

SNOW CREEK ES 2CR HVAC UPGRADES

FOR
FRANKLIN COUNTY PUBLIC SCHOOLS

5393 SNOW CREEK RD
PENHOOK VA 24137

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5228 VALLEYPONTE PKWY, SUITE 4
ROANOKE, VIRGINIA 24019
(540) 265-4444

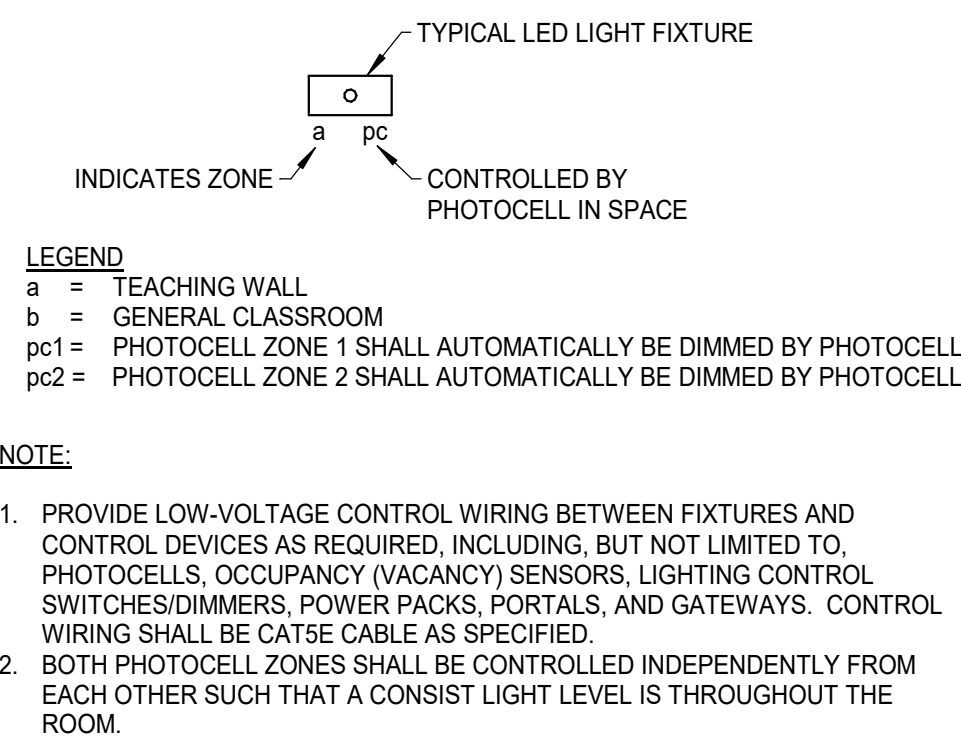
AEG COMM # 2025-0242

02/19/2025

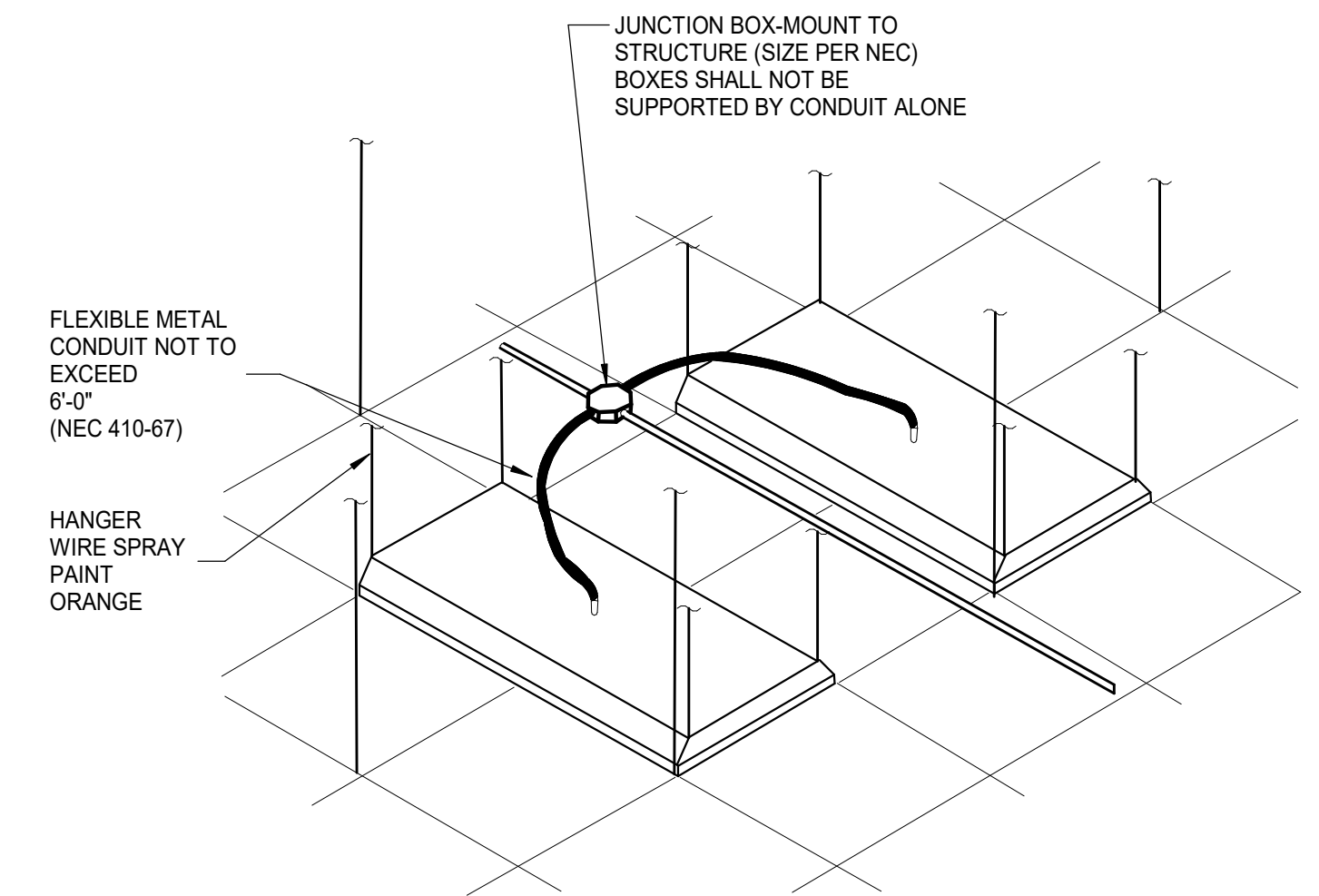
ELECTRICAL NOTES	
1.	ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH VUSBC 2021, NEC 2020, IBC 2021 AND LOCAL CODES AS REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ).
2.	COORDINATE ALL WORK WITH THE CONSTRUCTION COMPLETION SCHEDULE SPECIFIED FOR THE PROJECT AND WITH ALL OTHER TRADES TO ENSURE THAT THE PROJECT IS COMPLETED ON SCHEDULE.
3.	MOUNTING HEIGHTS, UNLESS OTHERWISE NOTED, ARE TO TOP OF EQUIPMENT.
4.	MECHANICAL EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS ON ELECTRICAL DRAWINGS. FOR EXACT LOCATION OF MECHANICAL EQUIPMENT AND PIPING, SEE MECHANICAL DRAWINGS.
5.	CONNECT ALL HVAC AND OTHER CONTRACTOR OR OWNER FURNISHED EQUIPMENT. CHECK EQUIPMENT SHOP DRAWINGS, AND COORDINATE WITH HVAC AND ALL OTHER EQUIPMENT CONTRACTORS FOR DISCONNECT SWITCH, CONDUIT, WIRING REQUIREMENTS, FUSES AND BREAKER SIZES, AND VOLTAGE REQUIREMENTS. PROVIDE CONNECTION TO ACTUAL EQUIPMENT USED ON THIS PROJECT AT NO ADDITIONAL COST TO THE OWNER.
6.	ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTORS AND SHALL PROVIDE NEUTRAL CONDUCTORS FOR MECHANICAL EQUIPMENT WHERE REQUIRED.
7.	THE ELECTRICAL CONTRACTOR(S) SHALL COORDINATE THEIR WORK WITH ALL TRADES PRIOR TO FABRICATION OF SYSTEMS AND COMMENCEMENT OF INSTALLATION. PRIOR TO ANY PROCUREMENT OF MATERIALS, IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO REVIEW THE WORK OF OTHER TRADES (INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, FIRE ALARM, MECHANICAL, LOW-VOLTAGE) AS IT AFFECTS THE ELECTRICAL WORK, AND AS THE ELECTRICAL WORK AFFECTS OTHER TRADES TO ENSURE THE CONSTRUCTION DOCUMENTS ARE CLOSELY FOLLOWED. WHERE DISCREPANCIES ARISE, THEY SHALL BE REFERRED TO THE A/E FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
8.	PLACE JUNCTION BOXES IN ACCESSIBLE LOCATIONS ABOVE CEILINGS (WITHIN 2' OF CEILING). ENSURE THAT ACCESS TO PULL OR J-BOXES IS NOT BLOCKED.
9.	LIGHT FIXTURE WHIPS SHALL NOT BE ROUTED FROM ONE LIGHT FIXTURE TO ANOTHER. THEY MUST ORIGINATE FROM A JUNCTION BOX.
10.	PROVIDE PLENUM RATED, RED FIRE ALARM CABLE FOR ALL FIRE ALARM DEVICES AS REQUIRED. ALL FIRE ALARM SYSTEM DEVICES TOUCHED BY THIS PROJECT SHALL BE TESTED UPON REINSTALLATION FOR PROPER OPERATION. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DEVICE OR WIRING AFFECTED BY THIS PROJECT THAT IS NOT COMPLETELY OPERATIONAL.
11.	PROVIDE PLENUM RATED CABLE FOR ALL LOW-VOLTAGE DEVICES, IF REQUIRED FOR REINSTALLATION OF DEVICE. ALL EXISTING LOW-VOLTAGE DEVICES REINSTALLED SHALL BE TESTED TO ENSURE PROPER OPERATION AND REPAIRED OR REPLACED IF DAMAGED OR NON-FUNCTIONAL.

AFF TOP OF OUTLET UNLESS NOTED	ELECTRICAL SYMBOLS	
	SYMBOL	DESCRIPTION
CEILING		CEILING OUTLET WITH LED FIXTURE, COMPLETE WITH ALL REQUIRED LOW-VOLTAGE AND LINE-VOLTAGE WIRING REQUIRED TO ACHIEVE INDICATED ZONE AND CONTROL FUNCTIONS. REFER TO DETAIL FOR SUBSCRIPT DESIGNATION. CONTROLS SHALL NOT BE BUILT-INTO THE LIGHT FIXTURES. FIXTURE SHALL BE CONNECTED TO EXISTING LIGHTING CIRCUIT IN SPACE.
4'-0"	sD2	LOW-VOLTAGE LIGHTING CONTROLLER, TWO-ZONE, DIMMER, WITH ON/OFF SWITCH, COMPLETE WITH WIRING, nLIGHT nPODM 2P DX WH. UTILIZE EXISTING BOXES AND RACEWAY WHERE POSSIBLE.
CEILING		CEILING MOUNTED VACANCY SENSOR, 360 DEGREE, nLIGHT. REFER TO SPECIFICATION SECTION 26 09 23.
CEILING		CEILING DAYLIGHT HARVESTING PHOTOCELL, nLIGHT. REFER TO SPECIFICATION SECTION 26 09 23.
		EXISTING CEILING OUTLET AND LIGHT FIXTURE TO BE REMOVED
	S	EXISTING SWITCH TO BE REMOVED. EXISTING LIGHTING CIRCUIT SHALL BE KEPT CONTINUOUS.
		EXISTING SMOKE DETECTOR TO BE REMOVED AND RETAINED FOR REINSTALLATION
		EXISTING WIRELESS ACCESS POINT TO BE REMOVED AND RETAINED FOR REINSTALLATION
		EXISTING FIRE ALARM, CEILING NOTIFICATION DEVICE TO BE REMOVED AND RETAINED FOR REINSTALLATION
		EXISTING, RETAINED WIRELESS ACCESS POINT REINSTALLED
		EXISTING, RETAINED FIRE ALARM, CEILING NOTIFICATION DEVICE REINSTALLED
		EXISTING SMOKE DETECTOR TO BE REINSTALLED
	ERNS	EXISTING, RETAINED CEILING MOUNTED CLASSROOM INTERCOM SPEAKER REINSTALLED
	RRNS	EXISTING, RETAINED CEILING MOUNTED CLASSROOM INTERCOM SPEAKER TO BE REMOVED AND RETAINED FOR REINSTALLATION
	ERN	EXISTING WALL MOUNTED CLASSROOM SPEAKER REINSTALLED
	RRNS	EXISTING WALL MOUNTED CLASSROOM SPEAKER TO BE REMOVED AND RETAINED FOR REINSTALLATION
		EXISTING RETAINED CLOCK REINSTALLED
		EXISTING CLOCK TO BE REMOVED AND RETAINED FOR REINSTALLATION

LIGHTING FIXTURE SCHEDULE							
TYPE	VOLTAGE, V	MANUFACTURER	MODEL	LUMENS	COLOR TEMP., K	WATTAGE, W	NOTES
RT1	120	LITHONIA	2BLT4 48L AD5M MVOLT EZ1 LP840	5,039	4,000	38	

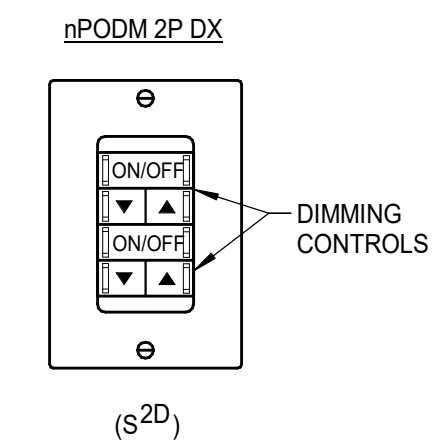


LIGHT ZONE CONTROL
NO SCALE



TYPICAL 2x4 LAY-IN FIXTURE
NO SCALE

- NOTE:**
1. LIGHTING FIXTURE SHALL BE FASTENED TO THE STRUCTURE WITH HANGERS AT EACH CORNER OF THE FIXTURE INDEPENDENT OF THE CEILING GRID.



