

HVAC SYMBOLS LIST											
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AAD	AUTOMATIC AIR DAMPER		CONNECTION - TOP		DOUBLE WALL LINED DUCT		SUPPLY / RETURN / EXHAUST AIR TAKEOFFS		ELECTRIC/PNEUMATIC SWITCH OR RELAY		
ACC	AIR-COOLED CONDENSING UNIT		CONNECTION - BOTTOM		DUCT SECTION - SUPPLY		DUCT SECTION - RETURN/EXHAUST		PNEUMATIC/ELECTRIC SWITCH OR RELAY		
AD	ACCESS DOOR		DIRECTION OF FLOW		DUCT SECTION - ROUND DUCT IN INCHES		DUCT SECTION - FLAT OVAL DUCT IN INCHES		OPEN/CLOSED		
AFF	ABOVE FINISHED FLOOR		REDUCER		FIRE DAMPER		SMOKE DAMPER		START/STOP		
AHU	AIR HANDLING UNIT		CAP OR PLUG		ACOUSTIC THERMAL LINING		FLEXIBLE DUCTWORK		ENABLE/DISABLE		
BBD	BOILER BLOW DOWN		ELBOW DOWN		FLEXIBLE CONNECTION		UNION		TEMPERATURE SENSOR (DUCT OR PIPE MOUNTED)		
BD	BACKDRAFT DAMPER		ELBOW UP		FIRE DAMPER		SMOKE DAMPER		HUMIDITY SENSOR (DUCT MOUNTED)		
CA	COMPRESSED AIR		TEE OUTLET - UP		FIRE DAMPER		SMOKE DAMPER		FLOW TRANSMITTER		
CD	COOLING COIL CONDENSATE DRAIN		TEE OUTLET - DOWN		FIRE DAMPER		SMOKE DAMPER		PRESSURE TRANSMITTER		
CFM	CUBIC FEET PER MINUTE		GATE VALVE		FIRE DAMPER		SMOKE DAMPER		DIFFERENTIAL PRESSURE TRANSMITTER		
CHWR	CHILLED WATER RETURN		BALL VALVE		FIRE DAMPER		SMOKE DAMPER		ELECTRIC/PNEUMATIC TRANSDUCER		
CHWS	CHILLED WATER SUPPLY		BALANCING VALVE		FIRE DAMPER		SMOKE DAMPER		ELECTRIC/ELECTRONIC TRANSDUCER		
CR	CONDENSER WATER RETURN		STRAINER		FIRE DAMPER		SMOKE DAMPER		DUCT SMOKE DETECTOR		
CS	CONDENSER WATER SUPPLY		STRAINER WITH BLOW-DOWN		FIRE DAMPER		SMOKE DAMPER		SPACE THERMOSTAT		
CW	DOMESTIC COLD WATER		BUTTERFLY VALVE		FIRE DAMPER		SMOKE DAMPER		SPACE TEMPERATURE SENSOR		
D	DRAIN		BUTTERFLY CONTROL VALVE, PNEUMATIC 2-WAY		FIRE DAMPER		SMOKE DAMPER		SPACE CARBON DIOXIDE SENSOR		
(E)	EXISTING		BUTTERFLY CONTROL VALVE, ELECTRIC ACTUATOR		FIRE DAMPER		SMOKE DAMPER		SPACE NATURAL GAS SENSOR		
EA	EXHAUST AIR		GLOBE VALVE		FIRE DAMPER		SMOKE DAMPER		SPACE CARBON MONOXIDE SENSOR		
EC	ELECTRICAL CONTRACTOR		CHECK VALVE		FIRE DAMPER		SMOKE DAMPER		SPACE SENSOR WITH GUARD		
EF	EXHAUST FAN		TRIPLE DUTY VALVE		FIRE DAMPER		SMOKE DAMPER		SPACE HUMIDISTAT		
EHF	ELECTRIC REHEAT COIL		GAS COCK, PLUG VALVE		FIRE DAMPER		SMOKE DAMPER		WATER FLOW SENSOR		
ETR	EXISTING TO REMAIN		UNDERCUT DOOR 1"		FIRE DAMPER		SMOKE DAMPER		PNEUMATIC ACTUATOR		
EUH	ELECTRIC UNIT HEATER		LOUVERED DOOR W/ SQ. FT. OF FREE AREA		FIRE DAMPER		SMOKE DAMPER		ELECTRIC ACTUATOR		
F&T	FLOAT AND THERMOSTATIC TRAP		AIR VENT - MANUAL		FIRE DAMPER		SMOKE DAMPER		VARIABLE SPEED / FREQUENCY DRIVE		
FCU	FAN-COIL UNIT		AIR VENT - AUTOMATIC		FIRE DAMPER		SMOKE DAMPER		COOLING COIL		
FPM	FEET PER MINUTE		FLANGE		FIRE DAMPER		SMOKE DAMPER		HEATING COIL		
FT	FIN-TUBE		CONTROL/SOLENOID VALVE, ELECTRIC 2-WAY		FIRE DAMPER		SMOKE DAMPER		GAS FURNACE		
GC	GENERAL CONTRACTOR		CONTROL VALVE, ELECTRIC 3-WAY		FIRE DAMPER		SMOKE DAMPER		HUMIDIFIER		
GR	GLYCOL RETURN		CONTROL VALVE, PNEUMATIC 2-WAY		FIRE DAMPER		SMOKE DAMPER		ALARM		
GS	GLYCOL SUPPLY		CONTROL VALVE, PNEUMATIC 3-WAY		FIRE DAMPER		SMOKE DAMPER		STATUS		
HC	HVAC CONTRACTOR		RELIEF / SAFETY VALVE		FIRE DAMPER		SMOKE DAMPER		FLOW SWITCH		
HHWR	HEATING HOT WATER RETURN		PRESSURE REDUCING VALVE		FIRE DAMPER		SMOKE DAMPER		DIFFERENTIAL STATIC PRESSURE SWITCH		
HHWS	HEATING HOT WATER SUPPLY		VACUUM BREAKER		FIRE DAMPER		SMOKE DAMPER		RELAY		
HP	HEAT PUMP		FLEXIBLE PIPE CONNECTOR		FIRE DAMPER		SMOKE DAMPER		PRESSURE GAUGE		
HPC	HIGH PRESSURE CONDENSATE		EXPANSION COMPENSATOR W/ GUIDES		FIRE DAMPER		SMOKE DAMPER		FREEZE-STAT		
HPS	HIGH PRESSURE STEAM		PIPE ANCHOR		FIRE DAMPER		SMOKE DAMPER		DIGITAL INPUT (TO BUILDING MANAGEMENT SYSTEM)		
LF	LINEAR FOOTAGE OF FIN-TUBE RADIATION		PIPE GUIDE		FIRE DAMPER		SMOKE DAMPER		DIGITAL OUTPUT (FROM BUILDING MANAGEMENT SYSTEM)		
LPC	LOW PRESSURE CONDENSATE		PIPE TRAP		FIRE DAMPER		SMOKE DAMPER		ANALOG OUTPUT (FROM BUILDING MANAGEMENT SYSTEM)		
LPG	LIQUEFIED PROPANE GAS		THERMODYNAMIC TRAP		FIRE DAMPER		SMOKE DAMPER		ANALOG INPUT (TO BUILDING MANAGEMENT SYSTEM)		
LPS	LOW PRESSURE STEAM		THERMOMETER		FIRE DAMPER		SMOKE DAMPER		ELECTRICAL INTERFACE		
MBH	1,000 BTU/HR		WELL		FIRE DAMPER		SMOKE DAMPER		SPEED FEED BACK		
MC	MECHANICAL CONTRACTOR		PRESSURE GAUGE		FIRE DAMPER		SMOKE DAMPER		END SWITCH		
MPC	MEDIUM PRESSURE CONDENSATE		STEAM PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER		POSITION FEEDBACK		
MPS	MEDIUM PRESSURE STEAM		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER		TRAVERSE AVERAGING SENSOR		
MRD	MONOFLO FITTING DOWN - HHWR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER		PROBE SENSOR		
MSD	MONOFLO FITTING DOWN - HHWS		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER		FREEZE STAT SENSOR		
MUW	MAKE-UP WATER		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
NC	NORMALLY CLOSED		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
NG	NATURAL GAS		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
NO	NORMALLY OPEN		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
NTS	NOT TO SCALE		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
OA	OUTSIDE AIR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
PC	PLUMBING CONTRACTOR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
PD	PUMP DISCHARGE		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
PHWR	PRIMARY HEATING HOT WATER RETURN		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
PHWS	PRIMARY HEATING HOT WATER SUPPLY		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RA	RETURN AIR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RD	REFRIGERANT DISCHARGE		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RHC	HOT WATER REHEAT COIL		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RLL	REFRIGERANT LIQUID PIPE		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RSL	REFRIGERANT SUCTION PIPE		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RTU	ROOFTOP UNIT		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
RV	ROOF VENT		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
SA	SUPPLY AIR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
SHWR	SECONDARY HEATING HOT WATER RETURN		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
SHWS	SECONDARY HEATING HOT WATER SUPPLY		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
SSI	SPLIT SYSTEM INDOOR SECTION (EVAPORATOR SECTION)		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
SSO	SPLIT SYSTEM OUTDOOR SECTION (CONDENSING UNIT)		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
TC	TEMPERATURE CONTROLS CONTRACTOR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
UH	UNIT HEATER		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
UV	UNIT VENTILATOR		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE		FIRE DAMPER		SMOKE DAMPER				
V	VENT		PRESSURE GAUGE WITH 1/4" NEEDLE VALVE								



NO.	DATE	BY	DESCRIPTION



ELLENVILLE CENTRAL SCHOOL DISTRICT  
2020 CAPITAL IMPROVEMENT PROJECT  
VOLUME 1  
ES LIBRARY RELOCATION & CAFETERIA ADDITION  
ELLENVILLE ES: SED #62-02-02-06-0-008-010

DATE	DRAWN	CHECKED
5/04/2021	BKM	AS
SCALE	AS NOTED	

EXISTING CAFETERIA  
HVAC DEMOLITION  
FLOOR PLAN

PROJECT NUMBER  
14426.04

EES  
H101

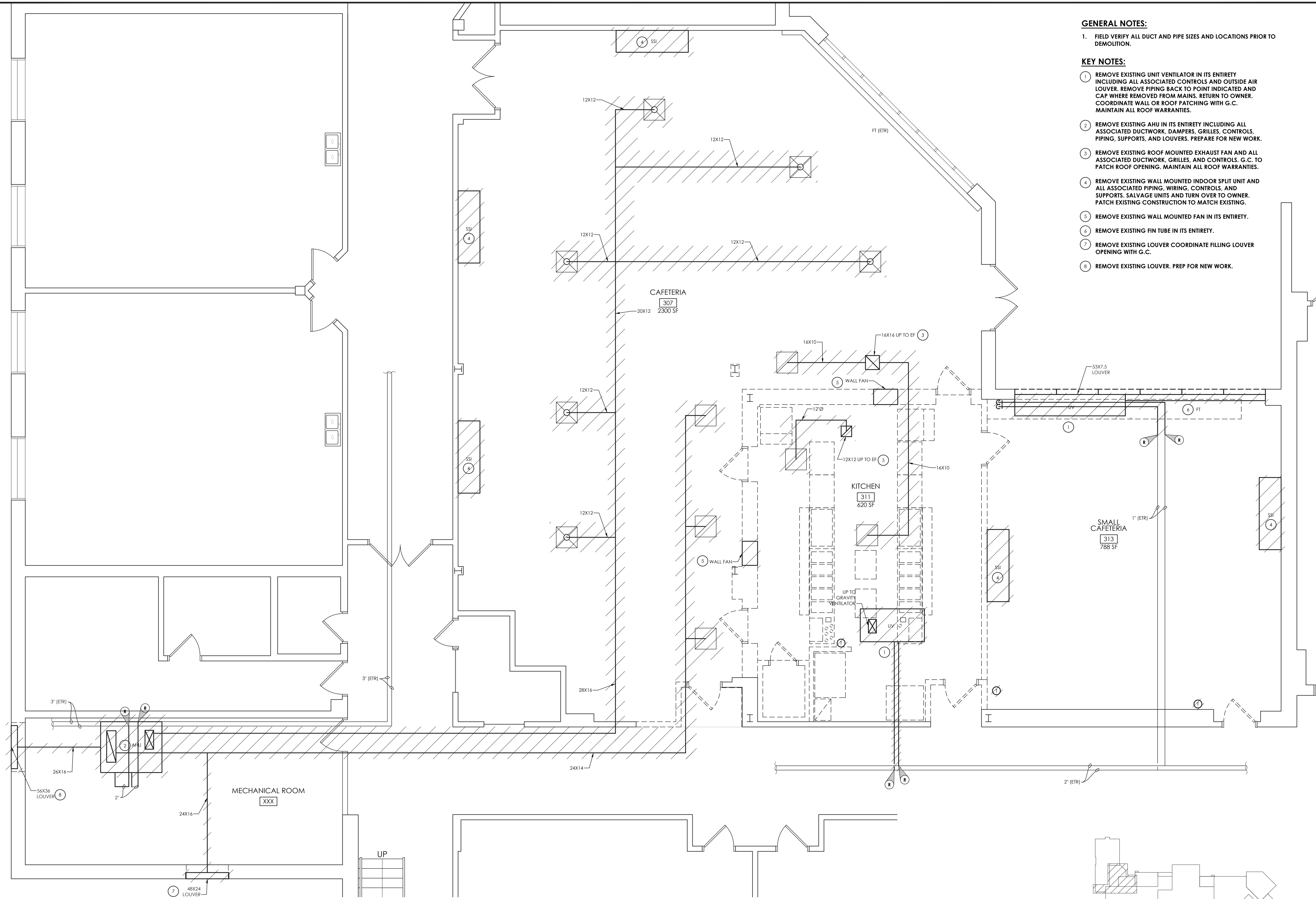
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**GENERAL NOTES:**

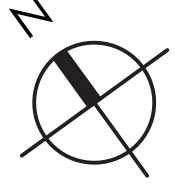
1. FIELD VERIFY ALL DUCT AND PIPE SIZES AND LOCATIONS PRIOR TO DEMOLITION.

