

MECHANICAL GENERAL NOTES

PART 1 GENERAL

- 1.1 SCOPE OF WORK: THESE DRAWINGS AND SPECIFICATIONS DESCRIBE THE SCOPE OF WORK REQUIRED FOR PROJECT MECHANICAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR COMPLETE, FULLY FUNCTIONING MECHANICAL SYSTEMS COMPLYING WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
1.2 CONTRACTOR: THE WORD "CONTRACTOR" AS USED HEREIN SHALL MEAN THE HVAC INSTALLER UNLESS OTHERWISE QUALIFIED.
1.3 DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING HVAC SYSTEMS.
1.4 CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, IN SO FAR AS THEY APPLY:
A. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS
B. LOCAL JURISDICTION REQUIREMENTS: INCLUDE ALL WORK TO COMPLY WITH CODES WHETHER INDICATED ON DRAWINGS OR NOT. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS AND CODES PRIOR TO BEGINNING WORK.
1.5 PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME. FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
1.6 MANUFACTURER'S RECOMMENDATIONS: INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
1.7 WORKMANSHIP: UTILIZE SKILLED MECHANICS TO OBTAIN A HIGH-QUALITY PROFESSIONAL FINISH INSTALLATION WHEN COMPLETED. WORK OF UNACCEPTABLE QUALITY SHALL BE REMOVED AND REWORKED AT NO ADDITIONAL COST. ENGINEER SHALL BE THE JUDGE OF WORKMANSHIP AND THEIR OPINION WILL BE FINAL. IN ADDITION, ANY EXISTING CONSTRUCTION DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO ADDITIONAL COST.
1.8 SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
1.9 PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE OWNER. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.
1.10 COORDINATION: COORDINATE MECHANICAL WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. LAYOUT MECHANICAL WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST ARRANGEMENT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
1.11 EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
1.12 LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
1.13 STORAGE SPACE: CONSULT WITH THE OWNER REGARDING JOB SITE STORAGE FOR MECHANICAL MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
1.14 CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS. USE OF NHC DUMPSTERS IS PROHIBITED.

1.15 ELECTRICAL WORK

- A. PERFORM ELECTRICAL WORK FOR MECHANICAL EQUIPMENT IN COMPLIANCE WITH PROJECT ELECTRICAL REQUIREMENTS. ELECTRICAL WORK FOR MECHANICAL EQUIPMENT NOT SPECIFICALLY INDICATED TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AS PART OF HIS WORK.
B. ELECTRICAL DRAWINGS ARE BASED ON ELECTRICAL CHARACTERISTICS INDICATED IN DRAWING MECHANICAL EQUIPMENT SCHEDULES. ANY EQUIPMENT FURNISHED BY THE MECHANICAL CONTRACTOR WHICH DOES NOT MATCH THE ELECTRICAL CHARACTERISTICS INDICATED IN THE DRAWING SCHEDULES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. ANY ADDITIONAL COSTS FOR ELECTRICAL INSTALLATION REQUIRED FOR EQUIPMENT NOT MATCHING THE DRAWING SCHEDULES SHALL BE BORNE BY THE MECHANICAL CONTRACTOR.
C. LOW VOLTAGE CONTROL WIRING FOR MECHANICAL SYSTEMS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR.
1.16 SUBMITTALS: SUBMIT ONE (1) ELECTRONIC COPY OF DESCRIPTIVE DATA FOR MECHANICAL EQUIPMENT AND MATERIALS INCLUDING GRILLES AND DAMPERS FOR APPROVAL BY THE ENGINEER. CLEARLY IDENTIFY ALL ITEMS.
1.17 OPERATING AND MAINTENANCE MANUALS: SUBMIT A, ELECTRONIC ONLY, COPY OF THE COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT, INCLUDING NECESSARY CUT SHEETS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL AS-BUILT DRAWINGS WITH BALANCED AIRFLOWS INDICATED, ETC. DELIVER TO THE OWNER PRIOR TO BUILDING OCCUPANCY. IN ADDITION, AFFIX A FOLDER WITH TYPICAL "OWNER'S INSTRUCTIONS" AND "MAINTENANCE INFORMATION" INSIDE THE MECHANICAL EQUIPMENT AS APPLICABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP LOG FOR THE EQUIPMENT.
1.18 RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO ENGINEER PRIOR TO FINAL INSPECTION.
1.19 WARRANTY: WARRANTY THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE WARRANTY PERIOD. PROVIDE 5 YEAR WARRANTY FOR ALL AIR CONDITIONING COMPRESSORS. FURNISH WARRANTY CERTIFICATES FOR ALL MECHANICAL EQUIPMENT. WARRANTY TO COMMENCE UPON DATE OF ACCEPTANCE OF WORK BY OWNER.
1.20 EXISTING BUILDINGS AND CONSTRUCTION
A. WORK UNDER THIS CONTRACT IS TO BE PERFORMED IN AN EXISTING BUILDING. BUILDING LAYOUT INDICATED IS DEVELOPED FROM EXISTING RECORD DOCUMENTS AND LIMITED FIELD VERIFICATION FOR THE PURPOSES OF DESCRIBING THE WORK. VERIFY ALL EXISTING CONDITIONS AND ADJUST WORK AS REQUIRED TO SUIT ACTUAL FIELD CONDITIONS.
B. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY REGULATIONS.
C. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM ENGINEER. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.
D. COORDINATE INSTALLATION OF NEW MECHANICAL SYSTEMS WITH EXISTING BUILDING SYSTEMS. ADJUST ARRANGEMENTS AS REQUIRED TO ACCOMMODATE INTERFERENCES.
E. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL, PROTECTION, AND PRESERVATION OF EXISTING CEILING GRID AND ASSOCIATED COMPONENTS AS REQUIRED. DURING DEMOLITION, CONTRACTOR MUST ENSURE PROPER SUPPORT AND SUSPENSION OF ALL ELEMENTS THAT ARE TO REMAIN. ALL ITEMS OUTSIDE THE REPLACEMENT SCOPE SHALL BE FULLY PROTECTED AND MAINTAINED THROUGHOUT THE DURATION OF WORK.

MECHANICAL DEMOLITION NOTES

- 1. THE MECHANICAL CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL EQUIPMENT, DUCTWORK, SUPPORTS, CONTROLS, ACCESSORIES, ETC., AND MECHANICAL ITEMS MADE OBSOLETE BY THESE ALTERATIONS AS SHOWN IN THE MECHANICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY MECHANICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE OWNER OR THE ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID.
2. SCHEDULING OF DEMOLITION - COORDINATE SCHEDULING OF MECHANICAL DEMOLITION WORK WITH THE OWNER AND GENERAL CONTRACTOR SO AS TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK.
3. EXISTING MECHANICAL SYSTEMS - VERIFY CONDITION OF EXISTING MECHANICAL SYSTEMS TO BE REUSED SO THAT COMPLETE, FULLY OPERATIONAL AND RELIABLE SYSTEMS ARE OBTAINED AT THE COMPLETION OF THE WORK. NOTIFY ENGINEER OF ANY SYSTEMS FOUND TO BE OF QUESTIONABLE CONDITION.
4. ALL EXISTING MECHANICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.
5. DEMOLISHED MATERIALS - UNLESS SPECIFICALLY REQUESTED BY THE OWNER, ALL DEMOLISHED MECHANICAL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
6. CUTTING AND PATCHING - PERFORM CUTTING AND PATCHING FOR MECHANICAL WORK SO AS TO MINIMIZE DAMAGE TO CEILINGS, FLOORS AND WALLS. REFER TO ARCHITECTURAL DRAWINGS AND GENERAL SPECIFICATIONS SECTIONS FOR SPECIFIC RESPONSIBILITIES REGARDING CUTTING AND PATCHING.
7. THESE DRAWINGS ARE COMPILED BY THE ENGINEER FROM THE OWNER'S AS-BUILT RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL DUCTWORK, EQUIPMENT LOCATIONS, DIMENSIONS AND ALL FIELD CONDITIONS AFFECTING HIS WORK.
8. WHERE MECHANICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL REMAIN OR BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.
9. PROTECT ALL EXISTING LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ENGINEER IN WRITING OF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE, WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED MAINTAINING SERVICE.
10. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME UNUSUAL CONDITIONS EXIST.
11. IF ANY UNUSUAL STRUCTURAL OR ARCHITECTURAL CONDITIONS ARE ENCOUNTERED DURING DEMOLITION, CONTACT THE ENGINEER.
12. REMOVE AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING REFRIGERANTS WITHOUT RELEASING CHLOROFLUOROCARBON REFRIGERANTS TO THE ATMOSPHERE IN ACCORDANCE WITH THE CLEAN AIR ACT AMENDMENT OF 1990. RECOVER ALL REFRIGERANTS PRIOR TO REMOVING AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING REFRIGERANTS AND DISPOSE OF IN ACCORDANCE WITH THE PARAGRAPH ENTITLED "DISPOSAL OF OZONE DEPLETING SUBSTANCE (ODS)." TURN IN SALVAGED CLASS I ODS REFRIGERANTS AS SPECIFIED IN PARAGRAPH, "SALVAGED MATERIALS AND EQUIPMENT."

ABBREVIATIONS

Table with 4 columns: TERM, ABBREVIATION, TERM, ABBREVIATION. Lists various mechanical terms and their abbreviations such as ACCESS DOOR (AD), ABOVE FINISHED FLOOR (AFF), ABOVE GROUND (AG), etc.

MECHANICAL SUMMARY

Table with 2 columns: MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT; CLIMATE ZONE (3A - WARM/HUMID); INTERIOR DESIGN CONDITIONS; BUILDING HEATING LOAD; BUILDING COOLING LOAD; MECHANICAL SPACING CONDITIONING SYSTEM; UNITARY; BOILER; CHILLER; LIST EQUIPMENT EFFICIENCIES.

MECHANICAL LEGEND

Table with 2 columns: Symbol/Line Style; Description. Includes symbols for CEILING EXHAUST AIR GRILLE, CEILING RETURN AIR / TRANSFER AIR GRILLE, CONDENSATE PIPING, AIR TYPE DESIGNATOR, AIRFLOW, CFM, EXTENT OF DEMOLITION, MANUAL VOLUME DAMPER, MOTORIZED DAMPER, POINT OF CONNECTION, NATURAL GAS PIPING, NATURAL GAS PIPING - EXISTING, REFRIGERANT LINE-SET PIPING, REFRIGERANT LINE-SET PIPING - EXISTING, RETURN, EXHAUST OR TRANSFER AIR FLOW, SUPPLY AIR FLOW, THERMOSTAT / TEMPERATURE SENSOR, T-STAT / HUMIDISTAT OR TEMP/HUMIDITY SENSOR.

PHASING NOTES

- 1. THE EXISTING FACILITIES WILL REMAIN OCCUPIED BY THE STAFF THROUGHOUT THE PROJECT. AS SUCH, WORK WILL BE DONE IN PHASES AND WILL REQUIRE SPECIAL EFFORT BY THIS CONTRACTOR TO ALLOW THE WORK TO PROCEED IN A TIMELY MANNER. ALL WORK SHALL BE COORDINATED WITH THE OWNER/TENANTS AND GENERAL CONTRACTOR SO AS TO MINIMIZE DISRUPTION OF THE OWNER'S/TENANTS USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR.

MECHANICAL GENERAL SAFETY NOTES

- 1. IF ANY EQUIPMENT PLANNED FOR DEMOLITION CONTAINS REFRIGERANT, THEN THE CONTRACTOR IS REQUIRED TO CAPTURE ALL REFRIGERANT FOR REUSE OR RECYCLING IN COMPLIANCE WITH SECTION 608 OF EPA CLEAN AIR ACT. WORK MUST BE CONDUCTED UNDER SUPERVISION OF AN EPA CERTIFIED TECHNICIAN.
2. WHERE PIPING CONTAINS GAS THAT IS TO BE REMOVED OR WORKED ON, PROCEDURE DD NCGC 406.7.1 ALONG WITH NFPA 54 7.2.7 AND 8.3.1 SHALL BE OBSERVED. THE LINE SHALL BE FIRST DISCONNECTED FROM ALL SOURCES OF GAS PRESSURE, VENTED TO THE OUTDOORS, AND THEN THOROUGHLY PURGED WITH AIR, WATER, OR INERT GAS BEFORE ANY CUTTING OR WELDING IS DONE.
3. THERMOSTATS AND SENSORS CONTAINING MERCURY SHALL BE DISPOSED IN ACCORDANCE WITH EPA RESOURCE CONSERVATION AND RECOVERY ACT (RCRA). CONTRACTOR SHALL REFER TO EPA WEBSITE FOR HANDLING PROCEDURES FOR DISPOSAL AND SPILL MANAGEMENT OF PRODUCTS CONTAINING MERCURY.

WALL RATING AND PENETRATION NOTES

- 1. CONTRACTOR SHALL VERIFY ALL WALL RATINGS AND, TO THE BEST OF THEIR ABILITY, MAINTAIN THEIR INTEGRITY IN AREAS NOT UNDER ACTIVE CONSTRUCTION. FOR PHASED CONSTRUCTION AREAS, WALL RATINGS MUST BE RESTORED UPON COMPLETION OF EACH PHASE. ALL PENETRATIONS MUST BE PATCHED IN ACCORDANCE WITH APPLICABLE FIRE AND BUILDING CODES TO PRESERVE RATED ASSEMBLIES. CONTRACTOR MUST FOLLOW ALL UL LISTING PROCEDURES AS PROVIDED BY THE EQUIPMENT MANUFACTURERS. ENSURE ALL EXTERIOR PENETRATIONS ARE PROPERLY SEALED TO MAINTAIN A WEATHER-TIGHT ENVELOPE. COORDINATE ANY NECESSARY REPAIRS OR MODIFICATIONS WITH THE DESIGN ENGINEER AND ADHERE TO INDUSTRY-STANDARD BEST PRACTICES.

WALL LEGEND

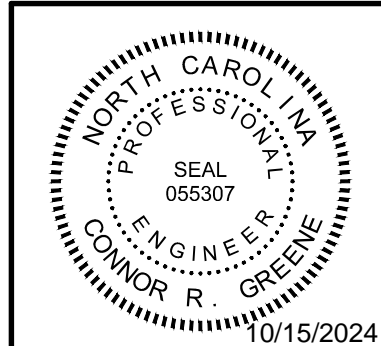
Table with 2 columns: Symbol; Description. Includes symbols for 1 HOUR RATED WALL - EXISTING and 2 HOUR RATED WALL - EXISTING.

CONTINGENCY NOTES

- 1. CONTRACTOR SHALL INCLUDE A CONTINGENCY IN THE BUDGET TO ADDRESS ANY UNFORESEEN CONDITIONS THAT MAY ARISE DURING DEMOLITION, ESPECIALLY WITHIN RATED OR NON-RATED WALLS. LIMITED ACCESS AREAS MAY REVEAL HIDDEN ELEMENTS ONCE DEMOLITION BEGINS, AND THESE MUST BE ACCOMMODATED WITH MINIMAL IMPACT TO THE PROJECT SCHEDULE.

Table with 2 columns: REVISION NO., DATE. Includes revision history for the drawing.

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SELF HELP BUILDING HVAC REPLACEMENT 272 N. FRONT STREET WILMINGTON, NC 28401. MECHANICAL NOTES, LEGEND, ABBREVIATIONS AND CODE SUMMARIES.

Table with 2 columns: JOB NO., DRAWN, DESIGNED, CHECKED. Values: 24069, CRG, CRG, CRG.

DRAWING NO. M-001

REVISION: 0

**DEMOLITION KEYED NOTES**

- ① REMOVE NG BOILER, HHW PUMP, ALL ASSOCIATED HHW PIPING, HANGERS, SUPPORTS, INTAKE AND VENT PIPING, AND RELATED COMPONENTS. DEMOLISH NG PIPING FROM MAIN TO BOILER AND CAP DOWNSTREAM OF EQUIPMENT SHUTOFF VALVE. REFER TO RISER DIAGRAM A1/M-701 FOR DETAILS.
- ② REMOVE CHW PIPING, HANGERS, SUPPORTS, AND RELATED COMPONENTS IN THEIR ENTIRETY.
- ③ REMOVE FAN COIL UNITS OR OTHER CONNECTED EQUIPMENT, CHW AND HHW PIPING, DUCTWORK, HANGERS, SUPPORTS, DIFFUSERS, GRILLES, THERMOSTATS, CONTROLS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.

GAS METER COVER (ABOVE)  
GAS METER (UNDER SIDEWALK, ABOVE)

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

(X)NG

② ③

CHW PIPING UP

(X)HWP1

(X)B1

(X)NG PIPING RISER UP, SEE A1/M-701

(X)B1 INTAKE & VENT PIPING UP

ADJACENT BUILDING

**A1 BASEMENT FLOOR PLAN**

3/16" = 1'-0"



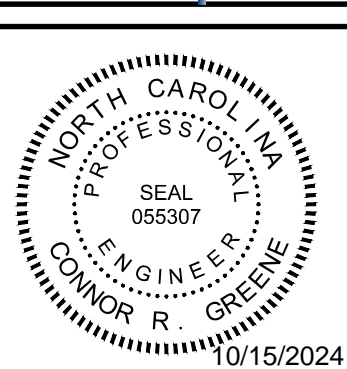
WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**SELF HELP BUILDING  
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**MECHANICAL  
BASEMENT FLOOR PLAN - DEMOLITION**

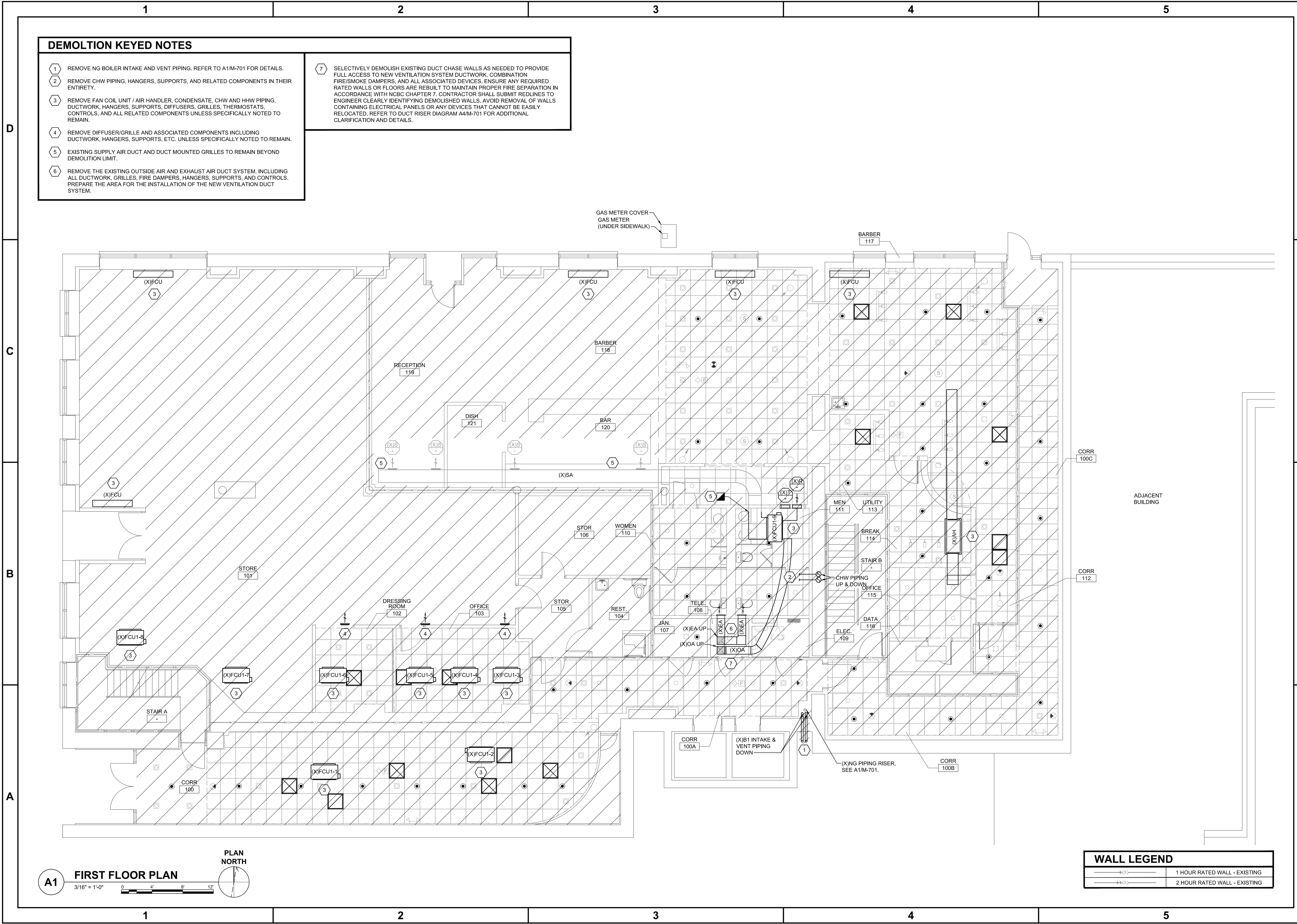
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DRAWING NO:  
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**DEMOLITION KEYED NOTES**

- 1 REMOVE NG BOILER INTAKE AND VENT PIPING. REFER TO A1/M-701 FOR DETAILS.
- 2 REMOVE CHW PIPING, HANGERS, SUPPORTS, AND RELATED COMPONENTS IN THEIR ENTIRETY.
- 3 REMOVE FAN COIL UNIT / AIR HANDLER, CONDENSATE, CHW AND HHW PIPING, DUCTWORK, HANGERS, SUPPORTS, DIFFUSERS, GRILLES, THERMOSTATS, CONTROLS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 4 REMOVE DIFFUSER/GRILLE AND ASSOCIATED COMPONENTS INCLUDING DUCTWORK, HANGERS, SUPPORTS, ETC. UNLESS SPECIFICALLY NOTED TO REMAIN.
- 5 EXISTING SUPPLY AIR DUCT AND DUCT MOUNTED GRILLES TO REMAIN BEYOND DEMOLITION LIMIT.
- 6 REMOVE THE EXISTING OUTSIDE AIR AND EXHAUST AIR DUCT SYSTEM, INCLUDING ALL DUCTWORK, GRILLES, FIRE DAMPERS, HANGERS, SUPPORTS, AND CONTROLS. PREPARE THE AREA FOR THE INSTALLATION OF THE NEW VENTILATION DUCT SYSTEM.
- 7 SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW VENTILATION SYSTEM DUCTWORK, COMBINATION FIRE/SMOKE DAMPERS, AND ALL ASSOCIATED DEVICES. ENSURE ANY REQUIRED RATED WALLS OR FLOORS ARE REBUILT TO MAINTAIN PROPER FIRE SEPARATION IN ACCORDANCE WITH NCBC CHAPTER 7. CONTRACTOR SHALL SUBMIT REDLINES TO ENGINEER CLEARLY IDENTIFYING DEMOLISHED WALLS. AVOID REMOVAL OF WALLS CONTAINING ELECTRICAL PANELS OR ANY DEVICES THAT CANNOT BE EASILY RELOCATED. REFER TO DUCT RISER DIAGRAM A4/M-701 FOR ADDITIONAL CLARIFICATION AND DETAILS.

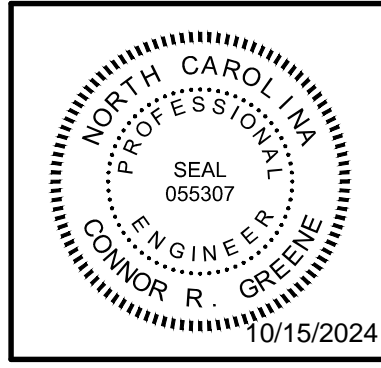


**A1 FIRST FLOOR PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**SELF HELP BUILDING  
 HVAC REPLACEMENT**  
 272 N. FRONT STREET  
 WILMINGTON, NC 28401

**MECHANICAL  
 FIRST FLOOR PLAN - DEMOLITION**

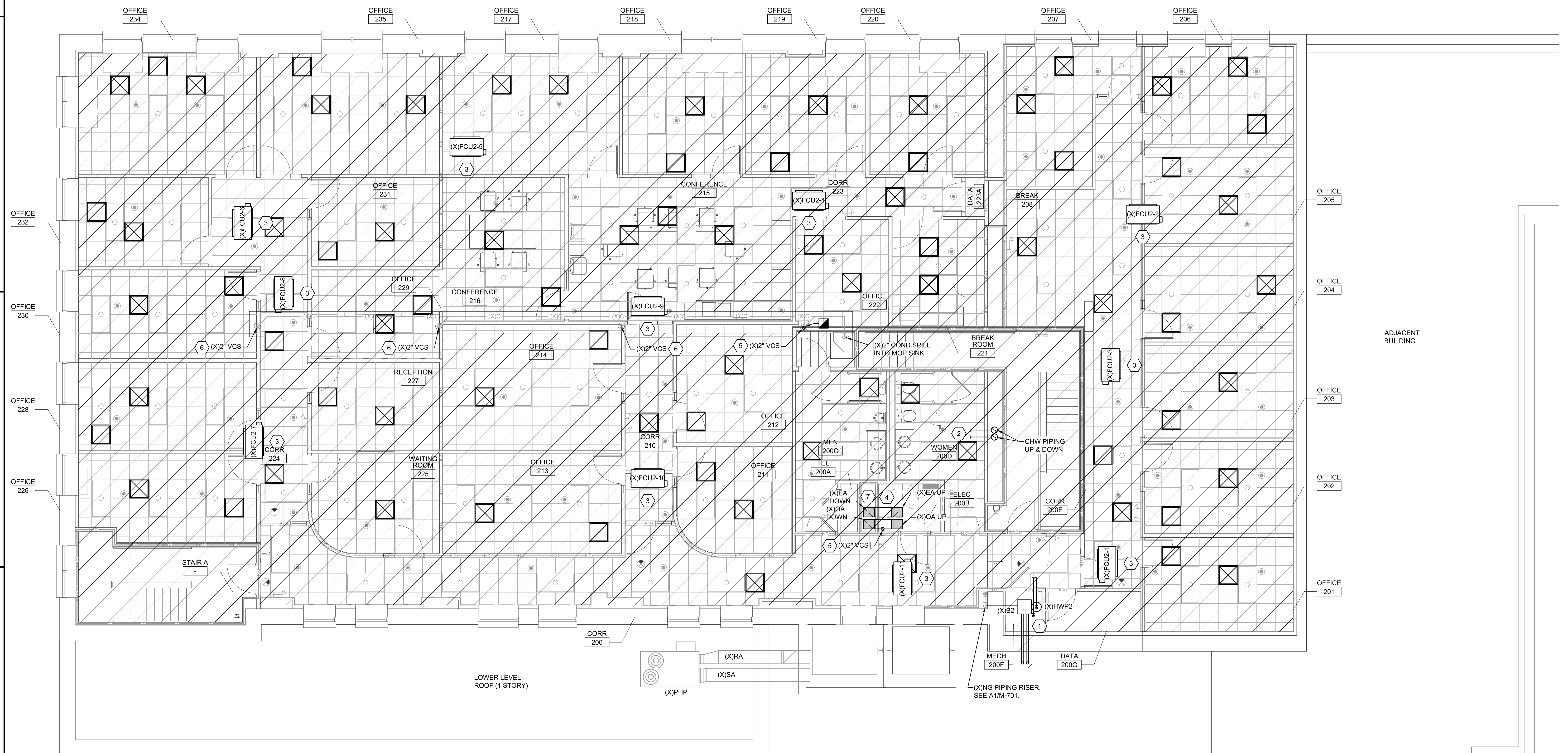
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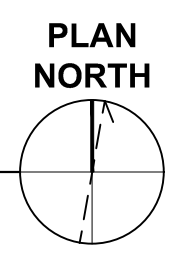
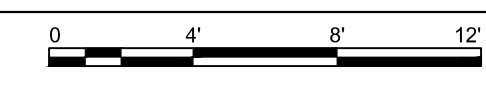
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**DEMOLITION KEYED NOTES**

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- 2 REMOVE CHW PIPING, HANGERS, SUPPORTS, AND RELATED COMPONENTS IN THEIR ENTIRETY.
- 3 REMOVE FAN COIL UNIT, CONDENSATE, CHW AND HHW PIPING, DUCTWORK, HANGERS, SUPPORTS, DIFFUSERS, GRILLES, THERMOSTATS, CONTROLS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 4 REMOVE THE EXISTING OUTSIDE AIR AND EXHAUST AIR DUCT SYSTEM, INCLUDING ALL DUCTWORK, GRILLES, FIRE DAMPERS, HANGERS, SUPPORTS, AND CONTROLS. PREPARE THE AREA FOR THE INSTALLATION OF THE NEW VENTILATION DUCT SYSTEM.
- 5 REMOVE VERTICAL CONDENSATE STACK IN ITS ENTIRETY.
- 6 VERTICAL CONDENSATE STACK TO REMAIN, PROTECT DURING DEMOLITION.
- 7 SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW VENTILATION SYSTEM DUCTWORK, COMBINATION FIRE/SMOKE DAMPERS, AND ALL ASSOCIATED DEVICES. ENSURE ANY REQUIRED RATED WALLS OR FLOORS ARE REBUILT TO MAINTAIN PROPER FIRE SEPARATION IN ACCORDANCE WITH NCBC CHAPTER 7. CONTRACTOR SHALL SUBMIT REDLINES TO ENGINEER CLEARLY IDENTIFYING DEMOLISHED WALLS. AVOID REMOVAL OF WALLS CONTAINING ELECTRICAL PANELS OR ANY DEVICES THAT CANNOT BE EASILY RELOCATED. REFER TO DUCT RISER DIAGRAM A4/M-701 FOR ADDITIONAL CLARIFICATION AND DETAILS.



