Load, Amps	355.0	
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings													
Load Type Legend		Circuit Breaker Option Legend											
R = Receptacle	ST = Shunt Trip	FR = 100% Rated											
L = Lighting	BL = Breaker Lock	AF = Arc Fault											
M = Motor	GF = GFCl (5mA)												
G = General	EG = Equipment Ground (30mA)												

MDP-1													
Bus Rating		600A Volts 480			kAIC Rating: 50		Location: CUP ELEC 1010						
Main Circuit Breaker		600A Phase 3 Wire 3			Nema Rating: 1		Mounting: Surface		Calculated Available Fault Current: 42.6 KA				
Remarks - PQM													
Circuit breakers shall be equipped with field-adjustable electronic trip units.													
Cct. No.	Description	Circuit Breaker Description	Pole	Frame	Trip	Func	Opt 1	Opt 2	Opt 3	Load Type	Connected Load (KVA)	Demand Load (KVA)	
1	SPARE	3 250 250 LSI									--	--	
2	T-ISPH1	3 250 225 LSI BL								G	24.7	24.7	
3	T-ISPL1	3 150 150 LI BL								G	48.6	48.6	
4	SPARE	3 15 15 LI									--	--	
5	SPARE	3 40 40 LI								M	0.0	0.0	
6	MFW-2	3 40 40 LI								M	25.1	25.1	
7	MFW-3	3 40 40 LI								M	25.1	25.1	
8	MFW-4	3 40 40 LI								M	25.1	25.1	
9	SPARE	3 40 40 LI								M	0.0	0.0	
10	UPS MECH	3 300 300 LSI BL								G	109.6	123.6	
11	SPARE	3 100 100 LI									--	--	
12	SPARE	3 100 100 LI									--	--	
13	SPARE	3									--	--	
14	SPARE	3									--	--	
Circuit Breaker Functional Trip Option:											Total Connected Load, KVA	258.2	
LI = Long-Instantaneous Settings											Total Connected Load, Amps	310.6	
LSI = Long-Short-Instantaneous Settings											Total Demand Load, KVA	272.2	
LSIG = Long-Short-Instantaneous-Ground Fault Settings											Total Demand Load, Amps	327.4	
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings													
Load Type Legend		Circuit Breaker Option Legend											
R = Receptacle	ST = Shunt Trip	FR = 100% Rated											
L = Lighting	BL = Breaker Lock	AF = Arc Fault											
M = Motor	GF = GFCl (5mA)												
G = General	EG = Equipment Ground (30mA)												

HPC2C													
Bus Rating		800A Volts 277/480			kAIC Rating: 50		Location: HPC Elec 1018						
Main Circuit Breaker		MLO Phase 3 Wire 4			Nema Rating: 1		Mounting: Surface		Calculated Available Fault Current: 36.9 Ka				
Remarks - PQM													
Circuit breakers shall be equipped with field-adjustable electronic trip units.													
Cct. No.	Description	Circuit Breaker Description	Pole	Frame	Trip	Func	Opt 1	Opt 2	Opt 3	Load Type	Connected Load (KVA)	Demand Load (KVA)	
1	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
2	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
3	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
4	HPC CABINET	3 250 250 LSI								G	11.8	11.8	
5	HPC CABINET	3 250 250 LSI								G	17.6	17.6	
6	SPARE	3 250 250 LSI								G	0	0	
7	SPARE	3 250 250 LSI								G	0	0	
8	SPARE	3 250 250 LSI								G	0	0	
9	SPARE	3 250 250 LSI								G	0	0	
10	SPARE	3 250 250 LSI								G	0	0	
11	SPD	3 60 60									0	0	
Circuit Breaker Functional Trip Option:											Total Connected Load, KVA	328.8	
LI = Long-Instantaneous Settings											Total Connected Load, Amps	395.5	
LSI = Long-Short-Instantaneous Settings											Total Demand Load, KVA	328.8	
LSIG = Long-Short-Instantaneous-Ground Fault Settings											Total Demand Load, Amps	395.5	
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings													
Load Type Legend		Circuit Breaker Option Legend											
R = Receptacle	ST = Shunt Trip	FR = 100% Rated											
L = Lighting	BL = Breaker Lock	AF = Arc Fault											
M = Motor	GF = GFCl (5mA)												
G = General	EG = Equipment Ground (30mA)												