**KEY NOTES:**

- ① REMOVE EXISTING UNIT VENTILATOR IN ITS ENTIRETY INCLUDING ALL ASSOCIATED CONTROLS AND OUTSIDE AIR LOUVER. REMOVE PIPING BACK TO POINT INDICATED AND CAP WHERE REMOVED FROM MAINS. RETURN TO OWNER. COORDINATE WALL OR ROOF PATCHING WITH G.C. MAINTAIN ALL ROOF WARRANTIES.
- ② REMOVE EXISTING AHU IN ITS ENTIRETY INCLUDING ALL ASSOCIATED DUCTWORK, DAMPERS, GRILLES, CONTROLS, PIPING, SUPPORTS, AND LOUVERS. PREPARE FOR NEW WORK.
- ③ REMOVE EXISTING ROOF MOUNTED EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, GRILLES, AND CONTROLS. G.C. TO PATCH ROOF OPENING. MAINTAIN ALL ROOF WARRANTIES.
- ④ REMOVE EXISTING WALL MOUNTED INDOOR SPLIT UNIT AND ALL ASSOCIATED PIPING, WIRING, CONTROLS, AND SUPPORTS. SALVAGE UNITS AND TURN OVER TO OWNER. PATCH EXISTING CONSTRUCTION TO MATCH EXISTING.
- ⑤ REMOVE EXISTING WALL MOUNTED FAN IN ITS ENTIRETY.
- ⑥ REMOVE EXISTING FIN TUBE IN ITS ENTIRETY.
- ⑦ REMOVE EXISTING LOUVER COORDINATE FILLING LOUVER OPENING WITH G.C.
- ⑧ REMOVE EXISTING LOUVER. PREP FOR NEW WORK.



KEY PLAN  
SCALE: NTS

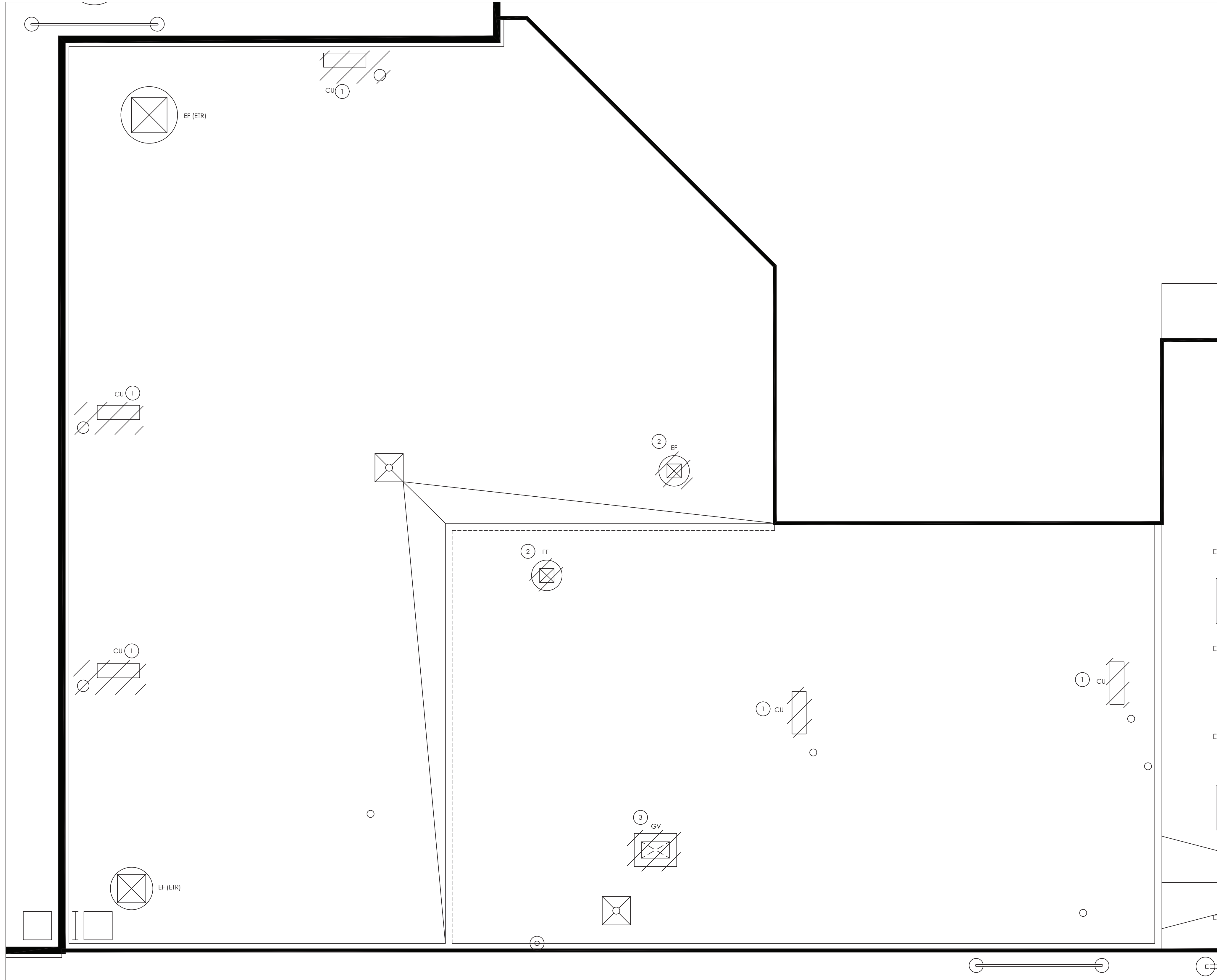


1  
H101

**EXISTING CAFETERIA HVAC DEMOLITION PLAN**

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

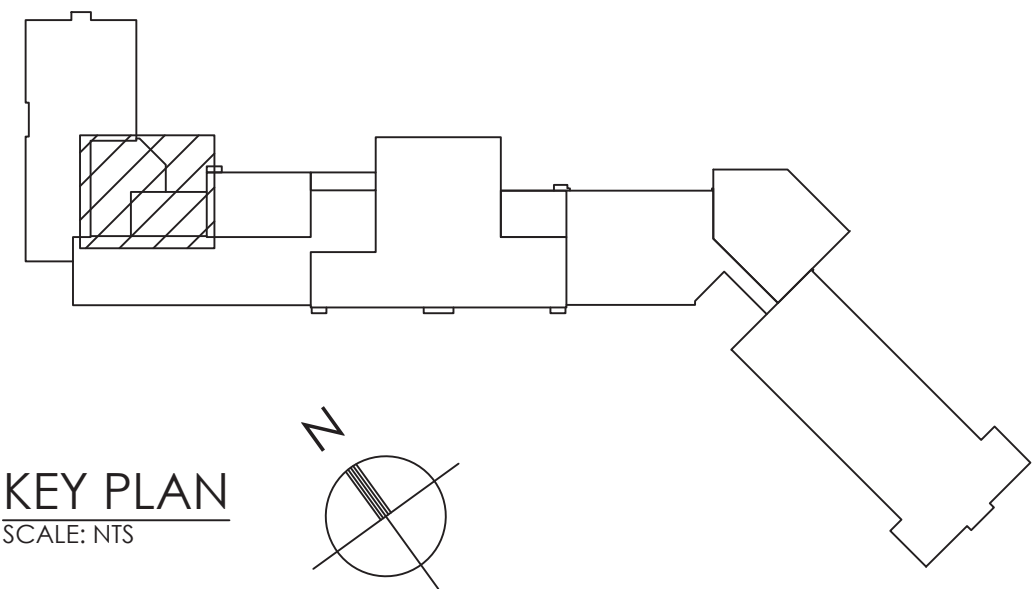
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1  
H102  
CAFETERIA ROOF DEMOLITION PLAN  
SCALE: 1/4" = 1'-0"

KEY NOTES:

- 1 REMOVE EXISTING CONDENSING UNIT IN ITS ENTIRETY INCLUDING ALL PIPING, WIRING, AND CONTROLS. COORDINATE PATCHING OF ROOF OPENING WITH GC. MAINTAIN ALL ROOF WARRANTIES.
- 2 REMOVE EXISTING EXHAUST FAN IN ITS ENTIRETY INCLUDING ALL ASSOCIATED DUCTWORK, WIRING AND CONTROLS. COORDINATE PATCHING OF ROOF OPENING WITH GC. MAINTAIN ALL ROOF WARRANTIES.
- 3 REMOVE EXISTING GRAVITY VENTILATOR IN ITS ENTIRETY INCLUDING ALL ASSOCIATED DUCTWORK. COORDINATE PATCHING OF ROOF OPENING WITH GC. MAINTAIN ALL ROOF WARRANTIES.

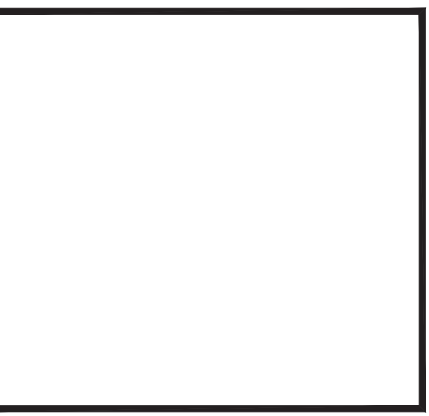




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2020 CAPITAL IMPROVEMENT PROJECT

VOLUME 1

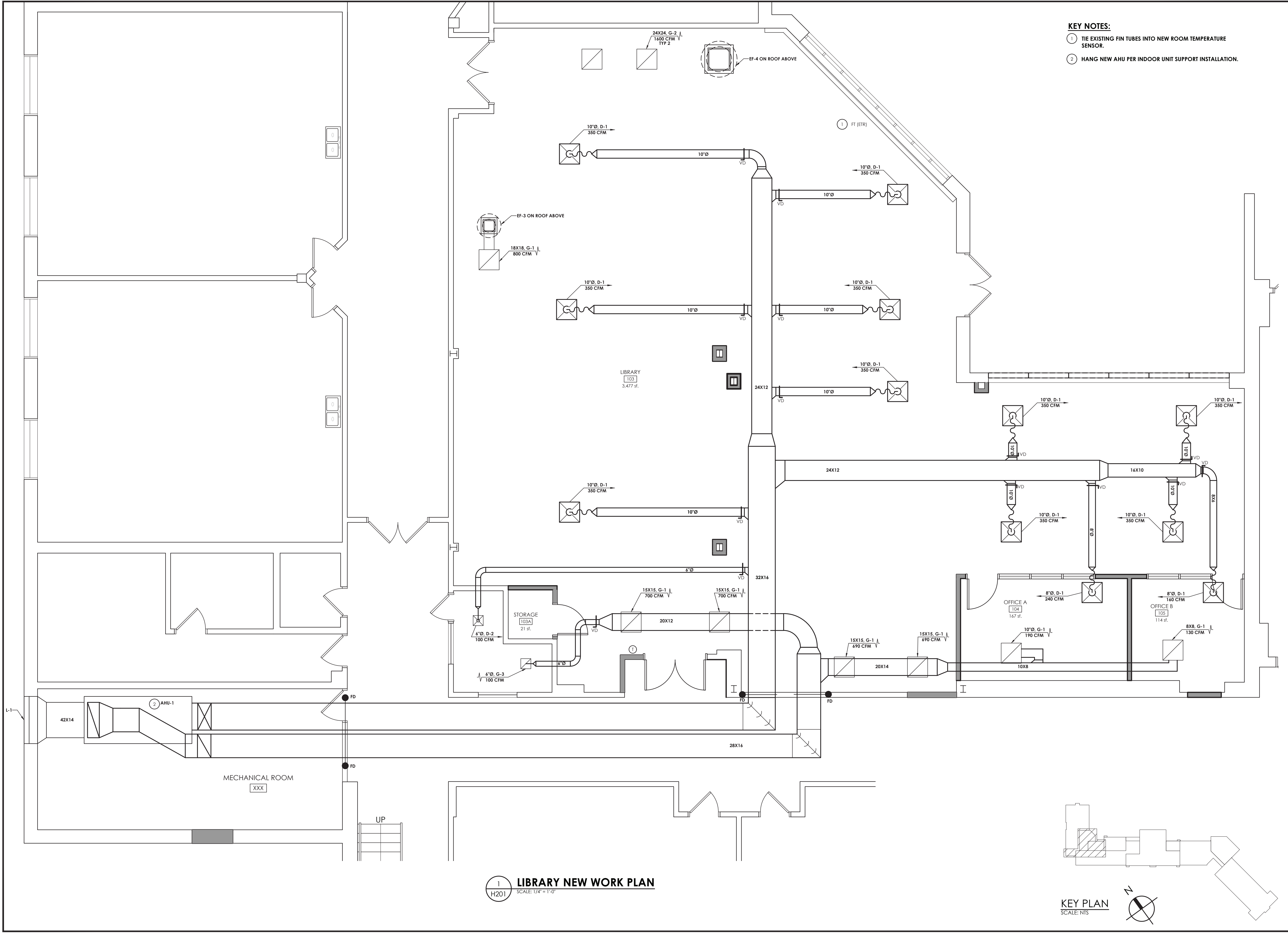
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ELLENVILLE ES: SED #62-20-02-06-0-008-010