**A1 SECOND FLOOR AND LOWER LEVEL ROOF PLAN**  
3/16" = 1'-0"



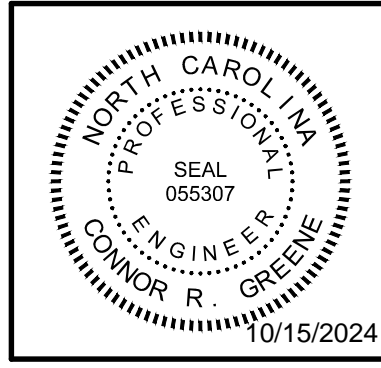
WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**MECHANICAL  
SECOND FLOOR AND  
LOWER LEVEL ROOF PLAN - DEMOLITION**

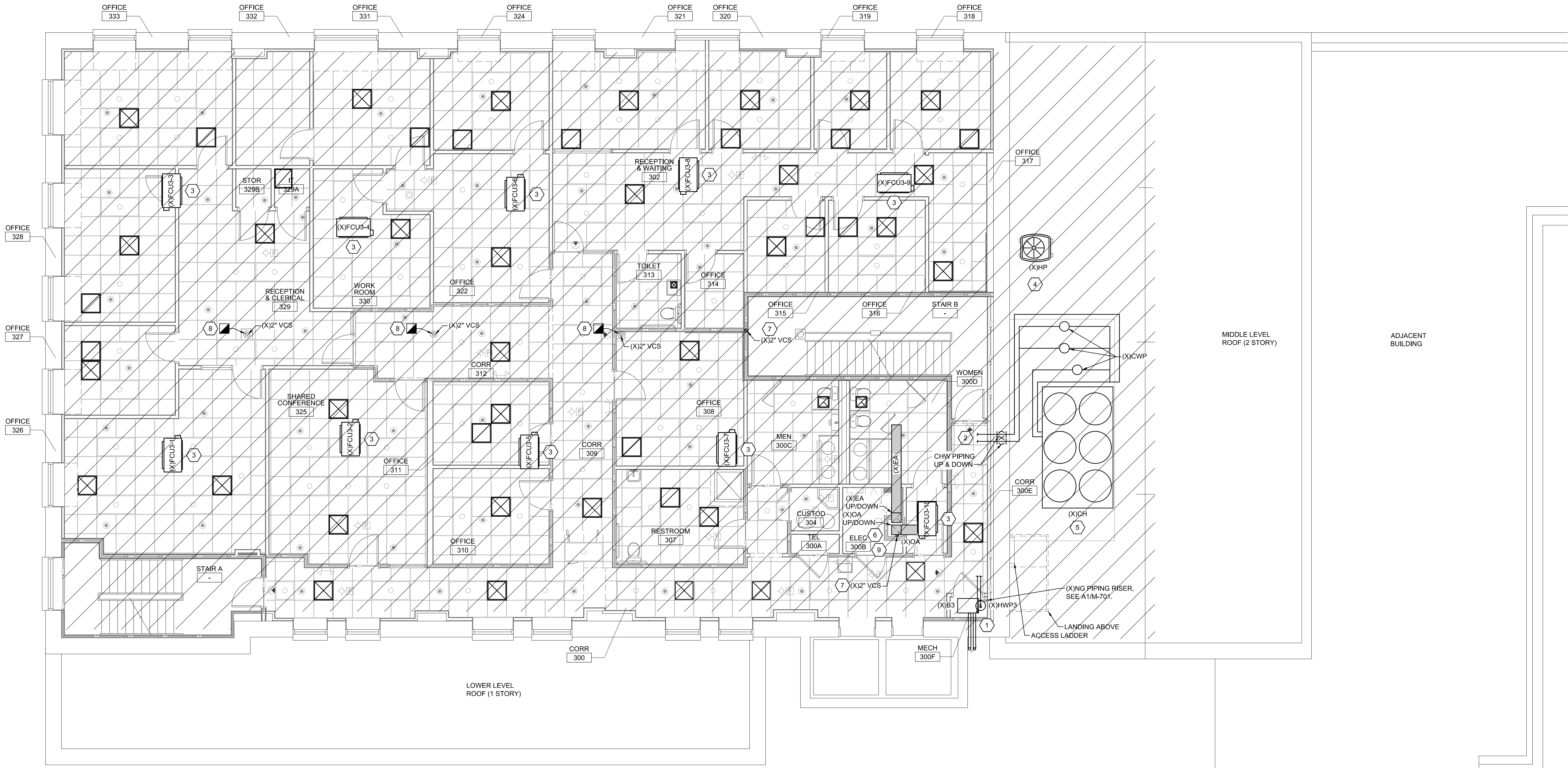
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REVISION: 0

**DEMOLITION KEYED NOTES**

- 1 REMOVE NG BOILER, HHW PUMP, ALL ASSOCIATED HHW PIPING, HANGERS, SUPPORTS, INTAKE AND VENT PIPING, AND RELATED COMPONENTS. DEMOLISH NG PIPING FROM MAIN TO BOILER AND CAP DOWNSTREAM OF EQUIPMENT SHUTOFF VALVE. REFER TO RISER DIAGRAM A1/M-701 FOR DETAILS.
- 2 REMOVE CHW PIPING, HANGERS, SUPPORTS, AND RELATED COMPONENTS IN THEIR ENTIRETY.
- 3 REMOVE FAN COIL UNITS OR OTHER CONNECTED EQUIPMENT, CHW AND HHW PIPING, DUCTWORK, HANGERS, SUPPORTS, DIFFUSERS, GRILLES, THERMOSTATS, CONTROLS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 4 REMOVE OUTDOOR HEAT PUMP, INCLUDING ASSOCIATED REFRIGERANT PIPING, ELECTRICAL CONNECTIONS, MOUNTING SUPPORTS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 5 REMOVE OUTDOOR AIR-COOLED CHILLER, INCLUDING ASSOCIATED PIPING, ELECTRICAL CONNECTIONS, MOUNTING SUPPORTS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 6 REMOVE THE EXISTING OUTSIDE AIR AND EXHAUST AIR DUCT SYSTEM, INCLUDING ALL DUCTWORK, GRILLES, FIRE DAMPERS, HANGERS, SUPPORTS, AND CONTROLS. PREPARE THE AREA FOR THE INSTALLATION OF THE NEW VENTILATION DUCT SYSTEM.
- 7 REMOVE VERTICAL CONDENSATE STACK IN ITS ENTIRETY.
- 8 VERTICAL CONDENSATE STACK TO REMAIN, PROTECT DURING DEMOLITION.
- 9 SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW VENTILATION SYSTEM DUCTWORK, COMBINATION FIRE/SMOKE DAMPERS, AND ALL ASSOCIATED DEVICES. ENSURE ANY REQUIRED RATED WALLS OR FLOORS ARE REBUILT TO MAINTAIN PROPER FIRE SEPARATION IN ACCORDANCE WITH NBC CHAPTER 7. CONTRACTOR SHALL SUBMIT REDLINES TO ENGINEER CLEARLY IDENTIFYING DEMOLISHED WALLS. AVOID REMOVAL OF WALLS CONTAINING ELECTRICAL PANELS OR ANY DEVICES THAT CANNOT BE EASILY RELOCATED. REFER TO DUCT RISER DIAGRAM A4/M-701 FOR ADDITIONAL CLARIFICATION AND DETAILS.



**A1 THIRD FLOOR AND MIDDLE LEVEL ROOF PLAN**  
3/16" = 1'-0"

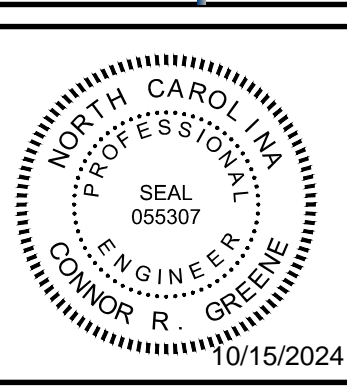
WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
DESCRIPTION:			Date:

**CBHF**  
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WILMINGTON, NC 28401**

**MECHANICAL  
THIRD FLOOR AND  
MIDDLE LEVEL ROOF PLAN - DEMOLITION**

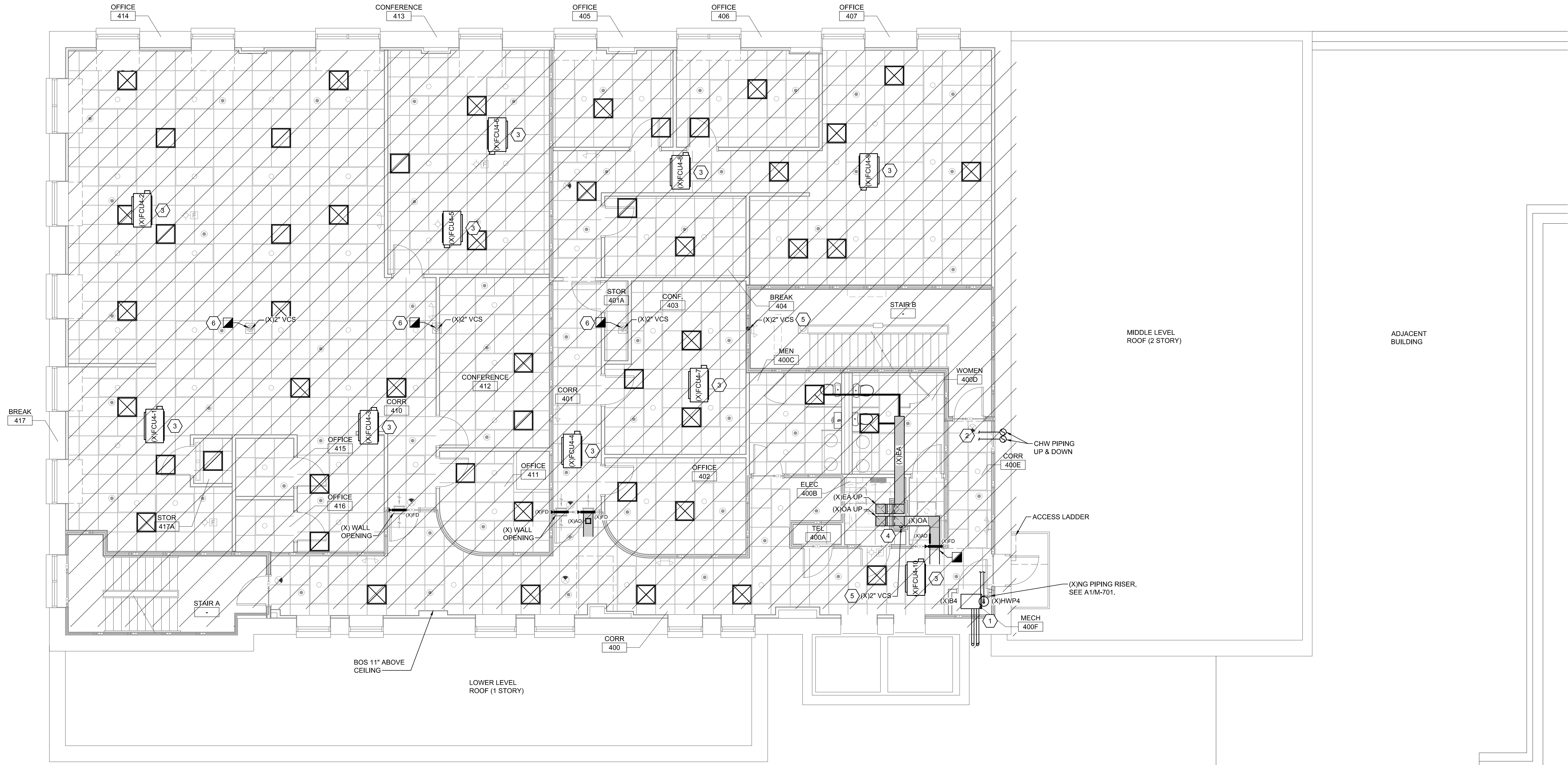
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO. **MD103**

REVISION: 0

**DEMOLITION KEYED NOTES**

- 1 REMOVE NG BOILER, HHW PUMP, ALL ASSOCIATED HHW PIPING, HANGERS, SUPPORTS, INTAKE AND VENT PIPING, AND RELATED COMPONENTS. DEMOLISH NG PIPING FROM MAIN TO BOILER AND CAP DOWNSTREAM OF EQUIPMENT SHUTOFF VALVE. REFER TO RISER DIAGRAM A1/M-701 FOR DETAILS.
- 2 REMOVE CHW PIPING, HANGERS, SUPPORTS, AND RELATED COMPONENTS IN THEIR ENTIRETY.
- 3 REMOVE FAN COIL UNITS OR OTHER CONNECTED EQUIPMENT, CHW AND HHW PIPING, DUCTWORK, HANGERS, SUPPORTS, DIFFUSERS, GRILLES, THERMOSTATS, CONTROLS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 4 REMOVE THE EXISTING OUTSIDE AIR AND EXHAUST AIR DUCT SYSTEM, INCLUDING ALL DUCTWORK, GRILLES, FIRE DAMPERS, HANGERS, SUPPORTS, AND CONTROLS. PREPARE THE AREA FOR THE INSTALLATION OF THE NEW VENTILATION DUCT SYSTEM.
- 5 REMOVE VERTICAL CONDENSATE STACK IN ITS ENTIRETY.
- 6 VERTICAL CONDENSATE STACK TO REMAIN, PROTECT DURING DEMOLITION.
- 7 SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW VENTILATION SYSTEM DUCTWORK, COMBINATION FIRE/SMOKE DAMPERS, AND ALL ASSOCIATED DEVICES. ENSURE ANY REQUIRED RATED WALLS OR FLOORS ARE REBUILT TO MAINTAIN PROPER FIRE SEPARATION IN ACCORDANCE WITH NCBC CHAPTER 7. CONTRACTOR SHALL SUBMIT REDLINES TO ENGINEER CLEARLY IDENTIFYING DEMOLISHED WALLS. AVOID REMOVAL OF WALLS CONTAINING ELECTRICAL PANELS OR ANY DEVICES THAT CANNOT BE EASILY RELOCATED. REFER TO DUCT RISER DIAGRAM A4/M-701 FOR ADDITIONAL CLARIFICATION AND DETAILS.

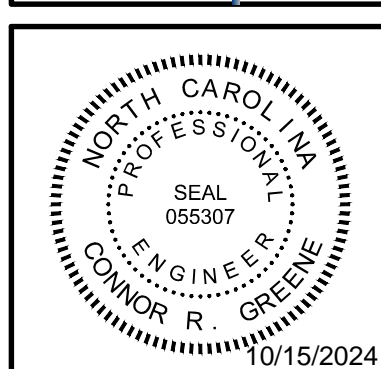


**A1** FOURTH FLOOR PLAN  
 3/16" = 1'-0"  
 0 4 8 12  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
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MECHANICAL  
 FOURTH FLOOR PLAN - DEMOLITION

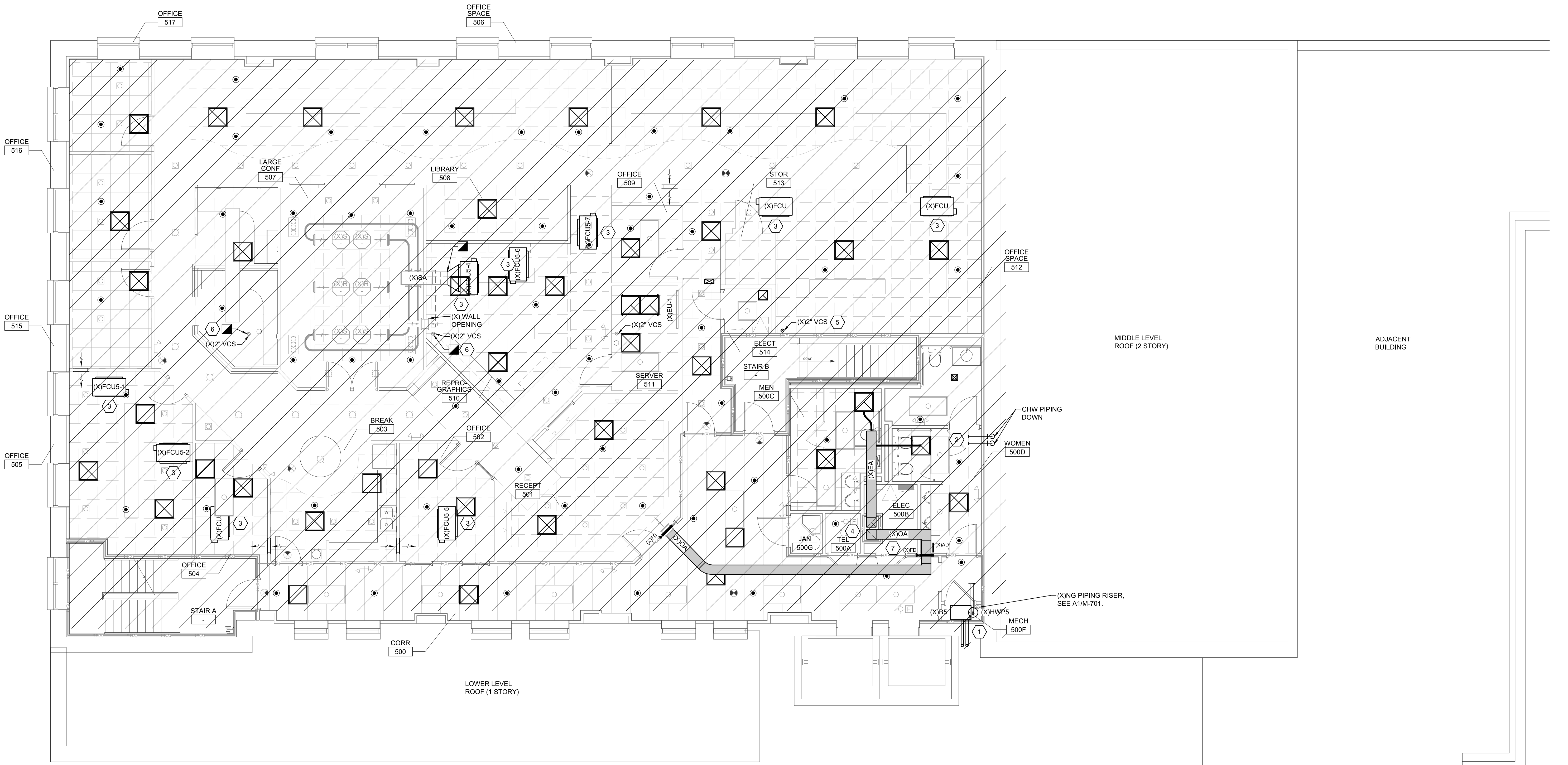
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**MD104**

REVISION:  
 0

**DEMOLITION KEYED NOTES**

- 1 REMOVE NG BOILER, HHW PUMP, ALL ASSOCIATED HHW PIPING, HANGERS, SUPPORTS, INTAKE AND VENT PIPING, AND RELATED COMPONENTS. DEMOLISH NG PIPING FROM MAIN TO BOILER AND CAP DOWNSTREAM OF EQUIPMENT SHUTOFF VALVE. REFER TO RISER DIAGRAM A1/M-701 FOR DETAILS.
- 2 REMOVE CHW PIPING, HANGERS, SUPPORTS, AND RELATED COMPONENTS IN THEIR ENTIRETY.
- 3 REMOVE FAN COIL UNITS OR OTHER CONNECTED EQUIPMENT, CHW AND HHW PIPING, DUCTWORK, HANGERS, SUPPORTS, DIFFUSERS, GRILLES, THERMOSTATS, CONTROLS, AND ALL RELATED COMPONENTS UNLESS SPECIFICALLY NOTED TO REMAIN.
- 4 REMOVE THE EXISTING OUTSIDE AIR AND EXHAUST AIR DUCT SYSTEM, INCLUDING ALL DUCTWORK, GRILLES, FIRE DAMPERS, HANGERS, SUPPORTS, AND CONTROLS. PREPARE THE AREA FOR THE INSTALLATION OF THE NEW VENTILATION DUCT SYSTEM.
- 5 REMOVE VERTICAL CONDENSATE STACK IN ITS ENTIRETY.
- 6 VERTICAL CONDENSATE STACK TO REMAIN, PROTECT DURING DEMOLITION.
- 7 SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW VENTILATION SYSTEM DUCTWORK, COMBINATION FIRE/SMOKE DAMPERS, AND ALL ASSOCIATED DEVICES. ENSURE ANY REQUIRED RATED WALLS OR FLOORS ARE REBUILT TO MAINTAIN PROPER FIRE SEPARATION IN ACCORDANCE WITH NCBC CHAPTER 7. CONTRACTOR SHALL SUBMIT REDLINES TO ENGINEER CLEARLY IDENTIFYING DEMOLISHED WALLS. AVOID REMOVAL OF WALLS CONTAINING ELECTRICAL PANELS OR ANY DEVICES THAT CANNOT BE EASILY RELOCATED. REFER TO DUCT RISER DIAGRAM A4/M-701 FOR ADDITIONAL CLARIFICATION AND DETAILS.

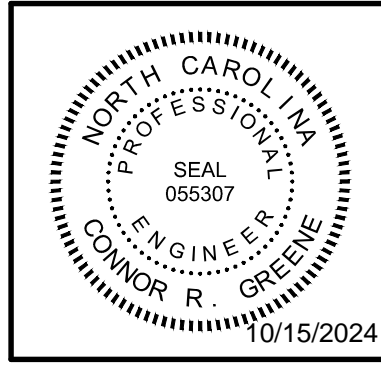


**A1 FIFTH FLOOR PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**MECHANICAL  
 FIFTH FLOOR PLAN - DEMOLITION**

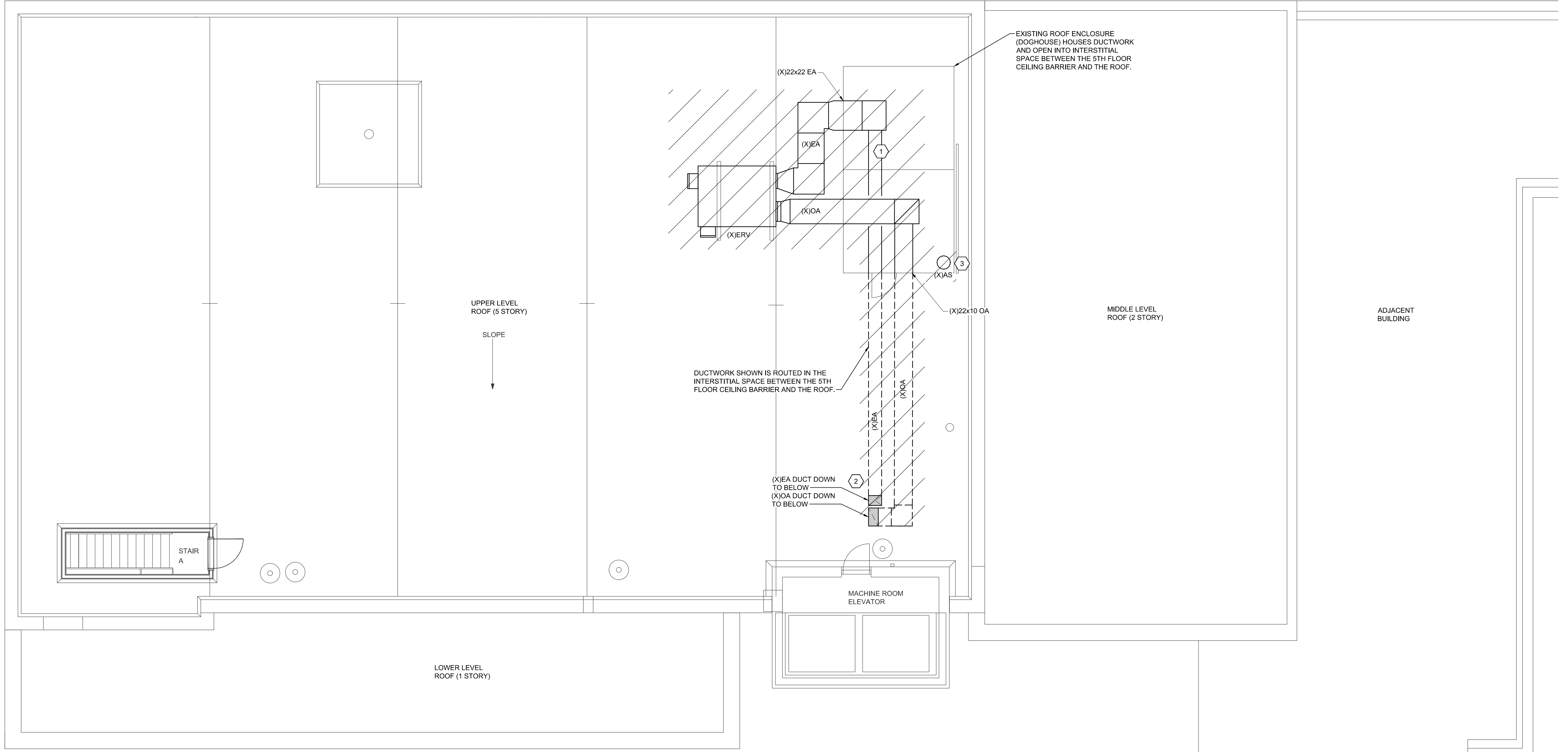
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO. **MD105**

REVISION: 0

**DEMOLITION KEYED NOTES**

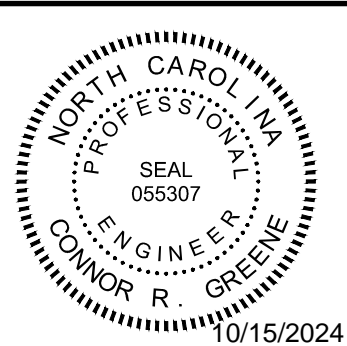
- 1 REMOVE THE EXISTING ENERGY RECOVERY UNIT, INCLUDING MOUNTING RAILS, ALL ASSOCIATED SYSTEM COMPONENTS, DUCTWORK, GRILLES, DAMPERS, HANGERS, SUPPORTS, CONTROLS, AND INSULATION. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO ANY EXISTING EQUIPMENT OR SYSTEMS THAT ARE TO REMAIN. ENSURE THE AREA IS PROPERLY PREPARED FOR THE INSTALLATION OF NEW EQUIPMENT AND COMPONENTS.
- 2 SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW VENTILATION SYSTEM DUCTWORK, COMBINATION FIRE/SMOKE DAMPERS, AND ALL ASSOCIATED DEVICES. ENSURE ANY REQUIRED RATED WALLS OR FLOORS ARE REBUILT TO MAINTAIN PROPER FIRE SEPARATION IN ACCORDANCE WITH NBC CHAPTER 7. CONTRACTOR SHALL SUBMIT REDLINES TO ENGINEER CLEARLY IDENTIFYING DEMOLISHED WALLS. AVOID REMOVAL OF WALLS CONTAINING ELECTRICAL PANELS OR ANY DEVICES THAT CANNOT BE EASILY RELOCATED. REFER TO DUCT RISER DIAGRAM A4/M-701 FOR ADDITIONAL CLARIFICATION AND DETAILS.
- 3 REMOVE THE EXISTING AIR SEPARATOR, ITS COMPONENTS, AND ASSOCIATED PIPING. COORDINATE EQUIPMENT REMOVAL WITH ALL RELEVANT PARTIES TO ENSURE IT OCCURS ONLY AFTER THE SYSTEM IS NO LONGER REQUIRED BY ANY BUILDING EQUIPMENT.



