

# VAV ROOFTOP UNIT, WITH CHILLED WATER AND HW CONTROL DIAGRAM

SCALE: N.T.S. RTU-1 (ROOF)

## SEQUENCE OF OPERATIONS FOR RTU-1 (NEW REPLACEMENT UNIT SERVING 1<sup>ST</sup> FLOOR)

- A. THE NEW REPLACEMENT UNIT SHALL BE PROVIDED WITH NEW LOCAL MANUFACTURER CONTROL THAT IS COMPATIBLE WITH THE EXISTING BUILDING AUTOMATION SYSTEM. THE EXISTING BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER SIGNAL FOR SUMMER AND WINTER SET POINTS FOR CHWS AND HWS. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.
- B. ALARMS, PROVIDE THE FOLLOWING ALARMS TO THE BAS:
1. FAN FAILURE
  2. VALVE FAILURE
  3. DAMPER FAILURE
  4. CLOGGED FILTER
  5. CONDENSATE OVERFLOW
  6. FREEZESTAT
  7. SMOKE DETECTOR
  8. LOW FAN STATIC LIMIT
  9. HIGH FAN STATIC LIMIT
  10. SENSOR FAILURE
- C. OPERATING SEQUENCE
1. OCCUPIED/UNOCCUPIED MODES SHALL BE ADJUSTABLE AND SHALL BE VERIFIED WITH OWNER.
- a. AIR HANDLER SHALL OPERATE TO MAINTAIN DISCHARGE AIR TEMPERATURE AND DUCT STATIC PRESSURE DURING THE FOLLOWING OPERATING MODES:
- b. OCCUPIED MODE:
- 1) DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE CHILLED WATER AND HEATING WATER VALVES SHALL OPERATE TO MAINTAIN THE COOLING AND HEATING DISCHARGE AIR TEMPERATURES RESPECTIVELY. IF ECONOMIZING IS ENABLED THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE OCCUPIED DISCHARGE AIR TEMPERATURE SETPOINT.
- c. UNOCCUPIED MODE:
- 1) ON A CALL FOR HEAT FROM A VAV ZONE (TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.)), THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE HOT WATER COIL VALVE SHALL OPERATE TO MAINTAIN THE HEATING DISCHARGE AIR TEMPERATURE. WHEN A VAV ZONE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE HOT WATER COIL VALVE SHALL CLOSE.
  - 2) ON A CALL FOR COOLING FROM A VAV ZONE (TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.)), THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL OPEN IF ECONOMIZING IS ENABLED AND REMAIN CLOSED IF ECONOMIZING IS DISABLED AND THE CHILLED WATER COIL VALVE SHALL OPERATE TO MAINTAIN COOLING DISCHARGE AIR TEMPERATURE. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE CHILLED WATER VALVE SHALL CLOSE AND THE OUTSIDE AIR DAMPER SHALL CLOSE.
- d. OPTIMAL START:
- 1) THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.
- d. MORNING WARM-UP MODE:
- 1) DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE HEATING AND SUPPLY FAN. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.
- e. PRE-COOL MODE:
- 1) DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING OR ECONOMIZER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.
- f. OPTIMAL STOP:
- 1) THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

- h. SUPPLY FAN OPERATION
- 1) THE SUPPLY FAN SHALL OPERATE TO MAINTAIN DUCT STATIC PRESSURE AT A SENSOR LOCATED 2/3 DOWN THE LONGEST SUPPLY DUCT RUN. THE OPTIMAL LOCATION OF THE SENSOR SHALL BE DETERMINED BY THE MECHANICAL CONTRACTOR AND THE TEST AND BALANCER. THE FAN SHALL OPERATE TO ENSURE REQUIRED AIRFLOW ACROSS ALL VAV TERMINAL UNITS. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FAN. IF THE SWITCH DOES NOT OPEN WITHIN 40 SECONDS AFTER A REQUEST FOR FAN OPERATION A FAN FAILURE ALARM SHALL BE ANNUNCIATED. THE UNIT SHALL STOP, REQUIRING A MANUAL RESET.
- i. RETURN FAN OPERATION
- 1) THE RETURN FAN SHALL OPERATE IN CONJUNCTION WITH THE SUPPLY FAN TO MAINTAIN A POSITIVE SPACE PRESSURE BETWEEN THE OUTDOORS AND ROOM 1012-CORRIDOR.
- j. OUTSIDE AIR/RETURN AIR/EXHAUST AIR DAMPER OPERATION
- 1) THE DAMPERS' OPERATION SHALL BE INTERLOCKED. EACH DAMPER SHALL MODULATE TOGETHER TO MAINTAIN POSITIVE SPACE PRESSURE.
- k. CHILLED WATER COIL VALVE OPERATION:
- 1) ON A CALL FOR COOLING FROM A VAV ZONE, THE CHILLED WATER COIL VALVE SHALL MODULATE TO MAINTAIN THE UNIT DISCHARGE AIR TEMPERATURE OF 55 DEG (F). THE CHILLED WATER VALVE IS A 3-WAY MODULATING CONTROL VALVE AND SHALL ACT AS A MINIMUM FLOW BYPASS FOR THE CHILLED WATER SYSTEM.
- j. HEATING WATER COIL VALVE OPERATION:
- 1) ON A CALL FOR HEATING FROM A VAV ZONE, THE HEATING WATER COIL VALVE SHALL OPEN AND THE HEATING COIL PUMPS SHALL OPERATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE OF 65 DEG (ADJ.). REFER TO GLYCOL SYSTEM CONTROL DIAGRAM AND SEQUENCES FOR ADDITIONAL REQUIREMENTS.
- l. ECONOMIZER CONTROL / REFERENCE DRY BULB:
- 1) THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL MODULATE BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. MINIMUM POSITION SHALL BE CALCULATED BASED ON SUPPLY FAN SPEED. IF THE MIXED AIR TEMPERATURE STARTS TO FALL BELOW 53.0 DEG. F, THE ECONOMIZER STARTS TO CLOSE. AT 50.0 DEG. F, THE DAMPER SHALL BE AT MINIMUM POSITION. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100% FOR 5 MINUTES.
- m. REFERENCE DRY BULB:
- 1) OUTSIDE AIR (OA) TEMPERATURE IS COMPARED WITH A REFERENCE DRY BULB POINT. THE ECONOMIZER IS ENABLED WHEN OA TEMPERATURE IS LESS THAN REFERENCE DRY BULB SETPOINT OF 55F (ADJ.). THE ECONOMIZER IS DISABLED WHEN OA TEMPERATURE IS GREATER THAN REFERENCE DRY BULB POINT + 1.0 DEG. F.
- n. FILTER TIMER:
- 1) THE FAN-RUN TIME (HRS) SHALL BE COMPARED TO THE FILTER MAINTENANCE TIMER SETPOINT. ONCE THE SETPOINT IS REACHED A FILTER TIMER ALARM DIAGNOSTIC SHALL ANNUNCIATE AT THE BAS. WHEN THE DIAGNOSTIC IS CLEARED, THE FILTER-MAINTENANCE TIMER IS RESET TO ZERO, AND THE TIMER BEGINS ACCUMULATING FAN-RUN TIME AGAIN.
- p. SMOKE DETECTOR SHUTDOWN:
- 1) THE UNIT SHALL SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE. THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTOR. A MANUAL RESET OF THE SMOKE DETECTOR SHALL BE REQUIRED TO RESTART THE UNIT.
- q. FREEZESTAT:
- 1) THE WHEN FREEZE STAT SENSES 35F OR BELOW, IT WILL TRIGGER THE ALARM AND ALSO SHUT DOWN ALL FANS. THE HOT WATER COIL CONTROL VALVE SHALL BE OPENED FULLY AND CHILLED WATER VALVE SHALL BE FULLY CLOSED AND OUTDOOR AIR DAMPER SHALL BE FULLY CLOSED.
- r. DEMAND CONTROL VENTILATION
- 1) FOR THOSE ZONES EQUIPPED WITH AN OCCUPANCY SENSOR OR CO<sub>2</sub> SENSOR, OUTDOOR AIRFLOW SHALL BE RESET BASED ON OCCUPANCY STATUS AND/OR MEASURED CO<sub>2</sub> CONCENTRATION. REFER TO PLANS FOR LOCATIONS OF CO<sub>2</sub> SENSORS.

## CONTROL POINTS:

### GLOBAL POINTS:

| POINT DESCRIPTION                | POINT TYPE | QUANTITY | COMMENT   |
|----------------------------------|------------|----------|---|
| Outside Air Dry Bulb Temperature | AI         | One      | Place sensor on roof on a North facing surface. |
| Outside Air Humidity             | AI         | One      | Place sensor on roof on a North facing surface. |
| Outside Air Wet Bulb Temperature | AI         | One      | Calculated Value                                |

### RTU-1:

| POINT DESCRIPTION             | POINT TYPE | QUANTITY | COMMENT |
|-------------------------------|------------|----------|---------|
| Unit Start/Stop               | DO         | Each     |         |
| Unit Status                   | DI         | Each     |         |
| OA Damper Modulate            | AO         | Each     |         |
| OA Damper Position            | AI         | Each     |         |
| RA Damper Modulate            | AO         | Each     |         |
| RA Damper Position            | AI         | Each     |         |
| EA Damper Modulate            | AO         | Each     |         |
| EA Damper Position            | AI         | Each     |         |
| Chilled Water Entering Temp   | AI         | Each     |         |
| Chilled Water Leaving Temp    | AI         | Each     |         |
| Heating Water Entering Temp   | AI         | Each     |         |
| Heating Water Leaving Temp    | AI         | Each     |         |
| Chilled Water Coil Modulate   | AO         | Each     |         |
| Chilled Water Coil Position   | AI         | Each     |         |
| Heating Water Coil Open/Close | DO         | Each     |         |
| Heating Water Coil Position   | DI         | Each     |         |
| Supply Fan Start/Stop         | DO         | Each     |         |
| Supply Fan Status             | DI         | Each     |         |
| Supply Fan VFD Speed          | AO         | Each     |         |
| Supply Fan VFD Feedback       | AI         | Each     |         |
| Return Fan Start/Stop         | DO         | Each     |         |
| Return Fan Status             | DI         | Each     |         |
| Return Fan VFD Speed          | AO         | Each     |         |
| Return Fan VFD Feedback       | AI         | Each     |         |
| Space Pressure                | AI         | Each     |         |
| Duct Static Pressure          | AI         | One      |         |
| Entering Air Temperature      | AI         | Each     |         |
| Discharge Air Temperature     | AI         | Each     |         |
| Filter Differential Pressure  | AI         | Each     |         |
| Freezestat                    | DI         | Each     |         |
| Fan Low Static                | DI         | Each     |         |
| Fan High Static               | DI         | Each     |         |
| Smoke Detector                | DI         | Each     |         |

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### MECHANICAL CONTROL DIAGRAMS

MC-101  
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- A. SYSTEM SHALL UTILIZE MANUFACTURER PROVIDED CONTROLS THAT ARE COMPATIBLE WITH THE EXISTING BAS. THE SYSTEM SHALL OPERATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
- B. EMERGENCY POWER SPLIT SYSTEM SEQUENCE
  - 1. THE FOLLOWING UNITS SHALL OPERATE ON EMERGENCY POWER ONLY. DURING NORMAL POWER, UNITS SHALL REMAIN OFF.
    - 1.1. CU/AC-1028, CU/AC-1040, CU/AC-1042A, CU/AC-1042B, CU/AC-1043, CU/AC-1048
- C. ALARMS, PROVIDE THE FOLLOWING ALARMS TO THE BAS:
  - 1. UNIT FAILURE
  - 2. HIGH SPACE TEMPERATURE ALARM - ROOM 1015 ONLY
  - 3. CONDENSATE DRIP PAN LEAK DETECTION - SHUT OFF UNIT, ALARM BAS
- D. PROVIDE THE FOLLOWING POINTS TO THE BAS:
  - 1. SPACE TEMPERATURE - AI - EACH SYSTEM
  - 2. UNIT STATUS - DI - EACH SYSTEM

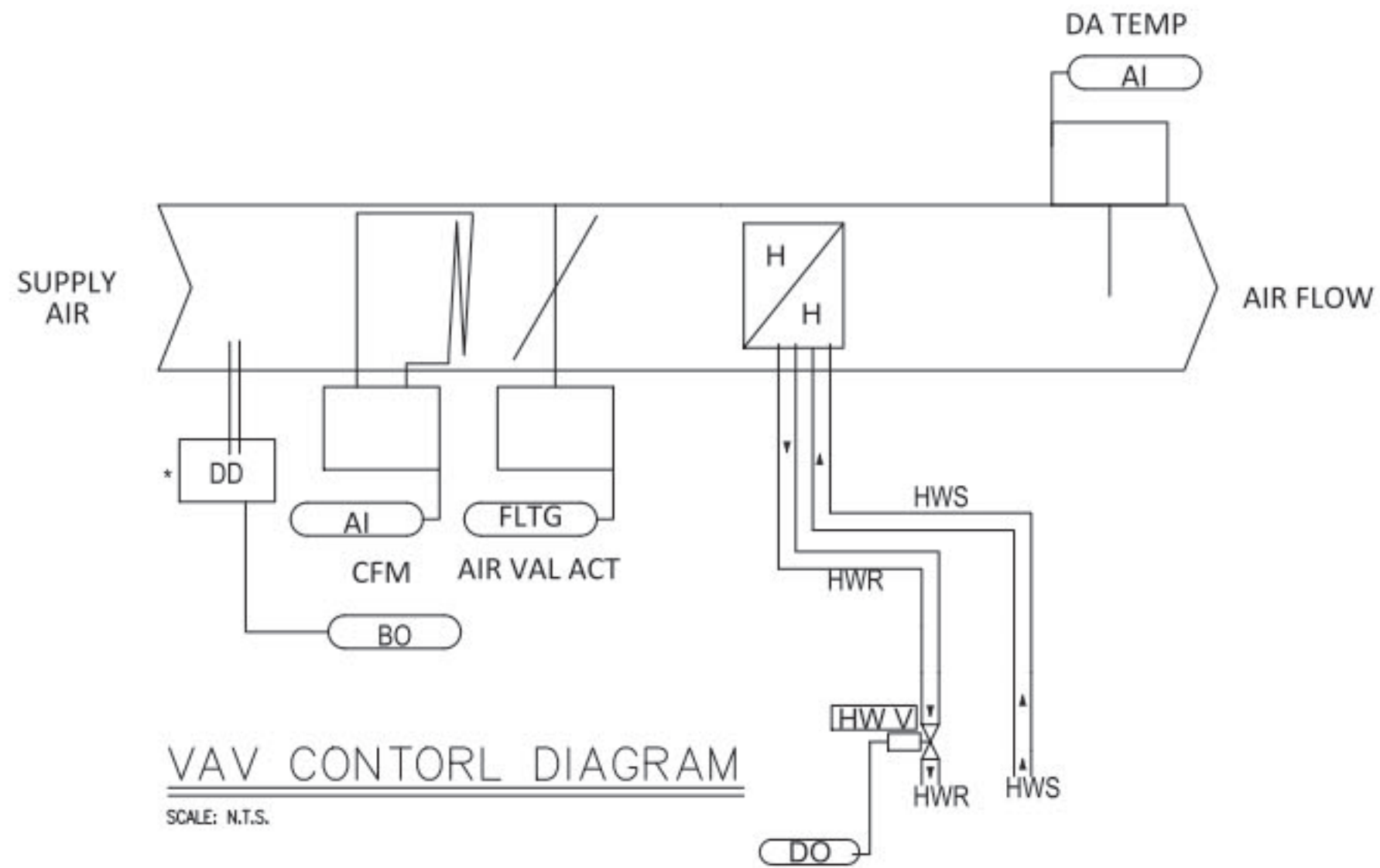
SCALE: N.T.S. SERVING 7 SPLIT SYSTEM

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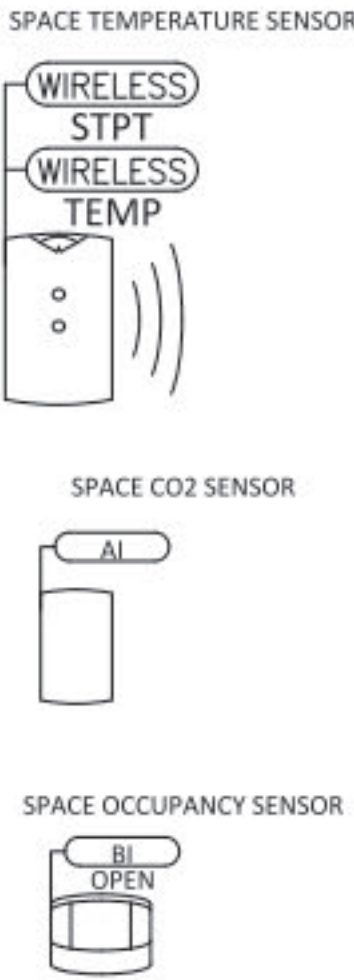
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VAV CONTORL DIAGRAM  
SCALE: N.T.S.

GENERAL COMMENT:  
1. REFER TO POINTS LIST FOR COMPLETE CONTROL POINT REQUIREMENTS.



CONTROL POINTS:

VAV TERMINAL UNIT:

| POINT DESCRIPTION            | POINT TYPE | QUANTTY | COMMENT |
|------------------------------|------------|---------|---------|
| Airflow (CFM)                | AO         | Each    |         |
| Damper Modulate              | AO         | Each    |         |
| Damper Position              | AI         | Each    |         |
| Space Temperature            | AI         | Each    |         |
| Reheat Coil Valve Open/Close | DO         | Each    |         |
| Reheat Coil Valve Position   | DI         | Each    |         |

CONTROLS GENERAL COMMENTS:

- CONTROL CONTRACTOR SHALL INSPECT EXISTING FACILITY AND ITS BAS SYSTEM AND GET FULLY FAMILIAR WITH EXISTING OPERATION OF CONTROL SYSTEM FOR THIS FACILITY. ALL NEW CONTROLS FOR AHUS, VAV BOXES, DUCTLESS SPLIT SYSTEMS SHALL BE INTEGRATED TO EXISTING BAS SYSTEM.
- PROVIDE NEW LOCAL CONTROL PANEL INSIDE THE AHU ROOM FOR NEW REPLACEMENT VAV UNIT WITH CHILLED WATER AND HOT WATER COILS (AHU-1). INTEGRATE ALL CONTROLS FOR NEW VAV BOXES SERVING AIR SUPPLIED WITH THIS AHU.
- PROVIDE CONTROLS FOR (6) NEW REPLACEMENT AIR HANDLING UNITS SERVING EXISTING GYM AREA, HUNG BELOW THE CEILING. THESE SHALL BE PROVIDED SINGLE ZONE AHU CONTROLS WITH A WALL MOUNTED TEMPERATURE SENSOR.
- EXISTING AHU-2 SERVING 2<sup>ND</sup> FLOOR SHALL REMAIN ALONG WITH ITS EXISTING CONTROL SYSTEMS.
- PROVIDE ON/OFF CONTROLS WITH REMOTE WALL MOUNTED THERMOSTAT FOR RADIANT HEATERS SERVING ALTERNATE 1 AND 2 OF SALLY PORT WITH LOCAL WALL MOUNTED THERMOSTAT.
- PROVIDE CO AND NO2 SENSORS IN SALLY PORT PER PLANS WITH ALARM THRU BAS SYSTEM.
- ALL CONTROLS SET POINTS SHALL BE REVIEWED WITH OWNER AND ADJUSTED ACCORDINGLY.
- PROVIDE CONTROL FOR DUCTLESS SPLIT SYSTEM AS SHOWN ON PLANS.
- SUBMIT A FULL SET OF SHOP DRAWINGS CONTAINING ALL CONTROL DIAGRAMS ALONG WITH SEQUENCE OF OPERATION FOR ENGINEER'S REVIEW AND APPROVAL BEFORE STARTING ANY NEW WORK.

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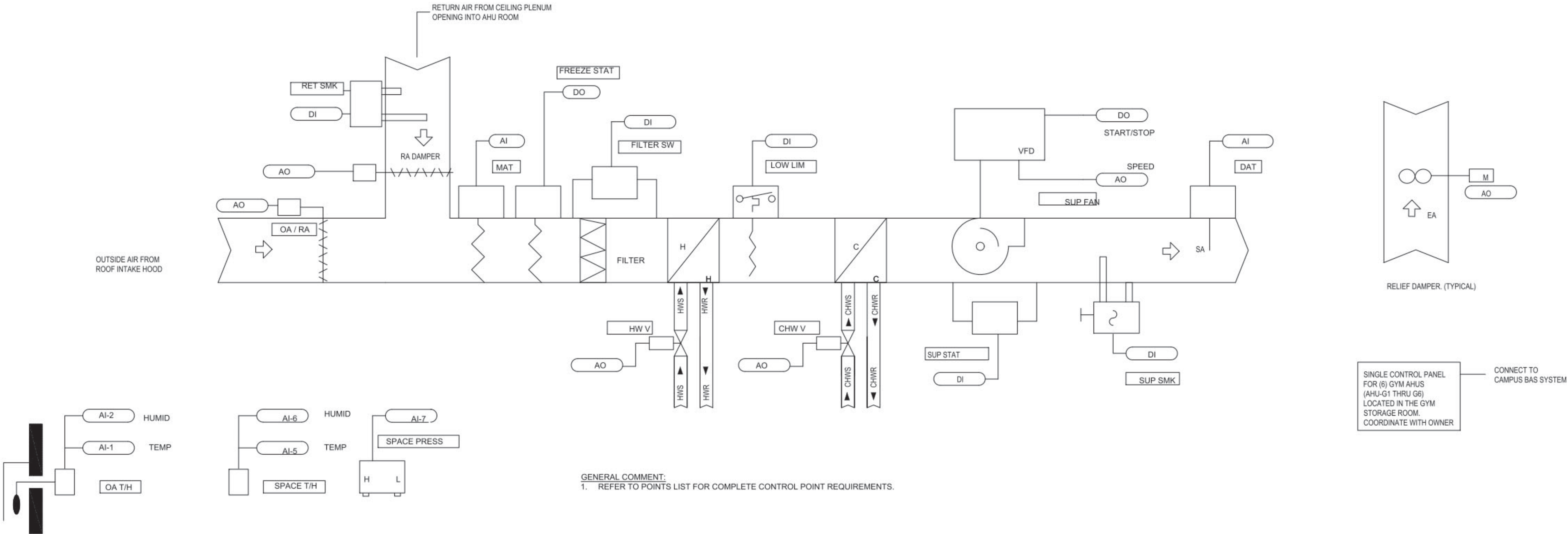
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MECHANICAL CONTROL  
DIAGRAMS

MC-103  
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## GYM-AHU-G1,G2,G3,G4,G5,G6

SCALE: N.T.S.

## SINGLE ZONE VAV, WITH CHILLED WATER AND HW CONTROL DIAGRAM

SCALE: N.T.S. SERVING GYM

### SEQUENCE OF OPERATIONS FOR (6) REPLACEMENT AHUs SERVING GYM

#### NEW SZ VAV AIR HANDLING UNITS WITH NEW REPLACEMENT AIR INTAKE AND EXHAUST HOODS.

A. THE NEW REPLACEMENT UNIT SHALL BE PROVIDED WITH NEW LOCAL MANUFACTURER CONTROL THAT IS COMPATIBLE WITH THE EXISTING BUILDING AUTOMATION SYSTEM. THE EXISTING BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER SIGNAL FOR SUMMER AND WINTER SET POINTS FOR CHWS AND HWS. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.

#### B. ALARMS, PROVIDE THE FOLLOWING ALARMS TO THE BAS:

1. FAN FAILURE
2. VALVE FAILURE
3. DAMPER FAILURE
4. CLOGGED FILTER
5. CONDENSATE OVERFLOW
6. FREEZESTAT
7. SMOKE DETECTOR
8. LOW FAN STATIC LIMIT
9. HIGH FAN STATIC LIMIT
10. SENSOR FAILURE

#### C. OPERATING SEQUENCE

1. OCCUPIED/UNOCCUPIED MODES SHALL BE ADJUSTABLE AND SHALL BE VERIFIED WITH OWNER.
  - a. AIR HANDLER SHALL OPERATE TO MAINTAIN DISCHARGE AIR TEMPERATURE AND DUCT STATIC PRESSURE DURING THE FOLLOWING OPERATING MODES:
  - b. OCCUPIED MODE:
    - 1) DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE CHILLED WATER AND HEATING WATER VALVES SHALL OPERATE TO MAINTAIN THE COOLING AND HEATING DISCHARGE AIR TEMPERATURES RESPECTIVELY. IF ECONOMIZING IS ENABLED THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE OCCUPIED DISCHARGE AIR TEMPERATURE SETPOINT.
  - c. UNOCCUPIED MODE:
    - 1) ON A CALL FOR HEAT, THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE HOT WATER COIL VALVE SHALL OPERATE TO MAINTAIN THE HEATING DISCHARGE AIR TEMPERATURE. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE HOT WATER COIL VALVE SHALL CLOSE.
    - 2) ON A CALL FOR COOLING, THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL OPEN IF ECONOMIZING IS ENABLED AND REMAIN CLOSED IF ECONOMIZING IS DISABLED AND THE CHILLED WATER COIL VALVE SHALL OPERATE TO MAINTAIN COOLING DISCHARGE AIR TEMPERATURE. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 55.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE CHILLED WATER VALVE SHALL CLOSE AND THE OUTSIDE AIR DAMPER SHALL CLOSE.
  - d. OPTIMAL START:
    - 1) THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.
  - e. MORNING WARM-UP MODE:
    - 1) DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE HEATING AND SUPPLY FAN. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.
  - f. PRE-COOL MODE:
    - 1) DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING OR ECONOMIZER.

THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

#### g. OPTIMAL STOP:

- 1) THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

#### h. SUPPLY FAN OPERATION

- 1) THE SUPPLY FAN SHALL OPERATE IN CONJUNCTION WITH THE CHILLED WATER AND HEATING WATER VALVES TO MAINTAIN SPACE TEMPERATURE SETPOINT.