DATE 05/04/2021	DRAWN BKM	CHECKED AS
SCALE AS NOTED		
SHEET TITLE EXISTING CAFETERIA HVAC DEMOLITION ROOF PLAN		

PROJECT NUMBER  
14426.04

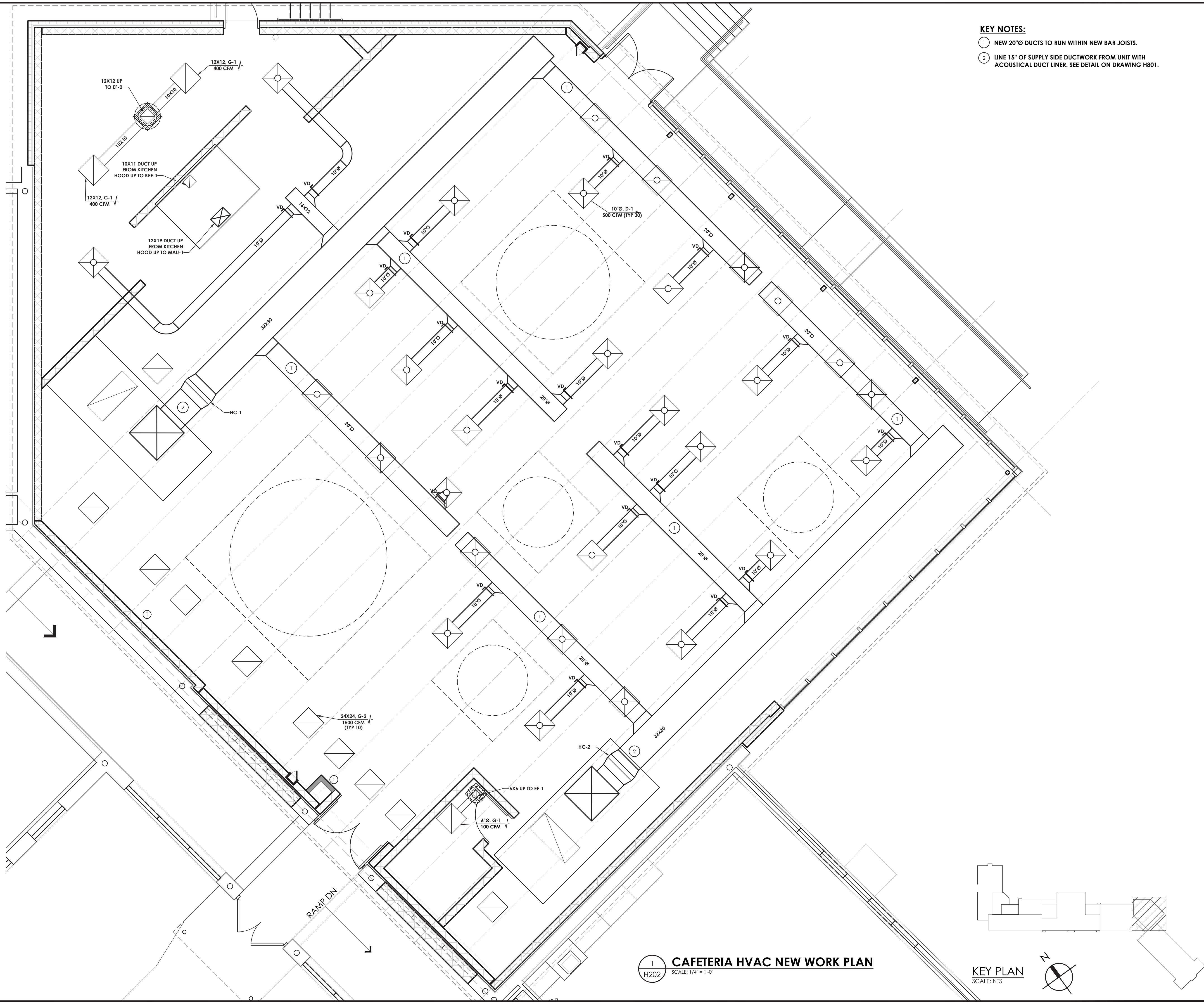
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Date last plotted: 12/2/2021 4:19 PM  
Plotted By: Brendon Mazza





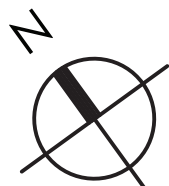
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Plotted By: Brendon Mazza




- KEY NOTES:**
- 1 NEW 20"Ø DUCTS TO RUN WITHIN NEW BAR JOISTS.
  - 2 LINE 15" OF SUPPLY SIDE DUCTWORK FROM UNIT WITH ACOUSTICAL DUCT LINER. SEE DETAIL ON DRAWING H801.

1 **CAFETERIA HVAC NEW WORK PLAN**  
H202 SCALE: 1/4" = 1'-0"

**KEY PLAN**  
SCALE: NTS






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ELLENVILLE ES; SED #62-20-02-06-0-008-010

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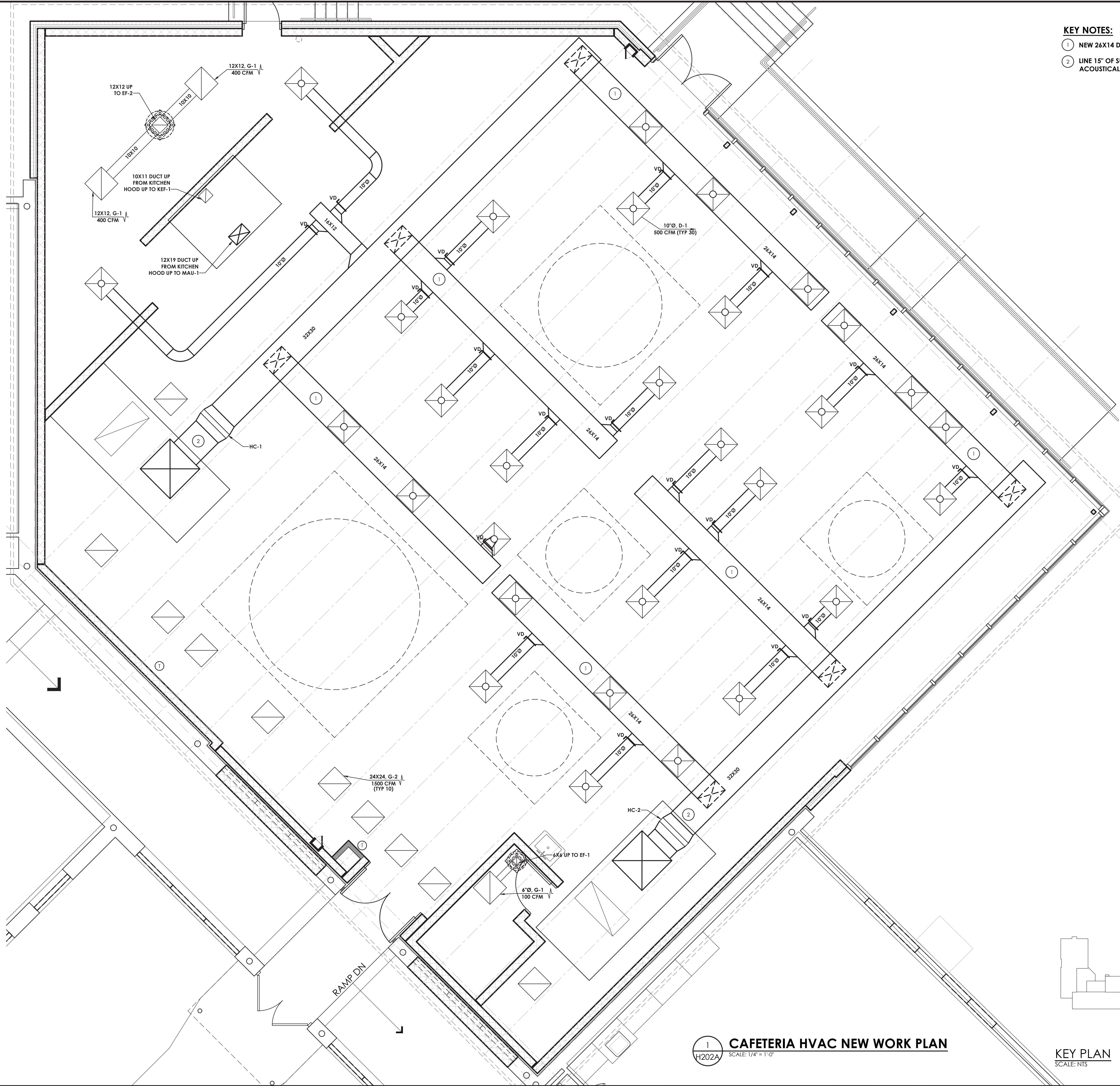
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SHEET TITLE  
**CAFETERIA NEW DUCTWORK PLAN**

PROJECT NUMBER  
14426.04

**EES H202**  
DRAWING NUMBER





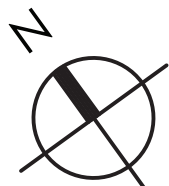
- KEY NOTES:**
- 1 NEW 26X14 DUCTS TO RUN BELOW NEW STEEL BEAMS.
  - 2 LINE 15" OF SUPPLY SIDE DUCTWORK FROM UNIT WITH ACOUSTICAL DUCT LINER. SEE DETAIL ON DRAWING H801.

1  
H202A

**CAFETERIA HVAC NEW WORK PLAN**

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

**KEY PLAN**  
SCALE: NTS



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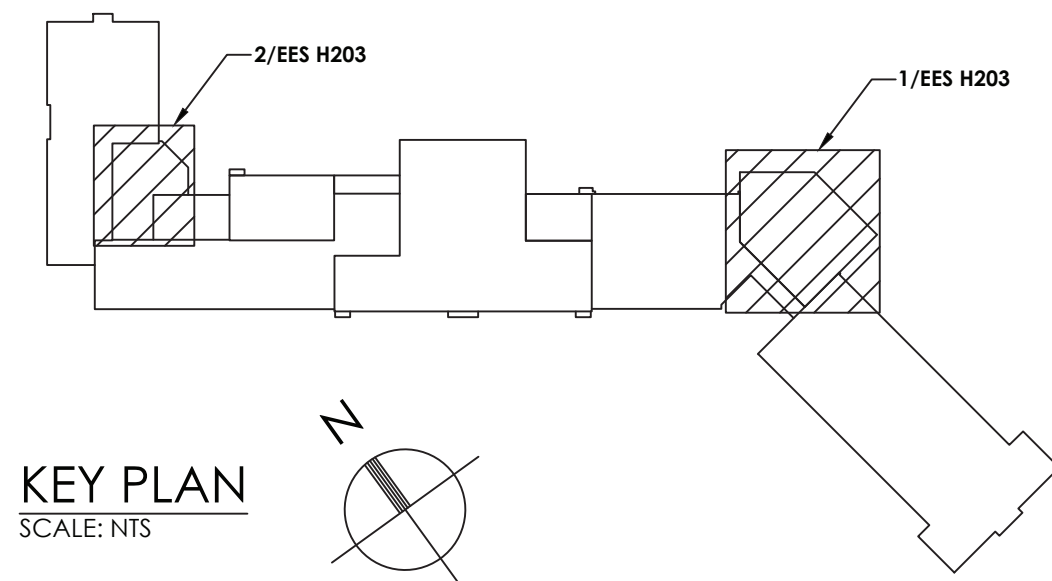
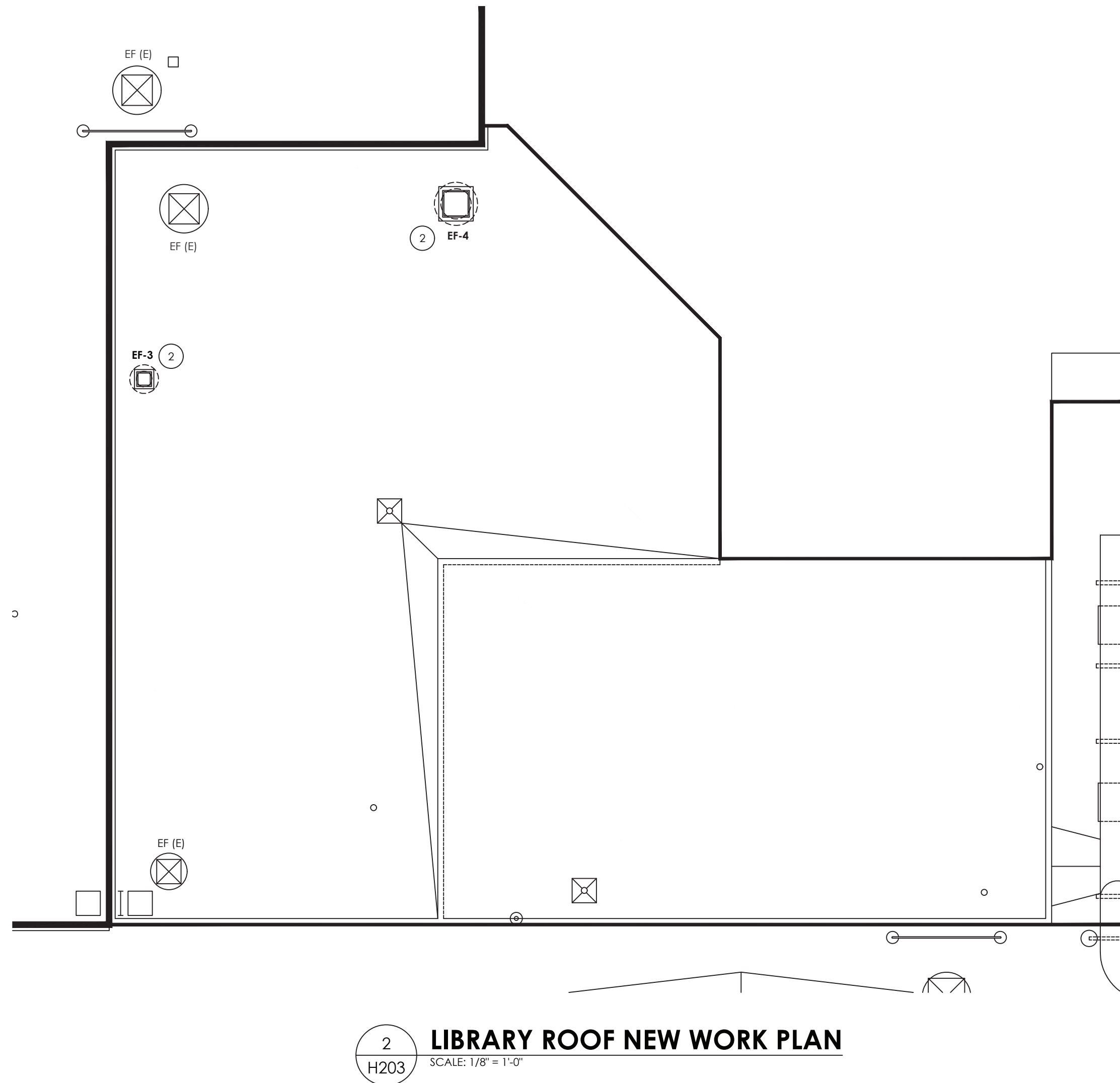
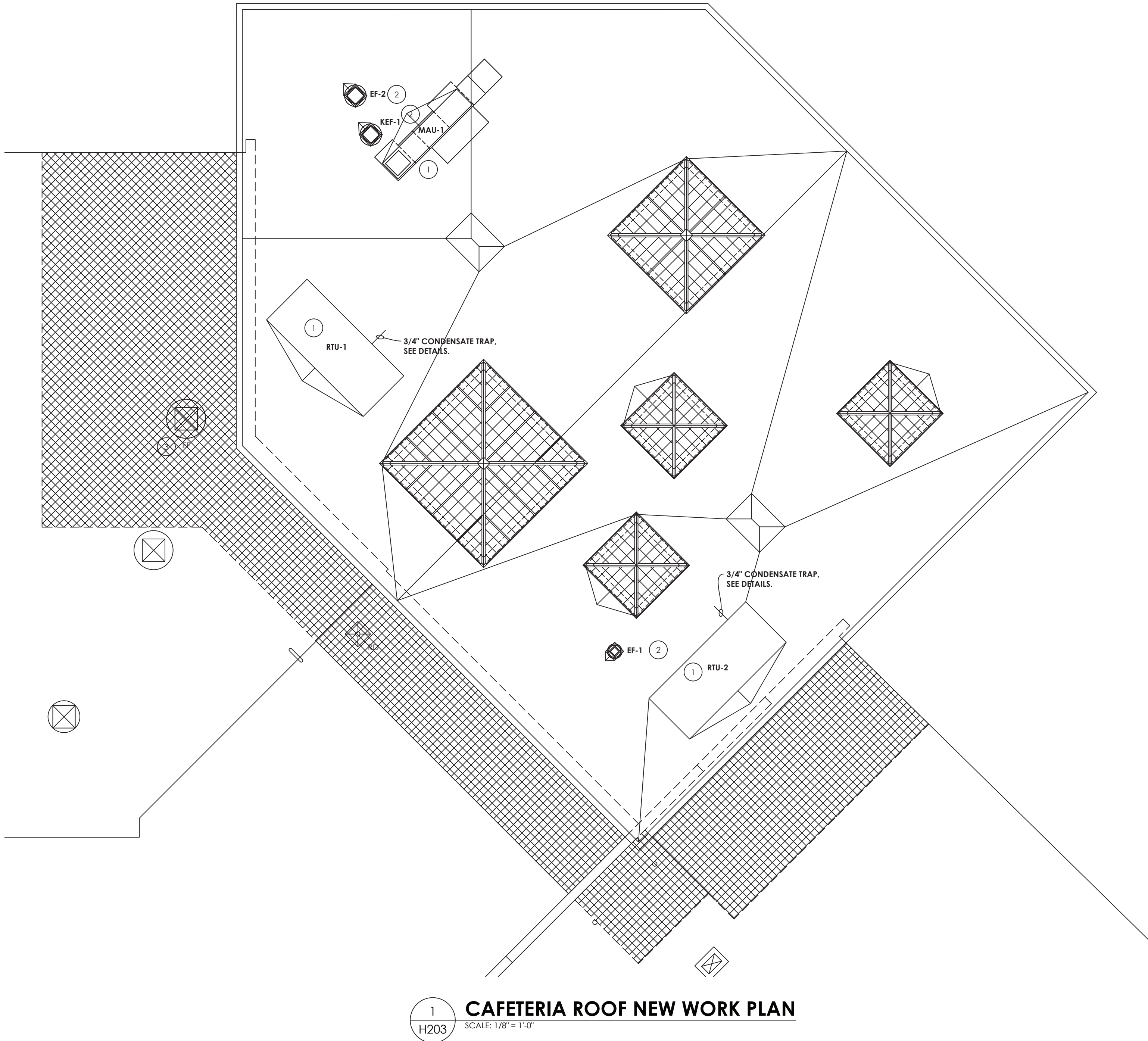
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**VOLUME 1**  
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ELLENVILLE ES; SED #62-20-02-06-0-008-010

