SC DEPARTMENT OF ADMINISTRATION - DIVISION OF FACILITIES MANAGEMENT AND PROPERTY SERVICES

1100 GERVAIS ST, COLUMBIA, SC 29208

SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

D50-6103-LC
12/10/25
ISSUED FOR: CONSTRUCTION

Prepared by:

GMK ASSOCIATES, INC.

Architects/Engineers/Planners
1201 Main Street, Suite 2100
Columbia, South Carolina 29201
tel. 803-256-0000
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SOUTH CAROLINA
GMK, INC.
No. C00287
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 33368
BRYAN L. McDANIEL

DRAWING INDEX

MECHANICAL

ELECTRICAL

STRUCTURAL

CODE DATA

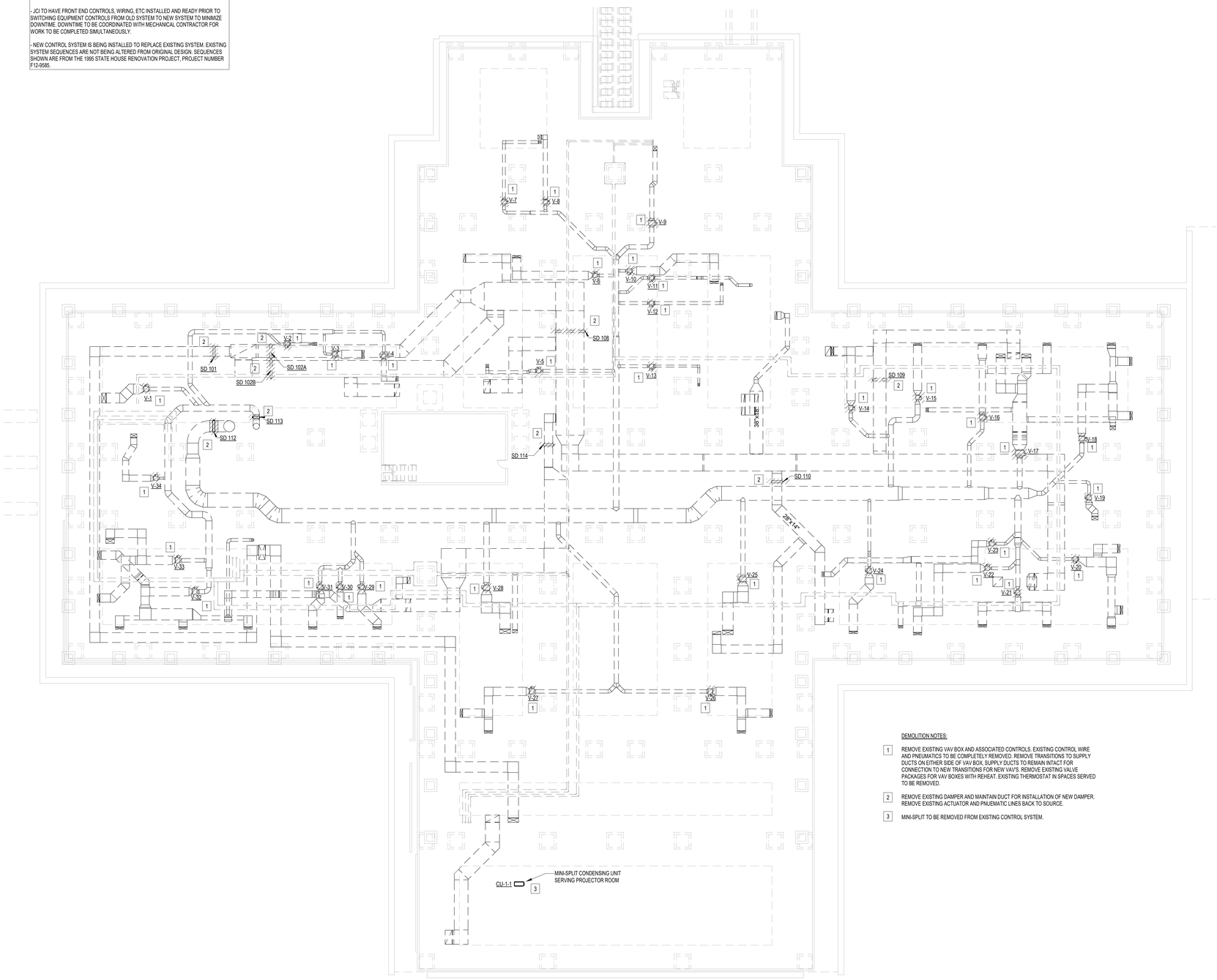
2021 SOUTH CAROLINA BUILDING CODE
2021 SOUTH CAROLINA FIRE CODE
2021 SOUTH CAROLINA PLUMBING CODE
2021 SOUTH CAROLINA MECHANICAL CODE
2009 INTERNATIONAL ENERGY CONSERVATION CODE
2020 NATIONAL ELECTRIC CODE (NFPA 70) WITH SOUTH CAROLINA MODIFICATIONS

GENERAL NOTES:

- CONTRACTOR TO COORDINATE REMOVAL AND REPLACEMENT OF VAV BOXES AND DAMPERS WITH DOWNTIME ASSOCIATED WITH AH-1 REBUILD. CONTRACTOR TO COORDINATE REPLACEMENT OF VAV BOXES AT ANY OTHER TIME WITH OWNER TO REDUCE IMPACT ON OCCUPIED SPACES. BUILDING TO REMAIN OPERABLE THROUGHOUT CONSTRUCTION.

- JCI TO HAVE FRONT END CONTROLS, WIRING, ETC INSTALLED AND READY PRIOR TO SWITCHING EQUIPMENT CONTROLS FROM OLD SYSTEM TO NEW SYSTEM TO MINIMIZE DOWNTIME. DOWNTIME TO BE COORDINATED WITH MECHANICAL CONTRACTOR FOR WORK TO BE COMPLETED SIMULTANEOUSLY.

- NEW CONTROL SYSTEM IS BEING INSTALLED TO REPLACE EXISTING SYSTEM. EXISTING SYSTEM SEQUENCES ARE NOT BEING ALTERED FROM ORIGINAL DESIGN. SEQUENCES SHOWN ARE FROM THE 1995 STATE HOUSE RENOVATION PROJECT, PROJECT NUMBER F12-9585.



DEMOLITION NOTES:

1. REMOVE EXISTING VAV BOX AND ASSOCIATED CONTROLS. EXISTING CONTROL WIRE AND PNEUMATICS TO BE COMPLETELY REMOVED. REMOVE TRANSITIONS TO SUPPLY DUCTS ON EITHER SIDE OF VAV BOX. SUPPLY DUCTS TO REMAIN INTACT FOR CONNECTION TO NEW TRANSITIONS FOR NEW VAV'S. REMOVE EXISTING VALVE PACKAGES FOR VAV BOXES WITH REHEAT. EXISTING THERMOSTAT IN SPACES SERVED TO BE REMOVED.
2. REMOVE EXISTING DAMPER AND MAINTAIN DUCT FOR INSTALLATION OF NEW DAMPER. REMOVE EXISTING ACTUATOR AND PNUEMATIC LINES BACK TO SOURCE.
3. MINI-SPLIT TO BE REMOVED FROM EXISTING CONTROL SYSTEM.

1 SUB BASEMENT DEMOLITION PLAN
3/32" = 1'-0"

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 33368 BRIAN L. McDANIEL

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number	item	date

key plan

N

sheet title
SUB BASEMENT DEMOLITION PLAN

sheet number
M1.0

drawn by Author
checked by Checker

GENERAL NOTES:

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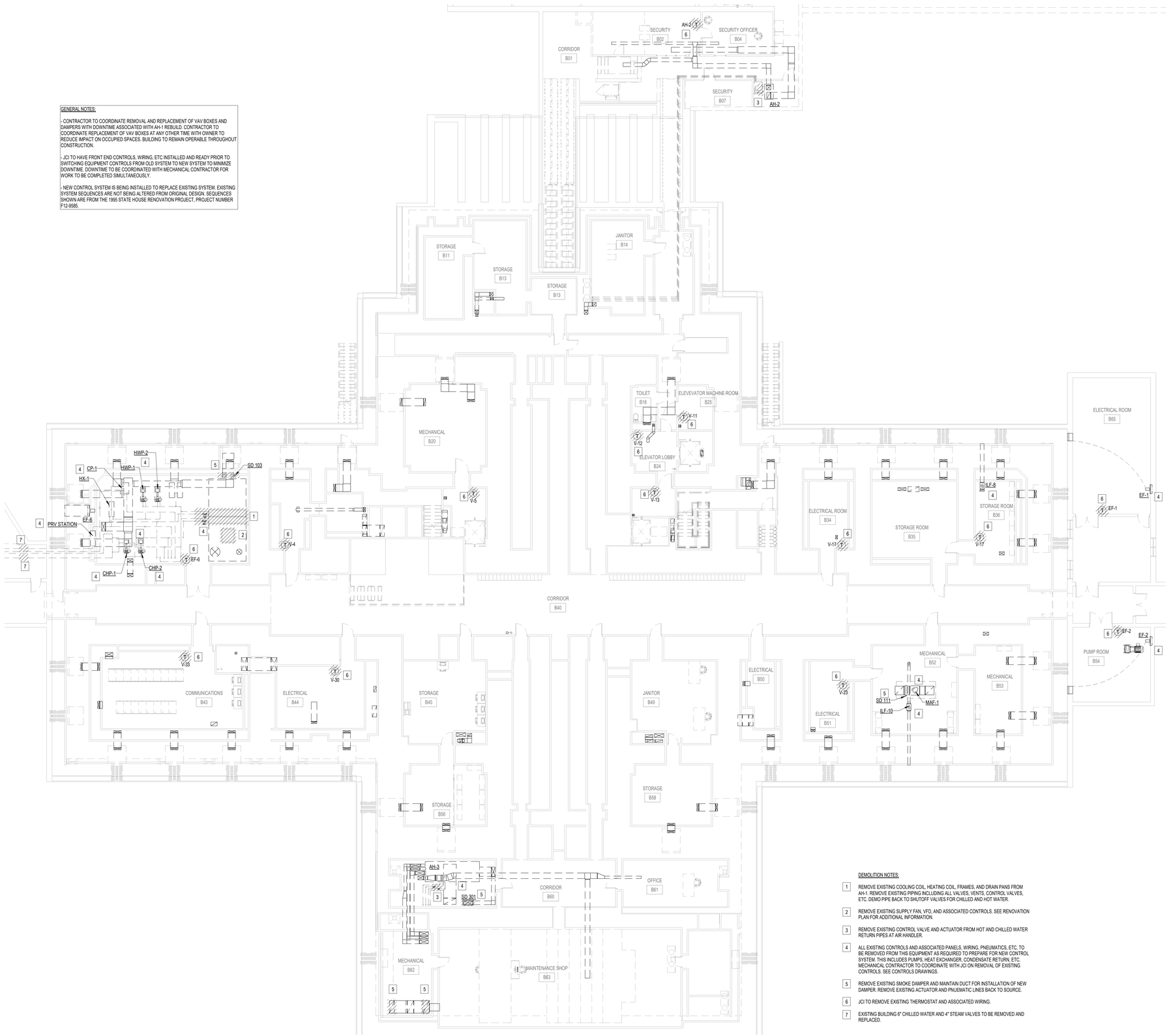

1 BASEMENT DEMOLITION PLAN
3/32" = 1'-0"

DEMOLITION NOTES:

1. REMOVE EXISTING COOLING COIL, HEATING COIL, FRAMES, AND DRAIN PANS FROM AH-1. REMOVE EXISTING PIPING INCLUDING ALL VALVES, VENTS, CONTROL VALVES, ETC. DEMO PIPE BACK TO SHUTOFF VALVES FOR CHILLED AND HOT WATER.
2. REMOVE EXISTING SUPPLY FAN, VFD, AND ASSOCIATED CONTROLS. SEE RENOVATION PLAN FOR ADDITIONAL INFORMATION.
3. REMOVE EXISTING CONTROL VALVE AND ACTUATOR FROM HOT AND CHILLED WATER RETURN PIPES AT AIR HANDLER.
4. ALL EXISTING CONTROLS AND ASSOCIATED PANELS, WIRING, PNEUMATICS, ETC. TO BE REMOVED FROM THIS EQUIPMENT AS REQUIRED TO PREPARE FOR NEW CONTROL SYSTEM. THIS INCLUDES PUMPS, HEAT EXCHANGER, CONDENSATE RETURN, ETC. MECHANICAL CONTRACTOR TO COORDINATE WITH JCI ON REMOVAL OF EXISTING CONTROLS. SEE CONTROLS DRAWINGS.
5. REMOVE EXISTING SMOKE DAMPER AND MAINTAIN DUCT FOR INSTALLATION OF NEW DAMPER. REMOVE EXISTING ACTUATOR AND PNUEMATIC LINES BACK TO SOURCE.
6. JCI TO REMOVE EXISTING THERMOSTAT AND ASSOCIATED WIRING.
7. EXISTING BUILDING 6" CHILLED WATER AND 4" STEAM VALVES TO BE REMOVED AND REPLACED.

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key plan

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sheet title
BASEMENT DEMOLITION PLAN

sheet number
M1.1

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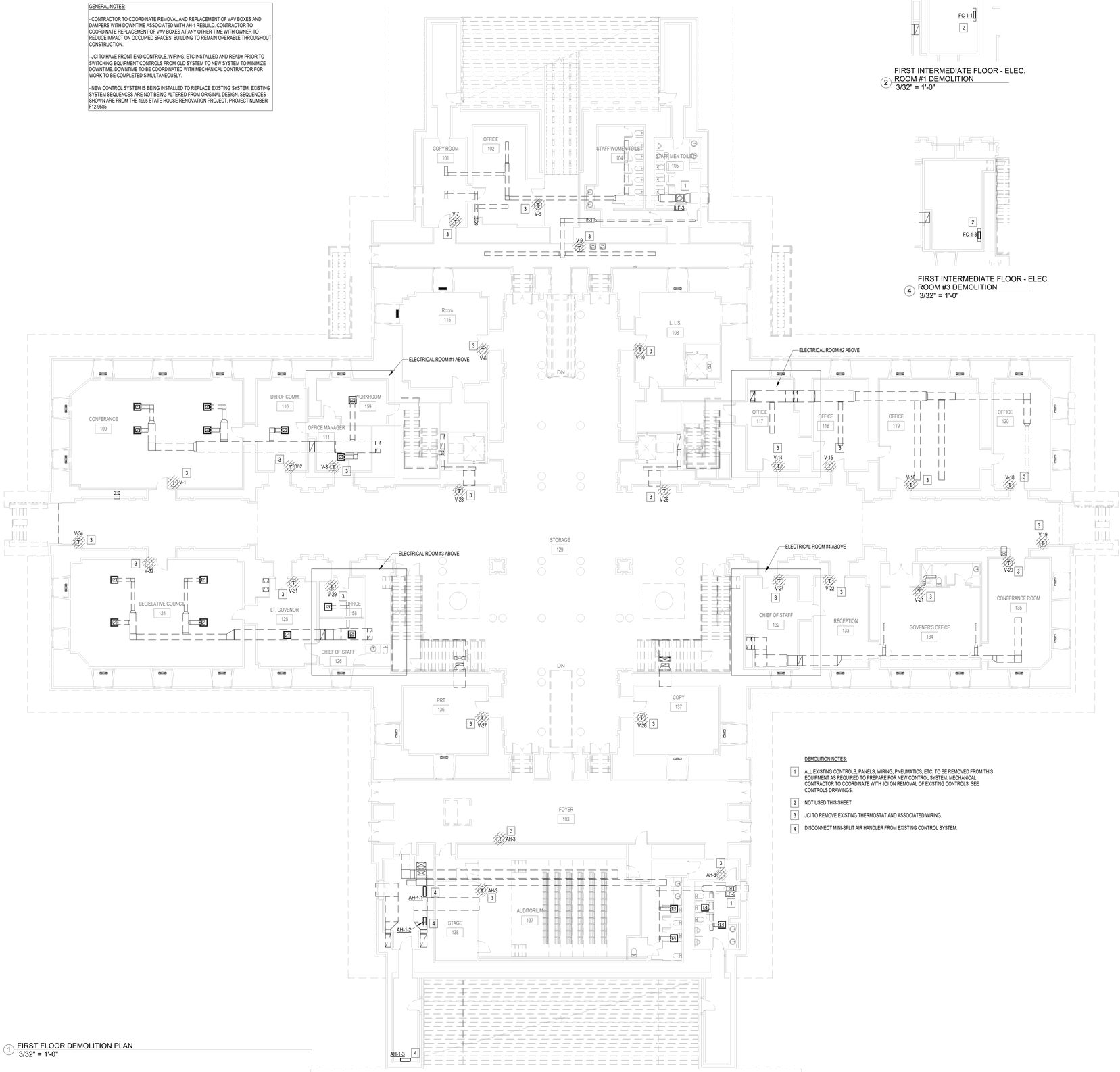
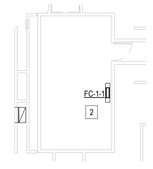
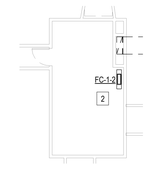


1 FIRST FLOOR DEMOLITION PLAN
3/32" = 1'-0"

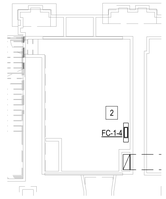


2 FIRST INTERMEDIATE FLOOR - ELEC.
ROOM #1 DEMOLITION
3/32" = 1'-0"



3 FIRST INTERMEDIATE FLOOR - ELEC.
ROOM #2 DEMOLITION
3/32" = 1'-0"

4 FIRST INTERMEDIATE FLOOR - ELEC.
ROOM #3 DEMOLITION
3/32" = 1'-0"



5 FIRST INTERMEDIATE FLOOR - ELEC.
ROOM #4 DEMOLITION
3/32" = 1'-0"

DEMOLITION NOTES:

1. ALL EXISTING CONTROLS, PANELS, WIRING, PNEUMATICS, ETC, TO BE REMOVED FROM THIS EQUIPMENT AS REQUIRED TO PREPARE FOR NEW CONTROL SYSTEM. MECHANICAL CONTRACTOR TO COORDINATE WITH JCI ON REMOVAL OF EXISTING CONTROLS. SEE CONTROLS DRAWINGS.
2. NOT USED THIS SHEET.
3. JCI TO REMOVE EXISTING THERMOSTAT AND ASSOCIATED WIRING.
4. DISCONNECT MINI-SPLIT AIR HANDLER FROM EXISTING CONTROL SYSTEM.

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION GMK, INC. No. C00287

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 33368 BRIAN L. McDANIEL

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CONSTRUCTION

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12/10/25

number	item	date

key plan

N

sheet title
FIRST FLOOR DEMOLITION PLAN

sheet number
M1.2

drawn by Author
checked by Checker

GENERAL NOTES:

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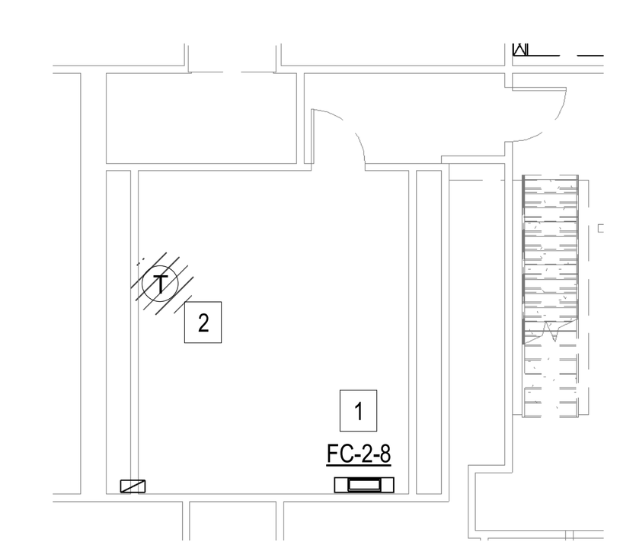
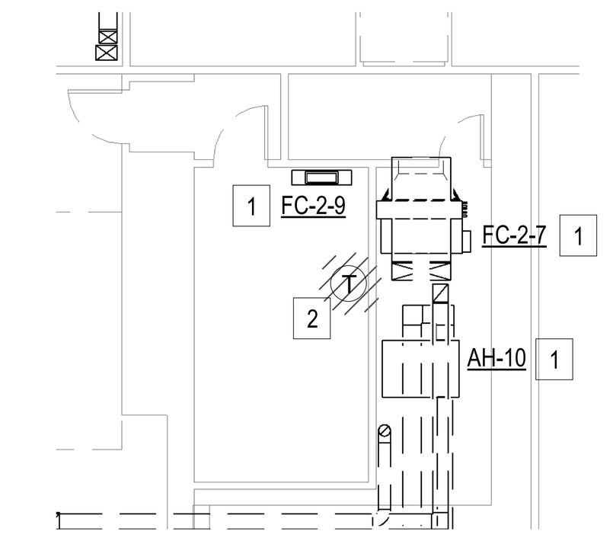
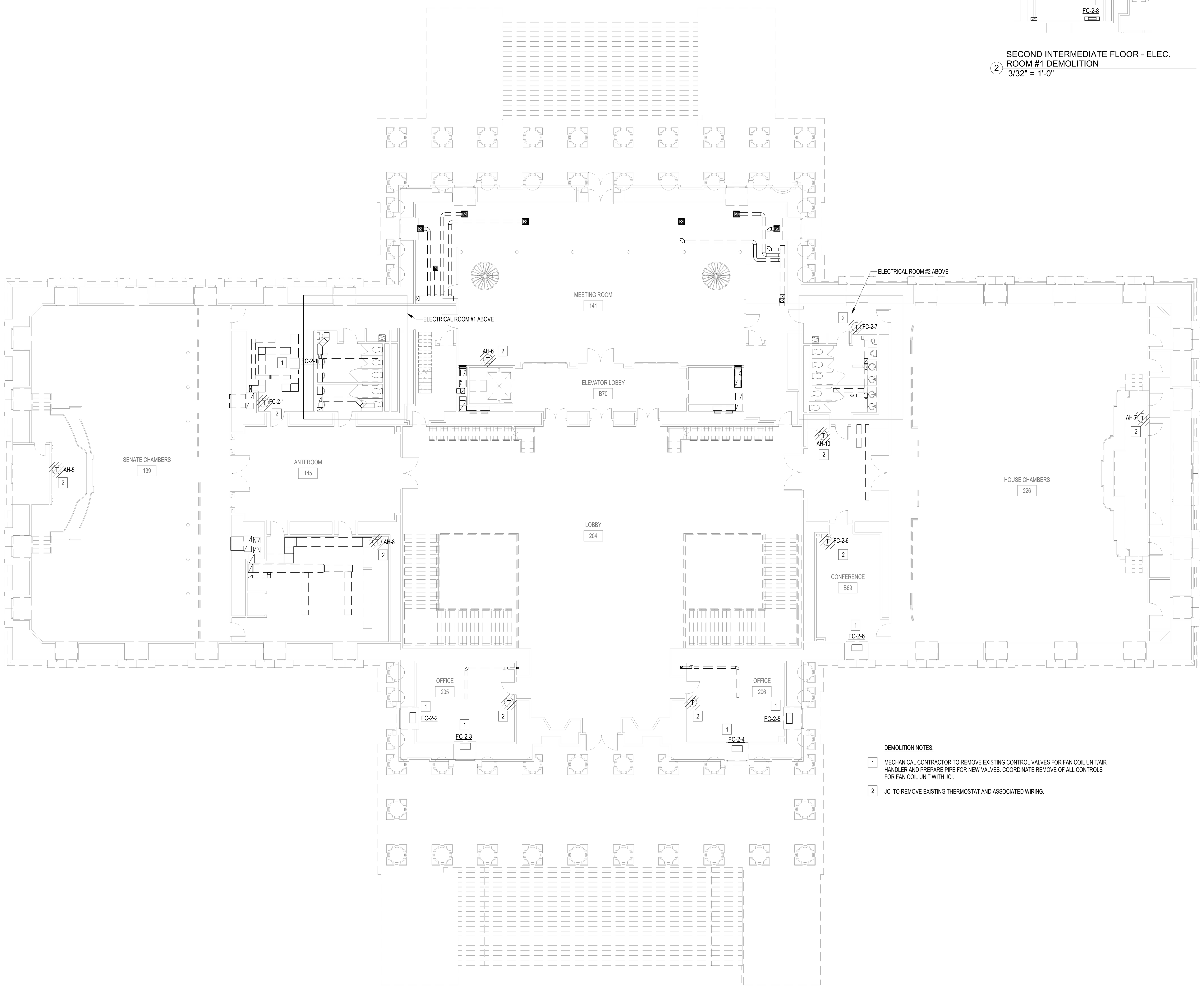


2 SECOND INTERMEDIATE FLOOR - ELEC. ROOM #1 DEMOLITION
3/32" = 1'-0"



3 SECOND INTERMEDIATE FLOOR - ELEC. ROOM #2 DEMOLITION
3/32" = 1'-0"



DEMOLITION NOTES:

1 MECHANICAL CONTRACTOR TO REMOVE EXISTING CONTROL VALVES FOR FAN COIL UNIT/AIR HANDLER AND PREPARE PIPE FOR NEW VALVES. COORDINATE REMOVE OF ALL CONTROLS FOR FAN COIL UNIT WITH JCI.