#### i. CHILLED WATER COIL VALVE OPERATION:

- 1) ON A CALL FOR COOLING, THE CHILLED WATER COIL VALVE SHALL MODULATE TO MAINTAIN THE UNIT DISCHARGE AIR TEMPERATURE OF 55 DEG (F). THE CHILLED WATER VALVE IS A 2-WAY MODULATING CONTROL VALVE.

#### j. HEATING WATER COIL VALVE OPERATION:

- 1) ON A CALL FOR HEATING, THE HEATING WATER COIL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE OF 65 DEG (ADJ.). THE HEATING WATER COIL VALVE IS A 2-WAY MODULATING CONTROL VALVE.

#### k. HEATING WATER COIL VALVE FREEZE PROTECTION:

- 1) IF THE OUTSIDE AIR TEMPERATURE DROPS BELOW 45 DEG (ADJ.) AND THE SUPPLY FAN IS ON, THE HEATING WATER COIL VALVE SHALL MODULATE OPEN TO THE COIL AND SHALL REMAIN OPEN TO ALLOW FLOW THROUGH THE COIL. THE COIL VALVE SHALL MODULATE TO MAINTAIN THE HEATING DISCHARGE AIR TEMPERATURE.

#### l. ECONOMIZER CONTROL / REFERENCE DRY BULB:

- 1) THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL MODULATE BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. MINIMUM POSITION SHALL BE CALCULATED BASED ON SUPPLY FAN SPEED. IF THE MIXED AIR TEMPERATURE STARTS TO FALL BELOW 53.0 DEG. F, THE ECONOMIZER STARTS TO CLOSE. AT 50.0 DEG. F, THE DAMPER SHALL BE AT MINIMUM POSITION. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100% FOR 5 MINUTES.

#### m. REFERENCE DRY BULB:

- 1) OUTSIDE AIR (OA) TEMPERATURE IS COMPARED WITH A REFERENCE DRY BULB POINT. THE ECONOMIZER IS ENABLED WHEN OA TEMPERATURE IS LESS THAN REFERENCE DRY BULB SETPOINT OF 55F (ADJ.). THE ECONOMIZER IS DISABLED WHEN OA TEMPERATURE IS GREATER THAN REFERENCE DRY BULB POINT + 1.0 DEG. F.

#### n. FILTER TIMER:

- 1) THE FAN-RUN TIME (HRS) SHALL BE COMPARED TO THE FILTER MAINTENANCE TIMER SETPOINT. ONCE THE SETPOINT IS REACHED A FILTER TIMER ALARM DIAGNOSTIC SHALL ANNUNCIATE AT THE BAS. WHEN THE DIAGNOSTIC IS CLEARED, THE FILTER-MAINTENANCE TIMER IS RESET TO ZERO, AND THE TIMER BEGINS ACCUMULATING FAN-RUN TIME AGAIN.

#### p. SMOKE DETECTOR SHUTDOWN:

- 1) THE UNIT SHALL SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE. THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTOR. A MANUAL RESET OF THE SMOKE DETECTOR SHALL BE REQUIRED TO RESTART THE UNIT.

#### q. FREEZESTAT:

- 1) THE WHEN FREEZE STAT SENSES 35F OR BELOW, IT WILL TRIGGER THE ALARM AND ALSO SHUT DOWN ALL FANS. THE HOT WATER COIL CONTROL VALVE SHALL BE OPENED FULLY AND CHILLED WATER VALVE SHALL BE FULLY CLOSED AND OUTDOOR AIR DAMPER SHALL BE FULLY CLOSED.

#### MOTORIZED DAMPERS ON EXISTING RELIEF HOODS:

##### A. ALARMS, PROVIDE THE FOLLOWING ALARMS TO THE BAS:

1. DAMPER FAILURE

##### B. OPERATING SEQUENCE

- 1) MOTORIZED DAMPER SHALL MODULATE TO MAINTAIN A POSITIVE SPACE PRESSURE BETWEEN GYM AND THE EXTERIOR.

#### CONTROL POINTS:

##### GYM AIR HANDLING UNITS:

| POINT DESCRIPTION            | POINT TYPE | QUANTITY | COMMENT |
|------------------------------|------------|----------|---------|
| Unit Start/Stop              | DO         | Each     |         |
| Unit Status                  | DI         | Each     |         |
|                              |            |          |         |
| OA Damper Modulate           | AO         | Each     |         |
| OA Damper Position           | AI         | Each     |         |
| RA Damper Modulate           | AO         | Each     |         |
| RA Damper Position           | AI         | Each     |         |
|                              |            |          |         |
| Chilled Water Entering Temp  | AI         | Each     |         |
| Chilled Water Leaving Temp   | AI         | Each     |         |
| Heating Water Entering Temp  | AI         | Each     |         |
| Heating Water Leaving Temp   | AI         | Each     |         |
|                              |            |          |         |
| Chilled Water Coil Modulate  | AO         | Each     |         |
| Chilled Water Coil Position  | AI         | Each     |         |
| Heating Water Coil Modulate  | AO         | Each     |         |
| Heating Water Coil Position  | AI         | Each     |         |
|                              |            |          |         |
| Supply Fan Start/Stop        | DO         | Each     |         |
| Supply Fan Status            | DI         | Each     |         |
| Supply Fan VFD Speed         | AO         | Each     |         |
| Supply Fan VFD Feedback      | AI         | Each     |         |
|                              |            |          |         |
| Space Pressure               | AI         | One      |         |
|                              |            |          |         |
| Entering Air Temperature     | AI         | Each     |         |
| Discharge Air Temperature    | AI         | Each     |         |
|                              |            |          |         |
| Filter Differential Pressure | AI         | Each     |         |
| Freezestat                   | DI         | Each     |         |
| Fan Low Static               | DI         | Each     |         |
| Fan High Static              | DI         | Each     |         |
| Smoke Detector               | DI         | Each     |         |

##### GYM RELIEF DAMEPRS:

| POINT DESCRIPTION          | POINT TYPE | QUANTITY | COMMENT |
|----------------------------|------------|----------|---------|
| Relief Air Damper Modulate | AO         | Each     |         |
| Relief Air Damper Position | AI         | Each     |         |

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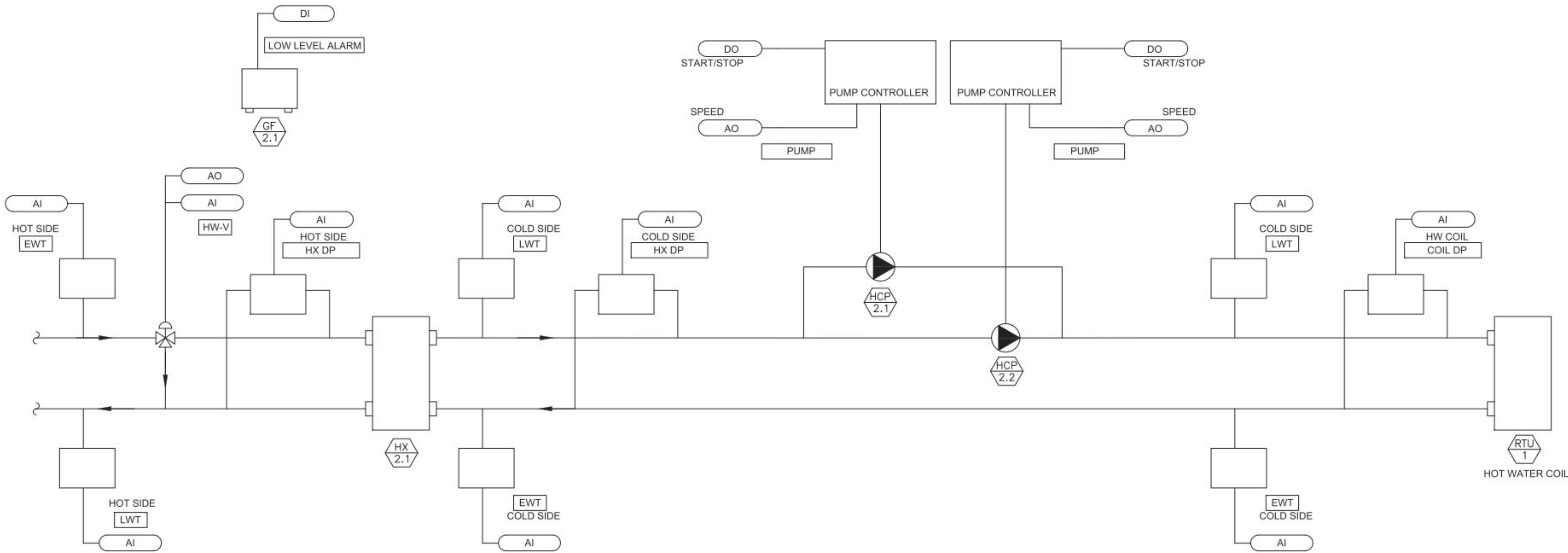
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MECHANICAL CONTROL  
DIAGRAMS

MC-104  
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GLYCOL WATER HEATING SYSTEM CONTROL DIAGRAM

SCALE: N.T.S.

SEQUENCE OF OPERATIONS FOR THE GLYCOL WATER HEATING SYSTEM

- A. ALARMS, PROVIDE THE FOLLOWING ALARMS TO THE BAS:
1. PUMP FAILURE
  2. VALVE FAILURE
  3. HIGH HX DIFFERENTIAL PRESSURE
  4. HIGH COIL DIFFERENTIAL PRESSURE
  5. SENSOR FAILURE
- B. OPERATING SEQUENCE
1. GLYCOL SYSTEM SHALL OPERATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE OF RTU-1 DURING HEATING MODE. HEATING MODE SHALL BE DETERMINED BY THE RTU-1 CONTROL PANEL.
  2. ON A CALL FOR HEATING FROM RTU-1:
    - a. THE HOT SIDE MODULATING 3-WAY VALVE SHALL OPEN AND SHALL OPERATE TO MAINTAIN THE HEAT EXCHANGER COLD SIDE LWT OF 127 DEG F (ADJ.).
    - b. THE LEAD HEATING WATER COIL PUMP SPEED SHALL MODULATE TO MAINTAIN A RTU-1 DISCHARGE AIR TEMPERATURE OF 65 DEG F (ADJ.).
      - a. THE LEAD PUMP SHALL BE DETERMINED BY RUN-TIME.

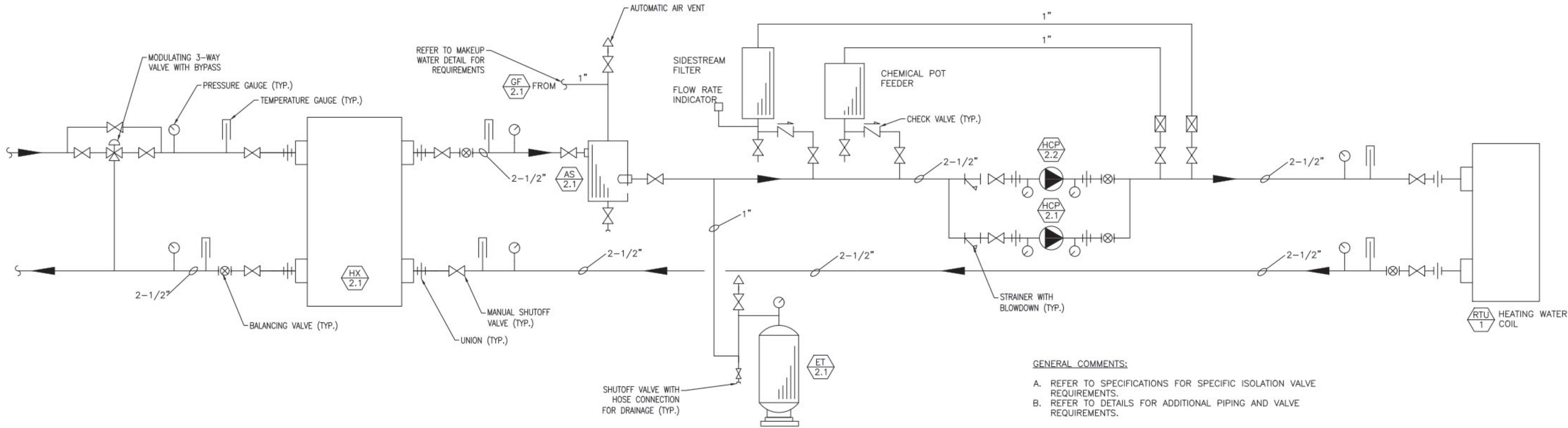
SEQUENCE OF OPERATIONS FOR THE GLYCOL FILL SYSTEM

- A. ALARMS, PROVIDE THE FOLLOWING ALARMS TO THE BAS:
1. LOW LEVEL ALARMNTIAL PRESSURE
  2. SENSOR FAILURE
- B. OPERATING SEQUENCE
1. GLYCOL FILL SYSTEM SHALL UTILIZE FACTORY CONTROLS TO MAINTAIN A SYSTEM ETHYLENE GLYCOL LEVEL OF 30%.

CONTROL POINTS:

GLYCOL WATER HEATING SYSTEM:

| POINT DESCRIPTION           | POINT TYPE | QUANTITY | COMMENT |
|-----------------------------|------------|----------|---------|
| HX Hot Side EWT             | AI         | Each     |         |
| HX Hot Side LWT             | AI         | Each     |         |
| HX Cold Side EWT            | AI         | Each     |         |
| HX Cold Side LWT            | AI         | Each     |         |
|                             |            |          |         |
| HX Hot Side DP              | AI         | Each     |         |
| HX Cold Side DP             | AI         | Each     |         |
|                             |            |          |         |
| HX Hot Side Valve Modulate  | AO         | Each     |         |
| HX Hot Side Valve Position  | AI         | Each     |         |
|                             |            |          |         |
| Pump Start/Stop             | DO         | Each     |         |
| Pump Status                 | DI         | Each     |         |
| Pump Controller Speed       | AO         | Each     |         |
| Pump Controller Feedback    | AI         | Each     |         |
|                             |            |          |         |
| Coil Valve Modulate         | AO         | Each     |         |
| Coil Valve Position         | AI         | Each     |         |
| Coil DP                     | AI         | Each     |         |
|                             |            |          |         |
| Glycol Fill Low Level Alarm | DI         | Each     |         |



GENERAL COMMENTS:

- A. REFER TO SPECIFICATIONS FOR SPECIFIC ISOLATION VALVE REQUIREMENTS.
- B. REFER TO DETAILS FOR ADDITIONAL PIPING AND VALVE REQUIREMENTS.

GLYCOL WATER HEATING SYSTEM PIPING DIAGRAM

SCALE: N.T.S.

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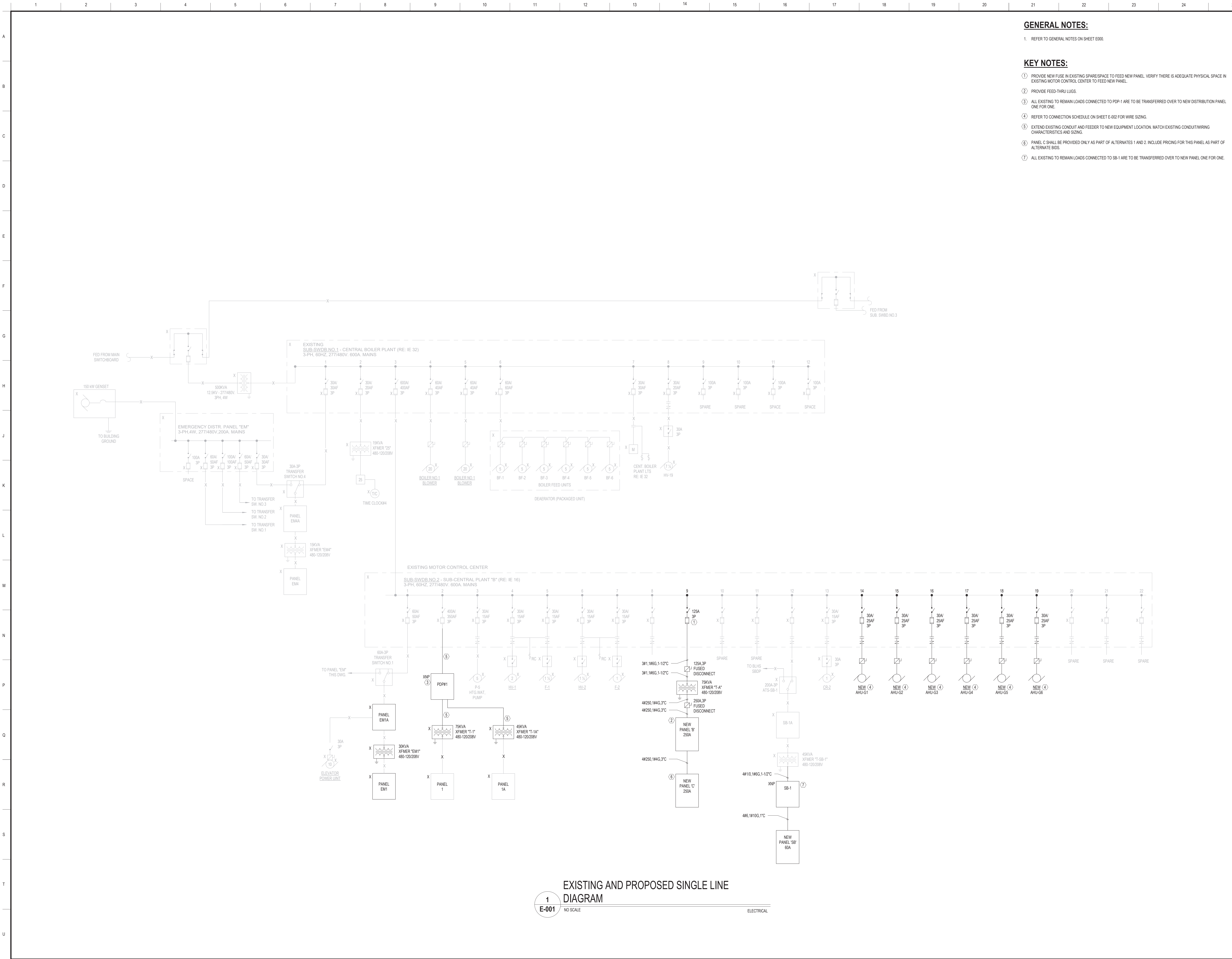
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MECHANICAL CONTROL  
DIAGRAMS



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| <div>LEGAT ARCHITECTS<br/>DESIGN   PERFORMANCE   SUSTAINABILITY</div> <div>JOLIET<br/>UNIOR<br/>COLLEGE</div> <div>CAMPUS POLICE<br/>RENOVATIONS</div> <div>1215 Houbolt Road<br/>Joliet, IL 60431</div> <div>ARCHITECT<br/>Legat Architects</div> <div>2015 Spring Road, Suite 175<br/>Oak Brook IL, 60523<br/>P: 630.990.3541<br/>www.legat.com</div> <div>CIVIL ENGINEER<br/>RT&amp;A Inc.</div> <div>129 Capista Drive<br/>Shorewood, IL 60404<br/>P: 815.744.6600<br/>www.ruettigertonnelli.com</div> <div>STRUCTURAL ENGINEER<br/>Pease Borst &amp; Associates</div> <div>18 Executive Court<br/>South Barrington, IL 60010<br/>P: 847.842.6930<br/>F: 847.842.6935<br/>www.peaseborst.com</div> <div>MEP/FP ENGINEER<br/>RTM Engineering<br/>Consultants</div> <div>650 E. Algonquin, Suite 250<br/>Schaumburg, IL 60173<br/>P: 847.756.4180<br/>www.rtmec.com</div> <div><div>engineering consultants<br/>MEP/FP Structural Steel (Spec 021) Schaumburg, IL 60173<br/>T: 847.756.4180 F: 847.756.4180 www.rtmec.com</div></div> |                |          |
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| DATE OF ISSUE  | 06.28.21       |          |
| DRAWN BY   | JRC            |          |
| CHECKED BY   | JLI            |          |
| ELECTRICAL GENERAL<br>NOTES & SYMBOLS  |                |          |
| <div>E-000<br/>ISSUED FOR BID</div>  |                |          |





- GENERAL NOTES:**
1. REFER TO GENERAL NOTES ON SHEET E000.
- KEY NOTES:**
1. PROVIDE NEW FUSE IN EXISTING SPARE SPACE TO FEED NEW PANEL. VERIFY THERE IS ADEQUATE PHYSICAL SPACE IN EXISTING MOTOR CONTROL CENTER TO FEED NEW PANEL.
  2. PROVIDE FEED-THRU LUGS.
  3. ALL EXISTING TO REMAIN LOADS CONNECTED TO PDP-1 ARE TO BE TRANSFERRED OVER TO NEW DISTRIBUTION PANEL ONE FOR ONE.
  4. REFER TO CONNECTION SCHEDULE ON SHEET E-002 FOR WIRE SIZING.
  5. EXTEND EXISTING CONDUIT AND FEEDER TO NEW EQUIPMENT LOCATION. MATCH EXISTING CONDUIT/WIRING CHARACTERISTICS AND SIZING.
  6. PANEL C SHALL BE PROVIDED ONLY AS PART OF ALTERNATES 1 AND 2. INCLUDE PRICING FOR THIS PANEL AS PART OF ALTERNATE BIDS.
  7. ALL EXISTING TO REMAIN LOADS CONNECTED TO SB-1 ARE TO BE TRANSFERRED OVER TO NEW PANEL ONE FOR ONE.

**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

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ELECTRICAL SINGLE LINE DIAGRAM

**E-001**  
ISSUED FOR BID

EXISTING AND PROPOSED SINGLE LINE  
DIAGRAM  
1 E-001 NO SCALE ELECTRICAL



EQUIPMENT CONNECTION SCHEDULE (ALTERNATE 1)

| TAG (1) | DESCRIPTION (2)                | LOAD (3)    | WIRE/CONDUIT (4)   | STARTER/DISCONNECT/OC (5)  | VOLTAGE (6) | FEED (7) | REMARKS (8)                                 |
|---------|--------------------------------|-------------|--------------------|--|-------------|----------|---|
| 182     | GAS FIRED INFRARED HEATER UNIT | 1A          | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | C        | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 14      | EXHAUST FAN                    | 1/10 HP     | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | C        | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |
| 1       | ELECTRIC UNIT HEATER           | 1500W 12.5A | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | C        | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |

EQUIPMENT CONNECTION SCHEDULE (ALTERNATE 2)

| TAG (1) | DESCRIPTION (2)                | LOAD (3) | WIRE/CONDUIT (4)   | STARTER/DISCONNECT/OC (5)  | VOLTAGE (6) | FEED (7) | REMARKS (8)                                 |
|---------|--------------------------------|----------|--------------------|--|-------------|----------|---|
| 343     | GAS FIRED INFRARED HEATER UNIT | 1A       | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | C        | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 14      | EXHAUST FAN                    | 1 HP     | 2#10,(1#)10G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | C        | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |
| 14      | EXHAUST FAN                    | 1 HP     | 2#10,(1#)10G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | C        | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |
| 1       | ELECTRIC UNIT HEATER           | 12.5A    | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | C        | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |

LIGHTING FIXTURE SCHEDULE

| TYPE         | FIXTURE | VOLTS | LAMPS |      | MOUNTING    |            | SPECIFIED FIXTURE |  | DESCRIPTION   |
|--------------|---------|-------|-------|------|-------------|------------|-------------------|--|---|
|              |         |       | #     | TYPE | WATT        | LOCATION   | HEIGHT            | MANUFACTURER                                       |   |
| F1           | LED     | 120V  | 29W   | LED  | 29W         | RECESSED   | IN GRID           | COOPER METALUX LITHONIA LIGHTING COLUMBIA LIGHTING | 2X2Z DIRECT/INDIRECT FIXTURE F1E SHALL BE THE SAME AS F1, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.      |
| F2           | LED     | 120V  | 30W   | LED  | 30W         | RECESSED   | IN GRID           | COOPER METALUX LITHONIA LIGHTING COLUMBIA LIGHTING | 2X2Z LAY-IN FIXTURE F2E SHALL BE THE SAME AS F2, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.               |
| F3           | LED     | 120V  | 45W   | LED  | 45W         | RECESSED   | IN GRID           | COOPER METALUX LITHONIA LIGHTING COLUMBIA LIGHTING | 2X4F LAY-IN FIXTURE F3E SHALL BE THE SAME AS F3, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.               |
| F4           | LED     | 120V  | 68W   | LED  | 68W         | RECESSED   | CEILING           | COOPER HALO LITHONIA LIGHTING PRESOLITE            | 8" RECESSED DOWNLIGHT F4E SHALL BE THE SAME AS F4, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.             |
| F5           | LED     | 120V  | 68W   | LED  | 68W         | RECESSED   | CEILING           | COOPER HALO LITHONIA LIGHTING PRESOLITE            | 8" RECESSED DOWNLIGHT, WET-LISTED F5E SHALL BE THE SAME AS F5, EXCEPT CIRCUITED TO EMERGENCY GENERATOR. |
| F5A          | LED     | 120V  | 33W   | LED  | 33W         | RECESSED   | CEILING           | KENALL KURTZON OR EQUAL                            | 8" RECESSED DOWNLIGHT CORRECTOMAL GRADE   |
| F6           | LED     | 120V  | 18.7W | LED  | 18.7W       | RECESSED   | IN GRID           | COOPER HALO LITHONIA LIGHTING PRESOLITE            | 8" RECESSED DOWNLIGHT F6E SHALL BE THE SAME AS F6, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.             |
| F7           | LED     | 120V  | 29W   | LED  | 29W         | PENDANT    | T80               | LUMENWERX AXIS LIGHTING                            | 8-0" DIRECT/INDIRECT PENDANT FIXTURE  |
| F8           | LED     | 120V  | 7.5W  | LED  | 7.5W PER FT | RECESSED   | IN GRID           | LUMENWERX AXIS LIGHTING FOCAL POINT                | LINEAR RECESSED FIXTURE VERIFY FINAL LENGTHS WITH FLOOR PLANS   |
| F9           | LED     | 120V  | 6.9W  | LED  | 6.9W PER FT | WALL MOUNT | T80               | LUMENWERX AXIS LIGHTING FOCAL POINT                | LINEAR CORRIDOR FIXTURE F9E SHALL BE THE SAME AS F9, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.           |
| F10          | LED     | 120V  | 25W   | LED  | 25W         | PENDANT    | T80               | COOPER MCGRAW HUBBELL LIGHTING                     | 4-0" STRIP FIXTURE F10E SHALL BE THE SAME AS F10, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.              |
| F11          | LED     | 120V  | 59W   | LED  | 59W         | RECESSED   | CEILING           | COOPER FAIR-SAFE KENALL LIGHTING KURTZON LIGHTING  | 2X2 LAY-IN FIXTURE F11E SHALL BE THE SAME AS F11, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.              |
| F12          | LED     | 120V  | 56W   | LED  | 56W         | SURFACE    | WALL              | COOPER FAIR-SAFE KENALL LIGHTING KURTZON LIGHTING  | 4-0" SCONCE FIXTURE F12E SHALL BE THE SAME AS F12, EXCEPT CIRCUITED TO EMERGENCY GENERATOR.             |
| BATTERY PACK | LED     | 120V  | 6W    | LED  | 6W          | SURFACE    | SEE ARCH RCP      | COOPER SURE-LITES LITHONIA LIGHTING ISOLITE        | 90 MINUTE EMERGENCY LIGHTING UNIT   |
| EXIT         | LED     | 120V  | 4W    | LED  | 4W          | SURFACE    | SEE ARCH RCP      | COOPER SURE-LITES LITHONIA LIGHTING DUAL-LITE      | EXIT SIGN PROVIDE FACES AND ARROWS PER THE FLOOR PLANS  |
| S1           | LED     | 120V  | 129W  | LED  | 129W        | POLE       | 18'               | COOPER MCGRAW HUBBELL LIGHTING                     | POLE MOUNTED FIXTURE, 11,500LM, TYPE 4 DISTRIBUTION WITH INTEGRAL PHOTOCCELL AND MOTION SENSOR          |
| S2           | LED     | 120V  | 86W   | LED  | 86W         | SURFACE    | 24'               | COOPER LUMARK LITHONIA LIGHTING HUBBELL LIGHTING   | EXTERIOR WALL PACK, 11,000LM, RFT DISTRIBUTION, WITH INTEGRAL PHOTOCCELL AND MOTION SENSOR              |
| S3           | LED     | 120V  | 86W   | LED  | 86W         | SURFACE    | 12'               | COOPER LUMARK LITHONIA LIGHTING HUBBELL LIGHTING   | EXTERIOR WALL PACK, 8,600LM, TYPE 3 DISTRIBUTION, WITH INTEGRAL PHOTOCCELL AND MOTION SENSOR            |

- NOTE:  
1. EC TO PROVIDE ALL NECESSARY MOUNTING HARDWARE FOR A COMPLETE INSTALLATION.  
2. VERIFY FINAL CEILING TYPES WITH ARCHITECTURAL DRAWINGS PRIOR TO ORDERING FIXTURES.  
3. ARCHITECT TO CONFIRM FINAL FINISH SELECTIONS.  
4. FOR RECESSED WALL/CEILING LINEAR FIXTURES, ELECTRICAL CONTRACTOR SHALL HAVE GENERAL CONTRACTOR CONFIRM EXACT WALL DIMENSIONS (INCLUDING DRYWALL, ETC) AFTER FRAMING IS COMPLETE PRIOR TO FINISHING. FRAMING SHALL BE MODIFIED BY G.C. AS NECESSARY TO MEET SPECIFIED DIMENSIONS.

