

DRAWING INDEX

GENERAL

T1 TITLE SHEET

MECHANICAL

- M1 FIRST FLOOR DEMOLITION PLAN
- M2 FIRST FLOOR AND ROOF RENOVATION PLANS
- M3 DETAILS, NOTES, SCHEDULES, AND LEGEND

MTC ACCELERATOR BUILDING HVAC UNIT REPLACEMENT - NORTHEAST CAMPUS

PROJECT NUMBER: H59-N171-FW

151 POWELL ROAD
COLUMBIA, SC 29203

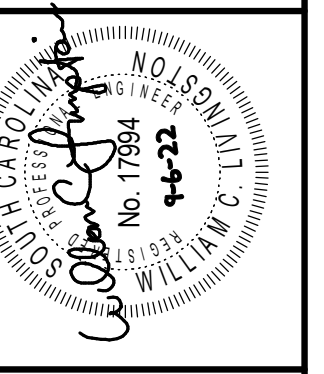
LOCATION MAP



AREA MAP



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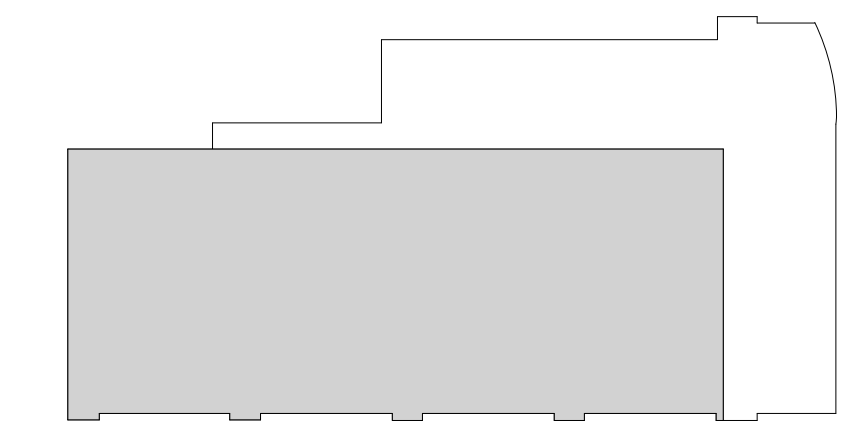
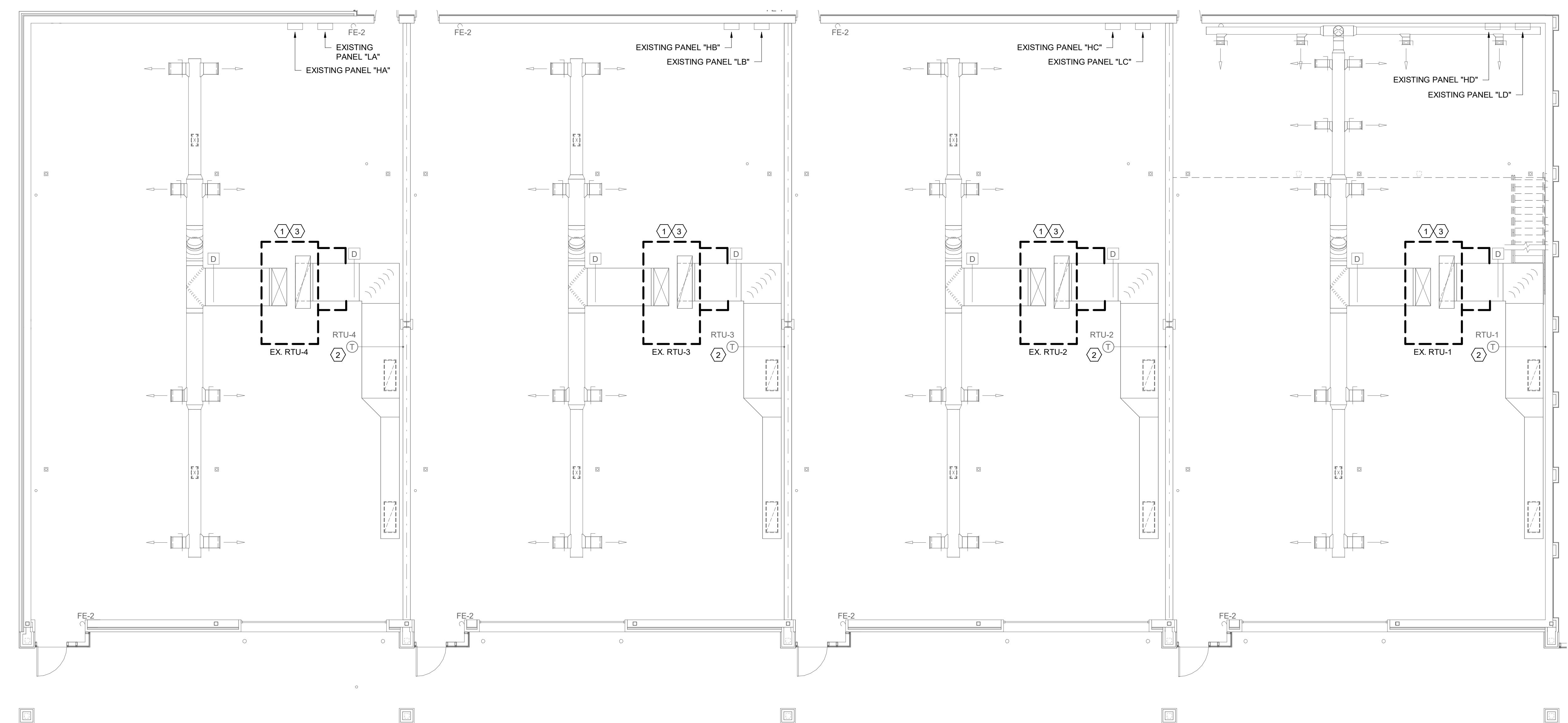
PROJECT TITLE:
MTC ACCELERATOR BUILDING HVAC UNIT
REPLACEMENT - NORTHEAST CAMPUS
H59-N171-FW
MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS
151 POWELL RD, COLUMBIA, SC 29203