LOW VOLTAGE LIGHTING CONTROLLER
NO SCALE



REVISIONS:

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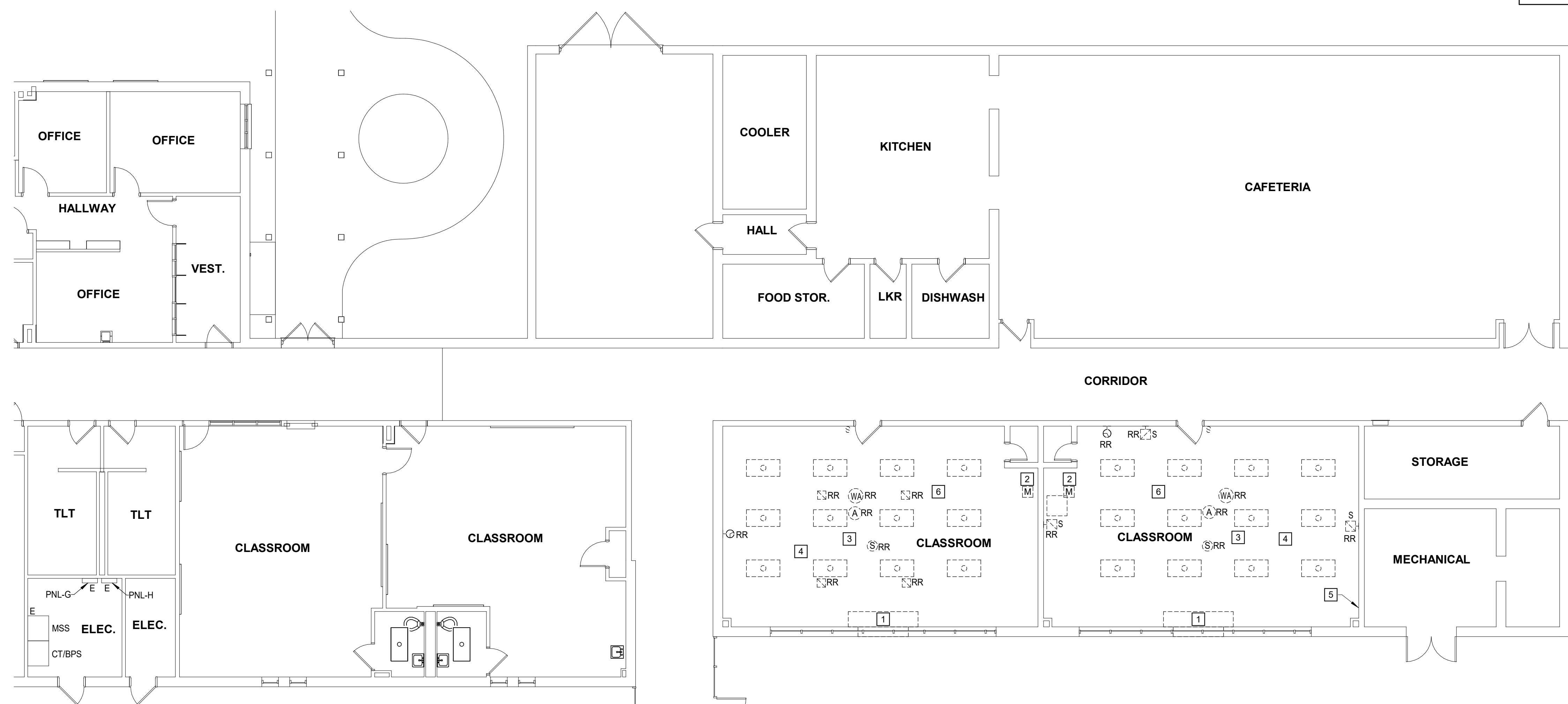
BID
DOCUMENTS

SHEET TITLE:
PARTIAL FIRST
FLOOR
ELECTRICAL
DEMOLITION
PLAN

SHEET NUMBER:

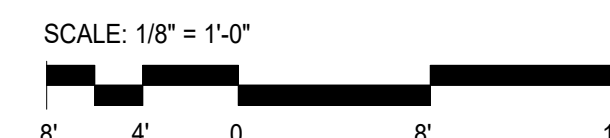
E1.1

- GENERAL NOTES:
- FOR ANY DEVICES REMOVED TO BE REINSTALLED, COIL, BUNDLE, AND SUPPORT EXISTING WIRING TO KEEP PROTECTED DURING CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE FOR TESTING, REPORTING, AND DOCUMENTING ANY DAMAGED OR NON-OPERATIONAL COMPONENTS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR PROPER OPERATION OF ALL ELECTRICAL COMPONENTS AFFECTED BY THIS PROJECT, UNLESS NOTED AND DOCUMENTED OTHERWISE AS AN EXISTING CONDITION.
- DEMOLITION NOTES
- EXISTING UNIT VENTILATOR AND CONTROLS SHALL BE DISCONNECTED ELECTRICALLY PRIOR TO BEING REMOVED. ASSOCIATED CIRCUIT SHALL BE REMOVED TO SOURCE OR NEXT EXISTING TO REMAINING DEVICE.
 - EXISTING MOD UNIT AND CONTROLS SHALL BE DISCONNECTED ELECTRICALLY PRIOR TO BEING REMOVED. RETAIN EXISTING CIRCUIT AND WIRING FOR EXTENSION. REFER TO DRAWING E2.1.
 - REMOVE EXISTING CEILINGS, INCLUDING ACT AND GYPSUM BOARD CEILINGS AND BULKHEADS. COMPLETE WITH ALL SUPPORT WIRES AND HARDWARE. PROVIDE SUPPORT FOR ANY CABLING OR RACEWAY THAT IS SUPPORTED BY CEILING COMPONENTS BEING REMOVED.
 - REMOVE PROJECTOR AND RETAIN FOR REINSTALLATION. PROTECT ALL WIRING AND CONNECTORS DURING CONSTRUCTION.
 - REMOVE EXISTING TACK STRIPS AND RETAIN FOR REINSTALLATION.
 - RETAIN EXISTING LIGHTING CIRCUIT IN THIS ROOM.

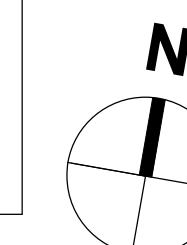


1 PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMOLITION
E1.1 SCALE: 1/8" = 1'-0"

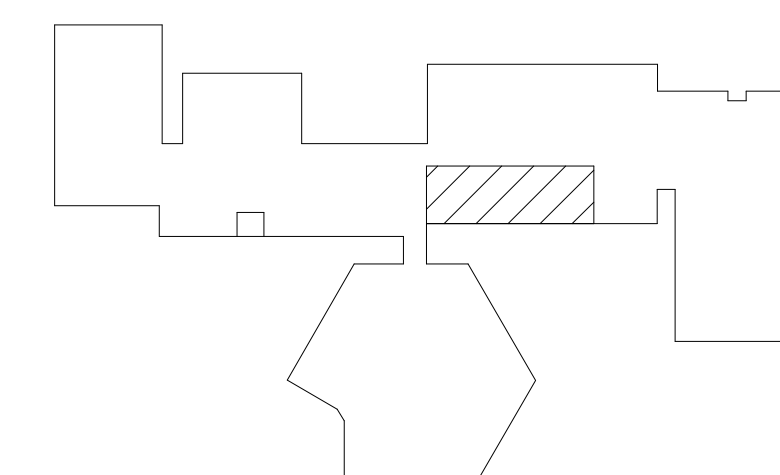
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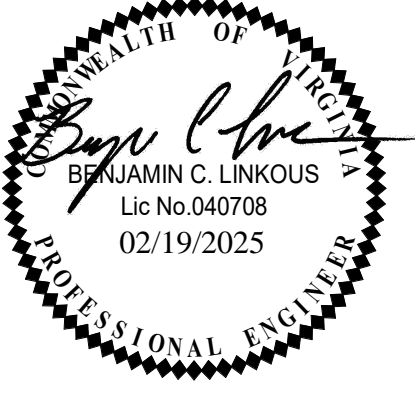


THESE DRAWINGS ARE BASED ON HISTORICAL DRAWINGS OF THE EXISTING BUILDING. CONTRACTOR SHALL VERIFY ALL CONDITIONS PRIOR TO FABRICATION OF SYSTEM. MODIFICATIONS SHALL BE MADE ONLY AFTER APPROVAL BY THE ENGINEER.



KEY PLAN - SNOW CREEK
NOT TO SCALE





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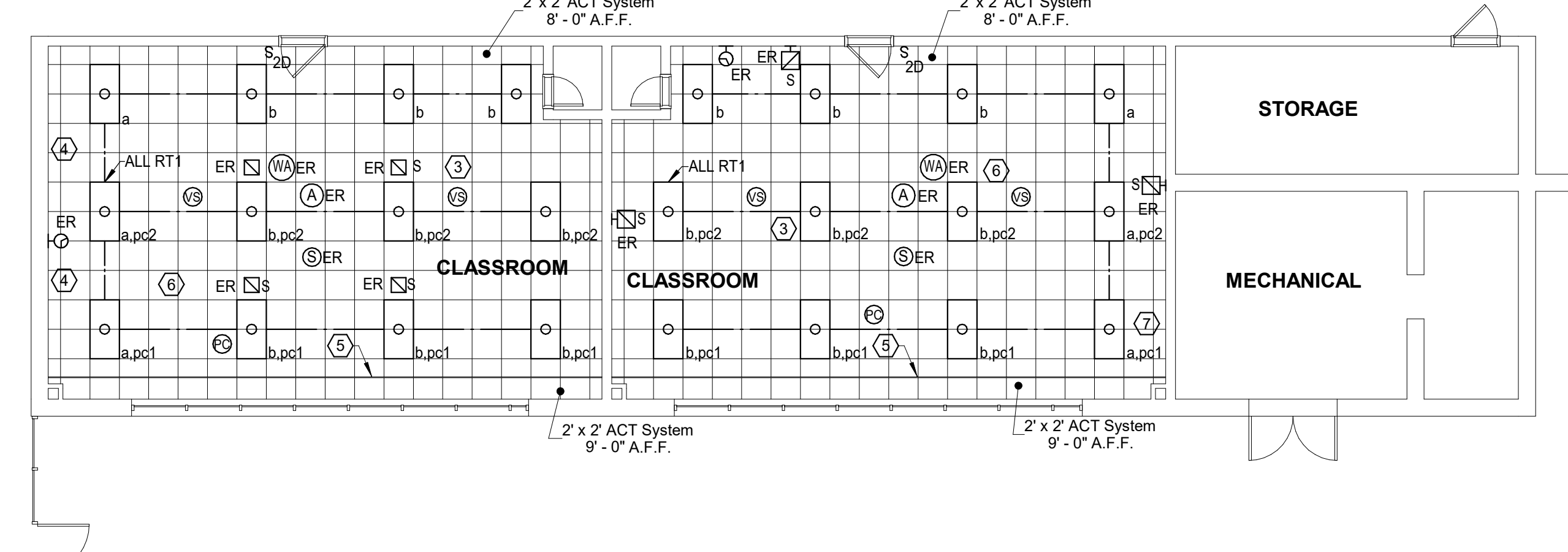
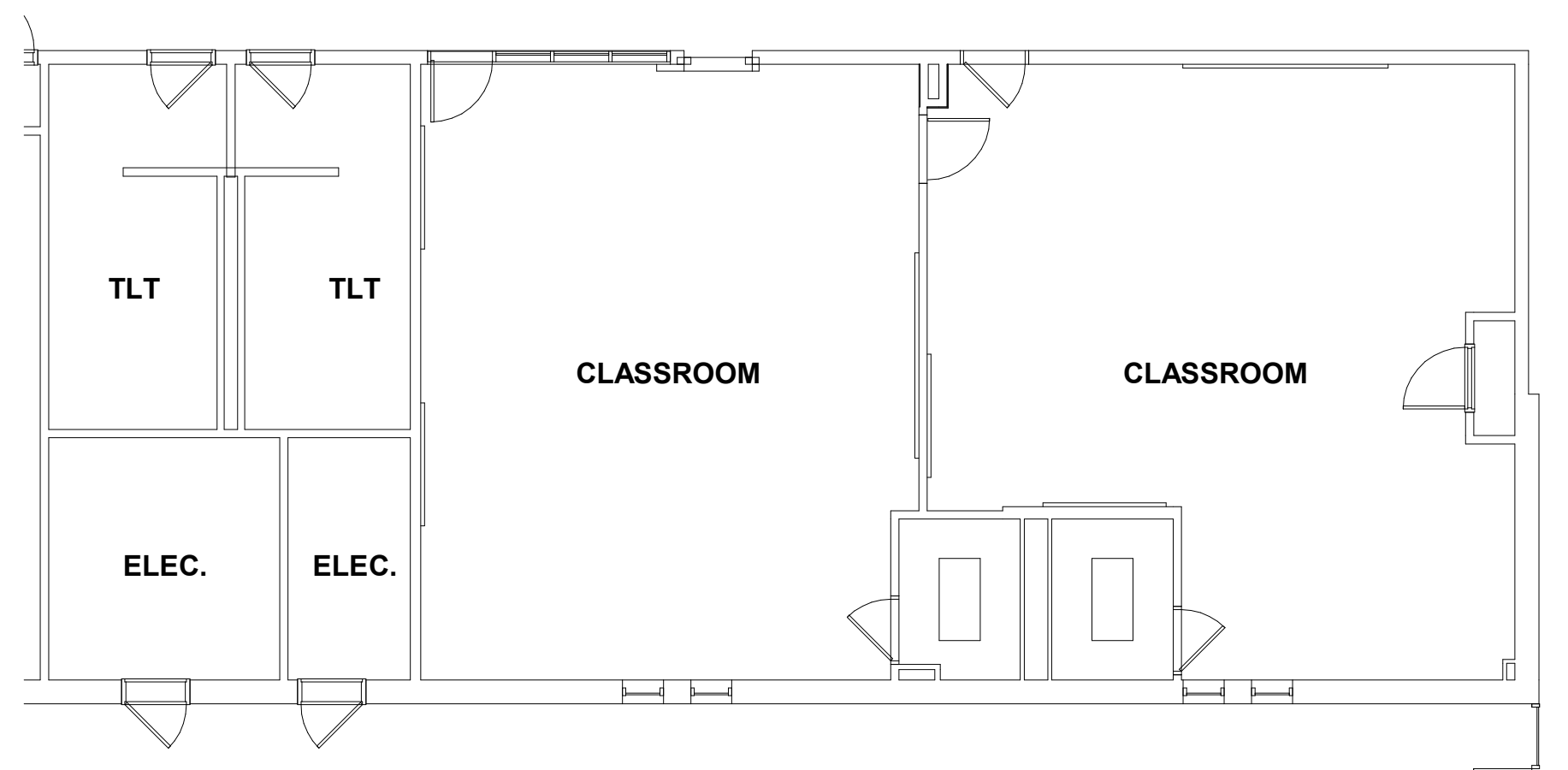
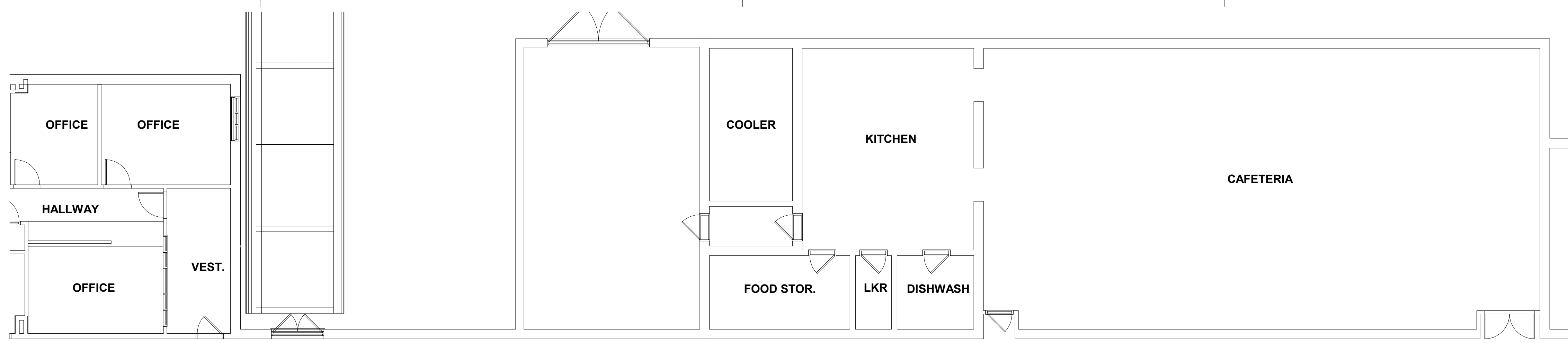
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DOCUMENTS