EQUIPMENT CONNECTION SCHEDULE

| TAG (1) | DESCRIPTION (2)                             | LOAD (3)              | WIRE/CONDUIT (4)   | STARTER/DISCONNECT/OC (5)  | VOLTAGE (6) | FEED (7)   | REMARKS (8)                                 |
|---------|---|-----------------------|--------------------|--|-------------|------------|---|
| 1       | ROOFTOP UNIT (2 CONNECTIONS)                | 48.1A MCA 50A MOC     | 3#8,(1#)10G,1"C    | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 480V 3PH    | PDP-1      | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 14      | AIR HANDLING UNITS G1, G2, G3, G4, G5, & G6 | 17.3A MCA 25A MOC     | 3#10,(1#)10G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 480V 3PH    | SUB-SWBD-2 | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/5    | SPLIT SYSTEM INDOOR UNIT                    | POWERED FROM CU-1015  | -                  | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/5    | SPLIT SYSTEM OUTDOOR UNIT                   | 18A MCA 25A MOC       | 2#10,(1#)10G,1"C   | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/2    | SPLIT SYSTEM INDOOR UNIT                    | POWERED FROM CU-1040  | -                  | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | 8          | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/2    | SPLIT SYSTEM OUTDOOR UNIT                   | 9A MCA 15A MOC        | 2#12,(1#)12G,1"C   | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | 8          | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/2    | SPLIT SYSTEM INDOOR UNIT                    | POWERED FROM CU-1028  | -                  | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/2    | SPLIT SYSTEM OUTDOOR UNIT                   | 9A MCA 15A MOC        | 2#12,(1#)12G,1"C   | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/4    | SPLIT SYSTEM INDOOR UNIT                    | POWERED FROM CU-1042A | -                  | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/4    | SPLIT SYSTEM OUTDOOR UNIT                   | 9A MCA 15A MOC        | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/4    | SPLIT SYSTEM INDOOR UNIT                    | POWERED FROM CU-1042B | -                  | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/4    | SPLIT SYSTEM OUTDOOR UNIT                   | 9A MCA 15A MOC        | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/4    | SPLIT SYSTEM INDOOR UNIT                    | POWERED FROM CU-1042B | -                  | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 10/4    | SPLIT SYSTEM OUTDOOR UNIT                   | 9A MCA 15A MOC        | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 208V 1PH    | SB-1       | E.C. TO PROVIDE AND INSTALL DISCONNECT      |
| 1       | ELECTRIC UNIT HEATER                        | 1500W 12.5A           | 2#12,(1#)12G,3/4"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH    | 8          | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |

|   |   |        |                  |  |          |       |   |
|---|---|--------|------------------|--|----------|-------|---|
| 1 | EXHAUST FANS 1059, 1060, 1073, & 1075   | 1/8 HP | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH | 8     | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |
| 5 | EXHAUST FAN                             | 5 HP   | 3#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 480V 3PH | PDP-1 | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |
| 1 | CEILING EXHAUST FANS 1014, 1029, & 1051 | 6 W    | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH | 1     | DISCONNECT PROVIDED BY MC. INSTALLED BY EC. |

|   |  |      |                  |  |         |   |  |
|---|--|------|------------------|--|---------|---|--|
| 1 | VARIABLE AIR VOLUME UNITS 1039, 1038, 103C, 103E, 1012, 1021, 1027, & 1029 | 14 W | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |
| 1 | VARIABLE AIR VOLUME UNITS 1031, 1034, 1036, 1037, 1045, 1046, & 1055       | 14 W | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |
| 1 | VARIABLE AIR VOLUME UNITS 1028, 1030, 1031, 1036, 1037, 1075, & 1076       | 14 W | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |

|   |  |       |                  |  |         |   |  |
|---|--|-------|------------------|--|---------|---|--|
| 1 | MOTORIZED CONTROL VALVES 14.1 & 9  | 8 W   | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |
| 1 | MOTORIZED CONTROL VALVES 1003A, 1003B, 1003C, 1006, 1012, 1021, 1027, & 1028 | 1.5 W | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |
| 1 | MOTORIZED CONTROL VALVES 1021, 1034, 1036, 1037, 1041, 1042, 1046, & 1055    | 1.5 W | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |
| 1 | MOTORIZED CONTROL VALVES 1038, 1030, 1031, 1036, 1037, 1075, & 1076          | 1.5 W | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 24V 1PH | 8 | E.C. TO PROVIDE AND INSTALL TRANSFORMER AND DISCONNECT |

|   |                           |   |                  |  |          |   |  |
|---|---------------------------|---|------------------|--|----------|---|--|
| 1 | GYCOL FILL SYSTEM STATION | - | 2#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 120V 1PH | - | E.C. TO PROVIDE AND INSTALL DISCONNECT |
|---|---------------------------|---|------------------|--|----------|---|--|

|    |                           |     |                  |  |          |       |  |
|----|---------------------------|-----|------------------|--|----------|-------|--|
| 1  | GYCOL FILL SYSTEM STATION | 1HP | 3#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 480V 3PH | PDP-1 | E.C. TO PROVIDE AND INSTALL DISCONNECT |
| 22 | GYCOL FILL SYSTEM STATION | 1HP | 3#12,(1#)12G,1"C | <input type="checkbox"/> INTEGRAL TO EQUIPMENT<br><input type="checkbox"/> IN MCC NEMA SIZE TYPE | 480V 3PH | PDP-1 | E.C. TO PROVIDE AND INSTALL DISCONNECT |

EQUIPMENT CONNECTION SCHEDULE GENERAL NOTES:

- PROVIDE POWER CONNECTIONS TO ALL ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND OWNER FURNISHED EQUIPMENT. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS AND POWER REQUIREMENTS. VERIFY ALL TECHNICAL DATA WITH FINAL SHOP DRAWINGS.
- OVER CURRENT PROTECTION SIZES LISTED ARE FROM MANUFACTURERS AND STANDARD MOTOR DATA. FURNISH FUSES BASED ON FUSE MANUFACTURER'S STANDARDS. ACTUAL FIELD MEASURED FULL LOAD CURRENT, AND EQUIPMENT MANUFACTURER'S REQUIREMENTS.
- FLEXIBLE CONNECTIONS TO MOTORS SHALL BE IN FLEXIBLE CONDUIT. PROVIDE COPPER EQUIPMENT GROUND FROM DISCONNECT TO MOTOR CONNECTION.
- EC TO PROVIDE LOCAL DISCONNECT WITHIN 5'-0" OF EQUIPMENT.
- PENETRATIONS THROUGH THE STORM SHELTER ENVELOPE LARGER THAN 3-1/2 SQUARE INCHES IN AREA FOR RECTANGULAR OPENINGS OR 2-1/16" IN DIAMETER SHALL BE CONSIDERED OPENING AND SHALL BE PROVIDED WITH AN OPENING PROTECTIVE DEVICE. REFERENCE STRUCTURAL DRAWINGS.

EQUIPMENT CONNECTION SCHEDULE KEY NOTES:

- VERIFY FINAL LOCATION OF ALL EQUIPMENT WITH EQUIPMENT INSTALLER BEFORE INSTALLING FEEDERS.
- SEE ARCHITECTURAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR MORE INFORMATION.
- SIZE STARTER/FEEDER DISCONNECT PER FINAL EQUIPMENT REQUIREMENTS.
- PROVIDE FEEDERS AS INDICATED, VERIFY WITH EQUIPMENT REQUIREMENTS.
- PROVIDE OVERLOAD PROTECTION (FUSES OR MOTOR CIRCUIT PROTECTOR) PER SPECIFICATIONS, ACTUAL FIELD MEASURED FULL LOAD CURRENT, AND EQUIPMENT MANUFACTURER'S REQUIREMENTS.
- VERIFY FINAL VOLTAGE AND PHASE REQUIREMENTS OF ALL EQUIPMENT WITH INSTALLER BEFORE INSTALLING FEEDERS.
- COORDINATE SHORT CIRCUIT OCC RATING WITH FINAL EQUIPMENT REQUIREMENTS.
- NON-STANDARD ITEMS, TIMERS, METERS, INTERLOCKS, ETC.

GENERAL NOTES:

- REFER TO GENERAL NOTES ON SHEET E000.

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SIGNATURE  
DATE: 8/25/2021

REVISIONS

| NO. | DESCRIPTION    | DATE     |
|-----|----------------|----------|
| 1   | ISSUED FOR BID | 06/28/21 |
|     |                |          |
|     |                |          |
|     |                |          |
|     |                |          |
|     |                |          |

PROJECT NUMBER 220122.00  
DATE OF ISSUE 06.28.21  
DRAWN BY JRC  
CHECKED BY JLI

ELECTRICAL  
SCHEDULES



| Branch Panel: SUB-SWBD-2 |   |  |  |  |       |       |                  |  |                  |  |                  | Location: EXISTING MECH. 1038<br>Supply From: SEE SINGLE LINE DIAGRAM<br>Mounting: |                 |       |                     |      |                   |  |     |  |    |  |  | Volts: 480/277 Wye<br>Phases: 3<br>Wires: 4 |  |  |  |  |  |  |  |  |  |  |  | A.I.C. Rating:<br>Mains Rating: 600 A<br>MCB Rating: 600 A |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------|---|--|--|--|-------|-------|------------------|--|------------------|--|------------------|--|-----------------|-------|---------------------|------|-------------------|--|-----|--|----|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| CKT                      | Circuit Description                     |  |  |  | Trip  | Poles | A                |  | B                |  | C                |  | Poles           | Trip  | Circuit Description |      |                   |  | CKT |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1                        |   |  |  |  |       |       | 1180 VA 41410... |  | 1106 VA 40924... |  | 1599 VA 40795... |  |                 |       |                     |      |                   |  | 2   |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3                        | EXISTING EM-ATS-1 (FEEDING PANEL EM1A)  |  |  |  | 60 A  | 3     |                  |  |                  |  |                  |  | 3               | 400 A | NEW PDP-1           |      |                   |  | 4   |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5                        |   |  |  |  |       |       | 46074...         |  | 3048 VA          |  |                  |  |                 |       |                     |      |                   |  | 6   |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7                        |   |  |  |  |       |       |                  |  | 46132...         |  | 3048 VA          |  |                 |       |                     |      |                   |  | 8   |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9                        | EXISTING ATS-SB-1 (FEEDING PANEL SB-1A) |  |  |  | 200 A | 3     |                  |  |                  |  | 44407...         |  | 3048 VA         |       | 3                   | 30 A | EXISTING CR-2     |  |     |  | 10 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11                       |   |  |  |  |       |       | 3048 VA          |  | 3048 VA          |  |                  |  |                 |       |                     |      |                   |  |     |  | 12 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13                       |   |  |  |  |       |       |                  |  | 3048 VA          |  | 3048 VA          |  | 3048 VA         |       | 3                   | 30 A | EXISTING F-2      |  |     |  | 14 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15                       | EXISTING F-1                            |  |  |  | 30 A  | 3     |                  |  |                  |  |                  |  | 3048 VA 3048 VA |       |                     |      |                   |  |     |  | 16 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17                       |   |  |  |  |       |       | 3048 VA          |  | 3048 VA          |  |                  |  |                 |       |                     |      |                   |  |     |  | 18 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19                       |   |  |  |  |       |       |                  |  |                  |  |                  |  |                 |       |                     |      |                   |  |     |  | 20 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21                       | EXISTING HV-1                           |  |  |  | 30 A  | 3     |                  |  | 3048 VA          |  | 3048 VA          |  | 3048 VA 3048 VA |       | 3                   | 30 A | EXISTING HV-2     |  |     |  | 22 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23                       |   |  |  |  |       |       |                  |  |                  |  |                  |  | 3048 VA 3048 VA |       |                     |      |                   |  |     |  | 24 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                       |   |  |  |  |       |       | 4794 VA          |  | 4794 VA          |  |                  |  |                 |       |                     |      |                   |  |     |  | 26 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27                       | AHU-G1 (17.3 MCA)                       |  |  |  | 25 A  | 3     |                  |  | 4794 VA          |  | 4794 VA          |  | 4794 VA 4794 VA |       | 3                   | 25 A | AHU-G2 (17.3 MCA) |  |     |  | 28 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29                       |   |  |  |  |       |       |                  |  |                  |  |                  |  |                 |       |                     |      |                   |  |     |  | 30 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31                       |   |  |  |  |       |       | 4794 VA          |  | 4794 VA          |  |                  |  |                 |       |                     |      |                   |  |     |  | 32 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 33                       | AHU-G3 (17.3 MCA)                       |  |  |  | 25 A  | 3     |                  |  | 4794 VA          |  | 4794 VA          |  | 4794 VA 4794 VA |       | 3                   | 25 A | AHU-G4 (17.3 MCA) |  |     |  | 34 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35                       |   |  |  |  |       |       |                  |  |                  |  |                  |  | 4794 VA 4794 VA |       |                     |      |                   |  |     |  | 36 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 37                       |   |  |  |  |       |       | 4794 VA          |  | 4794 VA          |  |                  |  |                 |       |                     |      |                   |  |     |  | 38 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 39                       | AHU-G5 (17.3 MCA)                       |  |  |  | 25 A  | 3     |                  |  | 4794 VA          |  | 4794 VA          |  | 4794 VA 4794 VA |       | 3                   | 25 A | AHU-G6 (17.3 MCA) |  |     |  | 40 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41                       |   |  |  |  |       |       |                  |  |                  |  |                  |  | 4794 VA 4794 VA |       |                     |      |                   |  |     |  | 42 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 43                       |   |  |  |  |       |       | 3048 VA          |  |                  |  |                  |  |                 |       |                     |      |                   |  |     |  | 44 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45                       | EXISTING P-5                            |  |  |  | 30 A  | 3     |                  |  | 3048 VA          |  |                  |  | 3048 VA         |       |                     |      |                   |  |     |  | 46 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 47                       |   |  |  |  |       |       |                  |  |                  |  |                  |  |                 |       |                     |      |                   |  |     |  | 48 |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Load:              |   |  |  |  |       |       | 135661 VA        |  | 135190 VA        |  | 133854 VA        |  |                 |       |                     |      |                   |  |     |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Amps:              |   |  |  |  |       |       | 490 A            |  | 489 A            |  | 483 A            |  |                 |       |                     |      |                   |  |     |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Amps:              |   |  |  |  |       |       |                  |  | 487 A            |  |                  |  |                 |       |                     |      |                   |  |     |  |    |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Branch Panel: SB-1A |                              |  |  |  |       |       |                 |  |                 |  |                 | Location: EXISTING MECH. 1038<br>Supply From: SEE SINGLE LINE DIAGRAM<br>Mounting: SURFACE |       |      |                            |  |  |  |     |  |  |  |  | Volts: 480/277 Wye<br>Phases: 3<br>Wires: 4 |  |  |  |  |  |  |  |  |  |  |  | A.I.C. Rating:<br>Mains Rating: 200 A<br>MCB Rating: 200 A |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|------------------------------|--|--|--|-------|-------|-----------------|--|-----------------|--|-----------------|--|-------|------|----------------------------|--|--|--|-----|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| CKT                 | Circuit Description          |  |  |  | Trip  | Poles | A               |  | B               |  | C               |  | Poles | Trip | Circuit Description        |  |  |  | CKT |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1                   | EXISTING EAST STAIRWELL HEAT |  |  |  | 30 A  | 3     | 5500 VA 4000 VA |  | 5500 VA 4000 VA |  | 5500 VA 4000 VA |  | 3     | 30 A | SUB B                      |  |  |  | 2   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4                   |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5                   |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6                   | EXISTING WEST STAIRWELL HEAT |  |  |  | 30 A  | 3     | 5500 VA 4000 VA |  | 5500 VA 4000 VA |  | 5500 VA 4000 VA |  | 3     | 30 A | EXISTING PLANTARIUM TUNNEL |  |  |  | 8   |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7                   |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9                   |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10                  | EXISTING XMFR T-SB-1         |  |  |  | 100 A | 3     | 12116... 0 VA   |  | 12114... 0 VA   |  | 10449... 0 VA   |  | 1     | 20 A | SPARE                      |  |  |  | 12  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14                  | SPARE                        |  |  |  | 20 A  | 1     | 0 VA            |  | 0 VA            |  | 0 VA            |  | 1     | 20 A | SPARE                      |  |  |  | 16  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18                  | SPARE                        |  |  |  | 20 A  | 1     | 0 VA            |  | 0 VA            |  | 0 VA            |  | 1     | 20 A | SPARE                      |  |  |  | 20  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22                  | SPARE                        |  |  |  | 20 A  | 1     | 0 VA            |  | 0 VA            |  | 0 VA            |  | 1     | 20 A | SPARE                      |  |  |  | 24  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26                  | SPARE                        |  |  |  | 20 A  | 1     | 0 VA            |  | 0 VA            |  | 0 VA            |  | 1     | 20 A | SPARE                      |  |  |  | 28  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29                  | SPARE                        |  |  |  | --    | --    | 0 VA            |  | 0 VA            |  | 0 VA            |  | --    | --   | SPACE                      |  |  |  | 30  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 32                  | HWP G1                       |  |  |  | 60 A  | 3     | 7479 VA 0 VA    |  | 7479 VA 0 VA    |  | 7479 VA 0 VA    |  | 1     | 20 A | SPARE                      |  |  |  | 34  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 33                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 36                  | HWP G2                       |  |  |  | 60 A  | 3     | 7479 VA 0 VA    |  | 7479 VA 0 VA    |  | 7479 VA 0 VA    |  | 1     | 20 A | SPARE                      |  |  |  | 38  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 37                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 39                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40                  | HWP G2                       |  |  |  | 60 A  | 3     | 7479 VA 0 VA    |  | 7479 VA 0 VA    |  | 7479 VA 0 VA    |  | 1     | 20 A | SPARE                      |  |  |  | 42  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 41                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 42                  |                              |  |  |  |       |       |                 |  |                 |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Load:         |                              |  |  |  |       |       | 45074 VA        |  | 46132 VA        |  | 44407 VA        |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Amps:         |                              |  |  |  |       |       | 167 A           |  | 167 A           |  | 160 A           |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Amps:         |                              |  |  |  |       |       |                 |  | 164 A           |  |                 |  |       |      |                            |  |  |  |     |  |  |  |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| ① Branch Panel: 1  |                     |      |       |         |         |   |         |      |  |                                |    |  |
|--|---------------------|------|-------|---------|---------|---|---------|------|--|--------------------------------|----|--|
| Location: EXISTING MECH. 1023<br>Supply From: SEE SINGLE LINE DIAGRAM<br>Mounting: SURFACE |                     |      |       |         |         | Volts: 120/208 Wye<br>Phases: 3<br>Wires: 4 |         |      | A.I.C. Rating:<br>Mains Rating: 200 A<br>MCB Rating: 200 A |                                |    |  |
| CKT  | Circuit Description | Trip | Poles | A       | B       | C   | Poles   | Trip | Circuit Description  | CKT                            |    |  |
| 1  | CORRIDOR LIGHTING   | 20 A | 1     | 742 VA  | 762 VA  |   |         | 1    | 20 A   | WOMEN'S LOCKER ROOM LIGHTING   | 2  |  |
| 3  | CORRIDOR LIGHTING   | 20 A | 1     |         | 1095 VA | 1070 VA                                     |         | 1    | 20 A   | MEN'S LOCKER ROOM LIGHTING     | 4  |  |
| 5  | CORRIDOR LIGHTING   | 20 A | 1     |         |         | 925 VA                                      | 1213 VA | 1    | 20 A   | LOCKER/DETENTION AREA LIGHTING | 6  |  |
| 7  | OFFICE LIGHTING     | 20 A | 1     | 901 VA  | 150 VA  |   |         | 1    | 20 A   | ALTERNATE 1 - LIGHTING         | 8  |  |
| 9  | OFFICE LIGHTING     | 20 A | 1     |         | 904 VA  | 750 VA                                      |         | 1    | 20 A   | ALTERNATE 2 - LIGHTING         | 10 |  |
| 11   | EXISTING LIGHTING   | 20 A | 1     |         |         | 0 VA  | 0 VA    | 1    | 20 A   | EXISTING TVS                   | 12 |  |
| 13   | SPARE               | 20 A | 1     | 0 VA    | 0 VA    |   |         | 1    | 20 A   | EXISTING TREADMILL             | 14 |  |
| 15   | EXISTING LIGHTING   | 20 A | 1     |         | 0 VA    | 0 VA  |         | 1    | 20 A   | EXISTING TV                    | 16 |  |
| 17   | EXISTING TIMECLOCK  | 20 A | 1     |         |         | 0 VA  | 0 VA    | 1    | 20 A   | EXISTING DATA CENTER           | 18 |  |
| 19   | SPARE               | 20 A | 1     | 0 VA    | 0 VA    |   |         | 1    | 20 A   | EXISTING CIRCUIT               | 20 |  |
| 21   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         | 1    | 20 A   | SPARE                          | 22 |  |
| 23   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    | 1    | 20 A   | EXISTING CIRCUIT               | 24 |  |
| 25   | EXISTING CIRCUIT    | 20 A | 1     | 0 VA    | 0 VA    |   |         | 1    | 20 A   | EXISTING CIRCUIT               | 26 |  |
| 27   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         | 1    | 20 A   | EXISTING CIRCUIT               | 28 |  |
| 29   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    | 1    | 20 A   | EXISTING CIRCUIT               | 30 |  |
| 31   | EXISTING CIRCUIT    | 20 A | 1     | 0 VA    | 0 VA    |   |         | 1    | 20 A   | EXISTING CIRCUIT               | 32 |  |
| 33   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         | 1    | 20 A   | EXISTING CIRCUIT               | 34 |  |
| 35   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    | 1    | 20 A   | EXISTING CIRCUIT               | 36 |  |
| 37   | EXISTING CIRCUIT    | 20 A | 1     | 0 VA    | 0 VA    |   |         | 1    | 20 A   | EXISTING CIRCUIT               | 38 |  |
| 39   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         | 1    | 20 A   | EXISTING CIRCUIT               | 40 |  |
| 41   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    | 1    | 20 A   | EXISTING CIRCUIT               | 42 |  |
| 43   | EXISTING CIRCUIT    | 20 A | 2     | 0 VA    | 0 VA    |   |         | 1    | 20 A   | EXISTING CIRCUIT               | 44 |  |
| 45   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         | 1    | 20 A   | EXISTING CIRCUIT               | 46 |  |
| 47   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    | 2    | 20 A   | EXISTING CIRCUIT               | 48 |  |
| 49   | EXISTING CIRCUIT    | 20 A | 1     | 0 VA    | 0 VA    |   |         |      |  |                                | 50 |  |
| 51   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         |      |  |                                | 52 |  |
| 53   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    | 3    | 20 A   | EXISTING CIRCUIT               | 54 |  |
| 55   | EXISTING CIRCUIT    | 20 A | 1     | 0 VA    | 0 VA    |   |         |      |  |                                | 56 |  |
| 57   | EXISTING CIRCUIT    | 20 A | 1     |         | 0 VA    | 0 VA  |         | 2    | 40 A   | EXISTING CIRCUIT               | 58 |  |
| 59   | EXISTING CIRCUIT    | 20 A | 1     |         |         | 0 VA  | 0 VA    |      |  |                                | 60 |  |
| Total Load:  |                     |      |       | 2548 VA | 3791 VA | 2137 VA                                     |         |      |  |                                |    |  |
| Total Amps:  |                     |      |       | 22 A    | 32 A    | 18 A  |         |      |  |                                |    |  |
| Total Amps:  |                     |      |       |         | 24 A    |   |         |      |  |                                |    |  |