PROJECT NO.	DATE	DESCRIPTION	DRAWN BY	DATE	CHECKED BY	DATE
22345	09/06/22		JKB		WCL	

SHEET TITLE:
TITLE SHEET
SHEET:
T1
SHEET IN SET:
OF

DEMOLITION NOTES

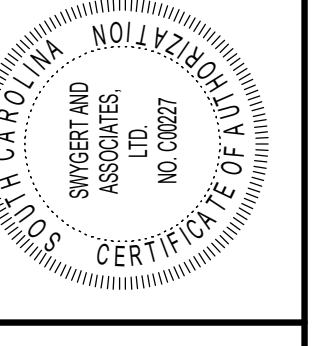
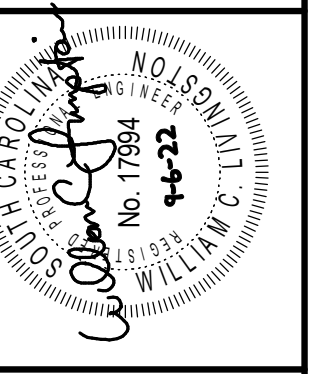
- ① REMOVE EXISTING ROOFTOP UNIT COMPLETE, INCLUDING CONTROLS. EXISTING ROOF CURB TO REMAIN. EXISTING ELECTRICAL CIRCUIT AND FEEDER WIRES TO REMAIN.
- ② REMOVE AND REPLACE EXISTING THERMOSTAT AND CONTROL WIRING.
- ③ DISCONNECT EXISTING LIGHTNING PROTECTION CABLES FROM UNITS. LIGHTNING PROTECTION SYSTEM TO REMAIN.



1 FIRST FLOOR DEMOLITION PLAN
M1 1/8" = 1'-0"

KEY PLAN

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PROJECT TITLE: **MTC ACCELERATOR BUILDING HVAC UNIT REPLACEMENT - NORTHEAST CAMPUS H59-N171-FW**
MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS
151 POWELL RD. COLUMBIA, SC 29203