**A1 UPPER LEVEL ROOF PLAN**  
 3/16" = 1'-0"  
 0 4 8 12  
 PLAN NORTH

10.11.24	Date
0	Revision No.
ISSUED FOR CONSTRUCTION	Description

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**MECHANICAL  
 UPPER LEVEL ROOF PLAN - DEMOLITION**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

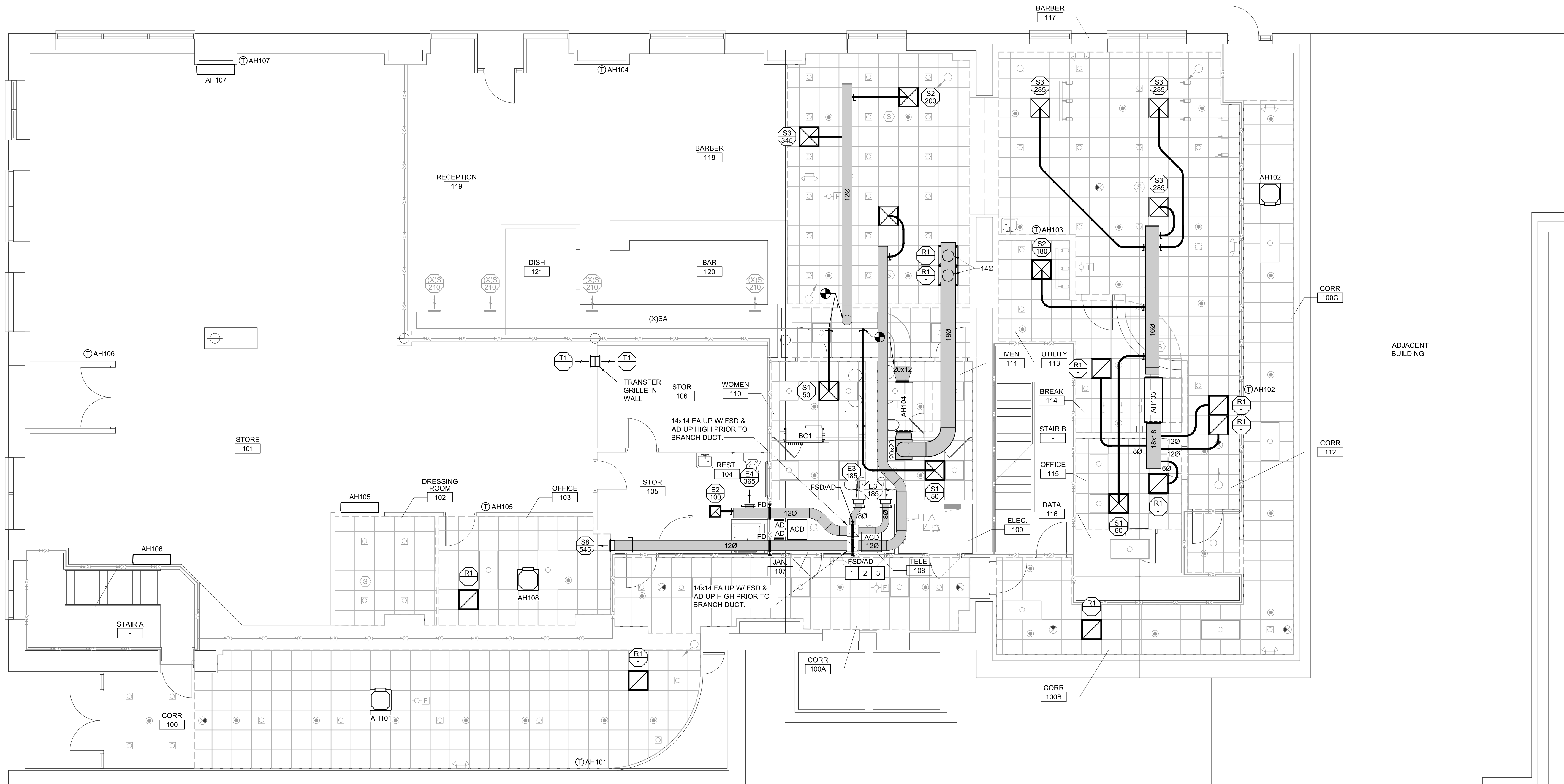
DRAWING NO:  
**MD106**

REVISION:  
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**NEW WORK KEYED NOTES**

- 1 INSTALL NEW FRESH AIR (FA) AND EXHAUST AIR (EA) DUCTWORK IN THE LOCATION OF THE REMOVED DUCTS WITHIN THE CHASE, APPLY FIRE-RATED DUCT WRAP AS SHOWN ON RISER DIAGRAM A4/M-701, FOLLOWING MANUFACTURER REQUIREMENTS TO MAINTAIN UL LISTING, FUNCTIONALITY, AND CODE COMPLIANCE.
- 2 CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW DUCTWORK, DAMPERS, AND ASSOCIATED DEVICES. AVOID DISTURBANCE OF WALLS CONTAINING ELECTRICAL PANELS OR DEVICES THAT CANNOT BE RELOCATED. AFTER COMPLETION, REBUILD ANY FIRE-RATED WALLS OR FLOORS IN ACCORDANCE WITH NCBC CHAPTER 7 TO MAINTAIN REQUIRED FIRE SEPARATION. CONTRACTOR MUST SUBMIT REDLINES IDENTIFYING ALL DEMOLISHED OR MODIFIED AREAS.
- 3 PRIOR TO FABRICATION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE FEASIBILITY OF THE DESIGNED DUCT LAYOUT BASED ON FIELD CONDITIONS. COORDINATE ANY NECESSARY MODIFICATIONS WITH THE GENERAL CONTRACTOR AND ENGINEER. NO DUCTWORK SHALL BE ORDERED UNTIL A FINAL, FIELD-VERIFIED LAYOUT IS APPROVED.



**A1 FIRST FLOOR PLAN**  
3/16" = 1'-0"

PLAN NORTH



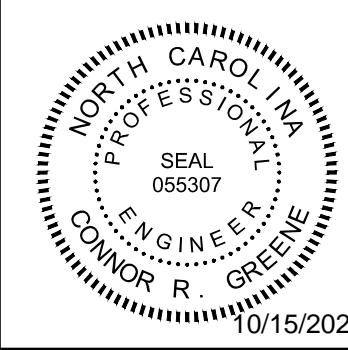
WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

**SELF HELP BUILDING  
HVAC REPLACEMENT  
FIRST FLOOR PLAN - HVAC**

JOB NO.: 24069  
DRAWN: CRG  
DESIGNED: CRG  
CHECKED: CRG

DRAWING NO:  
**MH101**

REVISION:  
0

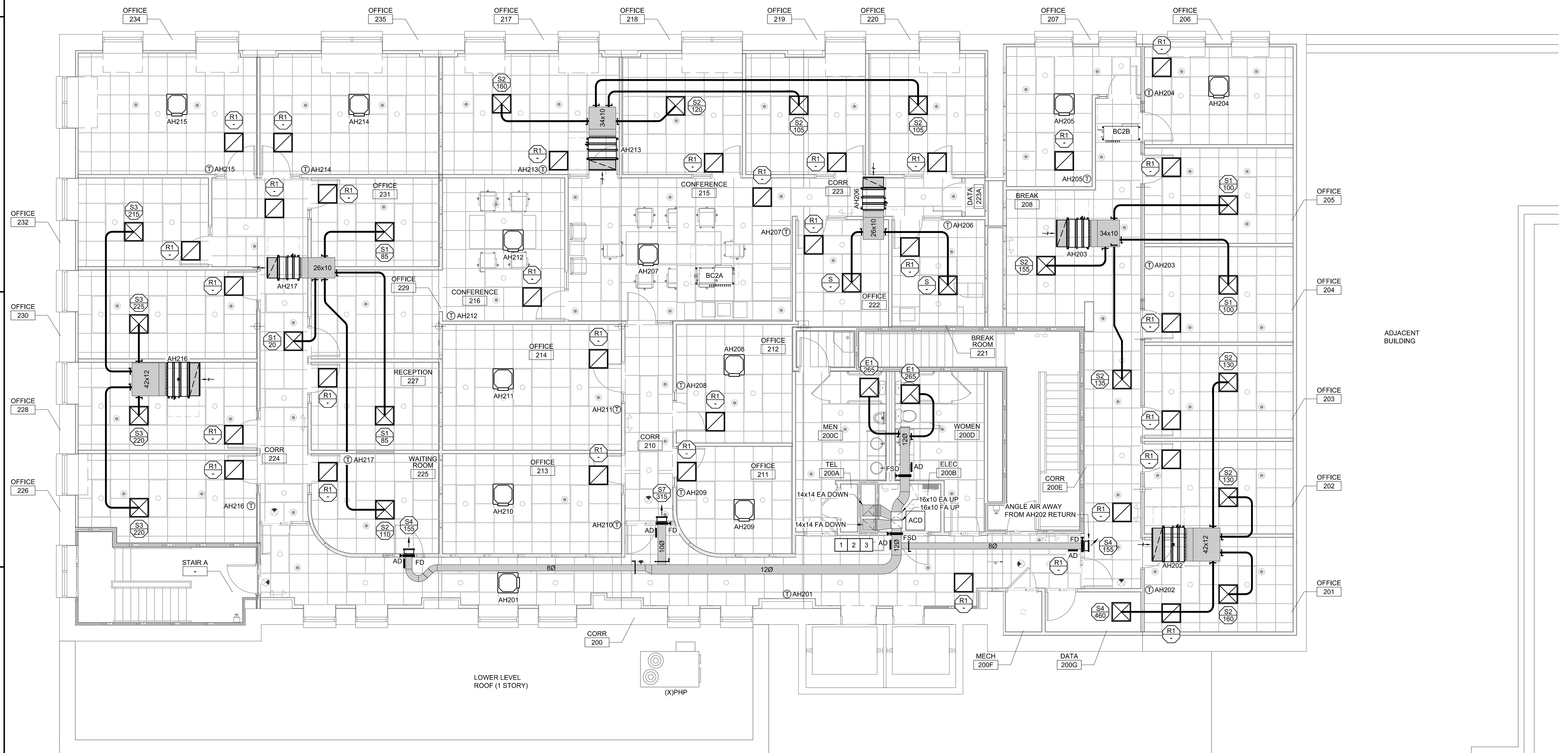


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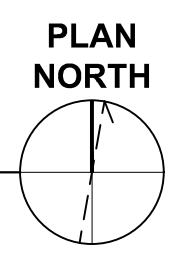
REVISION NO.	DESCRIPTION	DATE
0	ISSUED FOR CONSTRUCTION	10.11.24

**NEW WORK KEYED NOTES**

1. INSTALL NEW FRESH AIR (FA) AND EXHAUST AIR (EA) DUCTWORK IN THE LOCATION OF THE REMOVED DUCTS WITHIN THE CHASE, APPLY FIRE-RATED DUCT WRAP AS SHOWN ON RISER DIAGRAM A4/M-701, FOLLOWING MANUFACTURER REQUIREMENTS TO MAINTAIN UL LISTING, FUNCTIONALITY, AND CODE COMPLIANCE.
2. CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW DUCTWORK, DAMPERS, AND ASSOCIATED DEVICES. AVOID DISTURBANCE OF WALLS CONTAINING ELECTRICAL PANELS OR DEVICES THAT CANNOT BE RELOCATED. AFTER COMPLETION, REBUILD ANY FIRE-RATED WALLS OR FLOORS IN ACCORDANCE WITH NCBC CHAPTER 7 TO MAINTAIN REQUIRED FIRE SEPARATION. CONTRACTOR MUST SUBMIT REDLINES IDENTIFYING ALL DEMOLISHED OR MODIFIED AREAS.
3. PRIOR TO FABRICATION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE FEASIBILITY OF THE DESIGNED DUCT LAYOUT BASED ON FIELD CONDITIONS. COORDINATE ANY NECESSARY MODIFICATIONS WITH THE GENERAL CONTRACTOR AND ENGINEER. NO DUCTWORK SHALL BE ORDERED UNTIL A FINAL, FIELD-VERIFIED LAYOUT IS APPROVED.



**A1 SECOND FLOOR AND LOWER LEVEL ROOF PLAN**  
3/16" = 1'-0"



WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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MECHANICAL  
SECOND FLOOR AND  
LOWER LEVEL ROOF PLAN - HVAC

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

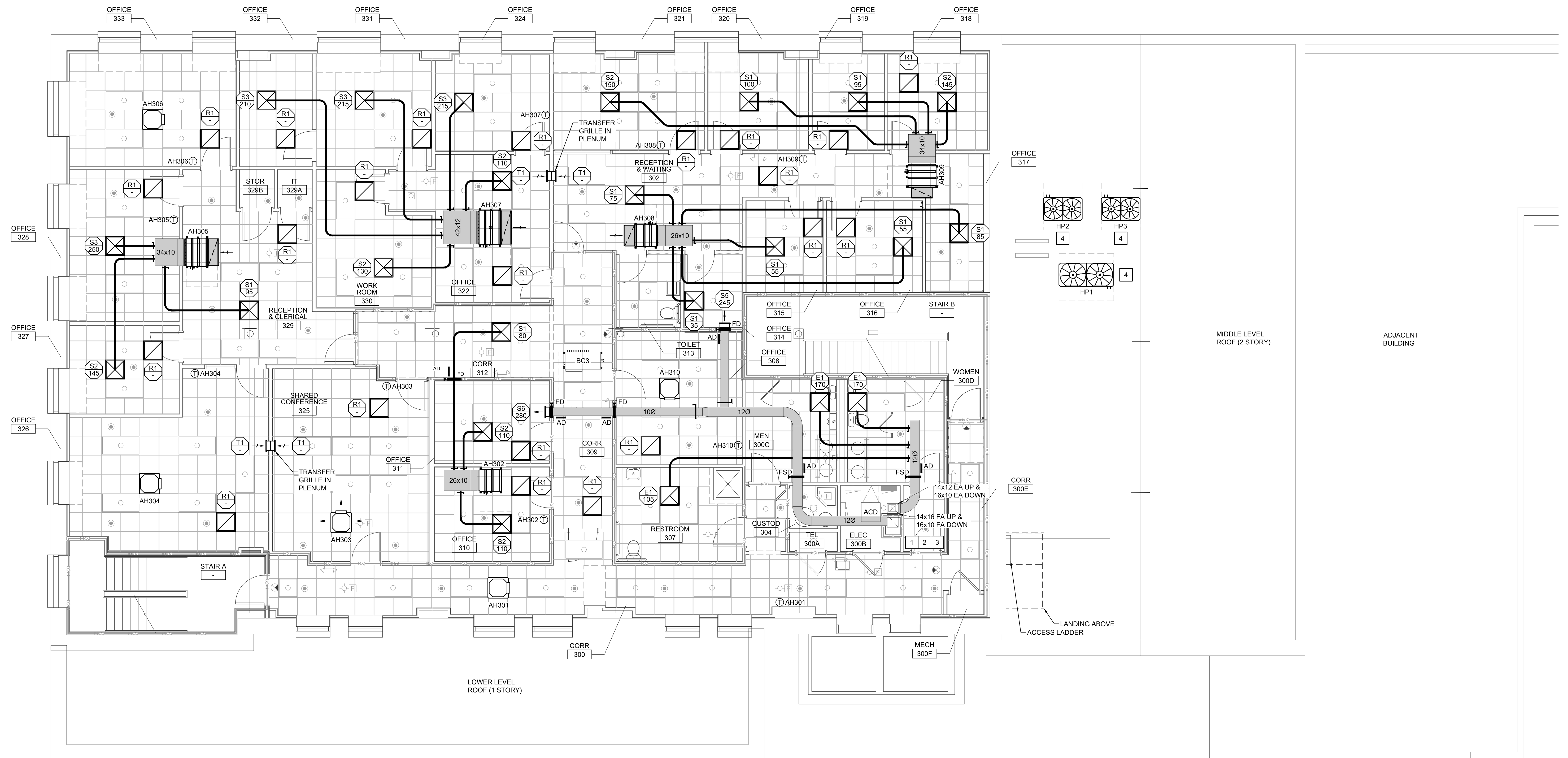
DRAWING NO. **MH102**

REVISION: 0

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
DESCRIPTION:			Date:

**NEW WORK KEYED NOTES**

- 1. INSTALL NEW FRESH AIR (FA) AND EXHAUST AIR (EA) DUCTWORK IN THE LOCATION OF THE REMOVED DUCTS WITHIN THE CHASE, APPLY FIRE-RATED DUCT WRAP AS SHOWN ON RISER DIAGRAM A4M-701, FOLLOWING MANUFACTURER REQUIREMENTS TO MAINTAIN UL LISTING, FUNCTIONALITY, AND CODE COMPLIANCE.
- 2. CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW DUCTWORK, DAMPERS, AND ASSOCIATED DEVICES. AVOID DISTURBANCE OF WALLS CONTAINING ELECTRICAL PANELS OR DEVICES THAT CANNOT BE RELOCATED. AFTER COMPLETION, REBUILD ANY FIRE-RATED WALLS OR FLOORS IN ACCORDANCE WITH NCBC CHAPTER 7 TO MAINTAIN REQUIRED FIRE SEPARATION. CONTRACTOR MUST SUBMIT REDLINES IDENTIFYING ALL DEMOLISHED OR MODIFIED AREAS.
- 3. PRIOR TO FABRICATION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE FEASIBILITY OF THE DESIGNED DUCT LAYOUT BASED ON FIELD CONDITIONS. COORDINATE ANY NECESSARY MODIFICATIONS WITH THE GENERAL CONTRACTOR AND ENGINEER. NO DUCTWORK SHALL BE ORDERED UNTIL A FINAL, FIELD-VERIFIED LAYOUT IS APPROVED.
- 4. INSTALL VRF OUTDOOR UNIT ON ROOF MOUNTING RAILS WITH VIBRATION ISOLATORS FOLLOWING MANUFACTURER'S RECOMMENDATIONS, WHILE MAINTAINING REQUIRED CLEARANCES. BASE LOCATIONS SHALL BE DETERMINED PER MANUFACTURER'S GUIDELINES. REFER TO STRUCTURAL DRAWING S1 AND DETAIL A4M-502 FOR MORE INFORMATION. COORDINATE CONDENSATE PIPE ROUTING WITH THE GENERAL CONTRACTOR AND ROUTE REFRIGERANT TO THE INDOOR BRANCH CONTROLLER. ENSURE ROOF PENETRATIONS COMPLY WITH STRUCTURE AND APPROVED SEALING METHODS.

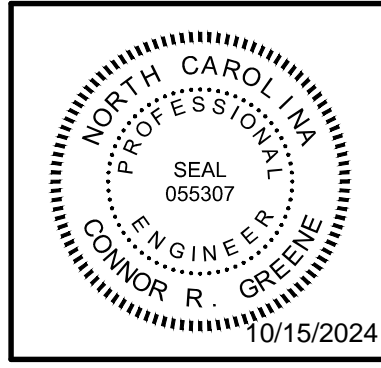


**A1 THIRD FLOOR AND MIDDLE LEVEL ROOF PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
DESCRIPTION:			Date:

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**MECHANICAL  
 THIRD FLOOR AND  
 MIDDLE LEVEL ROOF PLAN - HVAC**

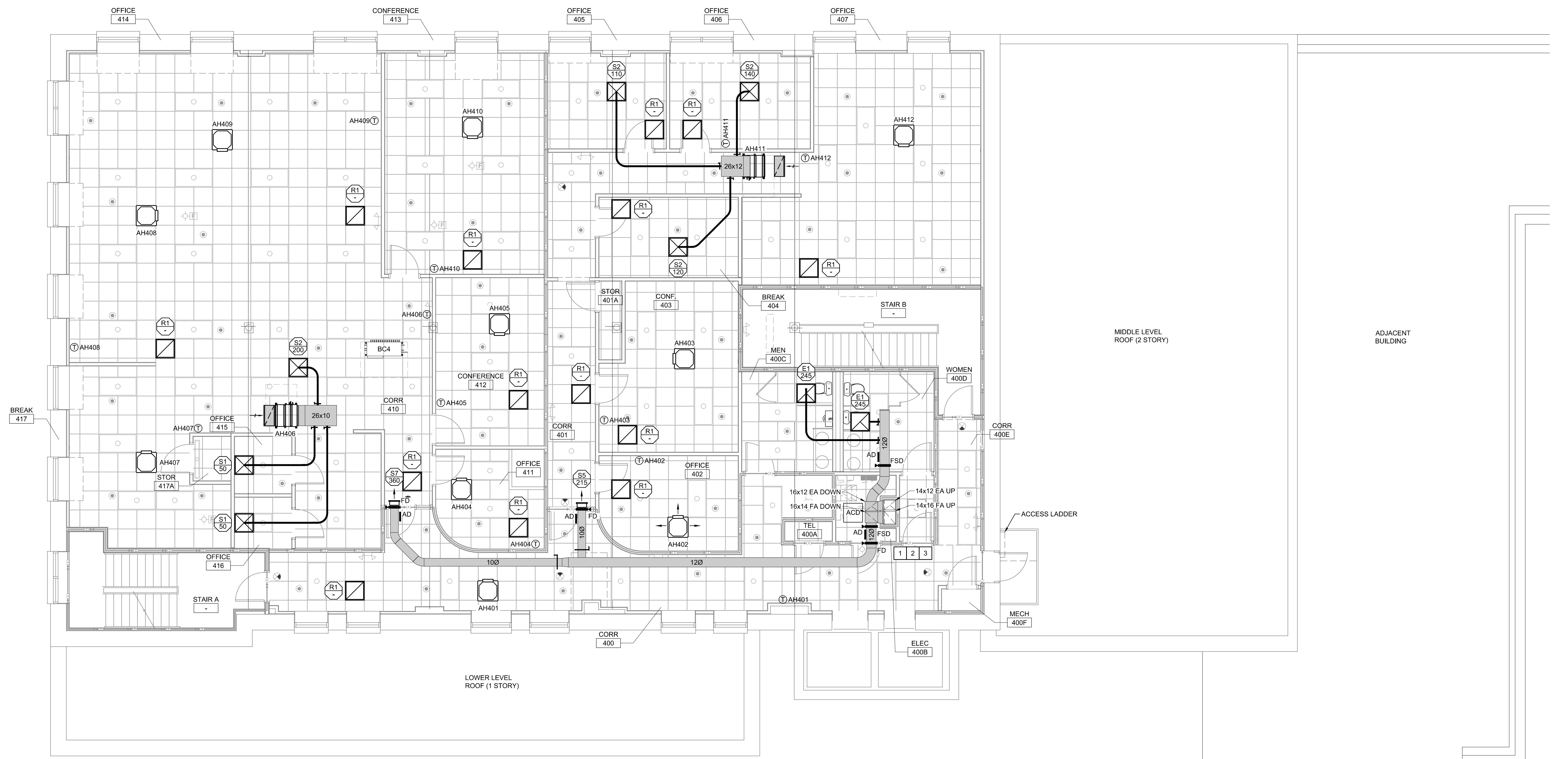
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**MH103**

REVISION:  
 0

**NEW WORK KEYED NOTES**

- 1 INSTALL NEW FRESH AIR (FA) AND EXHAUST AIR (EA) DUCTWORK IN THE LOCATION OF THE REMOVED DUCTS WITHIN THE CHASE, APPLY FIRE-RATED DUCT WRAP AS SHOWN ON RISER DIAGRAM A4/M-701, FOLLOWING MANUFACTURER REQUIREMENTS TO MAINTAIN UL LISTING, FUNCTIONALITY, AND CODE COMPLIANCE.
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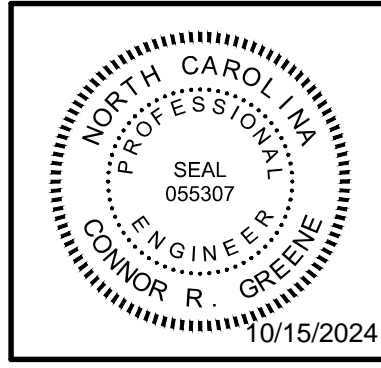