| ① Branch Panel: 1A   |                                      |      |       |        |        |   |        |      |  |                                      |    |  |
|--|--------------------------------------|------|-------|--------|--------|---|--------|------|--|--------------------------------------|----|--|
| Location: EXISTING MECH. 1023<br>Supply From: SEE SINGLE LINE DIAGRAM<br>Mounting: SURFACE |                                      |      |       |        |        | Volts: 120/208 Wye<br>Phases: 3<br>Wires: 4 |        |      | A.I.C. Rating:<br>Mains Rating: 200 A<br>MCB Rating: 200 A |                                      |    |  |
| CKT  | Circuit Description                  | Trip | Poles | A      | B      | C   | Poles  | Trip | Circuit Description  | CKT                                  |    |  |
| 1  | EXISTING CIRCUIT                     | 20 A | 1     | 0 VA   | 0 VA   |   |        | 2    | 30 A   | EXISTING ELEC DRYER CAGE             | 2  |  |
| 3  | EXISTING CIRCUIT                     | 20 A | 1     |        | 0 VA   | 0 VA  |        | 1    | 20 A   | EXISTING WATER HEATER                | 4  |  |
| 5  | EXISTING CIRCUIT                     | 20 A | 1     | 0 VA   | 0 VA   |   |        | 1    | 20 A   | EXISTING TREADMILL                   | 6  |  |
| 7  | EXISTING CIRCUIT                     | 20 A | 1     |        | 0 VA   | 0 VA  |        | 2    | 20 A   | EXISTING CIRCUIT                     | 8  |  |
| 9  | EXISTING CIRCUIT                     | 20 A | 1     |        |        | 0 VA  | 0 VA   | 1    | 20 A   | EXISTING CIRCUIT                     | 10 |  |
| 11   | EXISTING CIRCUIT                     | 20 A | 1     | 0 VA   | 0 VA   |   |        | 1    | 20 A   | EXISTING CIRCUIT                     | 12 |  |
| 13   | EXISTING CIRCUIT                     | 20 A | 1     |        | 0 VA   | 0 VA  |        | 1    | 20 A   | EXISTING CIRCUIT                     | 14 |  |
| 15   | EXISTING CIRCUIT                     | 20 A | 1     |        |        | 0 VA  | 0 VA   | 1    | 20 A   | EXISTING CIRCUIT                     | 16 |  |
| 17   | EXISTING CIRCUIT                     | 20 A | 1     | 0 VA   | 0 VA   |   |        | 1    | 20 A   | EXISTING CIRCUIT                     | 18 |  |
| 19   | EXISTING CIRCUIT                     | 20 A | 1     |        | 0 VA   | 0 VA  |        | 1    | 20 A   | EXISTING CIRCUIT                     | 20 |  |
| 21   | EXISTING CIRCUIT                     | 20 A | 1     |        | 0 VA   | 0 VA  |        | 1    | 20 A   | SPARE                                | 22 |  |
| 23   | EXISTING CIRCUIT                     | 20 A | 1     |        |        | 0 VA  | 0 VA   | 1    | 20 A   | SPARE                                | 24 |  |
| 25   | EXISTING CIRCUIT                     | 20 A | 1     | 0 VA   | 0 VA   |   |        |      |  |                                      | 26 |  |
| 27   | FITNESS CENTER 1003 - NEW RECEPTACLE | 20 A | 1     |        | 180 VA | 0 VA  |        | 3    | 70 A   | EXISTING SUB PANEL '1A'              | 28 |  |
| 29   | FITNESS CENTER 1003 - NEW RECEPTACLE | 20 A | 1     |        |        | 360 VA                                      | 0 VA   |      |  |                                      | 30 |  |
| 31   | FITNESS CENTER 1003 - NEW RECEPTACLE | 20 A | 1     | 360 VA | 180 VA |   |        | 1    | 20 A   | FITNESS CENTER 1003 - NEW RECEPTACLE | 32 |  |
| 33   | FITNESS CENTER 1003 - NEW RECEPTACLE | 20 A | 1     |        | 360 VA | 180 VA                                      |        | 1    | 20 A   | FITNESS CENTER 1003 - NEW RECEPTACLE | 34 |  |
| 35   | FITNESS CENTER 1003 - NEW LIGHTING   | 20 A | 1     |        |        | 243 VA                                      | 180 VA | 1    | 20 A   | FITNESS CENTER 1003 - NEW RECEPTACLE | 36 |  |
| 37   | EXISTING CIRCUIT                     | 20 A | 1     | 0 VA   | 180 VA |   |        | 1    | 20 A   | FITNESS CENTER 1003 - NEW RECEPTACLE | 38 |  |
| 39   | EXISTING CIRCUIT                     | 20 A | 1     |        | 0 VA   | 180 VA                                      |        | 1    | 20 A   | FITNESS CENTER 1003 - NEW RECEPTACLE | 40 |  |
| 41   | SPARE                                | 20 A | 1     |        |        | 0 VA  | 0 VA   | 1    | 20 A   | SPARE                                | 42 |  |
| Total Load:  |                                      |      |       | 720 VA | 900 VA | 775 VA                                      |        |      |  |                                      |    |  |
| Total Amps:  |                                      |      |       | 6 A    | 8 A    | 7 A   |        |      |  |                                      |    |  |
| Total Amps:  |                                      |      |       |        | 7 A    |   |        |      |  |                                      |    |  |

| Branch Panel: A  |                     |      |       |        |      |   |       |      |  |                   |    |  |
|--|---------------------|------|-------|--------|------|---|-------|------|--|-------------------|----|--|
| Location: EXISTING MECH. 1023<br>Supply From: SEE SINGLE LINE DIAGRAM<br>Mounting: SURFACE |                     |      |       |        |      | Volts: 480/277 Wye<br>Phases: 3<br>Wires: 4 |       |      | A.I.C. Rating:<br>Mains Rating: 225 A<br>MCB Rating: 225 A |                   |    |  |
| CKT  | Circuit Description | Trip | Poles | A      | B    | C   | Poles | Trip | Circuit Description  | CKT               |    |  |
| 1  | SITE LIGHTING       | 20 A | 1     | 666 VA | 0 VA |   |       | 1    | 20 A   | EXISTING LIGHTING | 2  |  |
| 3  | EXISTING LIGHTING   | 20 A | 1     |        | 0 VA | 0 VA  |       | 1    | 20 A   | EXISTING LIGHTING | 4  |  |
| 5  | EXISTING LIGHTING   | 20 A | 1     |        |      | 0 VA  | 0 VA  | 1    | 20 A   | EXISTING LIGHTING | 6  |  |
| 7  | EXISTING LIGHTING   | 20 A | 1     | 0 VA   | 0 VA |   |       | 1    | 20 A   | EXISTING LIGHTING | 8  |  |
| 9  | EXISTING LIGHTING   | 20 A | 1     |        | 0 VA | 0 VA  |       | 1    | 20 A   | EXISTING LIGHTING | 10 |  |
| 11   | EXISTING LIGHTING   | 20 A | 1     |        |      | 0 VA  | 0 VA  | 1    | 20 A   | EXISTING LIGHTING | 12 |  |
| 13   | EXISTING LIGHTING   | 20 A | 1     | 0 VA   | 0 VA |   |       | 1    | 20 A   | EXISTING CIRCUIT  | 14 |  |
| 15   | SPARE               | 20 A | 1     |        | 0 VA | 0 VA  |       | 1    | 20 A   | SPARE             | 16 |  |
| 17   | SPARE               | 20 A | 1     |        |      | 0 VA  | 0 VA  | 1    | 20 A   | SPARE             | 18 |  |
| 19   | SPARE               | 20 A | 1     | 0 VA   | 0 VA |   |       | --   | --   | SPACE             | 20 |  |
| 21   | SPACE               | --   | --    |        | 0 VA | 0 VA  |       | --   | --   | SPACE             | 22 |  |
| 23   | SPACE               | --   | --    |        |      | 0 VA  | 0 VA  | --   | --   | SPACE             | 24 |  |
| Total Load:  |                     |      |       | 666 VA | 0 VA | 0 VA  |       |      |  |                   |    |  |
| Total Amps:  |                     |      |       | 2 A    | 0 A  | 0 A   |       |      |  |                   |    |  |
| Total Amps:  |                     |      |       |        | 1 A  |   |       |      |  |                   |    |  |

| Branch Panel: B  |  |      |       |          |          |   |          |  |                     |                                       |                       |    |
|--|--|------|-------|----------|----------|---|----------|--|---------------------|---------------------------------------|-----------------------|----|
| Location: ELEC 1039<br>Supply From: SEE SINGLE LINE DIAGRAM<br>Mounting: SURFACE |  |      |       |          |          | Volts: 120/208 Wye<br>Phases: 3<br>Wires: 4 |          | A.I.C. Rating:<br>Mains Rating: 200 A<br>MCB Rating: 200 A |                     |                                       |                       |    |
| CKT  | Circuit Description                                | Trip | Poles | A        | B        | C   | Poles    | Trip   | Circuit Description | CKT                                   |                       |    |
| 1  | ENTRY & INTERVIEW RECS                             | 20 A | 1     | 540 VA   | 360 VA   |   |          | 1  | 20 A                | LAUNDRY RM. REC.                      | 2                     |    |
| 3  | SERGEANT'S OFFICE RECS                             | 20 A | 1     |          | 720 VA   | 1000 VA                                     |          | 1  | 20 A                | LAUNDRY WASHING MACHINE               | 4                     |    |
| 5  | SERGEANT'S OFFICE RECS                             | 20 A | 1     |          |          | 720 VA                                      | 1000 VA  | 1  | 20 A                | LAUNDRY DRYER                         | 6                     |    |
| 7  | INVESTIGATOR'S OFFICE RECS                         | 20 A | 1     | 1080 VA  | 500 VA   |   |          | 1  | 20 A                | LAUNDRY ICE MACHINE                   | 8                     |    |
| 9  | ADMIN. ASSISTANT RECS                              | 20 A | 1     |          | 720 VA   | 720 VA                                      |          | 1  | 20 A                | MEN'S LOCKER ROOM RECS                | 10                    |    |
| 11   | SERGEANT'S OFFICE PRINTER                          | 20 A | 1     |          |          | 180 VA                                      | 720 VA   | 1  | 20 A                | WOMEN'S LOCKER ROOM RECS              | 12                    |    |
| 13   | STORAGE RECS                                       | 20 A | 1     | 540 VA   | 540 VA   |   |          | 1  | 20 A                | MEN'S LOCKER ROOM RECS                | 14                    |    |
| 15   | CHIEF/COMMANDER'S OFFICE RECS                      | 20 A | 1     |          | 720 VA   | 720 VA                                      |          | 1  | 20 A                | WOMEN'S LOCKER ROOM RECS              | 16                    |    |
| 17   | EVIDENCE PROCESSING RECS                           | 20 A | 1     |          |          | 360 VA                                      | 900 VA   | 1  | 20 A                | PRISONER PROCESSING RECS              | 18                    |    |
| 19   | EVIDENCE PROCESSING RECS                           | 20 A | 1     | 540 VA   | 540 VA   |   |          | 1  | 20 A                | LINEUP INTERVIEW RECS                 | 20                    |    |
| 21   | CORRIDOR RECS                                      | 20 A | 1     |          | 1260 VA  | 540 VA                                      |          | 1  | 20 A                | SECURE INTERVIEW RECS                 | 22                    |    |
| 23   | ROLL CALL / CONF. RECS                             | 20 A | 1     |          |          | 720 VA                                      | 540 VA   | 1  | 20 A                | JUVENILE INTERVIEW RECS               | 24                    |    |
| 25   | ROLL CALL / CONF. RECS                             | 20 A | 1     | 540 VA   | 540 VA   |   |          | 1  | 20 A                | ARMORY RECS                           | 26                    |    |
| 27   | GENERAL RECS                                       | 20 A | 1     |          | 360 VA   | 1080 VA                                     |          | 1  | 20 A                | C.S.O. / STUDENT OFFICE RECS          | 28                    |    |
| 29   | BREAK ROOM RECS                                    | 20 A | 1     |          |          | 540 VA                                      | 720 VA   | 1  | 20 A                | TECH. WORK ROOM RECS                  | 30                    |    |
| 31   | BREAK ROOM MICROWAVE                               | 20 A | 1     | 1200 VA  | 120 VA   |   |          | 1  | 20 A                | SB-2.1                                | 32                    |    |
| 33   | BREAK ROOM COFFEE MACHINE                          | 20 A | 1     |          | 800 VA   | 957 VA                                      |          | 2  | 15 A                | FC-1023 & CU-1023                     | 34                    |    |
| 35   | BREAK ROOM TOASTER                                 | 20 A | 1     | 800 VA   | 800 VA   |   |          | 1  | 20 A                | WOMEN'S LOCKERS PLUMBING FIXTURES     | 36                    |    |
| 37   | BREAK ROOM COFFEE MACHINE                          | 20 A | 1     | 800 VA   | 800 VA   |   |          | 1  | 20 A                | WOMEN'S LOCKERS PLUMBING FIXTURES     | 38                    |    |
| 39   | BREAK ROOM FRIDGE                                  | 20 A | 1     |          | 800 VA   | 400 VA                                      |          | 1  | 20 A                | MEN'S LOCKER ROOM PLUMBING FIXTURES   | 40                    |    |
| 41   | SQUAD ROOM RECS                                    | 20 A | 1     |          |          | 720 VA                                      | 800 VA   | 1  | 20 A                | MEN'S LOCKER ROOM PLUMBING FIXTURES   | 42                    |    |
| 43   | SQUAD ROOM RECS                                    | 20 A | 1     | 1080 VA  | 400 VA   |   |          | 1  | 20 A                | WOMEN'S LOCKER ROOM PLUMBING FIXTURES | 44                    |    |
| 45   | SQUAD ROOM CEILING PROJECTOR                       | 20 A | 1     |          | 180 VA   | 200 VA                                      |          | 1  | 20 A                | UNISEX TOILET ROOM PLUMBING FIXTURE   | 46                    |    |
| 47   | CORRIDOR WATER COOLER                              | 20 A | 1     |          |          | 370 VA                                      | 900 VA   | 1  | 20 A                | POWER RECEPTION PROCESSING RECS       | 48                    |    |
| 49   | CORRIDOR RECS                                      | 20 A | 1     | 900 VA   | 900 VA   |   |          | 1  | 20 A                | POWER TESTING OFFICE RECS             | 50                    |    |
| 51   | CORRIDOR RECS                                      | 20 A | 1     |          | 720 VA   | 540 VA                                      |          | 1  | 20 A                | FACILITY OFFICE RECS                  | 52                    |    |
| 53   | CORRIDOR RECS                                      | 20 A | 1     |          |          | 1080 VA                                     | 720 VA   | 1  | 20 A                | FACILITY OFFICE RECS                  | 54                    |    |
| 55   | UNISEX TOILET ROOM REC                             | 20 A | 1     | 180 VA   | 200 VA   |   |          | 1  | 20 A                | TOILET ROOM PLUMBING FIXTURE          | 56                    |    |
| 57   | CU-1A & CU-1B                                      | 20 A | 1     |          | 16 VA    | 100 VA                                      |          | 1  | 20 A                | BREAK ROOM PLUMBING FIXTURE           | 58                    |    |
| 59   | EF-1060 & EF-1073 (MEN'S LOCKER)                   | 20 A | 1     |          |          | 856 VA                                      | 0 VA     | 1  | 20 A                | SPARE                                 | 60                    |    |
| 61   | EF-1059 & EF-1076 (WOMEN'S LOCKER)                 | 20 A | 1     | 856 VA   | 0 VA     |   |          | 1  | 20 A                | SPARE                                 | 62                    |    |
| 63   | VAV & CV - 1003A, 1003B, 1003C, 1008, 1012, & 1021 | 20 A | 1     |          | 93 VA    | 0 VA  |          | 1  | 20 A                | SPARE                                 | 64                    |    |
| 65   | VAV & CV - 1027, 1028, 1031, 1034, 1082, & 1083    | 20 A | 1     |          |          | 93 VA                                       | 0 VA     | 1  | 20 A                | SPARE                                 | 66                    |    |
| 67   | VAV & CV - 1036, 1037, 1041, 1042, 1058, & 1076    | 20 A | 1     | 93 VA    | 1500 VA  |   |          | 1  | 20 A                | EWB-2 (12.6A)                         | 68                    |    |
| 69   | VAV & CV - 1046, 1055, 1060, 1067, & 1075          | 20 A | 1     |          | 78 VA    | 180 VA                                      |          | 1  | 20 A                | EXTERIOR RECEPTACLE                   | 70                    |    |
| 71   | DED RECEPTACLE FOR CAR PLUG                        | 20 A | 1     |          |          | 180 VA                                      | 180 VA   | 1  | 20 A                | DED RECEPTACLE FOR CAR PLUG           | 72                    |    |
| 73   | DED RECEPTACLE FOR CAR PLUG                        | 20 A | 1     | 180 VA   | 180 VA   |   |          | 1  | 20 A                | DED RECEPTACLE FOR CAR PLUG           | 74                    |    |
| 75   | DED RECEPTACLE FOR CAR PLUG                        | 20 A | 1     |          | 180 VA   | 180 VA                                      |          | 1  | 20 A                | DED RECEPTACLE FOR CAR PLUG           | 76                    |    |
| 77   | DED RECEPTACLE FOR CAR PLUG                        | 20 A | 1     |          |          | 180 VA                                      | 180 VA   | 1  | 20 A                | DED RECEPTACLE FOR CAR PLUG           | 78                    |    |
| 79   | DED RECEPTACLE FOR CAR PLUG                        | 20 A | 1     | 180 VA   | 5953 VA  |   |          | 1  | 20 A                | DED RECEPTACLE FOR CAR PLUG           | 80                    |    |
| 81   | SPARE  | 20 A | 1     |          |          | 0 VA  | 3733 VA  |  | 3                   | 200 A                                 | ALTERNATE - PANEL 'C' | 82 |
| 83   | SPARE  | 20 A | 1     |          |          |   |          |  |                     |                                       |                       | 84 |
| Total Load:  |  |      |       | 21242 VA | 16997 VA |   | 17859 VA |  |                     |                                       |                       |    |
| Total Amps:  |  |      |       | 178 A    | 142 A    |   | 145 A    |  |                     |                                       |                       |    |
| Total Amps:  |  |      |       | 156 A    |          |   |          |  |                     |                                       |                       |    |





LEGAT ARCHITECTS  
DESIGN | PERFORMANCE | SUSTAINABILITY

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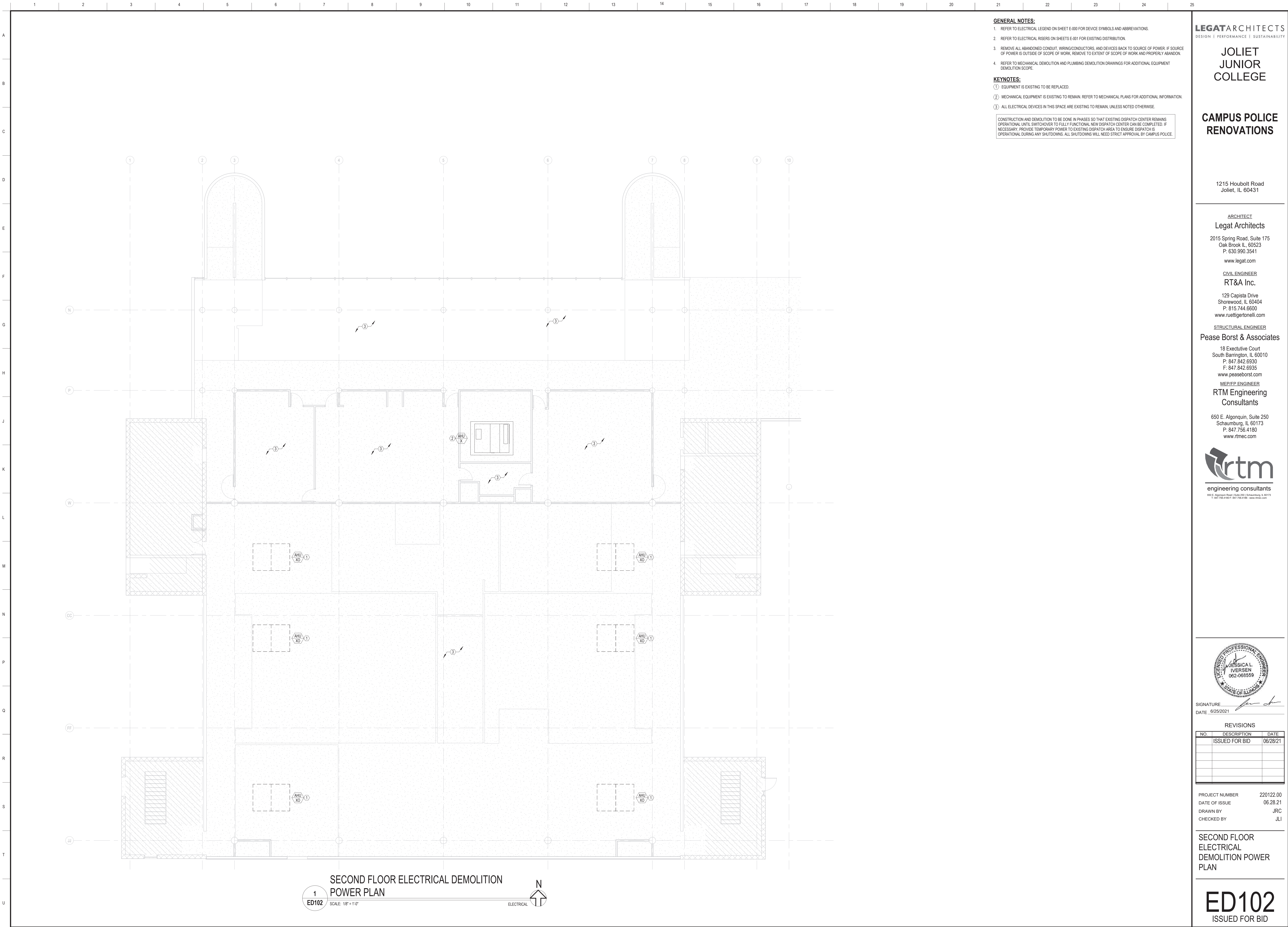
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PROJECT NUMBER 220122.00  
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FIRST FLOOR  
ELECTRICAL  
DEMOLITION POWER  
PLAN

ED101  
ISSUED FOR BID





**GENERAL NOTES:**  
1. REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.  
2. REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.  
3. REMOVE ALL ABANDONED CONDUIT, WIRING/CONDUCTORS, AND DEVICES BACK TO SOURCE OF POWER. IF SOURCE OF POWER IS OUTSIDE OF SCOPE OF WORK, REMOVE TO EXTENT OF SCOPE OF WORK AND PROPERLY ABANDON.  
4. REFER TO MECHANICAL DEMOLITION AND PLUMBING DEMOLITION DRAWINGS FOR ADDITIONAL EQUIPMENT DEMOLITION SCOPE.