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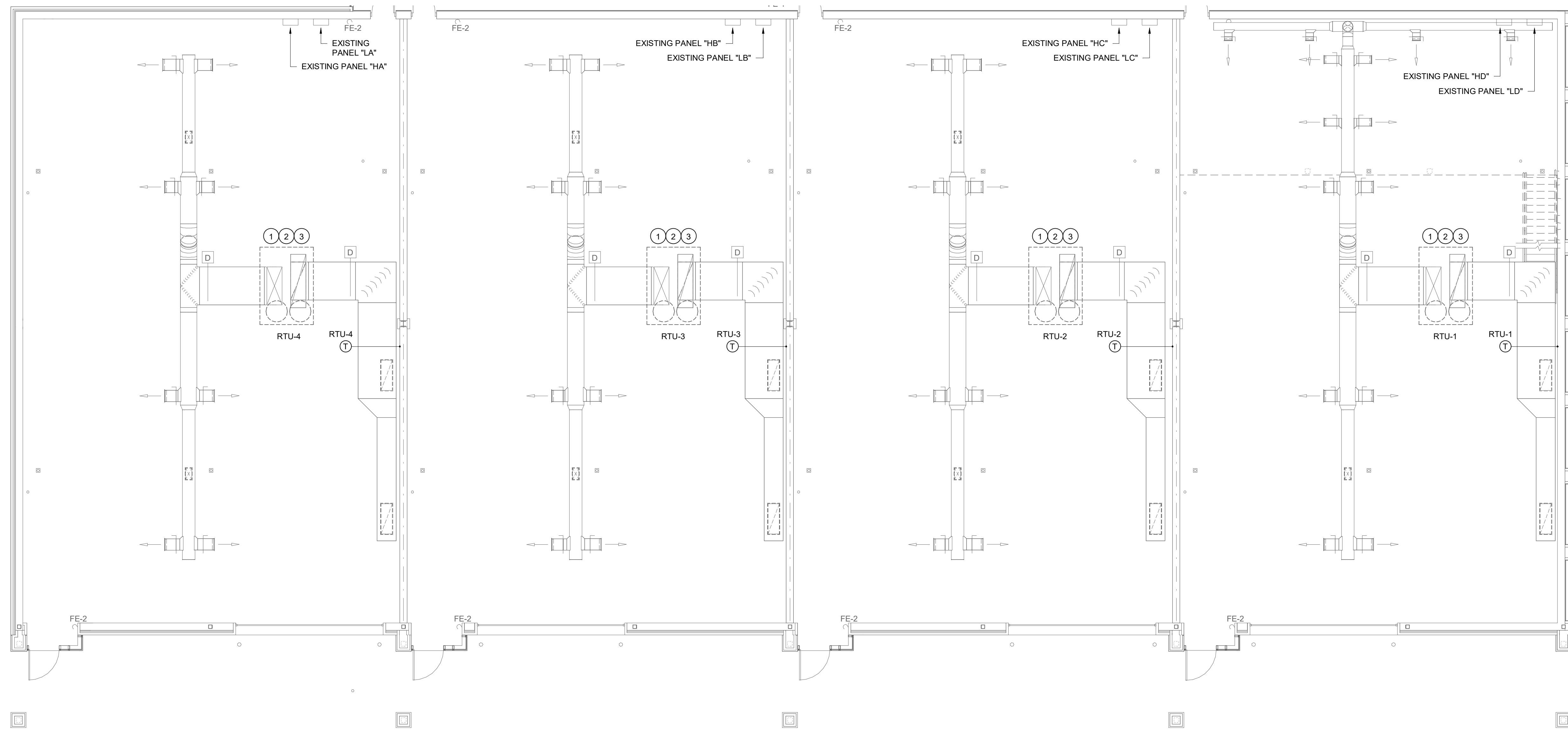
SHEET TITLE: **FIRST FLOOR DEMOLITION PLAN**