DATE 05/04/2021	DRAWN BKM	CHECKED AS
SCALE: AS NOTED		
SHEET TITLE CAFETERIA NEW DUCTWORK PLAN		

PROJECT NUMBER  
14426.04  
**EES**  
**H202A**  
DRAWING NUMBER



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- KEY NOTES:**
- 1 PROVIDE NEW ROOFTOP UNIT AND MANUFACTURER'S ROOF CURB. CURB TO BE INSTALLED BY G.C. MECHANICAL CONTRACTOR TO MARK OPENING AND CURB LOCATIONS.
  - 2 PROVIDE NEW EXHAUST FAN AND CURB. CURB TO BE INSTALLED BY G.C. MECHANICAL CONTRACTOR TO MARK OPENING AND CURB LOCATIONS.
  - 3 DISCONNECT EXISTING EXHAUST FAN (INCLUDING CONTROLS) AND REMOVE BOTH FAN AND CURB TO ACCOMMODATE NEW ROOF WORK. RECONNECT AND REINSTALL FAN, CONTROLS, AND CURB AFTER ROOF WORK. MODIFY EXISTING DUCTWORK AS REQUIRED TO ACCOMMODATE NEW ROOF FRAMING. COORDINATE WITH G.C.

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2020 CAPITAL IMPROVEMENT PROJECT

VOLUME 1

ES LIBRARY RELOCATION & CAFETERIA ADDITION  
ELLENVILLE ES: SED #62-20-02-06-0-008-010

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05/04/2021	BKM	AS

SCALE: AS NOTED

SHEET TITLE:  
ROOF NEW WORK PLANS

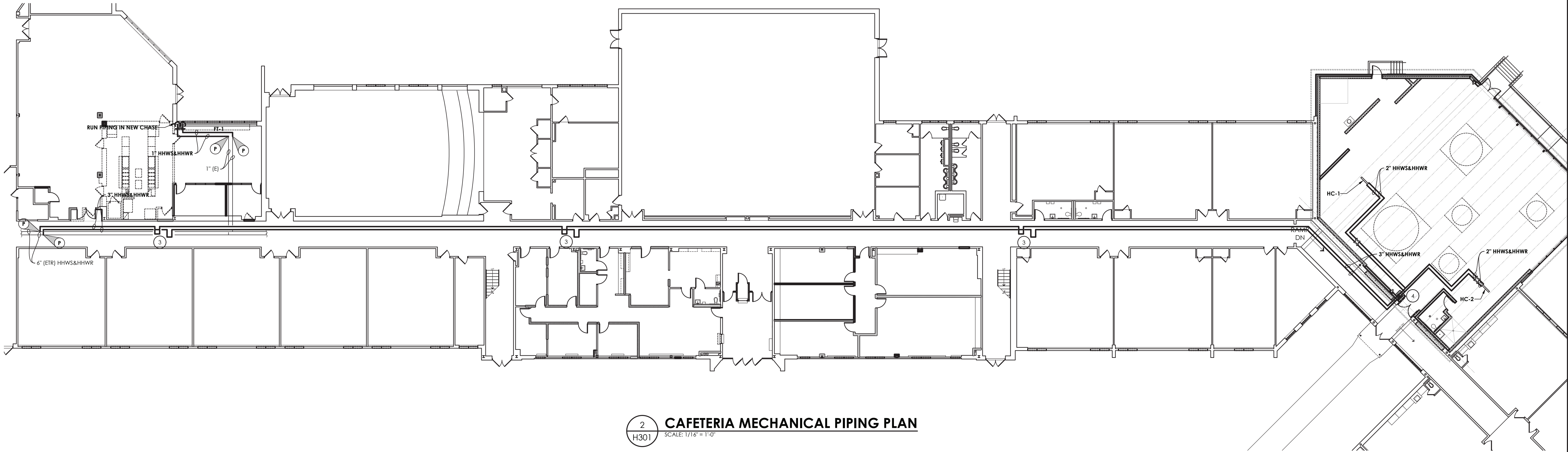
PROJECT NUMBER  
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EES  
H203  
DRAWING NUMBER

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Plotted By: Brendon Mazza

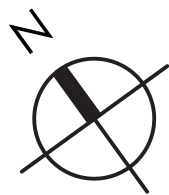



1  
H301  
**MECHANICAL ROOM PIPING PLAN**  
SCALE: 1/4" = 1'-0"

2  
H301  
**CAFETERIA MECHANICAL PIPING PLAN**  
SCALE: 1/16" = 1'-0"

- KEY NOTES:**
- 1 RUN CONDENSATE LINE THROUGH SIDE WALL. TERMINATE 2 FEET FROM GROUND WITH SPLASH BLOCK.
  - 2 RUN IN PIPE FOR TESS ON EXTERIOR OF BUILDING. RUN PIPING ALONG EXTERIOR WALL TO NEW ACCU-1. COORDINATE WITH LOCATION OF NEW LOUVER.
  - 3 PROVIDE METRAFLEX MLS80300 EXPANSION LOOP IN PIPE TUNNEL.
  - 4 RUN NEW PIPING THROUGH NEW CHASE UP TO CEILING SPACE.
  - 5 MOUNT ALL PIPING AS HIGH AS POSSIBLE.
  - 6 INSTALL NEW CONDENSING UNIT ON NEW CONCRETE PAD. COORDINATE WITH G.C.

KEY PLAN  
SCALE: NTS






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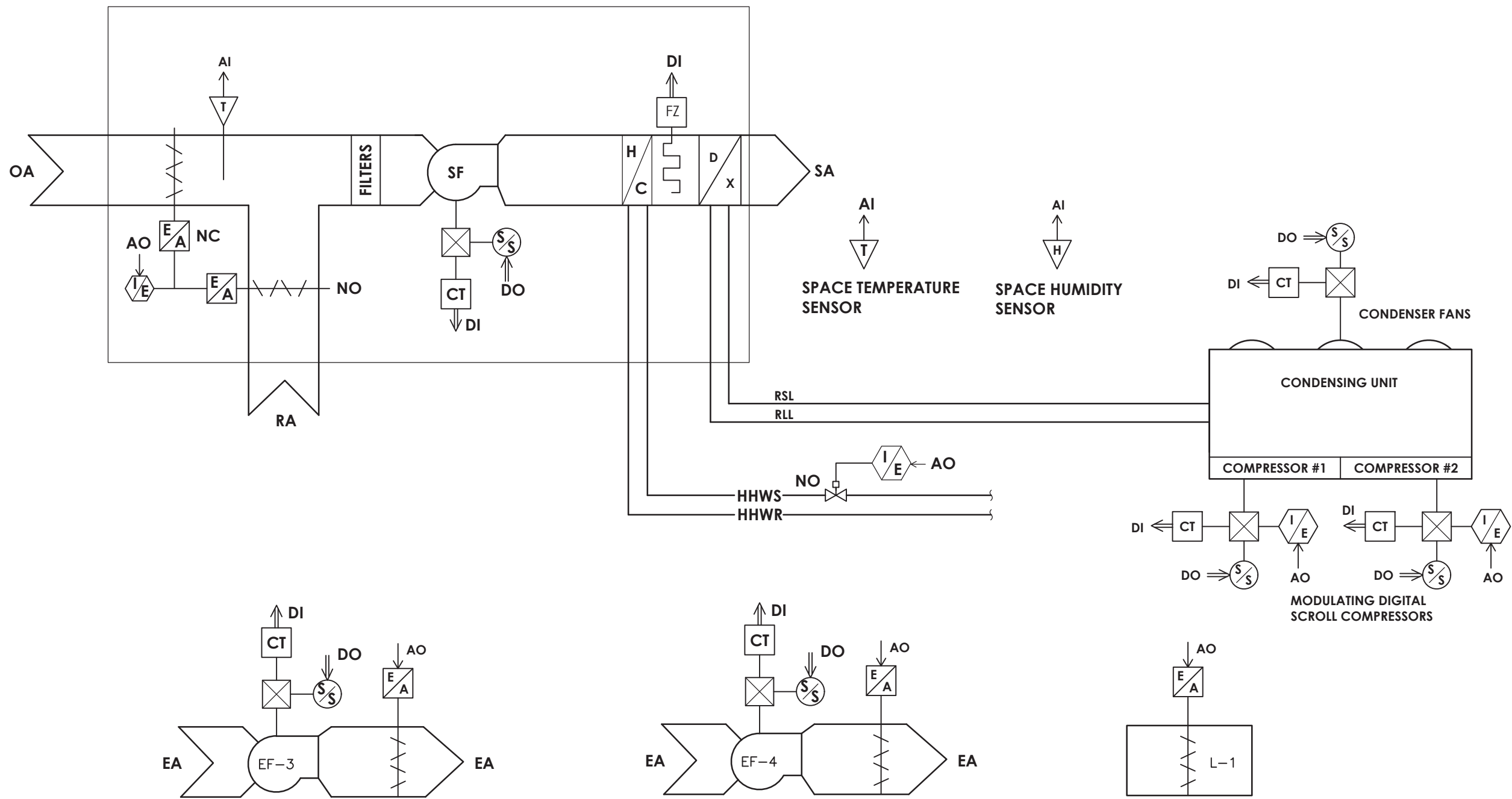
SHEET TITLE  
MECHANICAL PIPING  
NEW WORK PLANS