**KEYNOTES:**  
(1) EQUIPMENT IS EXISTING TO BE REPLACED.  
(2) MECHANICAL EQUIPMENT IS EXISTING TO REMAIN. REFER TO MECHANICAL PLANS FOR ADDITIONAL INFORMATION.  
(3) ALL ELECTRICAL DEVICES IN THIS SPACE ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT**ARCHITECTS  
DESIGN | PERFORMANCE | SUSTAINABILITY

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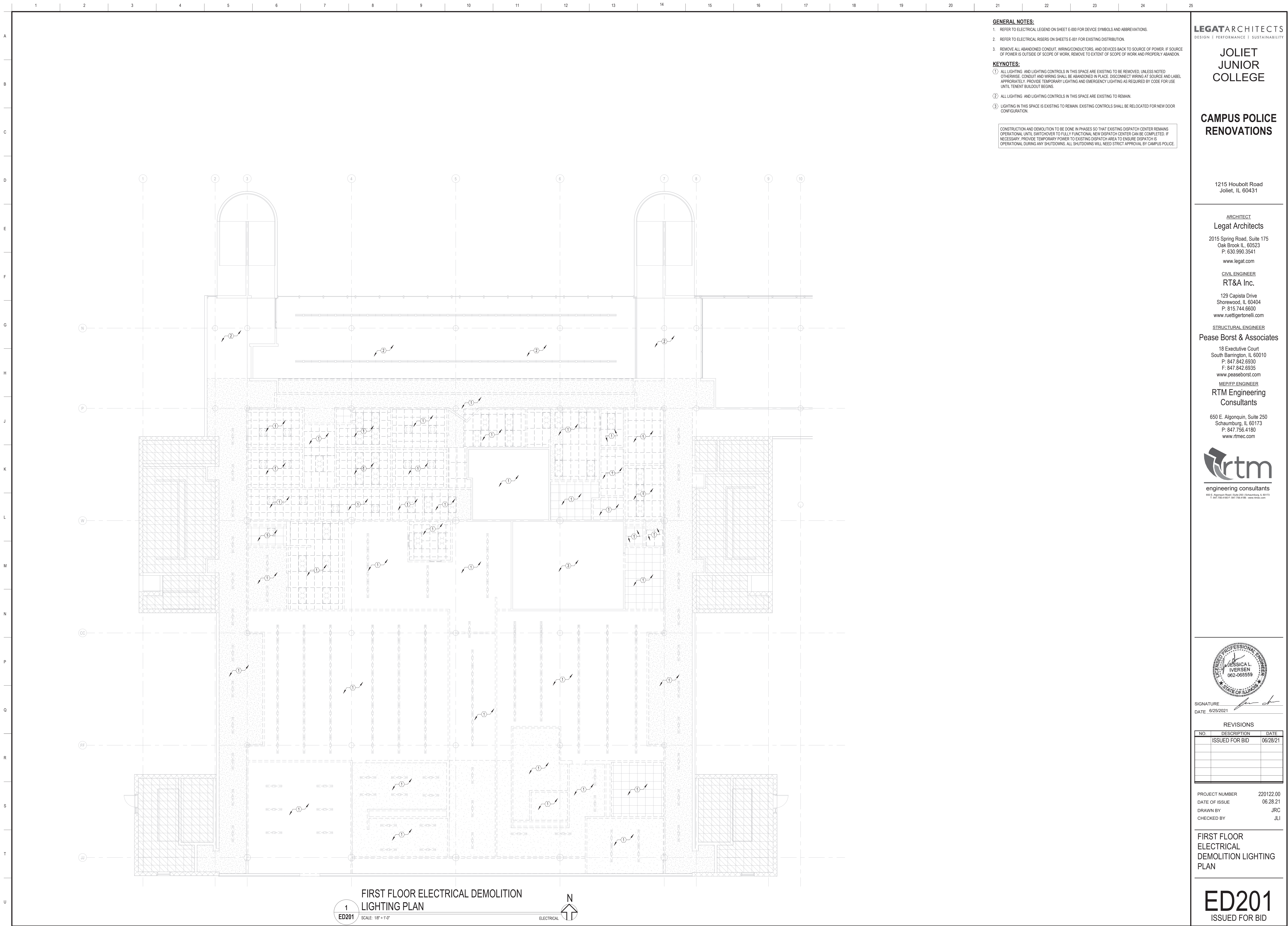
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SECOND FLOOR  
ELECTRICAL  
DEMOLITION POWER  
PLAN

**ED102**  
ISSUED FOR BID





**GENERAL NOTES:**

1. REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
3. REMOVE ALL ABANDONED CONDUIT, WIRING/CONDUCTORS, AND DEVICES BACK TO SOURCE OF POWER. IF SOURCE OF POWER IS OUTSIDE OF SCOPE OF WORK, REMOVE TO EXTENT OF SCOPE OF WORK AND PROPERLY ABANDON.

**KEYNOTES:**

- ① ALL LIGHTING AND LIGHTING CONTROLS IN THIS SPACE ARE EXISTING TO BE REMOVED, UNLESS NOTED OTHERWISE. CONDUIT AND WIRING SHALL BE ABANDONED IN PLACE. DISCONNECT WIRING AT SOURCE AND LABEL APPROPRIATELY. PROVIDE TEMPORARY LIGHTING AND EMERGENCY LIGHTING AS REQUIRED BY CODE FOR USE UNTIL TENANT BUILDOUT BEGINS.
- ② ALL LIGHTING AND LIGHTING CONTROLS IN THIS SPACE ARE EXISTING TO REMAIN.
- ③ LIGHTING IN THIS SPACE IS EXISTING TO REMAIN. EXISTING CONTROLS SHALL BE RELOCATED FOR NEW DOOR CONFIGURATION.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL. UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

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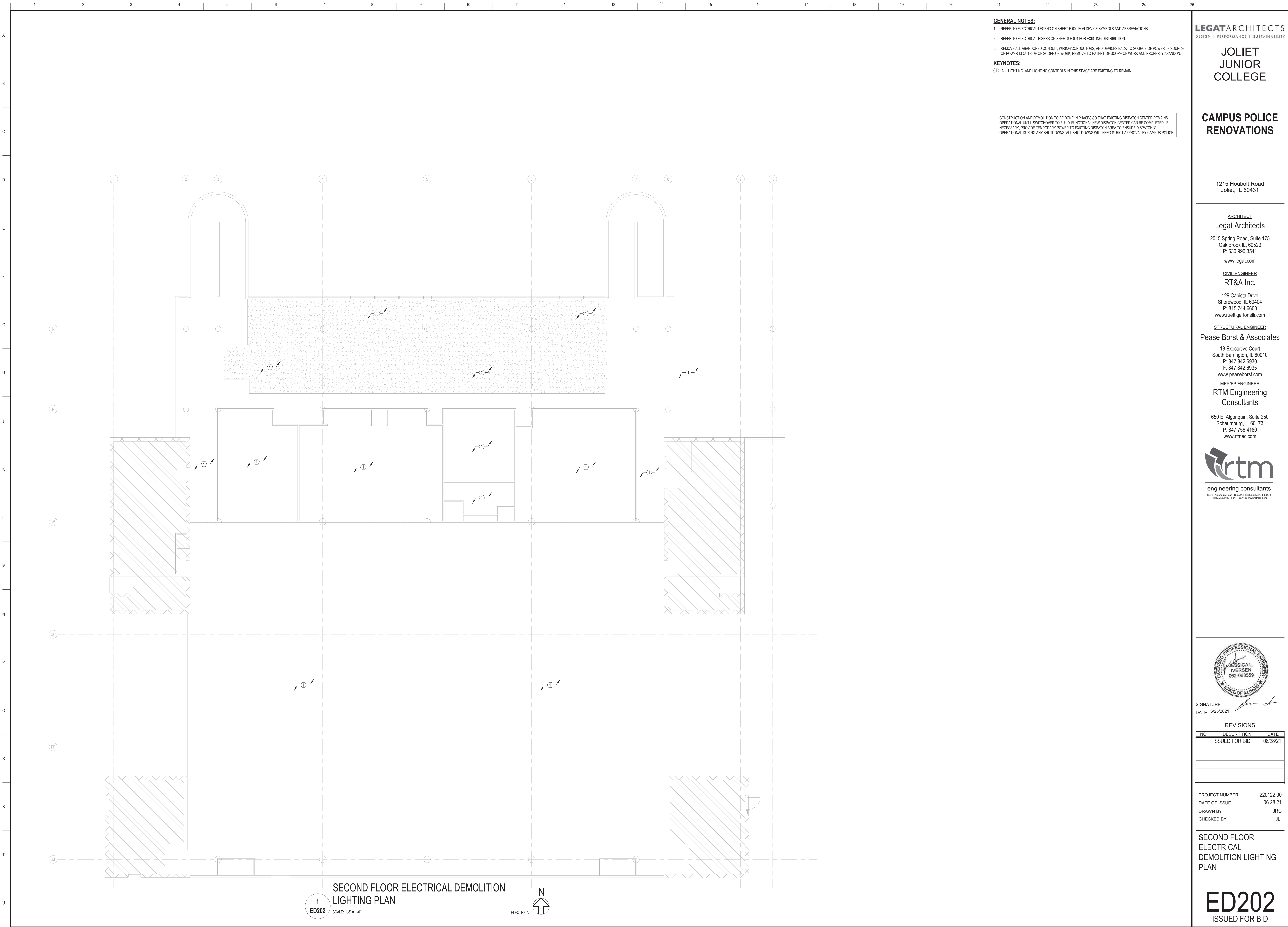
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PROJECT NUMBER 220122.00  
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FIRST FLOOR  
ELECTRICAL  
DEMOLITION LIGHTING  
PLAN

**ED201**  
ISSUED FOR BID





**GENERAL NOTES:**  
1. REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.  
2. REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.  
3. REMOVE ALL ABANDONED CONDUIT, WIRING/CONDUCTORS, AND DEVICES BACK TO SOURCE OF POWER. IF SOURCE OF POWER IS OUTSIDE OF SCOPE OF WORK, REMOVE TO EXTENT OF SCOPE OF WORK AND PROPERLY ABANDON.

**KEYNOTES:**  
① ALL LIGHTING AND LIGHTING CONTROLS IN THIS SPACE ARE EXISTING TO REMAIN.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

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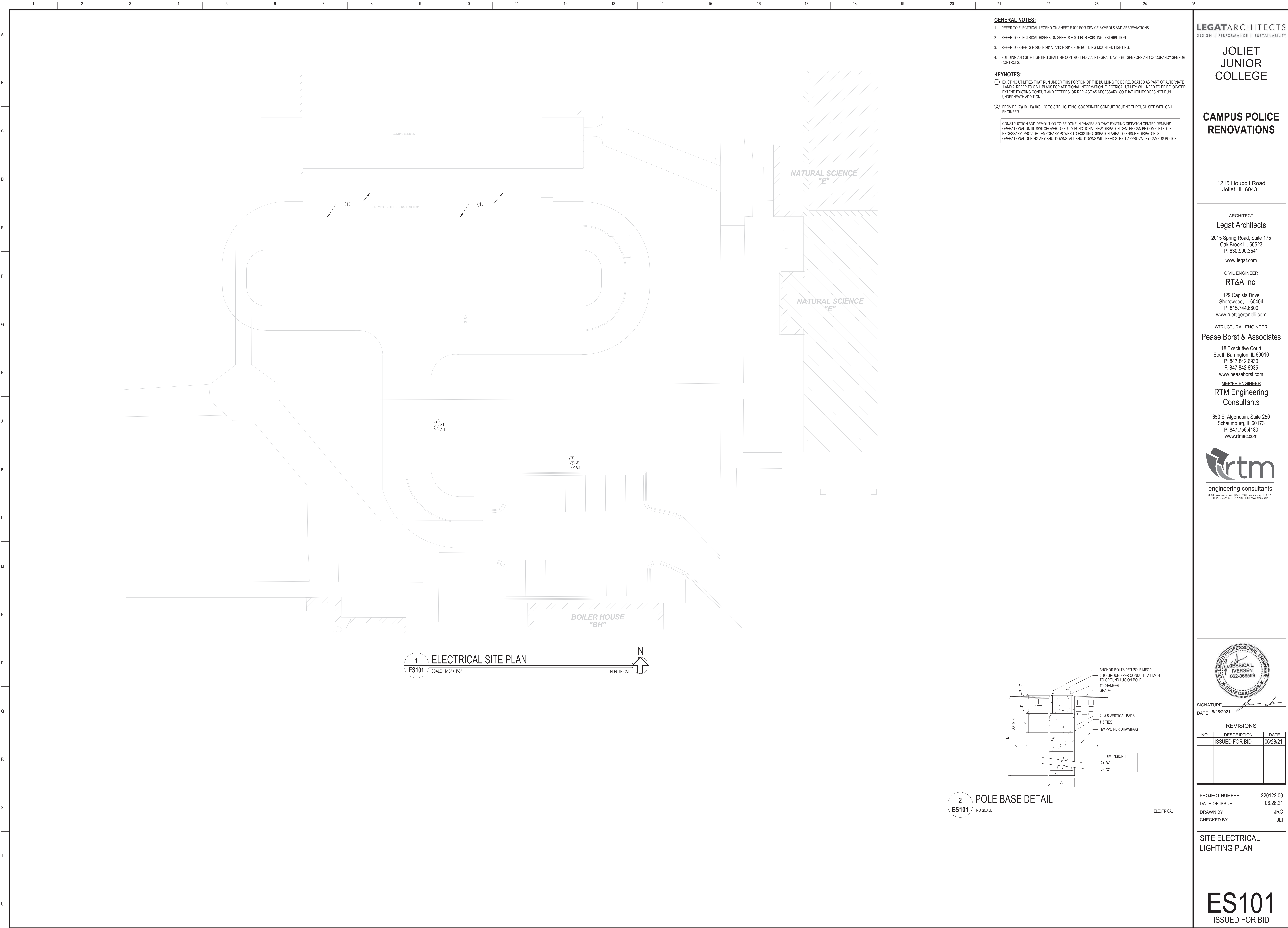
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PROJECT NUMBER 220122.00  
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**SECOND FLOOR  
ELECTRICAL  
DEMOLITION LIGHTING  
PLAN**

**ED202**  
ISSUED FOR BID





**GENERAL NOTES:**

- REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
- REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
- REFER TO SHEETS E-200, E-201A, AND E-201B FOR BUILDING-MOUNTED LIGHTING.
- BUILDING AND SITE LIGHTING SHALL BE CONTROLLED VIA INTEGRAL DAYLIGHT SENSORS AND OCCUPANCY SENSOR CONTROLS.

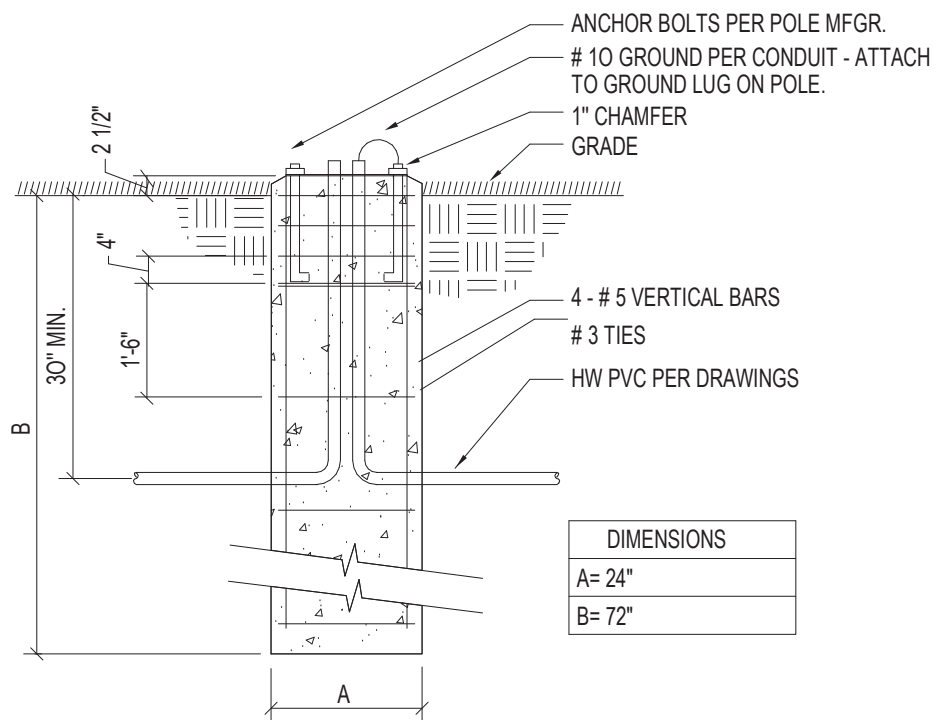
**KEYNOTES:**

① EXISTING UTILITIES THAT RUN UNDER THIS PORTION OF THE BUILDING TO BE RELOCATED AS PART OF ALTERNATE 1 AND 2. REFER TO CIVIL PLANS FOR ADDITIONAL INFORMATION. ELECTRICAL UTILITY WILL NEED TO BE RELOCATED, EXTEND EXISTING CONDUIT AND FEEDERS, OR REPLACE AS NECESSARY, SO THAT UTILITY DOES NOT RUN UNDERNEATH ADDITION.

② PROVIDE ②#10, (1)100G, 1" C TO SITE LIGHTING. COORDINATE CONDUIT ROUTING THROUGH SITE WITH CIVIL ENGINEER.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

1 **ELECTRICAL SITE PLAN**  
ES101 SCALE: 1/16" = 1'-0" ELECTRICAL



2 **POLE BASE DETAIL**  
ES101 NO SCALE ELECTRICAL

**LEGAT**ARCHITECTS  
DESIGN | PERFORMANCE | SUSTAINABILITY

**JOLIET JUNIOR COLLEGE**

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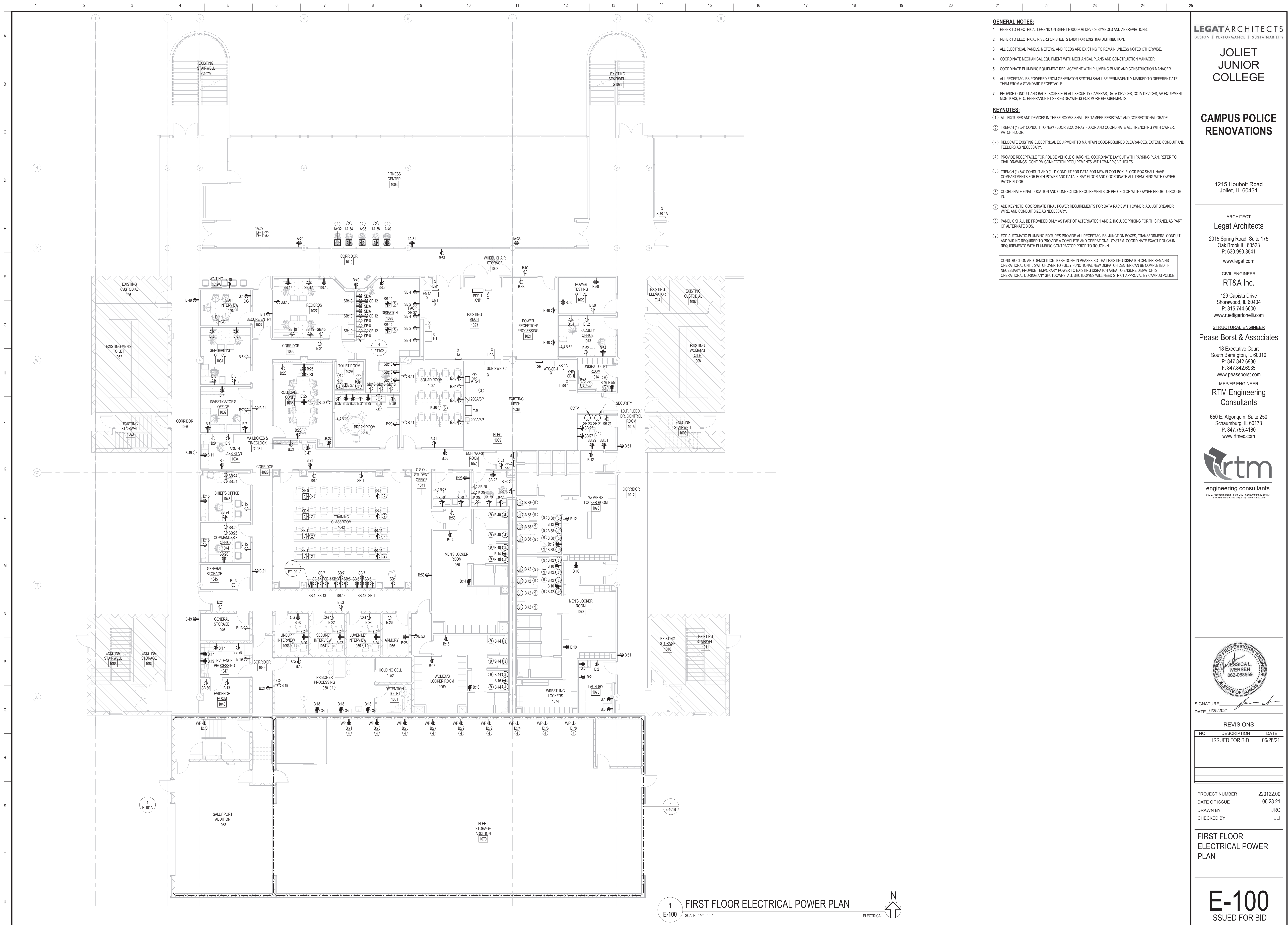
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**SITE ELECTRICAL LIGHTING PLAN**

**ES101**  
ISSUED FOR BID





- GENERAL NOTES:**
- REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  - REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  - ALL ELECTRICAL PANELS, METERS, AND FEEDS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
  - COORDINATE MECHANICAL EQUIPMENT WITH MECHANICAL PLANS AND CONSTRUCTION MANAGER.
  - COORDINATE PLUMBING EQUIPMENT REPLACEMENT WITH PLUMBING PLANS AND CONSTRUCTION MANAGER.
  - ALL RECEPTACLES POWERED FROM GENERATOR SYSTEM SHALL BE PERMANENTLY MARKED TO DIFFERENTIATE THEM FROM A STANDARD RECEPTACLE.
  - PROVIDE CONDUIT AND BACK-BOXES FOR ALL SECURITY CAMERAS, DATA DEVICES, CCTV DEVICES, AV EQUIPMENT, MONITORS, ETC. REFERENCE ET SERIES DRAWINGS FOR MORE REQUIREMENTS.
- KEYNOTES:**
- ALL FIXTURES AND DEVICES IN THESE ROOMS SHALL BE TAMPER RESISTANT AND CORRECTIONAL GRADE.
  - TRENCH (1) 3/4" CONDUIT TO NEW FLOOR BOX. X-RAY FLOOR AND COORDINATE ALL TRENCHING WITH OWNER. PATCH FLOOR.
  - RELOCATE EXISTING ELECTRICAL EQUIPMENT TO MAINTAIN CODE-REQUIRED CLEARANCES. EXTEND CONDUIT AND FEEDERS AS NECESSARY.
  - PROVIDE RECEPTACLE FOR POLICE VEHICLE CHARGING. COORDINATE LAYOUT WITH PARKING PLAN. REFER TO CIVIL DRAWINGS. CONFIRM CONNECTION REQUIREMENTS WITH OWNERS VEHICLES.
  - TRENCH (1) 3/4" CONDUIT AND (1) 1" CONDUIT FOR DATA FOR NEW FLOOR BOX. FLOOR BOX SHALL HAVE COMPARTMENTS FOR BOTH POWER AND DATA. X-RAY FLOOR AND COORDINATE ALL TRENCHING WITH OWNER. PATCH FLOOR.
  - COORDINATE FINAL LOCATION AND CONNECTION REQUIREMENTS OF PROJECTOR WITH OWNER PRIOR TO ROUGH-IN.
  - ADD KEYNOTE. COORDINATE FINAL POWER REQUIREMENTS FOR DATA RACK WITH OWNER. ADJUST BREAKER, WIRE, AND CONDUIT SIZE AS NECESSARY.
  - PANEL C SHALL BE PROVIDED ONLY AS PART OF ALTERNATES 1 AND 2. INCLUDE PRICING FOR THIS PANEL AS PART OF ALTERNATE BIDS.
  - FOR AUTOMATIC PLUMBING FIXTURES PROVIDE ALL RECEPTACLES, JUNCTION BOXES, TRANSFORMERS, CONDUIT, AND WIRING REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. COORDINATE EXACT ROUGH-IN REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

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**CAMPUS POLICE RENOVATIONS**

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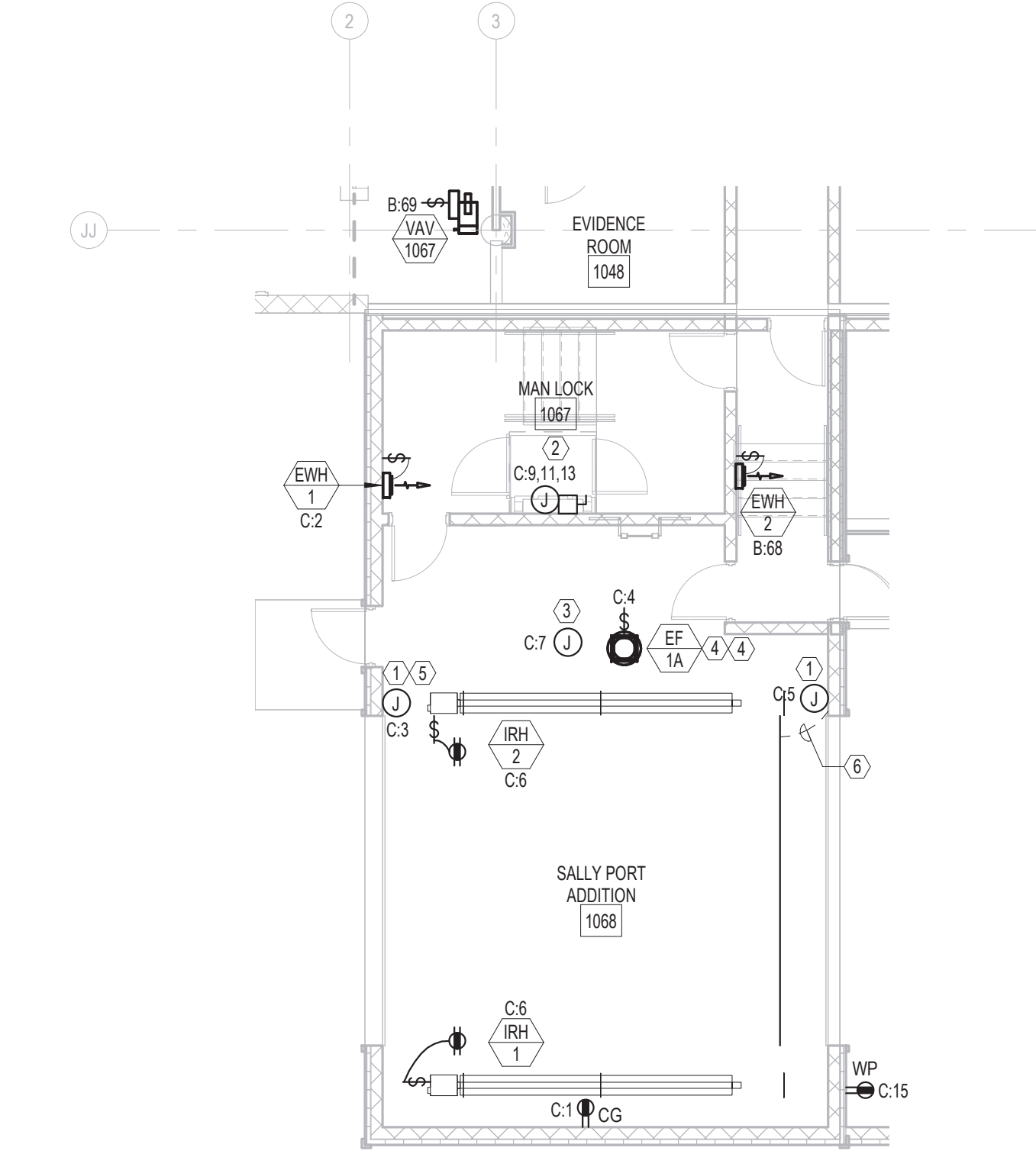
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PROJECT NUMBER 220122.00  
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**FIRST FLOOR ELECTRICAL POWER PLAN**