HPC2D													
Bus Rating		800A Volts 277/480			kAIC Rating: 50		Location: HPC Elec 1018						
Main Circuit Breaker		MLO Phase 3 Wire 4			Nema Rating: 1		Mounting: Surface		Calculated Available Fault Current: 36.9 Ka				
Remarks - PQM													
Circuit breakers shall be equipped with field-adjustable electronic trip units.													
Cct. No.	Description	Circuit Breaker Description	Pole	Frame	Trip	Func	Opt 1	Opt 2	Opt 3	Load Type	Connected Load (KVA)	Demand Load (KVA)	
1	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
2	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
3	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
4	HPC CABINET	3 250 250 LSI								G	11.8	11.8	
5	SPARE	3 250 250 LSI								G	0	0	
6	SPARE	3 250 250 LSI								G	0	0	
7	SPARE	3 250 250 LSI								G	0	0	
8	SPARE	3 250 250 LSI								G	0	0	
9	SPARE	3 250 250 LSI								G	0	0	
10	SPARE	3 250 250 LSI								G	0	0	
11	SPD	3 60 60									0	0	
Circuit Breaker Functional Trip Option:											Total Connected Load, KVA	311.2	
LI = Long-Instantaneous Settings											Total Connected Load, Amps	374.3	
LSI = Long-Short-Instantaneous Settings											Total Demand Load, KVA	311.2	
LSIG = Long-Short-Instantaneous-Ground Fault Settings											Total Demand Load, Amps	374.3	
LSIA = Long-Short-Instantaneous-Ground Fault Alarm Settings													
Load Type Legend		Circuit Breaker Option Legend											
R = Receptacle	ST = Shunt Trip	FR = 100% Rated											
L = Lighting	BL = Breaker Lock	AF = Arc Fault											
M = Motor	GF = GFCl (5mA)												
G = General	EG = Equipment Ground (30mA)												

HPC2E													
Bus Rating		800A Volts 277/480			kAIC Rating: 50		Location: HPC Elec 1018						
Main Circuit Breaker		MLO Phase 3 Wire 4			Nema Rating: 1		Mounting: Surface		Calculated Available Fault Current: 36.9 Ka				
Remarks - PQM													
Circuit breakers shall be equipped with field-adjustable electronic trip units.													
Cct. No.	Description	Circuit Breaker Description	Pole	Frame	Trip	Func	Opt 1	Opt 2	Opt 3	Load Type	Connected Load (KVA)	Demand Load (KVA)	
1	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
2	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
3	HPC CABINET	3 250 250 LSI								G	99.8	99.8	
4	HPC CABINET	3 250 250 LSI								G	11.8	11.8	
5	HPC CABINET	3 250 250 LSI								G	17.6	17.6	
6	SPARE	3 250 250 LSI								G	0	0	
7	SPARE	3 250 250 LSI								G	0	0	
8	SPARE	3 250 250 LSI								G	0	0	
9	SPARE	3 250 250 LSI								G	0	0	
10	SPARE	3 250 250 LSI								G	0	0	
11	SPD	3 60 60									0	0	
Circuit Breaker Functional Trip Option:													