SHEET: **M1**

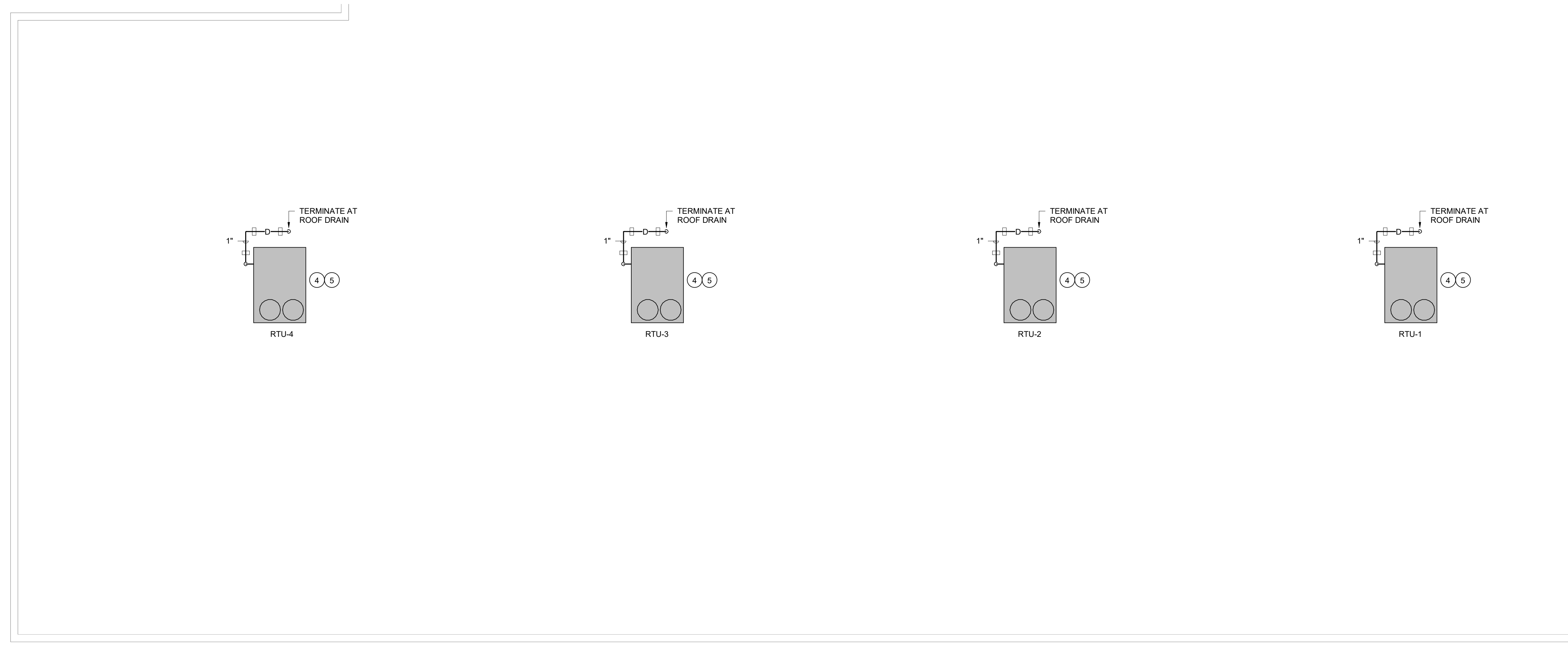
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NOTES TO SHEET

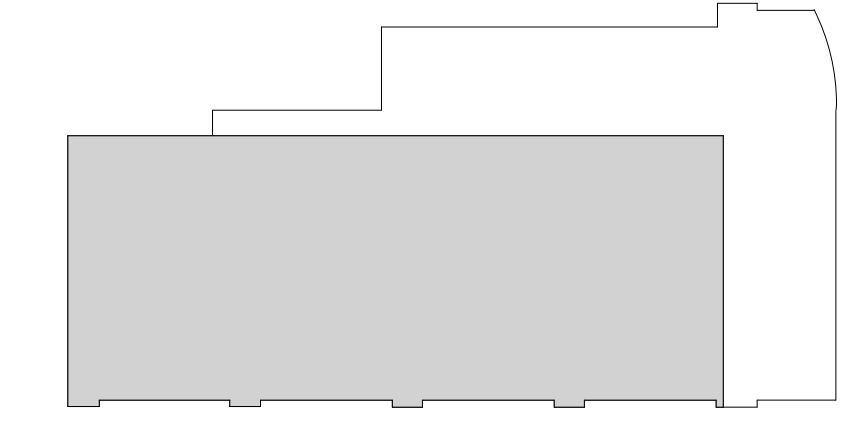
- 1 PROVIDE NEW UNIT WITH ADAPTER CURB PER DETAIL.
- 2 INSTALL TWO BI-POLAR IONIZATION UNITS INSIDE RTU SUPPLY FAN SECTION DOWNSTREAM OF FILTERS AND NEAR THE FAN INLET. PER MANUFACTURERS INSTRUCTIONS. PROVIDE 2" MINIMUM CLEARANCE AROUND EMITTERS. POWER SHALL BE WIRED FROM LOAD SIDE OF THE 24V CONTROL TRANSFORMER.
- 3 EXISTING DUCT DETECTORS TO REMAIN IN SERVICE AND SHALL BE WIRED TO SHUTDOWN UNITS.
- 4 EXISTING POWER WIRING SHALL REMAIN. SPLICE AND EXTEND FEEDERS AS REQUIRED TO CONNECT TO NEW RTU POWER TERMINALS AND NEW GCFI CONVENIENCE RECEPTACLE. SEE POWER SERVICE FOR DETAILS.
- 5 EXISTING LIGHTNING PROTECTION SYSTEM TO REMAIN. CONNECT NEW UNIT TO EXISTING SYSTEM BY A CERTIFIED AND LICENSED LIGHTNING PROTECTION CONTRACTOR AND RE-CERTIFY MASTER LABEL CERTIFICATE. PROVIDE LIGHTNING RODS AND ADDITIONAL GROUNDING CABLE AS REQUIRED.