**E-100**  
ISSUED FOR BID





**ELECTRICAL - ALTERNATE 1**  
**SALLY PORT - POWER PLAN**  
1  
E-101A SCALE: 1/8" = 1'-0" ELECTRICAL

- GENERAL NOTES:**
- REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  - REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  - ALL ELECTRICAL PANELS, METERS, AND FEEDS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
  - COORDINATE MECHANICAL EQUIPMENT WITH MECHANICAL PLANS AND CONSTRUCTION MANAGER.
  - COORDINATE PLUMBING EQUIPMENT REPLACEMENT WITH PLUMBING PLANS AND CONSTRUCTION MANAGER.
  - PROVIDE CONDUIT AND BACK-BOXES FOR ALL SECURITY CAMERAS, DATA DEVICES, CCTV DEVICES, AV EQUIPMENT, MONITORS, ETC. REFERENCE ET SERIES DRAWINGS FOR MORE REQUIREMENTS.
- KEYNOTES:**
- PROVIDE 120V POWER TO OVERHEAD DOOR. COORDINATE EXACT CONNECTION REQUIREMENTS AND DOOR OPERATOR LOCATION WITH OWNER.
  - PROVIDE DISCONNECT AND ALL NECESSARY CONNECTIONS FOR WHEELCHAIR LIFT. CONFIRM ALL CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION.
  - PROVIDE CEILING MOUNTED JUNCTION BOX WITH CORD TO POWER VEHICLES. CORD SHALL HAVE (1) NEMA 5-30P CONNECTION AT VEHICLE END AND A DIRECT CONNECTION TO CEILING JUNCTION BOX. ADDITIONALLY PROVIDE A 12" CORD WITH MALE TO FEMALE ENDS PLUGGED INTO VEHICLE END. COORDINATE EXACT LOCATION AND CORD LENGTH WITH OWNER. PROVIDE KELLUM GRIPS ATTACHED TO STRUCTURE FOR CORD STRAIN-RELIEF.
  - FAN SHALL BE CONTROLLED THROUGH TOXALERT SYSTEM AND SHALL ALSO BE PROVIDED WITH MANUAL SUMMER VENTILATION OVERRIDE SWITCH. COORDINATE LOCATION OF SWITCH WITH OWNER.
  - COORDINATE CONTROLS AND CONNECTION WITH CARD READER WITH MANUFACTURER.
  - PROVIDE 1" CONDUIT FOR VEHICLE DETECTOR LOOP. COORDINATE LOCATION AND REQUIREMENTS WITH ARCHITECT. COORDINATE CONTROLS AND CONNECTION TO OVERHEAD DOOR WITH MANUFACTURER.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

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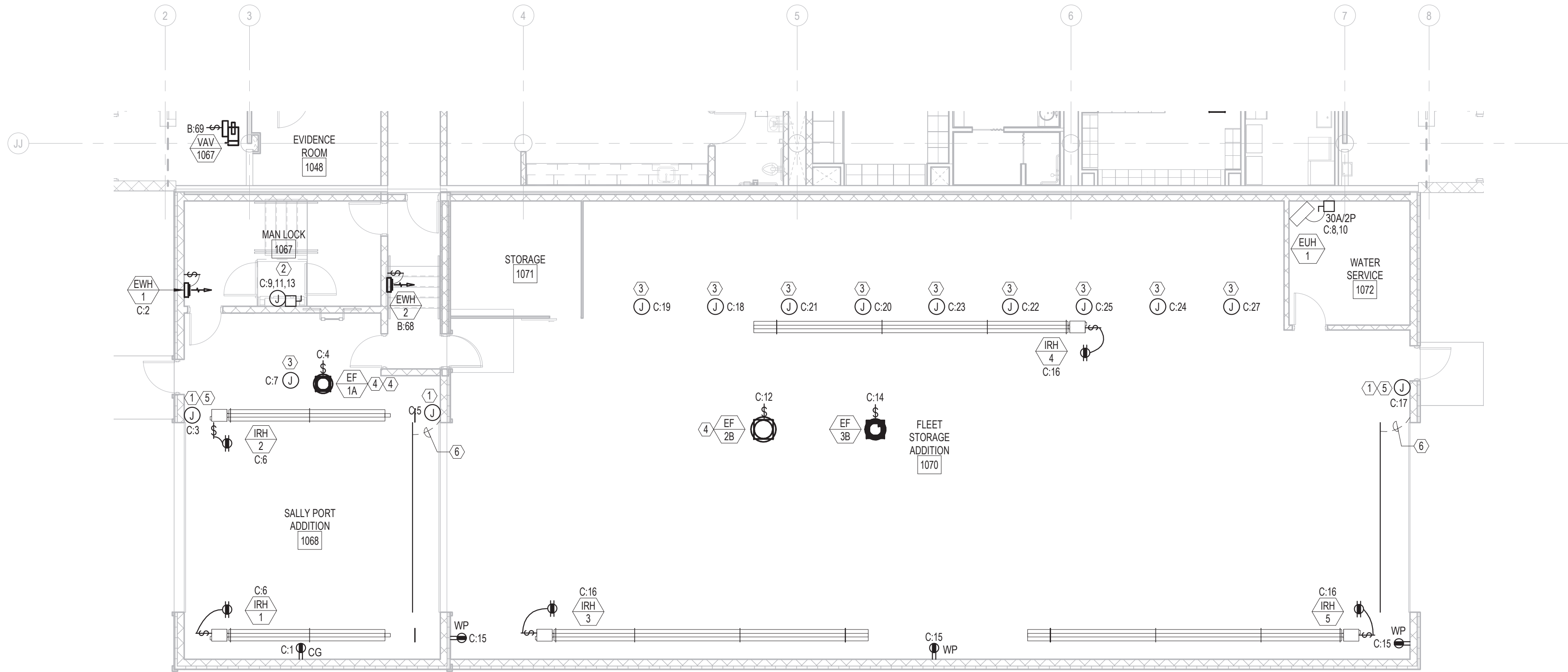
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**ALTERNATE #1 -  
ELECTRICAL POWER  
PLAN**

**E-101A**  
ISSUED FOR BID





ELECTRICAL - ALTERNATE 2  
SALLY PORT & FLEET STORAGE - POWER PLAN  
1  
E-101B  
SCALE: 1/8" = 1'-0"  
ELECTRICAL

- GENERAL NOTES:**
- REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  - REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  - ALL ELECTRICAL PANELS, METERS, AND FEEDS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
  - COORDINATE MECHANICAL EQUIPMENT WITH MECHANICAL PLANS AND CONSTRUCTION MANAGER.
  - COORDINATE PLUMBING EQUIPMENT REPLACEMENT WITH PLUMBING PLANS AND CONSTRUCTION MANAGER.
  - PROVIDE CONDUIT AND BACK-BOXES FOR ALL SECURITY CAMERAS, DATA DEVICES, CCTV DEVICES, AV EQUIPMENT, MONITORS, ETC. REFERENCE ET SERIES DRAWINGS FOR MORE REQUIREMENTS.
- KEYNOTES:**
- PROVIDE 120V POWER TO OVERHEAD DOOR. COORDINATE EXACT CONNECTION REQUIREMENTS AND DOOR OPERATOR LOCATION WITH OWNER.
  - PROVIDE DISCONNECT AND ALL NECESSARY CONNECTIONS FOR WHEELCHAIR LIFT. CONFIRM ALL CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION.
  - PROVIDE CEILING MOUNTED JUNCTION BOX WITH CORD TO POWER VEHICLES. CORD SHALL HAVE (1) NEMA 5-20P CONNECTION AT VEHICLE END AND A DIRECT CONNECTION TO CEILING JUNCTION BOX. ADDITIONALLY PROVIDE A 12' CORD WITH MALE TO FEMALE ENDS PLUGGED INTO VEHICLE END. COORDINATE EXACT LOCATION AND CORD LENGTH WITH OWNER. PROVIDE KELLUM GRIPS ATTACHED TO STRUCTURE FOR CORD STRAIN-RELIEF.
  - FAN SHALL BE CONTROLLED THROUGH TONALERT SYSTEM AND SHALL ALSO BE PROVIDED WITH MANUAL SUMMER VENTILATION OVERRIDE SWITCH. COORDINATE LOCATION OF SWITCH WITH OWNER.
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  - PROVIDE 1" CONDUIT FOR VEHICLE DETECTOR LOOP. COORDINATE LOCATION AND REQUIREMENTS WITH ARCHITECT. COORDINATE CONTROLS AND CONNECTION TO OVERHEAD DOOR WITH MANUFACTURER.

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LEGAT ARCHITECTS  
DESIGN | PERFORMANCE | SUSTAINABILITY

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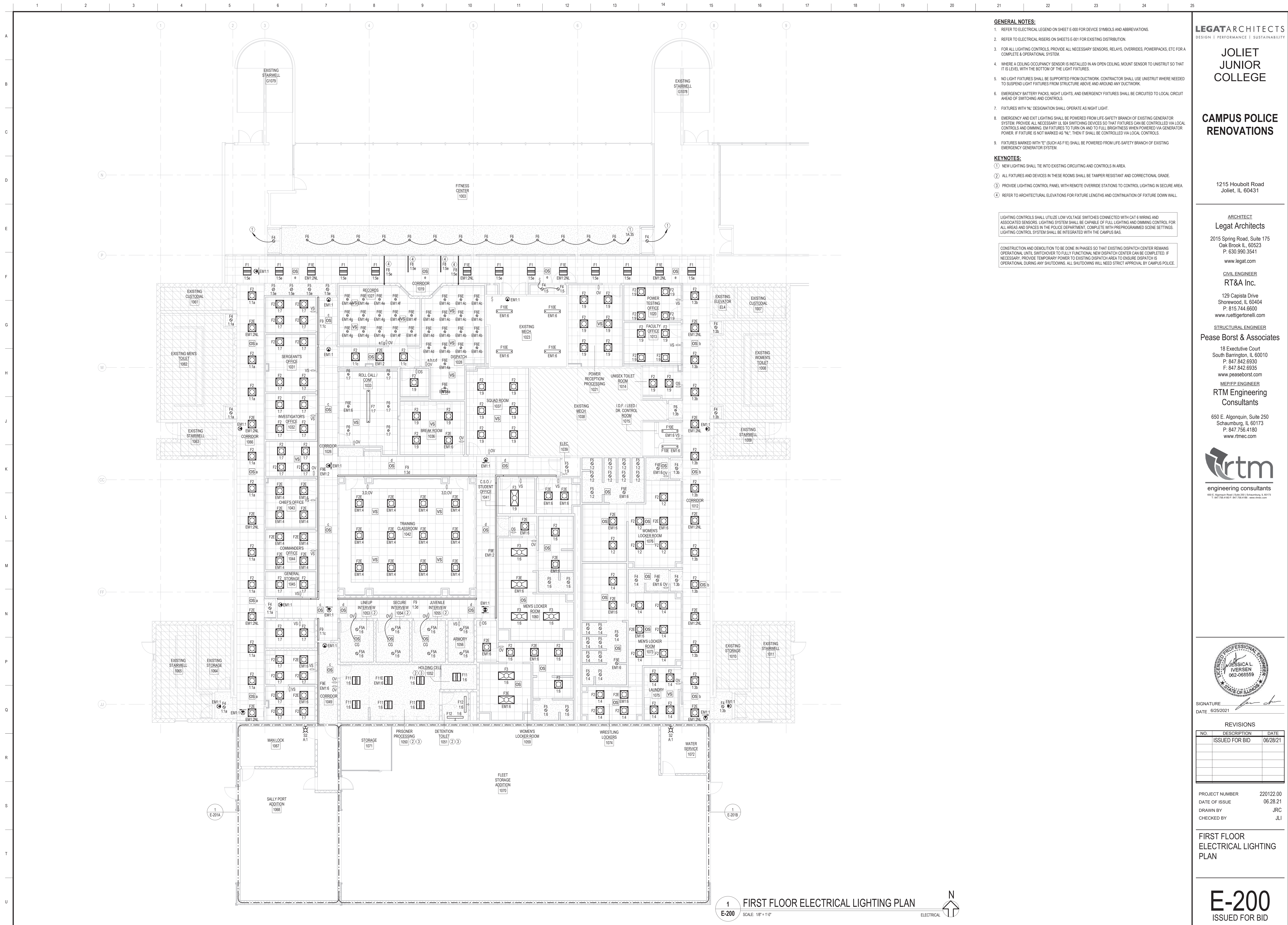
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ALTERNATE #2 -  
ELECTRICAL POWER  
PLAN

E-101B  
ISSUED FOR BID





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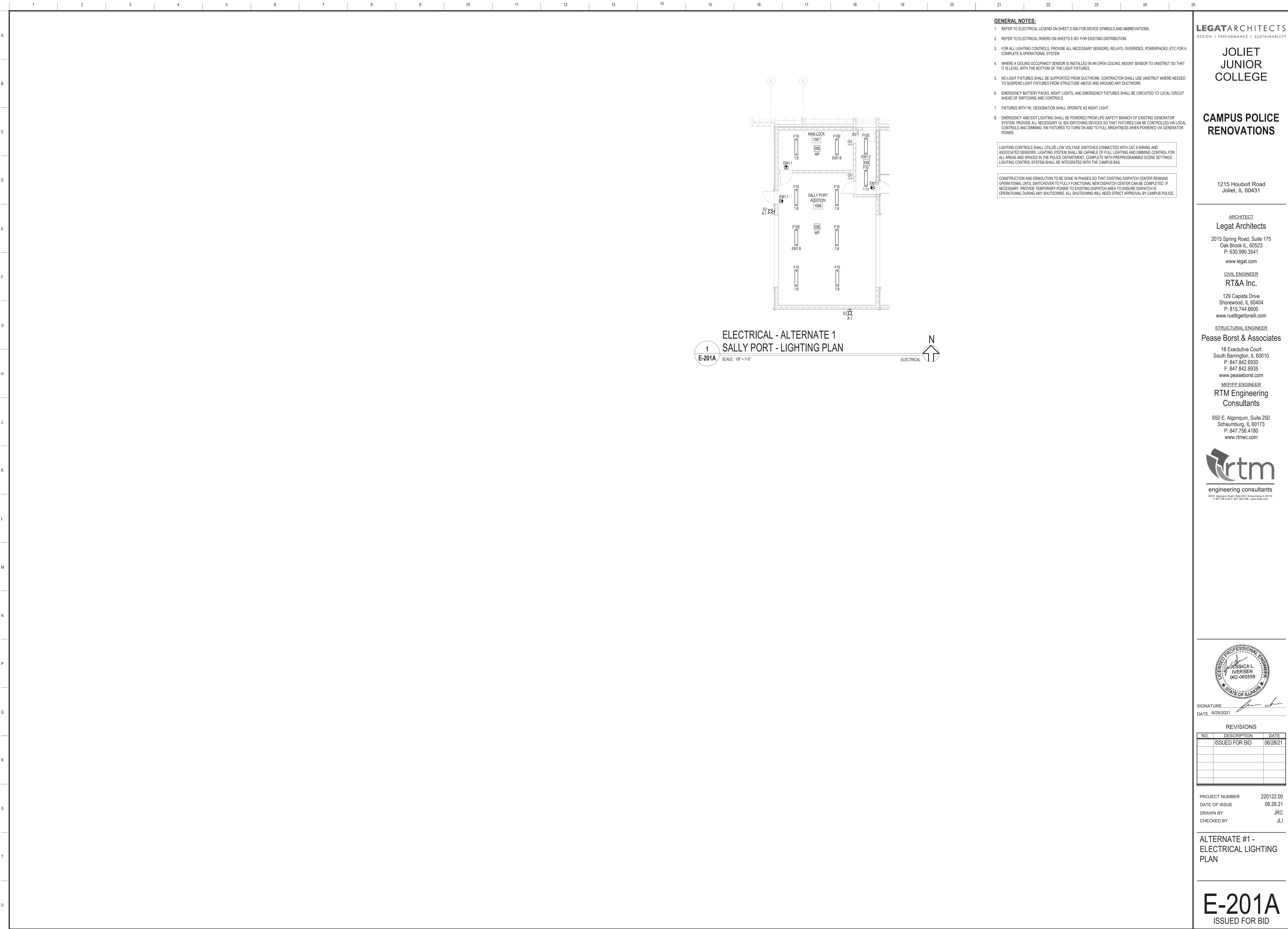
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PROJECT NUMBER 220122.00  
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FIRST FLOOR  
ELECTRICAL LIGHTING  
PLAN

E-200  
ISSUED FOR BID





- GENERAL NOTES:**
1. REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  2. REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  3. FOR ALL LIGHTING CONTROLS, PROVIDE ALL NECESSARY SENSORS, RELAYS, OVERRIDES, POWERPACKS, ETC FOR A COMPLETE & OPERATIONAL SYSTEM.
  4. WHERE A CEILING OCCUPANCY SENSOR IS INSTALLED IN AN OPEN CEILING, MOUNT SENSOR TO UNISTRUT SO THAT IT IS LEVEL WITH THE BOTTOM OF THE LIGHT FIXTURES.
  5. NO LIGHT FIXTURES SHALL BE SUPPORTED FROM DUCTWORK. CONTRACTOR SHALL USE UNISTRUT WHERE NEEDED TO SUSPEND LIGHT FIXTURES FROM STRUCTURE ABOVE AND AROUND ANY DUCTWORK.
  6. EMERGENCY BATTERY PACKS, NIGHT LIGHTS, AND EMERGENCY FIXTURES SHALL BE CIRCUITED TO LOCAL CIRCUIT AHEAD OF SWITCHING AND CONTROLS.
  7. FIXTURES WITH 'NL' DESIGNATION SHALL OPERATE AS NIGHT LIGHT.
  8. EMERGENCY AND EXIT LIGHTING SHALL BE POWERED FROM LIFE-SAFETY BRANCH OF EXISTING GENERATOR SYSTEM. PROVIDE ALL NECESSARY UL 924 SWITCHING DEVICES SO THAT FIXTURES CAN BE CONTROLLED VIA LOCAL CONTROLS AND DIMMING. EM FIXTURES TO TURN ON AND TO FULL BRIGHTNESS WHEN POWERED VIA GENERATOR POWER.

LIGHTING CONTROLS SHALL UTILIZE LOW VOLTAGE SWITCHES CONNECTED WITH CAT 6 WIRING AND ASSOCIATED SENSORS. LIGHTING SYSTEM SHALL BE CAPABLE OF FULL LIGHTING AND DIMMING CONTROL FOR ALL AREAS AND SPACES IN THE POLICE DEPARTMENT. COMPLETE WITH PREPROGRAMMED SCENE SETTINGS. LIGHTING CONTROL SYSTEM SHALL BE INTEGRATED WITH THE CAMPUS BAS.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT**ARCHITECTS  
DESIGN | PERFORMANCE | SUSTAINABILITY

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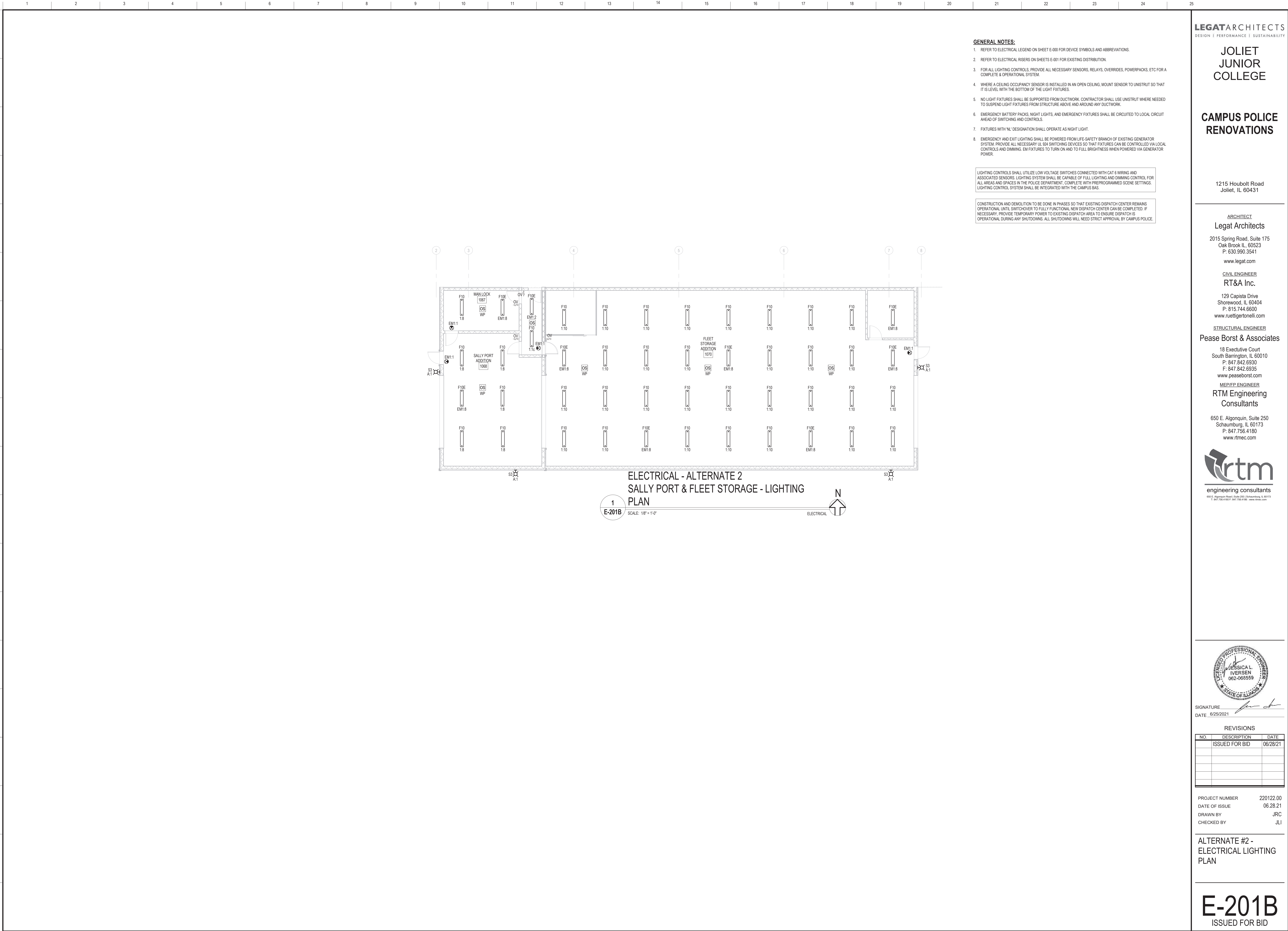
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**ALTERNATE #1 -  
ELECTRICAL LIGHTING  
PLAN**

**E-201A**  
ISSUED FOR BID





- GENERAL NOTES:**
1. REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  2. REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  3. FOR ALL LIGHTING CONTROLS, PROVIDE ALL NECESSARY SENSORS, RELAYS, OVERRIDES, POWERPACKS, ETC FOR A COMPLETE & OPERATIONAL SYSTEM.
  4. WHERE A CEILING OCCUPANCY SENSOR IS INSTALLED IN AN OPEN CEILING, MOUNT SENSOR TO UNISTRUT SO THAT IT IS LEVEL WITH THE BOTTOM OF THE LIGHT FIXTURES.
  5. NO LIGHT FIXTURES SHALL BE SUPPORTED FROM DUCTWORK. CONTRACTOR SHALL USE UNISTRUT WHERE NEEDED TO SUSPEND LIGHT FIXTURES FROM STRUCTURE ABOVE AND AROUND ANY DUCTWORK.
  6. EMERGENCY BATTERY PACKS, NIGHT LIGHTS, AND EMERGENCY FIXTURES SHALL BE CIRCUITED TO LOCAL CIRCUIT AHEAD OF SWITCHING AND CONTROLS.
  7. FIXTURES WITH 'NL' DESIGNATION SHALL OPERATE AS NIGHT LIGHT.
  8. EMERGENCY AND EXIT LIGHTING SHALL BE POWERED FROM LIFE-SAFETY BRANCH OF EXISTING GENERATOR SYSTEM. PROVIDE ALL NECESSARY UL 924 SWITCHING DEVICES SO THAT FIXTURES CAN BE CONTROLLED VIA LOCAL CONTROLS AND DIMMING. EM FIXTURES TO TURN ON AND TO FULL BRIGHTNESS WHEN POWERED VIA GENERATOR POWER.

LIGHTING CONTROLS SHALL UTILIZE LOW VOLTAGE SWITCHES CONNECTED WITH CAT 6 WIRING AND ASSOCIATED SENSORS. LIGHTING SYSTEM SHALL BE CAPABLE OF FULL LIGHTING AND DIMMING CONTROL FOR ALL AREAS AND SPACES IN THE POLICE DEPARTMENT. COMPLETE WITH PREPROGRAMMED SCENE SETTINGS. LIGHTING CONTROL SYSTEM SHALL BE INTEGRATED WITH THE CAMPUS BAS.