**A1** FOURTH FLOOR PLAN  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
DESCRIPTION:			Date:

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SELF HELP BUILDING  
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 272 N. FRONT STREET  
 WILMINGTON, NC 28401  
**MECHANICAL**  
 FOURTH FLOOR PLAN - HVAC

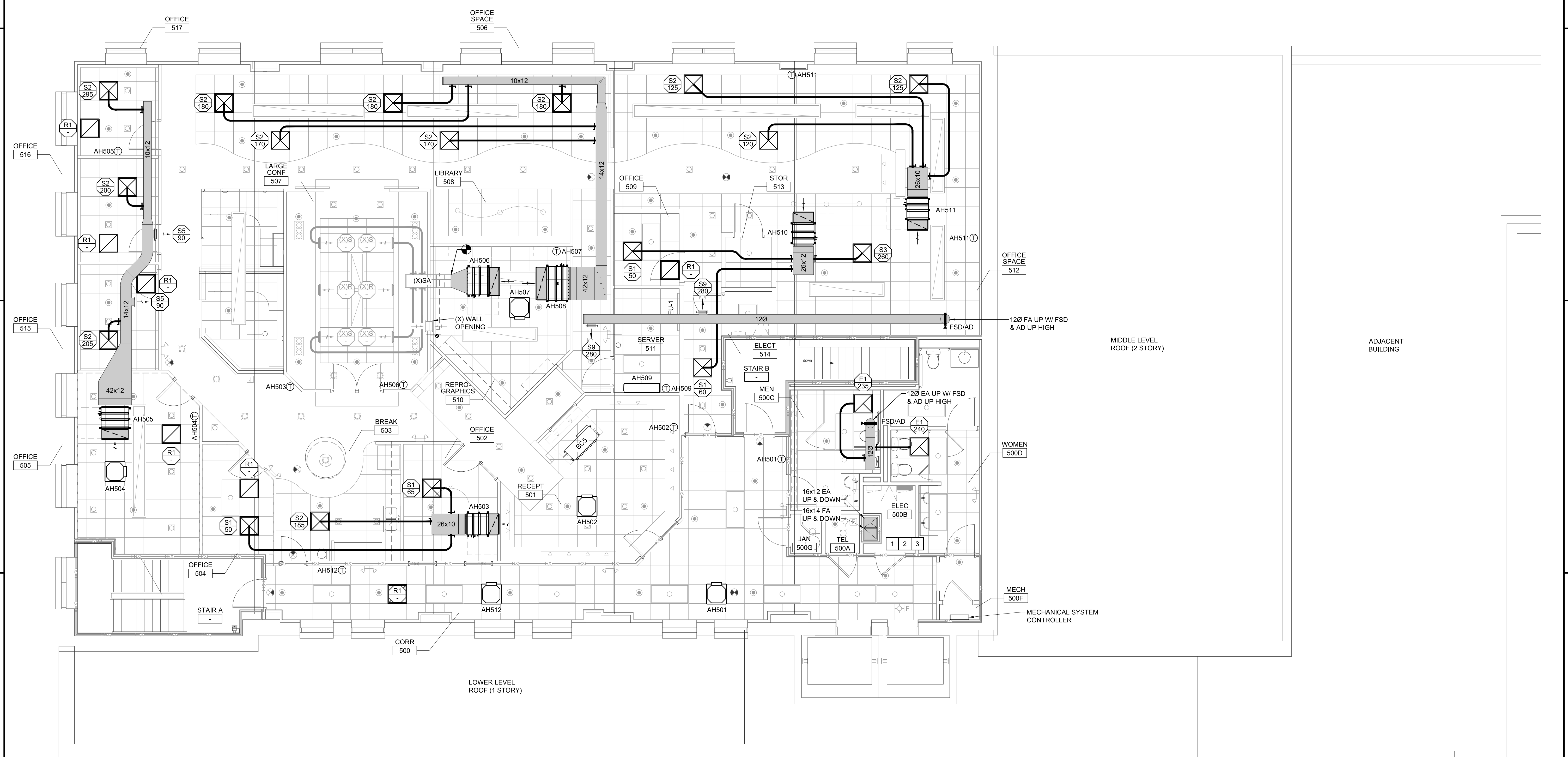
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**MH104**

REVISION:  
 0

**NEW WORK KEYED NOTES**

- 1 INSTALL NEW FRESH AIR (FA) AND EXHAUST AIR (EA) DUCTWORK IN THE LOCATION OF THE REMOVED DUCTS WITHIN THE CHASE, APPLY FIRE-RATED DUCT WRAP AS SHOWN ON RISER DIAGRAM A4/M-701, FOLLOWING MANUFACTURER REQUIREMENTS TO MAINTAIN UL LISTING, FUNCTIONALITY, AND CODE COMPLIANCE.
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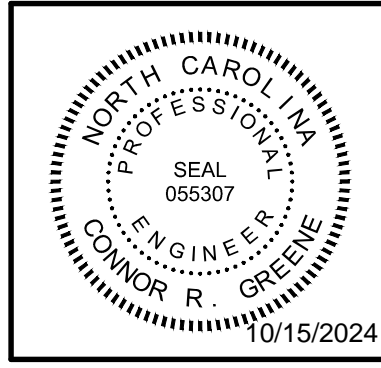


**A1 FIFTH FLOOR PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**SELF HELP BUILDING**  
**HVAC REPLACEMENT**  
 272 N. FRONT STREET  
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**MECHANICAL**  
**FIFTH FLOOR PLAN - HVAC**

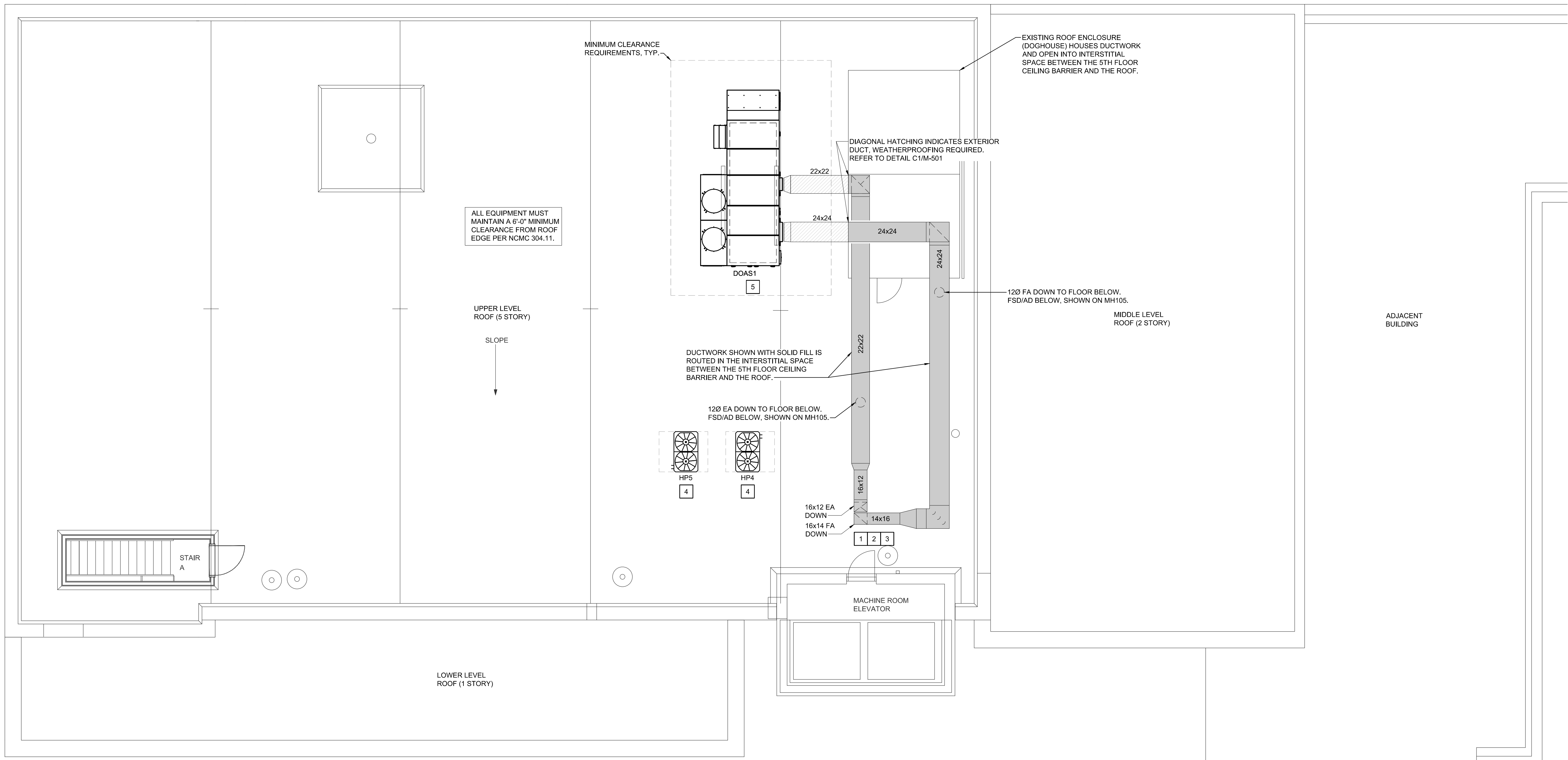
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO.:  
**MH105**

REVISION:  
 0

**NEW WORK KEYED NOTES**

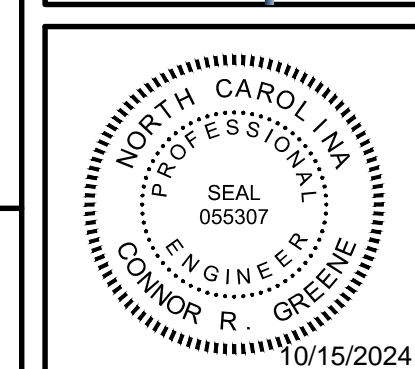
- 1. INSTALL NEW FRESH AIR (FA) AND EXHAUST AIR (EA) DUCTWORK IN THE LOCATION OF THE REMOVED DUCTS WITHIN THE CHASE, APPLY FIRE-RATED DUCT WRAP AS SHOWN ON RISER DIAGRAM A4/M-701, FOLLOWING MANUFACTURER REQUIREMENTS TO MAINTAIN UL LISTING, FUNCTIONALITY, AND CODE COMPLIANCE.
- 2. CONTRACTOR SHALL SELECTIVELY DEMOLISH EXISTING DUCT CHASE WALLS AS NEEDED TO PROVIDE FULL ACCESS TO NEW DUCTWORK, DAMPERS, AND ASSOCIATED DEVICES. AVOID DISTURBANCE OF WALLS CONTAINING ELECTRICAL PANELS OR DEVICES THAT CANNOT BE RELOCATED. AFTER COMPLETION, REBUILD ANY FIRE-RATED WALLS OR FLOORS IN ACCORDANCE WITH NCBC CHAPTER 7 TO MAINTAIN REQUIRED FIRE SEPARATION. CONTRACTOR MUST SUBMIT REDLINES IDENTIFYING ALL DEMOLISHED OR MODIFIED AREAS.
- 3. PRIOR TO FABRICATION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE FEASIBILITY OF THE DESIGNED DUCT LAYOUT BASED ON FIELD CONDITIONS. COORDINATE ANY NECESSARY MODIFICATIONS WITH THE GENERAL CONTRACTOR AND ENGINEER. NO DUCTWORK SHALL BE ORDERED UNTIL A FINAL, FIELD-VERIFIED LAYOUT IS APPROVED.
- 4. INSTALL VRF OUTDOOR UNIT ON ROOF MOUNTING RAILS WITH VIBRATION ISOLATORS FOLLOWING MANUFACTURER'S RECOMMENDATIONS, WHILE MAINTAINING REQUIRED CLEARANCES. BASE LOCATIONS SHALL BE DETERMINED PER MANUFACTURER'S GUIDELINES. REFER TO STRUCTURAL DRAWING S1 AND DETAIL A4/M-502 FOR MORE INFORMATION. COORDINATE CONDENSATE PIPE ROUTING WITH THE GENERAL CONTRACTOR AND ROUTE REFRIGERANT TO THE INDOOR BRANCH CONTROLLER. ENSURE ROOF PENETRATIONS COMPLY WITH STRUCTURE AND APPROVED SEALING METHODS.
- 5. INSTALL NATURAL GAS FIRED DOAS UNIT ACCORDING TO MANUFACTURERS RECOMMENDATIONS INCLUDING VIBRATION ISOLATION, WHILE MAINTAINING MANUFACTURER'S RECOMMENDED CLEARANCES. BASE LOCATIONS AND SIZES SHALL BE DETERMINED ACCORDING TO THE MANUFACTURER'S INSTALLATION GUIDELINES. REFER TO STRUCTURAL DRAWING S1 AND DETAIL C4/M-502 FOR ADDITIONAL INFORMATION AND GUIDELINES. ENSURE ALL ROOF PENETRATIONS COMPLY WITH EXISTING ROOF STRUCTURE AND APPROVED SEALING METHODS. COORDINATE THE ROUTING OF CONDENSATE AND NATURAL GAS PIPE WITH G.C. ENSURING CODE COMPLIANCE.



**A1** UPPER LEVEL ROOF PLAN  
 3/16" = 1'-0"  
 0 4 8 12  
 PLAN NORTH

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
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**MECHANICAL  
 UPPER LEVEL ROOF PLAN - HVAC**

JOB NO.:	24069
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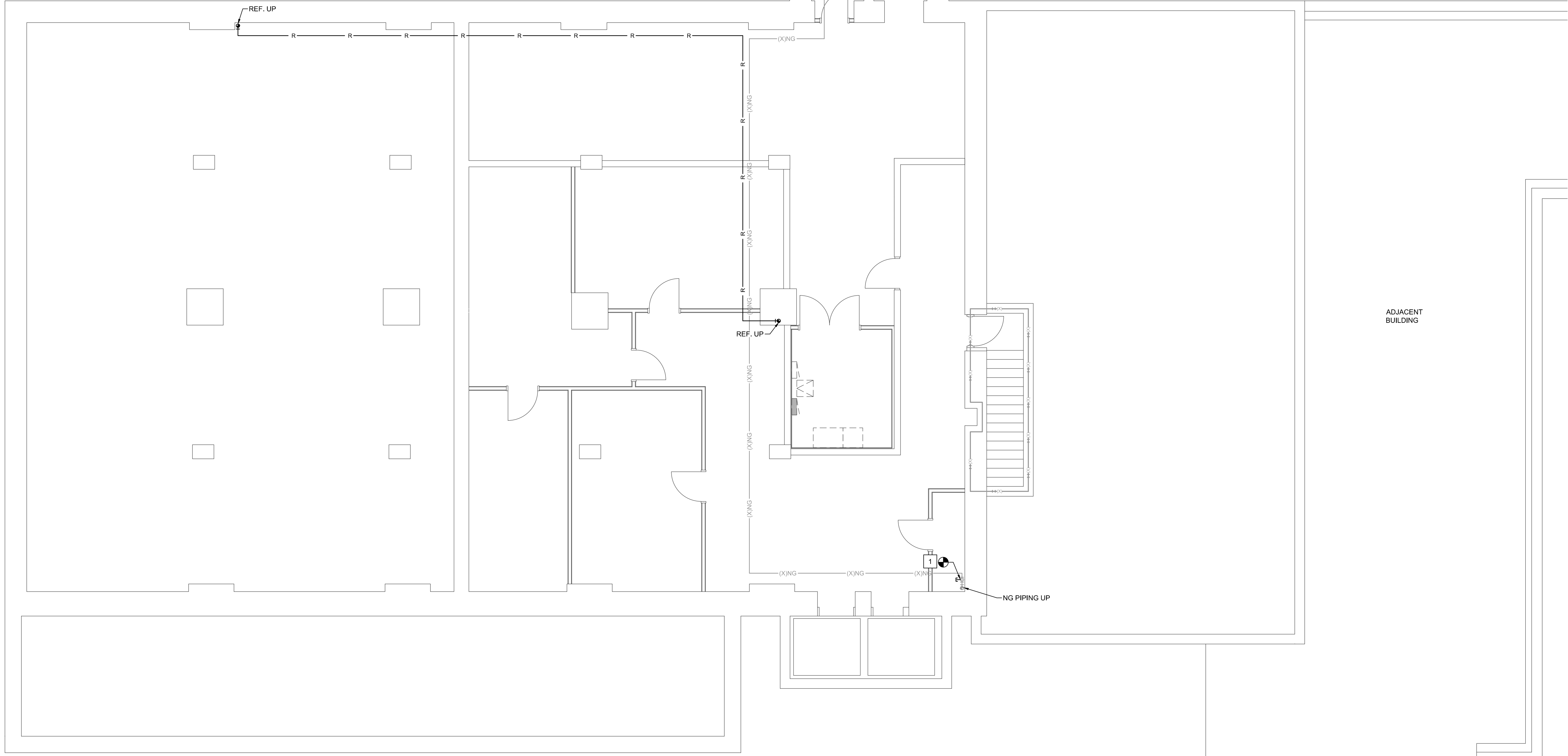
DRAWING NO:  
**MH106**

REVISION:  
 0

**NEW WORK KEYED NOTES**

1 EXISTING NG PIPING STACK TO REMAIN, CAP AS REQUIRED. REFER TO RISER DIAGRAM A3/M-701 FOR MORE INFORMATION.

GAS METER COVER (ABOVE)  
GAS METER (UNDER SIDEWALK, ABOVE)



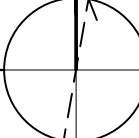
ADJACENT BUILDING

**A1** BASEMENT FLOOR PLAN

3/16" = 1'-0"



PLAN NORTH



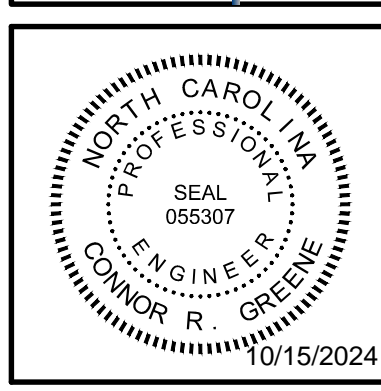
WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

REVISION NO.	DESCRIPTION	DATE
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MECHANICAL  
BASEMENT FLOOR PLAN - PIPING

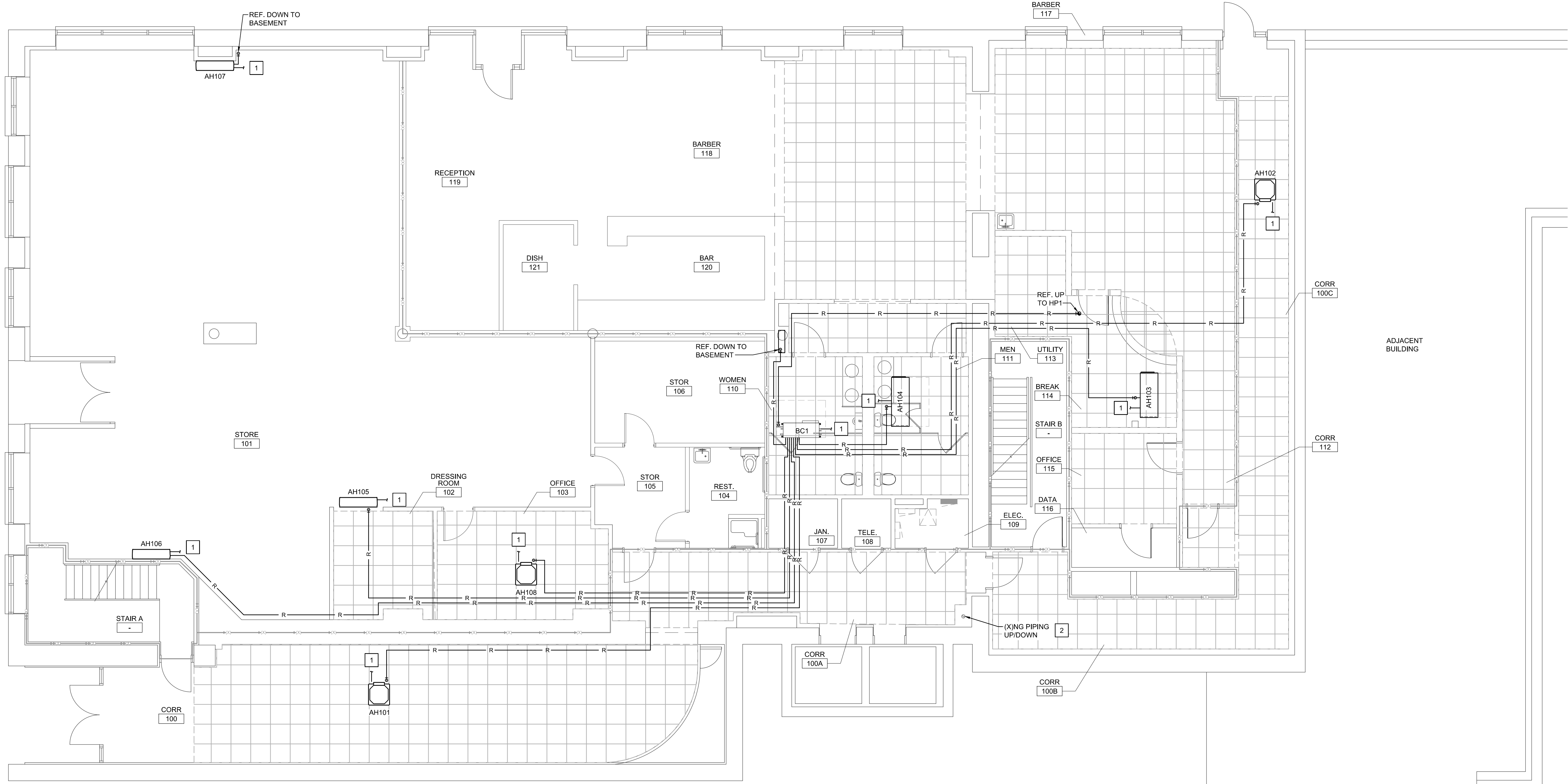
JOB NO.:	24069
DRAWN:	CRG
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CHECKED:	CRG

DRAWING NO.  
**MP100**

REVISION:  
0

**NEW WORK KEYED NOTES**

- 1 FIELD ROUTE CONDENSATE PIPING USING EXISTING DISCHARGE LOCATIONS AND ROUTING IDENTIFIED DURING THE DEMOLITION PHASE. MINIMIZE THE NUMBER OF DISCHARGE LOCATIONS. DO NOT INSTALL CONDENSATE PIPING ON THIS FLOOR UNTIL ROUTING HAS BEEN APPROVED BY THE ENGINEER.
- 2 EXISTING NG PIPING STACK TO REMAIN. CAP AS REQUIRED. REFER TO RISER DIAGRAM A3/M-701 FOR MORE INFORMATION.

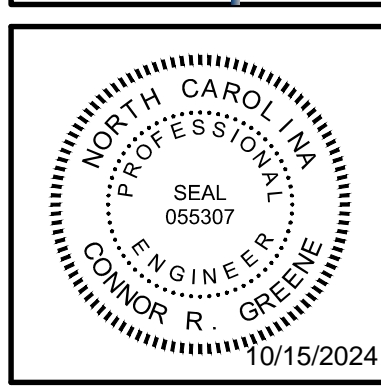


**A1 FIRST FLOOR PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**MECHANICAL  
 FIRST FLOOR PLAN - PIPING**

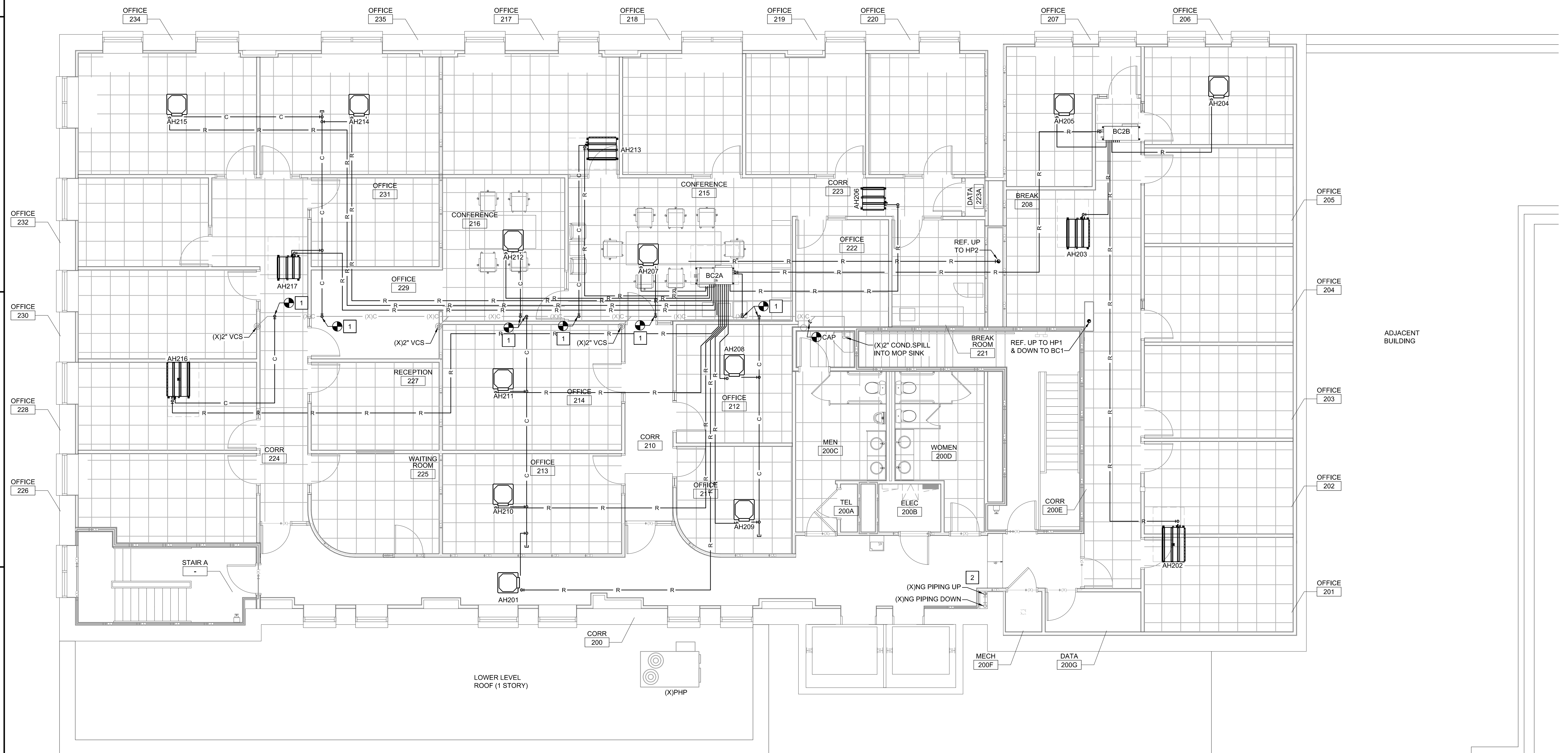
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**MP101**

REVISION:  
 0



- NEW WORK KEYED NOTES**
- 1 INSTALL NEW CONDENSATE PIPING FROM VRF UNITS TO EXISTING CONDENSATE HEADER. TIE INTO EXISTING PIPING AT CONNECTION POINT SHOWN ON FLOOR PLAN. ADJUST ROUTING AS NEEDED BASED ON FIELD CONDITIONS.
  - 2 EXISTING NG PIPING STACK TO REMAIN. CAP AS REQUIRED. REFER TO RISER DIAGRAM A3/M-701 FOR MORE INFORMATION.