1 FIRST FLOOR RENOVATION PLAN
M2 1/8" = 1'-0"



2 ROOF RENOVATION PLAN
M2 1/8" = 1'-0"



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MIDLANDS TECHNICAL COLLEGE - NORTHEAST CAMPUS 151 POWELL RD. COLUMBIA, SC 29203

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22345	09/06/22		JKB	WCL
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SHEET TITLE: FIRST FLOOR AND ROOF RENOVATION PLANS
SHEET: M2
SHEET IN SET: OF

ROOFTOP AIR CONDITIONING UNIT SCHEDULE									
TAG	TRANE MODEL NO.	SUPPLY FAN			OUTDOOR AIR-CFM	COOLING CAP. MBH @ 80/67/95		EER	REMARKS
		AIRFLOW CFM	ESP IN. WG	FAN H.P.		TOTAL/SENS.	HEAT CAP. KW		
RTU-1	TSJ300	8000	0.4	3.0	1200	273.1/194.7	54	10.0	1,2,3,4,5,6
RTU-2	TSJ300	8000	0.4	3.0	1200	273.1/194.7	54	10.0	1,2,3,4,5,6
RTU-3	TSJ300	8000	0.4	3.0	1200	273.1/194.7	54	10.0	1,2,3,4,5,6
RTU-4	TSJ300	8000	0.4	3.0	1200	273.1/194.7	54	10.0	1,2,3,4,5,6

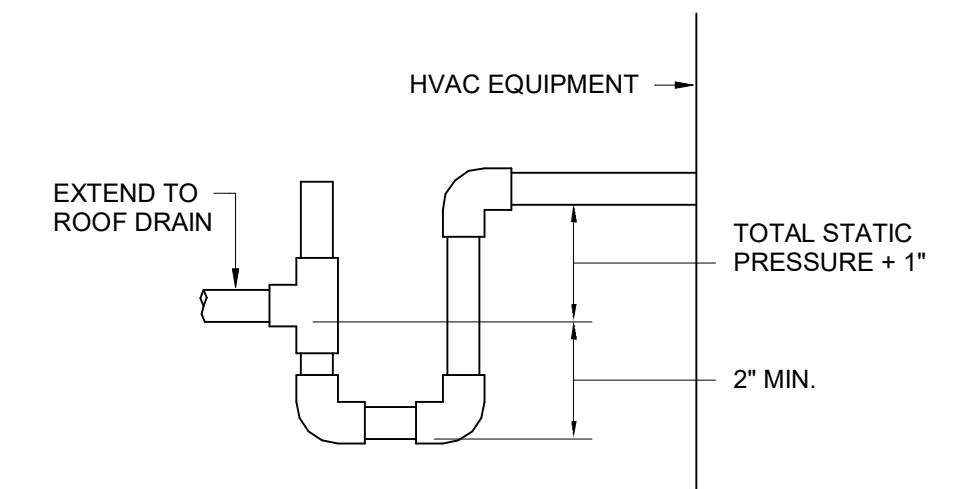
1. PROVIDE INTERNAL VIBRATION ISOLATION, ECONOMIZER WITH POWERED EXHAUST, VARIABLE FREQUENCY DRIVE ON SUPPLY FAN, HOT GAS REHEAT FOR HUMIDITY CONTROL, FACTORY MOUNTED CIRCUIT BREAKER, AND NON-POWERED 120V GFCI CONVENIENCE RECEPTACLE.
2. PROVIDE MICROPROCESSOR CONTROLS WITH BACNET INTERFACE TO OPERATE THE UNIT WHEN INSTRUCTED BY THE EMS.
3. PROVIDE STAINLESS STEEL CONDENSATE DRAIN PAN.
4. WIRE EXISTING DUCT SMOKE DETECTORS IN SUPPLY AND RETURN TO SHUT DOWN THE UNIT.
5. PROVIDE TWO BI-POLAR IONIZATION UNITS EQUAL TO GLOBAL PLASMA SOLUTIONS MODEL GPS-FC48-AC.
6. PROVIDE STARTUP BY A FACTORY TRAINED TECHNICIAN FROM THE UNIT MANUFACTURER.