2 JCI TO REMOVE EXISTING THERMOSTAT AND ASSOCIATED WIRING.

1 SECOND FLOOR DEMOLITION PLAN
3/32" = 1'-0"

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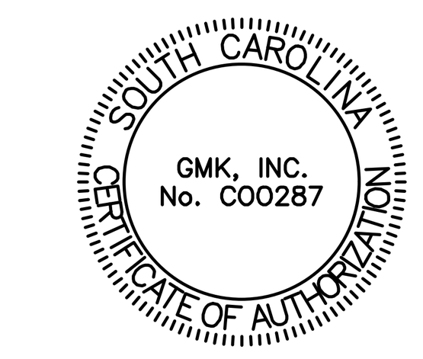

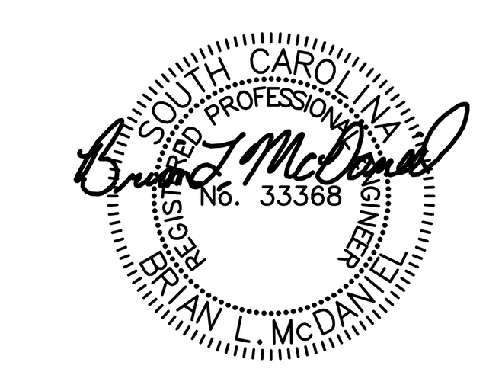

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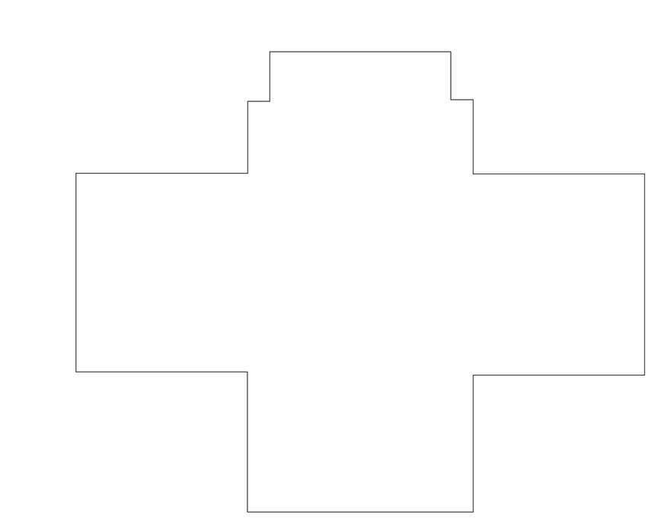

sheet title
SECOND FLOOR DEMOLITION PLAN

sheet number
M1.3

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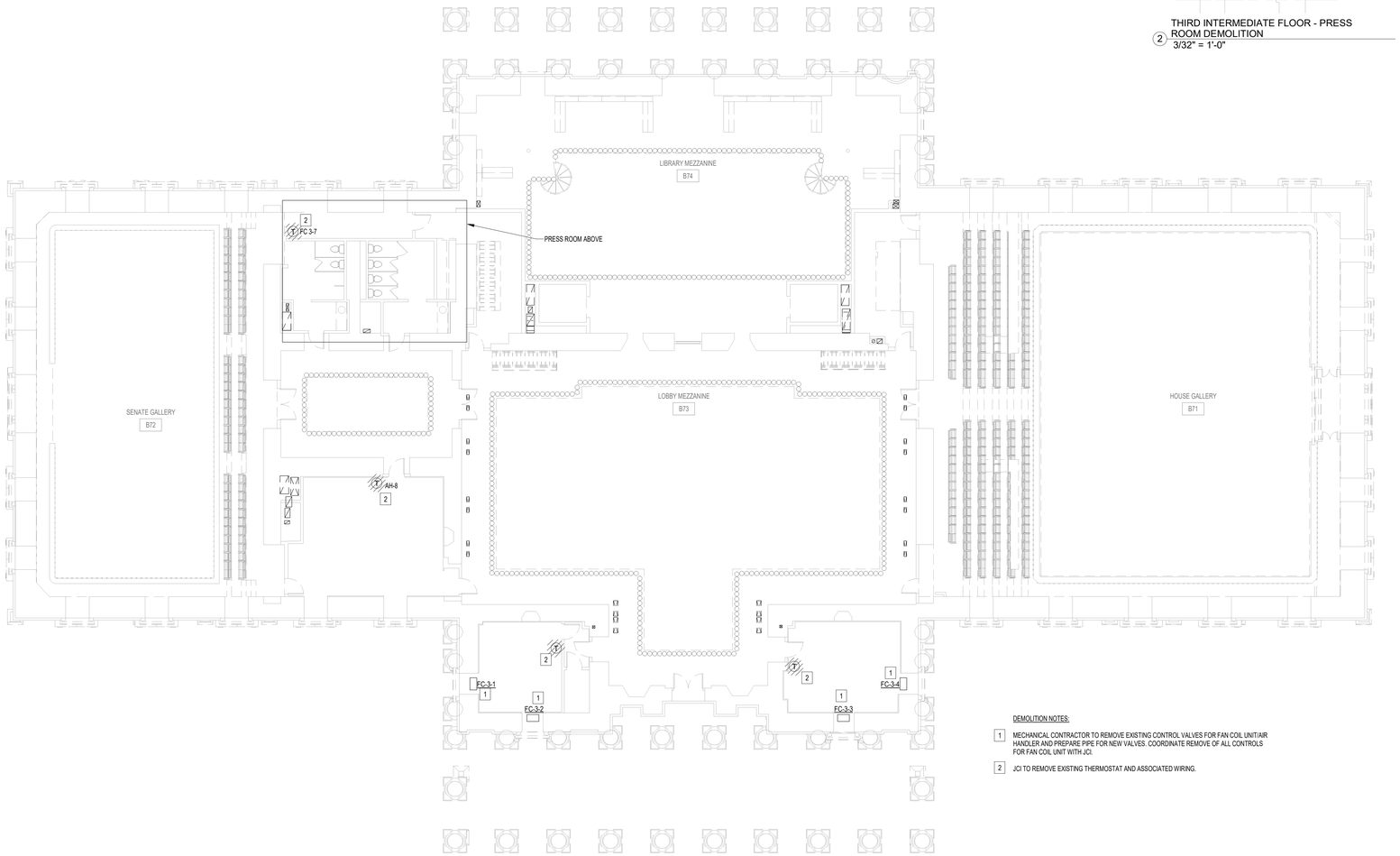
THIRD INTERMEDIATE FLOOR - PRESS ROOM DEMOLITION
3/32" = 1'-0"



THIRD FLOOR DEMOLITION PLAN
3/32" = 1'-0"

DEMOLITION NOTES:

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2 JCI TO REMOVE EXISTING THERMOSTAT AND ASSOCIATED WIRING.

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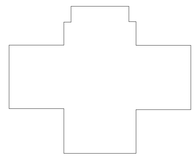

sheet title
THIRD FLOOR DEMOLITION PLAN

sheet number
M1.4

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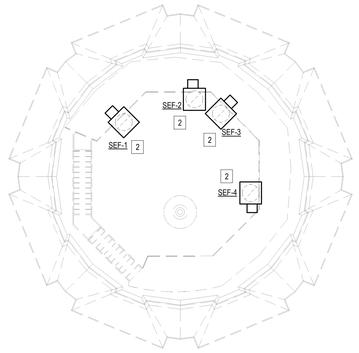
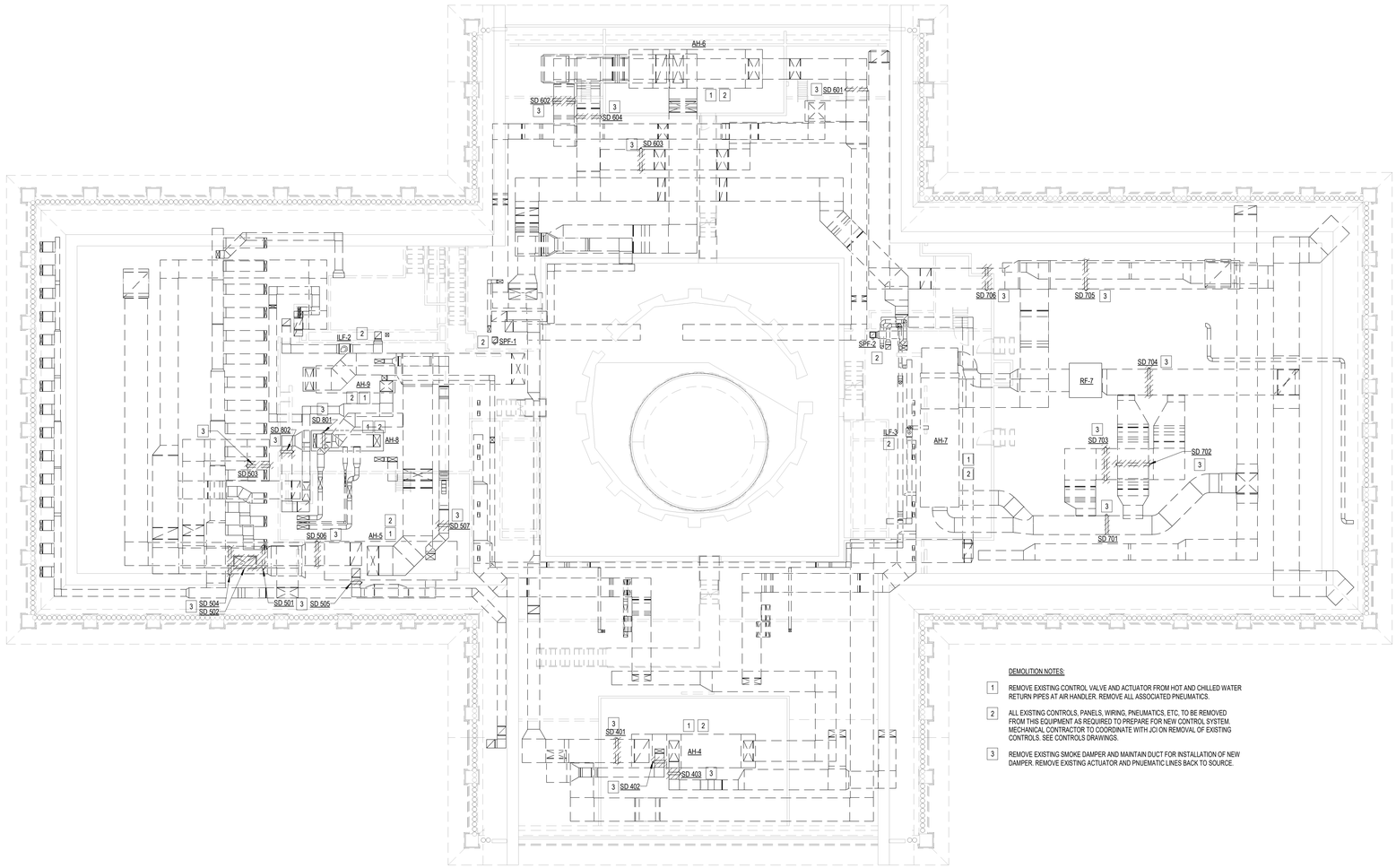


2 1ST LEVEL CUPOLA DEMOLITION PLAN
3/32" = 1'-0"



1 ATTIC FLOOR DEMOLITION PLAN
3/32" = 1'-0"

DEMOLITION NOTES:

1 REMOVE EXISTING CONTROL VALVE AND ACTUATOR FROM HOT AND CHILLED WATER RETURN PIPES AT AIR HANDLER. REMOVE ALL ASSOCIATED PNEUMATICS.

2 ALL EXISTING CONTROLS, PANELS, WIRING, PNEUMATICS, ETC. TO BE REMOVED FROM THIS EQUIPMENT AS REQUIRED TO PREPARE FOR NEW CONTROL SYSTEM. MECHANICAL CONTRACTOR TO COORDINATE WITH JCI ON REMOVAL OF EXISTING CONTROLS. SEE CONTROLS DRAWINGS.

3 REMOVE EXISTING SMOKE DAMPER AND MAINTAIN DUCT FOR INSTALLATION OF NEW DAMPER. REMOVE EXISTING ACTUATOR AND PNUEMATIC LINES BACK TO SOURCE.

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ATTIC DEMOLITION PLAN

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M1.5

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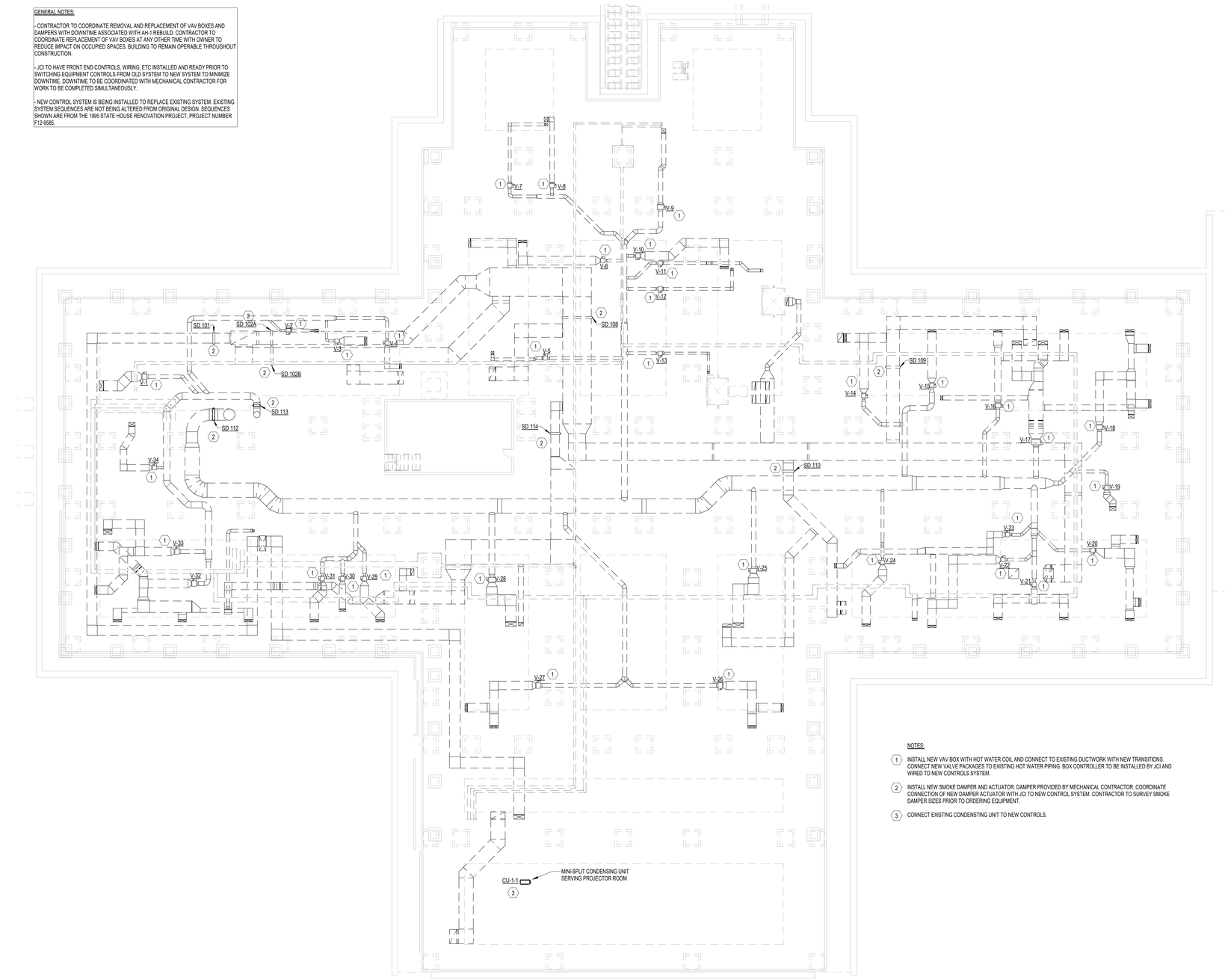

NOTES:

1. INSTALL NEW VAV BOX WITH HOT WATER COIL AND CONNECT TO EXISTING DUCTWORK WITH NEW TRANSITIONS. CONNECT NEW VALVE PACKAGES TO EXISTING HOT WATER PIPING. BOX CONTROLLER TO BE INSTALLED BY JCI AND WIRED TO NEW CONTROLS SYSTEM.
2. INSTALL NEW SMOKE DAMPER AND ACTUATOR. DAMPER PROVIDED BY MECHANICAL CONTRACTOR. COORDINATE CONNECTION OF NEW DAMPER ACTUATOR WITH JCI TO NEW CONTROL SYSTEM. CONTRACTOR TO SURVEY SMOKE DAMPER SIZES PRIOR TO ORDERING EQUIPMENT.
3. CONNECT EXISTING CONDENSTING UNIT TO NEW CONTROLS.

1 SUB BASEMENT RENOVATION PLAN
3/32" = 1'-0"

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SUB BASEMENT RENOVATION PLAN

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M2.0

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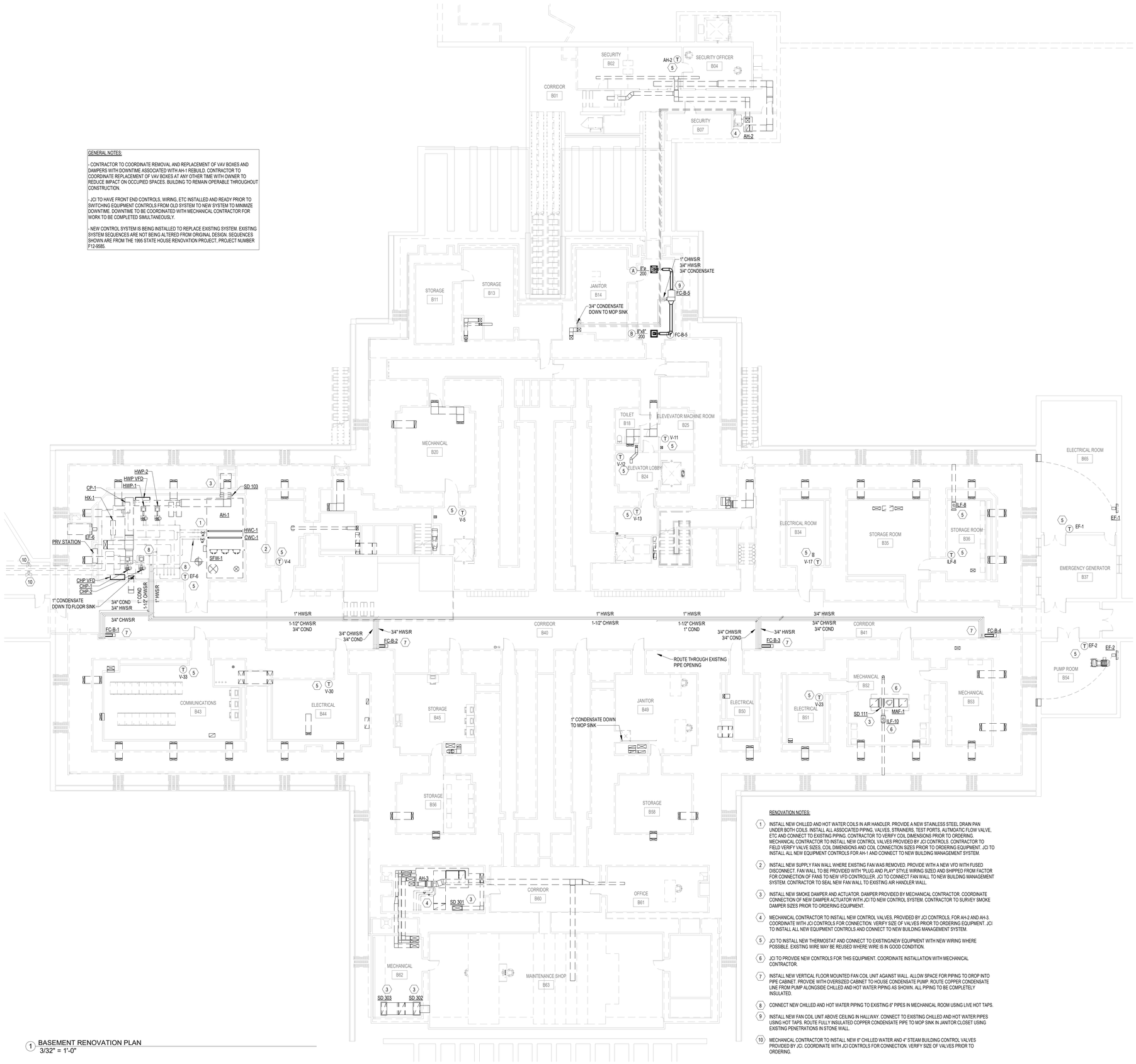

1 BASEMENT RENOVATION PLAN
3/32" = 1'-0"

RENOVATION NOTES:

1. INSTALL NEW CHILLED AND HOT WATER COILS IN AIR HANDLER. PROVIDE A NEW STAINLESS STEEL DRAIN PAN UNDER BOTH COILS. INSTALL ALL ASSOCIATED PIPING, VALVES, STRAINERS, TEST PORTS, AUTMOATIC FLOW VALVE, ETC AND CONNECT TO EXISTING PIPING. CONTRACTOR TO VERIFY COIL DIMENSIONS PRIOR TO ORDERING. MECHANICAL CONTRACTOR TO INSTALL NEW CONTROL VALVES PROVIDED BY JCI CONTROLS. CONTRACTOR TO FIELD VERIFY VALVE SIZES, COIL DIMENSIONS AND COIL CONNECTION SIZES PRIOR TO ORDERING EQUIPMENT. JCI TO INSTALL ALL NEW EQUIPMENT CONTROLS FOR AH-1 AND CONNECT TO NEW BUILDING MANAGEMENT SYSTEM.
2. INSTALL NEW SUPPLY FAN WALL WHERE EXISTING FAN WAS REMOVED. PROVIDE WITH A NEW VFD WITH FUSED DISCONNECT. FAN WALL TO BE PROVIDED WITH "PLUG AND PLAY" STYLE WIRING SIZED AND SHIPPED FROM FACTOR FOR CONNECTION OF FANS TO NEW VFD CONTROLLER. JCI TO CONNECT FAN WALL TO NEW BUILDING MANAGEMENT SYSTEM. CONTRACTOR TO SEAL NEW FAN WALL TO EXISTING AIR HANDLER WALL.
3. INSTALL NEW SMOKE DAMPER AND ACTUATOR. DAMPER PROVIDED BY MECHANICAL CONTRACTOR. COORDINATE CONNECTION OF NEW DAMPER ACTUATOR WITH JCI TO NEW CONTROL SYSTEM. CONTRACTOR TO SURVEY SMOKE DAMPER SIZES PRIOR TO ORDERING EQUIPMENT.
4. MECHANICAL CONTRACTOR TO INSTALL NEW CONTROL VALVES, PROVIDED BY JCI CONTROLS, FOR AH-2 AND AH-3. COORDINATE WITH JCI CONTROLS FOR CONNECTION. VERIFY SIZE OF VALVES PRIOR TO ORDERING EQUIPMENT. JCI TO INSTALL ALL NEW EQUIPMENT CONTROLS AND CONNECT TO NEW BUILDING MANAGEMENT SYSTEM.
5. JCI TO INSTALL NEW THERMOSTAT AND CONNECT TO EXISTING/NEW EQUIPMENT WITH NEW WIRING WHERE POSSIBLE. EXISTING WIRE MAY BE REUSED WHERE WIRE IS IN GOOD CONDITION.
6. JCI TO PROVIDE NEW CONTROLS FOR THIS EQUIPMENT. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
7. INSTALL NEW VERTICAL FLOOR MOUNTED FAN COIL UNIT AGAINST WALL. ALLOW SPACE FOR PIPING TO DROP INTO PIPE CABINET. PROVIDE WITH OVERSIZED CABINET TO HOUSE CONDENSATE PUMP. ROUTE COPPER CONDENSATE LINE FROM PUMP ALONGSIDE CHILLED AND HOT WATER PIPING AS SHOWN. ALL PIPING TO BE COMPLETELY INSULATED.
8. CONNECT NEW CHILLED AND HOT WATER PIPING TO EXISTING 6" PIPES IN MECHANICAL ROOM USING LIVE HOT TAPS.
9. INSTALL NEW FAN COIL UNIT ABOVE CEILING IN HALLWAY. CONNECT TO EXISTING CHILLED AND HOT WATER PIPES USING HOT TAPS. ROUTE FULLY INSULATED COPPER CONDENSATE PIPE TO MOP SINK IN JANITOR CLOSET USING EXISTING PENETRATIONS IN STONE WALL.
10. MECHANICAL CONTRACTOR TO INSTALL NEW 6" CHILLED WATER AND 4" STEAM BUILDING CONTROL VALVES PROVIDED BY JCI. COORDINATE WITH JCI CONTROLS FOR CONNECTION. VERIFY SIZE OF VALVES PRIOR TO ORDERING.

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project name
SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

project number
JOB NO. D50-6103-LC

seals/signature

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION GMK, INC. No. C00287

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 33368 BRIAN L. McDANIEL

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12/10/25

number	item	date

key plan

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sheet title
BASEMENT RENOVATION PLAN

sheet number
M2.1

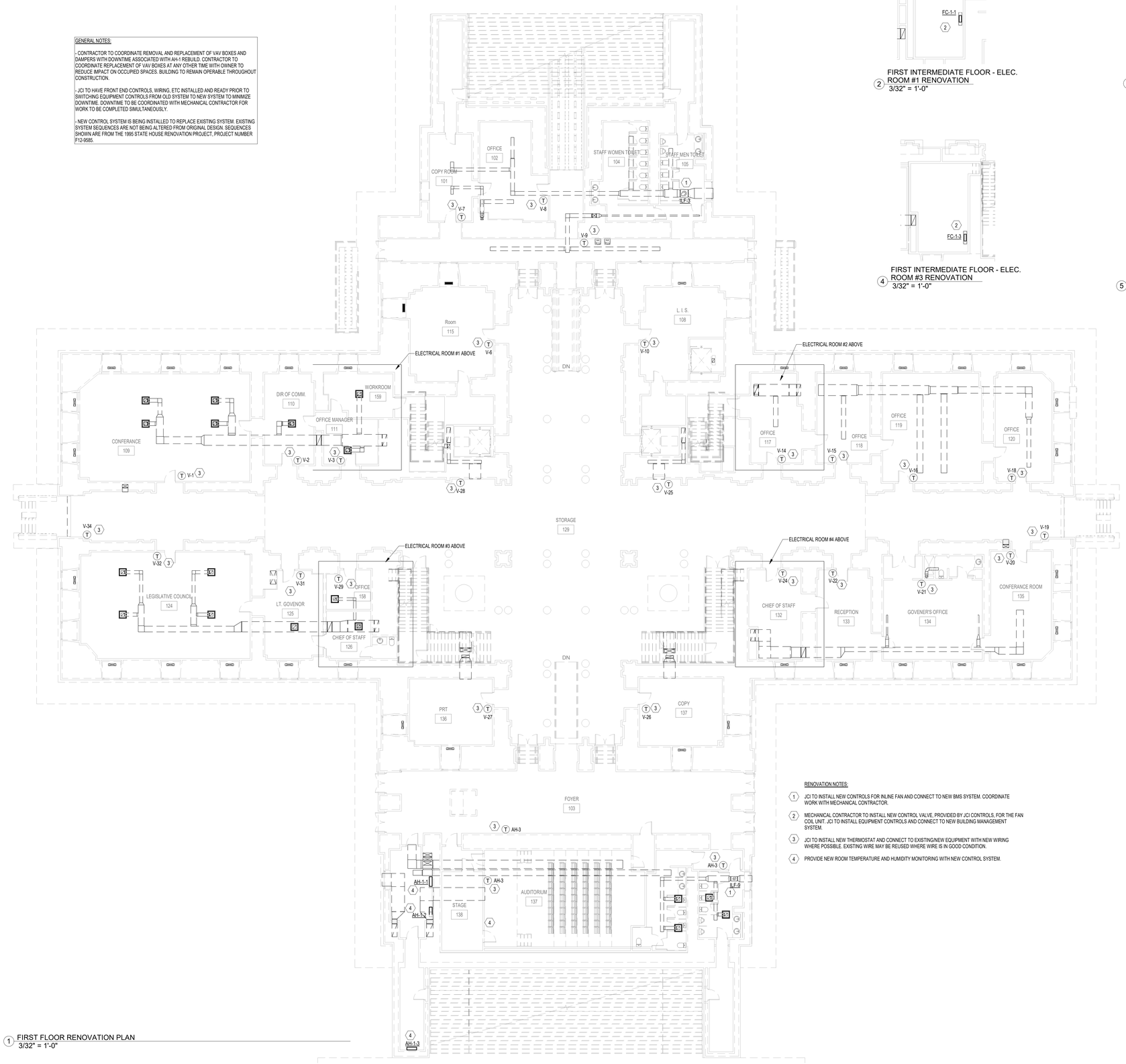
drawn by Author
checked by Checker

GENERAL NOTES:

- CONTRACTOR TO COORDINATE REMOVAL AND REPLACEMENT OF VAV BOXES AND DAMPERS WITH DOWNTIME ASSOCIATED WITH AH-1 REBUILD. CONTRACTOR TO COORDINATE REPLACEMENT OF VAV BOXES AT ANY OTHER TIME WITH OWNER TO REDUCE IMPACT ON OCCUPIED SPACES. BUILDING TO REMAIN OPERABLE THROUGHOUT CONSTRUCTION.