PROJECT NUMBER  
14426.04

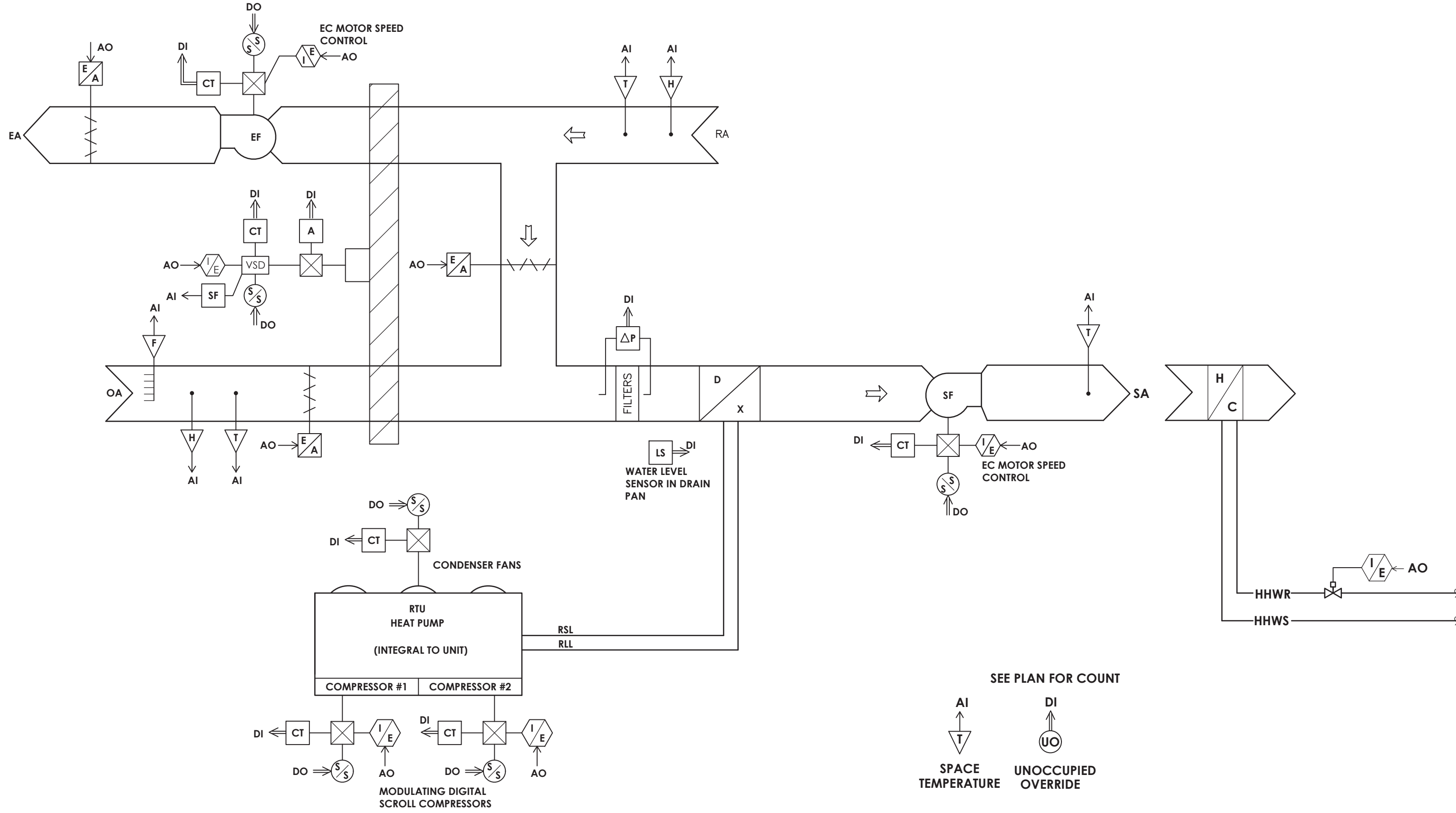
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**H301**  
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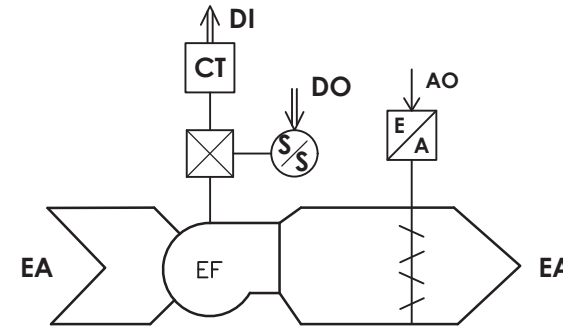




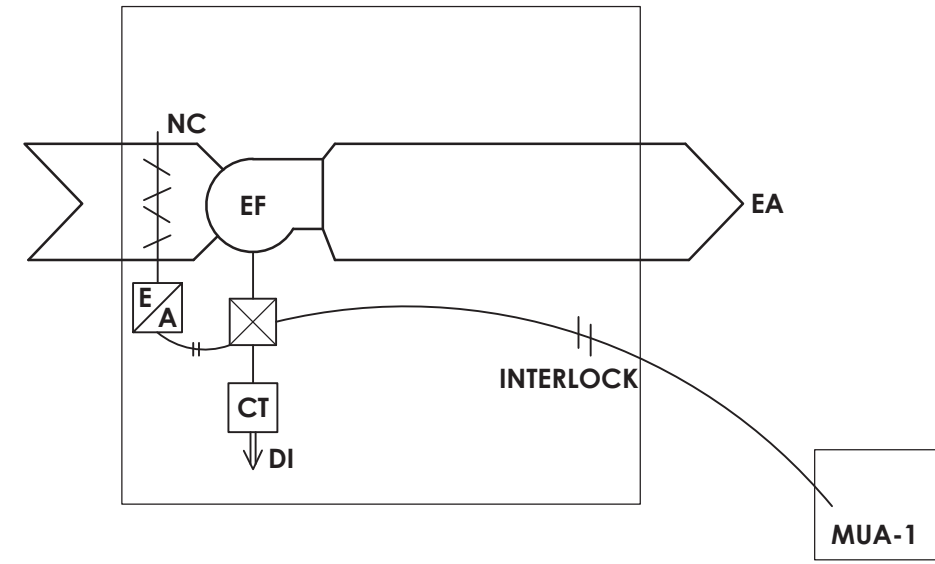
1 AHU-1, EF-3,4, L-1 CONTROLS DIAGRAM  
SCALE: NOT TO SCALE



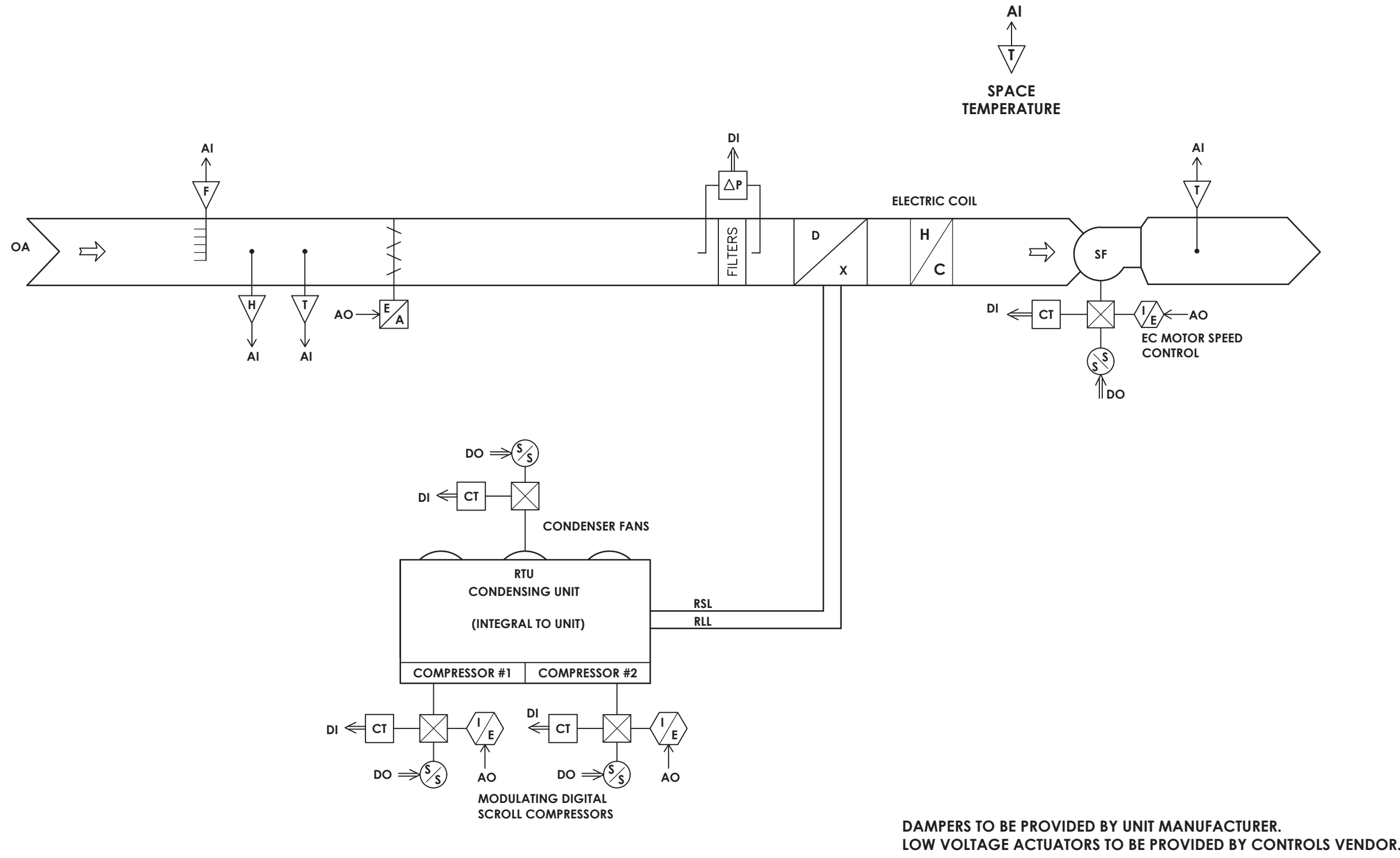
4 CAFETERIA RTU-1,2 CONTROLS DIAGRAM  
SCALE: NOT TO SCALE



2 EXHAUST FAN EF-1,2 CONTROLS DIAGRAM  
SCALE: NOT TO SCALE



3 KITCHEN KEF-1 CONTROLS DIAGRAM  
SCALE: NOT TO SCALE



5 MAKEUP AIR UNIT MAU-1 CONTROLS DIAGRAM  
SCALE: NOT TO SCALE



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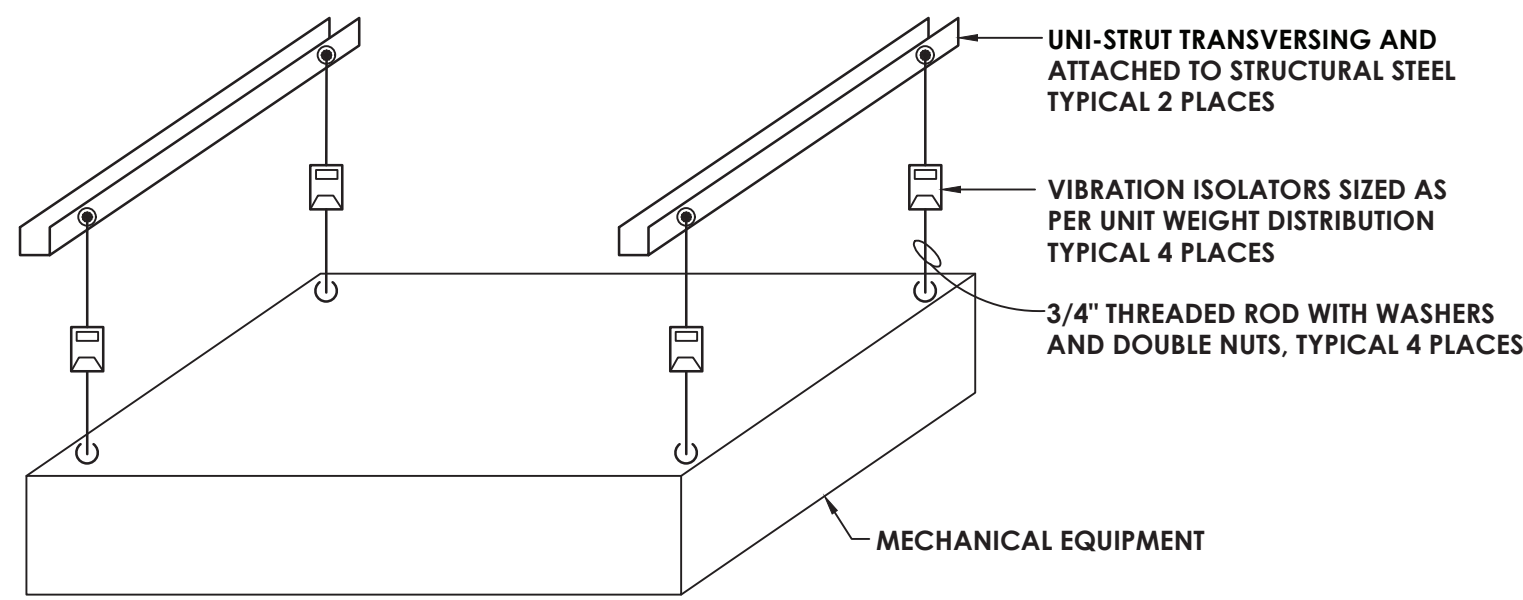
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2020 CAPITAL IMPROVEMENT PROJECT  
VOLUME 1  
ES LIBRARY RELOCATION & CAFETERIA ADDITION  
ELLENVILLE ES; SED #62-20-02-06-0-008-010