SHEET TITLE:
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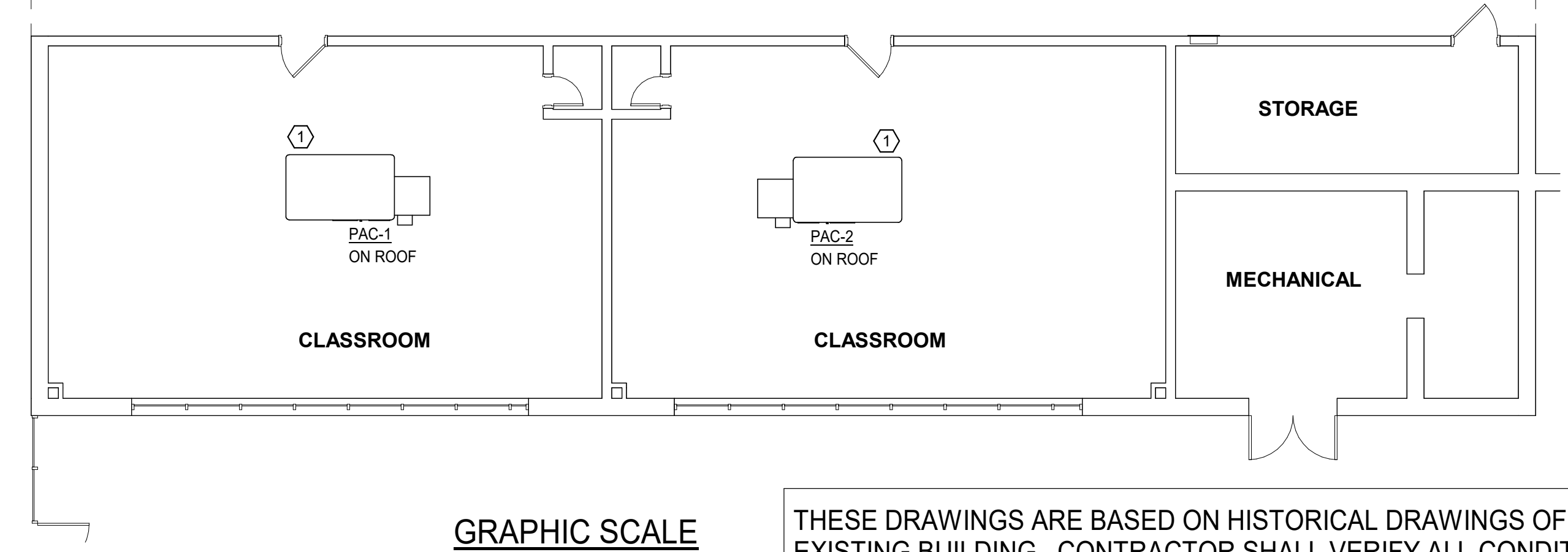
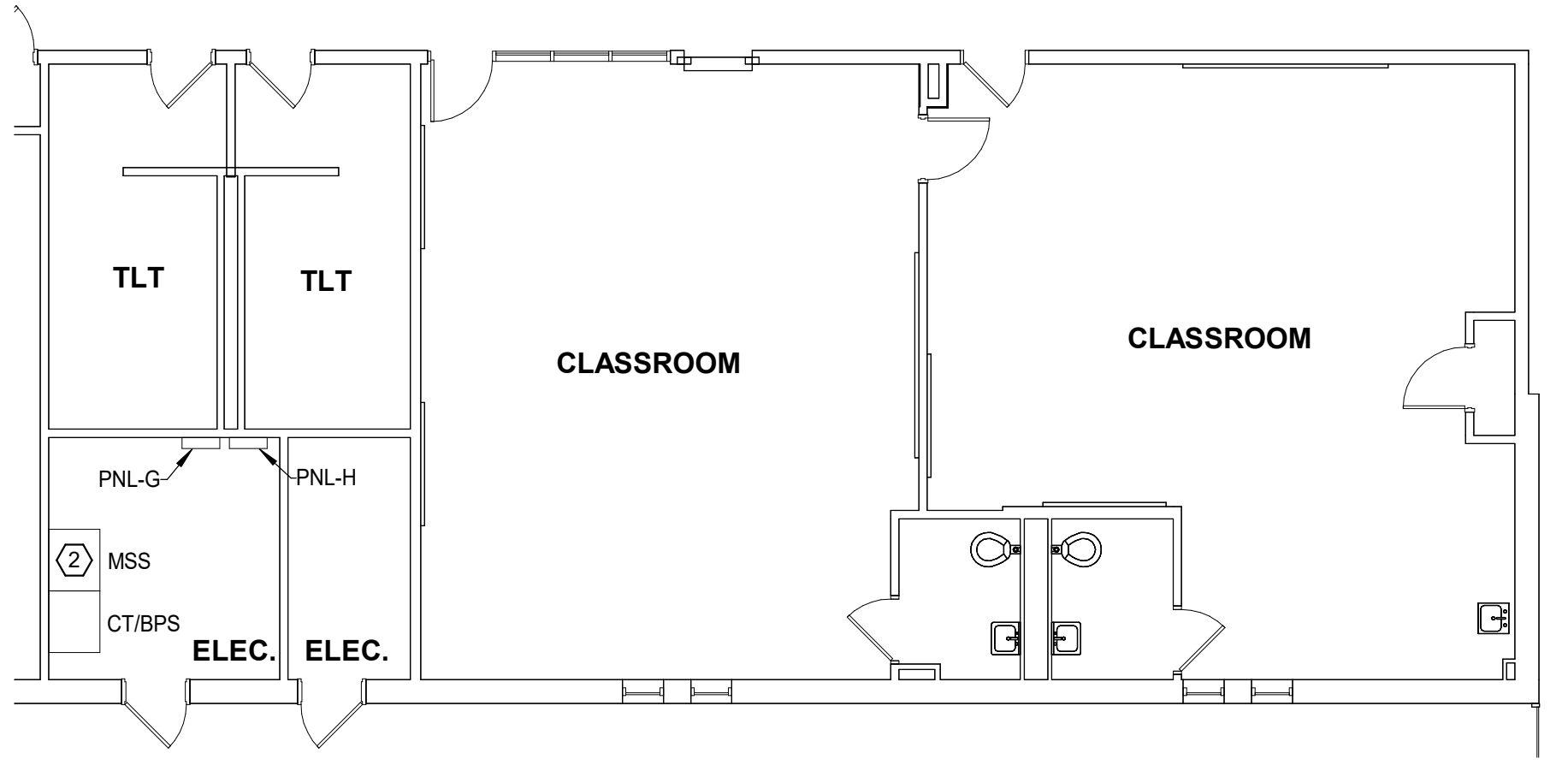
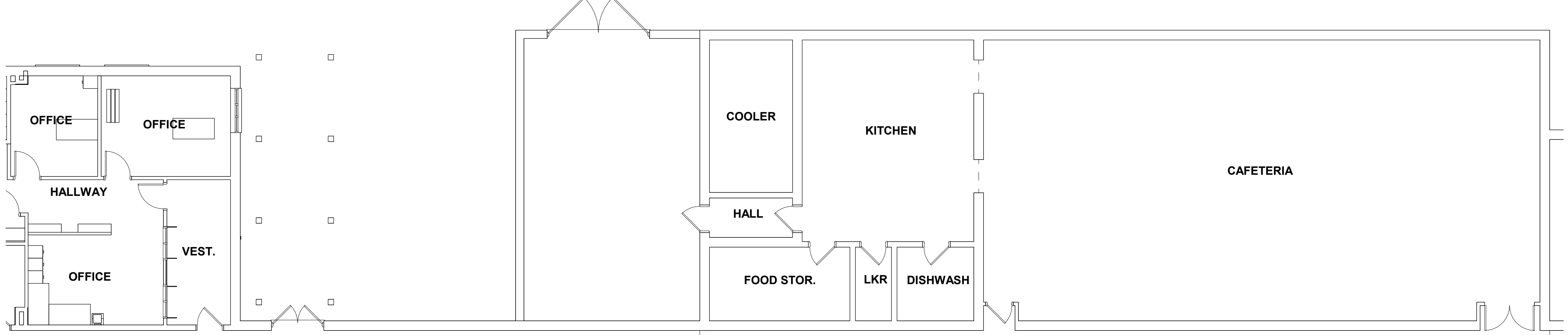
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E2.1

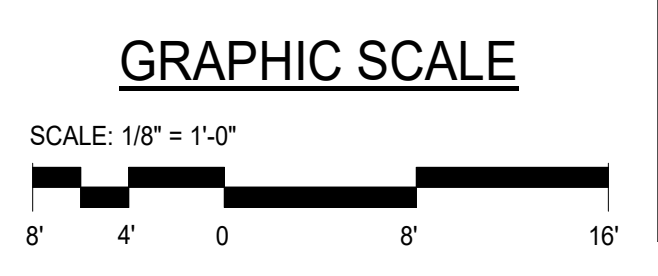
- GENERAL NOTES**
- INSTALL ALL NEW ACOUSTICAL CEILING AT HEIGHT SPECIFIED ON SHEET. CEILING HEIGHTS INDICATED SHALL BE THE MINIMUM HEIGHT AT WHICH THE CEILINGS ARE TO BE INSTALLED. HOWEVER, CEILINGS SHALL BE INSTALLED AS HIGH AS POSSIBLE, BUT TO STILL ALLOW PROPER ACCESS TO REMOVE CEILING TILE AND FOR CEILING MOUNTED DEVICES, LIGHT FIXTURES, ETC. REFER TO SPECIFICATIONS FOR INSTALLATION REQUIREMENTS.
 - WHERE WALL MOUNTED DEVICES ARE RELOCATED FOR THE NEW CEILING HEIGHT, EXISTING WIRING SHALL BE EXTENDED AS REQUIRED AND NEW RACEWAY AND BOXES PROVIDED TO COORDINATE WITH THE NEW CEILING HEIGHT. RELOCATED DEVICES SHALL BE INSTALLED WITH TOP OF DEVICE 3" BELOW CEILING UNLESS NOTED OTHERWISE. FOR EACH DEVICE, CABLING UTILIZED TO EXTEND WIRING TO NEW LOCATION SHALL MATCH EXISTING CABLING TYPE CURRENTLY FEEDING EACH RESPECTIVE DEVICE.
- SHEET NOTES**
- CONNECT DIVISION 23 ROOFTOP UNIT TO 90A BREAKER BEING ADDED IN EXISTING SWITCHBOARD-MSS WITH 4-#2 & 1-#8 EGC IN 1-1/2" CONDUIT. COORDINATE EXACT FEED LOCATION WITH UNIT PROVIDED. A ROOF PENETRATION SHALL NOT BE MADE FOR THE ELECTRICAL FEED OUTSIDE OF THE PERIMETER OF THE UNIT. CONNECT UNIT-MOUNTED RECEPTACLE DEVICE TO EXISTING 120V CIRCUIT THAT WAS FEEDING EXISTING MOD DEVICES REMOVED. CIRCUIT SHALL BE EXTENDED AS REQUIRED FOR CONNECTION.
 - FURNISH AND INSTALL TWO (2) 208V-3P-90A CIRCUIT BREAKERS OF MATCHING FRAME AND TYPE AS EXISTING (FH FRAME) IN EXISTING SPACE LOCATIONS OF SWITCHBOARD-MSS. BREAKERS SHALL BE UTILIZED TO SERVE ROOFTOP UNITS BEING INSTALLED. PROVIDE ENGRAVED LAMINATED PLATE TO MATCH EXISTING LABELING FOR EACH BREAKER INSTALLED. EXISTING SWITCHBOARD IS A SQUARE D GED 208V, 2000A RATED SWITCHBOARD.
 - CONNECT LIGHT FIXTURES BEING INSTALLED TO EXISTING RETAINED LIGHTING CIRCUIT THIS SPACE. RECONFIGURE WIRING AS REQUIRED FOR CONTROLS AS INDICATED.
 - RELOCATE SCREEN AND MAPS TO BE JUST BELOW INSTALLED CEILING HEIGHT.
 - PROVIDE VERTICAL ACT SECTION AT CEILING ELEVATION CHANGE, COMPLETE WITH CLIPS TO HOLD VERTICAL TILES SECURELY IN PLACE.
 - REINSTALL CEILING MOUNTED PROJECTOR AND RECONNECT ALL CABLING. PROVIDE EXTENSION TUBE, IF REQUIRED, TO ACCOMMODATE NEW CEILING HEIGHT.
 - REINSTALL EXISTING TACK STRIP 6" BELOW CEILING IN SAME LOCATION.



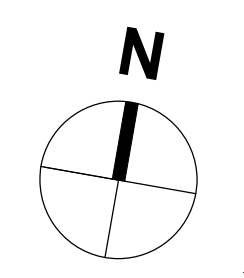
1 PARTIAL FIRST FLOOR PLAN - ELECTRICAL LIGHTING & LOW VOLTAGE
SCALE: 1/8" = 1'-0"