- JCI TO HAVE FRONT END CONTROLS, WIRING, ETC INSTALLED AND READY PRIOR TO SWITCHING EQUIPMENT CONTROLS FROM OLD SYSTEM TO NEW SYSTEM TO MINIMIZE DOWNTIME. DOWNTIME TO BE COORDINATED WITH MECHANICAL CONTRACTOR FOR WORK TO BE COMPLETED SIMULTANEOUSLY.

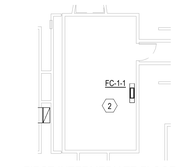
- NEW CONTROL SYSTEM IS BEING INSTALLED TO REPLACE EXISTING SYSTEM. EXISTING SYSTEM SEQUENCES ARE NOT BEING ALTERED FROM ORIGINAL DESIGN. SEQUENCES SHOWN ARE FROM THE 1995 STATE HOUSE RENOVATION PROJECT, PROJECT NUMBER F12-9585.



RENOVATION NOTES:

1. JCI TO INSTALL NEW CONTROLS FOR INLINE FAN AND CONNECT TO NEW BMS SYSTEM. COORDINATE WORK WITH MECHANICAL CONTRACTOR.
2. MECHANICAL CONTRACTOR TO INSTALL NEW CONTROL VALVE, PROVIDED BY JCI CONTROLS, FOR THE FAN COIL UNIT. JCI TO INSTALL EQUIPMENT CONTROLS AND CONNECT TO NEW BUILDING MANAGEMENT SYSTEM.
3. JCI TO INSTALL NEW THERMOSTAT AND CONNECT TO EXISTING/NEW EQUIPMENT WITH NEW WIRING WHERE POSSIBLE. EXISTING WIRE MAY BE REUSED WHERE WIRE IS IN GOOD CONDITION.
4. PROVIDE NEW ROOM TEMPERATURE AND HUMIDITY MONITORING WITH NEW CONTROL SYSTEM.

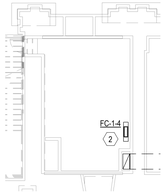
1 FIRST FLOOR RENOVATION PLAN
3/32" = 1'-0"



2 FIRST INTERMEDIATE FLOOR - ELEC. ROOM #1 RENOVATION
3/32" = 1'-0"

3 FIRST INTERMEDIATE FLOOR - ELEC. ROOM #2 RENOVATION
3/32" = 1'-0"

4 FIRST INTERMEDIATE FLOOR - ELEC. ROOM #3 RENOVATION
3/32" = 1'-0"



5 FIRST INTERMEDIATE FLOOR - ELEC. ROOM #4 RENOVATION
3/32" = 1'-0"

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key plan

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sheet title
FIRST FLOOR RENOVATION PLAN

sheet number
M2.2

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checked by Checker

GENERAL NOTES:

- CONTRACTOR TO COORDINATE REMOVAL AND REPLACEMENT OF VAV BOXES AND DAMPERS WITH DOWNTIME ASSOCIATED WITH AH-1 REBUILD. CONTRACTOR TO COORDINATE REPLACEMENT OF VAV BOXES AT ANY OTHER TIME WITH OWNER TO REDUCE IMPACT ON OCCUPIED SPACES. BUILDING TO REMAIN OPERABLE THROUGHOUT CONSTRUCTION.

- JCI TO HAVE FRONT END CONTROLS, WIRING, ETC INSTALLED AND READY PRIOR TO SWITCHING EQUIPMENT CONTROLS FROM OLD SYSTEM TO NEW SYSTEM TO MINIMIZE DOWNTIME. DOWNTIME TO BE COORDINATED WITH MECHANICAL CONTRACTOR FOR WORK TO BE COMPLETED SIMULTANEOUSLY.

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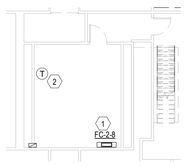
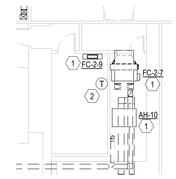
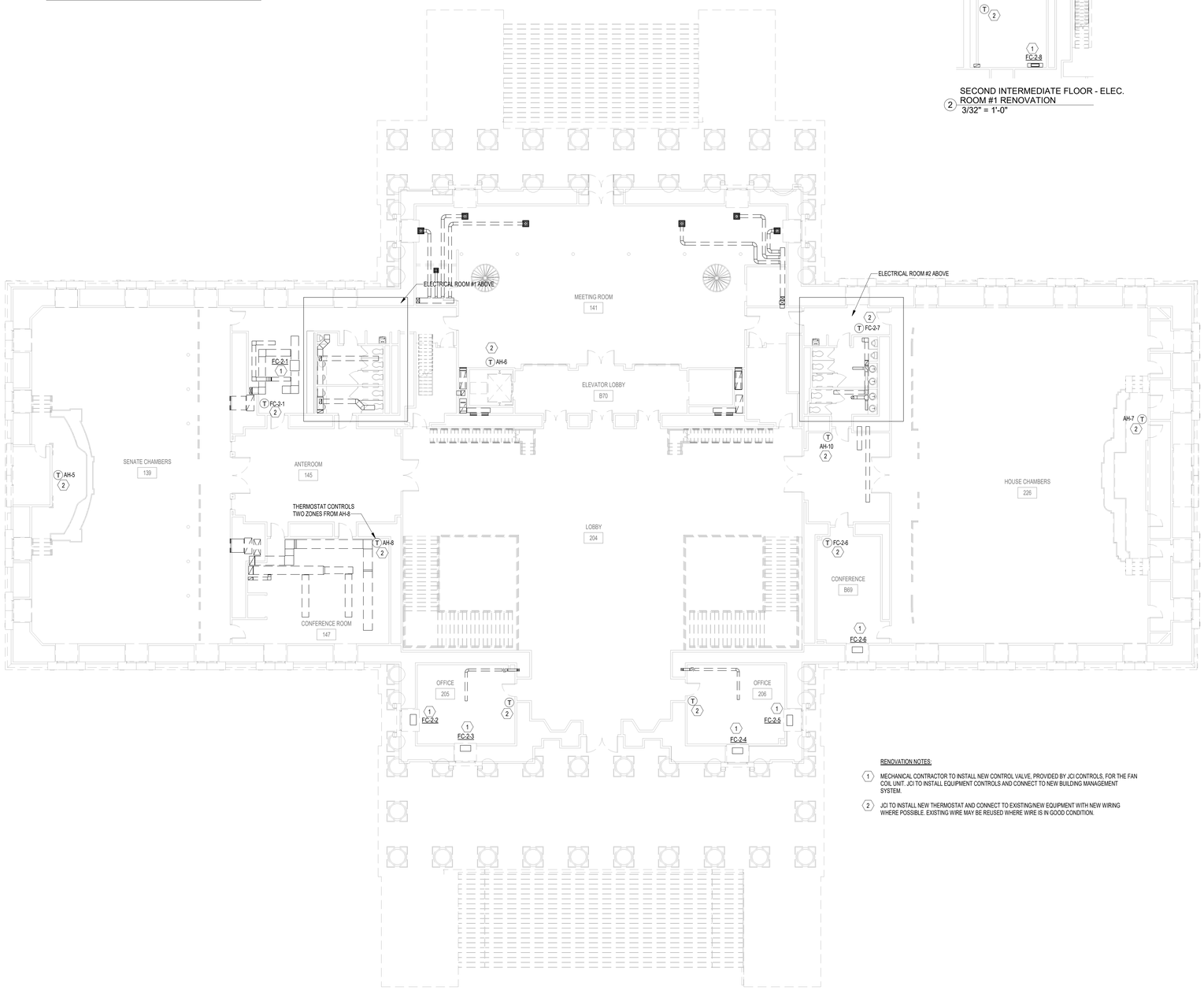


2 SECOND INTERMEDIATE FLOOR - ELEC. ROOM #1 RENOVATION
3/32" = 1'-0"



3 SECOND INTERMEDIATE FLOOR - ELEC. ROOM #2 RENOVATION
3/32" = 1'-0"



RENOVATION NOTES:

1. MECHANICAL CONTRACTOR TO INSTALL NEW CONTROL VALVE, PROVIDED BY JCI CONTROLS, FOR THE FAN COIL UNIT. JCI TO INSTALL EQUIPMENT CONTROLS AND CONNECT TO NEW BUILDING MANAGEMENT SYSTEM.
2. JCI TO INSTALL NEW THERMOSTAT AND CONNECT TO EXISTING/NEW EQUIPMENT WITH NEW WIRING WHERE POSSIBLE. EXISTING WIRE MAY BE REUSED WHERE WIRE IS IN GOOD CONDITION.

1 SECOND FLOOR RENOVATION PLAN
3/32" = 1'-0"

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number	item	date

key plan

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sheet title
SECOND FLOOR RENOVATION PLAN

sheet number
M2.3

drawn by Author
checked by Checker

GENERAL NOTES:

- CONTRACTOR TO COORDINATE REMOVAL AND REPLACEMENT OF VAV BOXES AND DAMPERS WITH DOWNTIME ASSOCIATED WITH AH-1 REBUILD. CONTRACTOR TO COORDINATE REPLACEMENT OF VAV BOXES AT ANY OTHER TIME WITH OWNER TO REDUCE IMPACT ON OCCUPIED SPACES. BUILDING TO REMAIN OPERABLE THROUGHOUT CONSTRUCTION.

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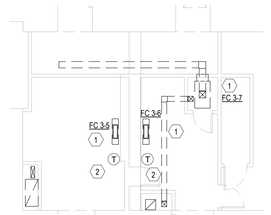
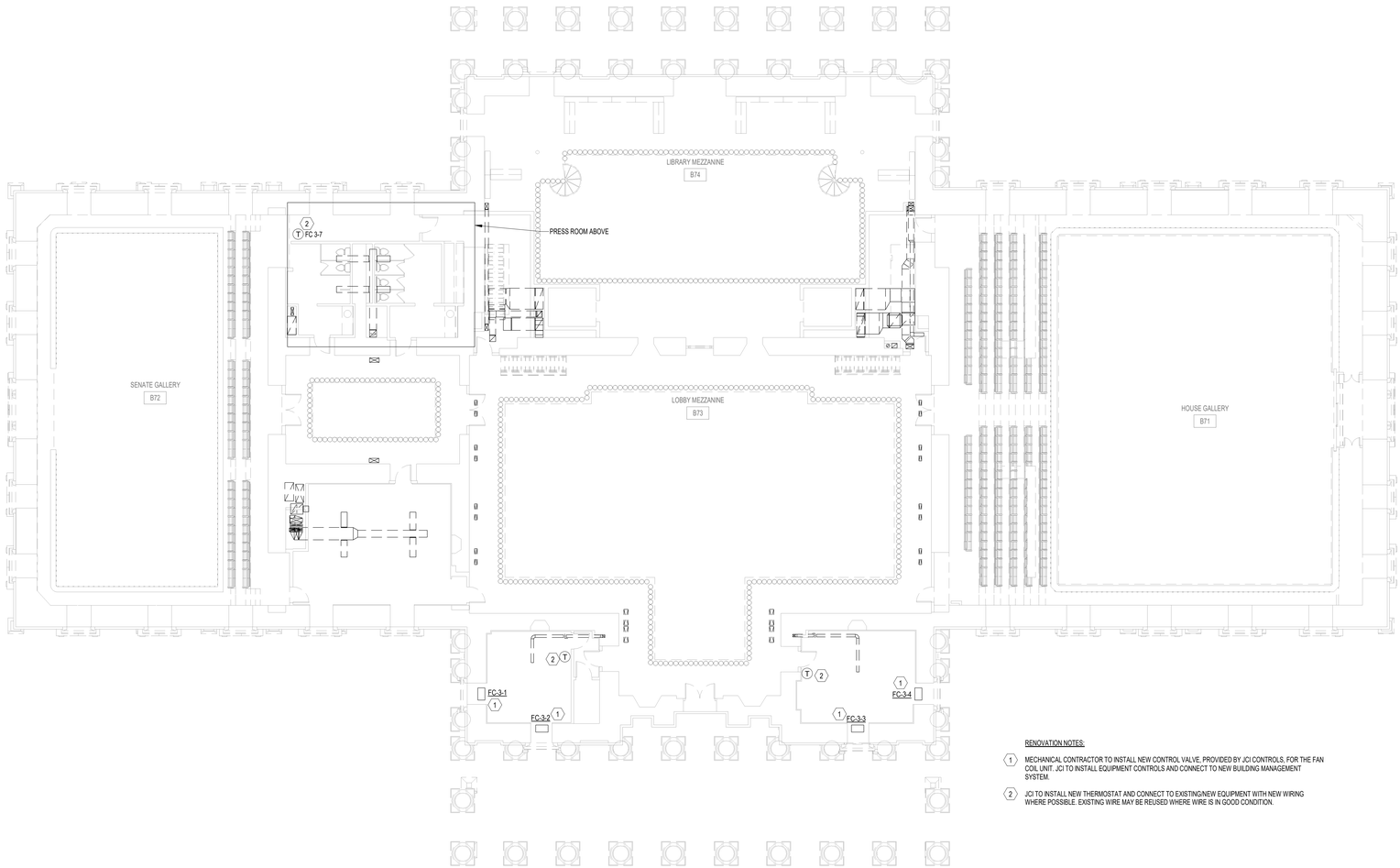


2 THIRD INTERMEDIATE FLOOR - PRESS ROOM RENOVATION
1/8" = 1'-0"



1 THIRD FLOOR RENOVATION PLAN
3/32" = 1'-0"

RENOVATION NOTES:

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 33368 BRYANT L. McDANIEL

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key plan

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sheet title
THIRD FLOOR RENOVATION PLAN

sheet number
M2.4

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checked by Checker

GENERAL NOTES:

- CONTRACTOR TO COORDINATE REMOVAL AND REPLACEMENT OF VAV BOXES AND DAMPERS WITH DOWNTIME ASSOCIATED WITH AH-1 REBUILD. CONTRACTOR TO COORDINATE REPLACEMENT OF VAV BOXES AT ANY OTHER TIME WITH OWNER TO REDUCE IMPACT ON OCCUPIED SPACES. BUILDING TO REMAIN OPERABLE THROUGHOUT CONSTRUCTION.

- JCI TO HAVE FRONT END CONTROLS, WIRING, ETC INSTALLED AND READY PRIOR TO SWITCHING EQUIPMENT CONTROLS FROM OLD SYSTEM TO NEW SYSTEM TO MINIMIZE DOWNTIME. DOWNTIME TO BE COORDINATED WITH MECHANICAL CONTRACTOR FOR WORK TO BE COMPLETED SIMULTANEOUSLY.

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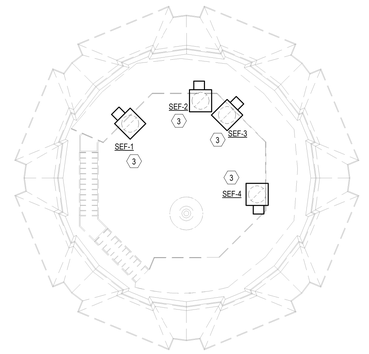
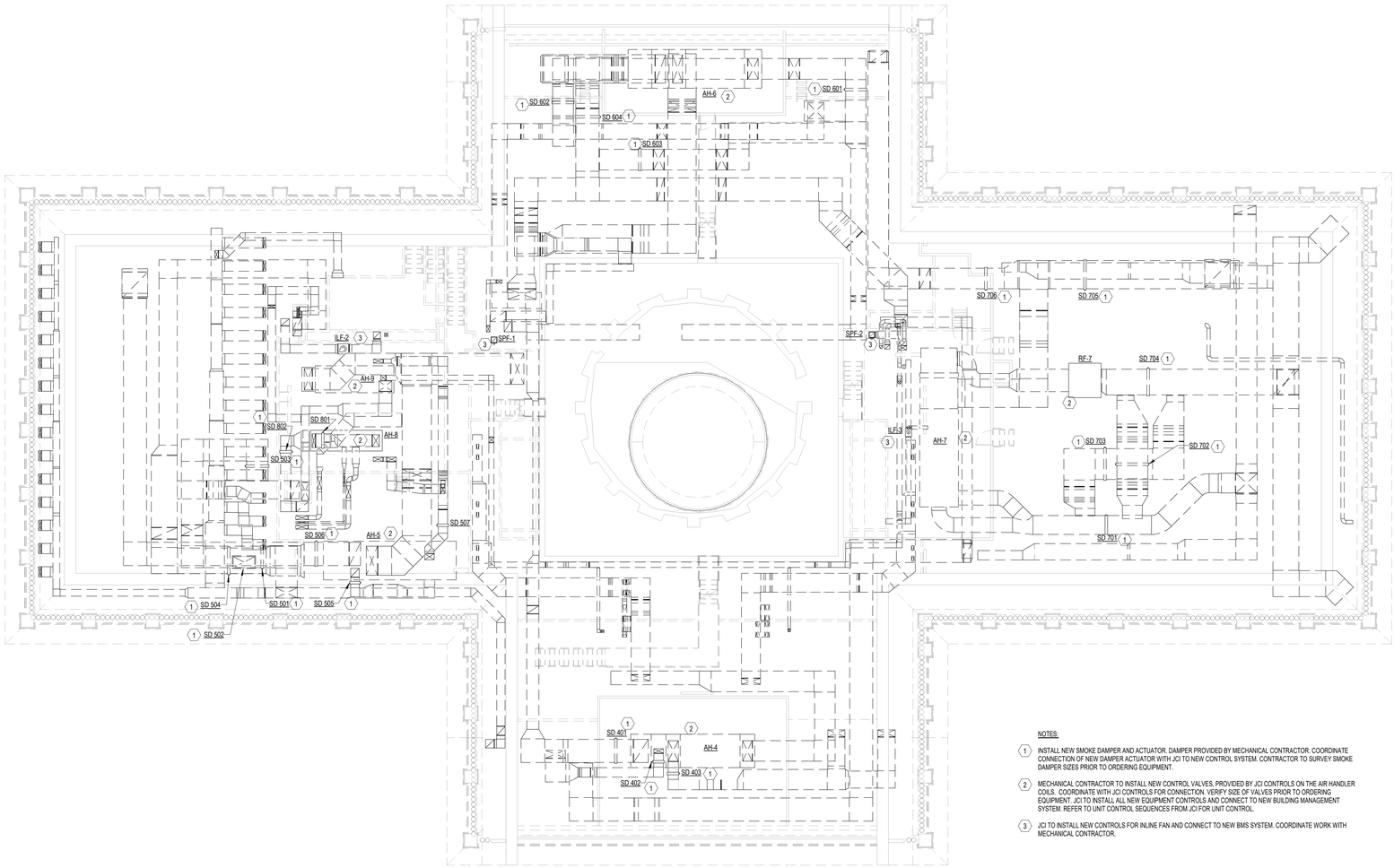


2 1ST LEVEL CUPOLA RENOVATION PLAN
3/32" = 1'-0"



1 ATTIC FLOOR RENOVATION PLAN
3/32" = 1'-0"

NOTES:

1. INSTALL NEW SMOKE DAMPER AND ACTUATOR. DAMPER PROVIDED BY MECHANICAL CONTRACTOR. COORDINATE CONNECTION OF NEW DAMPER ACTUATOR WITH JCI TO NEW CONTROL SYSTEM. CONTRACTOR TO SURVEY SMOKE DAMPER SIZES PRIOR TO ORDERING EQUIPMENT.
2. MECHANICAL CONTRACTOR TO INSTALL NEW CONTROL VALVES, PROVIDED BY JCI CONTROLS ON THE AIR HANDLER COILS. COORDINATE WITH JCI CONTROLS FOR CONNECTION. VERIFY SIZE OF VALVES PRIOR TO ORDERING EQUIPMENT. JCI TO INSTALL ALL NEW EQUIPMENT CONTROLS AND CONNECT TO NEW BUILDING MANAGEMENT SYSTEM. REFER TO UNIT CONTROL SEQUENCES FROM JCI FOR UNIT CONTROL.
3. JCI TO INSTALL NEW CONTROLS FOR INLINE FAN AND CONNECT TO NEW BMS SYSTEM. COORDINATE WORK WITH MECHANICAL CONTRACTOR.

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project name
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seals/signature

SOUTH CAROLINA
GMK, INC.
No. C00287
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 33368
BRIAN L. McDANIEL

issued for
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12/10/25

number	item	date

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sheet title
ATTIC RENOVATION PLAN

sheet number
M2.5

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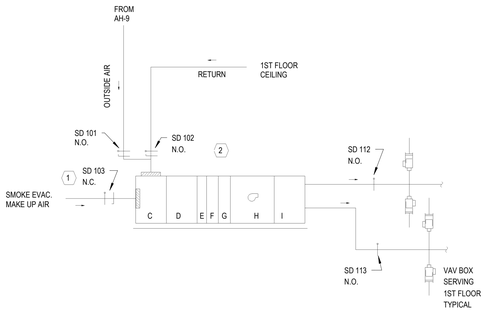
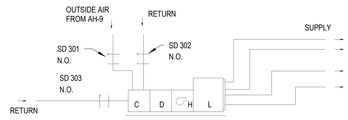
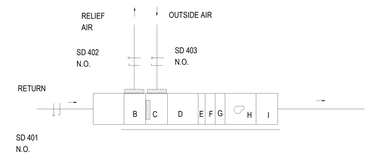
checked by Checker



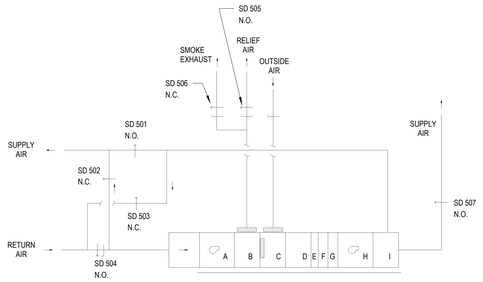
1 AH-1 CONTROLS SCHEMATIC
NTS



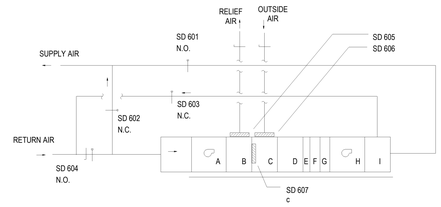
2 AH-3 CONTROLS SCHEMATIC
NTS



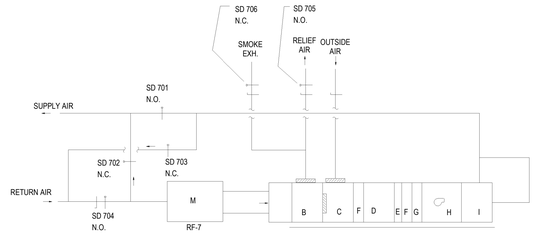
3 AH-4 CONTROLS SCHEMATIC
NTS



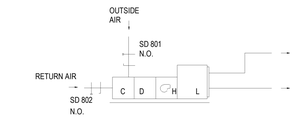
4 AH-5 CONTROLS SCHEMATIC
NTS



5 AH-6 CONTROLS SCHEMATIC
NTS

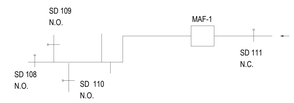


6 AH-7 CONTROLS SCHEMATIC
NTS



7 AH-8 CONTROLS SCHEMATIC
1/8" = 1'-0"

8 AH-9 CONTROLS SCHEMATIC
NTS



9 MAF-1 CONTROLS SCHEMATIC
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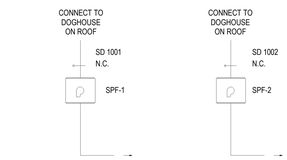
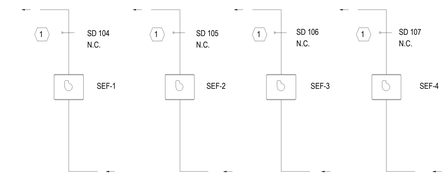


10 STAIR PRESSURIZTION CONTROLS SCHEMATIC
NTS



11 DOME CONTROLS SCHEMATIC
1/8" = 1'-0"

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key plan

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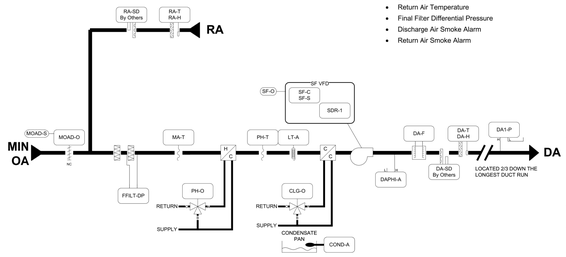
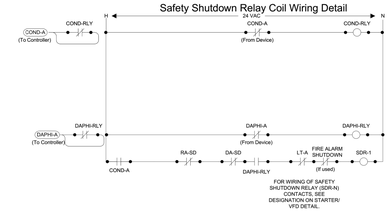
sheet title
MECHANICAL CONTROLS SCHEMATICS

sheet number
M5.0

drawn by BLM
checked by Checker





ADDITIONAL POINTS MONITORED BY THE FMS:

- Minimum Outdoor Air Damper Status
- Mixed Air Temperature
- Discharge Air Humidity
- Discharge Air Flow
- Return Air Temperature
- Final Filter Differential Pressure
- Discharge Air Smoke Alarm
- Return Air Smoke Alarm

SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
The variable speed supply fan will be started based on occupancy schedule. When the supply fan status indicates the fan started, the control sequence will be enabled. The supply fan will modulate to maintain the discharge static pressure at setpoint. Upon a loss of airflow, the system will attempt to automatically restart until positive status is received.

MINIMUM OA CONTROL:
The minimum OA damper will open when the unit is in occupied mode. The fresh air intake of the unit will be limited to prevent the preheat temperature from falling below the low limit setpoint.

TEMPERATURE CONTROL:
The unit will control to maintain a constant discharge air temperature.

WARMUP/COOLDOWN MODE:
The warmup/cooldown mode will be initiated by the network input. The unit will control to occupied setpoints during warmup and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

PREHEAT COIL:
The preheat will modulate to maintain the temperature setpoint. When the unit is shutdown, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint.

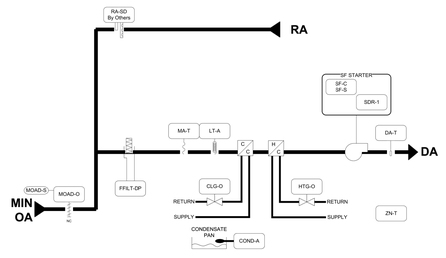
COOLING COIL:
The cooling coil will modulate to maintain the temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow , the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled via a hard wired shutdown circuit.

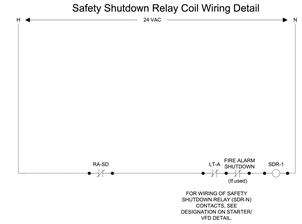
UNIT ENABLE:
A network unit enable signal will control the mode of the unit.

UNIT PROTECTION:

- Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
- Discharge Air High Duct Pressure Alarm - When in "Alarm", the control sequence will stop running and the fan(s) will be disabled via a hard wired shutdown circuit.
- Discharge Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.
- Return Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

1 AH-1 CONTROLS SEQUENCE
NTS





SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
The constant speed supply fan will be started based on occupancy schedule. When the supply fan status indicates the fan started, the control sequence will be enabled. Upon a loss of airflow, the system will attempt to automatically restart until positive status is received.

MINIMUM OA CONTROL:
The minimum OA damper will open when the unit is in occupied mode. The fresh air intake of the unit will be limited to prevent the mixed air temperature from falling below the low limit setpoint.

TEMPERATURE CONTROL:
The discharge air temperature setpoint will be reset as the zone temperature changes.