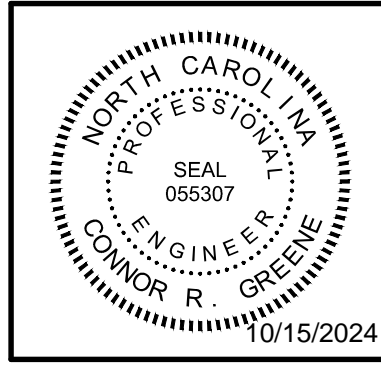
**A1 SECOND FLOOR AND LOWER LEVEL ROOF PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

**WALL LEGEND**

	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**MECHANICAL  
 SECOND FLOOR AND  
 LOWER LEVEL ROOF PLAN - PIPING**

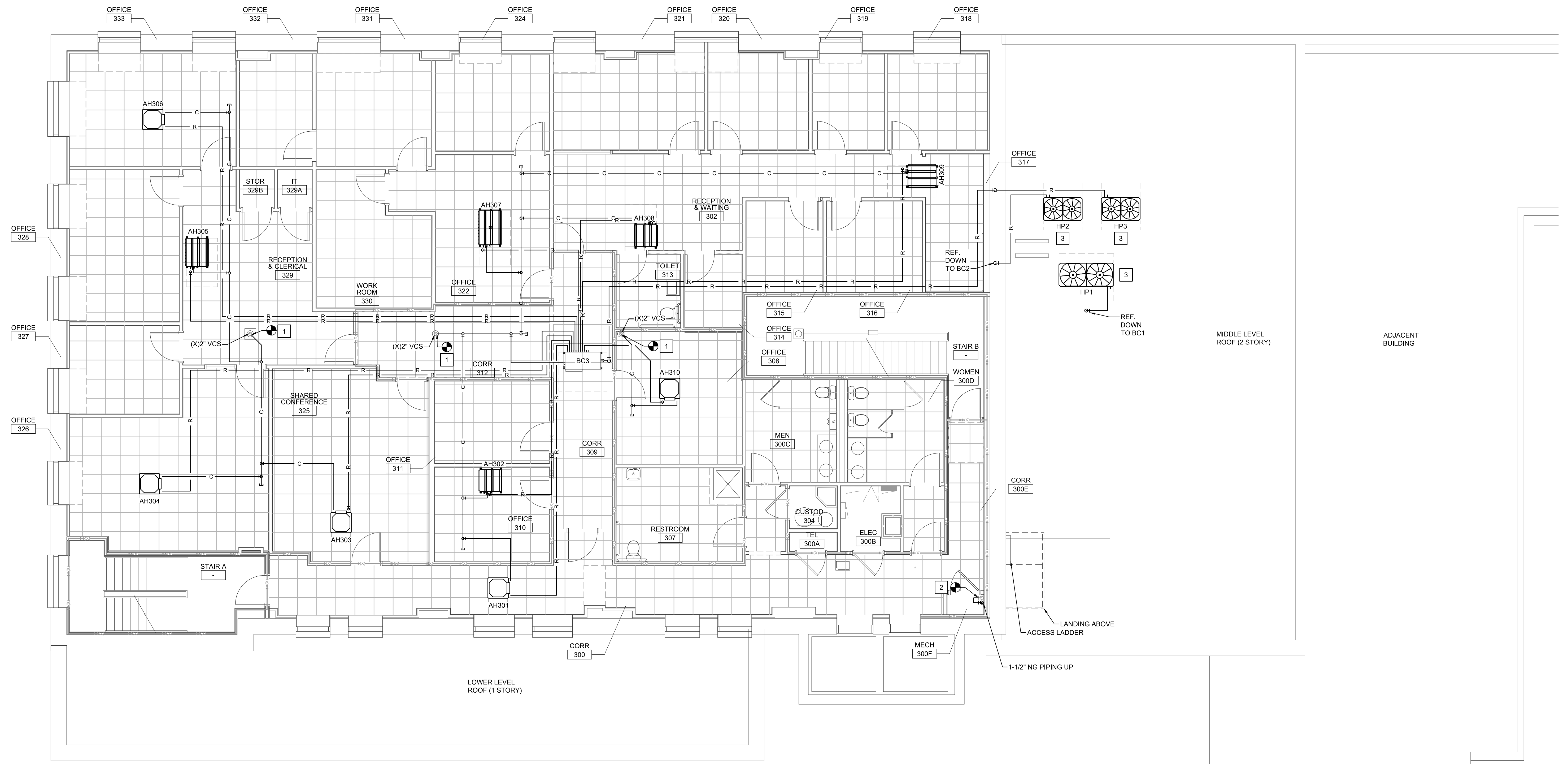
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**MP102**

REVISION:  
 0

**NEW WORK KEYED NOTES**

- 1 INSTALL NEW CONDENSATE PIPING FROM VRF UNITS TO EXISTING CONDENSATE STACK. TIE INTO EXISTING PIPING AT CONNECTION POINT SHOWN ON FLOOR PLAN. ADJUST ROUTING AS NEEDED BASED ON FIELD CONDITIONS.
- 2 EXISTING NG PIPING STACK TO REMAIN. CAP AS REQUIRED. INSTALL NEW NG PIPING AS INDICATED ON THE DRAWINGS. REFER TO RISER DIAGRAM A3/M-701 FOR MORE INFORMATION.
- 3 INSTALL VRF OUTDOOR UNIT ON ROOF MOUNTING RAILS WITH VIBRATION ISOLATORS FOLLOWING MANUFACTURER'S RECOMMENDATIONS, WHILE MAINTAINING REQUIRED CLEARANCES. BASE LOCATIONS SHALL BE DETERMINED PER MANUFACTURER'S GUIDELINES. REFER TO STRUCTURAL DRAWING S1 AND DETAIL A4/M-502 FOR MORE INFORMATION. COORDINATE CONDENSATE PIPE ROUTING WITH THE GENERAL CONTRACTOR AND ROUTE REFRIGERANT TO THE INDOOR BRANCH CONTROLLER. ENSURE ROOF PENETRATIONS COMPLY WITH STRUCTURE AND APPROVED SEALING METHODS.

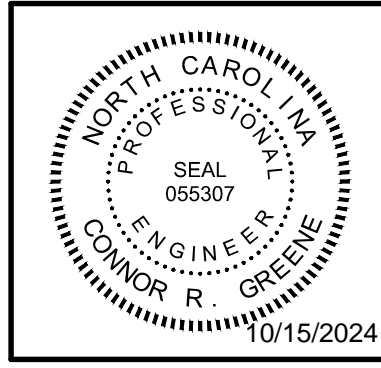


**A1 THIRD FLOOR AND MIDDLE LEVEL ROOF PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**MECHANICAL  
 THIRD FLOOR AND  
 MIDDLE LEVEL ROOF PLAN - PIPING**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

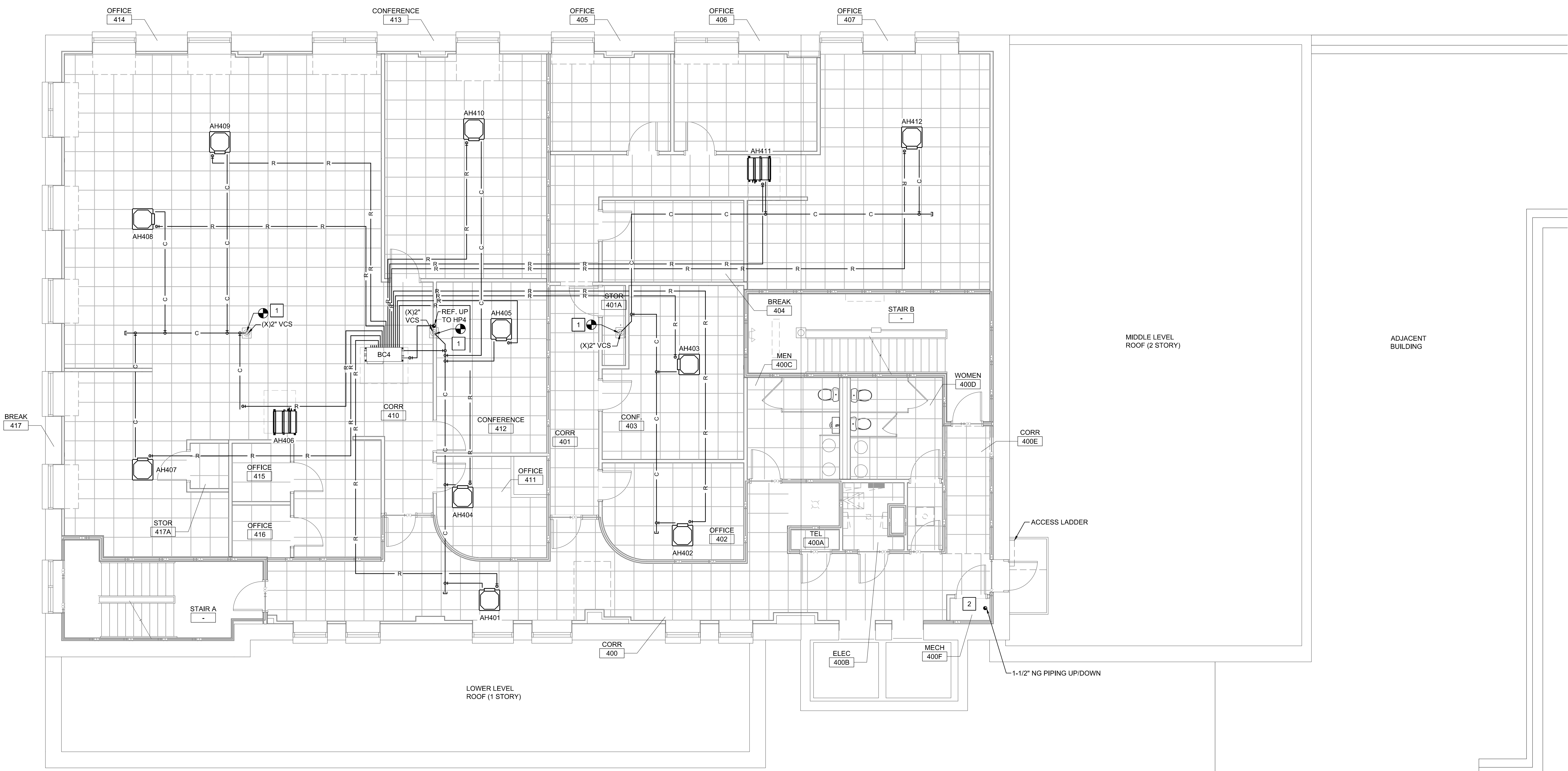
DRAWING NO:  
**MP103**

REVISION:  
 0

**NEW WORK KEYED NOTES**

1 INSTALL NEW CONDENSATE PIPING FROM VRF UNITS TO EXISTING CONDENSATE STACK. TIE INTO EXISTING PIPING AT CONNECTION POINT SHOWN ON FLOOR PLAN. ADJUST ROUTING AS NEEDED BASED ON FIELD CONDITIONS.

2 INSTALL NEW NG PIPING AS INDICATED ON THE DRAWINGS. REFER TO RISER DIAGRAM A3/M-701 FOR MORE INFORMATION.

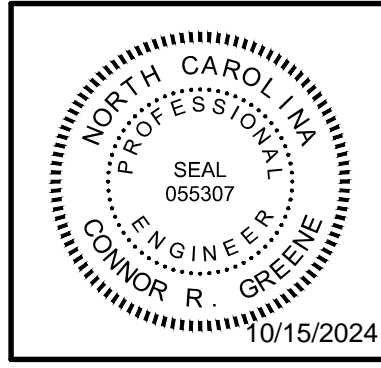


**A1** FOURTH FLOOR PLAN  
 3/16" = 1'-0"  
 0 4 8 12  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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MECHANICAL  
 FOURTH FLOOR PLAN - PIPING

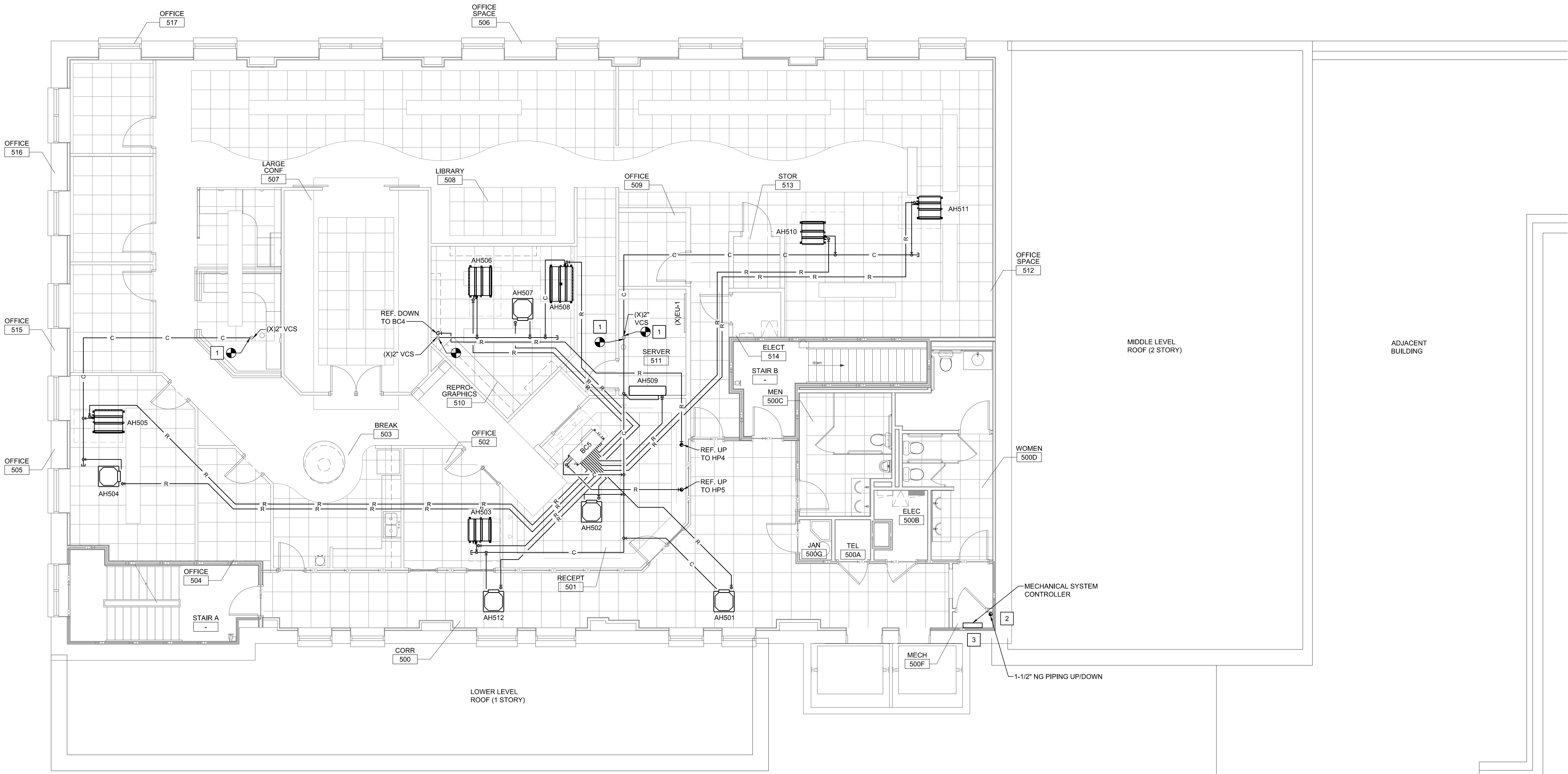
JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**MP104**

REVISION:  
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**NEW WORK KEYED NOTES**

- 1 INSTALL NEW CONDENSATE PIPING FROM VRF UNITS TO EXISTING CONDENSATE STACK. TIE INTO EXISTING PIPING AT CONNECTION POINT SHOWN ON FLOOR PLAN. ADJUST ROUTING AS NEEDED BASED ON FIELD CONDITIONS.
- 2 INSTALL NEW NG PIPING AS INDICATED ON THE DRAWINGS. REFER TO RISER DIAGRAM A3M-701 FOR MORE INFORMATION.
- 3 INSTALL VRF SYSTEM CONTROLLER IN OWNER APPROVED LOCATION. COORDINATE AND CONFIRM FINAL PLACEMENT WITH G.C.

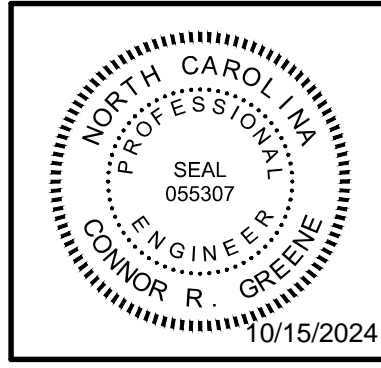


**A1 FIFTH FLOOR PLAN**  
 3/16" = 1'-0"  
 PLAN NORTH

WALL LEGEND	
	1 HOUR RATED WALL - EXISTING
	2 HOUR RATED WALL - EXISTING

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**MECHANICAL  
 FIFTH FLOOR PLAN - PIPING**

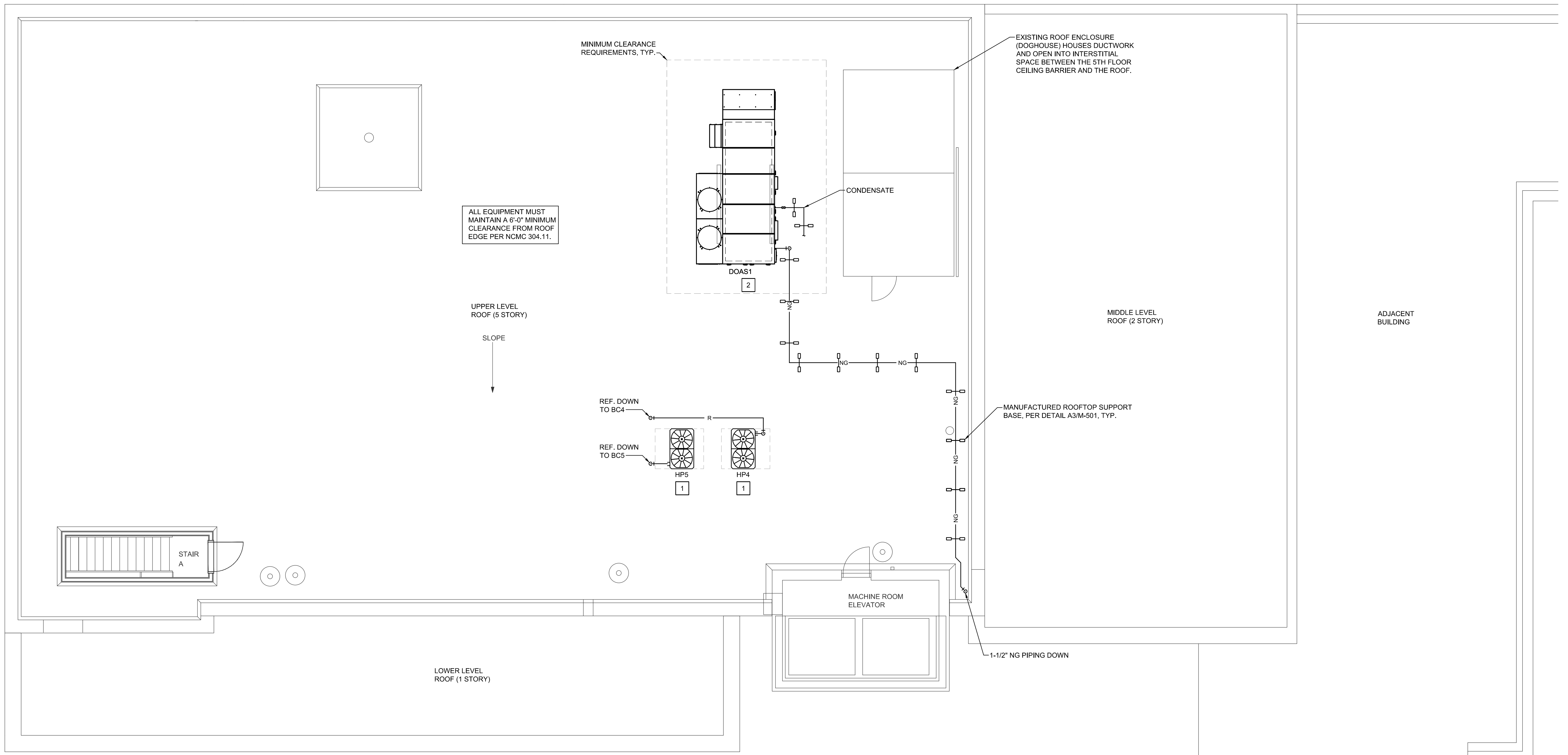
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**MP105**

REVISION:  
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**NEW WORK KEYED NOTES**

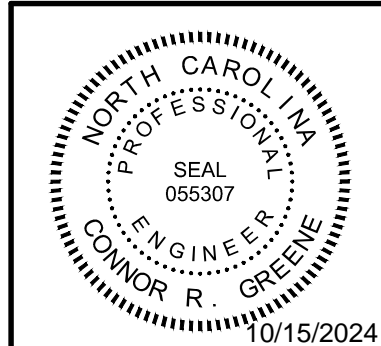
- 1 INSTALL VRF OUTDOOR UNIT ON ROOF MOUNTING RAILS WITH VIBRATION ISOLATORS FOLLOWING MANUFACTURER'S RECOMMENDATIONS, WHILE MAINTAINING REQUIRED CLEARANCES. BASE LOCATIONS SHALL BE DETERMINED PER MANUFACTURER'S GUIDELINES. REFER TO STRUCTURAL DRAWING S1 AND DETAIL A4/M-502 FOR MORE INFORMATION. COORDINATE CONDENSATE PIPE ROUTING WITH THE GENERAL CONTRACTOR AND ROUTE REFRIGERANT TO THE INDOOR BRANCH CONTROLLER. ENSURE ROOF PENETRATIONS COMPLY WITH STRUCTURE AND APPROVED SEALING METHODS.
- 2 INSTALL NATURAL GAS FIRED DOAS UNIT ACCORDING TO MANUFACTURERS RECOMMENDATIONS INCLUDING VIBRATION ISOLATION, WHILE MAINTAINING MANUFACTURER'S RECOMMENDED CLEARANCES. BASE LOCATIONS AND SIZES SHALL BE DETERMINED ACCORDING TO THE MANUFACTURER'S INSTALLATION GUIDELINES. REFER TO STRUCTURAL DRAWING S1 AND DETAIL C4/M-502 FOR ADDITIONAL INFORMATION AND GUIDELINES. ENSURE ALL ROOF PENETRATIONS COMPLY WITH EXISTING ROOF STRUCTURE AND APPROVED SEALING METHODS. COORDINATE THE ROUTING OF CONDENSATE AND NATURAL GAS PIPE WITH G.C. ENSURING CODE COMPLIANCE.