2 PARTIAL FIRST FLOOR PLAN - ELECTRICAL POWER
SCALE: 1/8" = 1'-0"

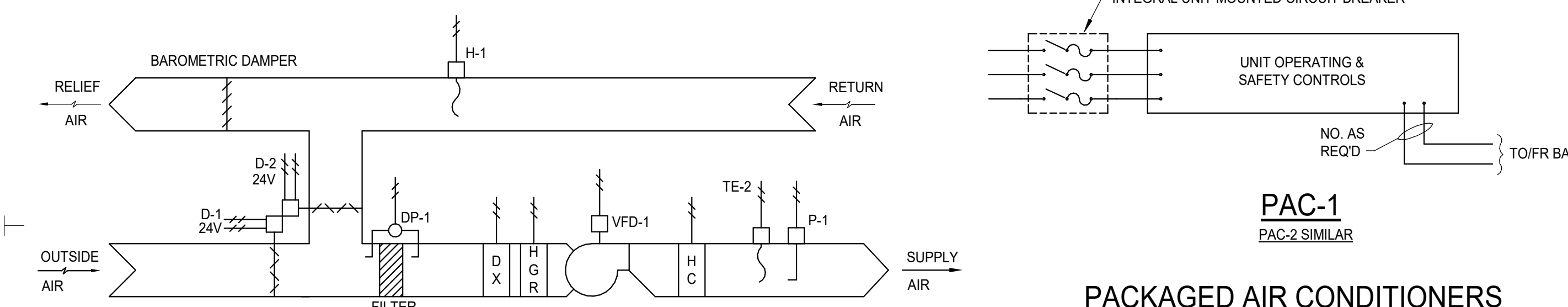


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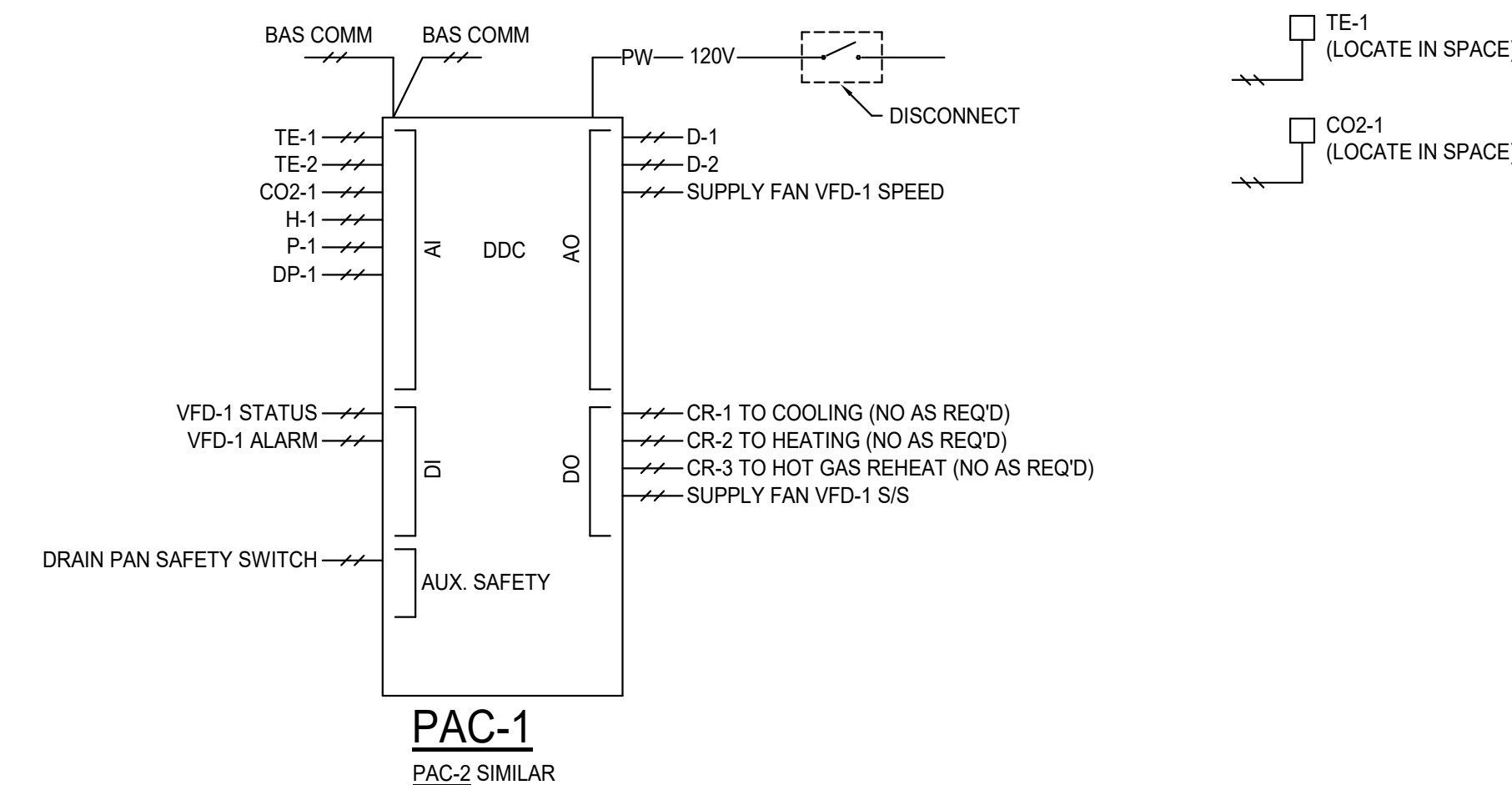


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NOT TO SCALE

MARK	TOTAL SUPPLY AIR, MAX CFM	HIGH MIN. CFM	LO MIN. CFM	EXT. S.P., IN. H2O	FAN HP	GROSS COOLING COIL TOTAL CAP., MBH	COOLING COIL		HOT GAS REHEAT COIL CAP., MBH	HEATING COIL ENT. AIR, °F	AUX. HEATING COIL, KW	FILTER TYPE	FILTER EFFICIENCY	EER @ AHRI	OAT, °F DB	MODEL NO.	MAX. UNIT WEIGHT, LBS.	VOLTAGE, V	PHASE
							ENT. AIR, °F DB	ENT. AIR, °F WB											
PAC-1	1,650	510	110	0.75	1.0	57.3	81.2	67.2	47.3	48.3	27.0	2" PLEATED	MERV 13	13.0	95.0	THK060A3S0K	1,000	208	3
PAC-2	1,650	510	110	0.75	1.0	57.3	81.2	67.2	47.3	48.3	27.0	2" PLEATED	MERV 13	13.0	95.0	THK060A3S0K	1,000	208	3



PACKAGED AIR CONDITIONERS

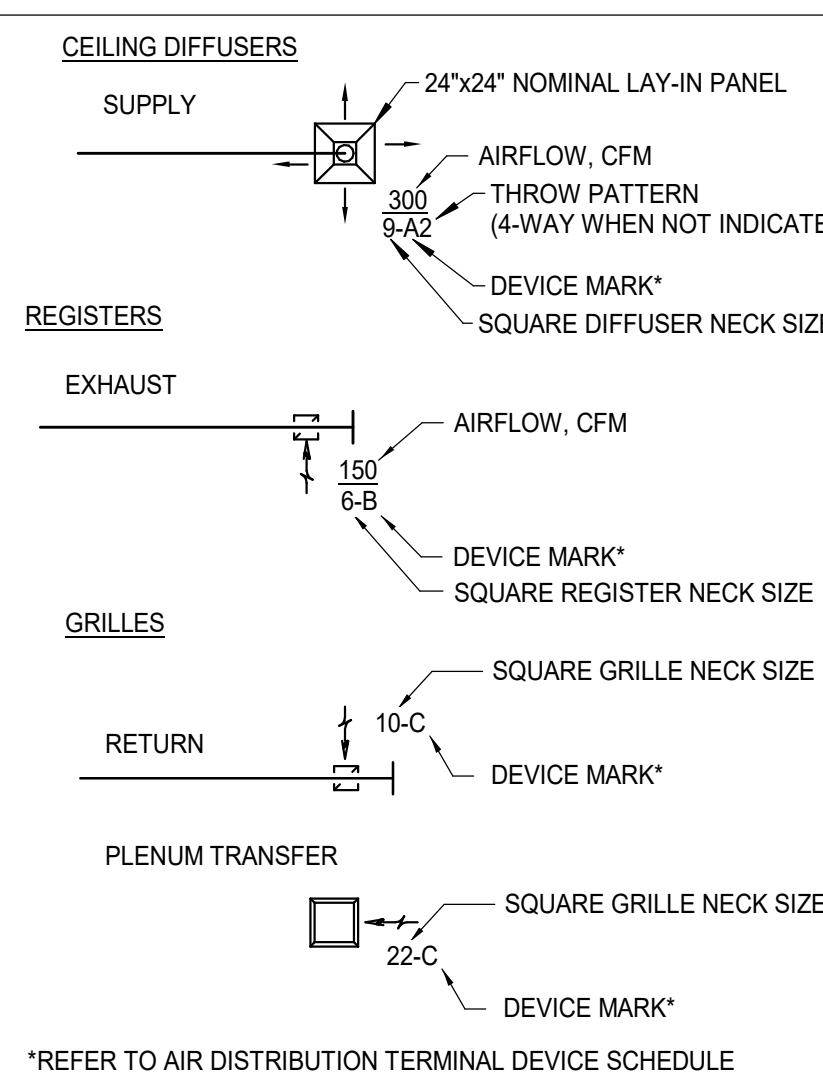


PAC-1
PAC-2 SIMILAR

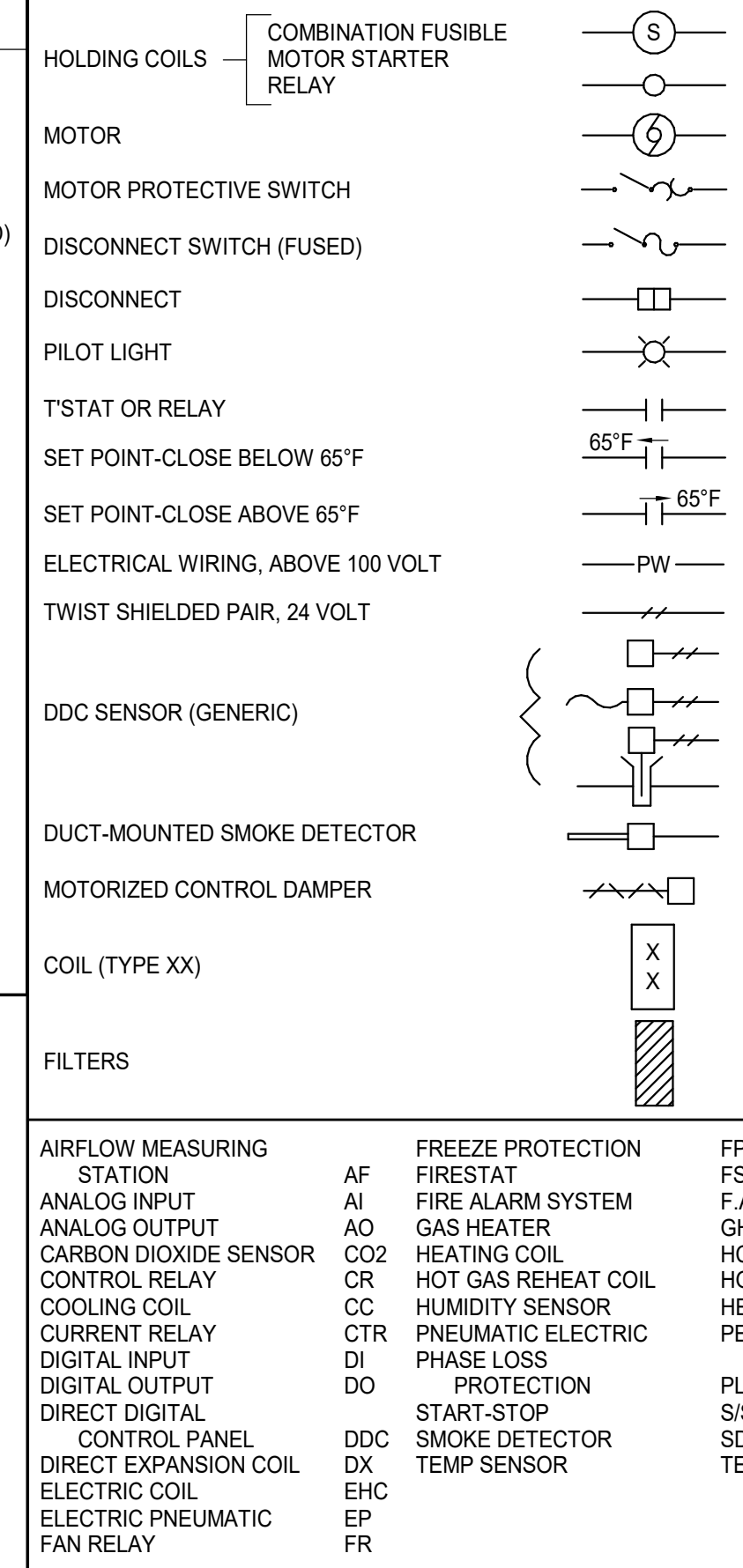
SINGLE ZONE VAV AIR CONDITIONING UNIT.

- THE INTENT OF THE FOLLOWING SEQUENCE IS THAT IT IS ACHIEVABLE THROUGH THE FACTORY PROGRAMMING OF THE UNIT; IT IS NOT THE INTENT OF THE SEQUENCE TO REQUIRE CUSTOM PROGRAMMING THROUGH THE DDC. WHERE DISCREPANCIES ARISE BETWEEN THE SPECIFIED SEQUENCE AND THE AVAILABLE SEQUENCE, THE ENGINEER SHALL BE NOTIFIED.
- MORNING WARM-UP/COOL-DOWN: AT A PREDETERMINED OPTIMAL TIME CALCULATED BY THE DDC, THE DDC SHALL ENABLE THE UNIT TO RUN THROUGH ITS ONBOARD CONTROLLER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, RETURN AIR DAMPER SHALL REMAIN OPEN, AND ASSOCIATED BUILDING EXHAUST FANS SHALL REMAIN OFF THRU CR-1. UNIT SHALL FOLLOW TEMPERATURE CONTROL METHODS SPECIFIED HEREINAFTER DURING WARM-UP AND COOL-DOWN.
- OCCUPIED CONTROL: DURING OCCUPANCY THE OUTDOOR AIR DAMPER(S) SHALL BE OPENED TO THEIR LOW MINIMUM POSITION(S). MINIMUM AIRFLOW SETPOINT SHALL BE RESET BASED ON DEMAND CONTROL AND ECONOMIZER SEQUENCES LISTED BELOW.
- UNOCCUPIED CONTROL: DURING TIMES THE BUILDING UNOCCUPIED THE UNIT SHALL REMAIN OFF UNLESS REQUIRED TO MAINTAIN NIGHT SETBACK/SETUP TEMPERATURE. OUTDOOR AIR DAMPERS SHALL REMAIN CLOSED DURING UNOCCUPIED MODE. WHEN SIGNALLED BY AN OCCUPANT OVERRIDE THE UNIT SHALL ENTER OCCUPIED MODE FOR A PERIOD OF 2 (ADJ.) HOURS. AFTER THIS TIME HAS ELAPSED, THE DDC SHALL RESET THE UNIT TO UNOCCUPIED MODE AND SLOWLY RAMP THE SETPOINTS TO THE UNOCCUPIED SETPOINTS OVER THE COURSE OF 30 MINUTES (ADJ.).
- FAN SPEED CONTROLS: THE UNIT CONTROLLER SHALL CONTROL FAN SPEED IN ACCORDANCE WITH THEIR SINGLE ZONE VAV SEQUENCE.
- TEMPERATURE CONTROL COOLING MODE: THE UNIT CONTROLLER SHALL MONITOR SPACE TEMPERATURE AND SPACE TEMPERATURE COOLING SETPOINT (ADJ.) TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SPACE TEMPERATURE COOLING SETPOINT, THE UNIT CONTROLLER SHALL MODULATE THE OUTDOOR AIR DAMPER OR MODULATE THE MECHANICAL COOLING AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE COOLING SETPOINT. THE FIRST COMPRESSOR SHALL ENERGIZE AFTER ITS MINIMUM 3-MINUTE OFF TIME HAS EXPIRED. THE SUPPLY FAN SHALL MODULATE ABOVE MINIMUM SPEED TO MEET ZONE REQUIREMENTS. IF ADDITIONAL COOLING CAPACITY IS REQUIRED THE CONTROLLER SHALL MODULATE COMPRESSORS AS NECESSARY. ONCE THE SPACE TEMPERATURE FALLS BELOW THE SETPOINT THE COMPRESSORS SHALL BE DEACTIVATED AND THE FAN SHALL MODULATE TO MINIMUM SPEED.
- TEMPERATURE CONTROL HEATING MODE: THE UNIT CONTROLLER SHALL MONITOR SPACE TEMPERATURE AND SPACE TEMPERATURE HEATING SETPOINT (ADJ.) TO DETERMINE WHEN TO INITIATE REQUESTS FOR HEAT. WHEN THE SPACE TEMPERATURE DROPS BELOW THE SPACE TEMPERATURE HEATING SETPOINT, THE CONTROLLER SHALL ENABLE THE FIRST STAGE OF HEAT AND MODULATE TO MEET LOAD. THE SUPPLY FAN SHALL MODULATE ABOVE MINIMUM SPEED TO MEET ZONE REQUIREMENTS. ONCE THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT, THE HEATING STAGES SHALL BE DISABLED. IF HEATING COIL IS COMMANDED ON FOR A MINIMUM OF 10 MIN AND SPACE TEMPERATURE CONTINUES TO DROP, THE DDC SHALL BE ALARMED TO A FAILURE OF THE HEATING COIL.
- ECONOMIZER OPERATION: THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL MODULATE BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. IF THE MIXED AIR TEMPERATURE STARTS TO FALL BELOW 53.0 DEG. F, THE ECONOMIZER STARTS TO CLOSE. AT 50.0 DEG. F, THE DAMPER SHALL BE AT MINIMUM POSITION. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100% FOR 5 MINUTES.
- OUTSIDE AIR (OA) ENTHALPY IS COMPARED WITH RETURN AIR (RA) ENTHALPY POINT. THE ECONOMIZER SHALL BE ENABLED WHEN OA ENTHALPY IS LESS THAN RA - 3.0 BTU/LB. THE ECONOMIZER SHALL BE DISABLED WHEN OA ENTHALPY IS GREATER THAN RA ENTHALPY OR OUTDOOR AIR DRY BULB IS GREATER THAN 75°F.
- CARBON DIOXIDE CONTROL: WHEN THE DEMAND CONTROL VENTILATION (DCV) THRESHOLD (1,000 PPM) (ADJ.) AS SENSED BY SPACE AIR CO2 SENSOR IS REACHED, THE UNIT CONTROLLER SHALL START THE OUTDOOR AIR DAMPER OPEN TO BRING IN MORE FRESH AIR TO REDUCE THE SPACE CO2 LEVEL. THE DAMPER SHALL MODULATE OPEN IN SMALL INCREMENTS UNTIL THE CO2 LEVEL IS SATISFIED OR THE DAMPER REACHES THE HIGH MINIMUM POSITION. ONCE THE THRESHOLD IS SATISFIED, THE DAMPER SHALL RETURN TO NORMAL OPERATION. AT NO POINT SHALL THE OUTDOOR AIR DAMPER OPEN BEYOND ITS HIGH MINIMUM POSITION UNLESS ECONOMIZER CONDITIONS PREVAIL.
- HUMIDITY CONTROL: SPACE HUMIDITY SETPOINT SHALL BE 50% RH MAXIMUM. AT ANY TIME RETURN AIR RELATIVE HUMIDITY EXCEEDS 52% (ADJUSTABLE), THE UNIT CONTROLLER SHALL ENTER DEHUMIDIFICATION MODE AND CONTROL DX COOLING AND HOT GAS REHEAT TO MAINTAIN CURRENT SUPPLY AIR TEMPERATURE SETPOINT AS OUTLINED IN THE SUPPLY AIR TEMPERATURE RESET METHODOLOGY SPECIFIED HEREINBEFORE.
- SYSTEM MONITORING: IN ADDITION TO ALL POINTS LISTED ABOVE, THE DDC SHALL MONITOR RETURN AIR TEMPERATURE; OUTDOOR AIR TEMPERATURE; RETURN AIR HUMIDITY; AND VFD ALARMS.