WARMUP/COOLDOWN MODE:
The warmup/cooldown mode will be initiated by the network input. The unit will control to occupied setpoints during warmup and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

COOLING COIL:
The cooling coil will modulate to maintain the temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled.

HEATING COIL:
The heating coil will modulate to maintain the temperature setpoint. When the unit is shutdown, the heating coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the heating coil will remain in control.

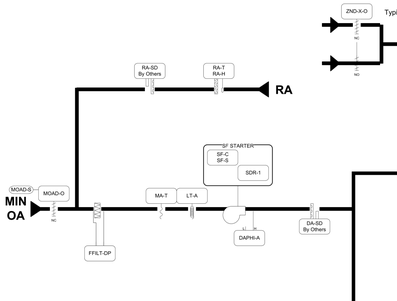
UNIT PROTECTION:

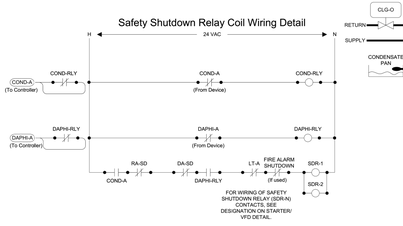
- Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
- Return Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

ADDITIONAL POINTS MONITORED BY THE FMS:

- Minimum Outdoor Air Damper Status
- Final Filter Differential Pressure
- Return Air Smoke Alarm

2 AH-2 CONTROLS SEQUENCE
NTS





SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
The constant speed supply fan will be started based on occupancy schedule. When the supply fan status indicates the fan started, the control sequence will be enabled. Upon a loss of airflow, the supply fan will attempt to automatically restart until positive status is received. .

TEMPERATURE CONTROL:
The unit will control to maintain a constant cold deck and hot deck discharge air temperature.

WARMUP/COOLDOWN MODE:
The Warm-up and Cooldown mode will be initiated by the network input. The unit will control to occupied setpoints during warmup and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

COLD DECK:
The cooling coil will modulate to maintain the cold deck temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled via a hard wired shutdown circuit.

HOT DECK:
The hot deck coil will modulate to maintain the hot deck temperature setpoint. When the unit is shutdown, the hot deck coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow (SF-S), the hot deck coil will remain in control.

ZONE CONTROL:
The zone temperature sensor for each zone will modulate the zone mixing damper on the unit to maintain the zone temperature setpoint.

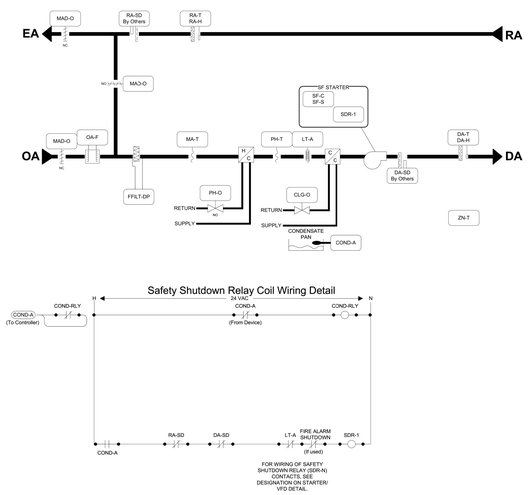
UNIT PROTECTION:

- Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
- Discharge Air High Duct Pressure Alarm - When in "Alarm", the control sequence will stop running and the fan(s) will be disabled via a hard wired shutdown circuit.
- Discharge Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.
- Return Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

ADDITIONAL POINTS MONITORED BY THE FMS:

- Mixed Air Temperature
- Return Air Temperature
- Return Air Humidity
- Final Filter Differential Pressure
- Discharge Air Smoke Alarm
- Return Air Smoke Alarm

3 AH-3 CONTROLS SEQUENCE
NTS



SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
The constant speed supply fan will be started based on occupancy schedule. When the supply fan status indicates the fan started, the control sequence will be enabled. Upon a loss of airflow, the system will attempt to automatically restart until positive status is received.

ECONOMIZER CONTROL:
When the outdoor air is cooler than the economizer setpoint, the economizer will act as the initial stage of cooling, working in sequence with the cooling coil.

MINIMUM OA CONTROL:
The fresh air intake of the unit will be limited to prevent the preheat temperature from falling below the low limit setpoint.

TEMPERATURE CONTROL:
The discharge air temperature setpoint will be reset as the zone temperature changes.

WARMUP/COOLDOWN MODE:
The warmup/cooldown mode will be initiated by the network input. The unit will control to occupied setpoints during warmup and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

PREHEAT COIL:
The preheat will modulate to maintain the temperature setpoint. When the unit is shutdown, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint.

COOLING COIL:
The cooling coil will modulate to maintain the temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled via a hard wired shutdown circuit.

UNIT PROTECTION:
Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
Discharge Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.
Return Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

ADDITIONAL POINTS MONITORED BY THE FMS:
Outdoor Air Flow
Mixed Air Temperature
Return Air Temperature
Return Air Humidity
Discharge Air Humidity
Final Filter Differential Pressure
Discharge Air Smoke Alarm
Return Air Smoke Alarm

4 AH-4 CONTROLS SEQUENCE
NTS

NOTE:
-CONTROLS SEQUENCES PROVIDED BY JCI AND REVIEWED BY GMK ASSOCIATES.

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SC DEPARTMENT OF ADMINISTRATION - DIVISION OF FACILITIES MANAGEMENT AND PROPERTY SERVICES

project name
SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

project number
JOB NO. D50-6103-LC

seals/signature

SOUTH CAROLINA
GMK, INC.
No. C00287
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 33368
BRYANT L. McCANTS

issued for
CONSTRUCTION

date
12/10/25

number	*item*	*date*

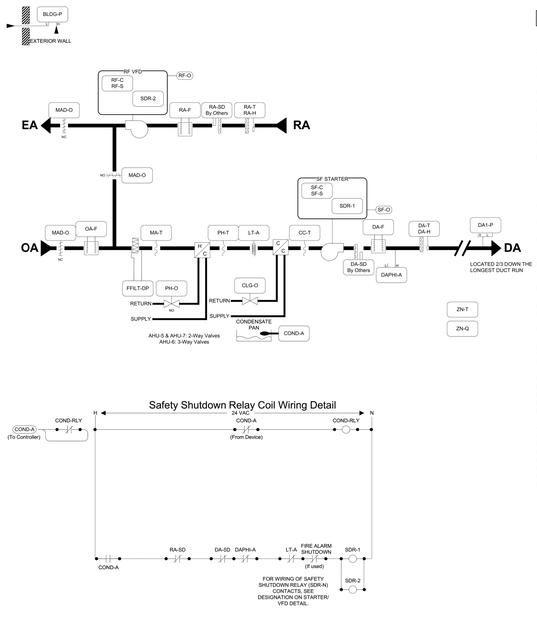
key plan

N

sheet title
MECHANICAL CONTROLS SEQUENCES

sheet number
M5.1

drawn by BLM
checked by Checker



1 AH-5,6,7 CONTROLS SEQUENCE
NTS

SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
The variable speed supply fan will be started based on occupancy schedule. When the supply fan status indicates the fan started, the control sequence will be enabled. The supply fan will modulate to maintain the discharge static pressure at setpoint. Upon a loss of airflow, the system will attempt to automatically restart until positive status is received.

RETURN FAN CONTROL:
After the supply fan has been started, the variable speed return fan will be started. The return fan will modulate to maintain the building static pressure at setpoint

ECONOMIZER CONTROL:
When the outdoor air is cooler than the economizer setpoint, the economizer will act as the initial stage of cooling, working in sequence with the cooling coil.

MINIMUM OA CONTROL:
The fresh air intake of the unit will be limited to prevent the preheat temperature from falling below the low limit setpoint.

TEMPERATURE CONTROL:
The discharge air temperature setpoint will be reset as the zone temperature changes.

WARMUP/COOLDOWN MODE:
The warmup/cooldown mods will be initiated by the network input. The unit will control to occupied setpoints during warmup and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

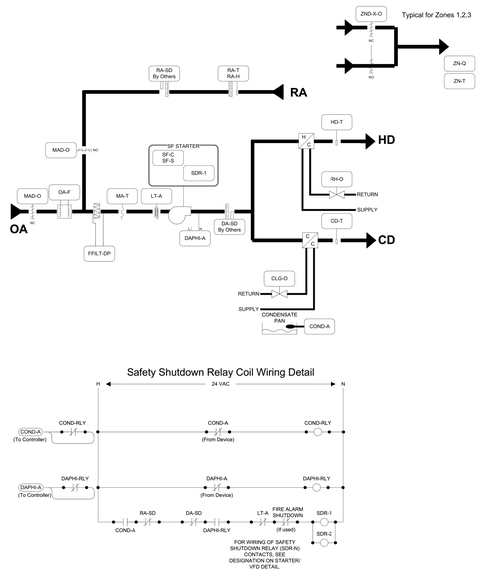
UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

PREHEAT COIL:
The preheat will modulate to maintain the temperature setpoint. When the unit is shutdown, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint.

COOLING COIL:
The cooling coil will modulate to maintain the temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled via a hard wired shutdown circuit.

UNIT PROTECTION:
Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
Discharge Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.
Return Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

ADDITIONAL POINTS MONITORED BY THE FMS:
- Outdoor Air Flow
- Return Air Flow
- Discharge Air Flow
- Return Fan Status
- Mixed Air Temperature
- Return Air Humidity
- Discharge Air Humidity
- Return Air Temperature
- Cooling Coil Discharge Temperature
- Final Filter Differential Pressure
- Zone Quality
- Discharge Air Smoke Alarm
- Return Air Smoke Alarm



2 AH-8 CONTROLS SEQUENCE
NTS

SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
The constant speed supply fan will be started based on occupancy schedule. When the supply fan status indicates the fan started, the control sequence will be enabled. Upon a loss of airflow, the supply fan will attempt to automatically restart until positive status is received. .

ECONOMIZER CONTROL:
When the outdoor air is cooler than the economizer setpoint, the economizer will act as the initial stage of cooling, working in sequence with the cooling coil. The fresh air intake of the unit will be limited to prevent the mixed air temperature from falling below the low limit setpoint.

MINIMUM OA CONTROL:
The OA damper will open and close as required to maintain the minimum OA flow setpoint.

TEMPERATURE CONTROL:
The unit will control to maintain a constant cold deck and hot deck discharge air temperature.

WARMUP/COOLDOWN MODE:
The Warm-up and Cooldown mode will be initiated by the network input. The unit will control to occupied setpoints during warmup and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

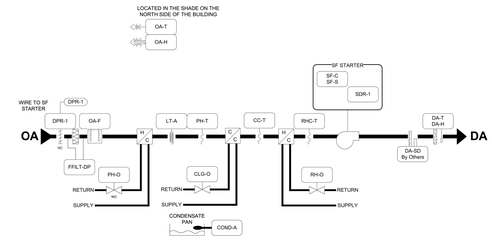
COLD DECK:
The cooling coil will modulate to maintain the cold deck temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled via a hard wired shutdown circuit.

HOT DECK:
The hot deck coil will modulate to maintain the hot deck temperature setpoint. When the unit is shutdown, the hot deck coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow (SF-S), the hot deck coil will remain in control.

ZONE CONTROL:
The zone temperature sensor for each zone will modulate the zone mixing damper on the unit to maintain the zone temperature setpoint.

UNIT PROTECTION:
- Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
- Discharge Air High Duct Pressure Alarm - When in "Alarm", the control sequence will stop running and the fan(s) will be disabled via a hard wired shutdown circuit.
- Discharge Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.
- Return Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

ADDITIONAL POINTS MONITORED BY THE FMS:
- Return Air Temperature
- Final Filter Differential Pressure
- Zone Quality
- Discharge Air Smoke Alarm
- Return Air Smoke Alarm



3 AH-9 CONTROLS SEQUENCE
NTS

SEQUENCE OF OPERATION

SUPPLY FAN CONTROL:
Upon a start command the isolation damper(s) will open. When open status is achieved, the constant speed supply fan will be started based on occupancy. After the start command is sent, the outside air damper will open, and the unit will start when the damper end switch has proven open status. When the supply fan status indicates the fan started, the control sequence will be enabled. Upon a loss of airflow, the supply fan will attempt to automatically restart until positive status is received. .

TEMPERATURE CONTROL:
The unit will control to maintain a constant discharge air temperature.

WARMUP/COOLDOWN MODE:
The warm-up and cooldown mode will be initiated by the network input. The unit will control to occupied setpoints during warm-up and cooldown cycles.

OCCUPIED MODE:
The occupancy mode will be controlled via a network input. The occupancy mode can also be overridden by a network input.

UNOCCUPIED MODE:
The unit will remain off during unoccupied periods.

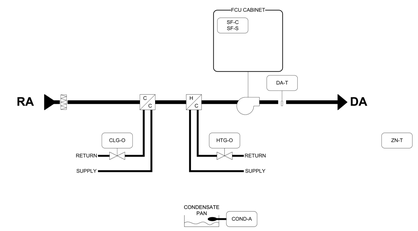
PREHEAT COIL:
The preheat coil will modulate to maintain the discharge air temperature setpoint. When the unit is shutdown, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the preheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint.

COOLING COIL:
The cooling coil will modulate to maintain the discharge air temperature setpoint. When the unit is shutdown, the cooling coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the cooling coil will be off. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled via a hard wired shutdown circuit.

REHEAT COIL:
The reheat coil will modulate to maintain the discharge air temperature setpoint. When the unit is shutdown, the reheat coil will be commanded to a preset position should the outdoor air temperature fall below the low outdoor air temperature setpoint. Upon a loss of airflow, the reheat coil will remain in control.

UNIT PROTECTION:
Low Temperature Alarm - When in "Alarm", the control sequence will stop running, the valve(s) will open and the fan(s) will be disabled via a hard wired shutdown circuit.
Discharge Air Smoke Detector - Disables the fan(s) via a hard wired shutdown circuit.

ADDITIONAL POINTS MONITORED BY THE FMS:
- Outdoor Air Temperature
- Outdoor Air Humidity
- Outdoor Air Flow
- Discharge Air Humidity
- Preheat Temperature
- Cooling Coil Discharge Temperature
- Reheat Coil Discharge Temperature
- Final Filter Differential Pressure
- Discharge Air Smoke Alarm



4 FAN COIL UNITS AND AH-10 CONTROLS SEQUENCE
NTS

SEQUENCE OF OPERATION

UNIT ENABLE:
When the network input unit enable switch is set to occupied, the control sequence will be enabled.

OCCUPIED MODE:
During occupied mode, the constant speed supply fan will be started and will run continuously. The cooling coil and heating coil will modulate in sequence to maintain the zone temperature setpoint. When the condensate float switch is in "Alarm", the cooling control sequence will be disabled. Then the fan(s) will be disabled.

UNOCCUPIED MODE:
The unit will always be in an occupied mode.

ADDITIONAL POINTS MONITORED BY THE FMS:
- Supply Fan Status
- Discharge Air Temperature

NOTE:
-CONTROLS SEQUENCES PROVIDED BY JCI AND REVIEWED BY GMK ASSOCIATES.

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owner
SC DEPARTMENT OF ADMINISTRATION - DIVISION OF FACILITIES MANAGEMENT AND PROPERTY SERVICES

project name
SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

project number
JOB NO. D50-6103-LC

seals/signature

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION GMK, INC. No. C00287

SOUTH CAROLINA PROFESSIONAL ENGINEER Brian L. McDaniel No. 33368 BRIAN L. McDANIEL

issued for
CONSTRUCTION

date
12/10/25

number	item	date

key plan

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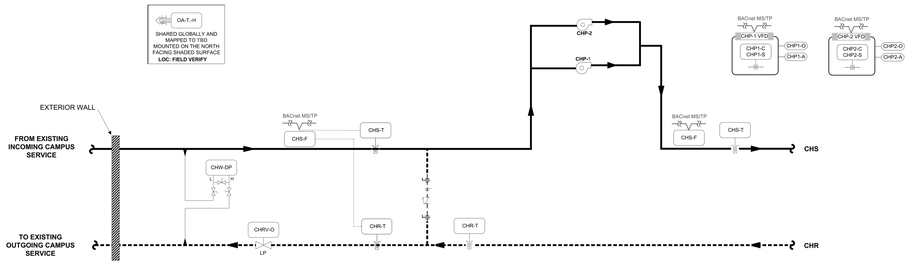
sheet title
MECHANICAL CONTROLS SEQUENCES

sheet number
M5.2

drawn by BLM
checked by Checker

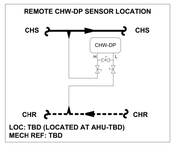


SEQUENCE OF OPERATION

SYSTEM ENABLE:
The cooling system will automatically start when the system enable is "ON". When the system enable is "OFF", the cooling system will be disabled.

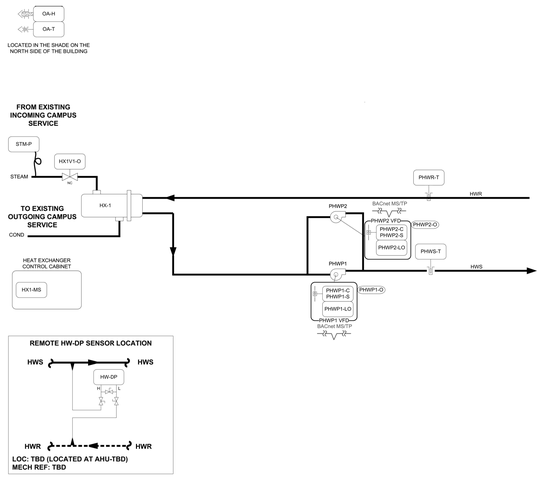
TERTIARY LOOP PUMPING:
The lead tertiary pump will be started when the system is enabled. Each variable frequency drive will be modulated in unison to maintain tertiary loop differential pressure. Additional pumps will be started as required to maintain the differential pressure in the tertiary loop. When an additional pump is required, the pump with the lowest runtime total shall be enabled to run. If the pump status does not match the command, an alarm will be generated and the pump will be stopped. Upon loss of status, the pump will restart after the system reset is activated. A switch is provided to disable each pump and remove it from rotation. The distribution loop chilled water return valve will modulate to maintain the desired building chilled water return temperature setpoint.

ADDITIONAL POINTS MONITORED BY THE BAS:
Building Loop Chilled Water Supply Temperature
Building Loop Chilled Water Flow Meter
Distribution Loop Chilled Water Supply Temperature
Distribution Loop Chilled Water Return Temperature
Distribution Loop Chilled Water Differential Pressure
Distribution Loop Chilled Water Flow Meter



NOTES:
1. DEVICES IN GRAY ARE PROVIDED BY OTHERS.

1 CHILLED WATER SYSTEM CONTROLS SEQUENCE
NTS



SEQUENCE OF OPERATION

SYSTEM ENABLE:
The heating system will automatically start when the system enable is "ON". When the system enable is "OFF", the heating system will be disabled.

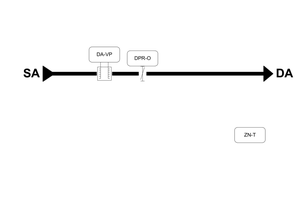
HEAT EXCHANGER CONTROL:
This system consists of one steam heat exchanger. A steam inlet valve will modulate to maintain the desired hot water supply temperature to setpoint as reset by the outdoor air temperature. A manual switch is provided to disable the heat exchanger.

HOT WATER PUMP CONTROL:
When enabled, a pump for each operating heat exchanger will be started. When an additional pump is required, the pump with the lowest runtime total shall be enabled to run. A manual switch is provided to disable each pump and remove it from rotation. If the pump status does no match the command, an alarm will be generated and the pump will be stopped. Upon loss of status, the pump will restart after the system reset is manually activated. When a pump status is verified, the pump will be modulated to maintain the desired system differential pressure of the system. A 3-way bypass valve will be modulated to maintain differential pressure setpoint in the water loop when the pump output is commanded to minimum speed.

ADDITIONAL POINTS MONITORED BY THE FMS:

- Steam Pressure
- Primary HW Return Temperature
- Outdoor Air Temperature
- Outdoor Air Humidity

2 HOT WATER SYSTEM CONTROLS SEQUENCE
NTS



SEQUENCE OF OPERATION

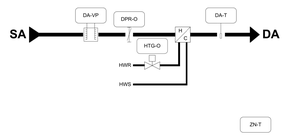
OCCUPIED MODE:
When the zone temperature is below the cooling setpoint, the primary air damper will be at the minimum CFM. On a rise in zone temperature above the cooling setpoint, the primary air damper will increase the CFM.

UNOCCUPIED MODE:
When in this mode, while the zone temperature is between the unoccupied heating and cooling setpoints (inside of the bias), the primary air damper will be at the minimum CFM. On a rise in zone temperature above the unoccupied cooling setpoint, the primary air damper will increase the CFM (if available). On a drop in zone temperature below the unoccupied heating setpoint, the primary air damper will be at the minimum CFM.

UNIT ENABLE:
A network unit enable signal will control the mode of the box.

NETWORK WARMUP-COOLDOWN:
Warm-up and Cooldown modes will be activated by a network command. When the zone temperature is below the effective heating setpoint, the box damper will be modulated to allow warm air flow to maintain the zone temperature. When the box effective heating setpoint is satisfied the flow will remain at the warm-up minimum position until the warm command has been removed.

3 VAV - COOLING ONLY CONTROLS SEQUENCE
NTS



SEQUENCE OF OPERATION

OCCUPIED MODE:
When the zone temperature is between the occupied heating and cooling setpoints (inside of the bias), the primary air damper will be at the minimum CFM and there will be no mechanical heating. On a rise in zone temperature above the cooling setpoint, the primary air damper will increase the CFM and there will be no mechanical heating. On a drop in zone temperature below the heating setpoint, the reheat coil will be used to maintain the zone temperature and the damper is controlled to provide a minimum CFM.

UNOCCUPIED MODE:
When in this mode, while the zone temperature is between the unoccupied heating and cooling setpoints (inside of the bias), the primary air damper will be at the minimum CFM and there will be no mechanical heating. On a rise in zone temperature above the unoccupied cooling setpoint, the primary air damper will increase the CFM (if available) and there will be no mechanical heating. On a drop in zone temperature below the unoccupied heating setpoint, the reheat coil will be used to maintain the zone temperature and the primary air damper will be at the minimum CFM.

DISCHARGE AIR TEMP SENSOR:
A discharge air temp sensor is provided on each box for monitoring purposes.

UNIT ENABLE:
A network unit enable signal will control the mode of the box.

NETWORK WARMUP-COOLDOWN:
Warm-up and Cooldown modes will be activated by a network command. When the zone temperature is below the effective heating setpoint, the box damper will be modulated to allow warm air flow, then reheat coil to maintain the zone temperature. When the box effective heating setpoint is satisfied the flow will remain at the warm-up minimum position until the warm command has been removed.

4 VAV WITH HOT WATER REHEAT CONTROLS SEQUENCE
NTS

NOTE:
-CONTROLS SEQUENCES PROVIDED BY JCI AND REVIEWED BY GMK ASSOCIATES.

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consultants

owner
SC DEPARTMENT OF ADMINISTRATION - DIVISION OF FACILITIES MANAGEMENT AND PROPERTY SERVICES

project name
SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD
project number
JOB NO. D50-6103-LC

seals/signature
SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION GMK, INC. No. C00287
SOUTH CAROLINA PROFESSIONAL ENGINEER No. 33368 BRIAN L. McDANIEL

issued for
CONSTRUCTION

date
12/10/25

number	*item*	*date*

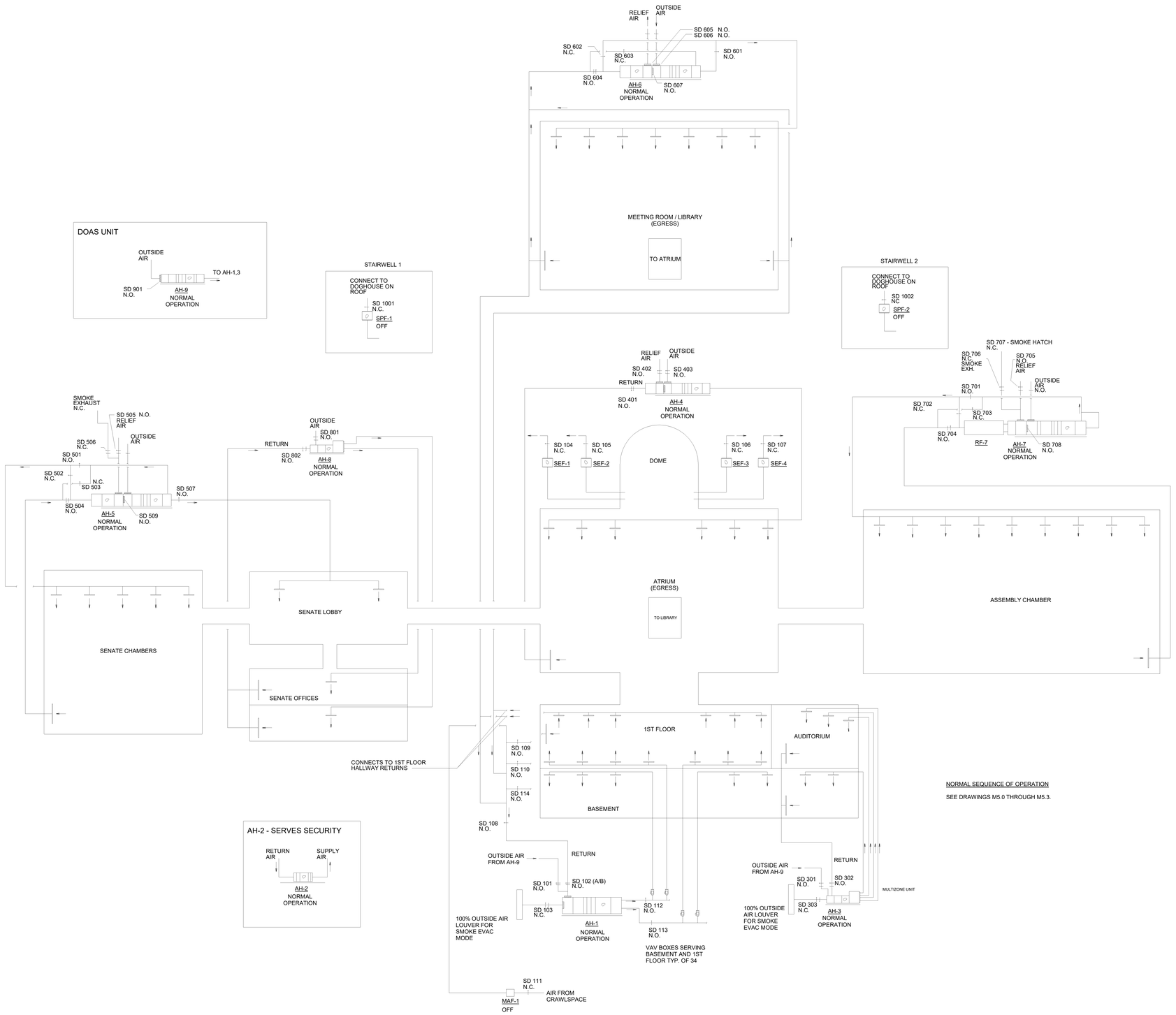
key plan

N

sheet title
MECHANICAL CONTROLS SEQUENCES

sheet number
M5.3

drawn by BLM
checked by Checker



NORMAL SEQUENCE OF OPERATION

SEE DRAWINGS M5.0 THROUGH M5.3.