MAIN TYPE		VOLTAGE		LOCATION		LEVEL								
M/CB		480 Delts		CTHP1		LEVEL 01								
MAN RATING		PHASE		FED FROM		SCHEM								
100A		3 WIRE		CTHP1		1A								
BUS RATING		ENCLOSURE		CALCULATED AVAILABLE FAULT		1A								
100A		Type 1		100A		1A								
REMARKS:														
DESCRIPTION	BKRK NOTES	BKRK AMP POLES	LEFT SIDE IWA				RIGHT SIDE IWA				BKRK AMP POLES	BKRK NOTES	DESCRIPTION	
			A	B	C	D	A	B	C	D				
SPARE		20A 1 1	0.00							2	1	SPARE		
SPARE		20A 1 1	0.00							4	1	SPARE		
SPARE		20A 1 1	0.00							6	1	SPARE		
SPARE		20A 1 1	0.00							10	1	SPARE		
SPARE		20A 1 1	0.00							12	1	SPARE		
SPARE		20A 1 1	0.00							14	1	SPARE		
SPARE		20A 1 1	0.00							16	1	SPARE		
SPARE		20A 1 1	0.00							18	1	SPARE		
SPARE		20A 1 1	0.00							20	1	SPARE		
SPARE		20A 1 1	0.00							22	1	SPARE		
SPARE		20A 1 1	0.00							24	1	SPARE		
SPARE		20A 1 1	0.00							26	1	SPARE		
SPARE		20A 1 1	0.00							28	1	SPARE		
SPARE		20A 1 1	0.00							30	1	SPARE		
SPARE		20A 1 1	0.00							32	1	SPARE		
SPARE		20A 1 1	0.00							34	1	SPARE		
SPARE		20A 1 1	0.00							36	1	SPARE		
SPARE		20A 1 1	0.00							38	1	SPARE		
SPARE		20A 1 1	0.00							40	1	SPARE		
SPARE		20A 1 1	0.00							42	1	SPARE		
PHASE SUBTOTAL IWA			0.00kVA	0.00kVA	0.00kVA	A			0.00kVA	0.00kVA	0.00kVA	B		
PHASE SUBTOTAL (AMPS)			0.0A	0.0A	0.0A	A			0.0A	0.0A	0.0A	B		
LOAD CLASSIFICATION		CONNECTED (KVA)		DEMAND FACTOR		DEMAND (KVA)								
POWER	0.00kVA	0.00kVA	100%	0.00kVA	0.00kVA									
LIGHTING	0.00kVA	0.00kVA	100%	0.00kVA	0.00kVA									
MOTOR	0.00kVA	0.00kVA	100% LARGEST 100% OTHER	0.00kVA	0.00kVA									
RECEPTACLE	0.00kVA	0.00kVA	100% LARGEST 100% OTHER	0.00kVA	0.00kVA									
HEATING	0.00kVA	0.00kVA	100%	0.00kVA	0.00kVA									
TOTAL LOAD	0.00kVA	0.00kVA		0.00kVA	0.00kVA									
TOTAL AMPS	0A	0A		0A	0A									