**A1 UPPER LEVEL ROOF PLAN**  
 3/16" = 1'-0"  
 0 4 8 12  
 PLAN NORTH

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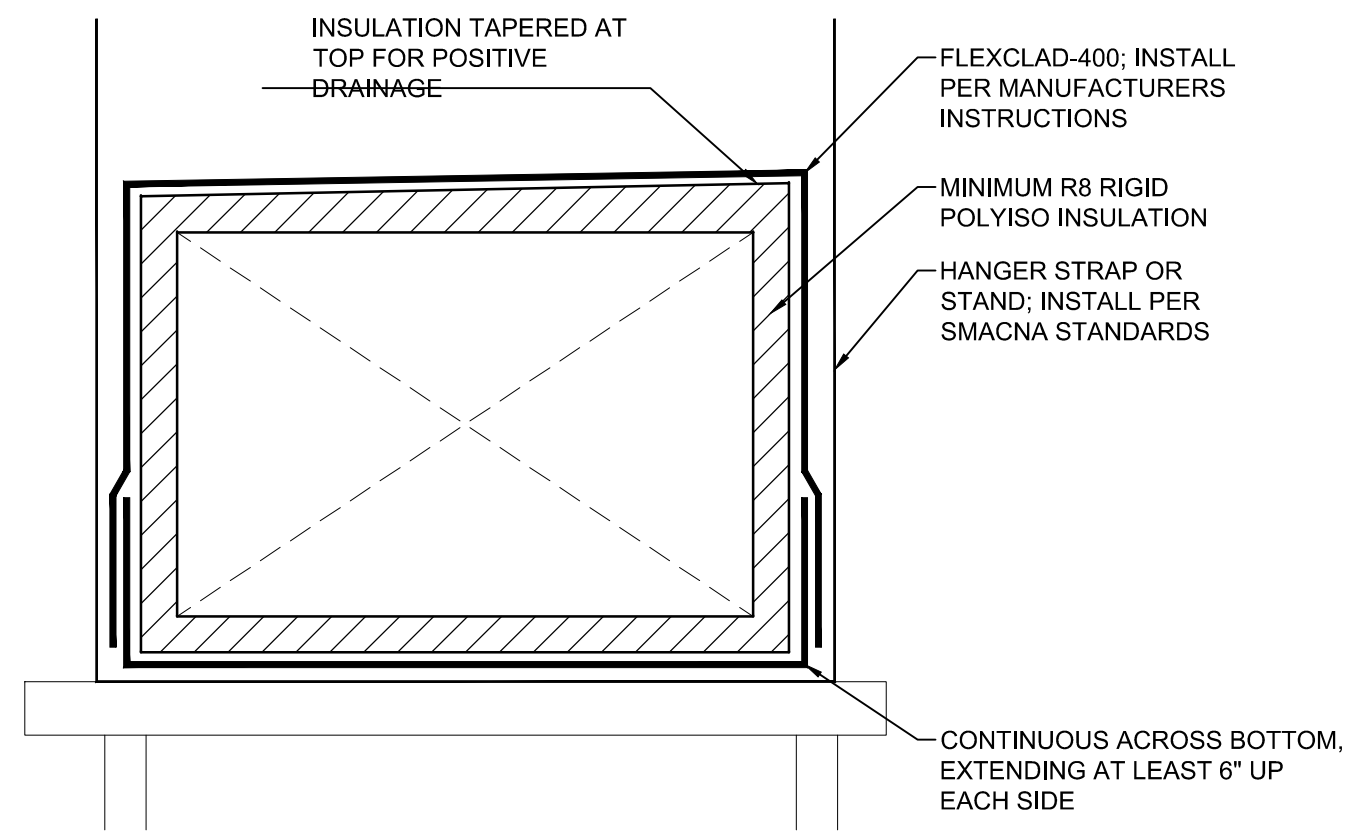
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**MECHANICAL  
 UPPER LEVEL ROOF PLAN - PIPING**

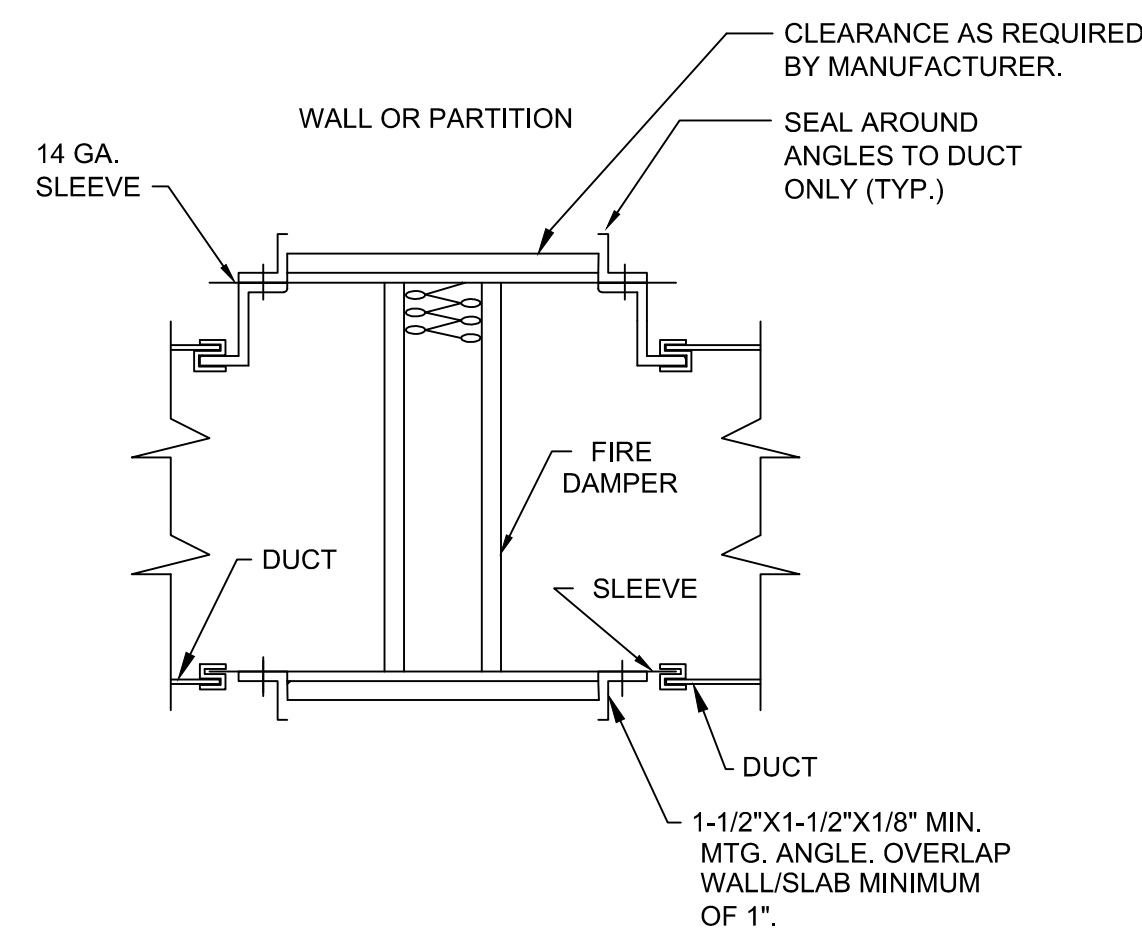
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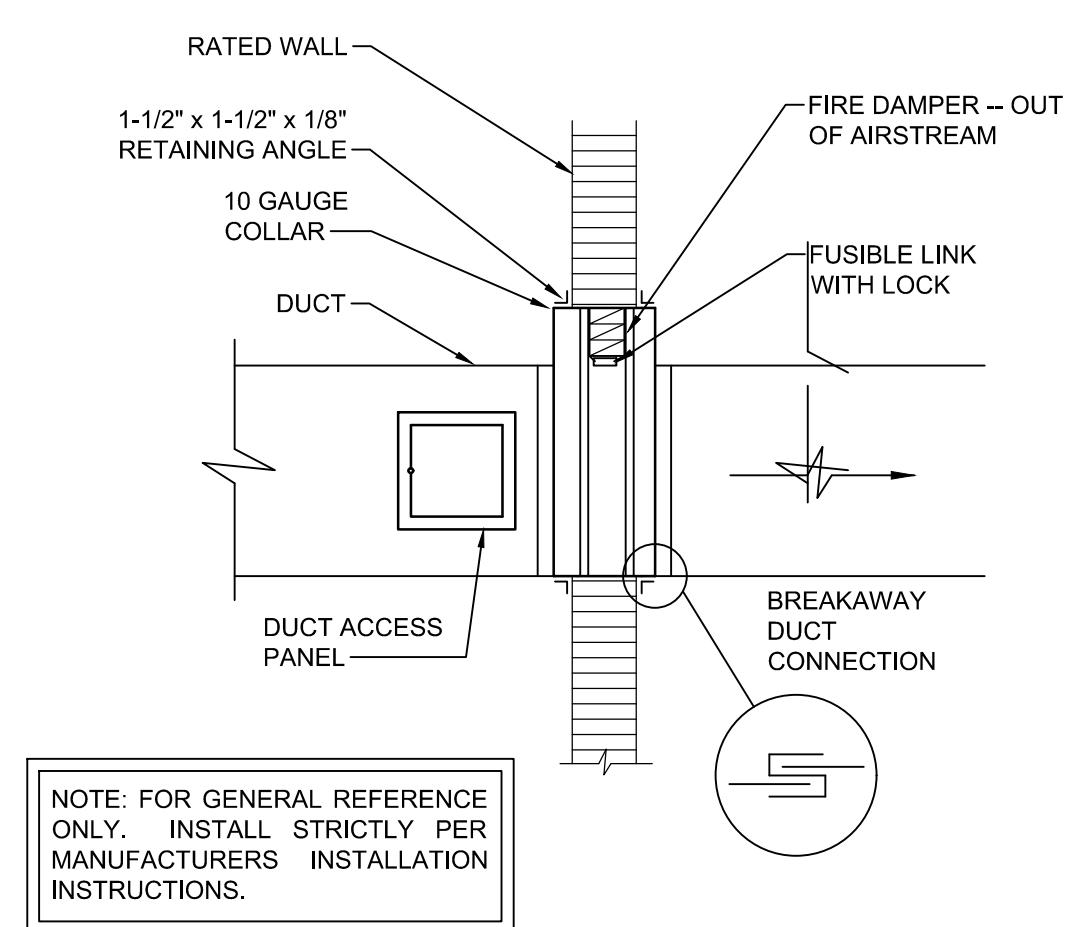


**C1 EXTERIOR WEATHER PROOFING DUCT INSTALLATION DETAIL**  
NOT TO SCALE

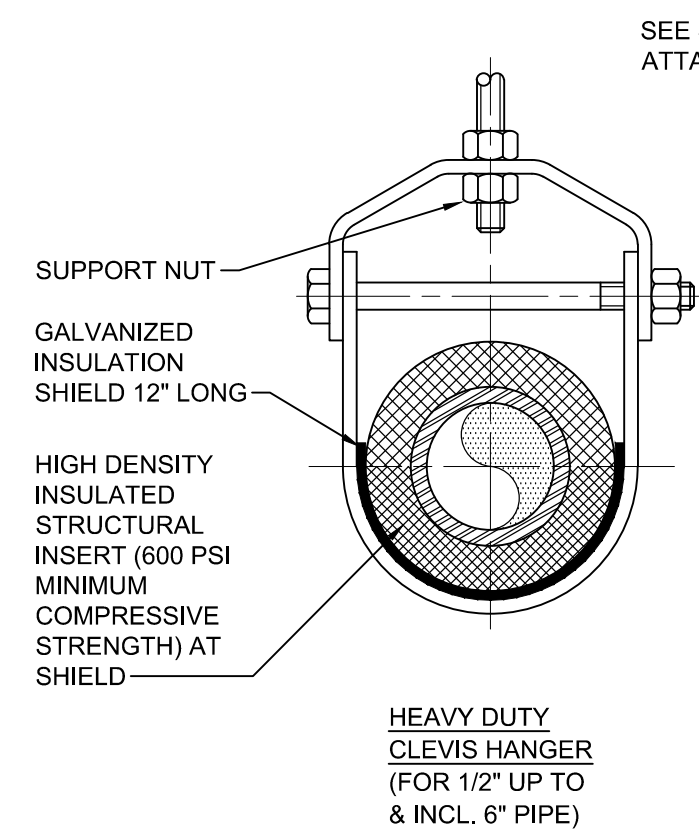


**C2 HORIZONTAL FIRE / SMOKE DAMPER DETAIL**  
NOT TO SCALE

- NOTE:
1. PROVIDE DUCT ACCESS DOOR.
  2. PROVIDE ALL CEILING, FLOOR, AND WALL ACCESS DOORS NECESSARY FOR ACCESS TO FIRE DAMPER.
  3. INSTALLATION SHALL COMPLY WITH SMACNA, NFPA-90A, SBC, UL555 AND LOCAL AUTHORITIES.
  4. BLANKET INSULATION SHALL BE INSTALLED OVER ANGLES AND SEALED TO WALL.
  5. DAMPER SHALL BE LOCATED OUT OF AIR STREAM.
  6. DUCT SMOKE DETECTOR SHALL BE INSTALLED WITHIN 5FT OF COMBINATION FIRE/SMOKE DAMPERS. DETECTOR SHALL BE FURNISHED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.



**C3 FIRE DAMPER DETAIL**  
NOT TO SCALE

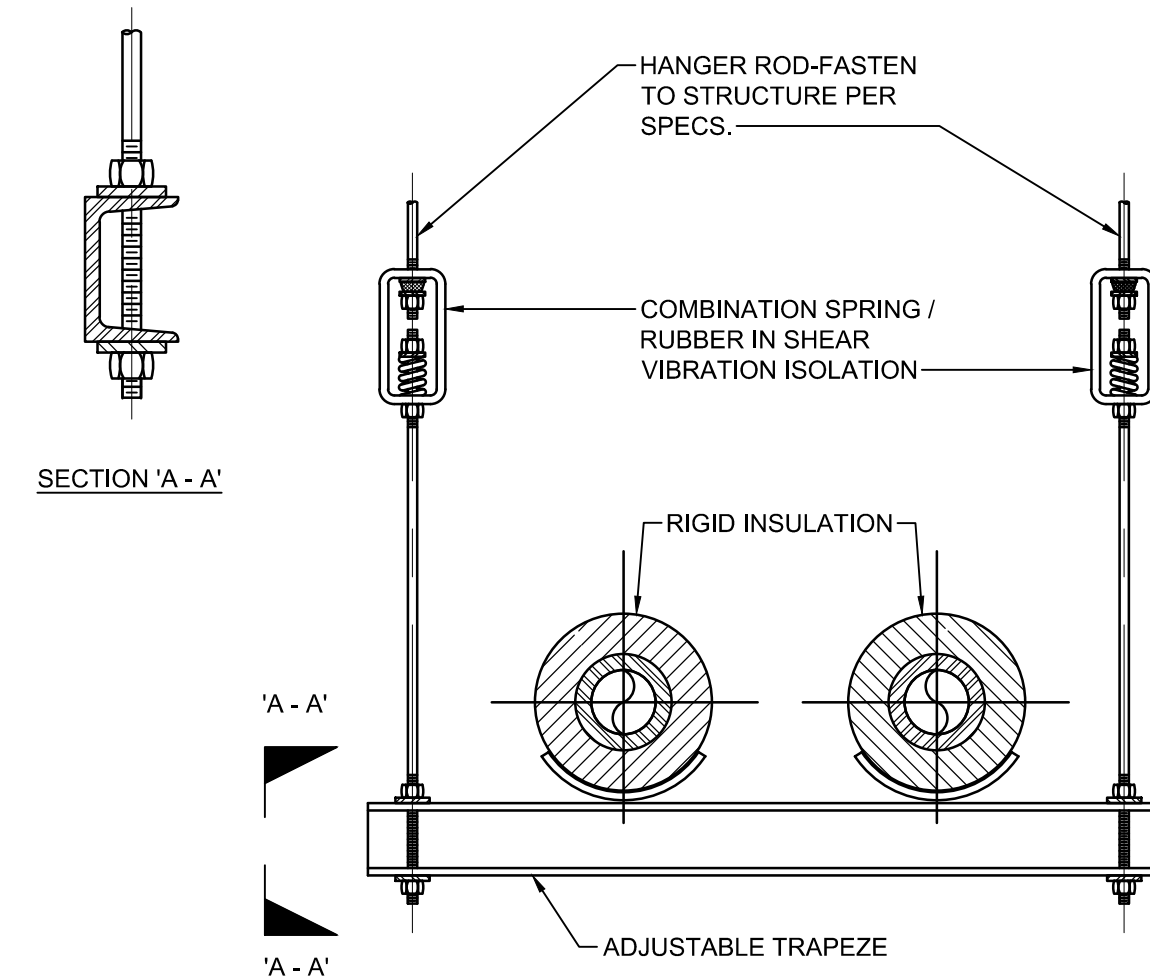


SEE SPECIFICATIONS FOR BUILDING ATTACHMENT REQUIREMENTS

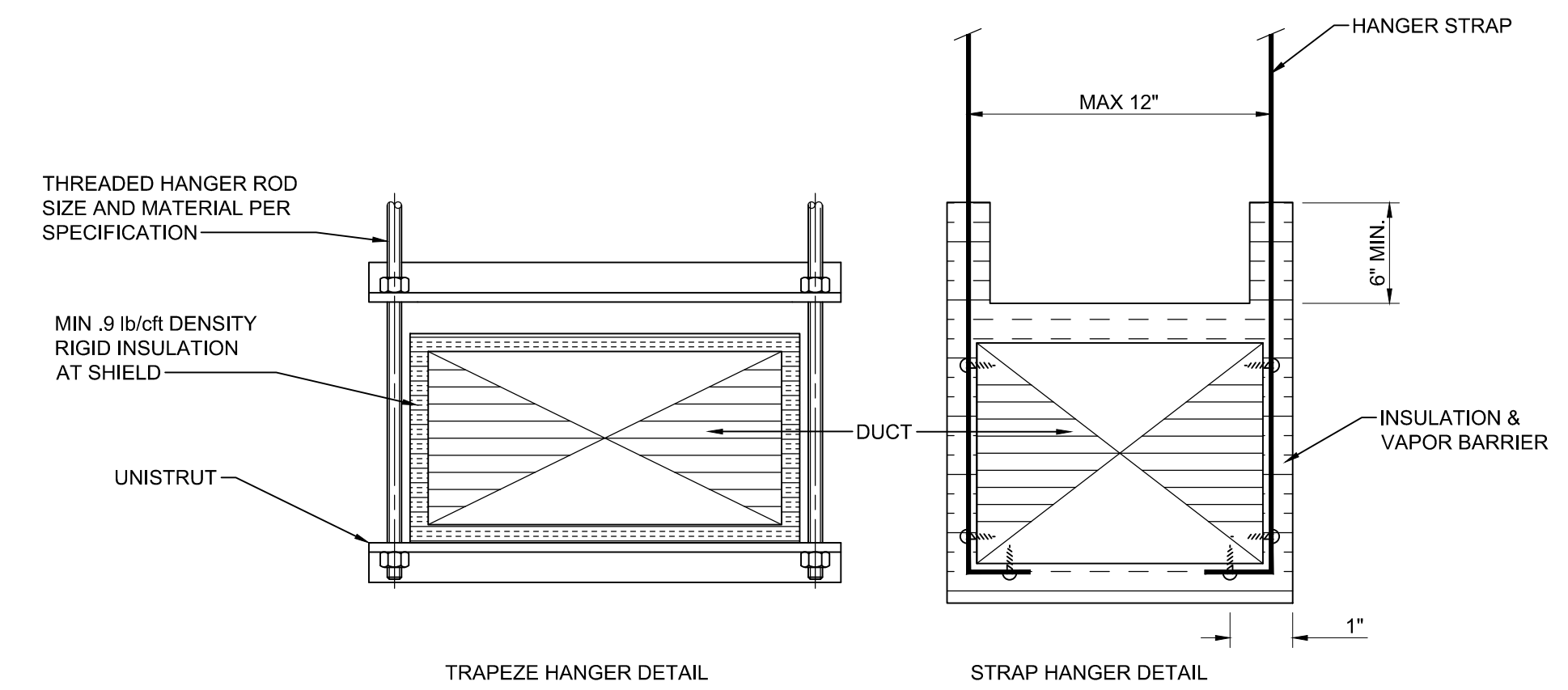
LOAD SCHEDULE		
PIPE SIZE	MAXIMUM SPACING	ROD SIZE
1/2" - 2"	8'	1/2"Ø
2 1/2"	10'	5/8"Ø
3"	10'	5/8"Ø
4"	14'	5/8"Ø
5"	14'	5/8"Ø
6"	15'	3/4"Ø

- NOTES:
1. THIS DETAIL SHALL BE USED AS A GUIDE. ALL HANGERS SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
  2. PIPE 6" AND LARGER SHALL HAVE ROLLER SUPPORTED WITH DUAL RODS.
  3. FOR CHW SERVICE OVER 3" REPLACE SADDLE WITH 12" LONG 14 GA SHIELD WITH RIGID INSULATION BETWEEN PIPE AND SHIELD.
  4. WHERE TRAPEZE HANGERS ARE USED FOR HEATING HOT WATER PROVIDE ROLLERS.

**B1 PIPE HANGER SUPPORT DETAIL**  
NOT TO SCALE

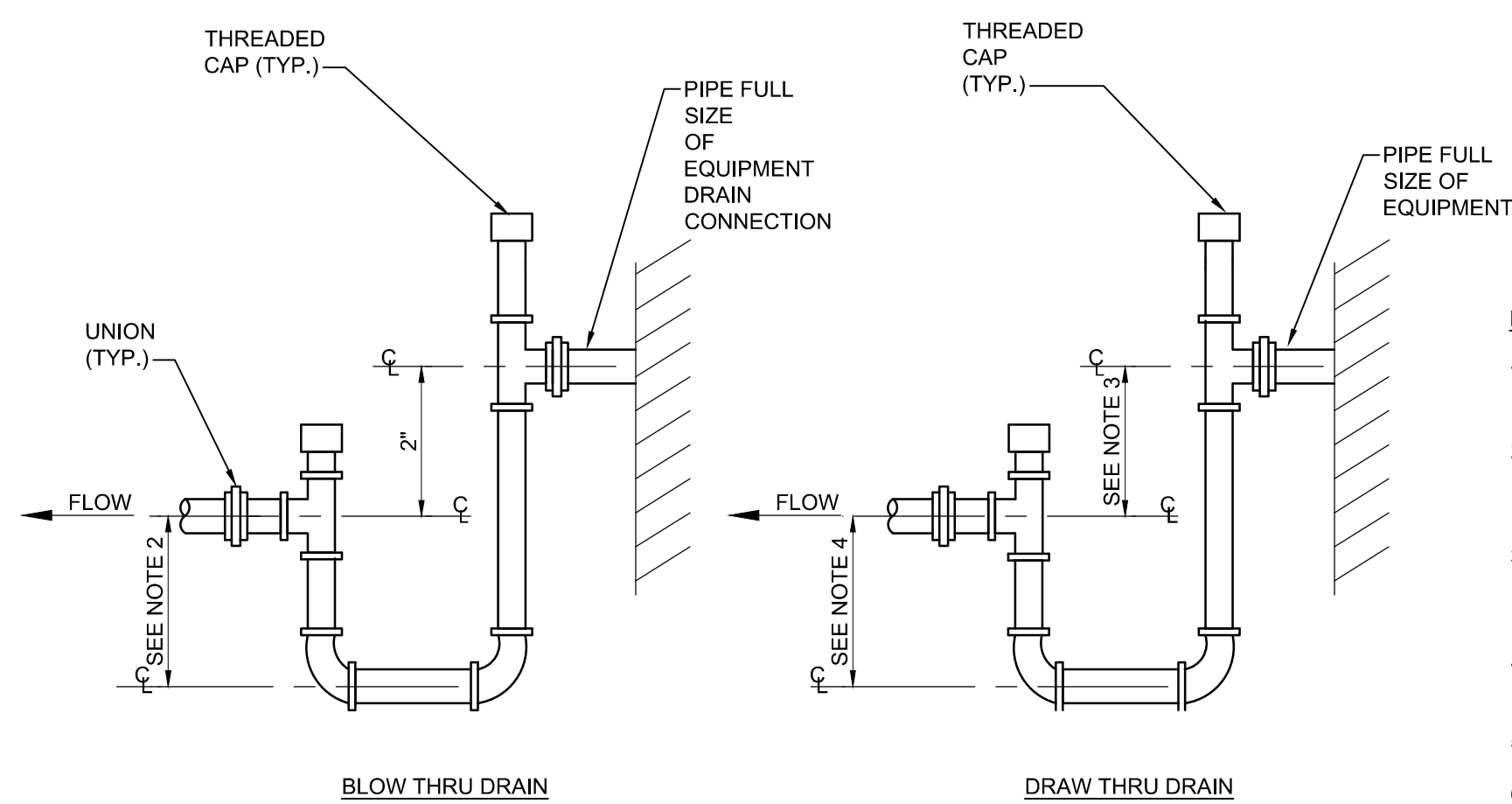


**B3 TRAPEZE STYLE PIPE HANGER DETAIL**  
NOT TO SCALE



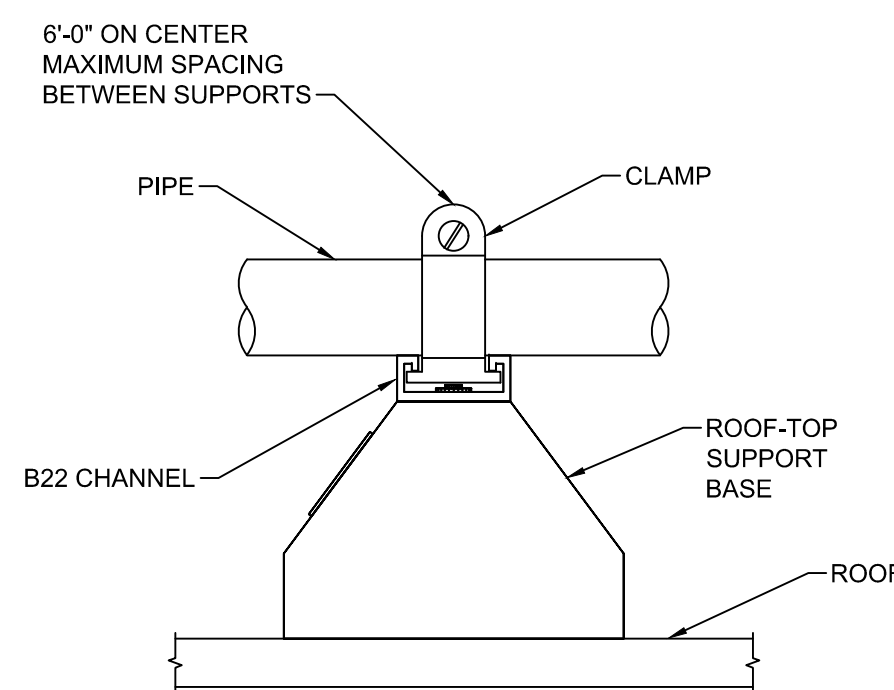
- NOTES:
1. TRAPEZE HANGERS SHALL BE PROVIDED FOR ALL DUCT WORK. TRAPEZE HANGERS CANNOT BE USED FOR BRANCH DUCT WORK 12" IN WIDTH AND SHORTER REFER TO STRAP HANGER DETAIL.
  2. SUPPORTS SHALL BE SPACED AND SIZED AS PER SPECIFICATIONS.
  3. RIGID INSULATION SHALL EXTEND MINIMUM OF 3" BEYOND STRUT ON BOTH SIDES. MAINTAIN VAPOR BARRIER ACROSS STRUT.

**B4 DUCT SUPPORT DETAIL**  
NOT TO SCALE

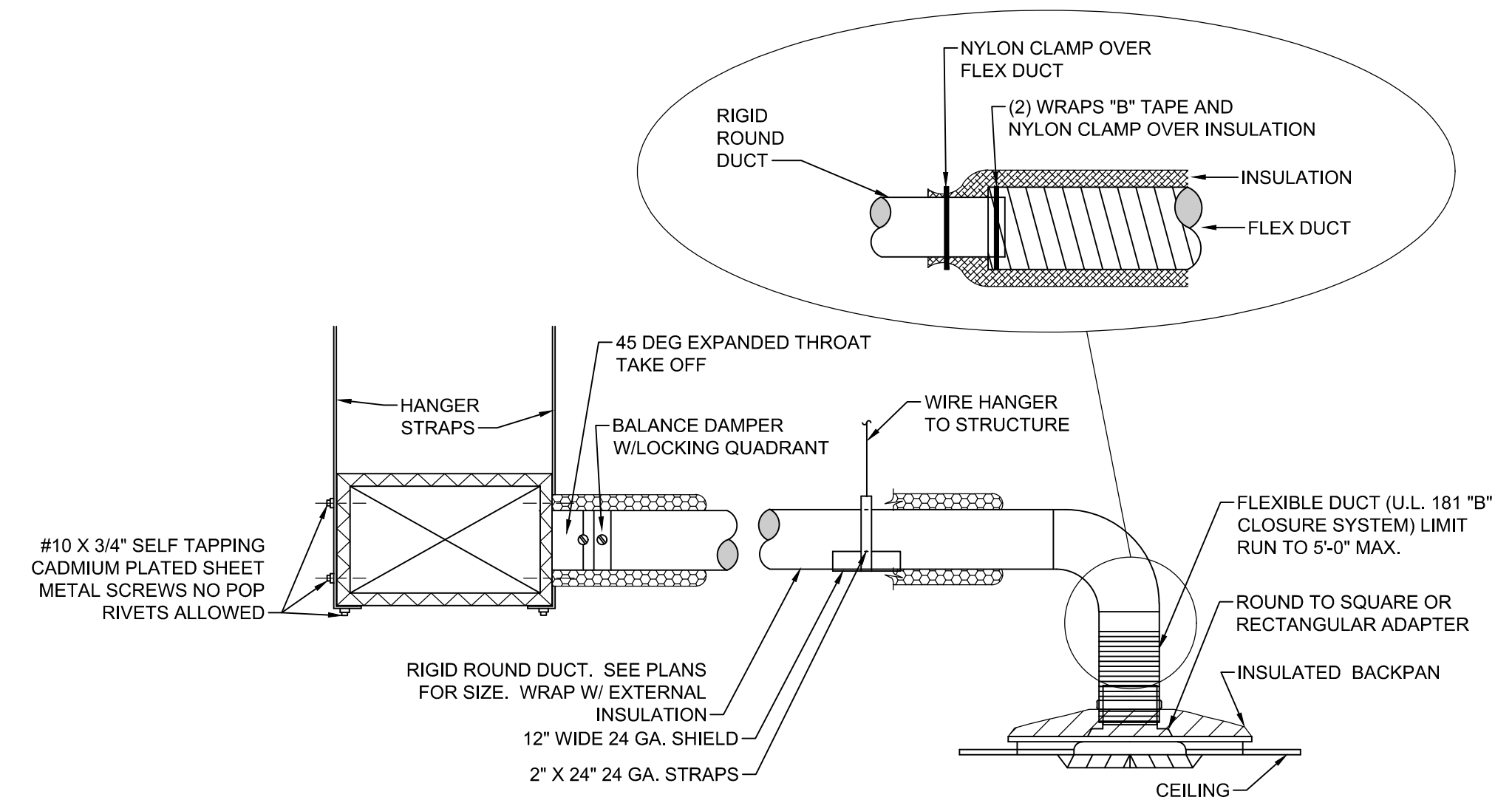


**A1 CONDENSATE DRAIN DETAIL**  
NOT TO SCALE

- NOTES:
1. LOCATE TRAPS SO AS TO BE ACCESSIBLE FOR CLEANING.
  2. HEIGHT MUST BE EQUAL TO UNIT MAXIMUM TOTAL STATIC PRESSURE PLUS 1/2".
  3. HEIGHT MUST BE EQUAL TO UNIT MAXIMUM NEGATIVE STATIC PRESSURE PLUS 1".
  4. HEIGHT MUST BE 1/2 OF HEIGHT INSTALLED IN NOTE 3.
  5. PIPE TO NEAREST DRAIN.
  6. TRAP MUST NOT BLOCK ACCESS TO EQUIPMENT
  7. PROVIDE UNIONS AT INLET AND OUTLET OF TRAP.