DIFFUSER, REGISTER & GRILLE LEGEND



CONTROL LEGEND



ALL ITEMS SHOWN ON CONTROL DIAGRAMS AND WIRING 100 VOLTS OR LESS SHALL BE INCLUDED AS A PART OF SECTION 230000 EXCEPT POWER WIRING OVER 100 VOLTS. ITEMS MARKED ▲ OR ITEMS SPECIFIED TO BE FURNISHED WITH EQUIPMENT. WIRING OVER 100 VOLTS AND ITEMS MARKED ▲ SHALL BE FURNISHED AS A PART OF DIVISION 26. ALL OVERLOADS, HOA SWITCHES, AUXILIARY CONTACTS AND PILOT LIGHTS SHALL BE INTEGRAL WITH THE MOTOR STARTERS UNLESS SHOWN OTHERWISE.

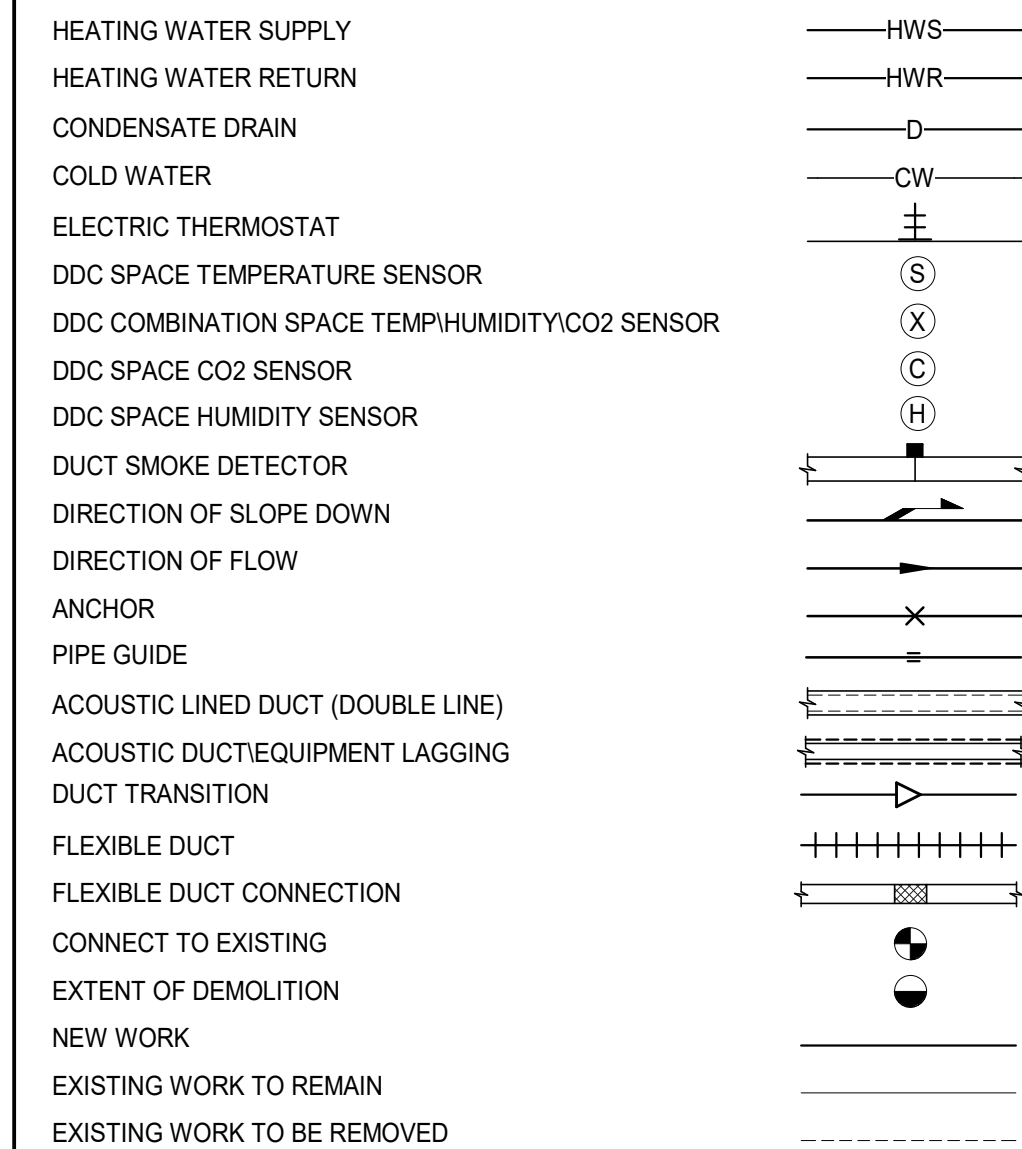
ALL WIRING SHOWN ON ELECTRIC SEQUENCE CONTROLS SHALL BE OVER 100 VOLTS UNLESS NOTED OTHERWISE. RELAYS FROM THE CONTROL SYSTEM SHALL BE LOCATED ADJACENT TO THE CONTROLLED DEVICE (MOTOR OR MOTOR STARTER), AND MAY BE LOCATED WITHIN STARTER HOUSINGS WHERE SPACE IS AVAILABLE AND WHERE APPROVED BY NEC.

ALL SEQUENCES OF OPERATION, FLOW DIAGRAMS, AND POINTS LIST ARE COMPLEMENTARY. ALL CONTROL STRATEGIES SHALL BE SATISFIED EVEN IF SOME OF THE REQUIRED CONTROL POINTS, ALARM, OR SOFTWARE HAVE BEEN INADVERTENTLY LEFT OFF OF THE POINTS LIST OR FLOW DIAGRAM. SIMILARLY, CONTROL POINTS, ALARM, AND SOFTWARE STRATEGIES INDICATED ON THE POINTS LIST SHALL BE PROVIDED EVEN IF A WRITTEN SEQUENCE OR FLOW DIAGRAM DEVICE HAS BEEN INADVERTENTLY OMITTED.

CONTROL ITEMS MARKED THIS "VENTILATION-ON-OFF" SHALL HAVE PLATE ENGRAVED WITH THE WORDING CONTAINED WITHIN THE QUOTE "... MARKS PLUS EQUIPMENT IDENTIFICATION.

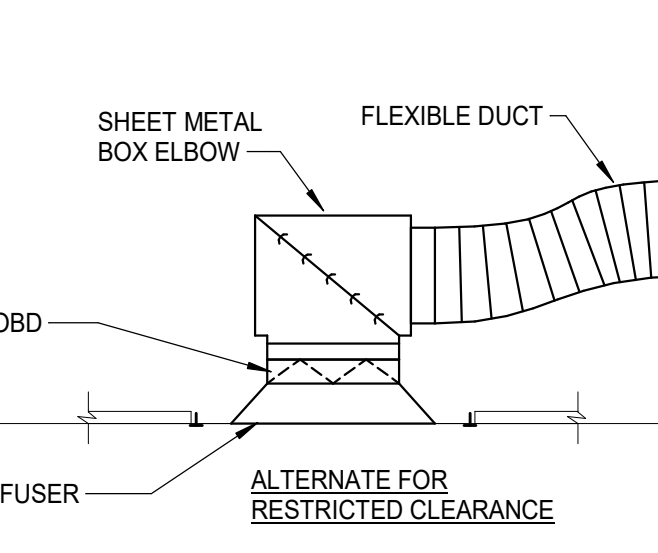
*QTY AS REQUIRED/INDICATED ON PLANS.

LEGEND



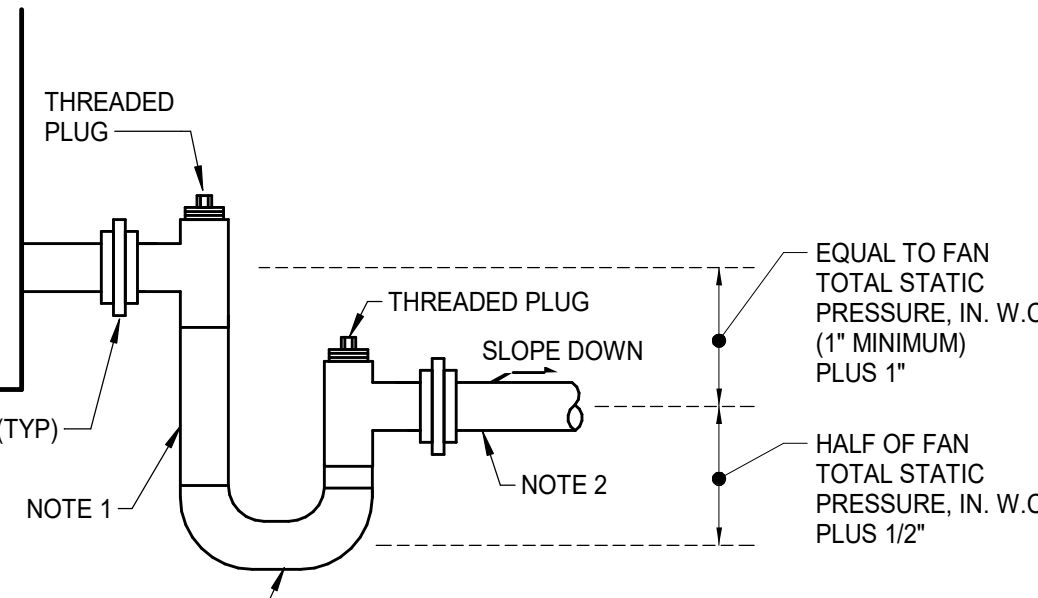
STANDARD ABBREVIATIONS

Ø	DIAMETER	HP	HORSEPOWER
x/x	FLAT OVAL	HR	HOUR
ABV	ABOVE	HZ	HERTZ
AFF	ABOVE FINISHED FLOOR	IN	INCH(ES)
APD	AIR PRESSURE DROP	KW	KILOWATTS
ARRGMT	ARRANGEMENT	LAT	LEAVING AIR TEMPERATURE
AUTO	AUTOMATIC	LBS	POUNDS
AAV	AUTOMATIC AIR VENT	LVD	LOW VOLTAGE MOTOR OPERATED DAMPER
AUX	AUXILIARY	LWT	LEAVING WATER TEMPERATURE
BEL	BELOW	MAV	MANUAL AIR VENT
BTU	BRITISH THERMAL UNIT	MAX	MAXIMUM
BTUH	BTU PER HOUR	MBH	THOUSAND BTU PER HOUR
CAP	CAPACITY	MECH	MECHANICAL
CFM	CUBIC FEET PER MINUTE	MFG	MANUFACTURER
CMU	CONCRETE MASONRY UNIT	MIN	MINIMUM
CO	CLEANOUT	MOD	MOTOR OPERATED DAMPER (LINE VOLTAGE)
CONC	CONCRETE	MP SW	MOTOR PROTECTIVE SWITCH
CONN	CONNECT	MTD	MOUNTED
CONT	CONTINUATION	MVD	MANUAL VOLUME DAMPER
CR	CONTROL RELAY	NC	NORMALLY CLOSED
CRD	CEILING RADIATION DAMPER	NIC	NOT IN CONTRACT
CTR	CURRENT RELAY	NO	NORMALLY OPEN
CW	COLD WATER	NTS	NOT TO SCALE
DB	DRY BULB	OA	OUTSIDE AIR
dB	DECIBEL	OAT	OUTSIDE AIR TEMPERATURE
DDC	DIRECT DIGITAL CONTROL	OBD	OPPOSED BLADE DAMPER
DIM	DIMENSIONS	OCC	OCCUPANCY or OCCUPIED
DISC	DISCONTINUATION SWITCH	OC	OCCUPIED EQUIPMENT
DP	DOUBLE POLE	PD	PRESSURE DROP
DN	DOWN	PLP	PHASE LOSS
EXST	EXISTING	PROT	PROTECTION
EA	EACH	RA	RETURN AIR
EAT	ENTERING AIR TEMPERATURE	RECT	RECTANGULAR
ELEC	ELECTRIC	SDR	DUCT SMOKE DETECTOR
ENT	ENTERING	SDPR	SMOKE DAMPER
EWT	ENTERING WATER TEMP	SS	STAINLESS STEEL
ESP	EXTERNAL STATIC PRESSURE	SS	START-STOP
EXST °F	EXISTING FARENHEIT	SUSP	SUSPENDED
FA	FIRE ALARM	SW	SWITCH
FDPDR	FIRE DAMPER	TEMP	TEMPERATURE
FSDPR	FIRE DAMPER DAMPER	TYP	TYPICAL
FIN FL	FINISHED FLOOR	V	VOLT
FL	FLOOR	VERT	VERTICAL
FLA	FULL LOAD AMPS	W	WATTS
FP	FREEZE PROTECTION FROM or FAN RELAY	WB	WET BULB
FR	FROM or FAN RELAY	WC	WATER COLUMN
FS	FIRESTAT	WG	WATER GAUGE
FT	FEET	WS	WATER STOP
GAL	GALLONS	WT	WEIGHT
GPM	GALLONS PER MINUTE	w/	WITH
H2O	WATER COLUMN or WATER GAUGE		
HOA	HAND-OFF-AUTOMATIC		