MAIN TYPE		VOLTAGE		LOCATION		LEVEL								
M/CB		120/208 Wye		2SP11		LEVEL 01 HVC ELECTRICAL								
MAN RATING		PHASE		FED FROM		SCHEM								
100A		3 WIRE		2SP11		1A								
BUS RATING		ENCLOSURE		CALCULATED AVAILABLE FAULT		1A								
100A		Type 1		100A		1A								
REMARKS:														
DESCRIPTION	BKRK NOTES	BKRK AMP POLES	LEFT SIDE IWA				RIGHT SIDE IWA				BKRK AMP POLES	BKRK NOTES	DESCRIPTION	
			A	B	C	D	A	B	C	D				
REC-BAI LAB BULB TEST #2011		20A 1 1	0.15					2	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	0.36					4	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	0.57					6	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	0.78					8	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	0.99					10	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	1.20					12	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	1.41					14	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	1.62					16	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	1.83					18	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	2.04					20	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	2.25					22	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	2.46					24	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	2.67					26	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	2.88					28	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	3.09					30	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	3.30					32	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	3.51					34	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	3.72					36	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	3.93					38	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	4.14					40	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
REC-BAI LAB BULB TEST #2011		20A 1 1	4.35					42	1	20A		SPARE	BAI CONTROL PANEL - CLIP	
PHASE SUBTOTAL IWA			2.91kVA	3.40kVA	3.27kVA	A			2.91kVA	3.40kVA	3.27kVA	B		
PHASE SUBTOTAL (AMPS)			27A	28A	27A	A			27A	28A	27A	B		
LOAD CLASSIFICATION		CONNECTED (KVA)		DEMAND FACTOR		DEMAND (KVA)								
POWER	0.00kVA	0.00kVA	100%	0.00kVA	0.00kVA									
LIGHTING	0.00kVA	0.00kVA	100%	0.00kVA	0.00kVA									
MOTOR	0.00kVA	0.00kVA	100% LARGEST 100% OTHER	0.00kVA	0.00kVA									
RECEPTACLE	0.00kVA	0.00kVA	100% LARGEST 100% OTHER	0.00kVA	0.00kVA									
HEATING	0.00kVA	0.00kVA	100%	0.00kVA	0.00kVA									
TOTAL LOAD	0.00kVA	0.00kVA		0.00kVA	0.00kVA									
TOTAL AMPS	0A	0A		0A	0A									

MAIN TYPE		VOLTAGE		LOCATION		LEVEL							
M/CB		120/208 Wye		1EPL1		LEVEL 01 HVC ELECTRICAL							
MAN RATING		PHASE		FED FROM		SCHEM							
100A		3 WIRE		1EPL1		1A							
BUS RATING		ENCLOSURE		CALCULATED AVAILABLE FAULT		1A							
100A		Type 1		100A		1A							
REMARKS: 1A - BREAKER SERVES FIRE ALARM SYSTEM (RED WITH LOCKON ATTACHMENT)													
DESCRIPTION	BKRK NOTES	BKRK AMP POLES	LEFT SIDE IWA				RIGHT SIDE IWA				BKRK AMP POLES	BKRK NOTES	DESCRIPTION
			A	B	C	D	A	B	C	D			
FA CONTROL PANEL - REF #1018		20A 1 1	1.50					2	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	3.00					4	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	4.50					6	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	6.00					8	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	7.50					10	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	9.00					12	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	10.50					14	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	12.00					16	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	13.50					18	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	15.00					20	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	16.50					22	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	18.00					24	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	19.50					26	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	21.00					28	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	22.50					30	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	24.00					32	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	25.50					34	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	27.00					36	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	28.50					38	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	30.00					40	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	31.50					42	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	33.00					44	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	34.50					46	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	36.00					48	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	37.50					50	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	39.00					52	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	40.50					54	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	42.00					56	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	43.50					58	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	45.00					60	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	46.50					62	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	48.00					64	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	49.50					66	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	51.00					68	1	20A		SPARE	LIGHTS - LEVEL 1 - EQUIP ROOMS
FA CONTROL PANEL - REF #1018		20A 1 1	52.50					70	1	20A			

MAIN TYPE		VOLTAGE		LOCATION	
MCB	120/208 Wye	480/277 Wye	LEVEL 01, CUP ELEC 1010	MCB	1
250 A	3 PHASE	4 WIRE	FED FROM	100 A	2
250 A	1 SURFACE	10	1-NP1	250 A	3
	ENCLOSURE	Type 1	SCFR		4
			CALCULATED AVAILABLE FAULT...		5.3 kA