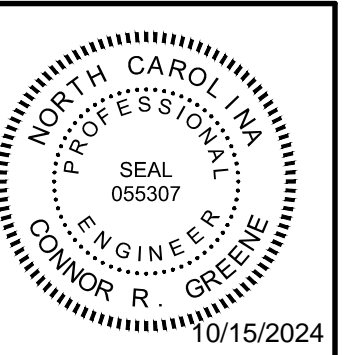


**A3 TYPICAL ROOFTOP PIPE SUPPORT DETAIL**  
NOT TO SCALE



**A4 TYPICAL DIFFUSER CONNECTION DETAIL**  
NOT TO SCALE

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272 N. FRONT STREET  
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**MECHANICAL  
DETAILS**

JOB NO.: 24069  
DRAWN: CRG  
DESIGNED: CRG  
CHECKED: CRG

DRAWING NO.:  
**M-501**

REVISION:  
0

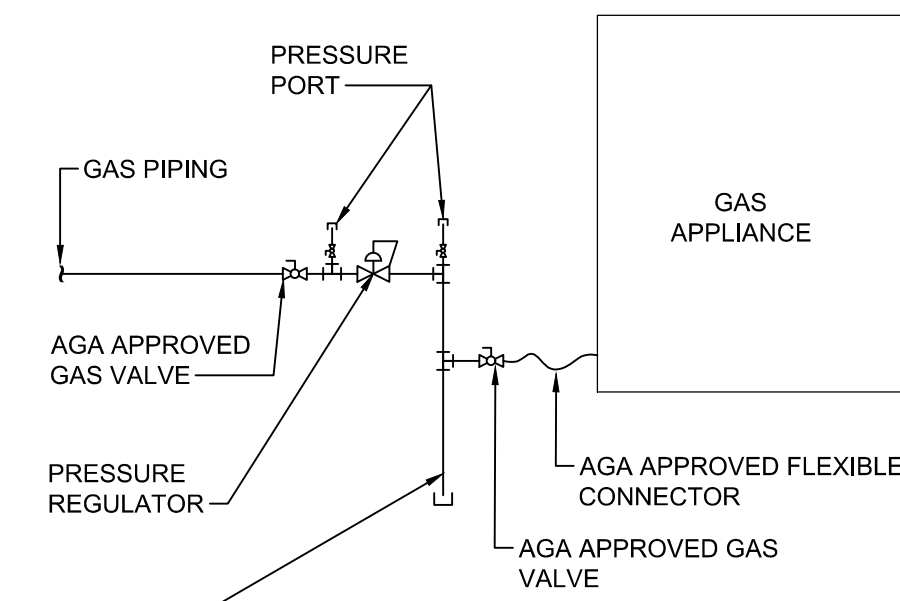
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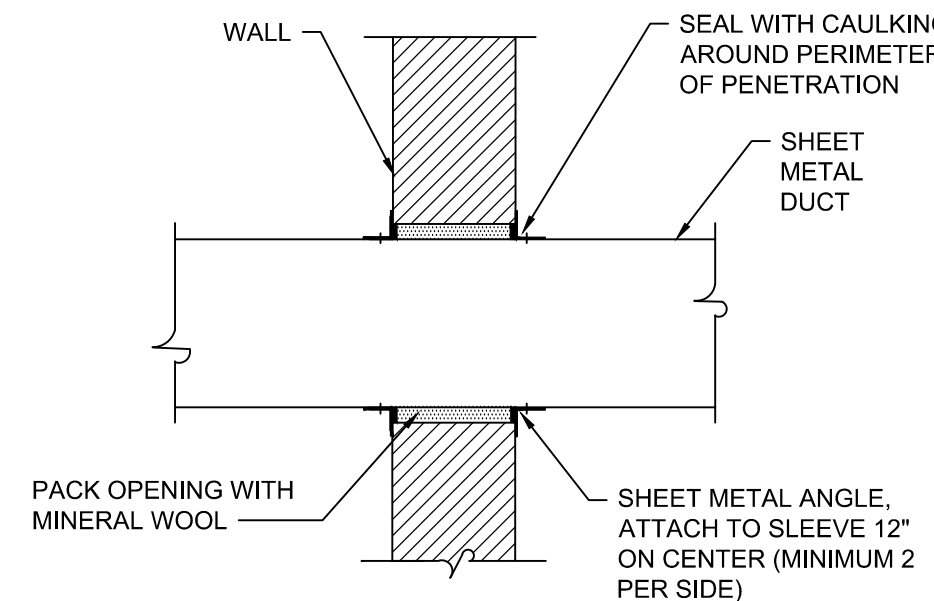
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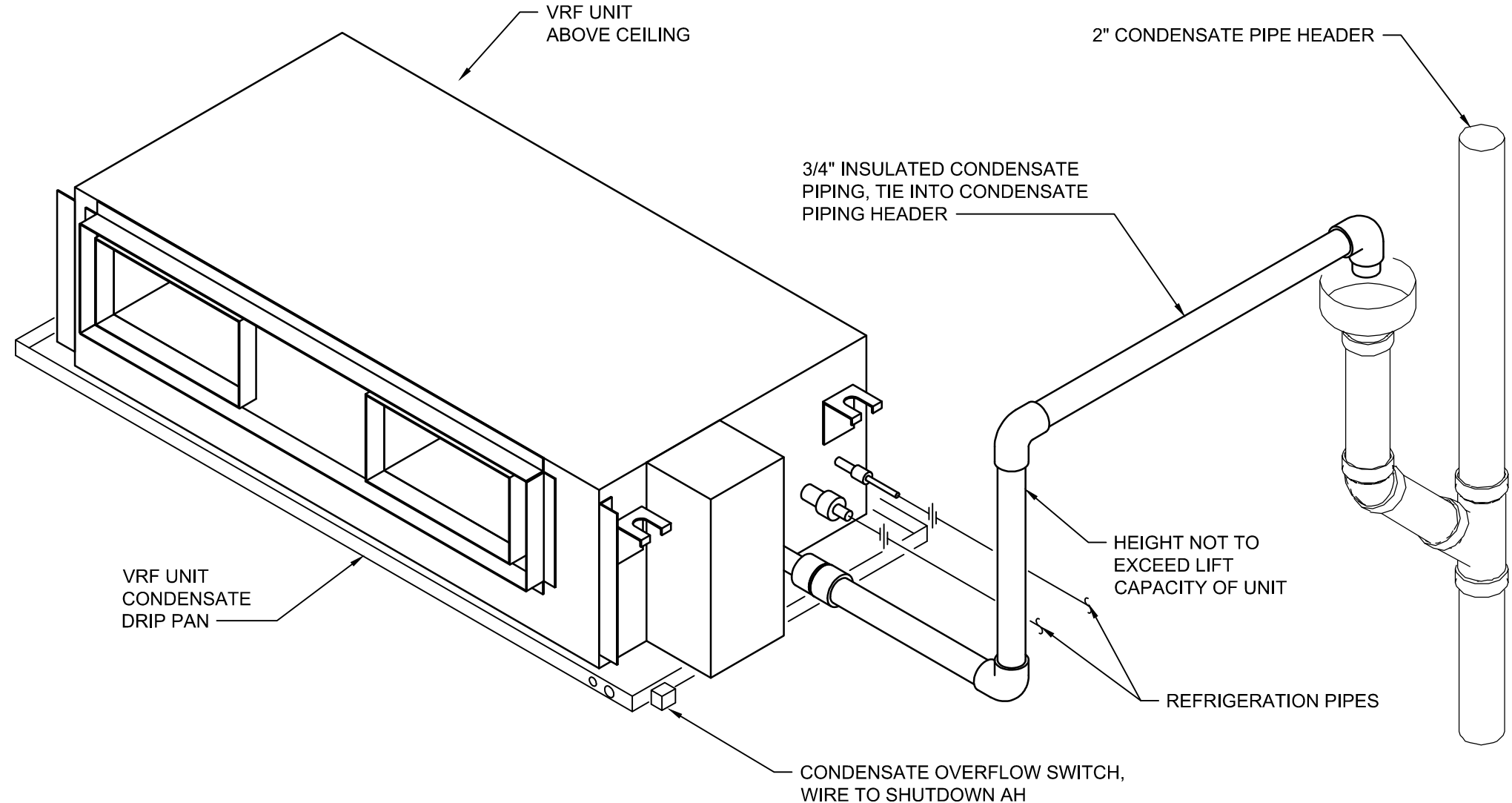


**C2 GAS APPLIANCE CONNECTION DETAIL**  
NOT TO SCALE

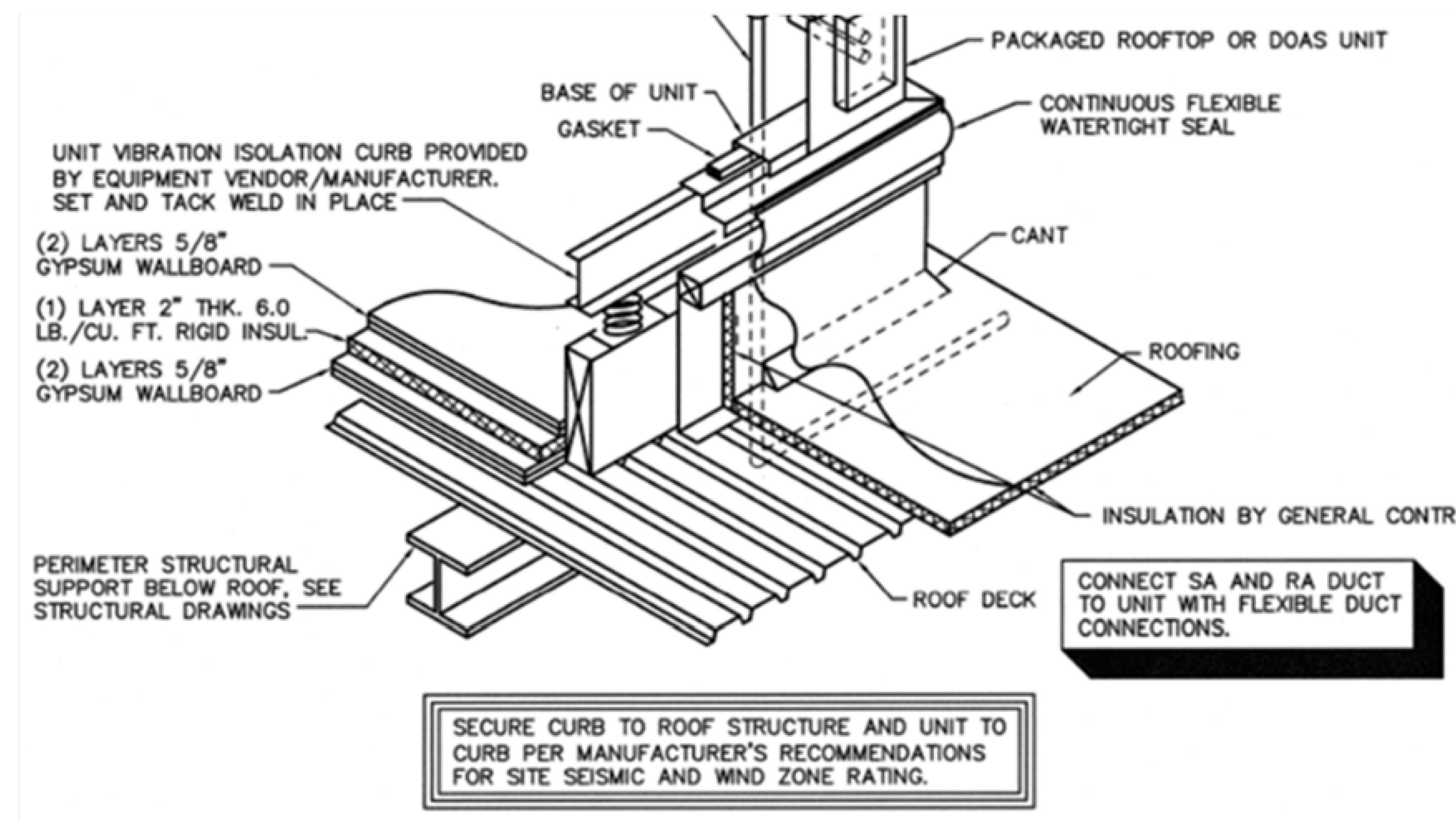


NOTE: EXTERNALLY WRAPPED DUCT INSTALLED SIMILARLY. BLANKET INSULATION SHALL BE INSTALLED OVER ANGLES AND SEALED TO WALL BARRIER.

**C1 TYPICAL DUCT THROUGH NON-RATED WALL DETAIL**  
NOT TO SCALE



**C2 DUCTED AIR HANDLER DETAIL**  
NOT TO SCALE

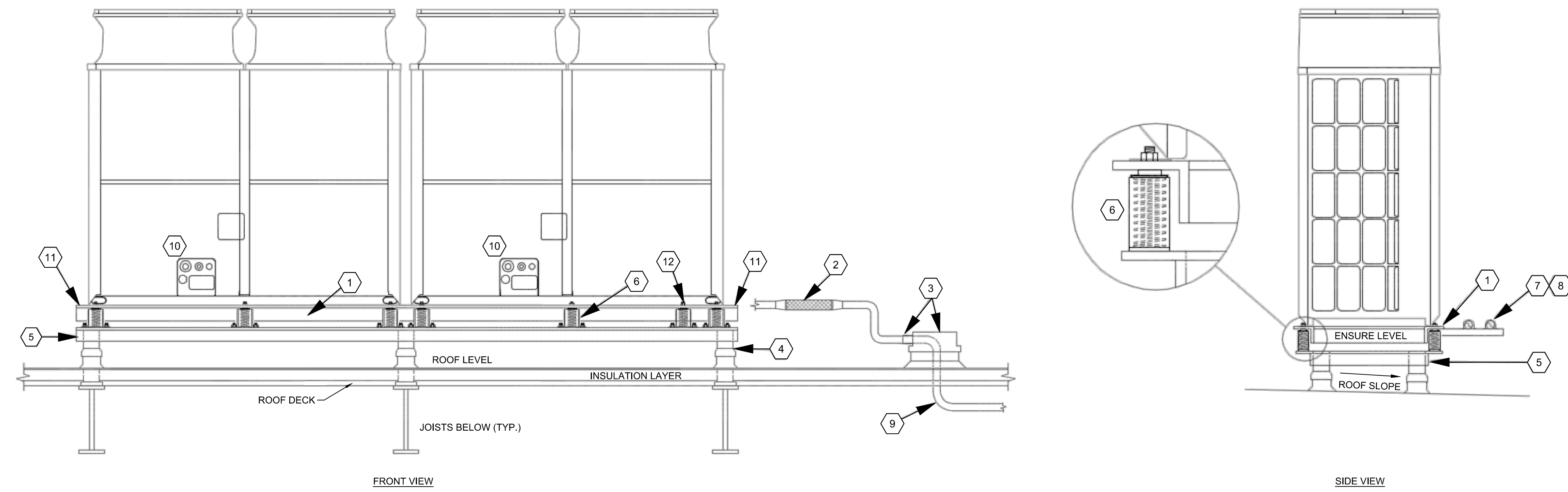


SECURE CURB TO ROOF STRUCTURE AND UNIT TO CURB PER MANUFACTURER'S RECOMMENDATIONS FOR SITE SEISMIC AND WIND ZONE RATING.

**C4 TYPICAL DOAS ROFTOP VIBRATION ISOLATION MOUNTING DETAIL**  
NOT TO SCALE

**CODED NOTES**

- 1 PROVIDE STRUCTURAL INTERSTITIAL ANGLE IRON MOUNTING MEMBER OR SIMILAR ATTACHED DIRECTLY TO BOTTOM OF UNIT MOUNTING FLANGE AND PROVIDE CROSS BRACING FOR RIGIDITY. ENSURE IT CARRIES FULL MOUNTING FOOT WIDTH ON UNIT. FINAL SPECIFICATION OF MEMBER BY STRUCTURAL ENGINEER OF RECORD.
- 2 PROVIDE BRAIDED COPPER FLEXIBLE CONNECTOR, R410A RATED, 650PSI MAX WORKING PRESSURE, PACKLESS INDUSTRIES OR EQUAL ON ALL MAIN PIPING DOWNSTREAM OF TWINNING KTS/CONVERGING FITTINGS PRIOR TO PENETRATION THROUGH ROOF.
- 3 PIPE ROOF CURB, FLASHED AND SEALED WATER TIGHT. PROVIDE FLEXIBLE WATER TIGHT COLLAR TO ALLOW FOR MOVEMENT WHERE PIPE ENTERS CURB. DO NOT ENTER PIPE CURB FROM VERTICAL DIRECTION.
- 4 TYPICAL BASE SUPPORT POSTS, SECURELY ANCHORED TO BUILDING STRUCTURE BELOW, QUANTITY, SIZE, AND CARRYING CAPACITY DETERMINED BY STRUCTURAL ENGINEER OF RECORD.
- 5 STRUCTURAL ANGLE IRON BASE MOUNTING FRAME WITH CROSS MEMBERS FOR RIGIDITY - FINAL SIZING BY STRUCTURAL ENGINEER OF RECORD.
- 6 VIBRATION SPRING SLR TYPE ISOLATORS (MASON INDUSTRIES OR EQUIV.) WITH RUBBER BASE PADS, SECURELY FASTENED TO STRUCTURAL BASE AND TO VRF UNIT INTERSTITIAL SUPPORT STEEL SPRING ISOLATOR TO PROVIDE MINIMUM 1" DEFLECTION OR 10 TIMES THE STATIC DEFLECTION OF THE ROOF DECK FROM EQUIPMENT WEIGHT - DETERMINED BY STRUCTURAL ENGINEER OF RECORD. AT A MINIMUM, PROVIDE SPRING ISOLATORS AT EACH EQUIPMENT BASE MOUNTING HOLE LOCATION.
- 7 IF REQUIRED, ONLY SUPPORT LATERAL RPE EMANATING FROM VRF UNIT CONNECTIONS BY CROSS MEMBER SUPPORT THAT IS ATTACHED DIRECTLY TO VRF UNIT MOUNTING ANGLE IRON FRAME ABOVE SPRING ISOLATORS. DO NOT ATTACH ANY PIPING TO LOWER FIXED SUPPORT BASE.
- 8 USE NEOPRENE ISOLATION COLLARS ON PIPE CLAMS WHEN FASTENING RANG TO SUPPORT.
- 9 USE LONG RADIUS SWEEPING COPPER ACR TUBE PIPE BENDS WHERE PIPE ENTERS BUILDING AT FIRST ELBOW INTO CEILING SPACE TO MINIMIZE REFRIGERANT FLOW NOISE AND VIBRATION.
- 10 ALL ELECTRICAL CONNECTIONS TO UNITS TO BE VIA FLEXIBLE CONDUIT, PROVIDE SUFFICIENT SLACK TO ALLOW FOR UNIT MOVEMENT ON SPRING ISOLATORS.
- 11 ENSURE CROSS MEMBERS OF INTERSTITIAL FRAME AND BOTTOM SUPPORT FRAME ARE NOT DIRECTLY BELOW ENDS OF MODULES IN ALL LOCATIONS AND DO NOT BLOCK DRAINAGE WEEP HOLES IN BOTTOM OF UNIT CASING. FAILURE TO DO THIS MAY RESULT IN ICE DAMMING/BUILDUP BENEATH UNIT AND SUBSEQUENT BUILDUP OF ICE IN BOTTOM OF UNIT CASING BELOW COIL AND POTENTIAL DAMAGE TO BOTTOM OF COIL.
- 12 WHEN SELECTING SPRING ISOLATORS ALWAYS CONSIDER WEIGHT DISTRIBUTION BY REFERENCING EQUIPMENT WEIGHT AND CENTER OF GRAVITY. NEAR RIGHT ENDS OF UNITS (VIEWED FROM FRONT PANEL) SPRING WEIGHT CAPACITY MAY BE LARGER. IF HIGHER SPRING WEIGHT CAPACITY IS REQUIRED VS OTHER SPRING LOCATIONS, CONS DER AN ADDITIONAL SPRING OF EQUAL "K" VALUE (IBS/IN) NEAR RIGHT END OF LAST MODULE. IN GENERAL IT IS RECOMMENDED TO SELECT ALL MOUNTING SPRINGS OF EQUIVALENT "K" VALUE (IBS/IN).

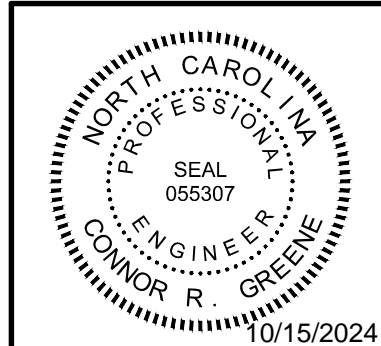


**DISCLAIMER:**  
THIS DRAWING IS SCHEMATIC IN NATURE AND INTENDED TO PROVIDE GUIDANCE FOR INSTALLING VRF OUTDOOR UNIT EQUIPMENT ON LIGHT BUILT-UP CORRUGATED METAL DECK ROOFING SYSTEMS, BUT THE CONSIDERATIONS ALSO APPLY TO OTHER ROOFING TYPES. FINAL DESIGN AND SELECTION OF SUPPORT AND VIBRATION ISOLATION EQUIPMENT SHOULD BE DETERMINED BY THE DESIGN ENGINEER OF RECORD AND/OR STRUCTURAL ENGINEER OF RECORD.

**A4 TYPICAL VRF ROFTOP VIBRATION ISOLATION MOUNTING DETAIL**  
NOT TO SCALE

REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
DESCRIPTION:			Date

**CBHF**  
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NCE# P-6561



**SELF HELP BUILDING  
HVAC REPLACEMENT  
272 N. FRONT STREET  
WILMINGTON, NC 28401**  
**MECHANICAL  
DETAILS**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO.:  
**M-502**

REVISION:  
0

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VARIABLE REFRIGERANT FLOW AIR HANDLER SCHEDULE

Table with columns: DRAWING CODE, BC CONTROLLER, OUTDOOR UNIT, BASIS OF DESIGN MFR, BASIS OF DESIGN MODEL, ALTERNATE APPROVED MFRS, INDOOR UNIT CONFIGURATION, MAXIMUM COOLING CAPACITY (MBH), MAXIMUM HEATING CAPACITY (MBH), SUPPLY AIRFLOW (MIN CFM TO MAX CFM), ELECTRICAL VOLTAGE (V/PH/Hz), MCA (A), MOCP (A), WEIGHT (LBS), NOTES, ACCESSORIES. Rows include AH101 through AH512.

NOTES: 1 REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. 2 MAXIMUM COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB), OUTDOOR OF 95°F (DB)...

VARIABLE REFRIGERANT FLOW OUTDOOR UNIT SCHEDULE

Table with columns: DRAWING CODE, INDOOR UNIT(S), BASIS OF DESIGN MFR, BASIS OF DESIGN MODEL, ALTERNATE APPROVED MFRS, COOLING PERFORMANCE, HEATING PERFORMANCE, MIN EER, MIN COP, ELECTRICAL, REFRIGERANT, SOUND PRESSURE, WEIGHT, NOTES, ACCESSORIES. Rows include HP1 through HP5.

NOTES: 1 REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. 2 MAXIMUM COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB)...

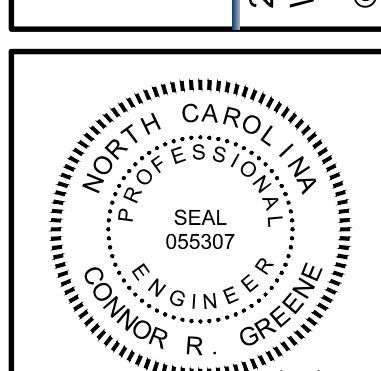
VARIABLE REFRIGERANT FLOW BRANCH CIRCUIT CONTROLLER SCHEDULE

Table with columns: DRAWING CODE, BASIS OF DESIGN MFR, BASIS OF DESIGN MODEL, ALTERNATE APPROVED MFRS, POWER INPUT (RATED) COOLING (KW), HEATING (KW), ELECTRICAL VOLTAGE (V/PH/Hz), MCA (A), MOCP (A), WEIGHT (LBS), NOTES, ACCESSORIES. Rows include BC1 through BC5.

NOTES: 1 REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. 2 PROVIDE GRAVITY DRAIN CONDENSATE PIPING. 3 INCLUDE DIAMONDBACK BALL VALVES BY-SERIES, 700PSIG WORKING PRESSURE, FULL PORT, 410A RATED.

10.11.24 Date: ISSUED FOR CONSTRUCTION Description: 0

CBHF Engineers, PLLC logo and contact information: 2246 Yaupon Drive, Wilmington, NC 28401. Phone: 910.791.4000, Fax: 910.791.5266.