DIFFUSER CONNECTION DETAIL

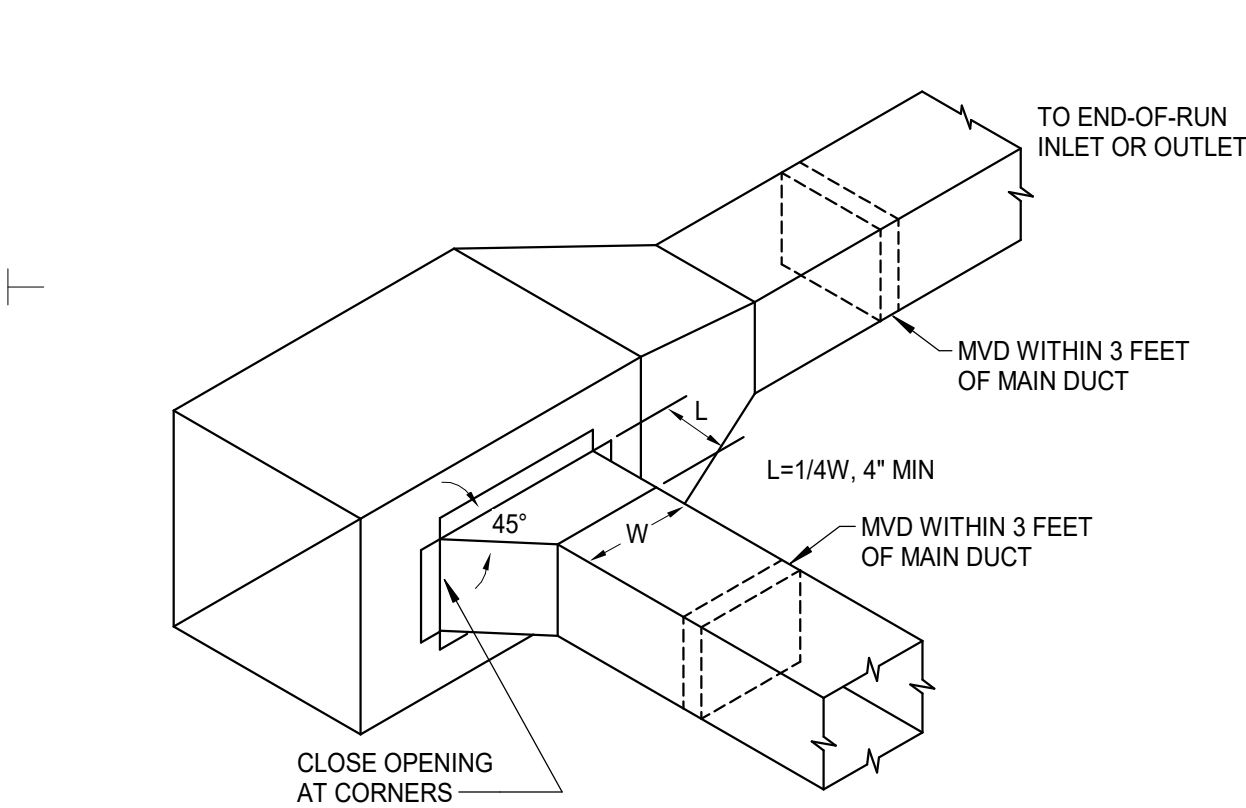
NO SCALE



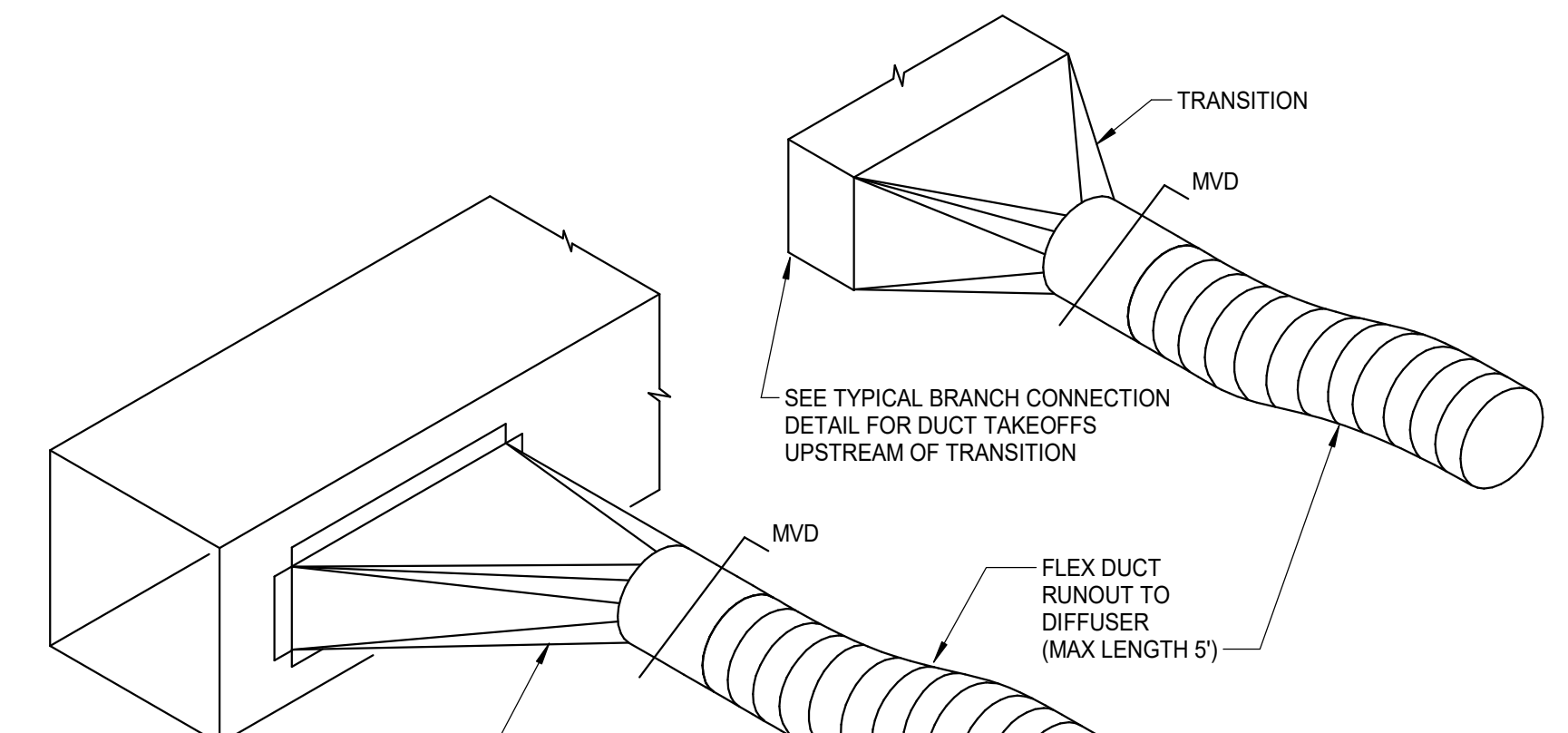
COOLING COIL CONDENSATE DRAIN

NO SCALE

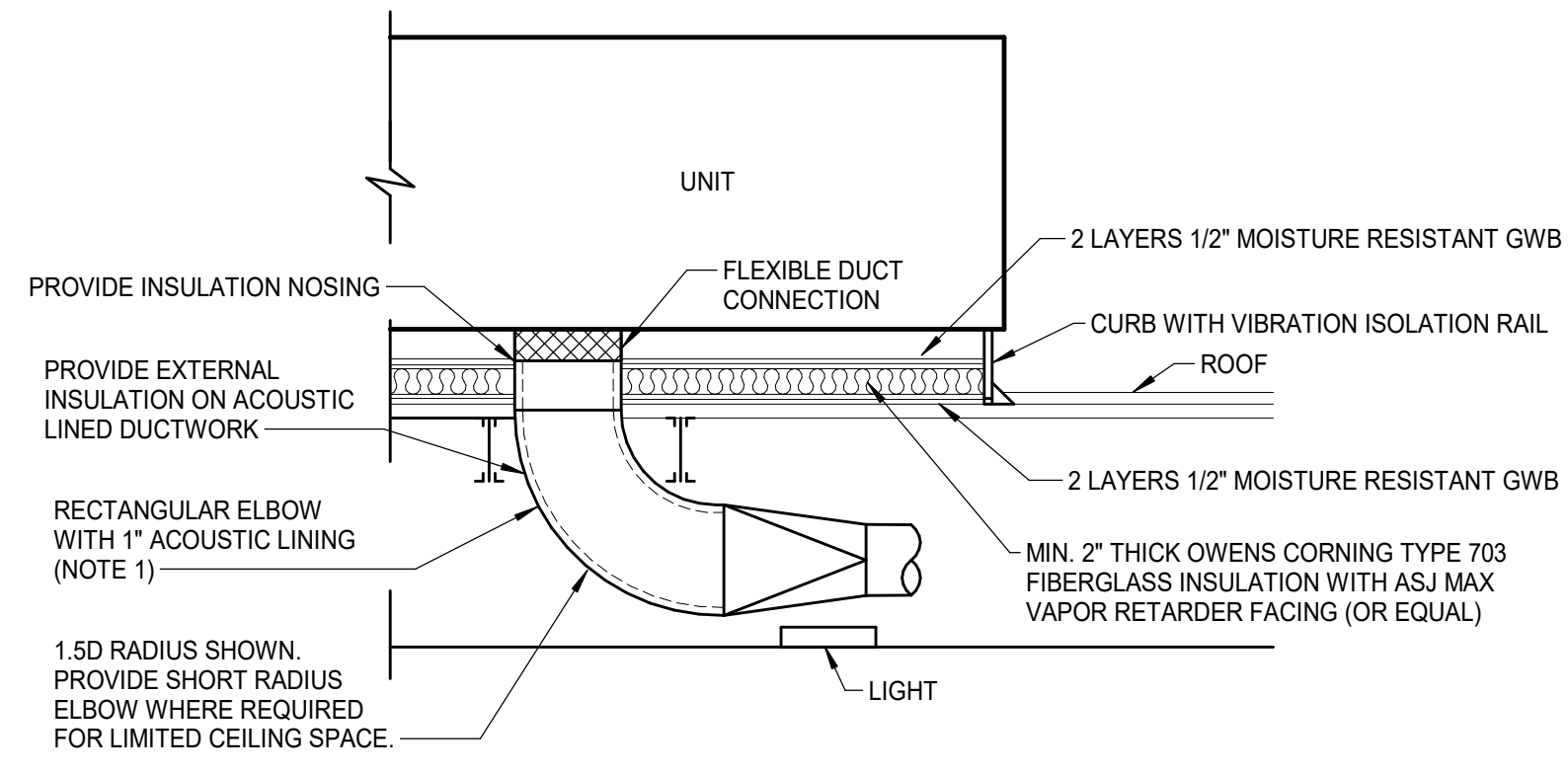
- NOTES:
- DRAIN LINE SHALL BE COPPER AND FULL SIZE OF UNIT CONNECTION, BUT NO SMALLER THAN 3/4".
 - EXTEND MIN. 15' FROM UNIT OR TO NEAREST GUTTER/ROOF/FLOOR DRAIN UNLESS NOTED OTHERWISE.
 - ARRANGEMENT SHOWN IS SUITABLE FOR DRAW-THROUGH UNITS ONLY.



BRANCH CONNECTIONS DETAIL FOR SUPPLY, RETURN & EXHAUST DUCT (TYP) SCHEMATIC



CONNECTIONS FOR FLEX DUCT (TYP) SCHEMATIC



ROOFTOP AIR CONDITIONING UNIT DETAIL SCHEMATIC

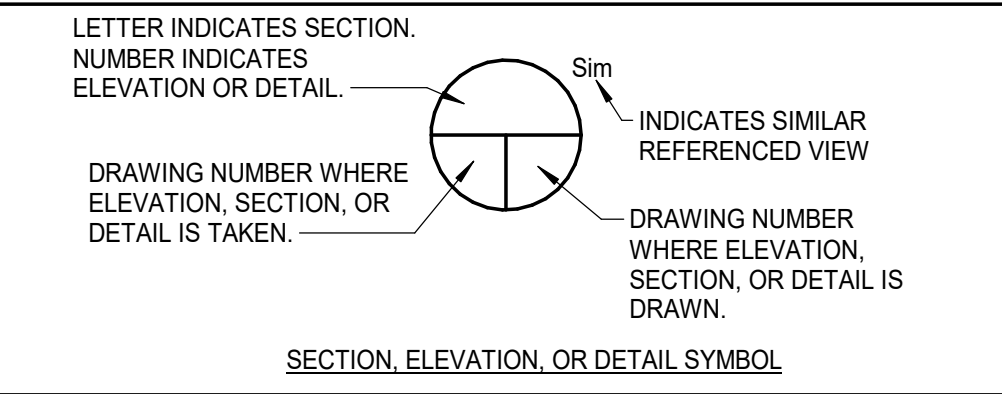
NOTE:

- 16 GAGE SHEETMETAL ELBOW FOR LOW PRESSURE SYSTEMS.

COORDINATION NOTE

ALL DUCTWORK AND PIPES SHALL BE COORDINATED WITH OTHER DUCTS, PIPES, LIGHTS, STRUCTURAL SYSTEM, CEILING SUPPORTS AND FRAMING BEFORE INSTALLATION. MINOR DUCT OFFSETS AND TRANSITIONS SHALL BE PROVIDED AS REQUIRED. WHERE TRANSITIONS ARE REQUIRED, CROSS SECTIONAL AREA OF DUCT SHALL NOT BE REDUCED. MEASUREMENTS FOR VERTICAL CLEARANCES OF DUCTWORK SHALL BE TAKEN AT THE JOB SITE BEFORE FABRICATION OF ANY DUCTWORK.