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**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

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**PROFESSIONAL ENGINEER**  
**JESSICA L. IVERSEN**  
062-068559  
STATE OF ILLINOIS

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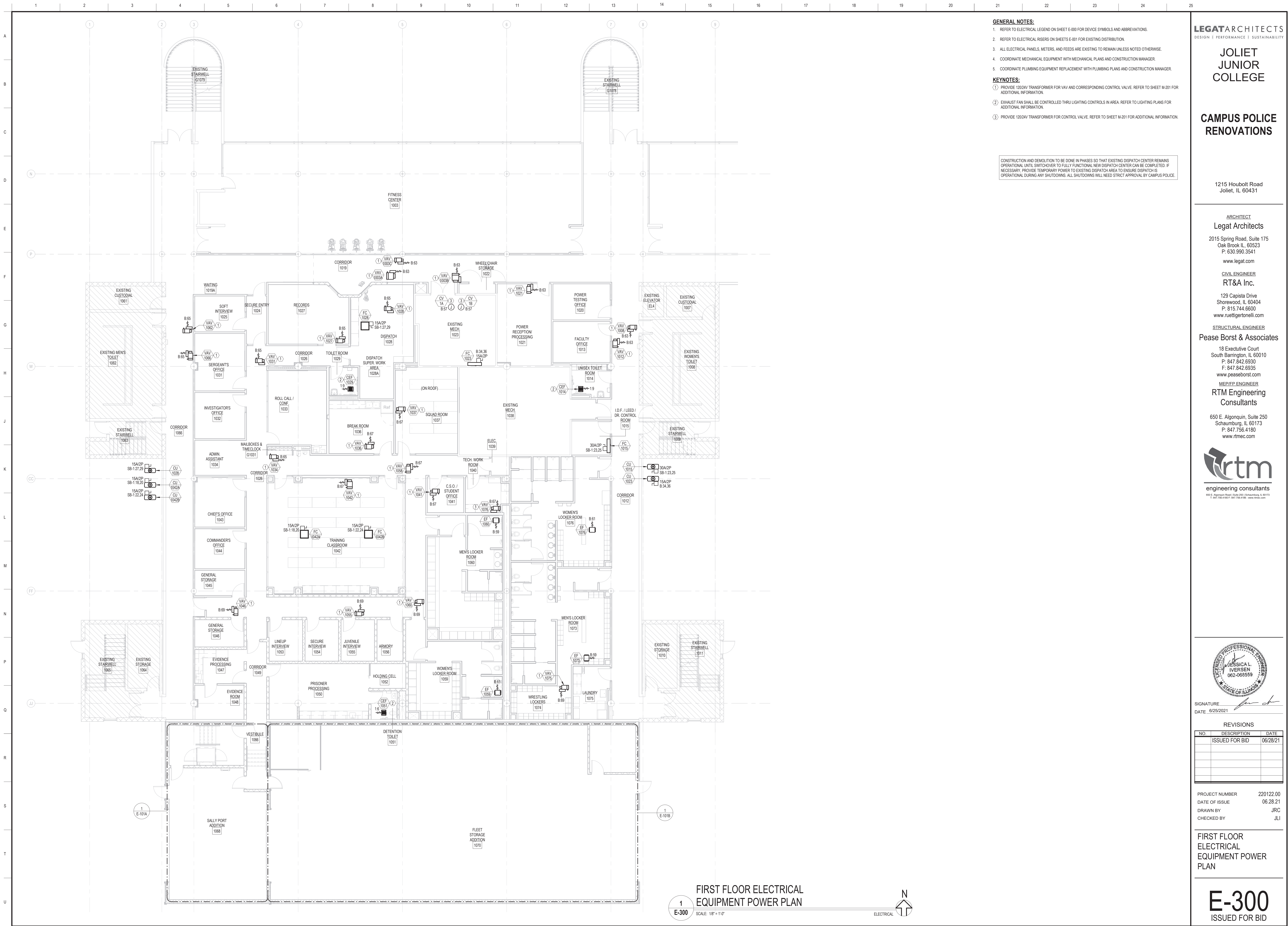
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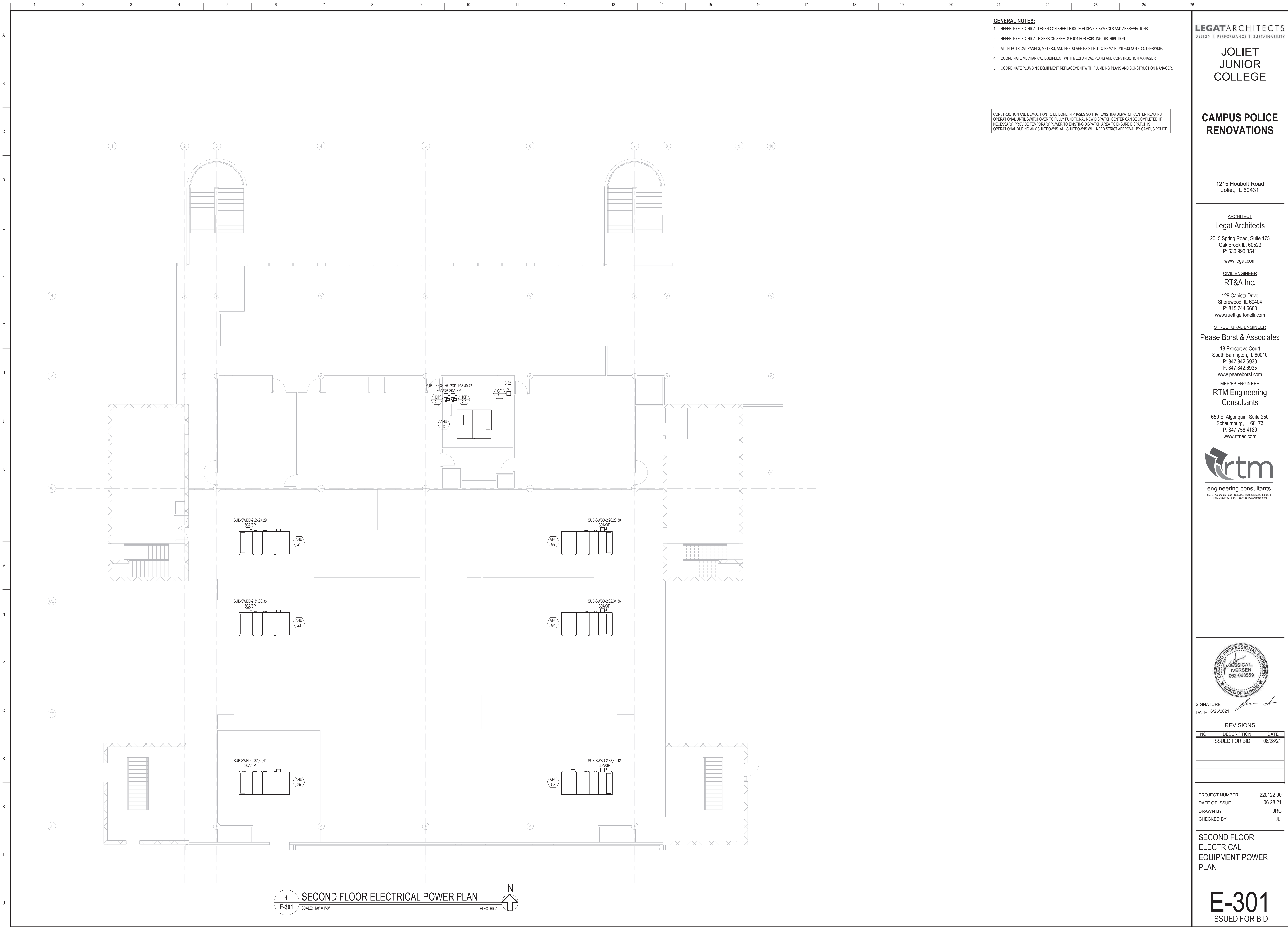
**ALTERNATE #2 - ELECTRICAL LIGHTING PLAN**

**E-201B**  
ISSUED FOR BID









- GENERAL NOTES:**
1. REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  2. REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  3. ALL ELECTRICAL PANELS, METERS, AND FEEDS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
  4. COORDINATE MECHANICAL EQUIPMENT WITH MECHANICAL PLANS AND CONSTRUCTION MANAGER.
  5. COORDINATE PLUMBING EQUIPMENT REPLACEMENT WITH PLUMBING PLANS AND CONSTRUCTION MANAGER.

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**LEGAT ARCHITECTS**  
DESIGN | PERFORMANCE | SUSTAINABILITY

**JOLIET  
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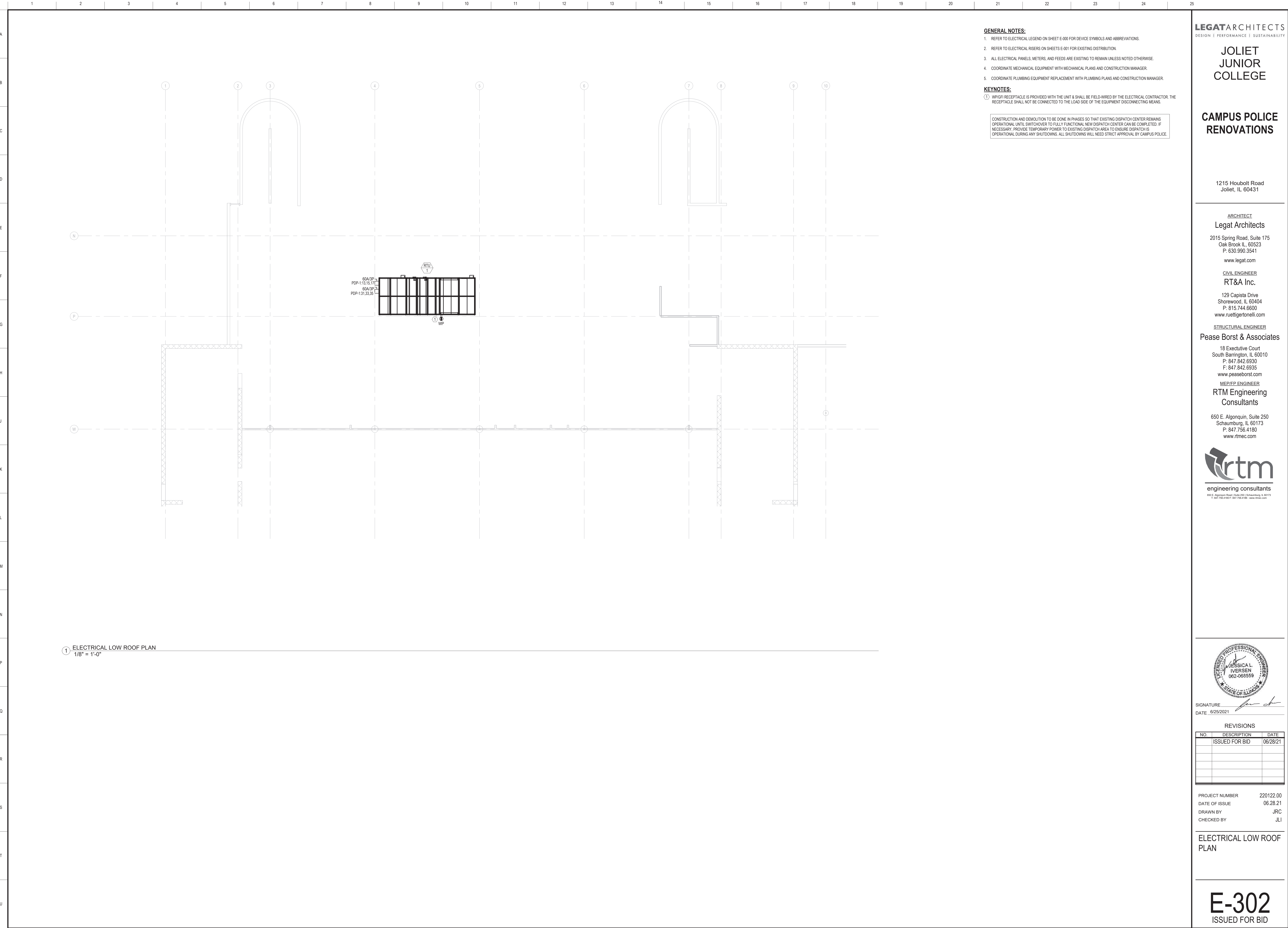
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**SECOND FLOOR  
ELECTRICAL  
EQUIPMENT POWER  
PLAN**

**E-301**  
ISSUED FOR BID





- GENERAL NOTES:**
- REFER TO ELECTRICAL LEGEND ON SHEET E-000 FOR DEVICE SYMBOLS AND ABBREVIATIONS.
  - REFER TO ELECTRICAL RISERS ON SHEETS E-001 FOR EXISTING DISTRIBUTION.
  - ALL ELECTRICAL PANELS, METERS, AND FEEDS ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
  - COORDINATE MECHANICAL EQUIPMENT WITH MECHANICAL PLANS AND CONSTRUCTION MANAGER.
  - COORDINATE PLUMBING EQUIPMENT REPLACEMENT WITH PLUMBING PLANS AND CONSTRUCTION MANAGER.

**KEYNOTES:**

① WPOF RECEPTACLE IS PROVIDED WITH THE UNIT & SHALL BE FIELD-WIRED BY THE ELECTRICAL CONTRACTOR. THE RECEPTACLE SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT DISCONNECTING MEANS.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

**LEGAT** ARCHITECTS  
DESIGN | PERFORMANCE | SUSTAINABILITY

**JOLIET  
JUNIOR  
COLLEGE**

**CAMPUS POLICE  
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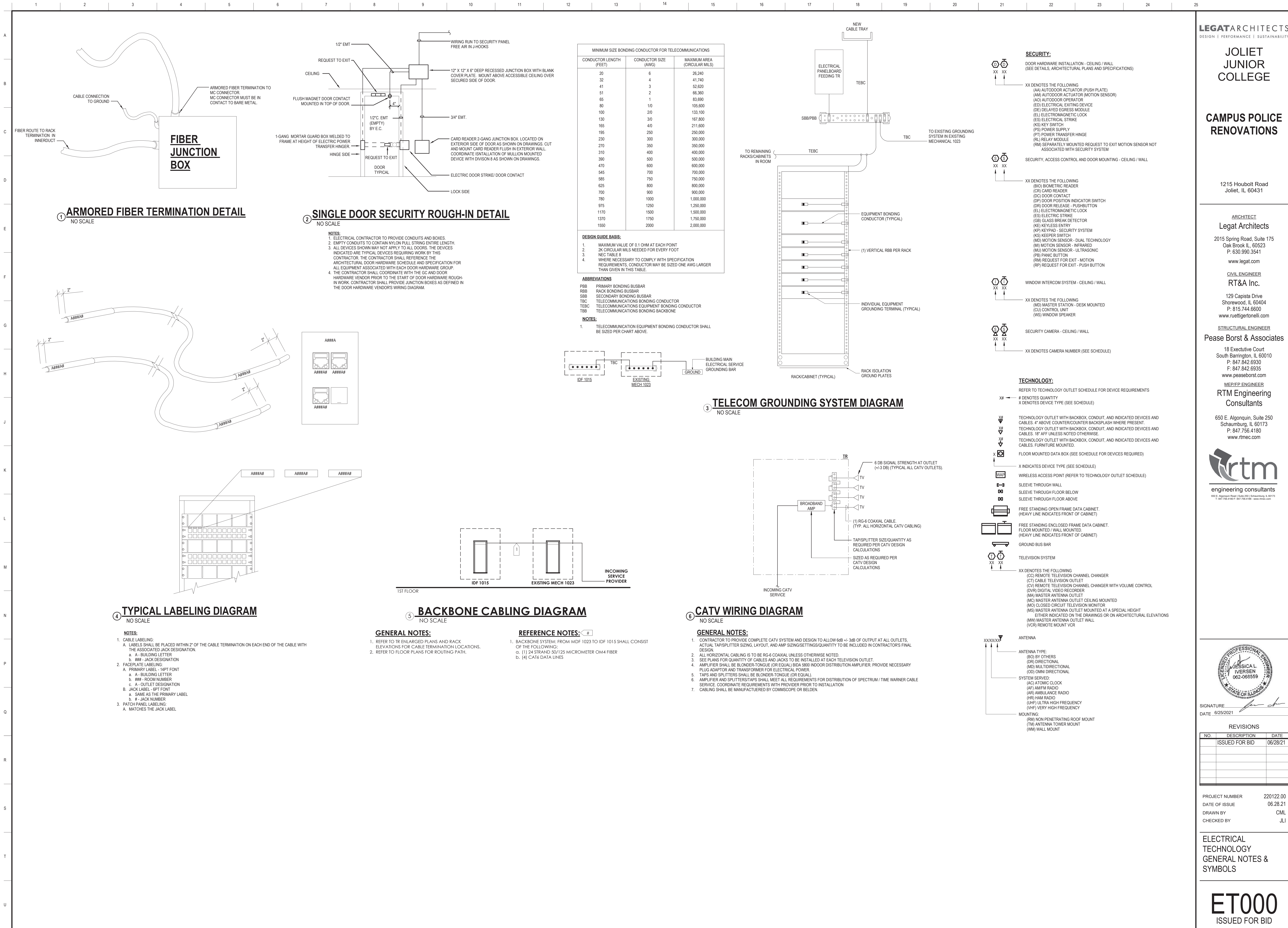
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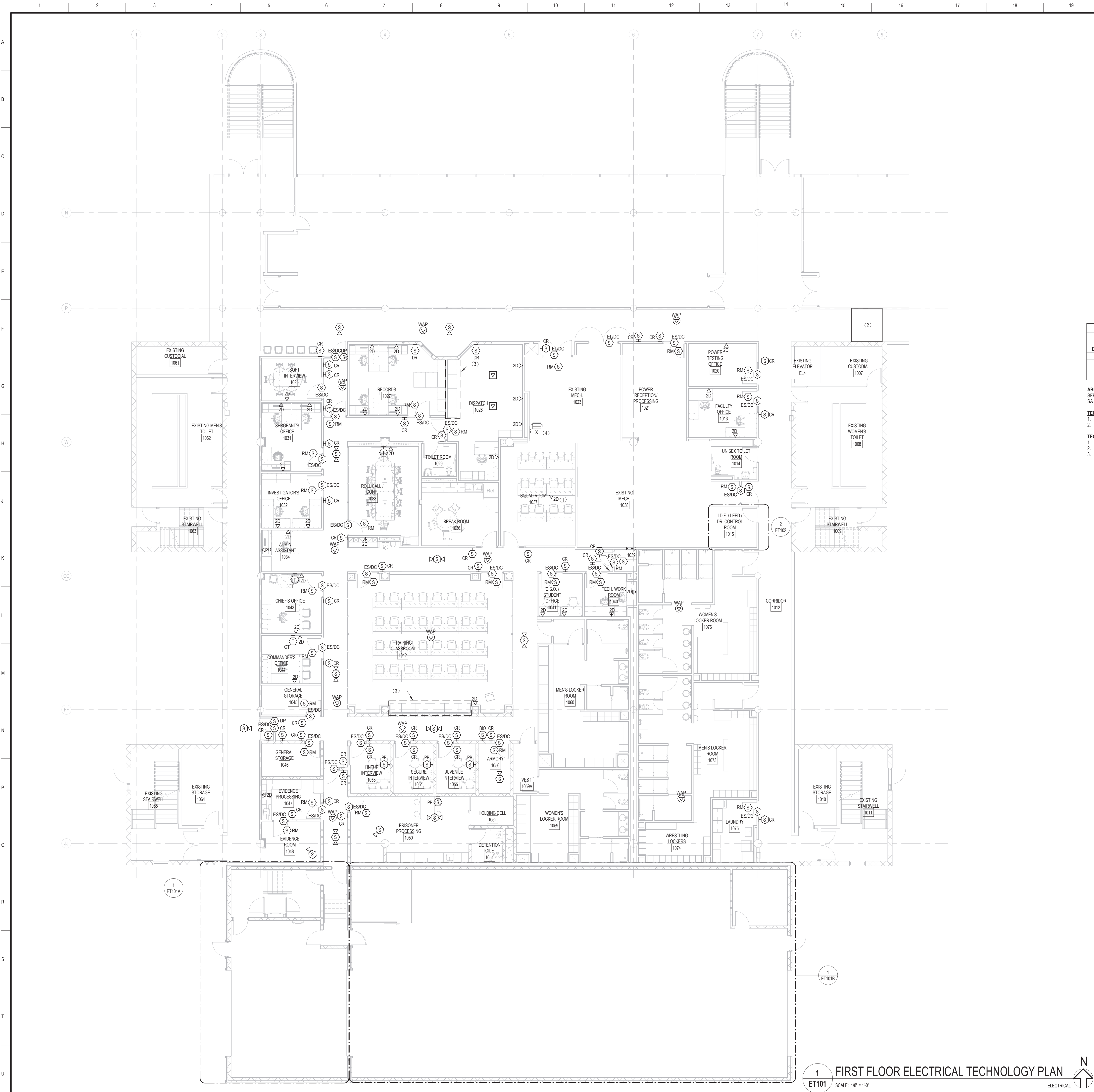
**ELECTRICAL LOW ROOF  
PLAN**

**E-302**  
ISSUED FOR BID









GENERAL NOTES:

- REFER TO SYMBOLS ON SHEET ET000 AND PROJECT SPECIFICATIONS FOR CONSTRUCTION STANDARDS.
- ALL CEILING MOUNTED DEVICES SHALL BE CENTERED AND BETWEEN ARCHITECTURAL ELEMENTS IN DRYWALL SOFFITS/CEILING. ALL CEILING MOUNTED DEVICES SHALL BE INSTALLED AT MID OR QUARTER POINTS OF ACOUSTICAL CEILING PANELS UNLESS NOTED OTHERWISE.
- COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECTURAL ELEVATIONS.
- COORDINATE GROMMETS THROUGH COUNTER/TABLE TOPS IF EQUIPMENT OUTLET IS LOCATED BELOW COUNTER/TABLE TOP.
- ELECTRICAL CONTRACTOR TO PROVIDE CABLING FOR CAMERAS, ACCESS CONTROL, WAPS, AND DATA LOCATIONS. ALL CABLING SHALL BE ROUTED TO IDF/LEED/DR CONTROL ROOM 1015 UNLESS NOTED OTHERWISE. REFER TO SCHEDULE ON THIS SHEET FOR CABLING REQUIREMENTS.
- ALL CABLING TO BE COLOR CODED PER OWNER STANDARDS.
- OWNER TO PROVIDE AND INSTALL ALL WAPS, PHONES, SECURITY CAMERAS, CARD READERS AND NETWORK SWITCHES. OWNER TO PROVIDE ELECTRIC STRIKES AND PANIC HARDWARE. CONTRACTOR TO MAKE FINAL TERMINATIONS. COORDINATE ALL FINAL DEVICE LOCATIONS WITH THE OWNER PRIOR TO ROUGH-IN.
- REFER TO DETAIL 2ET000 FOR DOOR SECURITY ROUGH-IN REQUIREMENTS.

KEYNOTES:

- PROVIDE A CEILING MOUNTED DATA RECEPTACLE FOR THE OWNER PROVIDED PROJECTOR. COORDINATE FINAL LOCATION WITH THE OWNER PRIOR TO ROUGH-IN.
- APPROXIMATE LOCATION OF SECOND FLOOR ELECTRICAL CLOSET CONTAINING THE TELEVISION ANTENNA.
- REFER TO DETAIL 4ET102 FOR INSTALLATION REQUIREMENTS.
- EXISTING PHONE BLOCKS AND DATA RACK TO REMAIN.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

SCOPE NOTE:  
CONTRACTOR TO WORK WITH THE OWNER'S CURRENT DISPATCH SYSTEM VENDOR (DIGITAL SKY) TO RELOCATE THE EXISTING EQUIPMENT. THE DISPATCH AREA WILL BE OPERATING DURING CONSTRUCTION. COORDINATE ALL NECESSARY DOWNTIMES WITH THE CAMPUS POLICE.

| TECHNOLOGY OUTLET SCHEDULE |                       |                 |                 |                 |             |             |         |
|----------------------------|-----------------------|-----------------|-----------------|-----------------|-------------|-------------|---------|
| DEVICE TYPE                | DESCRIPTION           | OUTLET TYPE     | MOUNTING HEIGHT | DATA CABLES     |             |             | REMARKS |
|                            |                       |                 |                 | DATA CABLE TYPE | CABLE COUNT | TERMINATION |         |
| ZD                         | DATA                  | WALL MOUNTED    | 18" AFF         | CAT 6           | 2           | PATCH PANEL |         |
| CCTV                       | SECURITY CAMERA       | CEILING MOUNTED | --              | CAT 6           | 1           | PATCH PANEL | 1       |
| CT                         | CABLE TV              | WALL MOUNTED    | --              | RG-6            | 1           | -           | 3       |
| WAP                        | WIRELESS ACCESS POINT | CEILING MOUNTED | --              | CAT 6           | 2           | PATCH PANEL | 2       |

ABBREVIATIONS:

SFP = SEE FLOOR PLAN  
SA = SEE ARCHITECTURAL DETAILS

TECHNOLOGY OUTLET GENERAL REMARKS:

- REFER TO DETAIL 4ET000 FOR CABLE LABELING REQUIREMENTS.
- COORDINATE CABLE LABELING SCHEME WITH OWNER PRIOR TO INSTALLATION.

TECHNOLOGY OUTLET SCHEDULE REMARKS:

- PROVIDE 20' SERVICE COIL AT SECURITY CAMERAS ABOVE CEILING.
- PROVIDE 20' SERVICE COIL AT WIRELESS ACCESS POINT LOCATION ABOVE CEILING.
- MOUNTED ADJACENT TO TELEVISION. VERIFY FINAL TV MOUNTING HEIGHT WITH OWNER PRIOR TO INSTALLATION.