1 CONTROLS SCHEMATIC - NORMAL SYSTEMS OPERATION
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CONTROLS SCHEMATIC - NORMAL SYSTEMS OPERATION

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M5.4

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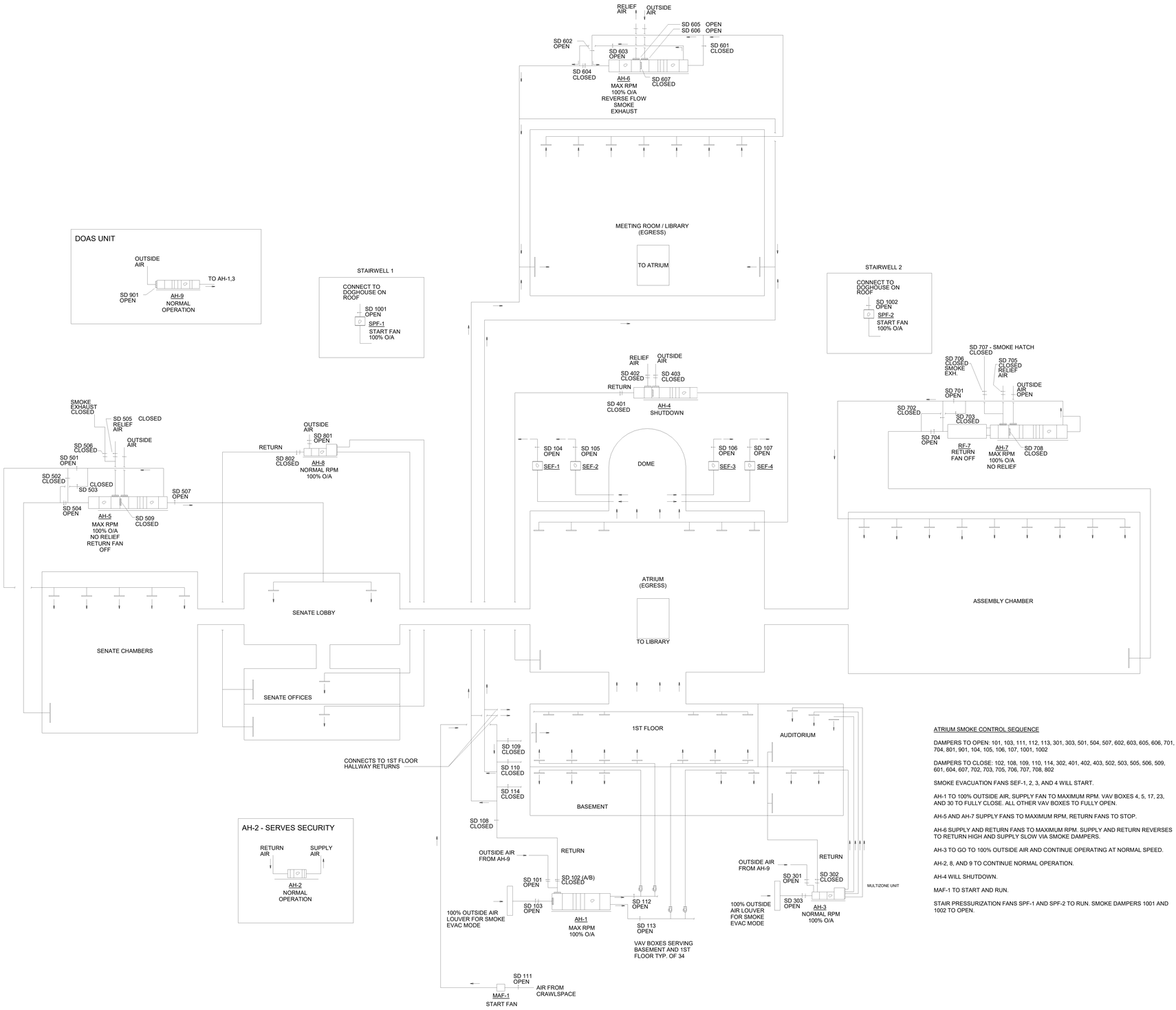

ATRIUM SMOKE CONTROL SEQUENCE

DAMPERS TO OPEN: 101, 103, 111, 112, 113, 301, 303, 501, 504, 507, 602, 603, 605, 606, 701, 704, 801, 901, 104, 105, 106, 107, 1001, 1002

DAMPERS TO CLOSE: 102, 108, 109, 110, 114, 302, 401, 402, 403, 502, 503, 505, 506, 509, 601, 604, 607, 702, 703, 705, 706, 707, 708, 802

SMOKE EVACUATION FANS SEF-1, 2, 3, AND 4 WILL START.

AH-1 TO 100% OUTSIDE AIR, SUPPLY FAN TO MAXIMUM RPM. VAV BOXES 4, 5, 17, 23, AND 30 TO FULLY CLOSE. ALL OTHER VAV BOXES TO FULLY OPEN.

AH-5 AND AH-7 SUPPLY FANS TO MAXIMUM RPM, RETURN FANS TO STOP.

AH-6 SUPPLY AND RETURN FANS TO MAXIMUM RPM. SUPPLY AND RETURN REVERSES TO RETURN HIGH AND SUPPLY SLOW VIA SMOKE DAMPERS.

AH-3 TO GO TO 100% OUTSIDE AIR AND CONTINUE OPERATING AT NORMAL SPEED.

AH-2, 8, AND 9 TO CONTINUE NORMAL OPERATION.

AH-4 WILL SHUTDOWN.

MAF-1 TO START AND RUN.

STAIR PRESSURIZATION FANS SPF-1 AND SPF-2 TO RUN. SMOKE DAMPERS 1001 AND 1002 TO OPEN.

1 CONTROLS SCHEMATIC - ATRIUM SMOKE EVAC OPERATION
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sheet title
CONTROLS SCHEMATIC - ATRIUM SMOKE EVAC OPERATION

sheet number
M5.5

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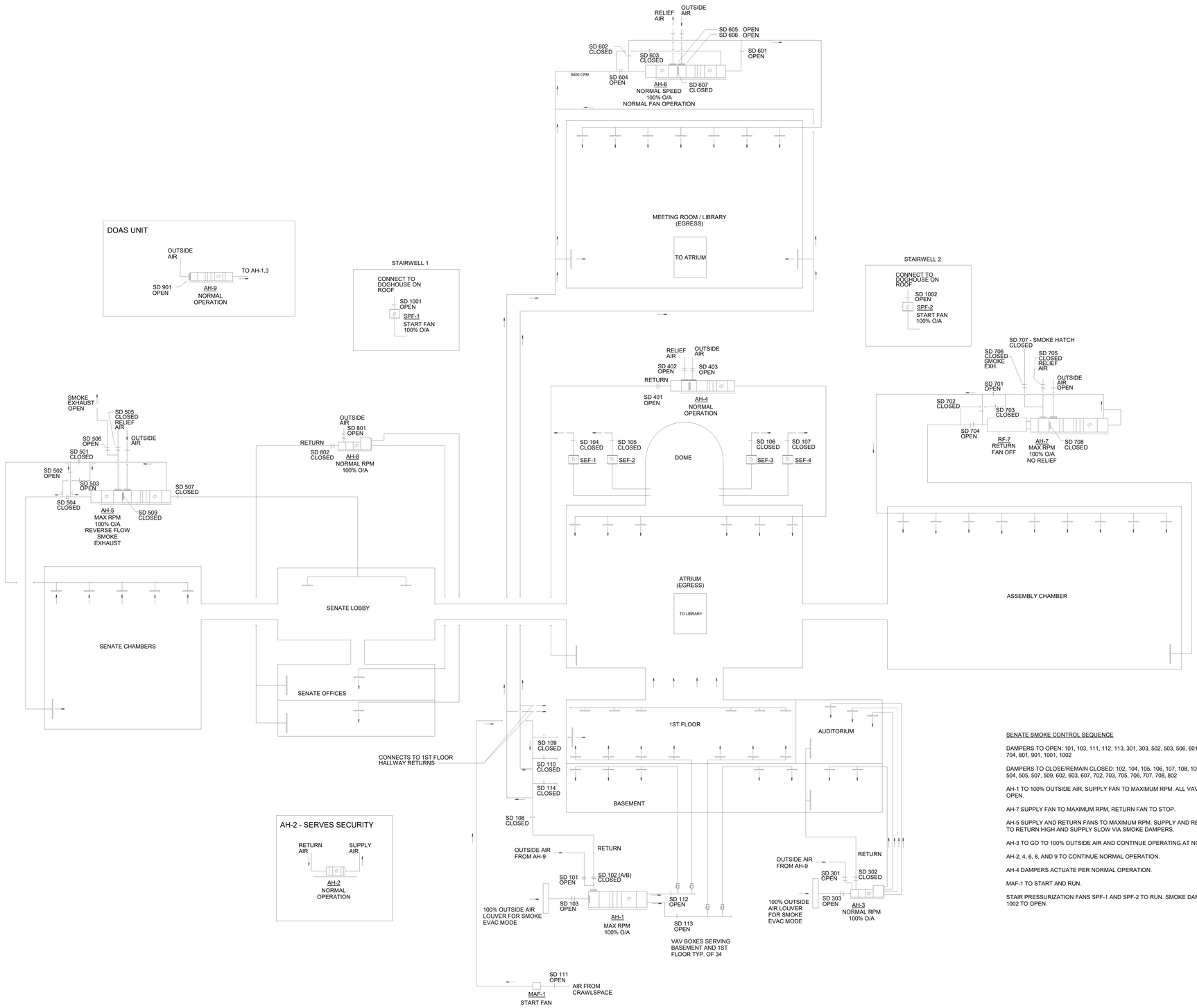

1 CONTROLS SCHEMATIC - SENATE SMOKE EVAC OPERATION
1/16" = 1'-0"

SENATE SMOKE CONTROL SEQUENCE

DAMPERS TO OPEN: 101, 103, 111, 112, 113, 301, 303, 502, 503, 506, 601, 604, 605, 606, 701, 704, 801, 901, 1001, 1002 .

DAMPERS TO CLOSE/REMAIN CLOSED: 102, 104, 105, 106, 107, 108, 109, 110, 114, 302, 501, 504, 505, 507, 509, 602, 603, 607, 702, 703, 705, 706, 707, 708, 802

AH-1 TO 100% OUTSIDE AIR, SUPPLY FAN TO MAXIMUM RPM. ALL VAV BOXES TO FULLY OPEN.

AH-7 SUPPLY FAN TO MAXIMUM RPM, RETURN FAN TO STOP.

AH-5 SUPPLY AND RETURN FANS TO MAXIMUM RPM. SUPPLY AND RETURN REVERSES TO RETURN HIGH AND SUPPLY SLOW VIA SMOKE DAMPERS.

AH-3 TO GO TO 100% OUTSIDE AIR AND CONTINUE OPERATING AT NORMAL SPEED.

AH-2, 4, 6, 8, AND 9 TO CONTINUE NORMAL OPERATION.

AH-4 DAMPERS ACTUATE PER NORMAL OPERATION.

MAF-1 TO START AND RUN.

STAIR PRESSURIZATION FANS SPF-1 AND SPF-2 TO RUN. SMOKE DAMPERS 1001 AND 1002 TO OPEN.

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CONTROLS SCHEMATIC - SENATE SMOKE EVAC OPERATION

sheet number
M5.6

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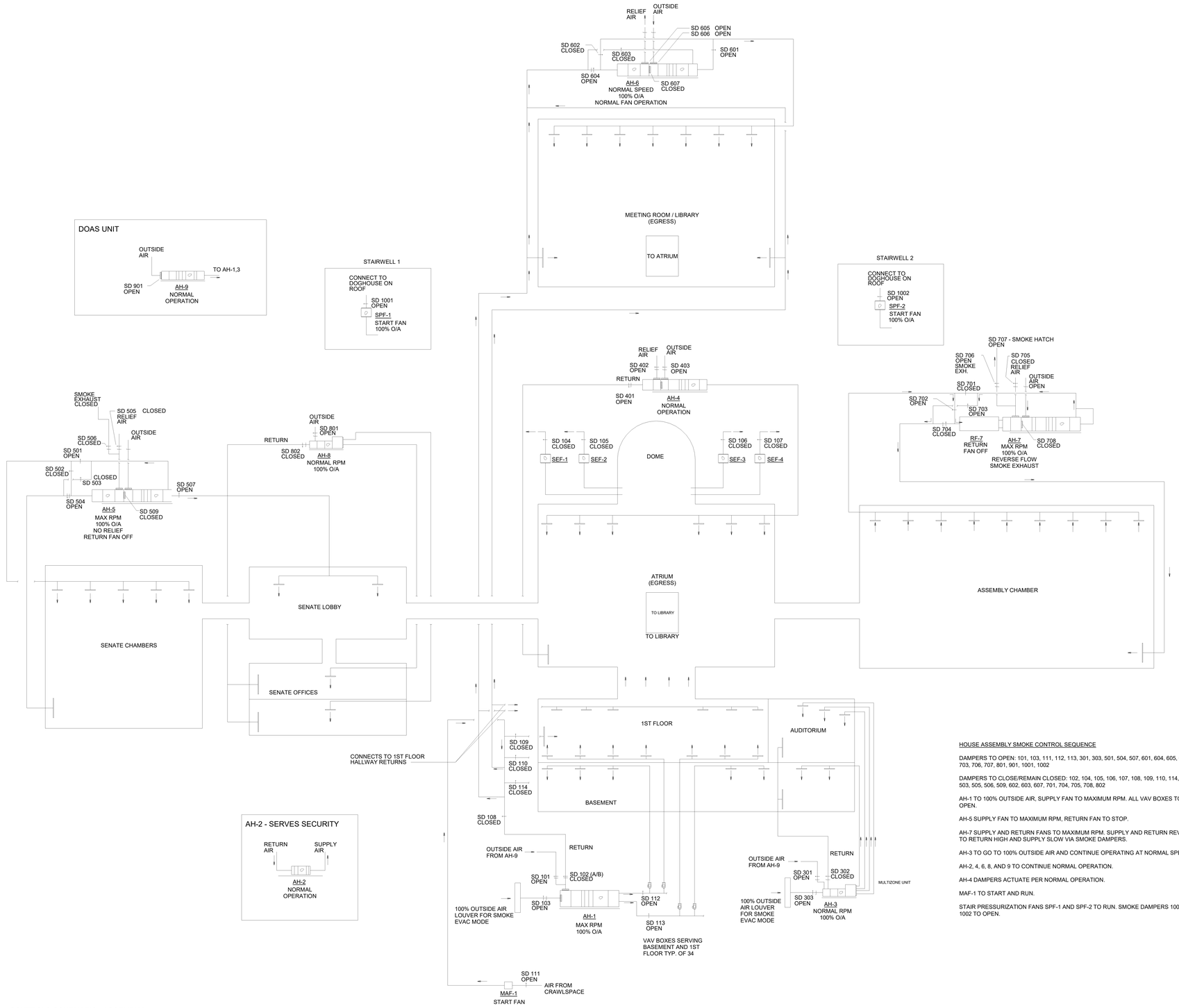

1 CONTROLS SCHEMATIC - ASSEMBLY SMOKE EVAC OPERATION
1/16" = 1'-0"

HOUSE ASSEMBLY SMOKE CONTROL SEQUENCE

DAMPERS TO OPEN: 101, 103, 111, 112, 113, 301, 303, 501, 504, 507, 601, 604, 605, 606, 702, 703, 706, 707, 801, 901, 1001, 1002

DAMPERS TO CLOSE/REMAIN CLOSED: 102, 104, 105, 106, 107, 108, 109, 110, 114, 302, 502, 503, 505, 506, 509, 602, 603, 607, 701, 704, 705, 708, 802

AH-1 TO 100% OUTSIDE AIR, SUPPLY FAN TO MAXIMUM RPM. ALL VAV BOXES TO FULLY OPEN.

AH-5 SUPPLY FAN TO MAXIMUM RPM, RETURN FAN TO STOP.

AH-7 SUPPLY AND RETURN FANS TO MAXIMUM RPM. SUPPLY AND RETURN REVERSES TO RETURN HIGH AND SUPPLY SLOW VIA SMOKE DAMPERS.

AH-3 TO GO TO 100% OUTSIDE AIR AND CONTINUE OPERATING AT NORMAL SPEED.

AH-2, 4, 6, 8, AND 9 TO CONTINUE NORMAL OPERATION.

AH-4 DAMPERS ACTUATE PER NORMAL OPERATION.

MAF-1 TO START AND RUN.

STAIR PRESSURIZATION FANS SPF-1 AND SPF-2 TO RUN. SMOKE DAMPERS 1001 AND 1002 TO OPEN.

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CONTROLS SCHEMATIC - ASSEMBLY SMOKE EVAC OPERATION

sheet number
M5.7

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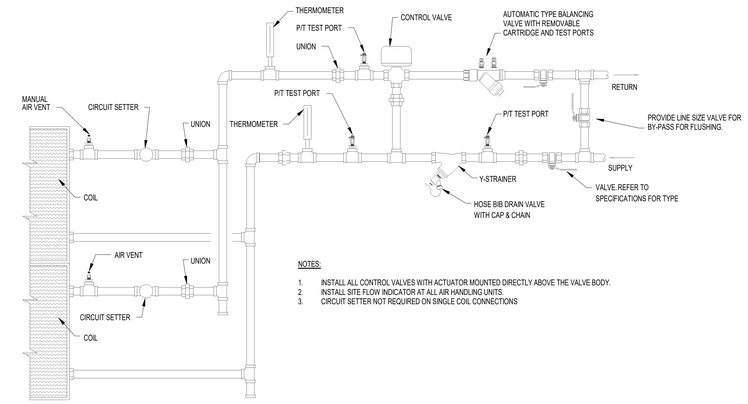
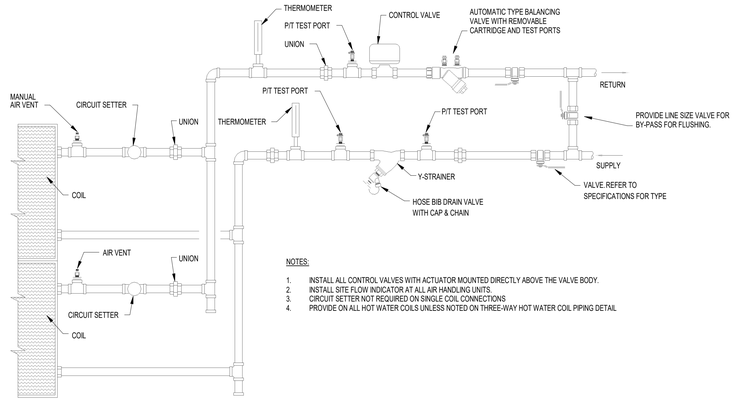
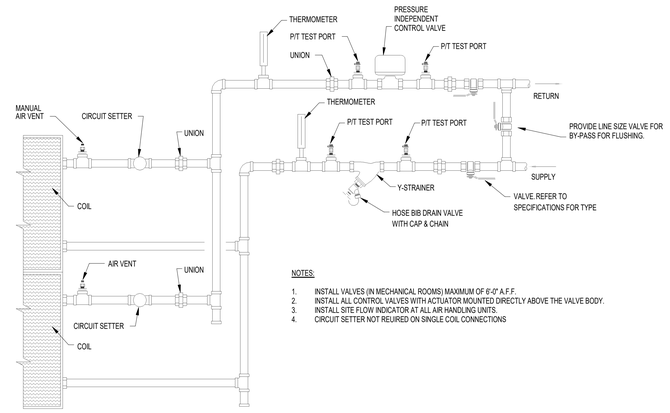


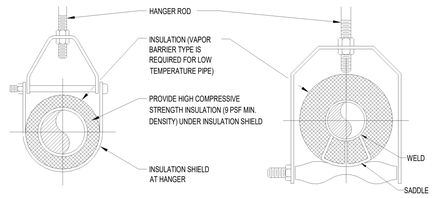
3 THREE WAY CHW/HW COIL PIPING DETAIL
NTS

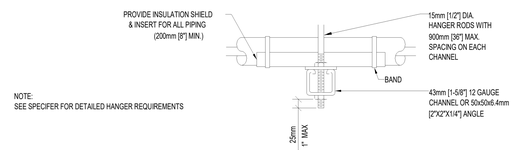


2 TWO WAY HOT WATER COIL PIPING DETAIL
NTS



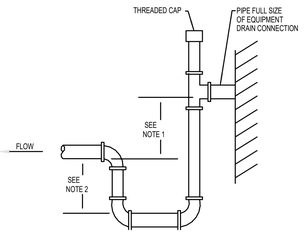
1 TWO WAY CHILLED WATER COIL PIPING DETAIL (PICV)
NTS





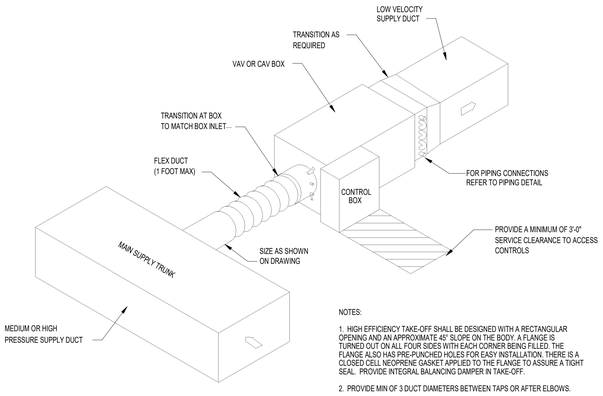
MAXIMUM PIPE/TUBING SUPPORT SPACING																			
NOM. SIZE	mm [IN]	THRU 20 [THRU 3/4]	25 [1]	32 [1 1/4]	40 [1 1/2]	50 [2]	65 [2 1/2]	75 [3]	100 [4]	125 [5]	150 [6]	200 [8]	250 [10]	300 [12]	350 [14]	400 [16]	450 [18]	500 [20]	600 [24]
PIPE	mm [FT]	2100 [7]	2100 [7]	2100 [7]	2700 [9]	3000 [10]	3400 [11]	3700 [12]	4100 [14]	4900 [16]	5200 [17]	5800 [19]	6700 [22]	7000 [23]	7600 [25]	8200 [27]	8500 [28]	9100 [30]	9600 [32]
TUBING	mm [FT]	1500 [5]	1800 [6]	2100 [7]	2400 [8]	2400 [8]	2700 [9]	3000 [10]	3700 [12]	4000 [13]	4100 [14]	4900 [16]	- -	- -	- -	- -	- -	- -	- -
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.																			

6 PIPE HANGER DETAIL
NTS

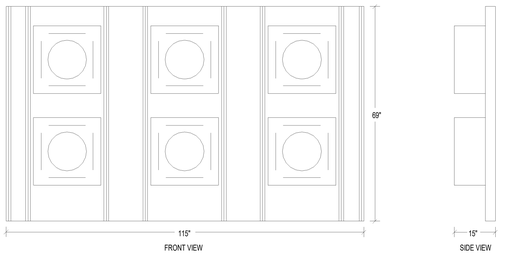


NOTES:
1. HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM NEGATIVE STATIC PRESSURE PLUS 1".
2. HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM NEGATIVE STATIC PRESSURE.
3. PIPE TO NEAREST FLOOR DRAIN.

5 CONDENSATE DRAIN DETAIL
NTS

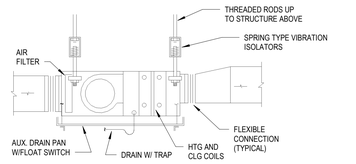


4 VAV BOX WITH HOT WATER REHEAT DETAIL
NTS



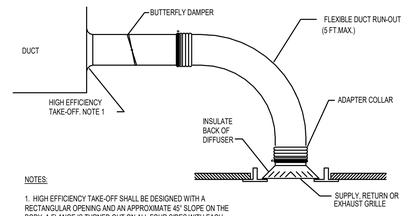
NOTES:
1. PROVIDE INETERLOCKING BULKHEAD WALL WITH EMBEDDED RIVET NUTS FOR EASE OF FAN INSTALLATION.
2. MOUNTING HARDWARE TO BE PROVIDED TO SECURELY MOUNT FANS TO BULKHEAD.
3. BRACE BULKHEAD WITH MINIMUM 2" SQUARE GALVANIZED TUBING.
4. ELECTRICAL WIRING FROM CONTROLLERS TO FAN PROVIDED BY FAN MANUFACTURER AS PLUG AND PLAY QUICK CONNECT CABLES.
5. CONTRACTOR TO VERIFY THE ABOVE DIMENSIONS IN FIELD PRIOR TO ORDERING FAN ARRAY.

9 SUPPLY FAN ARRAY SFW-1
NTS



NOTE:
1. SUPPORT FROM OTHER ROOF TYPES OR SLABS SIMILARLY.
2. TRANSITION SUPPLY AND RETURN DUCT AS REQUIRED FOR CONNECTION TO FAN-COIL.
3. PROVIDE MANUFACTURERS RECOMMENDED CLEARANCE FOR MAINTENANCE AND A MINIMUM OF 12" CLEAR ALL AROUND.
4. MOUNT UNIT TO MAINTAIN SLOPE ON DRAIN LINE.
5. SPRING ISOLATORS AND FLEX CONNECTIONS REQUIRED ON UNITS OVER 1/2 HP.
6. PROVIDE A FACTORY INSTALLED FILTER HOUSING WITH SIDE OR BOTTOM ACCESS AS REQUIRED.
7. AUX. DRAIN PAN REQUIRED ON ALL EQUIPMENT W/COOLING COIL OR WHERE CONDENSATION IS POSSIBLE WITH FLOAT SWITCH.
8. THREADED RODS FOR AUXILIARY DRAIN PAN CAN BE THE SAME AS THE UNIT SUPPORT RODS IF THEY CAN BE PROPERLY INSTALLED (I.E. WITHOUT BENDING, INTERFERING WITH UNIT ACCESS, ETC.). OTHERWISE THEY SHALL BE RUN SIMILAR TO UNIT SUPPORT RODS.
9. TERMINAL UNITS AND OTHER SIMILAR DEVICES WITH AND WITHOUT COILS AND WITH AND WITHOUT MOTORS INSTALLED SIMILAR.

8 HORIZONTAL FAN COIL UNIT DETAIL
NTS



NOTES:
1. HIGH EFFICIENCY TAKE-OFF SHALL BE DESIGNED WITH A RECTANGULAR OPENING AND AN APPROXIMATE 45° SLOPE ON THE BODY. A FLANGE IS TURNED OUT ON ALL FOUR SIDES WITH EACH CORNER BEING FILLED. THE FLANGE ALSO HAS PRE-PUNCHED HOLES FOR EASY INSTALLATION. THERE IS A CLOSED CELL NEOPRENE GASKET APPLIED TO THE FLANGE TO ASSURE A TIGHT SEAL. PROVIDE INTEGRAL BALANCING DAMPER IN TAKE-OFF.
2. PROVIDE MIN OF 3 DUCT DIAMETERS BETWEEN TAPS OR AFTER ELBOWS.