IDENTIFICATION KEY



FRANKLIN COUNTY PUBLIC SCHOOLS

SNOW CREEK ES 2CR HVAC UPGRADES

5393 SNOW CREEK RD
PENHOOK VA 24137

PROJECT NUMBER:
2025-0242
ISSUE DATE:
02/19/2025
DESIGNER:
Designer
CHECKED BY:
Checker

REVISIONS:

No.	DATE	DESCRIPTION

BID DOCUMENTS

SHEET TITLE:
MECHANICAL EQUIPMENT NOTES, LEGEND & DETAILS

SHEET NUMBER:
M0.1



FRANKLIN
COUNTY PUBLIC
SCHOOLS

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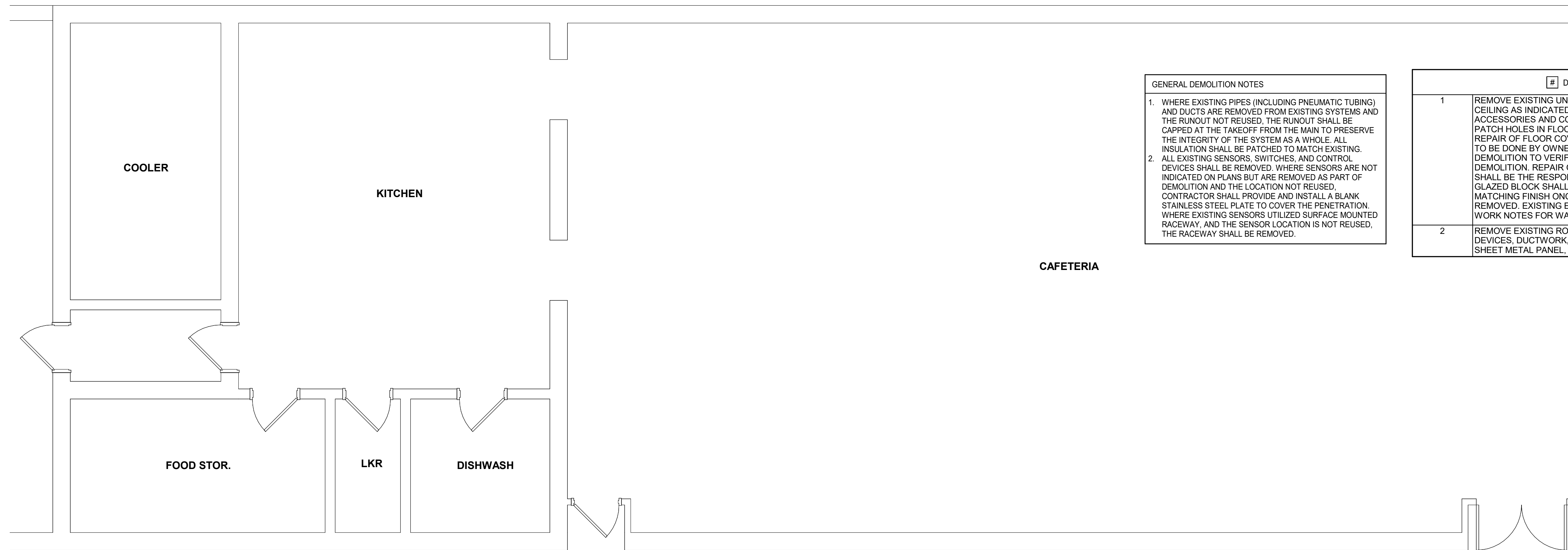
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DOCUMENTS

SHEET TITLE:
PARTIAL FIRST FLOOR
MECHANICAL
DEMOLITION
PLAN

SHEET NUMBER:

M1.1

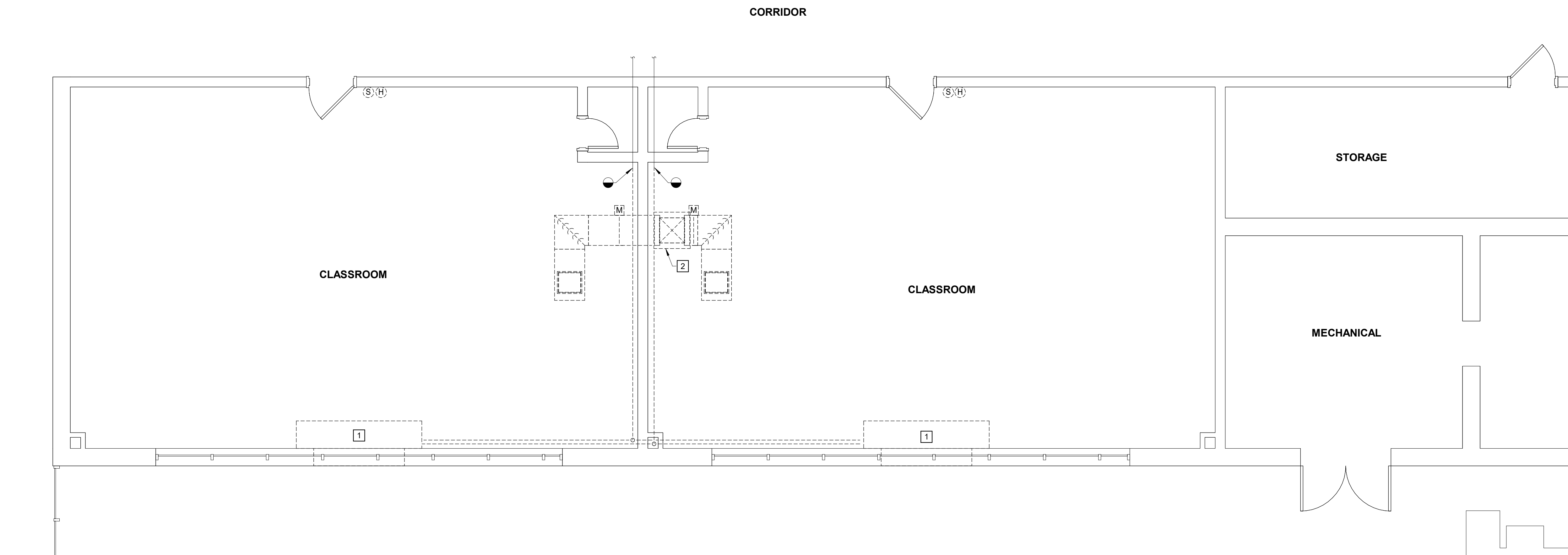


GENERAL DEMOLITION NOTES

- WHERE EXISTING PIPES (INCLUDING PNEUMATIC TUBING) AND DUCTS ARE REMOVED FROM EXISTING SYSTEMS AND THE RUNOUT NOT REUSED, THE RUNOUT SHALL BE CAPPED AT THE TAKEOFF FROM THE MAIN TO PRESERVE THE INTEGRITY OF THE SYSTEM AS A WHOLE. ALL INSULATION SHALL BE PATCHED TO MATCH EXISTING.
- ALL EXISTING SENSORS, SWITCHES, AND CONTROL DEVICES SHALL BE REMOVED. WHERE SENSORS ARE NOT INDICATED ON PLANS BUT ARE REMOVED AS PART OF DEMOLITION AND THE LOCATION NOT REUSED, CONTRACTOR SHALL PROVIDE AND INSTALL A BLANK STAINLESS STEEL PLATE TO COVER THE PENETRATION. WHERE EXISTING SENSORS UTILIZED SURFACE MOUNTED RACEWAY, AND THE SENSOR LOCATION IS NOT REUSED, THE RACEWAY SHALL BE REMOVED.

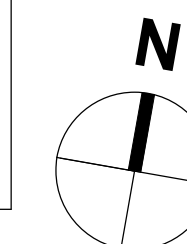
DEMOLITION NOTES

1	REMOVE EXISTING UNIT VENTILATOR, PIPING RUNOUTS TO ABOVE CEILING AS INDICATED, PIPING ENCLOSURES, AND ALL RELATED ACCESSORIES AND CONTROLS. CAP PIPES AT MAIN ABOVE CEILING. PATCH HOLES IN FLOOR AND WALLS WHERE PIPES ARE REMOVED. REPAIR OF FLOOR COVERING, MOULDING, AND PAINTING OF WALLS TO BE DONE BY OWNER. OWNERS' REPRESENTATIVE TO OVERSEE DEMOLITION TO VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION. REPAIR OF ANY DAMAGE DONE DURING DEMOLITION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EXISTING GLAZED BLOCK SHALL BE REPAIRED BY THE CONTRACTOR TO A MATCHING FINISH ONCE THE UNIT VENTILATORS HAVE BEEN REMOVED. EXISTING EXTERIOR LOUVER TO REMAIN. REFER TO NEW WORK NOTES FOR WALL PATCHING REQUIREMENTS.
2	REMOVE EXISTING ROOF VENT, ALL ASSOCIATED ACCESSORIES, AIR DEVICES, DUCTWORK, AND CONTROLS. CAP EXISTING CURB WITH SHEET METAL PANEL, LINED WITH 2" THICK RIGID INSULATION.

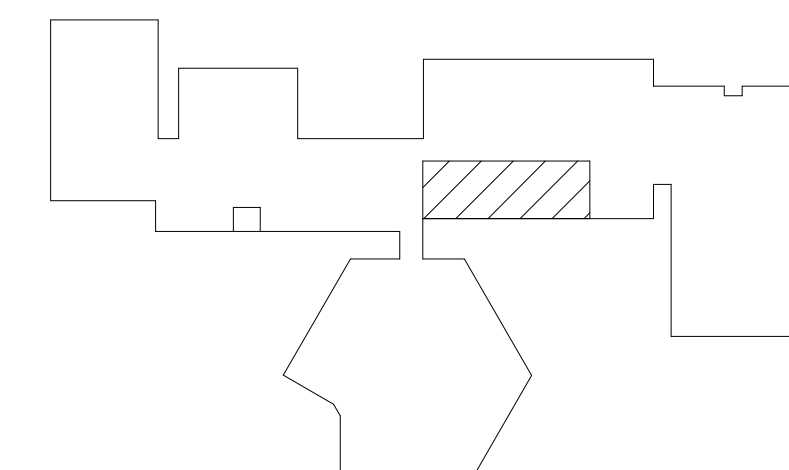


1 PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMOLITION
SCALE: 1/4" = 1'-0"

THESE DRAWINGS ARE BASED ON HISTORICAL DRAWINGS OF THE EXISTING BUILDING. CONTRACTOR SHALL VERIFY ALL CONDITIONS PRIOR TO FABRICATION OF SYSTEM. MODIFICATIONS SHALL BE MADE ONLY AFTER APPROVAL BY THE ENGINEER.



KEY PLAN - SNOW CREEK
NOT TO SCALE





FRANKLIN
COUNTY PUBLIC
SCHOOLS

SNOW CREEK
ES 2CR HVAC
UPGRADES

5393 SNOW CREEK RD
PENHOOK VA 24137

PROJECT NUMBER:
2025-0242
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SLM
CHECKED BY:
SLM

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DOCUMENTS

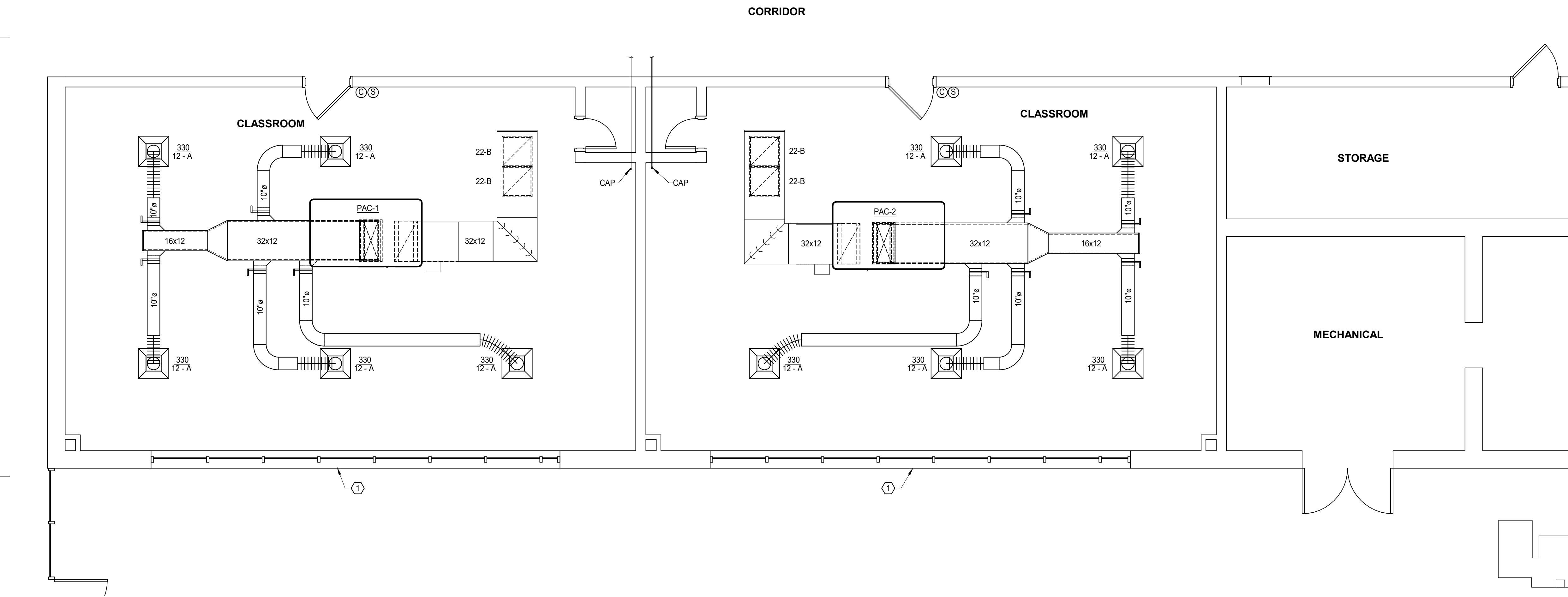
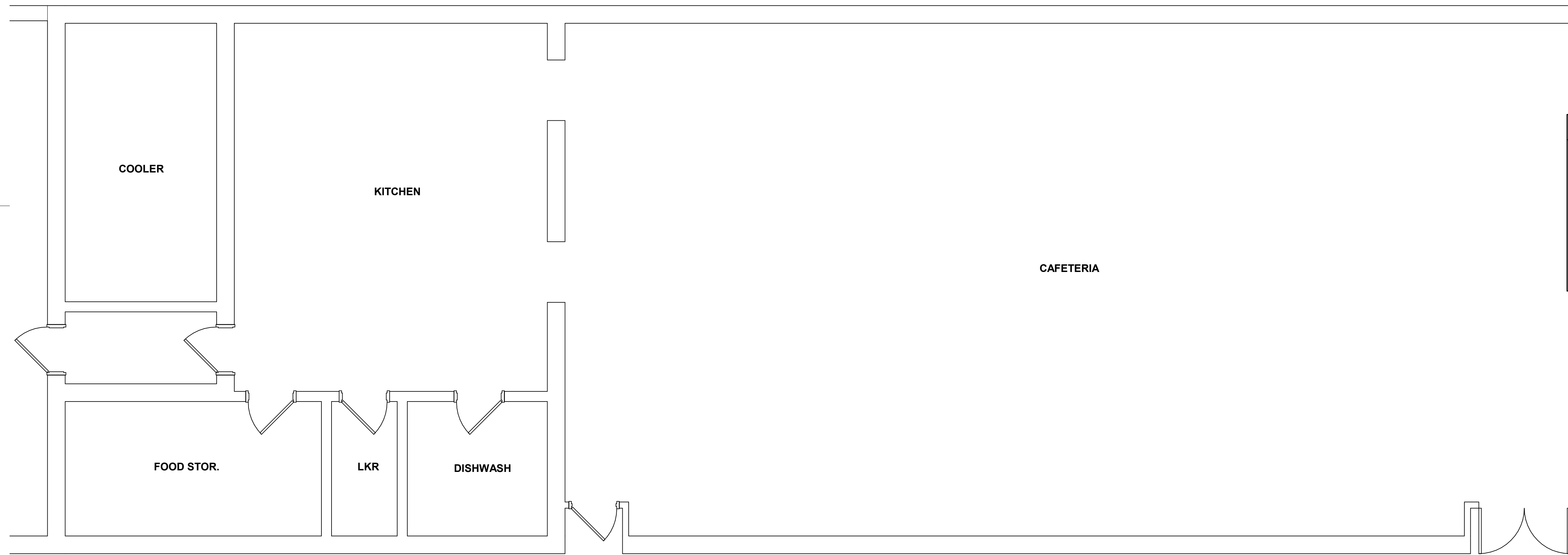
SHEET TITLE:
PARTIAL FIRST
FLOOR
MECHANICAL
PLAN

SHEET NUMBER:

M2.1

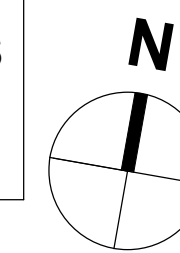
GENERAL DUCTWORK NOTES
1. WHERE DUCT SIZES TO AIR HANDLING UNITS ARE NOT INDICATED, DUCT SHALL BE FULL SIZE OF UNIT OPENING.