REMARKS:	LEFT SIDE, kVA				RIGHT SIDE, kVA								
DESCRIPTION	BRKR NO	BRKR AMP. POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP. POLES	BRKR NOTES	DESCRIPTION
EWH-1 - CUSTODIAL #1009	40	2	1	3.00		0.90	2		1	20	2	20 A	SMR REC - MDF-S #1004
PP-2 - CUSTODIAL #1009	15	1	5	0.60		1.08	6		1	20	6	20 A	SMR REC - MDF-L #1017
REC - #1001, #1002	20	1	7	0.72		0.90	8		1	20	8	20 A	SMR REC - MDF-L #1017
REC - #1003	20	1	9	0.72		0.50	10		1	20	10	20 A	UV LIGHTS - DOAS-1
REC - BR #1007, #1008, JAN #1009	20	1	11	0.54		0.50	12		1	20	12	20 A	UV LIGHTS - RTU-1
REC - #C002	20	1	13	0.54		1.50	14		1	20	14	20 A	DAMPERS - DOAS-1
REC - #C001A, 1001, 1005	20	1	15	0.72		0.50	16		1	20	16	20 A	OIL SEPARATOR CTRL - CUP
REC - HPC HVAC #1019	20	1	17	0.54		0.36	18		1	20	18	20 A	REC - ENTRPZ DC HVAC - SHELL
REC - HPC ELEC #1018 WALL	20	1	19	0.54		0.27	20		1	20	20	20 A	LIGHTS - L1 - RESTROOMS
REC - HPC ELEC #1018 UNISTRUT	20	1	21	0.72		0.46	22		1	20	22	20 A	LIGHTS - L2 - RESTROOMS/NURSING
REC - CUP #1011	20	1	23	1.44		0.50	24		1	20	24	20 A	LIGHTS-RECS - DOAS-1
WATER FOUNTAIN - CORR #C003	GF	20	1	25	0.50		26		1	20	26	20 A	SPARE
REC - #1013, #1012, #1015	20	1	27	1.26		0.00	28		1	20	28	20 A	SPARE
REC - CORR #C003	20	1	29	1.08		0.00	30		1	20	30	20 A	SPARE
REC - EAST EXTERIOR	20	1	31	0.72		8.86	32		1	100	32	100 A	BL 1NP2
EF-1	20	1	33	0.70		5.51	34		1	20	34	20 A	SPARE
EF-2	20	1	35	1.18		5.51	36		1	20	36	20 A	SPARE
REC - CUP ELEC #1010	20	1	37	0.72		8.56	38		3	100	38	100 A	BL 2NP1
LIGHTS-RECS - L1 & 2	20	1	39	1.00		8.84	40		1	20	40	20 A	SPARE
UV LIGHTS - RTU-2	20	1	41	0.50		6.76	42		1	20	42	20 A	SPARE
PHASE SUBTOTAL (kVA)				27.75 kVA	24.65 kVA				20.59 kVA				
PHASE SUBTOTAL (AMPS)				236 A	211 A				172 A				

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	DEMAND (kVA)
POWER	24.50 kVA	100%	24.50 kVA
LIGHTING	0.74 kVA	100%	0.74 kVA
MOTOR	7.88 kVA	125% LARGEST, 100% OTHER	9.85 kVA
RECEPTACLE	40.02 kVA	100% FIRST 10kVA, 50% OTHER	40.02 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	73.14 kVA		73.14 kVA
TOTAL AMPS	203 A		204 A

MAIN TYPE		VOLTAGE		LOCATION	
MCB	120/208 Wye	480 Delta	LEVEL 01, CUP ELEC 1010	100 A	1
100 A	3 PHASE	3 WIRE	FED FROM	250 A	2
100 A	1 SURFACE	10	1NP2	250 A	3
	ENCLOSURE	Type 1	SCFR		4
			CALCULATED AVAILABLE FAULT...		5.2 kA