HVAC EQUIPMENT POWER SCHEDULE				
TAG	VOLTS	EXISTING BREAKER	CIRCUIT	EXISTING WIRE
RTU-1	480V 3P	150/3	HD-37, 39, 41	3#1/0, 1#6G, 2"
RTU-2	480V 3P	150/3	HC-37, 39, 41	3#1/0, 1#6G, 2"
RTU-3	480V 3P	150/3	HB-37, 39, 41	3#1/0, 1#6G, 2"
RTU-4	480V 3P	150/3	HA-37, 39, 41	3#1/0, 1#6G, 2"
RTU-1 CONV. RECEPT.	120V 1P	20/1	LD-33	2#12, 1#12G, 1/2"
RTU-2 CONV. RECEPT.	120V 1P	20/1	LC-33	2#12, 1#12G, 1/2"
RTU-3 CONV. RECEPT.	120V 1P	20/1	LB-33	2#12, 1#12G, 1/2"
RTU-4 CONV. RECEPT.	120V 1P	20/1	LA-33	2#12, 1#12G, 1/2"

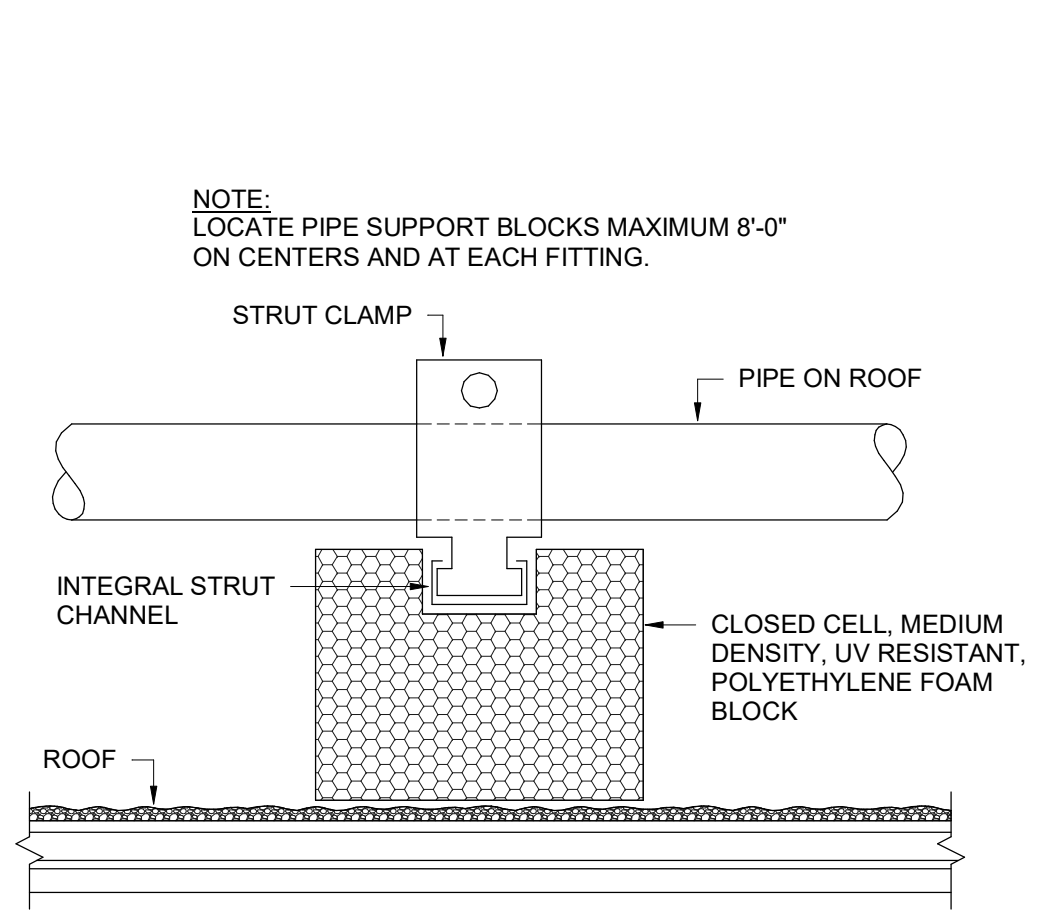
DESIGN CONDITIONS		
SEASON	OUTSIDE	INSIDE
SUMMER	97° FDB / 78° FWB	75° FDB / 50% - 60% RH
WINTER	22° FDB	70° FDB