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DESIGN | PERFORMANCE | SUSTAINABILITY

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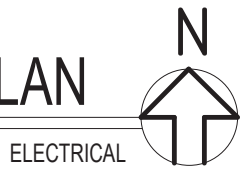
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FIRST FLOOR  
ELECTRICAL  
TECHNOLOGY PLAN

ET101  
ISSUED FOR BID

1 FIRST FLOOR ELECTRICAL TECHNOLOGY PLAN  
ET101 SCALE: 1/8" = 1'-0"







1. REFER TO SYMBOLS ON SHEET ET000 AND PROJECT SPECIFICATIONS FOR CONSTRUCTION STANDARDS.
2. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED BETWEEN ARCHITECTURAL ELEMENTS IN DRYWALL SOFFITS/CEILING. ALL CEILING MOUNTED DEVICES SHALL BE INSTALLED AT MID OR QUARTER POINTS OF ACOUSTICAL CEILING PANELS UNLESS NOTED OTHERWISE.
3. COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECTURAL ELEVATIONS.
4. COORDINATE GROMMETS THROUGH COUNTER/TABLE TOPS IF EQUIPMENT OUTLET IS LOCATED BELOW COUNTER/TABLE TOP.
5. ELECTRICAL CONTRACTOR TO PROVIDE CABLEING FOR CAMERAS, ACCESS CONTROL, WAPS, AND DATA LOCATIONS. ALL CABLEING SHALL BE ROUTED TO IDF/LEADER CLOSET, ROOM 1015 UNLESS NOTED OTHERWISE. REFER TO SCHEDULE ON SHEET ET101 FOR CABLEING REQUIREMENTS.
6. ALL CABLEING TO BE COLOR CODED PER OWNER STANDARDS.
7. OWNER TO PROVIDE AND INSTALL ALL WAPS, PHONES, SECURITY CAMERAS, CARD READERS AND NETWORK SWITCHES. OWNER TO PROVIDE ELECTRIC STRIKES AND PANIC HARDWARE. CONTRACTOR TO MAKE FINAL TERMINATIONS. COORDINATE ALL FINAL DEVICE LOCATIONS WITH THE OWNER PRIOR TO ROUGH-IN.
8. REFER TO DETAIL 2ET000 FOR DOOR SECURITY ROUGH-IN REQUIREMENTS.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

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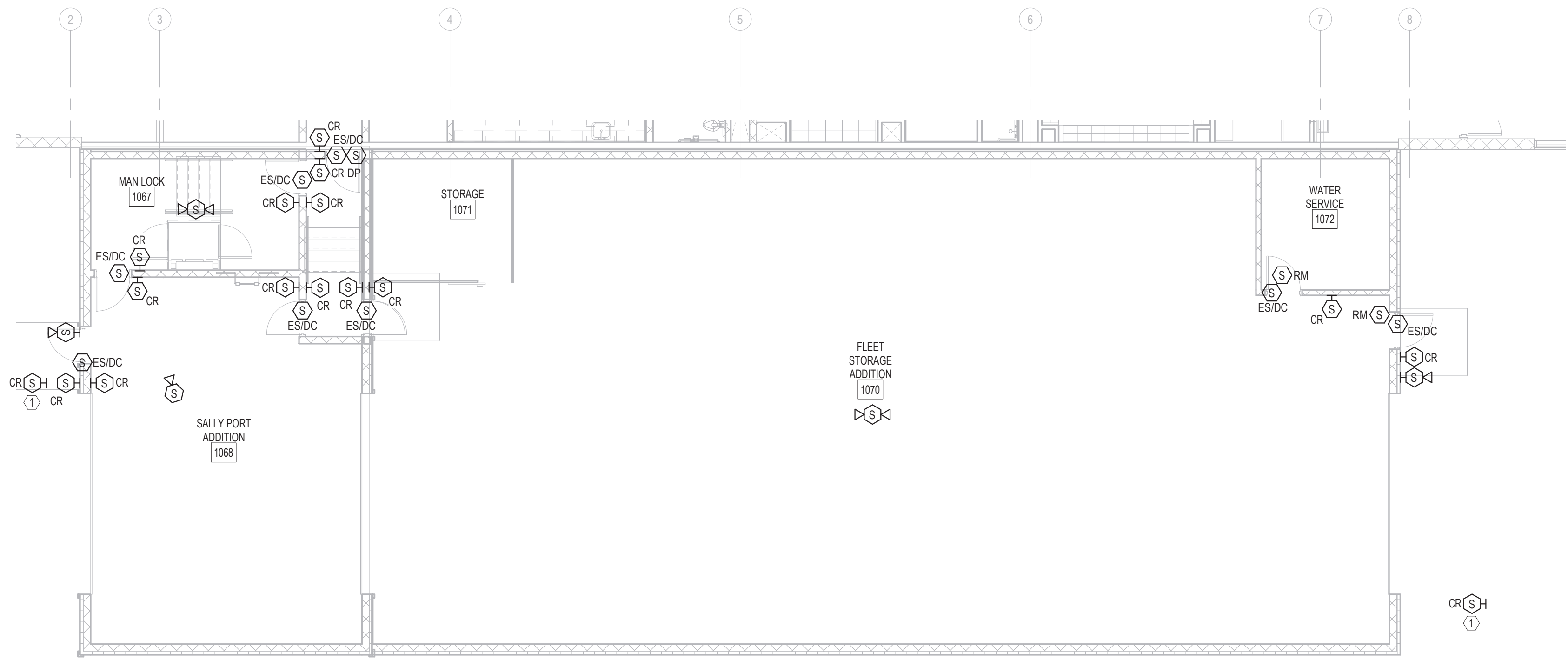
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## ALTERNATE #1 TECHNOLOGY PLAN

**ET101A**  
ISSUED FOR BID





ELECTRICAL - ALTERNATE 2  
SALLY PORT & FLEET STORAGE - TECHNOLOGY  
PLAN

1

ET101B SCALE: 1/8" = 1'-0"

ELECTRICAL

GENERAL NOTES:

1. REFER TO SYMBOLS ON SHEET ET000 AND PROJECT SPECIFICATIONS FOR CONSTRUCTION STANDARDS.
2. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED AND BETWEEN ARCHITECTURAL ELEMENTS IN DRYWALL SOFFIT/CEILING. ALL CEILING MOUNTED DEVICES SHALL BE INSTALLED AT MID OR QUARTER POINTS OF ACOUSTICAL CEILING PANELS UNLESS NOTED OTHERWISE.
3. COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECTURAL ELEVATIONS.
4. COORDINATE GROMMETS THROUGH COUNTER/TABLE TOPS IF EQUIPMENT OUTLET IS LOCATED BELOW COUNTER/TABLETOP.
5. ELECTRICAL CONTRACTOR TO PROVIDE CABLING FOR CAMERAS, ACCESS CONTROL, WAPS, AND DATA LOCATIONS. ALL CABLING SHALL BE ROUTED TO IDF LEEDOR CONTROL ROOM 1015 UNLESS NOTED OTHERWISE. REFER TO SCHEDULE ON SHEET ET101 FOR CABLING REQUIREMENTS.
6. ALL CABLING TO BE COLOR CODED PER OWNER STANDARDS.
7. OWNER TO PROVIDE AND INSTALL ALL WAPS, PHONES, SECURITY CAMERAS, CARD READERS AND NETWORK SWITCHES. OWNER TO PROVIDE ELECTRIC STRIKES AND PANIC HARDWARE. CONTRACTOR TO MAKE FINAL TERMINATIONS. COORDINATE ALL FINAL DEVICE LOCATIONS WITH THE OWNER PRIOR TO ROUGH-IN.
8. REFER TO DETAIL 2/ET000 FOR DOOR SECURITY ROUGH-IN REQUIREMENTS.

KEYNOTES:

- ① CARD READER TO BE INSTALLED TO CONTROL THE GARAGE DOOR. PROVIDE REQUIRED CONDUIT AND CABLING IN THE PEDESTAL BACK TO THE GARAGE DOOR. COORDINATE FINAL LOCATION AND ROUGH-IN REQUIREMENTS WITH THE GARAGE DOOR PROVIDER.

CONSTRUCTION AND DEMOLITION TO BE DONE IN PHASES SO THAT EXISTING DISPATCH CENTER REMAINS OPERATIONAL UNTIL SWITCHOVER TO FULLY FUNCTIONAL NEW DISPATCH CENTER CAN BE COMPLETED. IF NECESSARY, PROVIDE TEMPORARY POWER TO EXISTING DISPATCH AREA TO ENSURE DISPATCH IS OPERATIONAL DURING ANY SHUTDOWNS. ALL SHUTDOWNS WILL NEED STRICT APPROVAL BY CAMPUS POLICE.

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DESIGN | PERFORMANCE | SUSTAINABILITY

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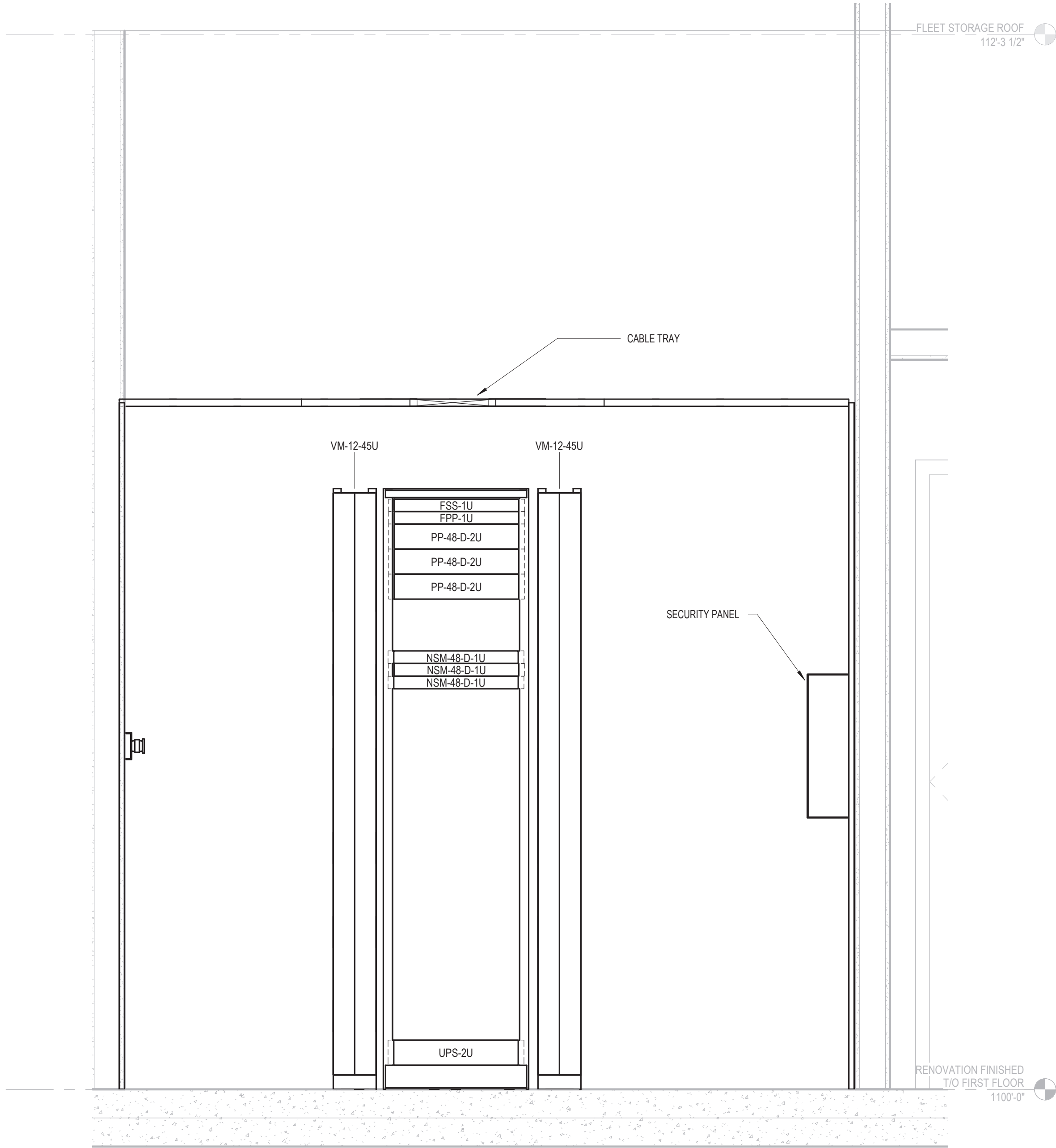
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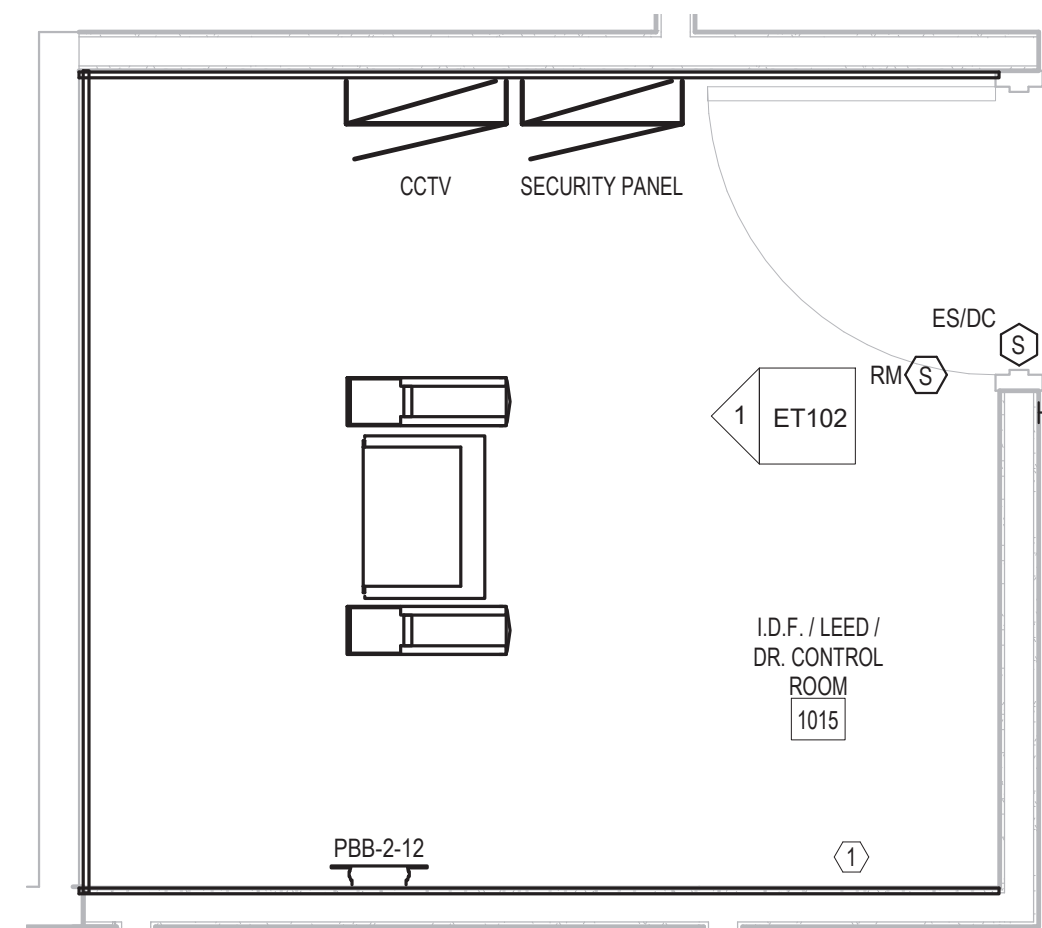
ALTERNATE #2  
TECHNOLOGY PLAN

ET101B  
ISSUED FOR BID

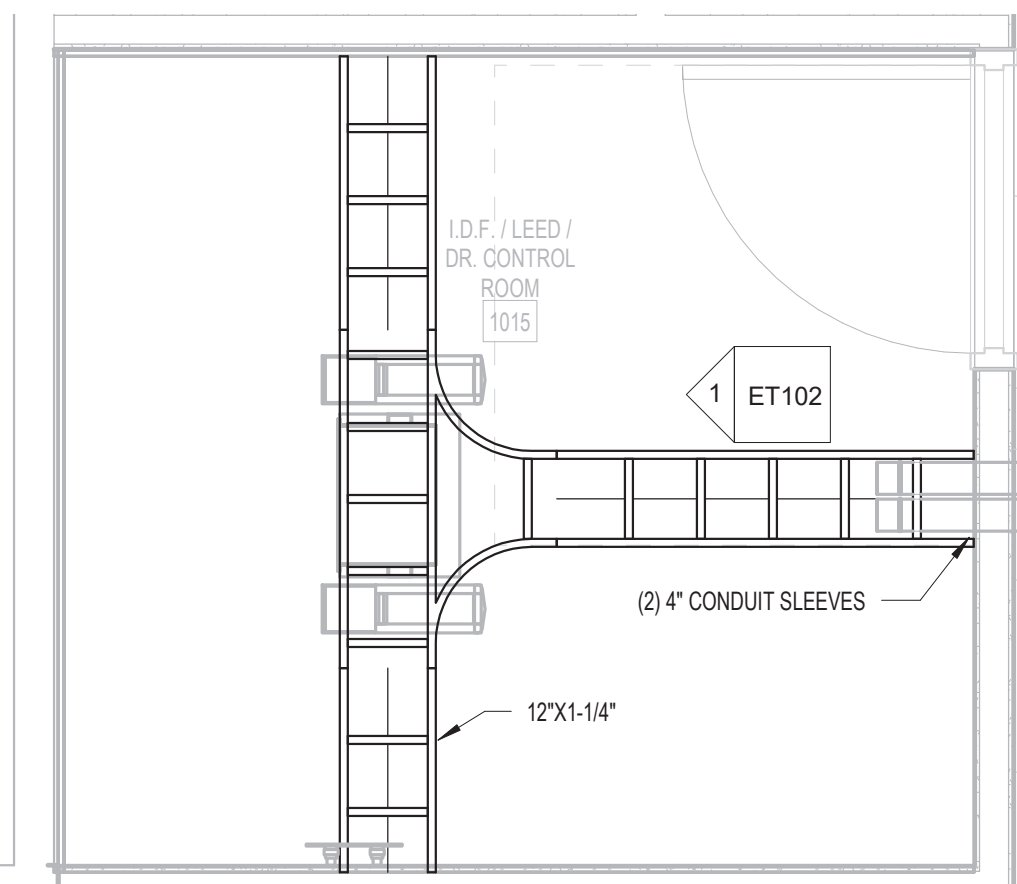




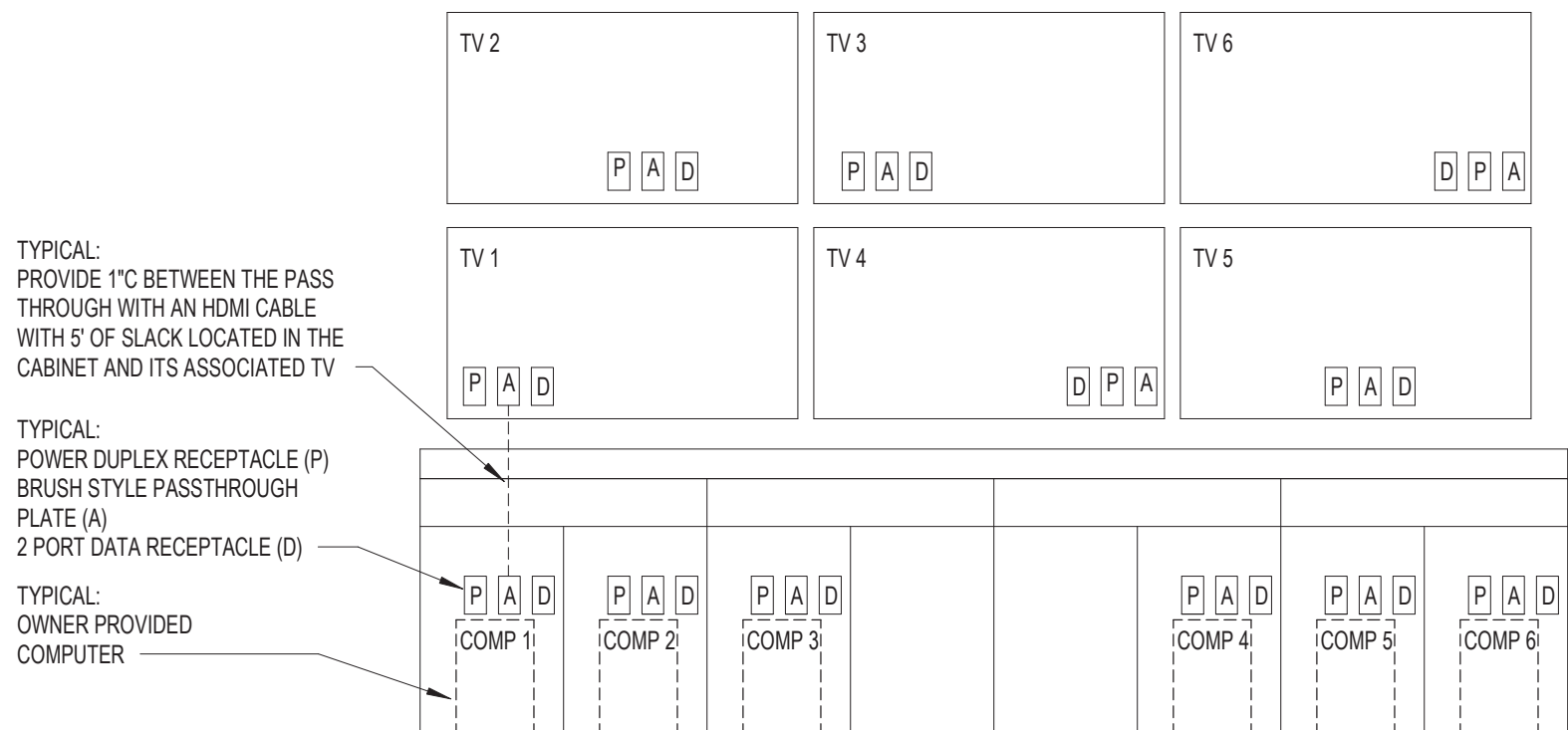
1 IDF ELEVATION  
1" = 1'-0"



2 IDF ROOM LAYOUT  
1/2" = 1'-0"



3 IDF CABLE TRAY  
1/2" = 1'-0"



4 DISPATCH/TRAINING TV INSTALLATION  
1/8" = 1'-0"

#### GENERAL NOTES:

- REFER TO SYMBOLS ON SHEET ET000 AND PROJECT SPECIFICATIONS FOR CONSTRUCTION STANDARDS.
- ALL CEILING MOUNTED DEVICES SHALL BE CENTERED AND BETWEEN ARCHITECTURAL ELEMENTS IN DRYWALL SOFFITS/CEILING. ALL CEILING MOUNTED DEVICES SHALL BE INSTALLED AT MID OR QUARTER POINTS OF ACOUSTICAL CEILING PANELS UNLESS NOTED OTHERWISE.
- COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECTURAL ELEVATIONS.
- COORDINATE GROMMETS THROUGH COUNTER/TABLE TOPS IF EQUIPMENT OUTLET IS LOCATED BELOW COUNTER/TABLETOP.
- CABLING FOR CAMERAS AND ACCESS CONTROL SHALL BE ROUTED TO IDF/LEED/DR CONTROL ROOM 1015 UNLESS NOTED OTHERWISE.
- REFER TO DIAGRAM 3/ET100 FOR GROUNDING REQUIREMENTS.
- REFER TO DETAIL 1/ET100 FOR ARMORED FIBER TERMINATION REQUIREMENTS.
- REFER TO DETAIL 4/ET100 FOR TYPICAL LABELING REQUIREMENTS.
- REFER TO DETAIL 5/ET100 FOR FIBER BACKBONE REQUIREMENTS.
- REFER TO DETAIL 6/ET100 FOR CCTV REQUIREMENTS.
- REFER TO ELECTRICAL PLANS FOR POWER LAYOUT.

#### KEYNOTES:

- 1 PROVIDE FIRE RATED PLYWOOD IN IDF ROOM AS INDICATED. 4X8' SHEETS SHALL BE INSTALLED CONTINUOUSLY WITH 8' LENGTH IN VERTICAL. INSTALL 6" ABOVE THE FINISHED FLOOR.

| TECHNOLOGY EQUIPMENT - IDF ROOM |  |              |              |                |
|---------------------------------|--|--------------|--------------|----------------|
| TAG                             | DESCRIPTION  | MANUFACTURER | MODEL NO.    | REMARKS        |
| FPR-1U                          | FIBER PATCH PANEL - 1U                                   | PANDUIT      | CFAPB12      |                |
| FSS-1U                          | SLIDING FIBER SHELF - 1U                                 | PANDUIT      | FCE1U        |                |
| NSM-48-D-1U                     | 1U - 48 PORT - STRAIGHT NETWORK MANAGEMENT SWITCH - DATA | CISCO        | TBD          | OWNER PROVIDED |
| PBB-2-12                        | PRIMARY BONDING BUS BAR - 2' X 12"                       | PANDUIT      | GB4B0612TP-1 |                |
| PP-48-D-2U                      | 2U - 48 PORT - PATCH PANEL - DATA                        | PANDUIT      | CPH48FMWBLY  |                |
| UPS-2U                          | 2U - UNINTERRUPTIBLE POWER SUPPLY                        | TBD          | TBD          | OWNER PROVIDED |
| VM-12-45U                       | VERTICAL MANAGER - DOUBLE SIDED - 12' W - 45U            | PANDUIT      | WMV45E       |                |

## JOLIET JUNIOR COLLEGE

### CAMPUS POLICE RENOVATIONS

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TECHNOLOGY  
ENLARGED PLANS AND  
DETAILS

ET102  
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