SHEET NOTES
1. INFILL ENTIRE EXISTING OPENING BEHIND LOUVER TO MATCH SURROUNDING CONSTRUCTION. PROVIDE BLANK SHEET METAL PANEL DIRECTLY BEHIND LOUVER, PAINT TO MATCH LOUVER, AND SEAL WEATHERTIGHT. INFILL SPACE BETWEEN LOUVER AND INTERIOR CMU WITH BATT INSULATION. THICKNESS AS REQUIRED TO COMPLETELY FILL THE VOID SPACE. TOOTH IN NEW CMU AND MATCH EXISTING INTERIOR WALL FINISH. INTERIOR PAINTING, BASEBOARD, AND FLOORING TO BE DONE BY OWNER. CLEAN AND PAINT EXISTING LOUVER. COLOR AS SELECTED BY OWNER, AND RE-POINT EXISTING BRICKWORK AROUND LOUVER.

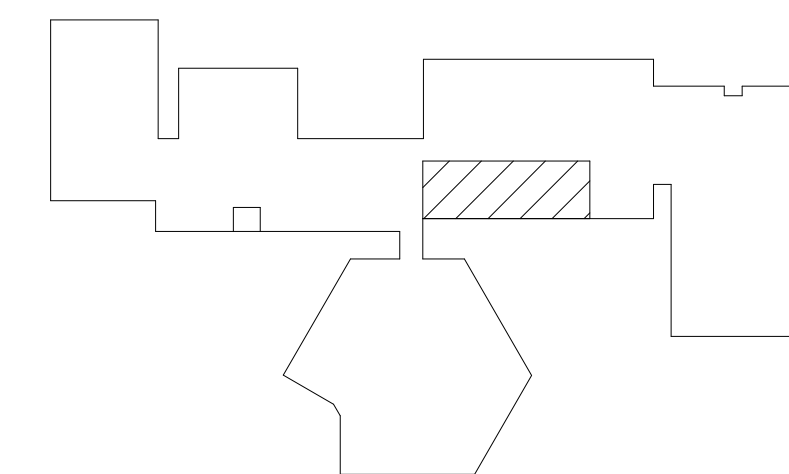


1 PARTIAL FIRST FLOOR PLAN - MECHANICAL
SCALE: 1/4" = 1'-0"

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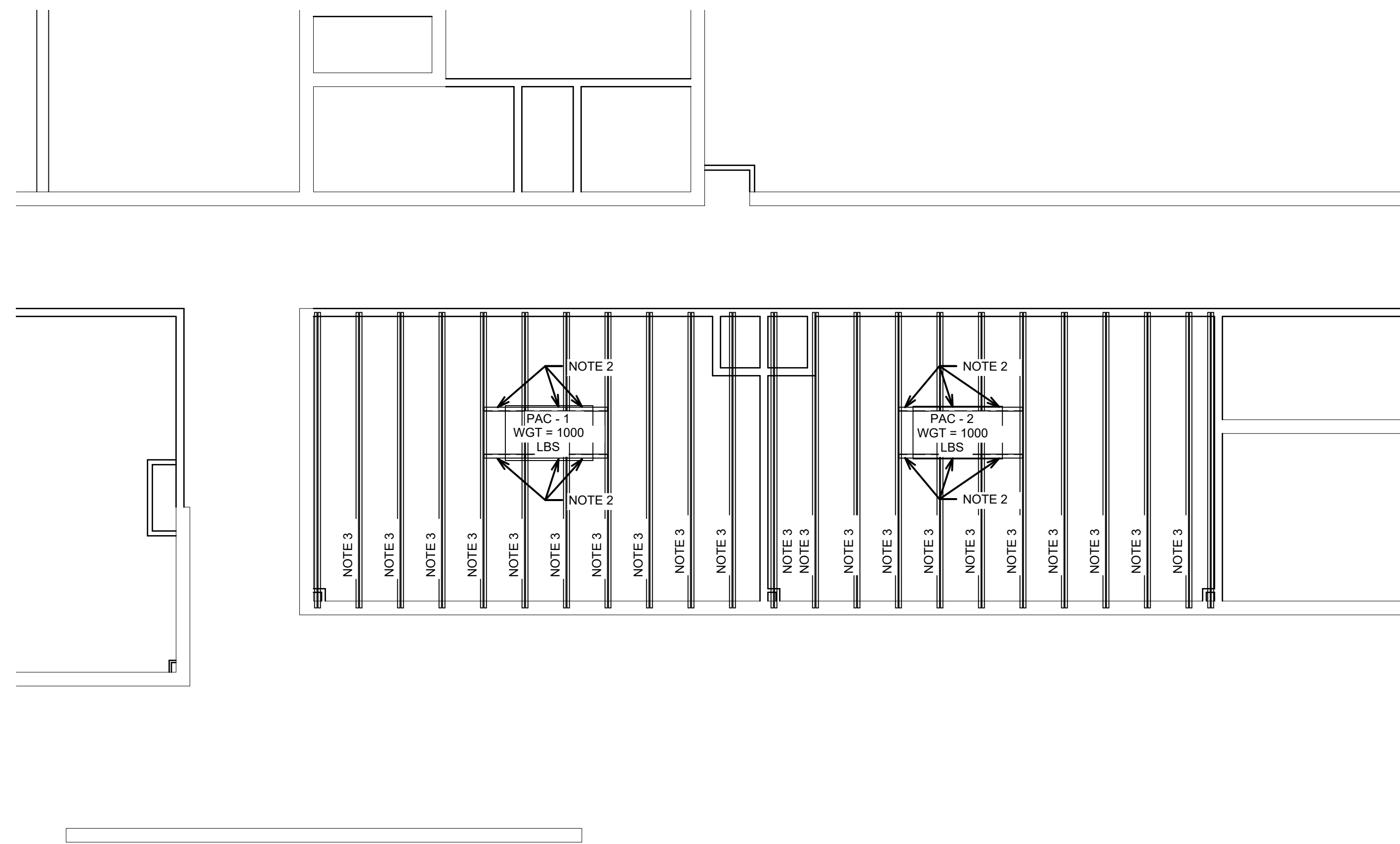


KEY PLAN - SNOW CREEK
NOT TO SCALE



RENOVATIONS TO
BURNT CHIMNEY
AND SNOW CREEK
ELEMENTARY
SCHOOLS

FRANKLIN
COUNTY
PUBLIC
SCHOOLS



MECHANICAL ROOF TOP FRAMING PLAN.

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

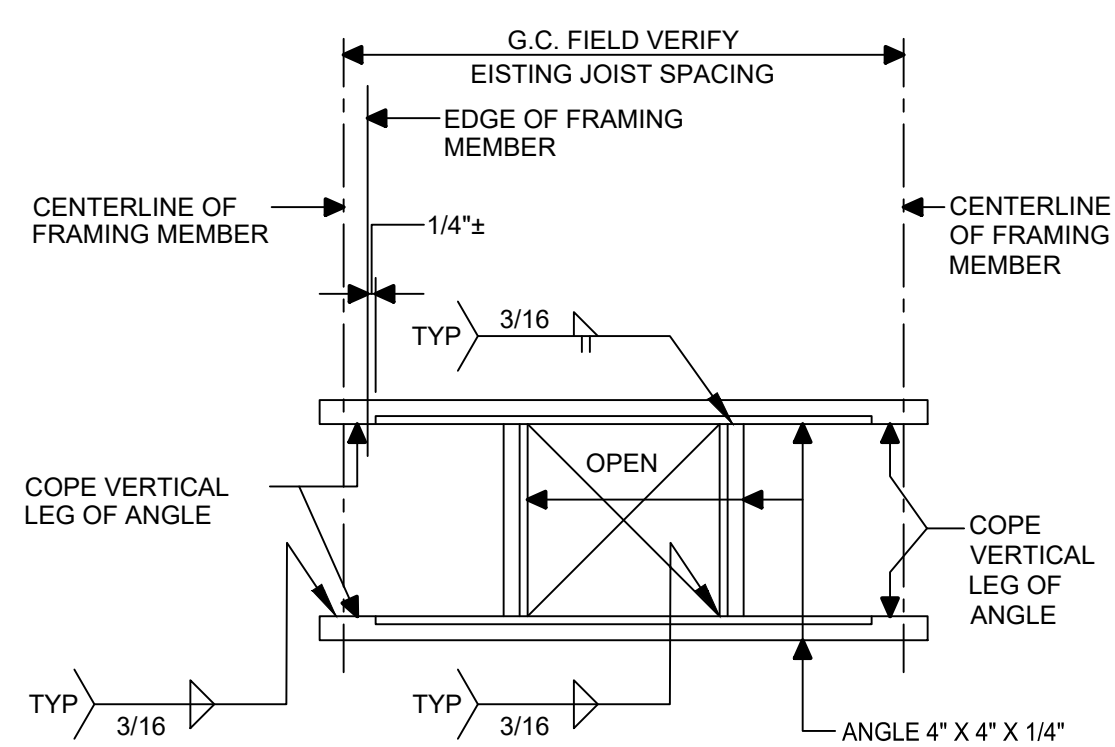
NOTES:

1. G.C. COORDINATE SIZE, WEIGHT AND LOCATION OF ROOF TOP UNITS SHOWN ON MECHANICAL ROOF TOP FRAMING PLAN.
2. NEW CURB SUPPORT ANGLE 4" X 4" X 1/4". SEE SECTION 3/S-100.
3. EXISTING ROOF JOISTS. G.C. TO FIELD VERIFY EXISTING JOIST SPACING AT NEW ROOF TOP UNIT LOCATIONS.

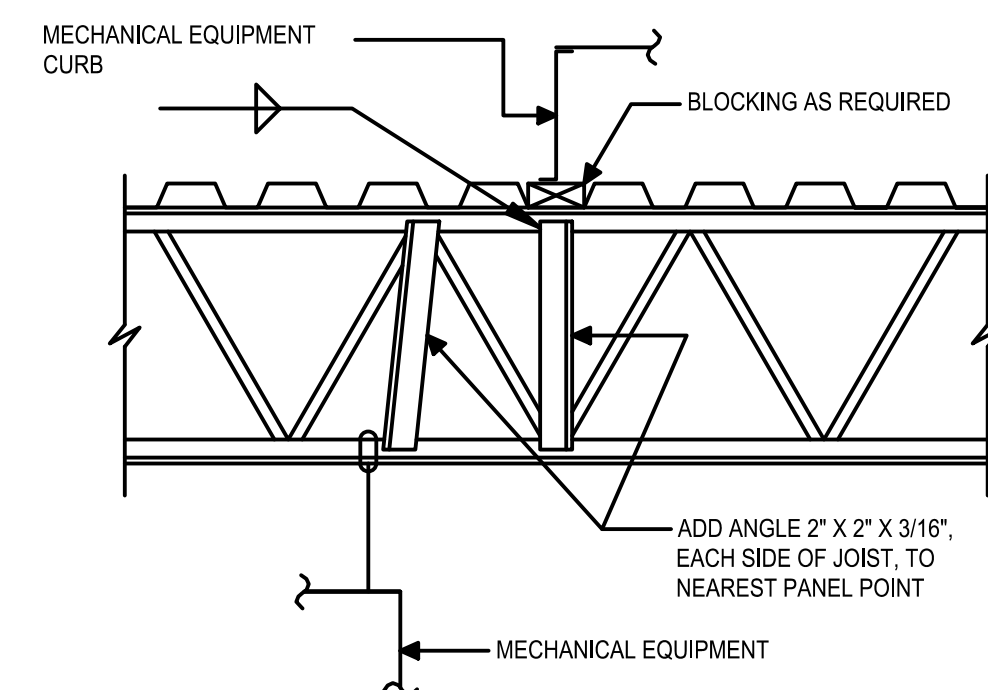
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13236-13
ISSUE DATE:
2-19-2025
DESIGNER:
BMB
CHECKED BY:
JFK

REVISIONS:

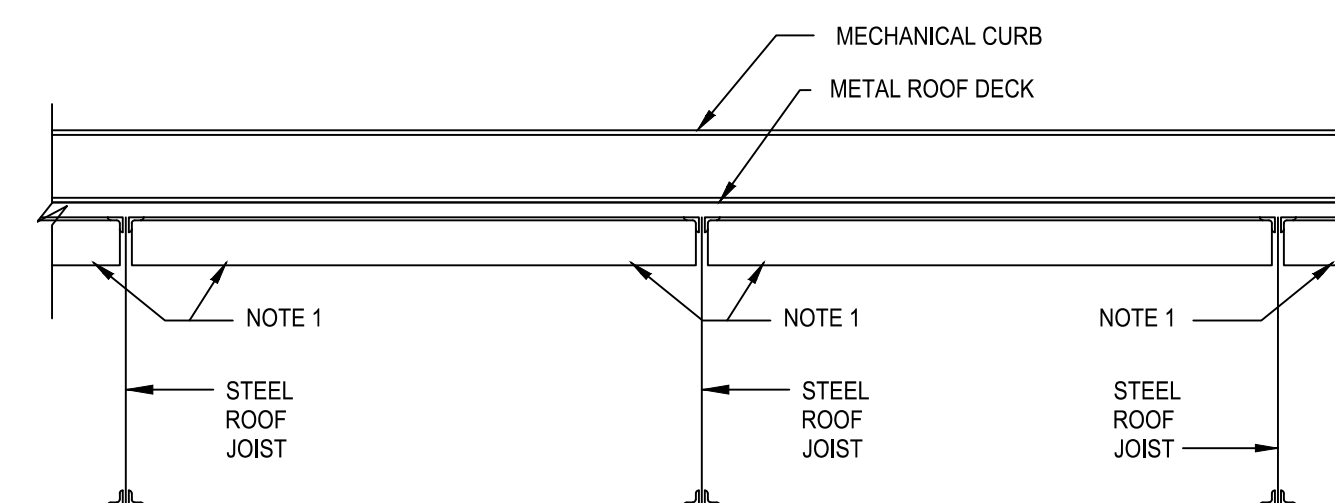
No.	DATE	DESCRIPTION



SECTION - 1/S-100 - TYP. ROOF OPENING FRAME
SCALE: 3/4" = 1'-0"

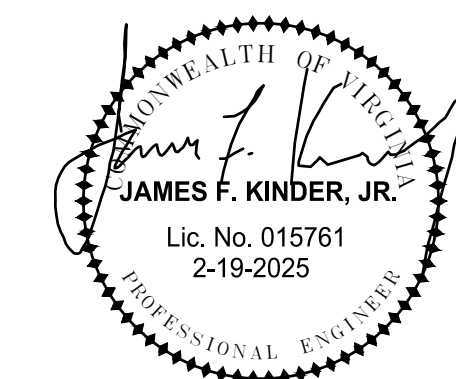


SECTION - 2/S-100 - TYP. JOIST REINFORCEMENT
SCALE: 3/4" = 1'-0"



NOTE:
1. PROVIDE STEEL ANGLES 4" X 4" X 1/4" WELDED BETWEEN TOP CHORDS OF STEEL JOISTS TIGHT TO UNDERSIDE OF METAL ROOF DECK. USE 1/4" FILLET WELDS AT EACH ANGLE TO JOIST TOP CHORD. MINIMUM WELD LENGTH = 1" EACH SIDE OF 4" X 4" ANGLE.

SECTION - 3/S-100 - TYP. REINFORCEMENT AT MECH. CURB
SCALE: 3/4" = 1'-0"



DAY AND KINDER CONSULTING ENGINEERS, P.L.L.C.
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3959 ELECTRIC ROAD - SUITE 348
ROANOKE, VIRGINIA 24018
PHONE: 540-774-5706
Email: Jay@dayandkinder.com
COMM. NO. 22-208

SHEET NUMBER:

S-100

BID
DOCUMENTS

SHEET TITLE:
**MECHANICAL
ROOF TOP
FRAMING PLAN**