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SCALE: AS NOTED		
SHEET TITLE: MECHANICAL CONTROLS DETAILS		

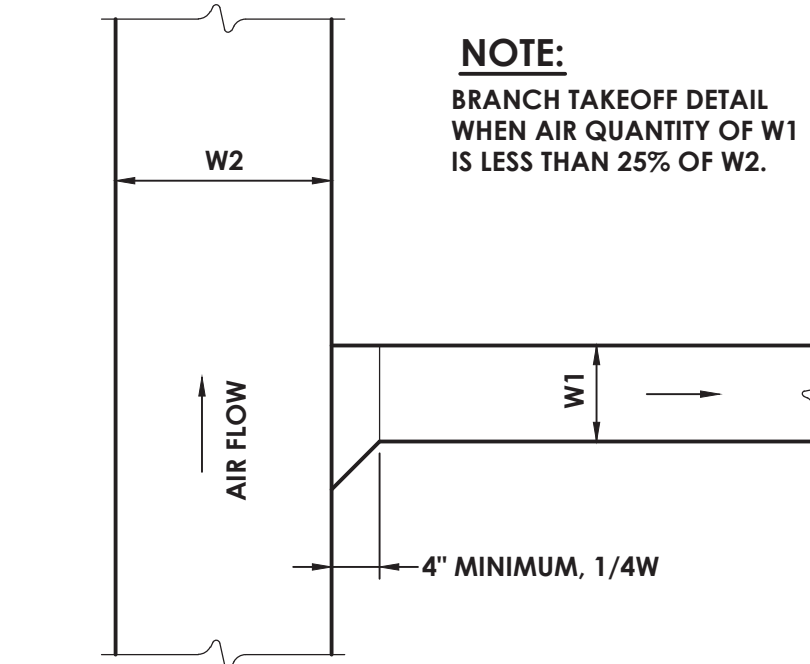
PROJECT NUMBER
14426.04
EES
H500
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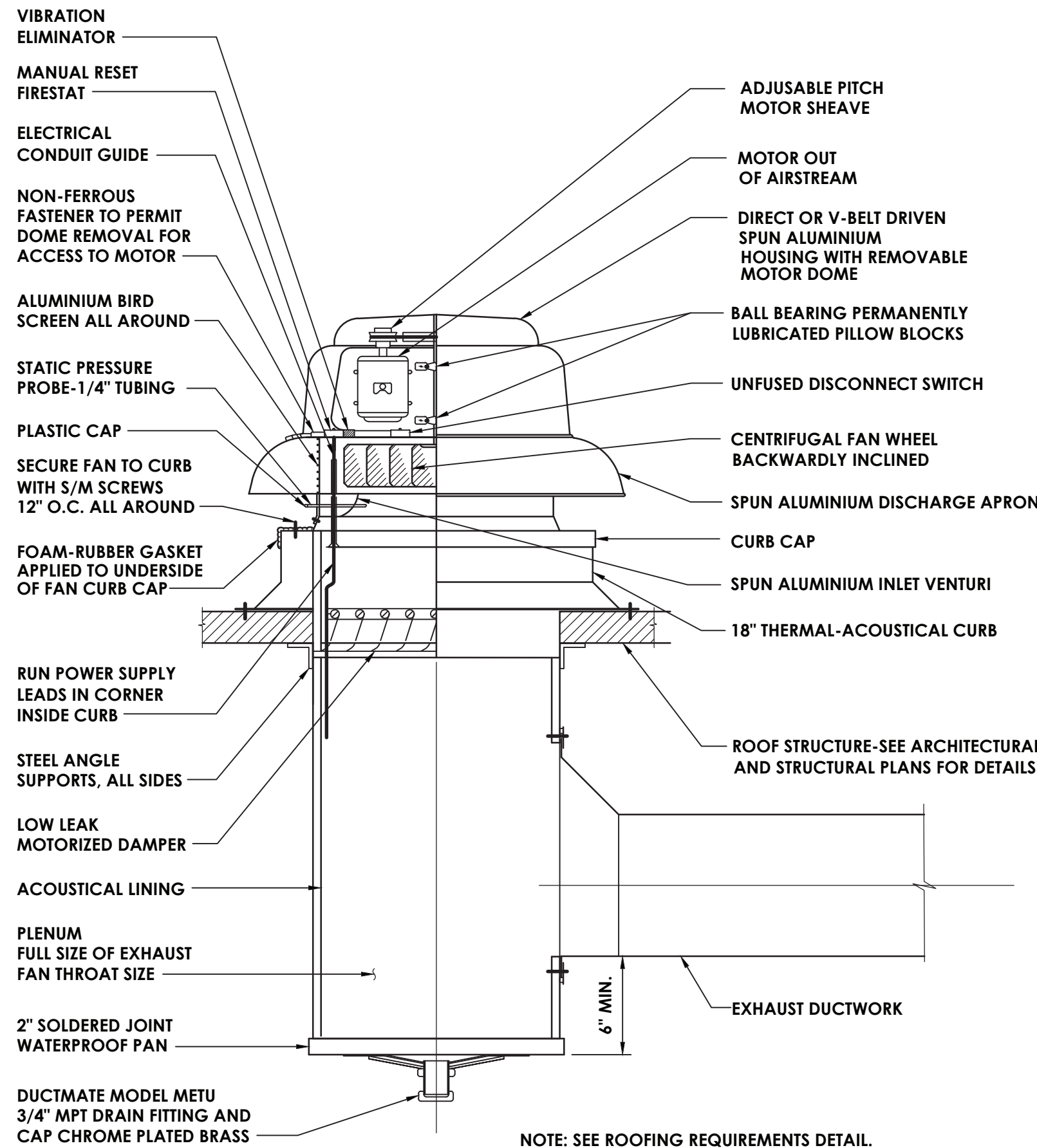
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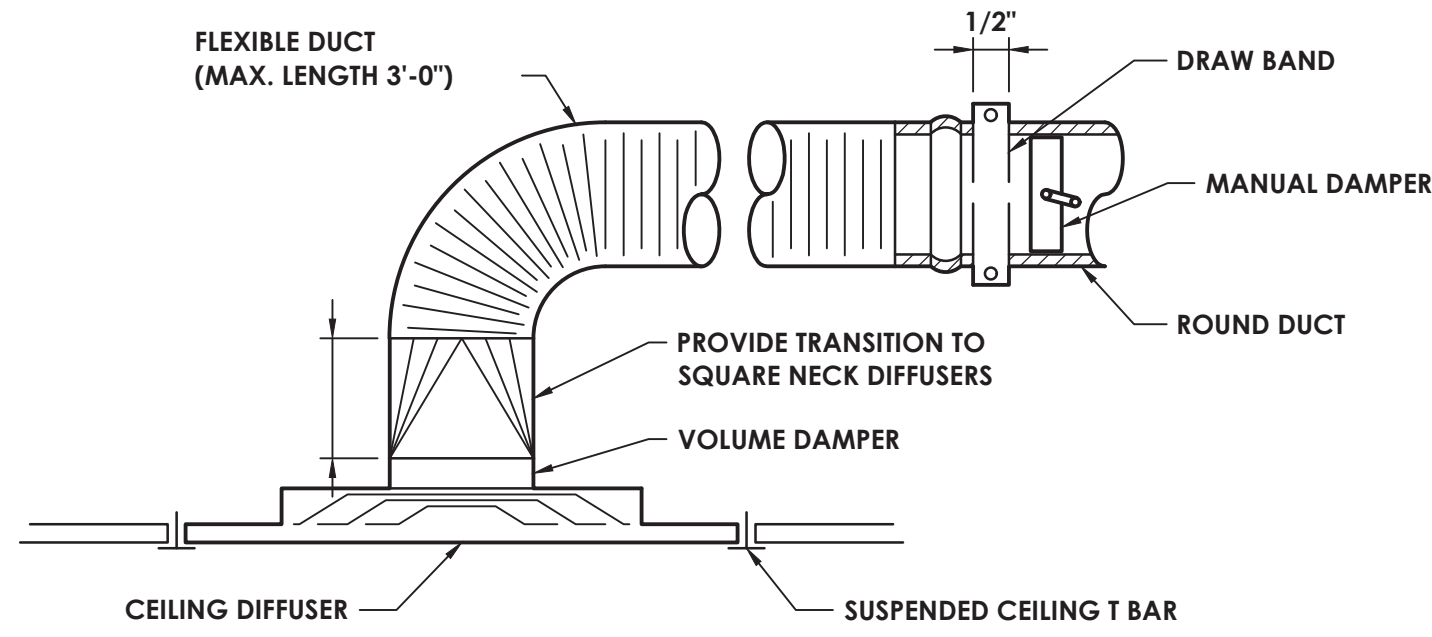
1 INDOOR UNIT SUPPORT INSTALLATION DETAIL  
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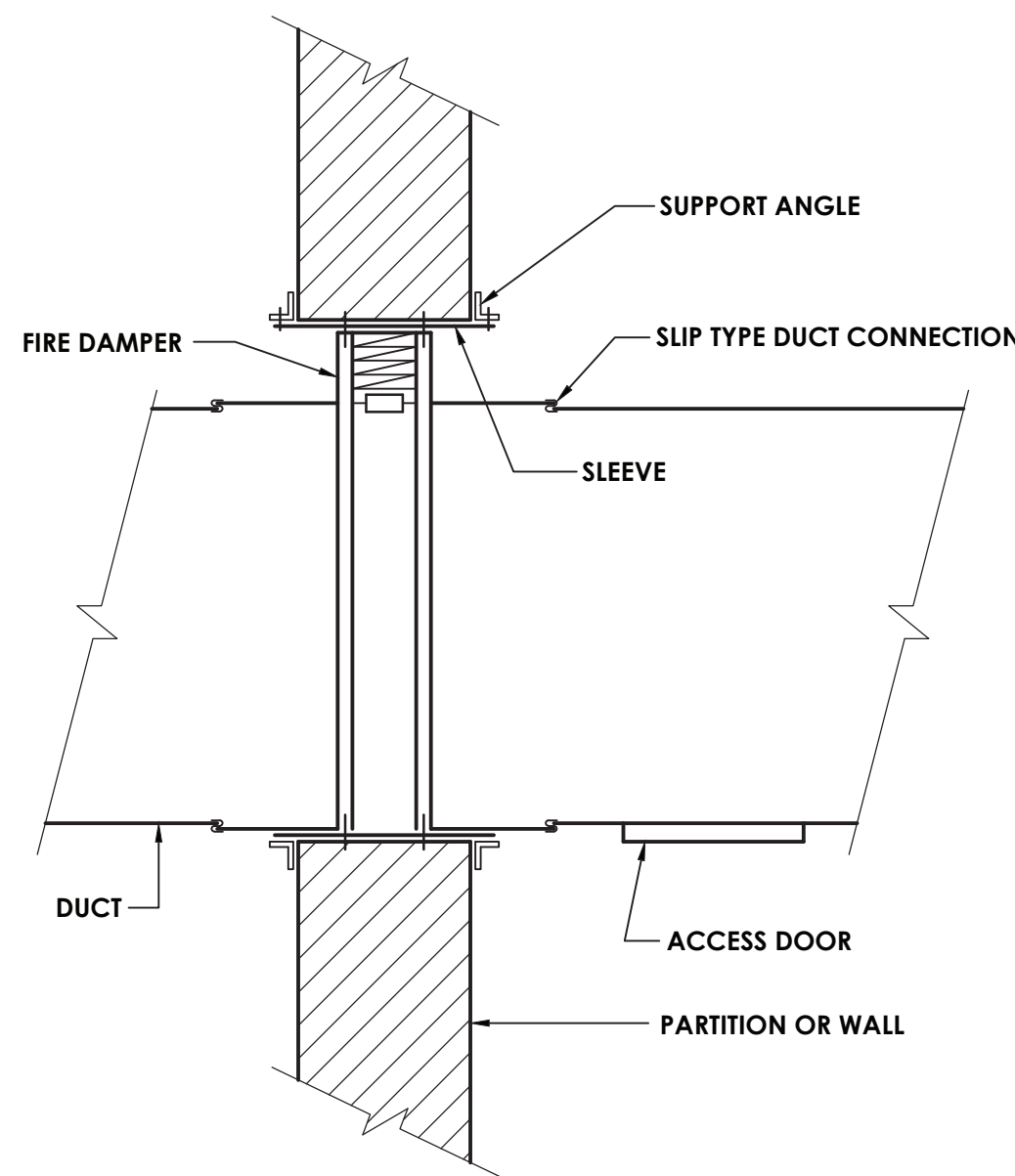
4 BRANCH TAKE-OFF DETAIL  
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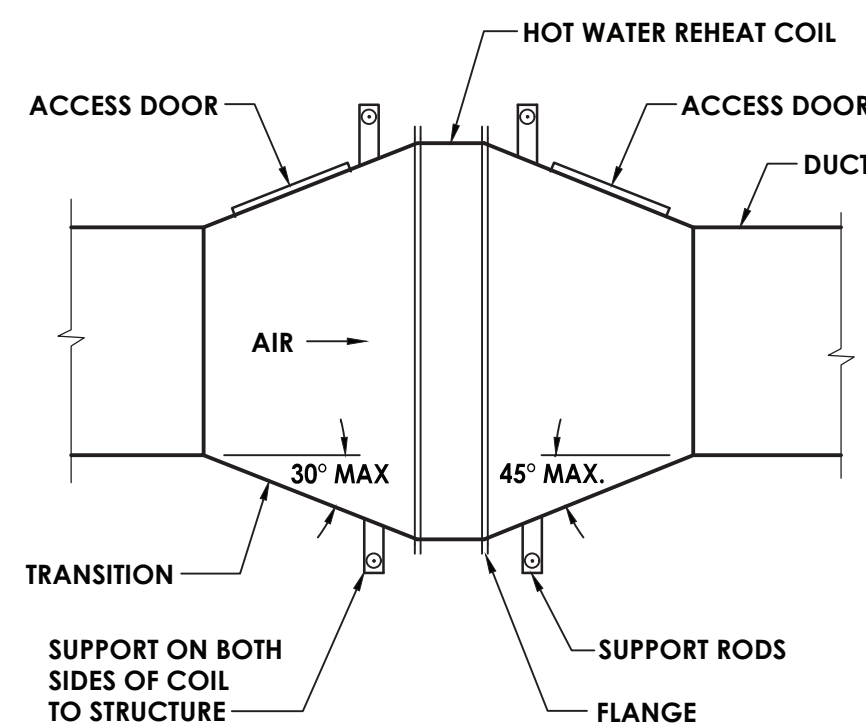
7 EXHAUST FAN DETAIL  
H800 NOT TO SCALE