7 FLEX RUNOUT DETAIL
NTS

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sheet title
MECHANICAL DETAILS

sheet number
M6.0

drawn by BLM
checked by Checker

AIR DISTRIBUTION SCHEDULE

TAG	DESCRIPTION	NECK	MODULE SIZE	MOUNT	CONSTR.	MFGR	MODEL	NOTES
A	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES ASPD	1,2,3,5
B	PERFORATED CEILING RETURN/EXHAUST	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES APDDR	3,5

1. FURNISH WITH OPPOSED BLADE DAMPER
2. 4-WAY DEFLECTION UNLESS NOTED OTHERWISE
3. BAKED ENAMEL OFF-WHITE FINISH
4. PROVIDE RADIATION DAMPER AT FIRE RATED CEILING
5. INSTALL IN LAY-IN CEILING IN LINE WITH FIRE DAMPER AT HARD CEILING ABOVE
6. COORDINATE INSTALLATION OF GRILLE DIRECTLY OVER FIRE DAMPER - SEE DETAILS

FAN COIL UNIT SCHEDULE

TAG	TYPE	AIRFLOW	COOLING COIL CAPACITY (MBH) TOTAL	COOLING COIL CAPACITY (MBH) SENS.	COOLING COIL GPM	COOLING COIL EWT/LWT (°F)	COOLING COIL EAT (DB/WB °F)	COOLING COIL LAT (DB/WB °F)	HEATING COIL TOT. HTG (MBH)	HEATING COIL GPM	HEATING COIL EWT/LWT (°F)	HEATING COIL EAT/LAT (°F)	MCA	MOCP	VOLTAGE	MANUFACTURER	MODEL	REMARKS
FC-B-1	VERT CABINET	669	18.2	14.7	4	45/54	75/63	55/54	18	1.9	160/140	73/98	2.2	15	208/1	NAILOR	E41VS	1,2,3,4,5,7
FC-B-2	VERT CABINET	669	18.2	14.7	4	45/54	75/63	55/54	18	1.9	160/140	73/98	2.2	15	208/1	NAILOR	E41VS	1,2,3,4,5,7
FC-B-3	VERT CABINET	669	18.2	14.7	4	45/54	75/63	55/54	18	1.9	160/140	73/98	2.2	15	208/1	NAILOR	E41VS	1,2,3,4,5,7
FC-B-4	VERT CABINET	669	18.2	14.7	4	45/54	75/63	55/54	18	1.9	160/140	73/98	2.2	15	208/1	NAILOR	E41VS	1,2,3,4,5,7
FC-B-5	HORIZONTAL	200	5.2	4.2	1.1	45/54	75/63	55/54	7.8	0.8	160/140	73/109	1.6	15	208/1	NAILOR	D37FHZW	1,2,3,4,6,7

NOTES:
1. CONTRACTOR TO UNIT PIPING ORIENTATION AND SIDE PRIOR TO ORDERING EQUIPMENT.
2. PROVIDE WITH CONDENSATE PUMP AND OVERSIZED CABINET TO ACCOMODATE PLACING PUMP INSIDE CABINET.
3. PROVIDE UNIT WITH DISCONNECT SWITCH, DRAIN PAN FLOAT SWITCH, FILTER.
4. PROVIDE WITH SINGLE POINT POWER CONNECTION.
5. PROVIDE WITH UNIT MOUNTED THERMOSTAT, MOUNTED IN CONTROL CABINET.
6. PROVIDE WITH WALL MOUNTED THERMOSTAT.
7. CONNECT NEW UNIT TO NEW JCI CONTROL SYSTEM. COORDINATE WITH CONTROLS CONTRACTOR.

CHILLED WATER/HOT WATER COIL SCHEDULE

#	TYPE	OVERALL DIMENSIONS (IN)	AIRFLOW	APD (IN WG)	MAX VELOCITY (FPM)	TOTAL (MBH)	SENSIBLE (MBH)	EAT (DB/WB °F)	LAT (DB/WB °F)	EWT (°F)	LWT (°F)	GPM	WPD (FT WATER)	MANUFACTURER	REMARKS
CWC-1	STACKED	109.5 x 68	22915	0.47	500	560	558	75/60	52.6/51.0	45	55	111.6	6	NORTEK	1
HWC-1	STACKED	109.5 x 68	22915	0.11	500	--	971	50/--	87.6/--	160	140	98.9	3.2	NORTEK	1,2

NOTES:
1. PROVIDE WITH COIL TURBULATORS.
2. HW COIL IN PRE-HEAT POSITION.

VAV BOX SCHEDULE

Mark	INLET	MAX CFM	MIN CFM	Reheat Coil MBH	Reheat Coil GPM	Reheat Coil HW EWT (°F)	Reheat Coil HW LWT (°F)	Reheat Coil LAT (°F)	MODEL	MANUFACTURER	REMARKS
V-1	10	1575	255	16.6	1.3	160	134	113.6	D30RW	Nailor	1,2,3
V-2	6	410	90	4.4	1	160	150.5	101.3	D30RW	Nailor	1,2,3
V-3	6	290	90	4.4	1	160	150.5	101.3	D30RW	Nailor	1,2,3
V-4	5	320	90						D3001	Nailor	1,2,3
V-5	5	190	60						D3001	Nailor	1,2,3
V-6	5	210	60	3.7	1	160	152.5	109.8	D30RW	Nailor	1,2,3
V-7	7	480	300	20.6	1.5	160	132.1	116.7	D30RW	Nailor	1,2,3
V-8	7	500	400	20.3	2	160	139.4	100.5	D30RW	Nailor	1,2,3
V-9	7	600	600	34.2	3	160	136.8	106.2	D30RW	Nailor	1,2,3
V-10	5	200	60	3.7	1	160	152.5	109.8	D30RW	Nailor	1,2,3
V-11	5	165	60						D3001	Nailor	1,2,3
V-12	5	165	60						D3001	Nailor	1,2,3
V-13	4	110	60						D3001	Nailor	1,2,3
V-14	6	420	90	4.4	1	160	150.5	101.3	D30RW	Nailor	1,2,3
V-15	6	415	90	4.4	1	160	150.5	101.3	D30RW	Nailor	1,2,3
V-16	9	960	165	8.1	1	160	143.6	98.7	D30RW	Nailor	1,2,3
V-17	24	4200	961						D3001	Nailor	1,2,3
V-18	9	810	165	8.1	1	160	143.6	98.7	D30RW	Nailor	1,2,3
V-19	9	920	165	8.1	1	160	143.6	98.7	D30RW	Nailor	1,2,3
V-20	8	810	300	16.5	1.5	160	137.6	104.4	D30RW	Nailor	1,2,3
V-21	7	560	110	6.1	1	160	147.6	104.5	D30RW	Nailor	1,2,3
V-22	5	250	60	3.7	1	160	152.5	109.8	D30RW	Nailor	1,2,3
V-23	8	650	165						D3001	Nailor	1,2,3
V-24	5	255	60	3.7	1	160	152.5	109.8	D30RW	Nailor	1,2,3
V-25	12	1600	290	18.4	1.5	160	135	112.1	D30RW	Nailor	1,2,3
V-26	6	550	240	14.2	1.3	160	137.8	108.2	D30RW	Nailor	1,2,3
V-27	7	560	240	14.2	1.3	160	137.8	108.2	D30RW	Nailor	1,2,3
V-28	12	1600	290	18.4	1.5	160	135	112.1	D30RW	Nailor	1,2,3
V-29	5	260	60	3.7	1	160	152.5	109.8	D30RW	Nailor	1,2,3
V-30	6	450	90						D3001	Nailor	1,2,3
V-31	5	250	60	3.7	1	160	152.5	109.8	D30RW	Nailor	1,2,3
V-32	10	1180	265	15.8	1.3	160	135.3	108.4	D30RW	Nailor	1,2,3
V-33	10	1660	255						D3001	Nailor	1,2,3
V-34	9	920	165	8	1	160	143.6	98.7	D30RW	Nailor	1,2,3

NOTES:
1. BOXES TO BE POWERED THROUGH 24V CONTROL POWER.
2. PROVIDE WITH DUAL WALL CONSTRUCTION AND ACCESS DOOR FOR COIL CLEANING.
3. COORDINATE WITH JCI TO PROVIDE CONTROLLER FOR VAV BOX AND CONTROL VALVES FOR HOT WATER COILS.

FAN WALL SCHEDULE

TAG	ARRAY	AIRFLOW	TOTAL EXT. S.P.	FAN RPM (EA)	FAN HP (EA)	SYSTEM MCA	SYSTEM MOCP	VOLTAGE	MANUFACTURER	MODEL	REMARKS
SFW-1	3 WIDE X 2 HIGH	22,915	2.5	2749	7.5	44.375	50	460/3	GREENHECK	MOA-400	1,2,3,4,5,6,7

NOTES:
1. SINGLE POINT POWER CONNECTION TO VFD CONTROLLER OF FAN
2. INLET DAMPER
3. AIRFLOW MEASURING PER FAN
4. EXTENDED GREASE FITTINGS
5. HOUSED PLENUM ARRAY
6. ECM MOTORS
7. POWER FROM CONTROLLER TO FANS VIA PLUG AND PLAY QUICK CONNECT CABLES PROVIDED BY FAN MANUFACTURER.

EXISTING SMOKE DAMPERS TO BE REPLACED

SYMBOL	SIZE	AIRFLOW	MAX VELOCITY	MAX PD	NOTES
SD 101	28X16	2860	920	0.05	1
SD 102A	36X24	8595	1435	0.08	1
SD 102B	48X24	11460	1435	0.1	1
SD 103	54X32	22915	1920	0.15	1
SD 104	42X42	10000	820	0.05	1
SD 105	42X42	10000	820	0.05	1
SD 106	42X42	10000	820	0.05	1
SD 107	42X42	10000	820	0.05	1
SD 108	80X24	22915	1720	0.15	1
SD 109	36X16	6805	1720	0.1	1
SD 110	36X14	3075	880	0.05	1
SD 111	28X28	12800	2320	0.2	1
SD 112	32X32	16560	2330	0.2	1
SD 113	22X22	6355	1900	0.2	1
SD 114	FIELD VERIFY	3800	--	--	1
SD 301	28X10	1670	860	0.2	1
SD 302	40X20	4615	850	0.05	1
SD 303	40X16	6285	1420	0.1	1
SD 401	54X34	9550	750	0.1	1
SD 402	22X10	750	500	0.05	1
SD 403	24X48	9550	1200	0.05	1
SD 501	24X48	13000	1625	0.1	1, 2
SD 502	48X24	13000	1625	0.1	1
SD 503	FIELD VERIFY	13000	--	--	1
SD 504	48X24	13000	1200	0.08	1
SD 505	20X20	2390	900	0.08	1
SD 506	FIELD VERIFY	13000	--	--	1
SD 507	22X14	2000	950	0.08	1
SD 509	FIELD VERIFY	13000	--	--	1,3
SD 601	48X24	13300	1675	0.15	1
SD 602	48X24	13300	1675	0.15	1
SD 603	48X24	13300	1675	0.15	1
SD 604	54X32	13300	1150	0.08	1
SD 605	66X24	13300	1250	0.05	1,3
SD 606	66X24	13300	1250	0.05	1,3
SD 607	FIELD VERIFY	13300	--	--	1,3
SD 701	44X44	20500	1550	0.08	1
SD 702	72X24	20500	1750	0.1	1
SD 703	72X24	20500	1750	0.1	1
SD 704	60X40	20500	1250	0.08	1
SD 705	66X26	20500	1750	0.15	1
SD 706	48X24	4585	600	0.05	1
SD 708	FIELD VERIFY	20500	--	--	1
SD 801	32X8	1000	575	0.05	1
SD 802	24X28	2400	550	0.05	1
SD 901	48X16	6550	1250	0.08	1
SD 1001	14X14	1000	750	0.05	1
SD 1002	14X14	1000	750	0.05	1

NOTES:
1. ALL EXISTING DAMPER SIZES TO BE VERIFIED IN FIELD PRIOR TO ORDERING EQUIPMENT.
2. COMBINATION FIRE SMOKE DAMPER
3. DAMPER LOCATED IN AIR HANDLER. CONFIRM LOCATION/SIZE IN FIELD.

EXISTING MOTOR OPERATED VALVE SCHEDULE TO BE REPLACED

SYMBOL	LOCATION	LINE SIZE (IN.)	SERVICE	CAPACITY (GPM)	MAX Cv	ACTION MOD/2 POS	TYPE 2/3 WAY
MOV-CH1	AH-1	3	CHW	116.0	37.0	MOD	2 WAY
MOV-CH2	AH-2	1	CHW	5.5	1.6	MOD	2 WAY
MOV-CH3	AH-3	2	CHW	27.0	9.0	MOD	2 WAY
MOV-CH4	AH-4	2	CHW	44.0	15.0	MOD	2 WAY
MOV-CH5	AH-5	3	CHW	88.0	30.0	MOD	2 WAY
MOV-CH6	AH-6	2 1/2	CHW	70.0	17.0	MOD	3 WAY
MOV-CH7	AH-7	4	CHW	144.0	38.0	MOD	2 WAY
MOV-CH8	AH-8	2	CHW	26.0	10.0	MOD	2 WAY
MOV-CH9	AH-9	2 1/2	CHW	67.0	21.0	MOD	2 WAY
MOV-CH10	FC	3/4	CHW	1.0	0.50	2 POS	2 WAY
MOV-CH11	FC	3/4	CHW	1.4	0.50	2 POS	2 WAY
MOV-CH12	FC	3/4	CHW	1.6	0.65	2 POS	2 WAY
MOV-CH13	FC	3/4	CHW	1.8	0.65	2 POS	2 WAY
MOV-CH14	FC	3/4	CHW	2.5	0.80	2 POS	2 WAY
MOV-CH15	FC	3/4	CHW	2.5	0.85	2 POS	2 WAY
MOV-CH16	FC	3/4	CHW	2.8	0.85	2 POS	2 WAY
MOV-CH17	FC	3/4	CHW	2.8	0.90	2 POS	2 WAY
MOV-CH18	FC	3/4	CHW	3.6	1.20	2 POS	2 WAY
MOV-CH19	FC	1	CHW	6.4	1.80	2 POS	2 WAY
MOV-CH20	AH-10	3/4	CHW	1.6	0.70	2 POS	2 WAY
MOV-HW1	AH-1	3	HHW	93.0	32.0	MOD	3 WAY
MOV-HW2	AH-2	3/4	HHW	4.4	4.5	MOD	2 WAY
MOV-HW3	AH-3	1 1/4	HHW	16.0	6.0	MOD	2 WAY
MOV-HW4	AH-4	1 1/2	HHW	33.0	13.0	MOD	2 WAY
MOV-HW5	AH-5	2	HHW	53.0	20.0	MOD	2 WAY
MOV-HW6	AH-6	2	HHW	46.0	16.0	MOD	3 WAY
MOV-HW7	AH-7	2 1/2	HHW	83.0	28.0	MOD	2 WAY
MOV-HW8	AH-8	1 1/4	HHW	17.0	6.5	MOD	2 WAY
MOV-HW9	AH-9	1 1/2	HHW	37.0	19.0	MOD	2 WAY
MOV-HW10	VAV	3/4	HHW	1.0	0.50	2 POS	2 WAY
MOV-HW11	VAV	3/4	HHW	1.2	0.50	2 POS	2 WAY
MOV-HW12	VAV	3/4	HHW	1.3	0.50	2 POS	2 WAY
MOV-HW13	VAV	3/4	HHW	1.5	0.50	2 POS	2 WAY
MOV-HW14	VAV	3/4	HHW	1.5	0.60	2 POS	2 WAY
MOV-HW15	VAV	3/4	HHW	2.0	0.85	2 POS	2 WAY
MOV-HW16	VAV	3/4	HHW	3.0	1.10	2 POS	2 WAY
MOV-HW17	FC	3/4	HHW	1.0	0.50	2 POS	2 WAY
MOV-HW18	FC	3/4	HHW	1.3	0.50	2 POS	2 WAY
MOV-HW19	FC	3/4	HHW	1.3	0.55	2 POS	2 WAY
MOV-HW20	FC	3/4	HHW	1.5	0.60	2 POS	2 WAY
MOV-HW21	FC	3/4	HHW	1.6	0.55	2 POS	2 WAY
MOV-HW22	FC	3/4	HHW	2.9	1.00	2 POS	2 WAY
MOV-HW23	FC	3/4	HHW	2.9	1.10	2 POS	2 WAY
CV	CONVECTOR	3/4	HHW	2.0	0.80	2 POS	2 WAY
MOV-HW24	AH-9	1 1/4	HHW	21.0	7.0	MOD	2 WAY
MOV-HW25	AH-10	3/4	HHW	1.0	0.50	2 POS	2 WAY

NOTES:
1. FIELD VERIFY ALL VALVE SIZES AND TYPES PRIOR TO ORDERING REPLACEMENT VALVES.
2. VALVES PROVIDED AND WIRED BY CONTROLS CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR.

HVAC LEGEND

DIFFUSER, GRILLE, LOUVER OR REGISTER TYPE — A — 6 NECK SIZE / 100 PEAK LOAD CFM

- RUN-OUT/FLEXIBLE DUCT
- BALANCING DAMPER
- DUCT TURNING DOWN
- DUCT TURNING UP
- SUPPLY DIFFUSER
- RETURN/EXHAUST DIFFUSER
- T — THERMOSTAT
- S — SWITCH/RHEOSTAT

ABBREVIATIONS

A/C	Air Conditioning	LAT	Leaving Air Temperature
AH	Air Handler	LWB	Leaving Air Wet Bulb
ABV	Above	MAF	Makeup Air Fan
AH-#	Air Handler - No. #	MAX	Maximum
A/HU-#	Air Handler Unit - No. #	MBH	Thousand BTU/Hr (thousands)
BHP	Brake Horsepower	MIN	Minimum
CFM	Cubic Feet Per Minute	MAU-#	Make-up Air Unit - #
CHP	Chilled Water Pump	N/A	Not Applicable
CHWS	Chilled Water Supply	NIC	Not in Contract
CHWR	Chilled Water Return	NTS	Not to Scale
CP	Condensate Pump	OA	Outside Air
CWC	Chilled Water Coil	OBD	Opposed Blade Damper
DD	Duct Smoke Detector	OD	Outside Damper
DB	Dry Bulb Temperature	PD	Pressure Drop
DN	Duct Down	PRV	Pressure Reducing Valve
DOAS-#	Dedicated Outside Air Unit - #	RA	Return Air
EAT	Entering Air Temperature	RET	Return
EF	Exhaust Fan	RF	Return Fan
ELEC	Electric or Electrical	RH	Relative Humidity
EWB	Entering Air Wet Bulb	SA	Supply Air
EXH	Exhaust	SD	Smoke Damper
FC	Fan Coil	SFW	Supply Fan Wall
FD	Fire Damper	SHT	Sheet
FL	Floor	SP	Static Pressure
HP	Horsepower	SPEC	Specifications
HP-#	Heat Pump - #	SPF	Stair Pressurization Fan
HWC	Hot Water Coil	T	Thermostat
HWP	Hot Water Pump	TEMP	Temperature
HWS	Hot Water Supply	TSTAT	Thermostat
HWR	Hot Water Return	TYP	Typical
HX	Heat Exchanger	UP	Duct Up
ILF	In-Line Fan	V-#	VAV Box
KH-#	Kitchen Hood - #	WB	Wet Bulb Temperature
KW	Kilowatts		

GENERAL MECHANICAL NOTES

1. DO NOT SCALE DRAWINGS; SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, CEILING DIFFUSERS, ETC.
2. EXTEND ALL DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED. ROUTE TO AVOID INTERFERENCE WITHEXTEND ALL DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED, ROUTE TO AVOID INTERFERENCE WITH PASSAGEWAYS. CONDENSATE DRAINS SHALL BE TRAPPED. SLOPE DRAIN LINES 1/8" PER FOOT.
3. ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS EXCEPT WHERE PROHIBITED BY FIRE CODES.
4. LOCATE ALL THERMOSTATS, HUMIDISTATS AND SWITCHES 4'-0" ABOVE FINISH FLOOR; ALIGN WITH LIGHT SWITCHES.
5. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING EING PLACED ON THE EQUIPMENT. SUPPORT DETAILS SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER.
6. ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH THE WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
7. CORRECT SETTINGS ON ALL BALANCING FITTINGS SHALL BE PERMANENTLY MARKED.
8. AIR DISTRIBUTION SYSTEMS WITH MORE THAN ONE BRANCH, OR MULTIPLE OUTLETS ON A BRANCH, SHALL HAVE VOLUME DAMPERS TO BALANCE AIR FLOWS. SPIN-IN FITTINGS ARE PERMITTED FOR CONNECTING FLEX DUCT TO BRANCH OR TRUNK DUCTS WHERE FLEX DUCTS ARE INDICATED. IF FLEX DUCT CANNOT BE CONNECTED WITH A SPIN-IN, A HARD DUCTED TAKEOFF MUST BE PROVIDED.
9. 45 DEGREE TAKEOFFS SHALL BE USED ON ALL HARD DUCTED SUPPLY BRANCHES.
10. ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THRU EXTERIOR WALLS AND ROOFS SHALL BE FLASHED AND COUNTERFLASHED.
11. PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF DUCT, DUCT HEATERS, AIR VOLUME CONTROLLERS, FAN COIL UNITS, EXHAUST FANS, SUPPLY FANS, AND ALL OTHER EQUIPMENT AND APPURTENANCES.
12. ALL DUCT IS GALVANIZED SHEET METAL EXCEPT AS NOTED.
13. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
14. INTAKES FOR AIR HANDLING EQUIPMENT SHALL BE A MINIMUM OF TEN FEET AWAY FROM ANY EXHAUST OR VENT
15. AIR DISTRIBUTION UNITS SHALL HAVE TRIM REQUIRED FOR FINISHED SERVICE.
16. PROVIDE DIELECTRIC FITTINGS AT ALL LOCATIONS WHERE DISSIMILAR METALS ARE JOINED IN PIPING AND DUCT SYSTEMS
17. ALL SMOKE DETECTORS SHOULD BE MINIMUM 3'-0" AWAY FROM SUPPLY DIFFUSERS.
18. JCI IS SOLE SOURCE CONTROLS CONTRACTOR FOR THIS PROJECT. ALL CONTROLS COORDINATION WILL BE THROUGH THE JCI CONTRACTOR.
19. CONTRACTOR HAS THE OPTION TO USE EQUIVALENT ROUND DUCT IN LIEU OF RECTANGULAR AS SPECIFIED.
20. ALL MITERED ELBOWS SHALL HAVE TURNING VANES.
21. ALL DUCT RUN-OUTS TO DIFFUSERS SHALL BE GRILLE SIZE UNLESS OTHERWISE NOTED.
22. COORDINATE ALL CEILING AIR DISTRIBUTION LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.

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owner
SC DEPARTMENT OF ADMINISTRATION - DIVISION OF FACILITIES MANAGEMENT AND PROPERTY SERVICES

project name
SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

project number
JOB NO. D50-6103-LC

seals/signature

SOUTH CAROLINA — GMK, INC. No. C00287 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — PROFESSIONAL ENGINEER — No. 33368 — BRIAN L. McDANIEL

issued for
CONSTRUCTION

date
12/10/25

number	item	date

key plan

N

sheet title
MECHANICAL SCHEDULES

sheet number
M7.0

drawn by BLM
checked by Checker

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. LOCATE OUTLETS, EQUIPMENT AND OTHER ELECTRICAL DEVICES AS INDICATED AND COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE EXACT LIGHTING FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. MINIMUM SIZE CONDUCTOR FOR POWER SHALL BE #12 AWG. PROVIDE DEDICATED NEUTRAL FOR EACH MULTI-WIRE BRANCH CIRCUIT IN COMPLIANCE WITH NEC.
3. ALL FUSES SHALL BE DUAL-ELEMENT TYPE, "FUSETRON" BY BUSSMAN, "ECON" BY ECONOMY, OR FERRAZ SHAWMUT.
4. BRANCH CIRCUITS TO BE 2#12, 12GND, 3/4"C MINIMUM. 20A 120V CIRCUITS LONGER THAN 75' TO BE 2#10, #10GND, 3/4"C MINIMUM FOR VOLTAGE DROP. 20A, 120V CIRCUITS LONGER THAN 150' TO BE 2#8, #8GND, 3/4"C MINIMUM FOR VOLTAGE DROP. UNLESS OTHERWISE NOTED IN PANELBOARD SCHEDULES OR ON DRAWINGS.
5. ALL BRANCH CIRCUIT LOADS SHALL BE BALANCED ACROSS PANELBOARD BUSSES TO OBTAIN MINIMUM NEUTRAL CURRENT.
6. ALL FLEXIBLE CONDUIT SHALL CONTAIN A GREEN WIRE BONDED TO RIGID RACEWAY, BOX OR FIXTURE AT EACH END OF FLEX. SIZE GROUND PER NEC TABLE 250-122.
7. PROVIDE PULL STRING IN ALL EMPTY RACEWAYS.
8. COORDINATE WITH OTHER TRADES TO CONCEAL ELECTRICAL WORK AND PROVIDE OUTLETS IN CORRECT LOCATIONS.
9. DO NOT FLUSH MOUNT JUNCTION BOXES BACK TO BACK, STAGGER TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS.
10. CONCEAL OUTLETS FOR ALL EQUIPMENT IN FINISHED AREAS. OBTAIN ROUGH-IN DIAGRAMS FOR ALL EQUIPMENT AND INSTALL ELECTRICAL WORK ACCORDING TO DIAGRAMS.
11. MOUNT BRACKET TYPE LIGHTING FIXTURES AT HEIGHTS SHOWN OR SCHEDULED ON DRAWINGS OR AS DIRECTED ON JOB BY ARCHITECT UNLESS NOTED OTHERWISE.
12. SEAL ALL PENETRATIONS TO RATED WALLS, CEILINGS AND FLOORS WITH UL LISTED FIREPROOFING SYSTEM. THIS IS TO INCLUDE BUT IS IN NO WAY LIMITED TO CONDUCTOR, RACEWAY AND DEVICE PENETRATIONS. SUBMIT SYSTEM AND INSTALLATION DETAILS AS PART OF SHOP DRAWING SUBMITTAL.
13. WHERE NOT INDICATED OTHERWISE, EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED PER NEC TABLE 250-122.
14. ALL METAL CONDUITS 1" AND LARGER SHALL HAVE A GROUNDING BUSHING BONDING CONDUIT TO ENCLOSURE.
15. REMOVE DRYWALL DUST AND MUD FROM THE INTERIOR OF BOXES BEFORE INSTALLING DEVICES.
16. AT SUBSTANTIAL COMPLETION CLEAN ALL LIGHT FIXTURES AND CLEAN ALL DEVICES IN THE CONSTRUCTION AREAS. REPLACE DAMAGED DEVICES AND DEVICE PLATES AS NEEDED.
17. VERIFY ALL MECHANICAL EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS WITH MECHANICAL PLANS. IF MECHANICAL EQUIPMENT BEING PROVIDED DOES NOT MATCH DESIGN NOTIFY ENGINEER IMMEDIATELY.
18. CONCEAL ALL CONDUIT AND RACEWAY. IF CONDITIONS REQUIRE CONDUIT OR RACEWAY TO BE RUN EXPOSED COORDINATE ROUTING WITH ARCHITECT AND PAINT AS REQUIRED BY ARCHITECT.
19. ELECTRICAL WORK SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, REQUIREMENTS AND ORDINANCES.
20. ELECTRICAL WORK SHALL COMPLY WITH LATEST NECA 1 STANDARDS FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION.
21. ALL BACKBOXES SHALL BE MINIMUM 4" SQUARE.
22. ALL EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE WITH INSULATED THROAT.
23. PROVIDE PLASTIC ENGRAVED NAMEPLATES ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT INCLUDING DISCONNECT SWITCHES. DISCONNECT SWITCHES SHALL INDICATE NAME OF EQUIPMENT BEING FED AND SOURCE CIRCUIT. ALL NAMEPLATES ON NORMAL POWER EQUIPMENT SHALL BE BLACK WITH WHITE LETTERING.
24. PROVIDE TYPEWRITTEN LABELS INDICATING SOURCE PANEL NAME AND CIRCUIT NUMBER FOR ALL 120V AND GREATER DEVICES INCLUDING ALL LIGHT SWITCHES AND RECEPTACLES. LABELS SHALL BE THERMAL TRANSFER TYPE, 3/8" WITH 1/4" LETTERING. WHITE BACKGROUND FOR BLACK DEVICES, CLEAR BACKGROUND OTHERWISE. LOCATE LABEL ON BACK OF FACEPLATE IN FINISHED AREAS.
25. PROVIDE ALL EQUIPMENT WITH 75°C OR 90°C TERMINATIONS. ALL WIRE SIZING INDICATED ON PLANS IS BASED ON 75°C TERMINATIONS. WHERE EQUIPMENT IS PROVIDED BY OTHERS AND IS NOT SPECIFICALLY LISTED AND MARKED WITH 75°C TERMINATIONS INCREASE CONDUCTOR SIZE BASED ON NEC TABLE 310.15(B)(16) 60°C COLUMN FOR CIRCUITS 100 AMPERES AND LESS IN SIZE.