REMARKS:	LEFT SIDE, kVA				RIGHT SIDE, kVA								
DESCRIPTION	BRKR NO	BRKR AMP. POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP. POLES	BRKR NOTES	DESCRIPTION
EV CHARGING STATION 1	40	2	1	3.35		0.50	2		1	20	2	20 A	IRRIGATION CONTROLLER
EV CHARGING STATION 2	40	2	5	3.35		0.50	6		1	20	6	20 A	VEHICLE RSTRM CTRL - DOCK
SPARE	20	1	9	0.00		0.00	10		1	20	10	20 A	SPARE
SPARE	20	1	11	0.00		0.00	12		1	20	12	20 A	SPARE
DOCK LEVELER 1	15	3	13	0.83		0.00	14		1	20	14	20 A	SPARE
				0.83		0.00	16		1	20	16	20 A	SPARE
				0.83		0.00	18		1	20	18	20 A	SPARE
DOCK LEVELER 2	15	3	19	0.83		0.00	20		1	20	20	20 A	SPARE
				0.83		0.00	22		1	20	22	20 A	SPARE
				0.83		0.00	24		1	20	24	20 A	SPARE
SPACE				1	25		26		1	20	26	20 A	SPACE
SPACE				1	27		28		1	20	28	20 A	SPACE
SPACE				1	29		30		1	20	30	20 A	SPACE
SPACE				1	31		32		1	20	32	20 A	SPACE
SPACE				1	33		34		1	20	34	20 A	SPACE
SPACE				1	35		36		1	20	36	20 A	SPACE
SPACE				1	37		38		1	20	38	20 A	SPACE
SPACE				1	39		40		1	20	40	20 A	SPACE
SPACE				1	41		42		1	20	42	20 A	SPACE
PHASE SUBTOTAL (kVA)				8.66 kVA	5.51 kVA				5.51 kVA				
PHASE SUBTOTAL (AMPS)				74 A	46 A				46 A				

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	DEMAND (kVA)
POWER	13.40 kVA	100%	13.40 kVA
LIGHTING	0.00 kVA	100%	0.00 kVA
MOTOR	5.48 kVA	125% LARGEST, 100% OTHER	6.85 kVA
RECEPTACLE	1.00 kVA	100% FIRST 10kVA, 50% OTHER	1.00 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	19.88 kVA		19.25 kVA
TOTAL AMPS	55 A		57 A

MAIN TYPE		VOLTAGE		LOCATION	
MCB	120/208 Wye	480 Delta	LEVEL 02, LAB	100 A	1
100 A	3 PHASE	3 WIRE	FED FROM	250 A	2
100 A	1 RECESSED	10	1NP1	250 A	3
	ENCLOSURE	Type 1	SCFR		4
			CALCULATED AVAILABLE FAULT...		4.4 kA