2 DIFFUSER DETAIL  
H800 NOT TO SCALE

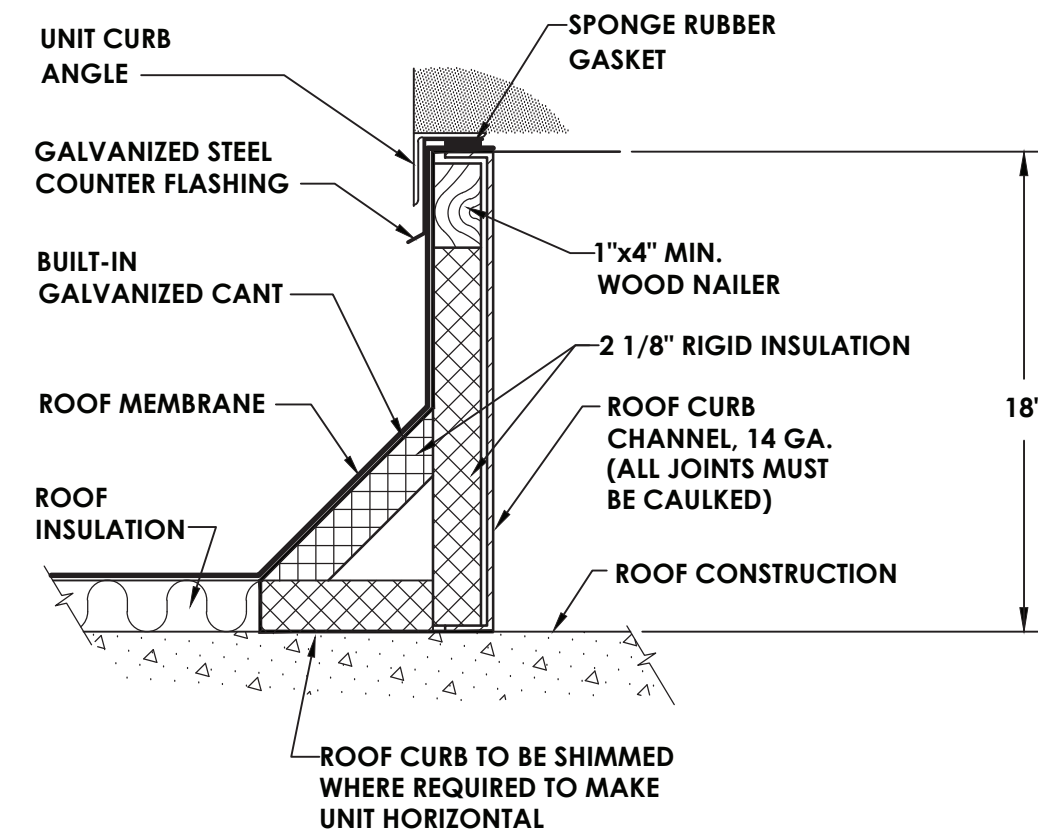


5 VERTICAL FIRE DAMPER DETAIL  
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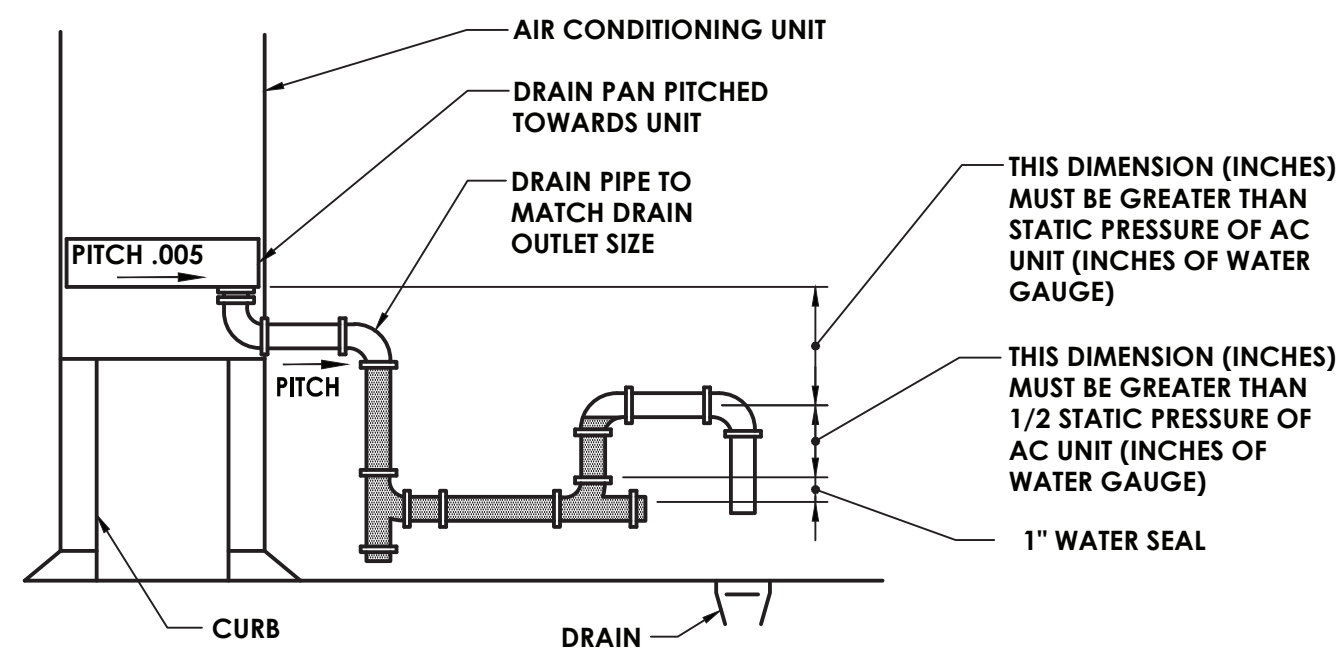


NOTE:  
SUPPORT DUCTWORK INDEPENDENTLY OF THE COIL.

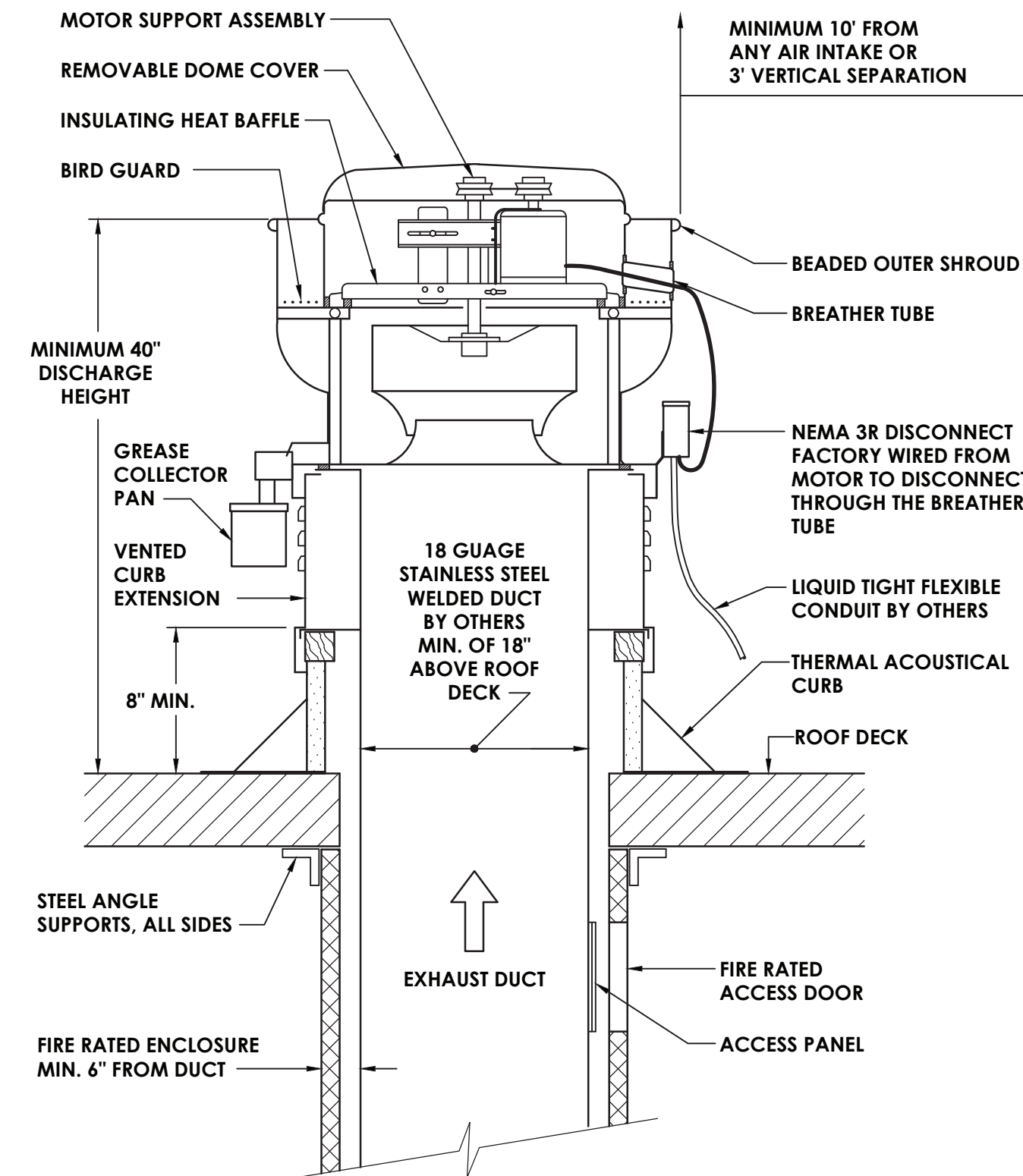
8 REHEAT COIL DETAIL  
H800 NOT TO SCALE



3 ROOF CURB DETAIL  
H800 NOT TO SCALE



6 AHU CONDENSATE TRAP DETAIL  
H800 NOT TO SCALE



NOTE: PROVIDE HINGE AND SAFETY CABLE FOR ACCESS TO WHEEL AND DUCTWORK. COMPLY WITH NFPA 96, FAN LISTED UNDER WL STD 762 (400°). PROVIDE FIRESTAT FAN TO BE SPARK RESISTANT CONSTRUCTION, AWCA "C".

9 UP-BLAST EXHAUST FAN DETAIL - GREASE DUCT  
H800 NOT TO SCALE



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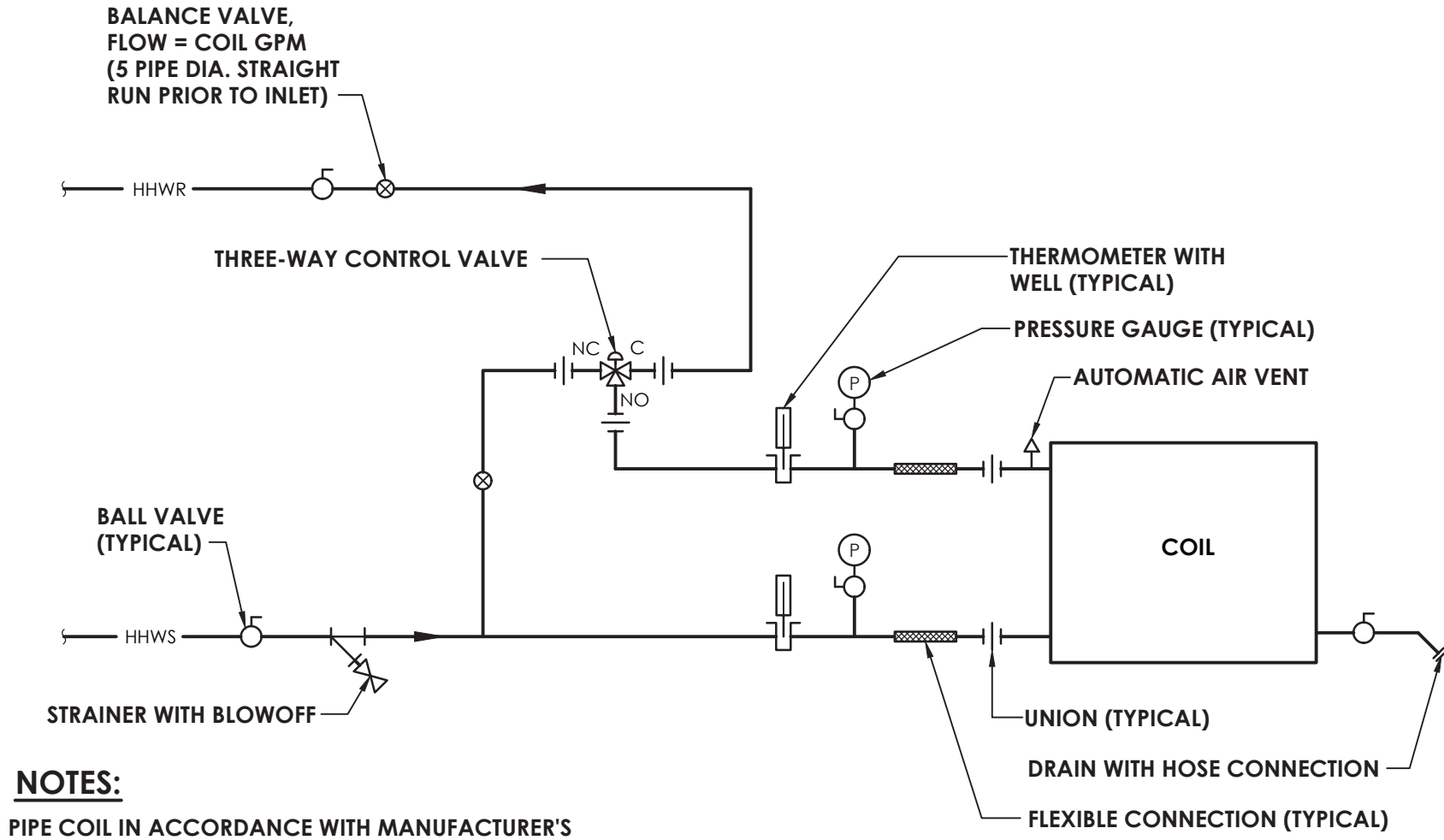