ABBREVIATIONS

A	AMPERE.
AFF	ABOVE FINISHED FLOOR.
AFG	ABOVE FINISHED GRADE.
BKR	BREAKER.
C	CONDUIT.
CATV	CABLE TELEVISION CIRCUIT.
CKT	CIRCUIT.
EC	ELECTRICAL CONTRACTOR, DIVISION 26 (DIV 26).
EF	EXHAUST FAN.
EMT	ELECTRICAL METALLIC TUBING.
FCU	FAN COIL UNIT.
GC	GENERAL CONTRACTOR, DIVISION 00 THROUGH 14.
GF	GROUND FAULT CIRCUIT INTERRUPTER.
GRS	GALVANIZED RIGID STEEL CONDUIT.
HID	HIGH INTENSITY DISCHARGE.
IG	DEVICE SHALL HAVE ISOLATED GROUND. SEE SPECIFICATIONS.
IMC	INTERMEDIATE METALLIC CONDUIT.
JB or J-BOX	JUNCTION BOX.
KVA	KILOVOLT AMPERES.
KW	KILOWATT.
MAX	MAXIMUM.
MC	MECHANICAL CONTRACTOR, DIVISION 23 (DIV 23).
MDP	MAIN DISTRIBUTION PANEL.
MIN	MINIMUM.
MFR	MANUFACTURER.
NMC	NONMETALLIC-SHEATHED CABLE.
V	VOLT.
NEC	NATIONAL ELECTRICAL CODE. (NFPA 70).
SWBD	SWITCHBOARD.
TYP	TYPICAL.
UNO	UNLESS NOTED OTHERWISE.
WC	WATER COOLER.
XFMR	TRANSFORMER.

ELECTRICAL SYMBOL SCHEDULE - GENERAL

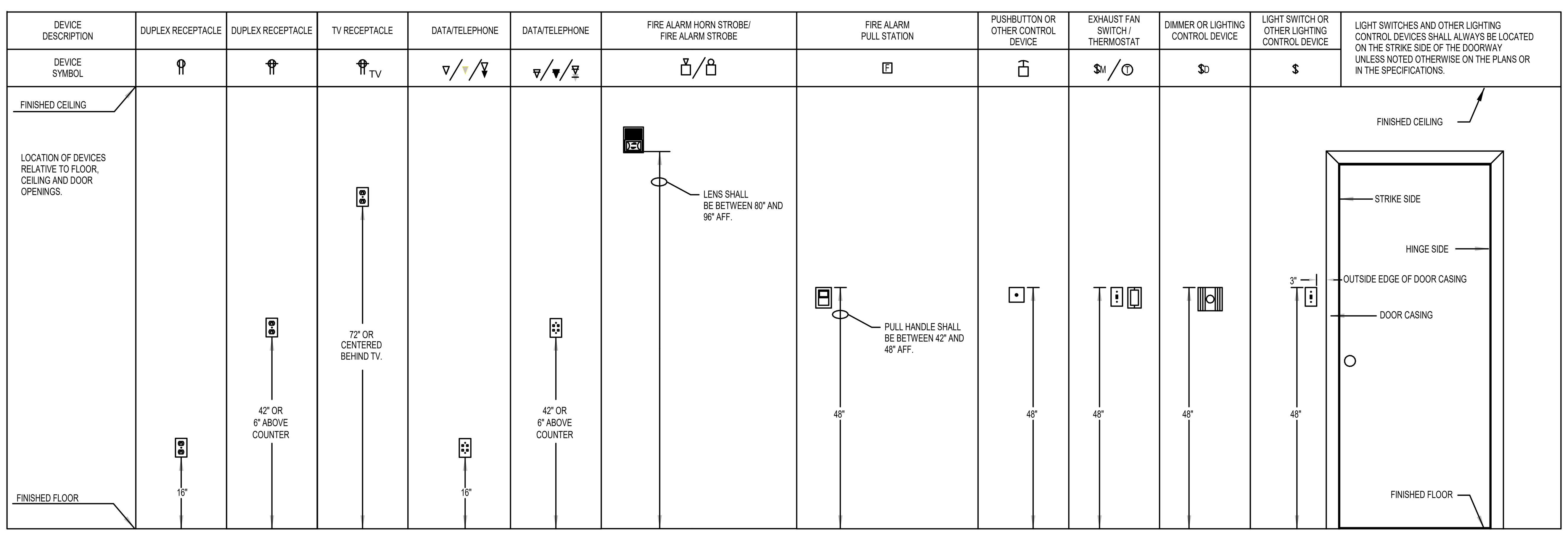
GENERAL	
PP1-2,4	BRANCH CIRCUIT RACEWAY. RUN CONCEALED IN CEILING OR WALLS. ARROWHEAD DENOTES HOMERUN TO PANEL. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE.
TCB*	PLYWOOD TELECOM BACKBOARD.
PP1	ELECTRICAL DISTRIBUTION OR BRANCH CIRCUIT PANELBOARD. TEXT DENOTES NAME, REFER TO DRAWINGS FOR LOCATION. SEE POWER RISER DIAGRAM AND PANEL SCHEDULES. SURFACE OR FLUSH MOUNTED AS INDICATED ON PANEL SCHEDULE.
CP	SIGNAL SYSTEM OR OTHER ELECTRICAL CONTROL OR COMMUNICATIONS CABINET. REFER TO DRAWINGS AND SPECIFICATIONS FOR DETAILS.
J	JUNCTION BOX, FLUSH WALL MOUNTED IN FINISHED WALLS, SURFACE MOUNTED WHERE INDICATED ON DRAWINGS. MINIMUM 4" SQUARE WITH APPROPRIATE REDUCING RING FOR DEVICE BEING INSTALLED. REFER TO TYPICAL MOUNTING HEIGHTS DETAIL WHERE MOUNTING HEIGHT IS NOT INDICATED ON DRAWINGS. SIZE PER NEC.
(J)	JUNCTION BOX, CEILING MOUNTED. SIZE PER NEC.
TYPICAL NOTATIONS	
•	INDICATES DEVICE, EQUIPMENT, ETC. TO BE SURFACE MOUNTED.

ELECTRICAL SYMBOL SCHEDULE - POWER

POWER	
	120V, 20A DUPLEX RECEPTACLE, NEMA 5-20R. WALL MOUNTED, REFER TO TYPICAL MOUNTING HEIGHTS DETAIL. REFER TO ADDITIONAL NOTATIONS BELOW WHERE INDICATED ON DRAWINGS.
	120V, 20A DUPLEX RECEPTACLE, NEMA 5-20R. WALL MOUNTED AT 42" AFF OR 6" ABOVE COUNTERTOP BACKSPLASH UNLESS OTHERWISE NOTED. REFER TO ADDITIONAL NOTATIONS BELOW WHERE INDICATED ON DRAWINGS. RECEPCTACLES NOTED "TV" SHALL BE MOUNTED AT 6' AFF. UNLESS OTHERWISE SPECIFIED.
	120V, 20A QUADRAPLEX RECEPTACLE CONSISTING OF TWO DUPLEX RECEPTACLES IN COMMON BACKBOX, NEMA 5-20R. WALL MOUNTED, REFER TO TYPICAL MOUNTING HEIGHTS DETAIL. REFER TO ADDITIONAL NOTATIONS BELOW WHERE INDICATED ON DRAWINGS.
	120V, 20A QUADRAPLEX RECEPTACLE CONSISTING OF TWO DUPLEX RECEPTACLES IN COMMON BACKBOX, NEMA 5-20R. WALL MOUNTED AT 42" AFF OR 6" ABOVE COUNTERTOP BACKSPLASH UNLESS OTHERWISE NOTED. REFER TO ADDITIONAL NOTATIONS BELOW WHERE INDICATED ON DRAWINGS.
	120V, 20A QUADRAPLEX RECEPTACLE CONSISTING OF TWO DUPLEX RECEPTACLES IN COMMON BACKBOX, NEMA 5-20R WALL MOUNTED AT 18" AFF. WITH SINGLE DUPLEX RECEPTACLE WALL MOUNTED ABOVE AT 6' AFF. UNLESS OTHERWISE NOTED. REFER TO ADDITIONAL NOTATIONS BELOW WHERE INDICATED ON DRAWINGS.
	ELECTRIC MOTOR OR EXHAUST FAN. PROVIDE LOCAL MEANS OF DISCONNECT PER NEC RATED TO SUIT LOAD WHERE NOT FACTORY EQUIPPED. CONNECT AS REQUIRED.
	HEAVY DUTY DISCONNECT SWITCH, SEE SCHEDULE.
	EXISTING MOTOR STARTER.
$M	HEAVY DUTY DOUBLE POLE, SINGLE THROW 20A, 1HP RATED TOGGLE SWITCH. WHERE INDICATED SERVING MECHANICAL EQUIPMENT SWITCH IS TO BE INSTALLED ADJACENT TO EQUIPMENT TO SERVE AS LOCAL DISCONNECTING MEANS. FIELD COORDINATE.
	DOOR OPERATOR PUSH PLATE. REFER TO VENDOR INSTALLATION INSTRUCTIONS AND MOUNT AT HEIGHT AS REQUIRED BY ADA. PROVIDE APPROPRIATE BACKBOX FOR DEVICE TO BE INSTALLED AND PROVIDE WIRING TO MOTORIZED DOOR OPERATOR CONCEALED IN WALLS AS REQUIRED FOR COMPLETE INSTALLATION. COORDINATE WITH EQUIPMENT VENDOR AND ARCHITECTURAL DRAWINGS.
(J) POWERED DOOR	MOTORIZED DOOR OPERATOR. VERIFY CONTROL TYPE WITH ARCHITECTURAL DOOR AND HARDWARE SCHEDULES AND EQUIPMENT BEING FURNISHED. PROVIDE RACEWAY AND WIRING AS REQUIRED TO WALL MOUNTED MANUAL PUSH PLATES OR AUTOMATIC MOTION SENSOR AS REQUIRED FOR EACH LOCATION. COORDINATE WITH HARDWARE BEING FURNISHED AND PROVIDE LABOR AND MATERIALS AS REQUIRED TO CONNECT COMPLETE.
	MULTI-SERVICE POWER / COMMUNICATIONS FLOOR BOX. "POKE-THRU" DEVICE WHERE INSTALLED ON UPPER FLOORS. PROVIDE QUAD OUTLET WITH 120V. CIRCUIT AS SPECIFIED. PROVIDE 2 - 1-1/4"C. FOR COMMUNICATIONS SERVICES. ROUTE BELOW GRADE TO NEAREST VERTICAL WALL. RISE TO CEILING SPACE ABOVE AND ROUTE OVERHEAD TO EITHER CABLE TRAY OR COMMUNICATIONS ROOM.
G	GROUNDING TERMINAL FOR COMMUNICATIONS PLYWOOD. CONNECT TO GROUND OF ELECTRICAL PANEL SPECIFIED ON DRAWINGS.
WIRING DEVICE TYPICAL NOTATIONS	
GFI	GROUND FAULT CIRCUIT INTERRUPTER TYPE RECEPTACLE.

ELECTRICAL SYMBOL SCHEDULE - LIGHTING SYSTEMS AND ACCESSORIES

LIGHT FIXTURES	
	CEILING MOUNTED LIGHT FIXTURE. REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE AND MOUNTING. SEE RECESSED LAY-IN FIXTURE DETAIL FOR LAY-IN FIXTURES MOUNTED IN CEILING GRID.
	WALL MOUNTED LIGHT FIXTURE. REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE. MOUNTING HEIGHTS AS INDICATED ON DRAWINGS OR IN LIGHT FIXTURE SCHEDULE OR AS DIRECTED BY OWNER.
	CEILING MOUNTED LIGHT FIXTURE. CONNECT TO THE EMERGENCY GENERATOR AS SPECIFIED VIA ELC DEVICE. REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE AND MOUNTING. SEE RECESSED LAY-IN FIXTURE DETAIL FOR LAY-IN FIXTURES MOUNTED IN CEILING GRID.
	CEILING MOUNTED LIGHT FIXTURE. REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE AND MOUNTING. PROVIDE MOUNTING HARDWARE APPROPRIATE FOR TYPE OF CEILING WHERE FIXTURE IS INSTALLED. SEE ARCHITECTURAL REFLECTED CEILING PLAN.
	EXISTING PENDANT MOUNTED OR SURFACE CEILING MOUNTED LIGHT FIXTURE.
	EXISTING SURFACE CEILING MOUNTED LIGHT FIXTURE.
	EXISTING RECESSED CEILING MOUNTED LIGHT FIXTURE.
	EXISTING STRIP LIGHT FIXTURE.
	LED EXIT SIGN WITH INTEGRAL EGRESS HEADS, WALL OR CEILING MOUNTED, STEM DENOTES WALL MOUNTED. SINGLE FACE FOR WALL MOUNTED, FACES AS INDICATED BY DARKENED AREAS FOR CEILING MOUNTED. ARROWS DENOTE CHEVRONS INDICATING DIRECTION OF EXIT AS INDICATED ON DRAWINGS. REFER TO LIGHTING FIXTURE SCHEDULE FOR TYPE.
	REMOTE LED EMERGENCY LIGHTS. CIRCUIT TO ADJACENT LED EXIT SIGN FOR POWER. REFER TO LIGHT FIXTURE SCHEDULE FOR TYPE AND MOUNTING INSTRUCTIONS.
	WALL OR CEILING MOUNTED FLOOD LIGHT OR FACADE LIGHT. REFER TO LIGHTING FIXTURE SCHEDULE FOR TYPE.
	LED EMERGENCY LIGHTING UNIT. REFER TO LIGHTING FIXTURE SCHEDULE FOR TYPE. MOUNT AT 7'6"AFF UNLESS OTHERWISE NOTED.
LIGHT FIXTURE TYPICAL NOTATIONS	
A	DENOTES LIGHT FIXTURE OR LUMINAIRE TYPE. SEE LIGHT FIXTURE SCHEDULE (FIXTURE TYPE A IN THIS EXAMPLE).
P-11	PANELBOARD AND CIRCUIT NUMBER (PANELBOARD P, CIRCUIT 11 IN THIS EXAMPLE). SEE PANEL SCHEDULES.
P-11a	DENOTES LIGHT FIXTURE OR LUMINAIRE CONTROLLED BY THE CORRESPONDING LIGHT SWITCH, CONTROL DEVICE, OR SWITCH LEG (LIGHT SWITCH, CONTROL DEVICE OR SWITCH LEG a IN THIS EXAMPLE). THIS NOTATION TYPICALLY FOLLOWS THE CIRCUIT NUMBER NOTATION (PANEL P, CIRCUIT 11; LIGHT SWITCH, CONTROL DEVICE OR SWITCH LEG a IN THIS EXAMPLE, BUT MAY NOT FOLLOW A CIRCUIT NUMBER WHEN PROVIDING ADDITIONAL INFORMATION FOR AN EXISTING LIGHT FIXTURE.
NL	DENOTES LIGHT FIXTURE THAT SERVES AS A NIGHT LIGHT AND IS TO BE CONNECTED TO UNSWITCHED LIGHTING CIRCUIT TO RUN CONSTANTLY.
LIGHTING CONTROL DEVICES	
$	SPECIFICATION GRADE WALL SWITCH, SINGLE POLE, 20A, 120-277V, UNLESS NOTED OTHERWISE. PROVIDE NEUTRAL CONDUCTOR TO ALL SWITCH LOCATIONS. WHERE SUBSCRIPT DESIGNATIONS ARE INDICATED ADJACENT TO DEVICE, SEE SWITCHING DEVICE SUBSCRIPT DESIGNATIONS BELOW FOR ADDITIONAL REQUIREMENTS.
OC	CEILING MOUNTED LOW VOLTAGE 360° COVERAGE OCCUPANCY SENSOR, DUAL TECHNOLOGY UNLESS OTHERWISE NOTED ON DRAWINGS. WATTSTOPPER DT-300/305 OR EQUIVALENT. "P" DENOTES PASSIVE INFRARED TYPE (WATTSTOPPER CI-300/305), "U" DENOTES ULTRASONIC TYPE (WATTSTOPPER WT SERIES). PROVIDE QUANTITY OF POWER PACKS AS REQUIRED TO SUIT LOAD. PROVIDE SIGNAL CABLING AS REQUIRED TO LINK MULTIPLE SENSORS/POWER PACKS SERVING COMMON AREA OR LIGHTING ZONE.
SWITCHING DEVICE SUBSCRIPT DESIGNATIONS AND NOTATIONS	
3	3-WAY SWITCH.
D	120V LED DIMMER SWITCH, 0-10V, SUITABLE FOR LOADS CONTROLLED, SUPPLIED BY LUTRON OR PRIOR APPROVED MANUFACTURER. PROVIDE NEUTRAL CONDUCTOR TO ALL SWITCH LOCATIONS.
OC	120-277V OCCUPANCY SENSOR WALL SWITCH. PASSIVE INFRARED TYPE UNLESS OTHERWISE NOTED ON DRAWINGS. WATTSTOPPER PW-100 OR EQUIVALENT. "D" DENOTES DUAL TECHNOLOGY TYPE (WATTSTOPPER DW-100), "U" DENOTES ULTRASONIC TYPE (WATTSTOPPER UW-100).
Da	DENOTES LIGHT SWITCH OR CONTROL DEVICE THAT CONTROLS THE CORRESPONDING SWITCH LEG AND ALL LIGHT FIXTURES OR LUMINARIES ON THAT SWITCH LEG (SWITCH LEG a IN THIS EXAMPLE). THIS NOTATION TYPICALLY FOLLOWS ADDITIONAL SUBSCRIPT DESIGNATIONS (DIMMER SWITCH CONTROLLING LEG a IN THIS EXAMPLE.)
•	DENOTES LIGHT SWITCH OR CONTROL DEVICE IS SURFACE MOUNTED.
L	EXISTING LOCKED SWITCH, WITH COVER TO PREVENT SWITCH USE.



****ALL MOUNTING HEIGHTS ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.****

DEVICE MOUNTING HEIGHTS
NO SCALE

DISCONNECT SWITCH SCHEDULE

SWITCH	DESCRIPTION
S-1	30A/2P
S-2	60A/2P
S-3	100A/2P
S-4	200A/2P
S-5	400A/2P
S-6	30A/3P
S-7	60A/3P
S-8	100A/3P
S-9	200A/3P
S-10	400A/3P
S-11	30A/4WSN
S-12	60A/4WSN
S-13	100A/4WSN
S-14	200A/4WSN
S-15	400A/4WSN

SWITCH NOTES:

1. ALL DISCONNECTS SHALL BE HEAVY DUTY TYPE.
2. 240V OR 600V TO SUIT CIRCUIT VOLTAGE.
3. ALL DISCONNECTS FUSIBLE UNLESS OTHERWISE NOTED, PROVIDE FUSES TO SUIT LOAD.
4. ENCLOSURES NEMA 3R OUTDOORS AND IN WET LOCATIONS, NEMA 1 ELSEWHERE UNLESS OTHERWISE NOTED.
5. ALL OUTDOOR DISCONNECTS SERVING GROUND MOUNTED HVAC UNITS SHALL NOT BE MOUNTED HIGHER THAN 36" ABOVE FINISHED GRADE.

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owner
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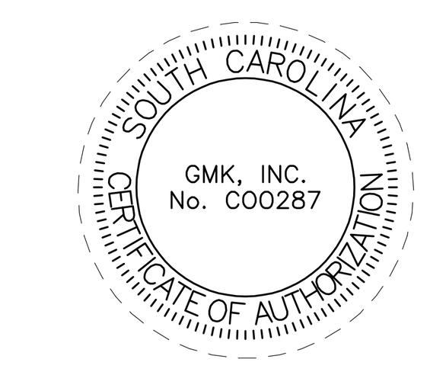
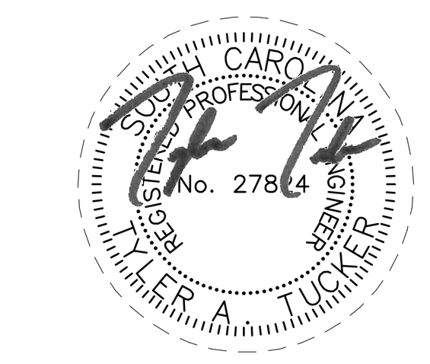
project name
SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

project number
JOB NO. D50-6103-LC

seals/signature





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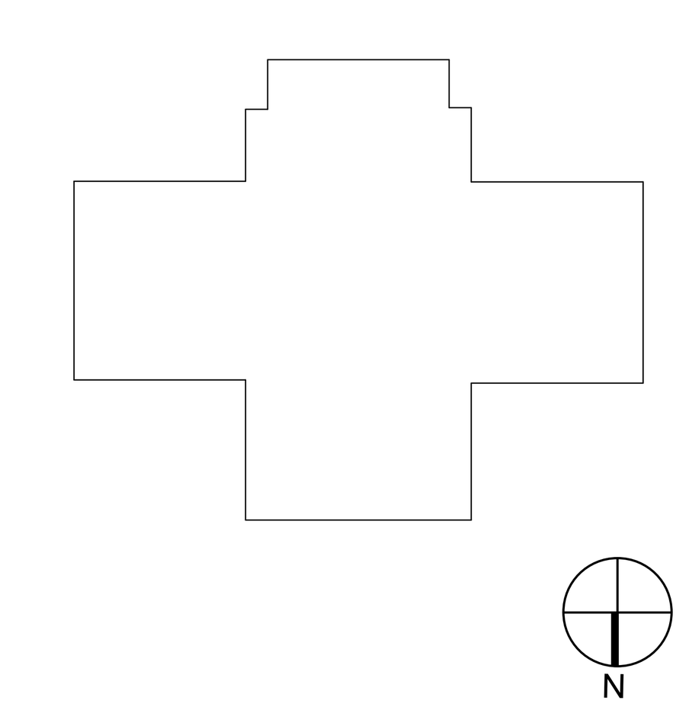

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ELECTRICAL SYMBOLS AND NOTES

sheet number
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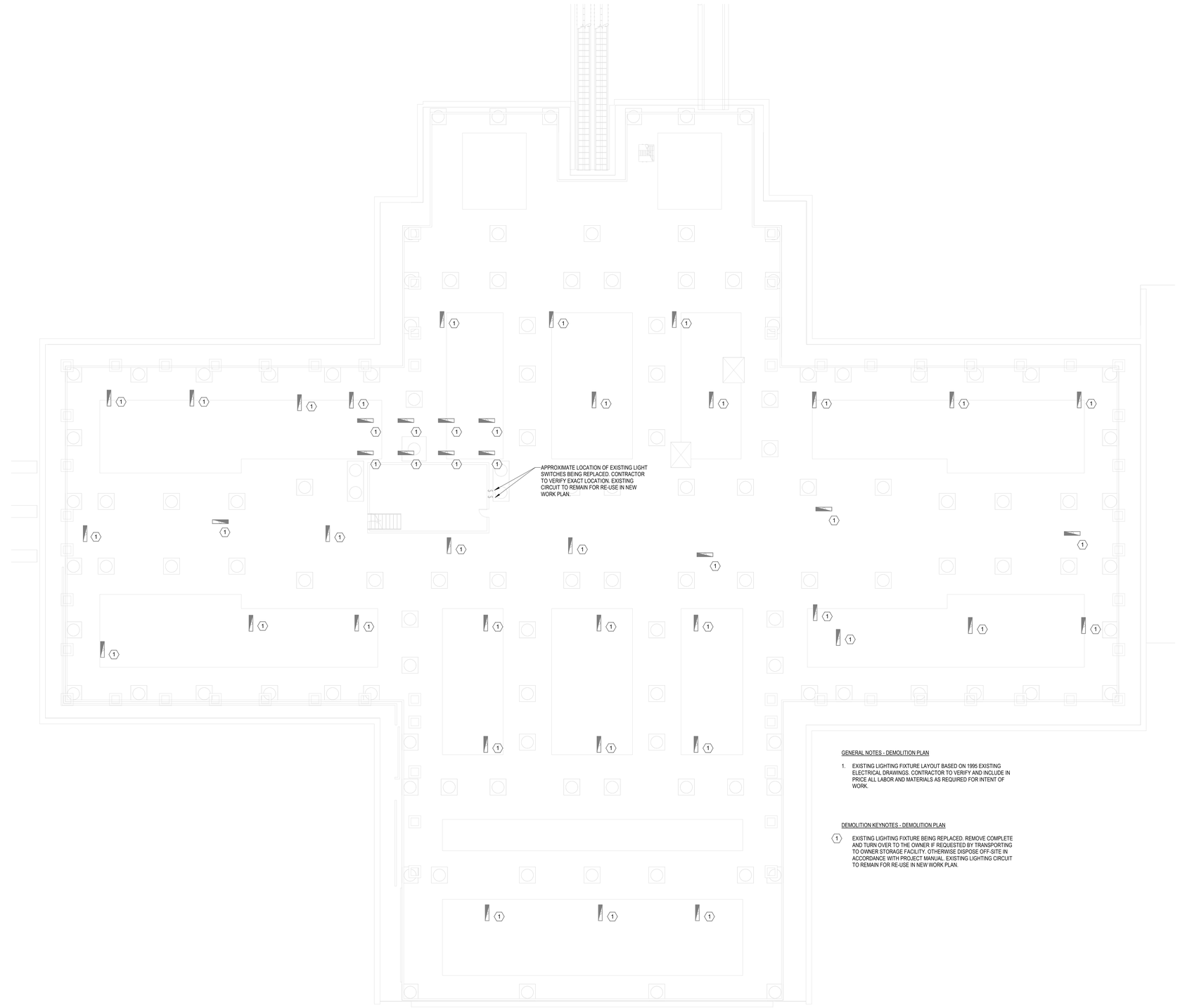

1 SUB BASEMENT DEMOLITION PLAN
3/32" = 1'-0"

GENERAL NOTES - DEMOLITION PLAN

1. EXISTING LIGHTING FIXTURE LAYOUT BASED ON 1995 EXISTING ELECTRICAL DRAWINGS. CONTRACTOR TO VERIFY AND INCLUDE IN PRICE ALL LABOR AND MATERIALS AS REQUIRED FOR INTENT OF WORK.

DEMOLITION KEYNOTES - DEMOLITION PLAN

1 EXISTING LIGHTING FIXTURE BEING REPLACED. REMOVE COMPLETE AND TURN OVER TO THE OWNER IF REQUESTED BY TRANSPORTING TO OWNER STORAGE FACILITY. OTHERWISE DISPOSE OFF-SITE IN ACCORDANCE WITH PROJECT MANUAL. EXISTING LIGHTING CIRCUIT TO REMAIN FOR RE-USE IN NEW WORK PLAN.