REMARKS:	LEFT SIDE, kVA				RIGHT SIDE, kVA								
DESCRIPTION	BRKR NO	BRKR AMP. POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP. POLES	BRKR NOTES	DESCRIPTION
MICROWAVE - BRK RM #2001	20	1	1	0.18		0.18	2		1	20	2	20 A	REC - AIRLOCK #2015
COFFEE - BRK RM #2001	20	1	3	0.18		0.18	4		1	20	4	20 A	REC - HPC(RESERVED) #2016A
FRIDGE - BRK RM #2001	20	1	5	0.18		0.90	6		1	20	6	20 A	REC - NOC #2014 WEST
PRINTER - COP/PRINT #2002B	20	1	7	0.18		0.90	8		1	20	8	20 A	REC - NOC #2014 EAST
REC - #2001, #2002B COUNTERTOP	20	1	9	0.36		0.18	10		1	20	10	20 A	REC - NOC #2014 DED NORTH
REC - OPEN OFFICE #2002	20	1	11	1.26		0.18	12		1	20	12	20 A	REC - NOC #2014 DED SOUTH
REC - PRIV. OFFICE #2003	20	1	13	1.26		0.36	14		1	20	14	20 A	REC - SHELL SPACE #2013
REC - PRIV. OFFICE #2004	20	1	15	1.08		0.36	16		1	20	16	20 A	REC - IT STORAGE #2012
REC - CLOSET #2002A	20	1	17	0.36		0.00	18		1	20	18	20 A	SPARE
REC - PUBLIC CORR #C200	20	1	19	0.90		0.90	20		1	20	20	20 A	REC - ROOF
REC - BR #2005/06/07, JAN #2008/08A	20	1	21	1.08		0.90	22		1	20	22	20 A	REC - ROOF
WATER FOUNTAIN - CORR #C201	GF	20	1	23	0.36		0.18	24		20	24	20 A	REC - PUBLIC CORR #C200 AV
REC - MOTHERS #2009	20	1	25	0.36		0.18	26		1	20	26	20 A	REC - OPEN OFFICE #2002 AV
REC - CONF. AV #2010B	20	1	27	0.18		0.54	28		1	20	28	20 A	REC - BRK RM #2001
REC - CONF. #2010 WEST WALL	20	1	29	0.72		0.36	30		1	20	30	20 A	REC - PUBLIC CORR #C200
REC - CONF. #2010 NORTH AND	20	1	31	1.08		0.90	32		1	20	32	20 A	REC - SMR LAB BUILD/TEST #2011
REC - CONF. #2010 SOUTH FLOOR	20	1	33	0.72		1.00	34		3	30	34	30 A	REC - SMR LAB BUILD/TEST #2011
REC - CONF. #2010 NORTH FLOOR	20	1	35	0.72		1.00	36		1	20	36	20 A	REC - SMR LAB BUILD/TEST #2011
REC - LAB BUILD/TEST #2011	20	1	37	0.18		1.00	38		3	30	38	30 A	REC - SMR LAB BUILD/TEST #2011
REC - LEADERSHIP CLASS #2016	20	1	39	1.08		1.00	40		1	20	40	20 A	SPARE
REC - PUBLCI CORR #C200 SOUTH	20	1	41	0.54		0.00	42		1	20	42	20 A	SPARE
PHASE SUBTOTAL (kVA)				8.56 kVA	8.84 kVA				6.76 kVA				
PHASE SUBTOTAL (AMPS)				74 A	76 A				56 A				

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	DEMAND (kVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	0.00 kVA	100%	0.00 kVA
MOTOR	0.00 kVA	125% LARGEST, 100% OTHER	0.00 kVA
RECEPTACLE	24.16 kVA	100% FIRST 10kVA, 50% OTHER	24.16 kVA
HEATING	0.00 kVA	100%	0.00 kVA
TOTAL LOAD	24.16 kVA		24.16 kVA
TOTAL AMPS	67 A		67 A

MAIN TYPE		VOLTAGE		LOCATION	
MCB	480/277 Wye	480 Delta	LEVEL 01, CUP ELEC 1010	100 A	1
100 A	3 PHASE	3 WIRE	FED FROM	250 A	2
100 A	1 SURFACE	10	T-1NP1	250 A	3
	ENCLOSURE	Type 1	SCFR		4
			CALCULATED AVAILABLE FAULT...		2.3 kA

REMARKS:	LEFT SIDE, kVA				RIGHT SIDE, kVA								
DESCRIPTION	BRKR NO	BRKR AMP. POLES	CKT NO	A	B	C	A	B	C	CKT NO	BRKR AMP. POLES	BRKR NOTES	DESCRIPTION
LIGHTS - L1 - HPC ELEC	20	1	1	1.40			2			20	2	20 A	
LIGHTS - L1 - LOADING DOCK	20	1	3	1.16			4			20	4	20 A	
LIGHTS - CUP	20	1	5	1.67			6			20	6	20 A	
LIGHTS - LOBBY	20	1	7	1.60			8			20	8	20 A	
LIGHTS - L1 SHELL (FUTURE)	20	1	9	0.00			10			20	10	20 A	
LIGHTS - L2 - CORR/OFFICE	20	1	11	1.53			12			20	12	20 A	
LIGHTS - L2 - DATA HALL	20	1	13	2.13			14			20	14	20 A	
LIGHTS - L2 - DATA HALL	20	1	15	2.13			16			20	16	20 A	
LIGHTS - L2 - CONF/LAB/NOV	20	1	17	1.31									