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SHEET TITLE HVAC DETAILS		

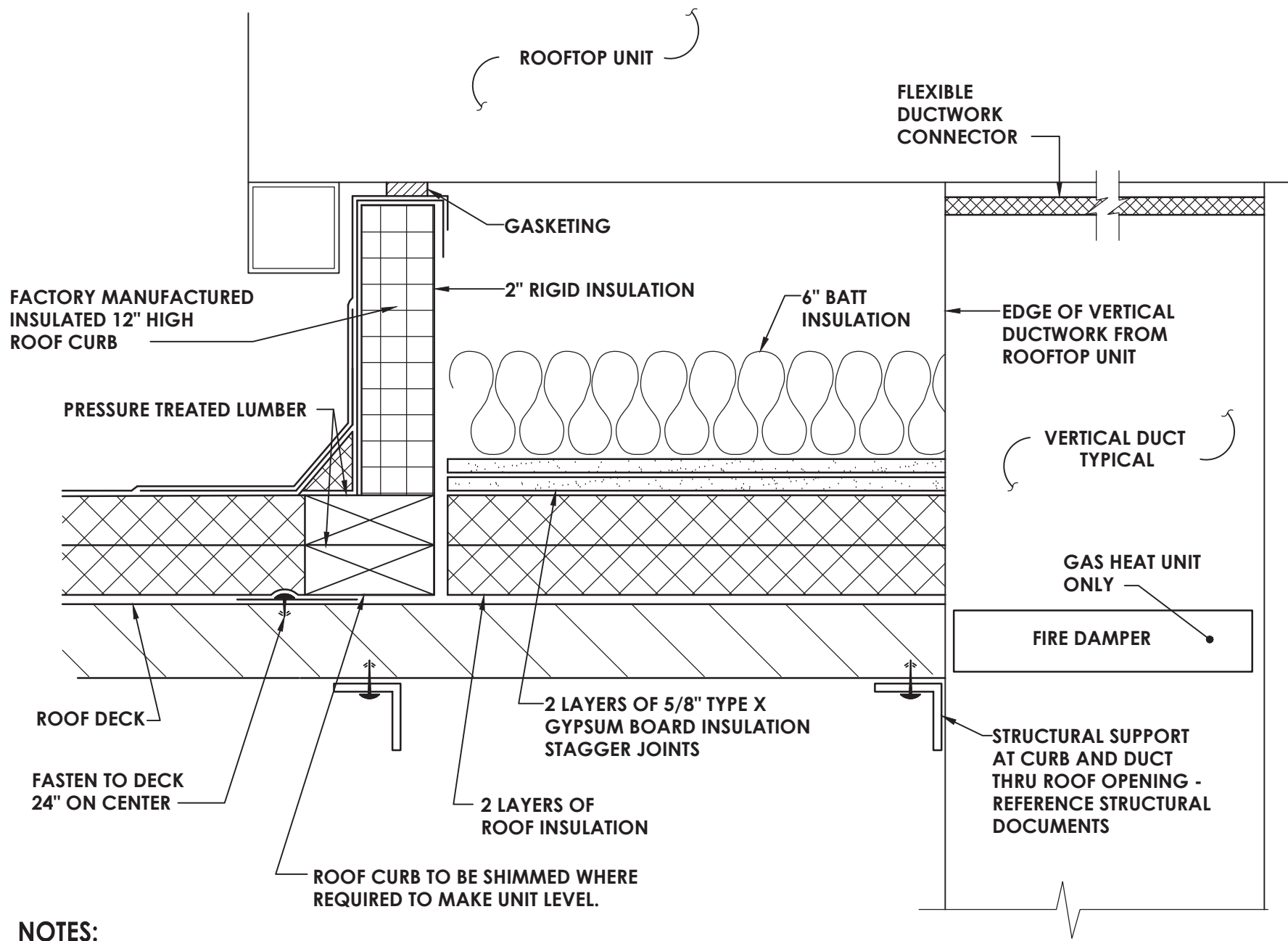
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H800  
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**NOTES:**  
PIPE COIL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PIPING ARRANGEMENT SHALL ALLOW FOR REMOVAL OF COIL WITHOUT REMOVAL OF PIPING BEYOND UNIONS.

1  
H801  
NOT TO SCALE  
**DUCTWORK COIL PIPING SCHEMATIC**



**NOTES:**  
1) ALL ROOF TOP HVAC UNITS REQUIRED TO HAVE CURB AND CURB INTERIOR AS SHOWN.

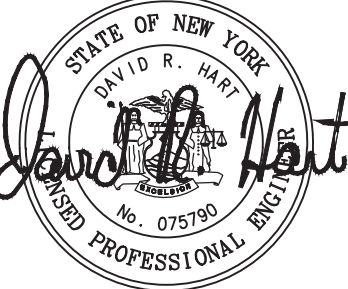
2  
H801  
NOT TO SCALE  
**ROOFTOP UNIT - ROOF CURB DETAIL**



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AIR HANDLING UNIT SCHEDULE																																						
MARK	LOCATION	NOM. TONS	FANS										DX COIL										ELECTRICAL DATA		ENERGY RECOVERY WHEEL								REHEAT COIL		UNIT WEIGHT (LBS)	TYPICAL UNIT MFG & MODEL NO.	REMARKS	
			SUPPLY FAN					EXHAUST FAN					COOLING				HEATING								SUMMER				WINTER									
			CFM	OA CFM	ESP (IN. W.C.)	FAN RPM	BHP / HP	CFM	OA CFM	ESP (IN. W.C.)	FAN RPM	BHP / HP	TOTAL MBH	SENS MBH	EAT°F		LAT°F		AMB °F	TOTAL MBH	EAT°F		LAT°F		AMB °F	VOLT/Ø	MCA	OA (DB/WB)	RA (DW/WB)	EA (DB/WB)	SA (DB/WB)	OA (DB/WB)	RA (DW/WB)	EA (DB/WB)				SA (DB/WB)
															DB	WB	DB	WB			DB	WB	DB	WB														
RTU-1	CAFETERIA ROOF	16	7500	2150	1.5	1510	6.267/5	7500	1700	1.5	1619	3.777/5	241.6	201.6	77.3	63.6	52.7	52.6	95	161	60.5	80.1	2	208/3	121.2	94/73	75/62.5	83/66.3	77.3/63.6	2/1	68/51.5	41.8/37.3	60.5/47.8	140.7	70	4153	DAIKIN DPS020A	1.2
RTU-2	CAFETERIA ROOF	16	7500	2150	1.5	1510	6.267/5	7500	1700	1.5	1619	3.777/5	241.6	201.6	77.3	63.6	52.7	52.6	95	161	60.5	80.1	2	208/3	121.2	94/73	75/62.5	83/66.3	77.3/63.6	2/1	68/51.5	41.8/37.3	60.5/47.8	140.7	70	4153	DAIKIN DPS020A	1.2
REMARKS:			1. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH																																			
			2. INSTALL HOT GAS REHEAT LINE PER MANUFACTURER'S RECOMMENDATIONS																																			
			3. PROVIDE BACNET CONTROLLER AND CONNECT TO EXISTING BMS																																			

AIR HANDLING UNIT SCHEDULE																											
MARK	LOCATION	NOM. TONS	SUPPLY FAN						COOLING COIL							HOT WATER COIL						SELECTED ELECTRICAL DATA	UNIT WEIGHT (LBS)	TYPICAL UNIT MFG & MODEL NO.	REMARKS		
			CFM	OA CFM	ESP (IN. W.C.)	TSP W.C.) (IN	FAN RPM	BHP / HP	TOTAL MBH	SENS MBH	EAT°F		LAT°F		AMB °F	TOTAL MBH	GPM	EAT°F		LAT°F		EWT°F				LWT°F	VOLT/Ø
											DB	WB	DB	WB				DB	WB								
AHU-1	MECHANICAL ROOM	10	4000	800	1	2.89	3650	2.98/5	139	99	78	65	55.3	53.4	92	74.5	7	63	80	180	158.7	200/3	1552	DAIKIN CAH009GDGM	1		
REMARKS:	1. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH 2. PROVIDE BACNET CONTROLLER AND CONNECT TO EXISTING BMS																										

MAKE UP AIR UNIT SCHEDULE																						
MARK	NOM. CFM	FAN DATA				ELECTRICAL DATA			HEATING DATA					COOLING (DX)						WT (LBS)	TYPICAL UNIT MFG & MODEL NO.	REMARKS:
		NOM. RPM	EXT SP (IN. WC)	TOTAL SP (IN. WC)	HP	VOLT	PHASE	HZ	TEMP (°F)		COIL TYPE	TEMP RISE (°F)	CAPACITY (KW)	TEMP (°F)		CAPACITY (MBH)		EER				
									ENT	LVG				ENT (DB/WB)	LVG (DB/WB)	TOTAL	SENSIBLE					
MUA-1	1136	2203	0.5	0.739	0.5	208	3	60	-2	66.1	ELECTRIC	68.1	24.5	88.3/74.2	62.9/60	57.8	31.8	13.3	2072	GREENHECK MSX-P109-H12-MF-5	1, 2	
REMARKS:	1. PROVIDE FACTORY MOUNTED DISCONNECT.																					
	2. PROVIDE MAGNETIC STARTER FOR FANS																					

FIN TUBE SCHEDULE															
MARK	FIN SIZE (W X H)	FINS PER FT.	FIN TYPE	TIERS	FIN LENGTH (FT)	HOT WATER				ENCLOSURE				TYPICAL UNIT MFG & MODEL NO.	REMARKS
						FLOW (GPM)	BTUH	EWI (F°)	LWT (F°)	HEIGHT (IN.)	DEPTH (IN.)	MOUNT HEIGHT (IN.)	STYLE		
ME-FT-1	3-5/8X4-1/4	32	CU/AL	1	20	0.5	16200	180	160	14	5 5/16	4	SLOPE OUTLET	STERLING JVB-ARS14 C3/4-433	1, 2
REMARKS:	1. PROVIDE ACCESS DOOR IN ENCLOSURE AS NECESSARY FOR ACCESS TO SHUTOFF VALVE, CONTROL VALVE, AND ACCESSORIES. 2. ENCLOSURE COLOR TO BE SELECTED BY ARCHITECT.														

FAN SCHEDULE													
MARK	LOCATION	SERVICE	TYPE	ROOF OPENING (IN.)	CFM	SP IN W.G.	DIAMETER (IN.)	RPM	ELECTRICAL DATA			TYPICAL UNIT MFG & MODEL NO.	REMARKS
									BHP / HP	VOLTS	PHASE		
KEF-1	CAFETERIA ROOF	KITCHEN HOOD	UPBLAST	18.5X18.5	1418	1.25	29	1416					
EF-1	CAFETERIA ROOF	CAFETERIA BATHROOM	DOWNBLAST	10.5X10.5	100	0.25	20	1175	.01/06	115	1	GREENHECK CUE-070-VG	1, 2
EF-2	CAFETERIA ROOF	KITCHEN	UPBLAST	18.5X18.5	800	0.35	29	783	.09/25	115	1	GREENHECK CUE-141-VG	1, 3
EF-3	LIBRARY ROOF	LIBRARY	DOWNBLAST	14.5X14.5	800	0.3	28	826	.06/25	115	1	GREENHECK G-133-VG	1,2
EF-4	LIBRARY ROOF	LIBRARY	DOWNBLAST	26.5X26.5	3200	0.4	43	565	.43/ 5	115	1	GREENHECK GB-220	1,2
REMARKS:	1. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH												
	2. PROVIDE BACKDRAFT DAMPER												
	3. PROVIDE GREASE TRAP												
	4. PROVIDE MAGNETIC STARTER												

AIR COOLED CONDENSER UNIT SCHEDULE													
MARK	LOCATION	REFRIGERANT	SERVES	NOMINAL TONS	REFRIGERANT CIRCUITS	SST °F	ELECTRICAL DATA			OPERATING WEIGHT (LBS.)	EER	TYPICAL UNIT MFG & MODEL NO.	REMARKS:
							COMPRESSOR	VOLT/Ø	MCA				
							QTY						
ACCU-1	OUTSIDE MECHANICAL ROOM	R-410A	AHU-1	10	1	44	2	208/3	46.4	345	11.2	DAIKIN DX11TA1203	*
REMARKS:	1.												

HOT WATER COIL SCHEDULE														
MARK	SERVICE	AIR DATA					WATER DATA				ROWS	TYPICAL UNIT MFG & MODEL NO.	REMARKS:	
		CFM	TEMP (°F)		MAX APD (IN. WC)	MIN. MBH	CFM	TEMP (°F)		MAX APD (IN. WC)				
			ENT	LVG				ENT	LVG					
HC-1	RTU-1	7500	48	89.1	0.51	337.2	7500	180	160.4	2.9	42X36	2	DAIKIN 5WH1002A	
HC-2	RTU-2	7500	48	89.1	0.51	337.2	7500	180	160.4	2.9	42X36	2	DAIKIN 5WH1002A	
REMARKS:	1.													

LOUVER SCHEDULE								
MARK	LOCATION	SERVICE	FREE AREA (SQ. FT.)	CFM	SP (IN. WG)	SIZE W&H (IN.)	TYPICAL UNIT MFG. & MODEL NO.	REMARKS:
L-1	MECHANICAL ROOM WALL	AHU-1	6.4	4000	0.05	56X36	GREENHECK EAC-601	
REMARKS:	1.							

REGISTERS, GRILLES, AND DIFFUSERS							
MARK	APPLICATION	MATERIAL	TYPE	FINISH	SIZE	DESIGN EQUIP.	REMARKS
D-1	SUPPLY	STEEL	LAY IN	WHITE	24X24	PRICE SCD	
D-2	SUPPLY	STEEL	LAY IN	WHITE	12X12	PRICE SCD	
G-1	RETURN/EA	STEEL	LAY IN	WHITE	24X24	PRICE PDDR	
G-2	RETURN/EA	STEEL	LAY IN	WHITE	24X24	PRICE PFRF	
G-3	RETURN/EA	STEEL	LAY IN	WHITE	12X12	PRICE PDDR	
REMARKS: 1.							

OUTSIDE AIR CALCULATIONS									
			Occupant	TOTAL					
		TOTAL	FOR	OCCUPANCY	O.A. PER	O.A. PER			
Space	Occupancy Classification	SQ. FT.	1000sq.ft.	VENTILATION	PERSON	SQ. FT.	Vbz		Voz=Vot
				(CFM)	(CFM)	(CFM)	(CFM)	Ez	(CFM)
LIBRARY 307	LIBRARY	3500	10	35	5	0.12	595	0.8	744
LIBRARY OFFICE	OFFICE SPACE	120	5	3	5	0.06	22	0.8	28
LIBRARY READING ROOM	CONFERENCE ROOM	170	50	9	5	0.06	55	0.8	69
CAFETERIA	CAFETERIA, FAST FOOD	4000	100	400	7.5	0.18	3720	0.8	4650
KITCHEN	KITCHEN	1075							132.5



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