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seals/signature

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION GMK, INC. No. C00287

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 27864 TIMOTHY A. TUCKER

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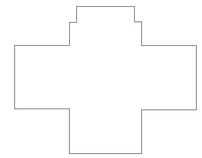

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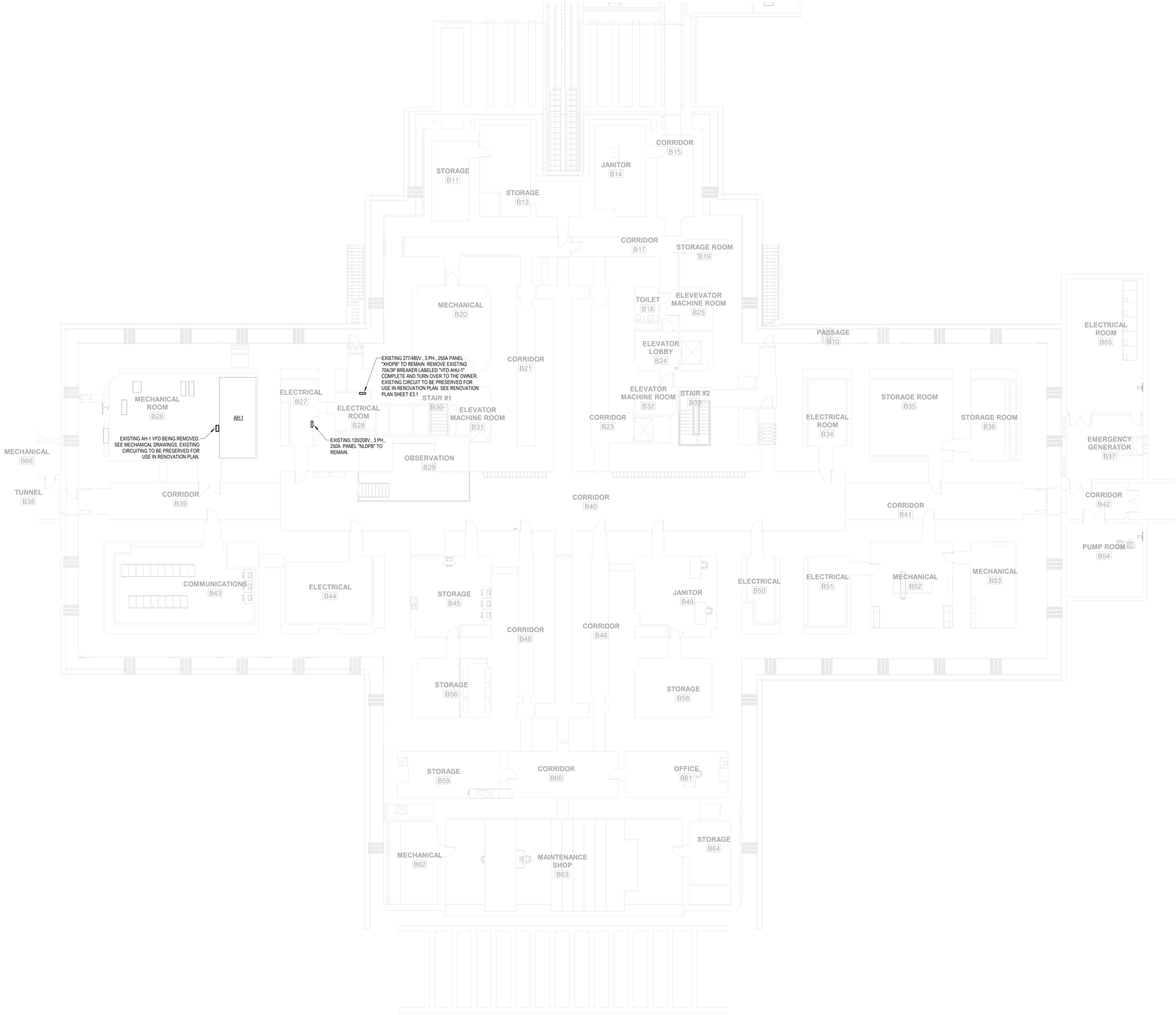
SUB BASEMENT LIGHTING DEMOLITION PLAN

sheet number
E1.1

drawn by ACK
checked by TAT



1 BASEMENT LEVEL POWER DEMOLITION PLAN
3/32" = 1'-0"

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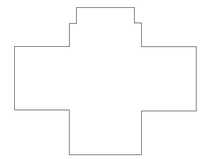

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BASEMENT LEVEL POWER DEMOLITION PLAN

sheet number
E1.2

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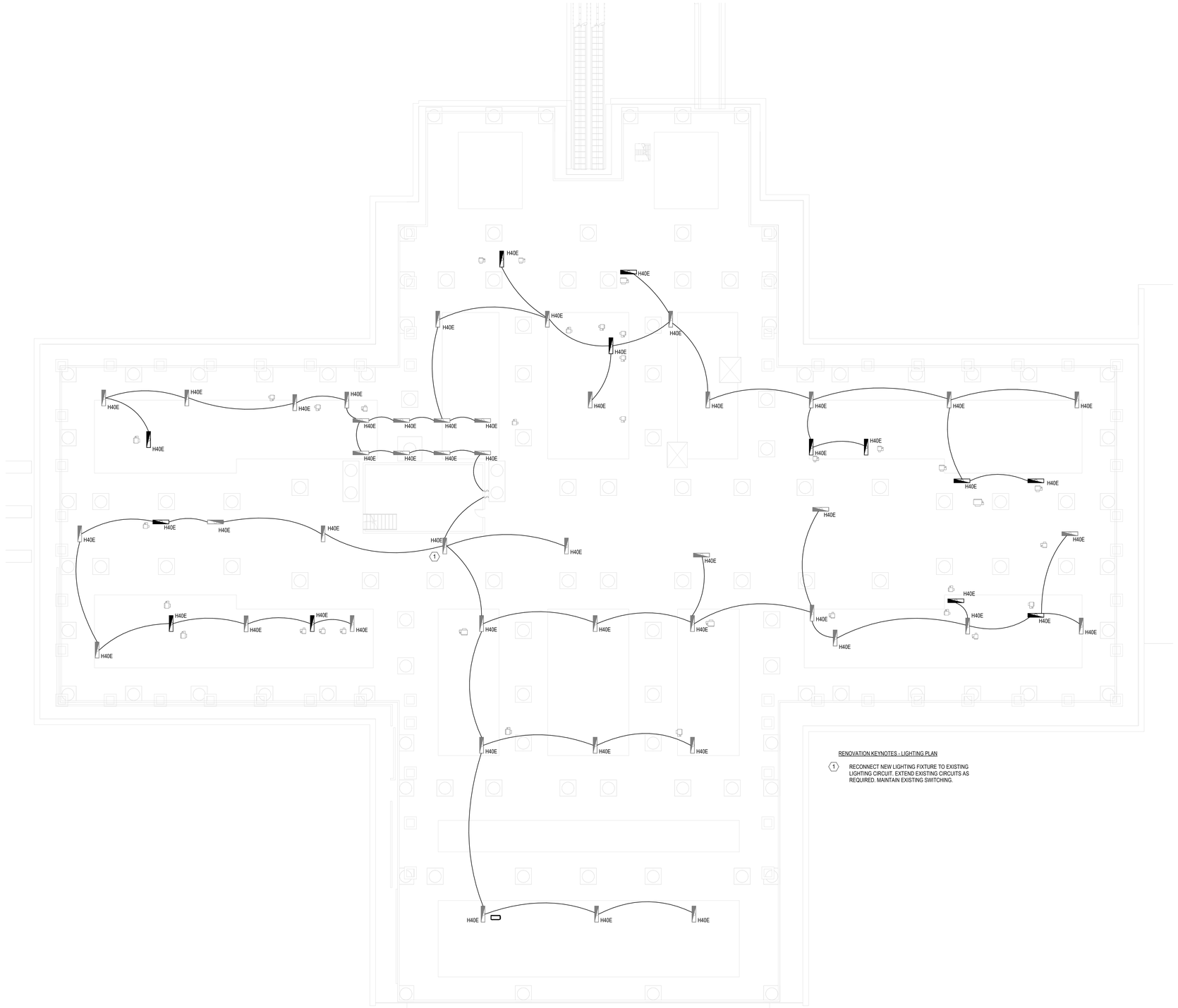

RENOVATION KEYNOTES - LIGHTING PLAN

1 RECONNECT NEW LIGHTING FIXTURE TO EXISTING LIGHTING CIRCUIT. EXTEND EXISTING CIRCUITS AS REQUIRED. MAINTAIN EXISTING SWITCHING.

1 SUB BASEMENT LIGHTING PLAN
3/32" = 1'-0"

Lighting Fixture Schedule					
Type	Description	Manufacturer	Model	Input Wattage	Comments
H40E	4-FOOT, VAPOR-TIGHT LED FIXTURE WITH FROSTED POLYCARBONATE LENS, 6000 LUMENS, 4000K, 80 CRI, 0-10V DIMMING CAPABILITY, SURFACE MOUNTED OR PENDANT HUNG.	LITHONIA	CSVT-L48-6000LM-MVOLT-4000K-80CRI-IE7WCP	49W	PROVIDE WITH INTEGRAL BATTERY BACKUP. CONNECTED LINE SIDE OF ANY SWITCHING.

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SUB BASEMENT LIGHTING RENOVATION PLAN

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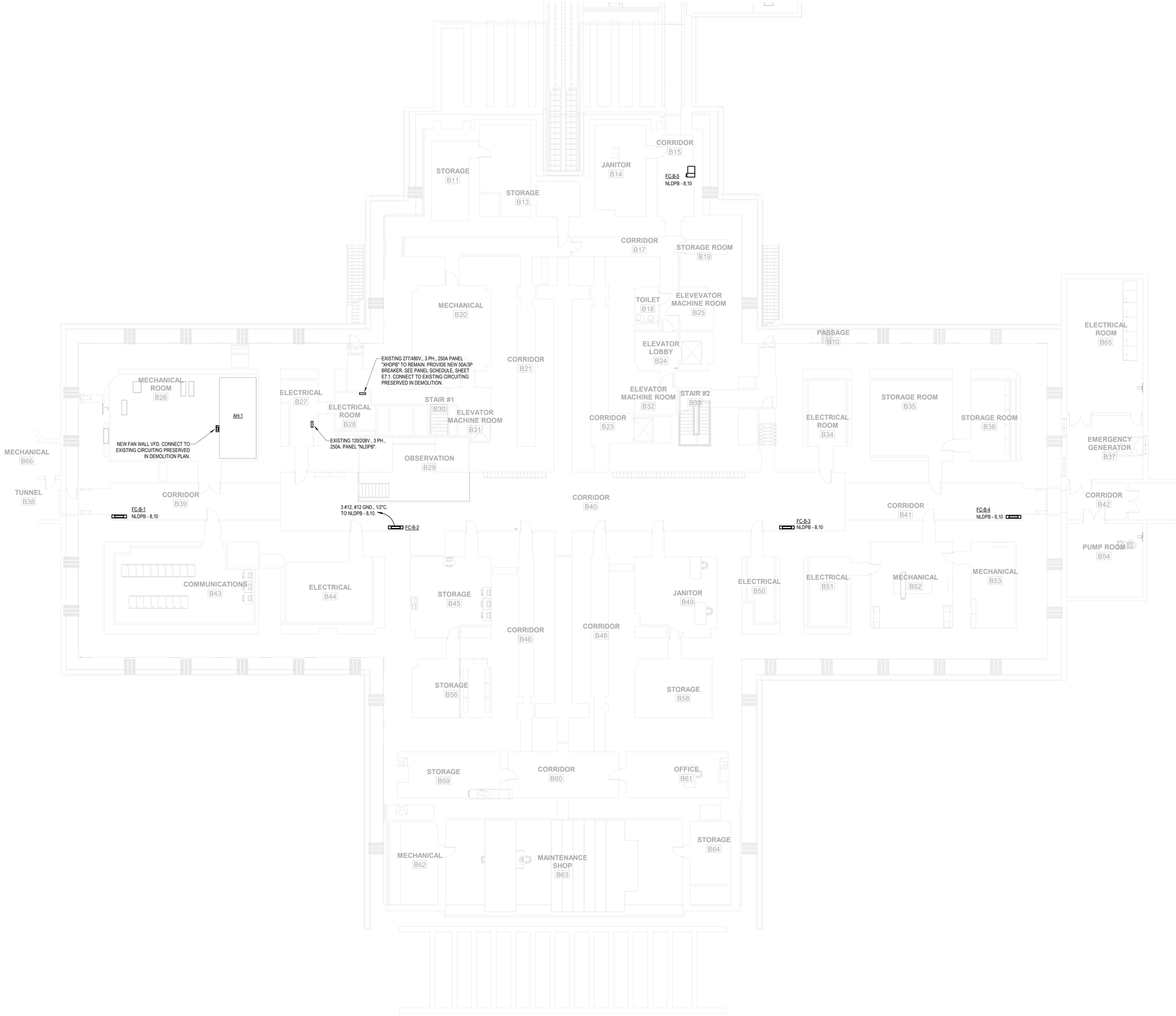

1 BASEMENT LEVEL POWER RENOVATION PLAN
3/32" = 1'-0"

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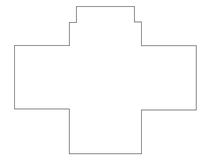

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BASEMENT LEVEL POWER PLAN

sheet number
E3.1

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Branch Panel: XHDPB

Location: ELECTRICAL ROOM B28
Supply From: XDP
Mounting: Surface Mounted
Enclosure: Type 1

Volts: 277/480 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22k
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	VFD Fan Wall	20 A	3	9.8 kVA	--					3	--	(EX.) Elevator 1	2
3	--	--	--			9.8 kVA	--			--	--	--	4
5	--	--	--					9.8 kVA	--	--	--	--	6
7	Spare	--	3	--	--					3	--	(EX.) Panel AXHB	8
9	--	--	--			--	--			--	--	--	10
11	--	--	--					--	--	--	--	--	12
13	(EX.) VFD-HHWP	--	3	--	--					3	--	(EX.) Panel 2XHB	14
15	--	--	--			--	--			--	--	--	16
17	--	--	--					--	--	--	--	--	18
19	(EX.) Panel XLDPB Via TXLD	--	3	--	--					3	--	(EX.) Panel 1XHB	20
21	--	--	--			--	--			--	--	--	22
23	--	--	--					--	--	--	--	--	24
25	Space	--	3	--	--					3	--	Space	26
27	--	--	--			--	--			--	--	--	28
29	--	--	--					--	--	--	--	--	30
31	Space	--	3	--	--					3	--	Space	32
33	--	--	--			--	--			--	--	--	34
35	--	--	--					--	--	--	--	--	36
37	Space	--	3	--	--					3	--	(EX.) Power Cond. Filter PCF-XLDPB	38
39	--	--	--			--	--			--	--	--	40
41	--	--	--					--	--	--	--	--	42
			New Total Load:	9.8 kVA		9.8 kVA		9.8 kVA					
			New Total Amps:	35 A		35 A		35 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	29500 VA	100.00%	29500 VA		
				New Conn. Load:	29500 VA
				New Est. Demand:	29500 VA
				New Conn.:	35 A
				New Est. Demand:	35 A

Notes:
NOTE 1: "EX." DENOTES EXISTING CIRCUIT BREAKER TO REMAIN.

Branch Panel: NLDPB

Location: ELECTRICAL B27
Supply From: TNLDPB
Mounting: Surface Mounted
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10k
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	(EX.) Receptacles	--	1	--	--					1	--	(EX.) EF-6	2
3	(EX.) Receptacles	--	1			--	--			1	--	(EX.) CP-6.	4
5	(EX.) Receptacles	--	1					--	--	1	--	Spare	6
7	(EX.) Receptacles	--	1	--	0.9 kVA					2	20 A	Fan Coils (Basement)	8
9	(EX.) Receptacles	--	1			--	0.9 kVA			--	--	--	10
11	(EX.) Receptacles	--	1					--	--	1	--	Space	12
13	Spare	--	1	--	--					1	--	Space	14
15	Spare	--	1			--	--			1	--	Space	16
17	Space	--	1					--	--	1	--	Space	18
19	Space	--	1	--	--					1	--	Space	20
21	Space	--	1			--	--			1	--	Space	22
23	Space	--	1					--	--	1	--	Space	24
25	Space	--	1	--	--					1	--	Space	26
27	Space	--	1			--	--			1	--	Space	28
29	Space	--	1					--	--	1	--	Space	30
31	(EX.) Panel 2NLB	--	3	--	--					3	--	(EX.) Panel ANLB	32
33	--	--	--			--	--			--	--	--	34
35	--	--	--					--	--	--	--	--	36
37	(EX.) Panel 1NLB	--	3	--	--					3	--	(EX.) Power Cond. Filter PCF-NLDPB	38
39	--	--	--			--	--			--	--	--	40
41	--	--	--					--	--	--	--	--	42
			New Total Load:	0.9 kVA		0.9 kVA		0.0 kVA					
			New Total Amps:	8 A		8 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	1750 VA	100.00%	1750 VA		
				New Total Conn. Load:	1750 VA
				New Total Est. Demand:	1750 VA
				New Total Conn.:	5 A
				New Total Est. Demand:	5 A

Notes:
NOTE 1: "EX." DENOTES EXISTING CIRCUIT BREAKER TO REMAIN.

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 27864 TIMOTHY A. TUCKER

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sheet title
ELECTRICAL SCHEDULES

sheet number
E7.1

drawn by ACK
checked by TAT

GENERAL NOTES:

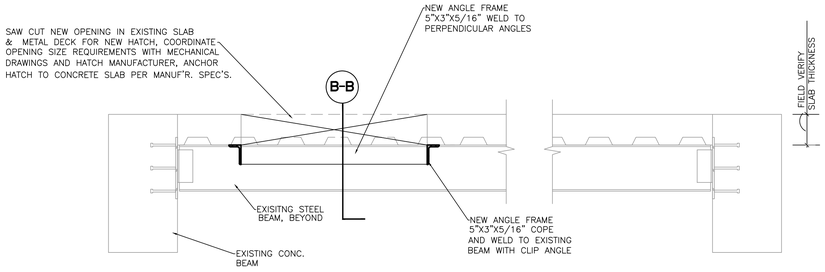
1. LOADS:
   DEAD LOADS: ACTUAL WEIGHTS OF MATERIALS
   LIVE LOADS: 100 PSF
2. VERIFY ALL ELEVATIONS AND DIMENSIONS WITH EXISTING CONDITIONS.
3. SEE MECHANICAL DRAWINGS FOR MISCELLANEOUS DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS BEFORE ANY FABRICATION HAS STARTED.
5. PROVIDE AND INSTALL ALL TEMPORARY BRACING AS REQUIRED FOR SAFETY/STABILITY OF THE STRUCTURE UNTIL STRUCTURE IS COMPLETE.
6. CONTRACTOR SHALL COORDINATE DIMENSIONS AND LOCATIONS OF ANGLE FRAMES AND STRUCTURAL SUPPORT FOR MECHANICAL EQUIPMENT AND HOLES IN SLAB.
7. CONTRACTOR SHALL VISIT SITE TO BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS AND SHALL FIELD VERIFY ALL EXISTING DIMENSIONS, FRAMING CONDITIONS, AND CONNECTIONS BEFORE BEGINNING CONSTRUCTION OR ANY FABRICATION.
8. WHERE DETAIL IS SHOWN ON STRUCTURAL DRAWINGS FOR ONE CONDITION, IT SHALL APPLY TO ALL SIMILAR OR LIKE CONDITIONS, UNLESS NOTED OR SHOWN OTHERWISE ON PLANS.
9. STRUCTURAL STEEL:
   A. STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS, UNLESS NOTED OTHERWISE ON PLANS:
      a. MISCELLANEOUS STEEL ---------- A-36(Fy=36ksi)
   B. WELDED CONNECTIONS:
      a. ALL SHOP AND FIELD WELDING SHALL CONFORM TO AWS STRUCTURAL WELDING CODE-STEEL, ANSI/AWS - D1.1
      b. MINIMUM WELD = 3/16" THICK THROAT
10. REVIEW OF SUBMITTAL AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER OF RECORD DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

REQUIRED SPECIAL INSPECTIONS:

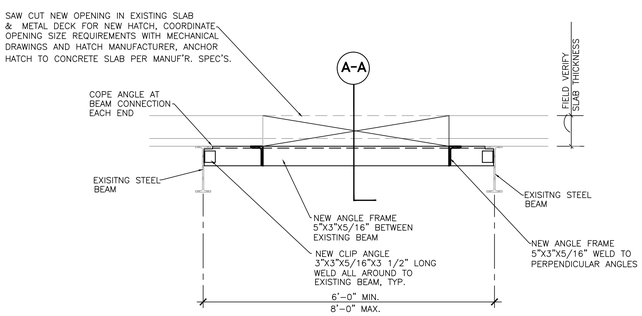
(IBC SECTION 1704)

051200 STRUCTURAL STEEL

1. PERIODIC INSPECTION IS REQUIRED.
   1.1. ALL FIELD PERFORMED SINGLE FILLET WELDS LESS THEN 5/16".
   1.2. AT THE START AND DURING EACH PHASE OF THE PROJECT TO ASCERTAIN PROPOSED CONFORMITY OF MATERIALS, PERSONNEL QUALIFICATIONS AS REQUIRED AND PROCEDURES WITH APPLICABLE CODES, PLANS AND SPECIFICATIONS.



SECTION A-A



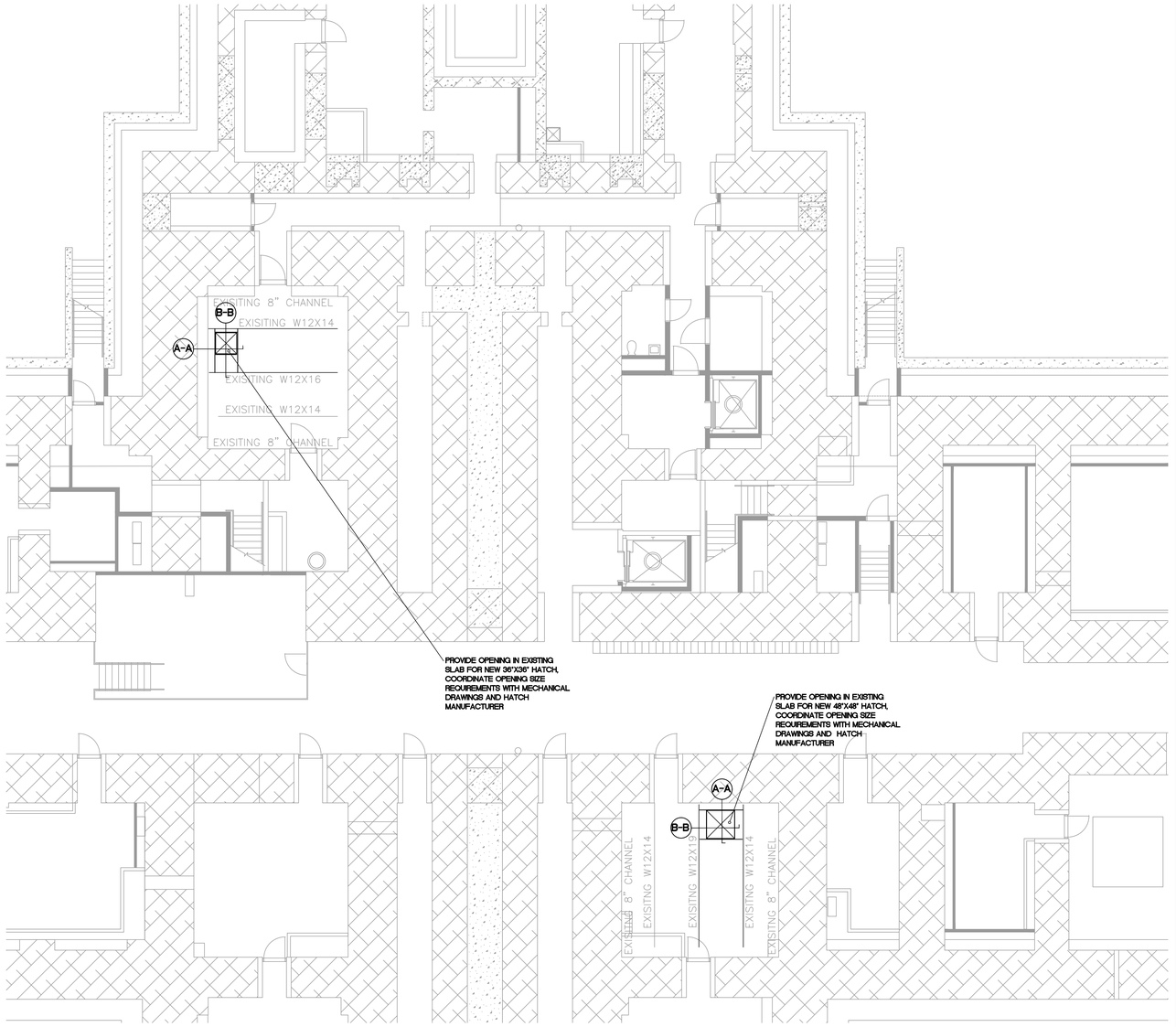
SECTION B-B

NEW ANGLE FRAMING DETAIL AT NEW SLAB OPENINGS

SCALE: 3/4 " = 1'-0"

NOTES:

1. COORDINATE EXACT LOCATIONS OF NEW SLAB OPENINGS WITH MECHANICAL DRAWINGS.
2. CONTACT STRUCTURAL & MECANICAL ENGINEERS IF IN-FIELD FRAMING CONDITIONS ARE DIFFERENT FROM AS SHOWN ON STRUCTURAL PLANS & DETAILS. MODIFICATIONS TO DETAILS MAY BE REQUIRED.
3. FIELD DETERMINE ALL DIMENSIONS BEFORE FABRICATION OF NEW STEEL MEMBERS.



NEW SLAB OPENING FRAMING PLAN

SCALE: 3/8"=1'-0"

NOTES:

1. COORDINATE EXACT LOCATIONS OF NEW SLAB OPENINGS WITH MECHANICAL DRAWINGS.
2. CONTACT STRUCTURAL & MECANICAL ENGINEERS IF IN-FIELD FRAMING CONDITIONS ARE DIFFERENT FROM AS SHOWN ON STRUCTURAL PLANS & DETAILS. MODIFICATIONS TO DETAILS MAY BE REQUIRED.
3. FIELD DETERMINE ALL DIMENSIONS BEFORE FABRICATION OF NEW STEEL MEMBERS.

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owner

SC DEPARTMENT OF ADMINISTRATION - DIVISION OF FACILITIES MANAGEMENT AND PROPERTY SERVICES

project name

SC STATE HOUSE - VAV REPLACEMENT, HVAC CONTROLS AND AHU NO. 1 RE-BUILD

project number

JOB NO. D50-6103-LC

seals/signature

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 17457 ALBERT A. STEVENS

SOUTH CAROLINA MABRY ENGINEERING ASSOCIATES, INC. No. C03489 CERTIFICATE OF AUTHORIZATION

issued for

CONSTRUCTION

date

12/10/25

number	item	date

key plan

N

sheet title

STRUCTURAL NOTES, PLAN & DETAILS

sheet number

S1.0

drawn by GMH

checked by AAS