- ### GENERAL NOTES
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE, 2009 INTERNATIONAL ENERGY CONSERVATION CODE, AND 2008 SMACNA HVAC DUCT CONSTRUCTION STANDARD. ALL LOCAL CODES OR REQUIREMENTS STILL APPLY.
 - VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF INSTALLATION AND REFLECT THIS IN HIS BIDDING.
 - DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.
 - ALL MECHANICAL ITEMS EXTENDING THROUGH ROOF SHALL BE FLASHED AND COUNTERFLASHED. PROVIDE PIPE PORTALS AS REQUIRED FOR CONDUIT PENETRATIONS THROUGH THE ROOF.
 - ALL PIPING IS SHOWN DIAGRAMMATIC. HOWEVER, THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED FITTINGS, PIPING AND INSULATION FOR ALL OFFSETS AND/OR CHANGES IN ELEVATION.
 - EXTEND ALL DRAIN LINES TO NEAREST ROOF DRAIN OR AS INDICATED - SO ROUTED AS TO AVOID INTERFERENCE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED PER STATIC PRESSURE REQUIREMENTS.
 - MINIMUM PIPE SIZE SHALL BE 3/4-INCH UNLESS INDICATED OTHERWISE.
 - ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE PROVIDED TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
 - MOTORIZED OUTSIDE AIR DAMPERS SHALL BE ABLE TO MODULATE AND ADJUST THE OPEN POSITION TO BALANCE THE OUTDOOR AIR TO THE SPECIFIED CFM.
 - PROVIDE FOR ACCESS TO ALL EQUIPMENT REQUIRING CLEANING OR ADJUSTMENT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE FULL SPACE FOR COIL REMOVAL AND REPLACEMENT FOR ALL HOT WATER AND CHILLED WATER AIR HANDLING UNITS.
 - THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR INSTALLATION OF ALL MECHANICAL ITEMS.
 - THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING AND INSTALL ALL POWER WIRING. ALL WIRING SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. CONTROL WIRING SHALL BE CONCEALED WITHIN WALL AND ALL CONTROL WIRING SHALL BE ROUTED IN EMT CONDUIT INDOORS AND RIGID CONDUIT OUTDOORS. EXISTING DUCT DETECTORS SHALL BE WIRED FOR UNIT SHUTDOWN. CONTROL WIRING FOR UNIT SHUTDOWN AND SHALL BE BY DIVISION 23.
 - LOCATE ALL SPACE CONTROL INSTRUMENTS 4'-0" ABOVE FINISHED FLOOR. COORDINATE LOCATIONS WITH ARCHITECTURAL ELEVATIONS TO AVOID ITEMS INCLUDING BUT NOT LIMITED TO CUSTOM FINISHES, FIXED CASEWORK, FURNITURE, AND DOOR SWINGS. IN THE EVENT OF CONFLICTS IN THE FIELD, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE AE FOR FINAL APPROVAL OF LOCATION.
 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY DISMANTLING OF EQUIPMENT TO BE REMOVED. FREON SHALL BE RECLAIMED AND DISPOSED OF PER EPA REGULATIONS.
 - ITEMS REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.
 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING HVAC SYSTEMS FROM CONSTRUCTION DEBRIS, DUST AND DIRT FOR THE ENTIRE CONSTRUCTION DURATION. DUCT CLEANING AND UNIT COIL CLEANING SHALL BE PERFORMED AS REQUIRED. PROTECTION SHALL INCLUDE MERV 13 FILTER MEDIA OVER ALL RETURN GRILLES AND RETURN DUCT OPENINGS TO PROTECT DUCTS AND EQUIPMENT. CONTRACTOR MUST INSPECT ALL EXISTING UNITS WITH THE OWNER PRIOR TO START OF WORK AND AT THE COMPLETION OF WORK.

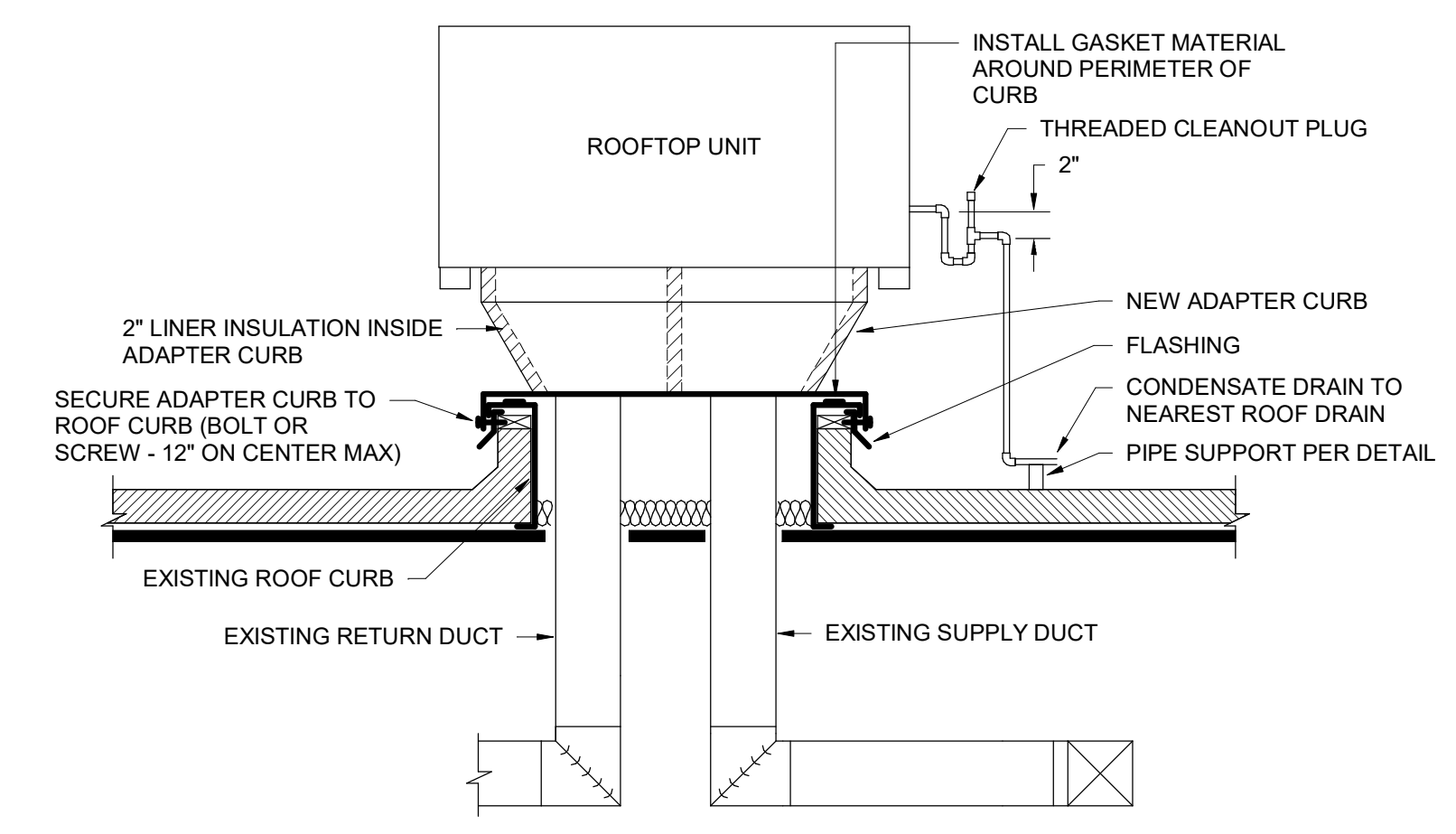
LEGEND	
SYMBOL	DESCRIPTION
Ⓣ	THERMOSTAT
Ⓛ	DUCT MOUNTED SMOKE DETECTOR
Ⓜ	RECTANGULAR SUPPLY DUCTWORK
Ⓜ	RETURN AND FRESH AIR DUCTWORK



CONDENSATE DRAIN DETAIL
NO SCALE



ROOFTOP PIPE SUPPORT DETAIL
NO SCALE



ROOFTOP UNIT DETAIL
NO SCALE

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DETAILS, NOTES, SCHEDULES, AND LEGEND

M3

SHEET IN SET: 0F