SELF HELP BUILDING HVAC REPLACEMENT 272 N. FRONT STREET WILMINGTON, NC 28401 MECHANICAL SCHEDULES

JOB NO.: 24069 DRAWN: CRG DESIGNED: CRG CHECKED: CRG

DRAWING NO: M-601

REVISION: 0

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**DEDICATED OUTSIDE AIR UNIT SCHEDULE (PART 1 OF 2)**

DRAWING CODE	DESIGN BASIS MANUFACTURER	MODEL	ALTERNATE APPROVED MFR	SYSTEM TYPE	SA/OA FAN										RA/EA FAN					NATURAL GAS HEATING			ELECTRICAL			REFRIG. TYPE	UNIT WEIGHT (LBS)	CURB WEIGHT (LBS)	NOTES	ACCESSORIES
					SA (CFM)	OA (CFM)	MIN (CFM)	ESP (IN H2O)	FAN QTY	MOTOR (HP)	RA (CFM)	EA (CFM)	ESP (IN H2O)	FAN QTY	MOTOR (HP)	GAS INPUT (MBH)	GAS OUTPUT (MBH)	STAGES	VOLTAGE (V/PH/Hz)	MCA (A)	MOCP (A)									
DOAS1	TRANE	OADG020F3	PREMISYS, GREENHECK	ELECTRIC / GAS HEAT	3,265	3,265	1,446	2.50	1	5	2,775	3,039	1.50	1	2	150.0	120.0	MODULATING	460/3/60	47.7	60	R-454B	4,338	159	1 - 7	A - U				

NOTES:

- REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
- HORIZONTAL DISCHARGE / HORIZONTAL RETURN.
- EFFICIENCY RATED IN ACCORDANCE WITH ANSI/AHRI STANDARD 340/360.
- DX COOLING COIL LEAVING AIR CONDITIONS SHALL MEET PERFORMANCE REQUIREMENTS AT MAX/MIN AIRFLOW, AND ALL FOUR PART-LOAD CONDITIONS SPECIFIED BY AHRI 920-2020. THE UNIT MUST BE TESTED AND CERTIFIED IN ACCORDANCE WITH AHRI 920-2020 STANDARDS.
- UNIT TO OPERATE IN OCCUPIED MODE FROM 6:00 AM TO 7:00 PM (ADJ.). CONTRACTOR TO CONFIRM SCHEDULE WITH BUILDING OWNER.
- DURING UNOCCUPIED HOURS, UNIT TO MAINTAIN MINIMUM VENTILATION SETTINGS UNLESS OVERRIDDEN BY OCCUPANCY SENSOR OR OTHER CONTROL SIGNAL.
- UNIT TO COMMUNICATE WITH VRF SYSTEM CONTROLLER FOR OCCUPANCY CONTROL VIA DIDO SENSOR.

ACCESSORIES:

- A SINGLE POINT ELECTRICAL CONNECTION PREFERRED, IF NOT USED, CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ELECTRICAL CONTRACTOR AND ANY COST INCREASE.
- MODULATING HOT GAS REHEAT
- CONVENIENCE OUTLET
- CONDENSER COIL HAIL GUARDS
- PHASE AND VOLTAGE MONITOR
- HINGED ACCESS PANELS
- PROVIDE EQUIPMENT-SPECIFIC ROOF CURB. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS BEFORE ORDERING. CURB SHALL BE WIND-RATED, INCLUDING RESTRAINTS AND FASTENERS, AND SUPPLIED WITH ENGINEER CERTIFICATION.
- FILTERS: ALUMINUM MESH FILTERS AND GALVANIZED MESH BIRD SCREEN INSTALLED ON INTAKE. ONE ROW OF 2" MERV 8 PLEATED MEDIA FILTERS PRIOR TO EVAPPRATOR COIL. 6" FILTER RACK UPSTREAM OF EVAPORATOR.
- INSULATED FLOOR AND DRAIN PAN
- STAINLESS STEEL DRAIN PAN
- OA DAMPER WITH 2-POSITION ACTUATOR RATED FOR CLASS 1A LEAKAGE
- 2" INSULATED DOUBLE-WALL CONSTRUCTION WITH GALVANIZED PANELS. CASING SHALL HAVE A MINIMUM R-VALUE OF 13. EXTERIOR CASING TO BE TESTED 672 HOURS IN A SALT SPRAY TEST IN COMPLIANCE WITH ASTM B117.
- ALL COILS (CONDENSER, EVAPORATOR, AND HG REHEAT) TO BE COATED FOR EXPOSURE TO ASTM B117 10,000+ HOURS FOR SALT SPRAY RESISTANCE TEST WITH NO DEGRADATION.
- AIR COOLED CONDENSER WITH VARIABLE SPEED HEAD PRESSURE
- VARIABLE SPEED SUPPLY, EXHAUST, AND CONDENSER FANS
- SUPPLY AND EXHAUST FAN AIRFLOW MONITOR
- VARIABLE CAPACITY COMPRESSOR SYSTEM
- LOW NOISE CONDENSER FANS AND COMPRESSOR SOUND WRAPS
- DISCHARGE AIR TEMPERATURE CONTROLS WITH TOUCHSCREEN DISPLAY PANEL
- FACTORY STARTUP AND 1-YEAR PARTS AND LABOR WARRANTY BY THE EQUIPMENT MANUFACTURER
- 5-YEAR PARTS WARRANTY ON ALL COMPRESSORS. 25-YEAR PARTS WARRANTY ON HEAT EXCHANGER.

**DEDICATED OUTSIDE AIR UNIT SCHEDULE (PART 2 OF 2)**

DRAWING CODE	DESIGN BASIS MANUFACTURER	MODEL	ERV HX - SUMMER - HOT DAY				DX COOLING - SUMMER - HOT DAY				ERV HX - SUMMER - HUMID DAY				DX COOLING - SUMMER - HUMID DAY				HG REHEAT		ERV HX WINTER			NOTES	ACCESSORIES
			SA EAT (°F/Fwb)	RA EAT (°F/Fwb)	SA LAT (°F/Fwb)	SA LAT (°F/Fwb)	NET TOT CAP (MBH)	NET SENS CAP (MBH)	EFFICIENCY	SA EAT (°F/Fwb)	RA EAT (°F/Fwb)	SA LAT (°F/Fwb)	SA LAT (°F/Fwb)	NET TOT CAP (MBH)	NET SENS CAP (MBH)	EFFICIENCY	SA LAT (°F)	CAP (MBH)	SA EAT (°F/Fwb)	RA EAT (°F/Fwb)	SA LAT (°F/Fwb)				
DOAS1	TRANE	OADG020F3	93.0/79.0	75.0/62.5	81.1/69.9	47.8/47.3	207.5	109.6	EER	15.4	84.0/79.0	75.0/62.5	78.1/70.2	48.3/47.8	208.9	97.7	EER	15.3	75.0	95.9	26.0/24.0	70.0/60.0	54.3/48.1	1	A

NOTES:

- REFER TO PART 1 OF 2 FOR NOTES.

ACCESSORIES: A REFER TO PART 1 OF 2 FOR ACCESSORIES.

**DEDICATED OUTDOOR AIR UNIT DETAILED PERFORMANCE DATA SCHEDULE**

DRAWING CODE	DESIGN BASIS MFR	MODEL	AMBIENT EAT (DB °F)	SUPPLY AIR (CFM)	DESIGN OA AIR (CFM)	ERV SUMMER SUPPLY				DX COOLING COIL				HOT GAS REHEAT COIL				
						EAT (db/wb °F)	LAT (db/wb °F)	TOT CAP. (MBH)	SENS CAP. (MBH)	EAT (db/wb °F)	LAT (db/wb °F)	DEW POINT (dp °F)	MRC (lbs H2O/hr.)	MRE (lb/kWh)	EAT (DB °F)	LAT (DB °F)	DEW POINT (DP °F)	CAP. (MBH)
DOAS1	TRANE	OA	84	3265	3265	84/79	78.1/70.2	340.6	102.0	78.1/70.2	49.3/47.6	46.2	199.90	10.22	49.3	74.6	46.2	93.4
			70			70/69	73.3/65.2	197.2	88.2	73.3/65.2	46.4/47.3	46.4	111.70	5.07	46.4	75	46.4	98.3
			66			66/64	71.9/63.5	148.6	79.4	71.9/63.5	49.5/47.8	46.4	83.50	4.01	49.5	74.4	46.4	92.1
			63			63/61	63/61	119.4	47.8	63/61	49.5/47.7	46.3	66.10	3.58	49.5	74.3	46.3	91.9
			59			59/57	59/57	79.8	32.9	59/57	49.7/47.8	46.4	43.20	3.70	49.7	74.8	46.4	92.8

**DIFFUSERS, REGISTERS AND GRILLES SCHEDULE**

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE	SERVICE	NECK SIZE (IN.)	MODULE SIZE (IN.)	MATERIAL	FINISH	MOUNTING	NOTES	ACCESSORIES
S1	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	60	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
S2	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	80	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
S3	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	100	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
S4	PRICE	620	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	8 X 6	10 X 8	ALUMINUM	WHITE	WALL SURFACE	1,2	A
S5	PRICE	620	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	10 X 8	12 X 10	ALUMINUM	WHITE	WALL SURFACE	1,2	A
S6	PRICE	620	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	12 X 8	14 X 10	ALUMINUM	WHITE	WALL SURFACE	1,2	A
S7	PRICE	620	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	14 X 8	16 X 10	ALUMINUM	WHITE	WALL SURFACE	1,2	A
S8	PRICE	620	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	14 X 12	16 X 14	ALUMINUM	SEE NOTE 3	WALL SURFACE	1,2,3	A
S9	PRICE	620	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	12 X 8	14 X 10	ALUMINUM	WHITE	DUCT SURFACE	1,2	A,B
T1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	TRANSFER	14 X 14	16 X 16	ALUMINUM	SEE NOTE 3	WALL SURFACE	1,2,3	-
R1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	22 X 22	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,4	-
E1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	22 X 22	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,4	A
E2	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	10 X 10	12 X 12	ALUMINUM	WHITE	CEILING SURFACE	1,2,4	A
E3	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	14 X 8	16 X 10	ALUMINUM	SEE NOTE 3	WALL SURFACE	1,2,3,4	A
E4	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	24 X 8	26 X 10	ALUMINUM	SEE NOTE 3	DUCT SURFACE	1,2,3,4	A

NOTES:

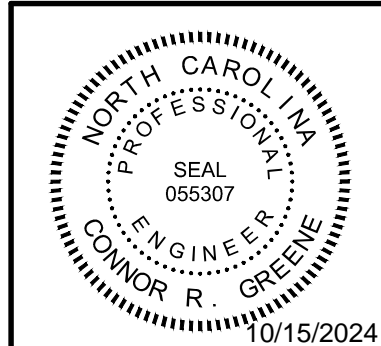
- REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- DUCT BRANCH CONNECTION SIZE TO BE EQUAL TO THE NECK SIZE OF DIFFUSER UNLESS NOTED OTHERWISE ON PLANS.
- COORDINATE FINISH COLOR TO MATCH SURROUNDING SURFACES OR WALL FOR A CLEAN PROFESSIONAL APPEARANCE.
- PAINT ALL VISIBLE DUCTWORK THROUGH GRILLES AND REGISTERS FLAT BLACK.

ACCESSORIES:

- A VOLUME DAMPER
- B INTEGRAL VOLUME DAMPER

10.11.24 Date  
 0 Revision No  
 ISSUED FOR CONSTRUCTION  
 DESCRIPTION

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 NC# P-6566  
 2246 Yaupon Drive  
 Wilmington, NC 28401  
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**SELF HELP BUILDING  
 HVAC REPLACEMENT  
 272 N. FRONT STREET  
 WILMINGTON, NC 28401**

**MECHANICAL  
 SCHEDULES**

JOB NO.: 24069  
 DRAWN: CRG  
 DESIGNED: CRG  
 CHECKED: CRG

DRAWING NO:  
**M-602**

REVISION:  
 0

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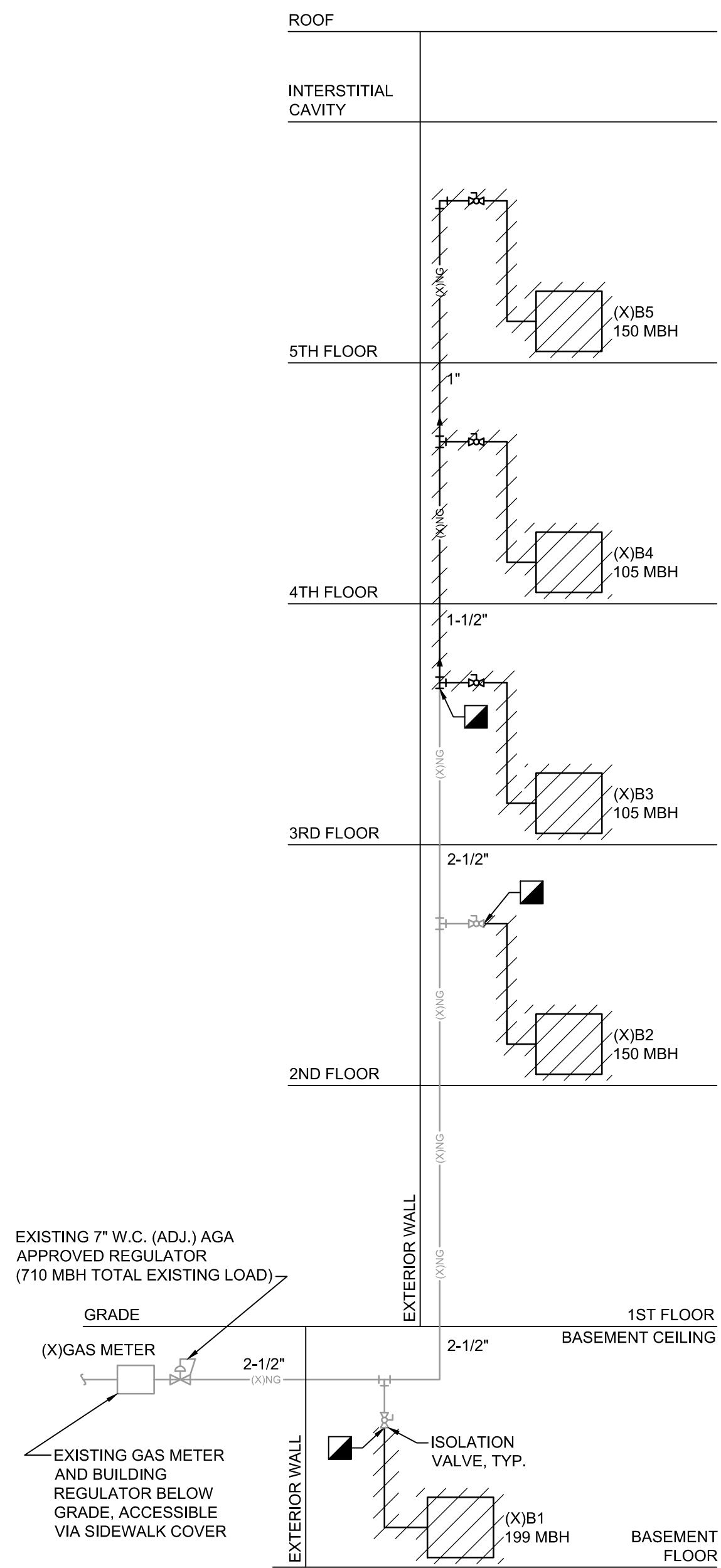
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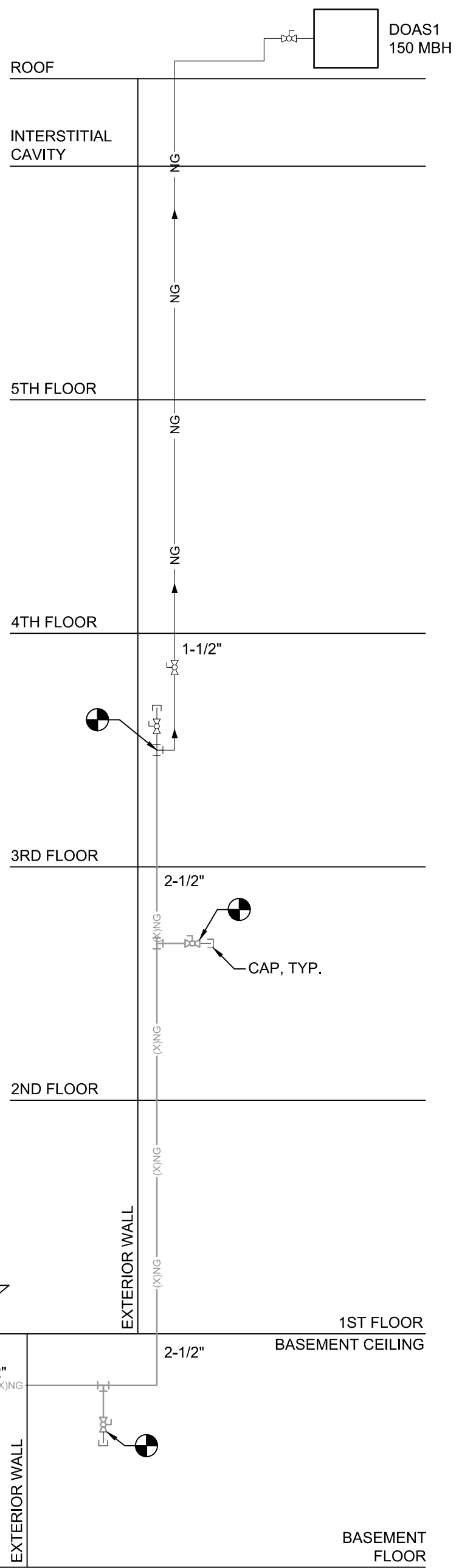
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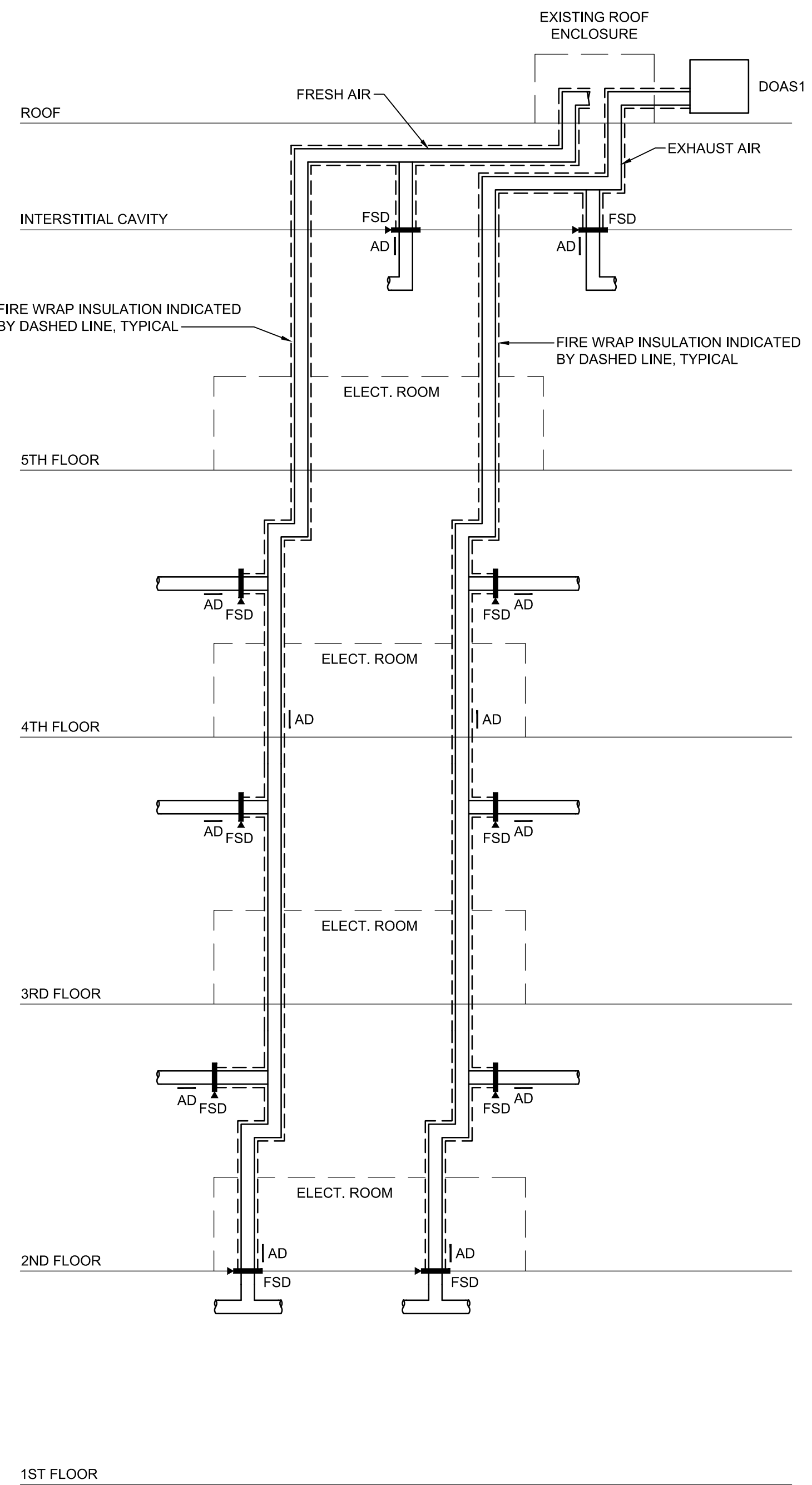
**A1 NATURAL GAS PIPING RISER DIAGRAM - DEMOLITION**  
NOT TO SCALE

NOTE: GAS PIPING SIZED PER TABLE 402.4(2) OF THE 2018 NC FUEL GAS CODE FOR SCHEDULE 40 PIPE. TOTAL DEVELOPED LENGTH: 300 FT. WITH AN INLET PRESSURE OF LESS THAN 2 PSI AND A PRESSURE DROP OF 0.5 W.C.

NOTE: SEE DETAIL C2/M-502 FOR GAS APPLIANCE CONNECTION DETAIL.



**A3 NATURAL GAS PIPING RISER DIAGRAM - NEW WORK**  
NOT TO SCALE



NOTE: THIS IS FOR DIAGRAMMATIC PURPOSES ONLY AND DOES NOT SHOW DUCT TRANSITIONS OR SIZES. REFER TO MH FLOOR PLANS FOR THOSE DETAILS.

**A4 VENTILATION DUCT RISER DIAGRAM**  
NOT TO SCALE

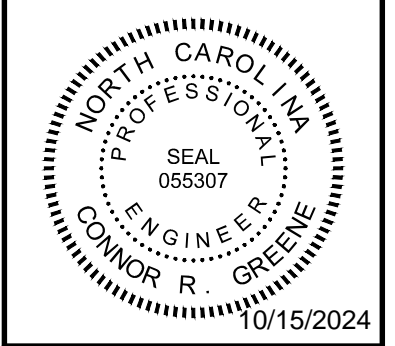
REVISION NO.	0	ISSUED FOR CONSTRUCTION	10.11.24
DESCRIPTION:			Date

**CBHF**  
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NC# P-6506



**SELF HELP BUILDING  
HVAC REPLACEMENT  
272 N. FRONT STREET  
WILMINGTON, NC 28401**

**MECHANICAL  
RISER DIAGRAMS**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**M-701**

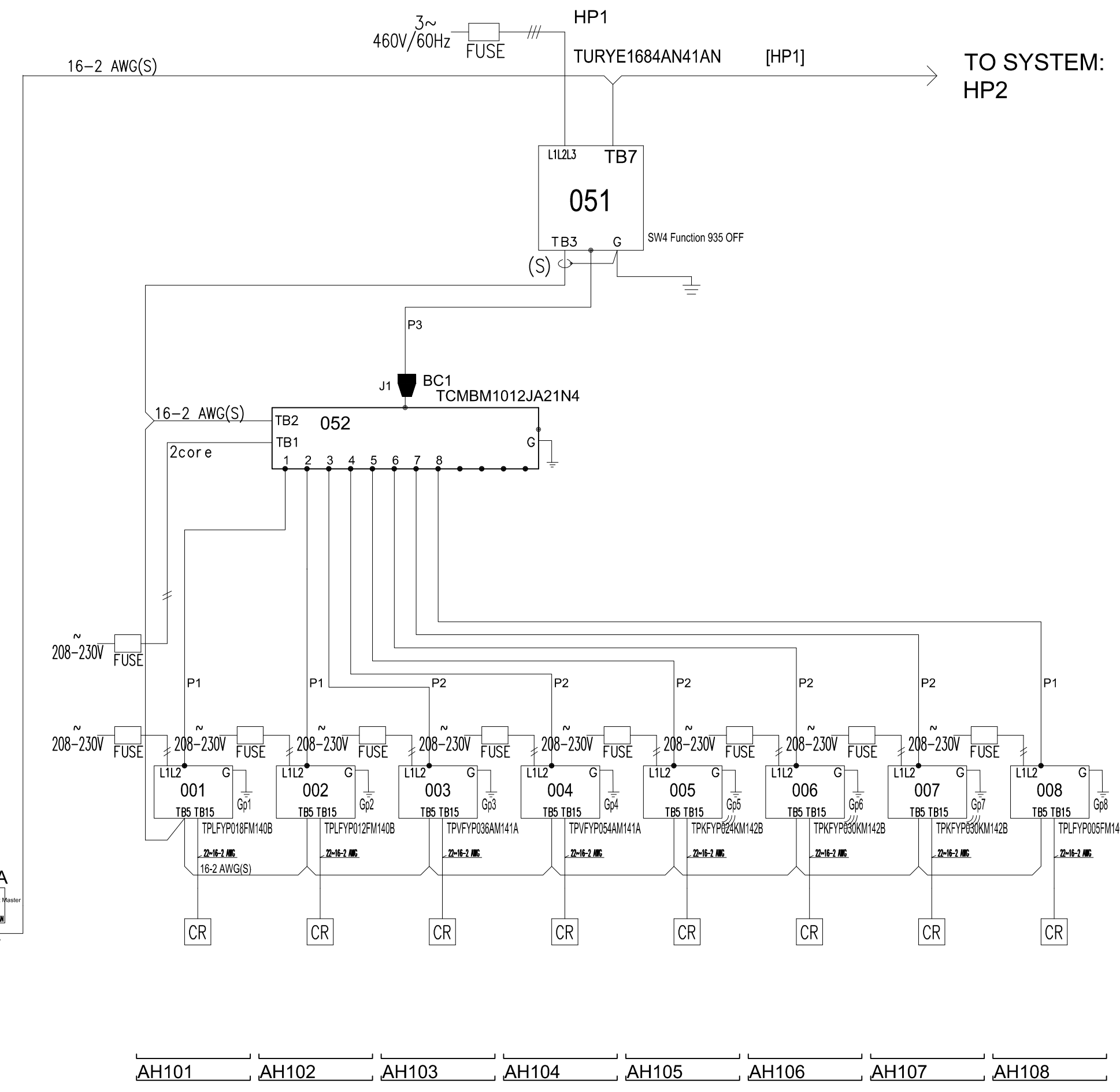
REVISION:  
0

DIAGRAM SYMBOL	LEGEND	CONT.No	PAGE
---	DESCRIPTION		
---	POWER WIRE		
---	CONTROL WIRE		
---	REF. PIPE		

CITY MULTI  
SYSTEM SCHEMATIC DWG.

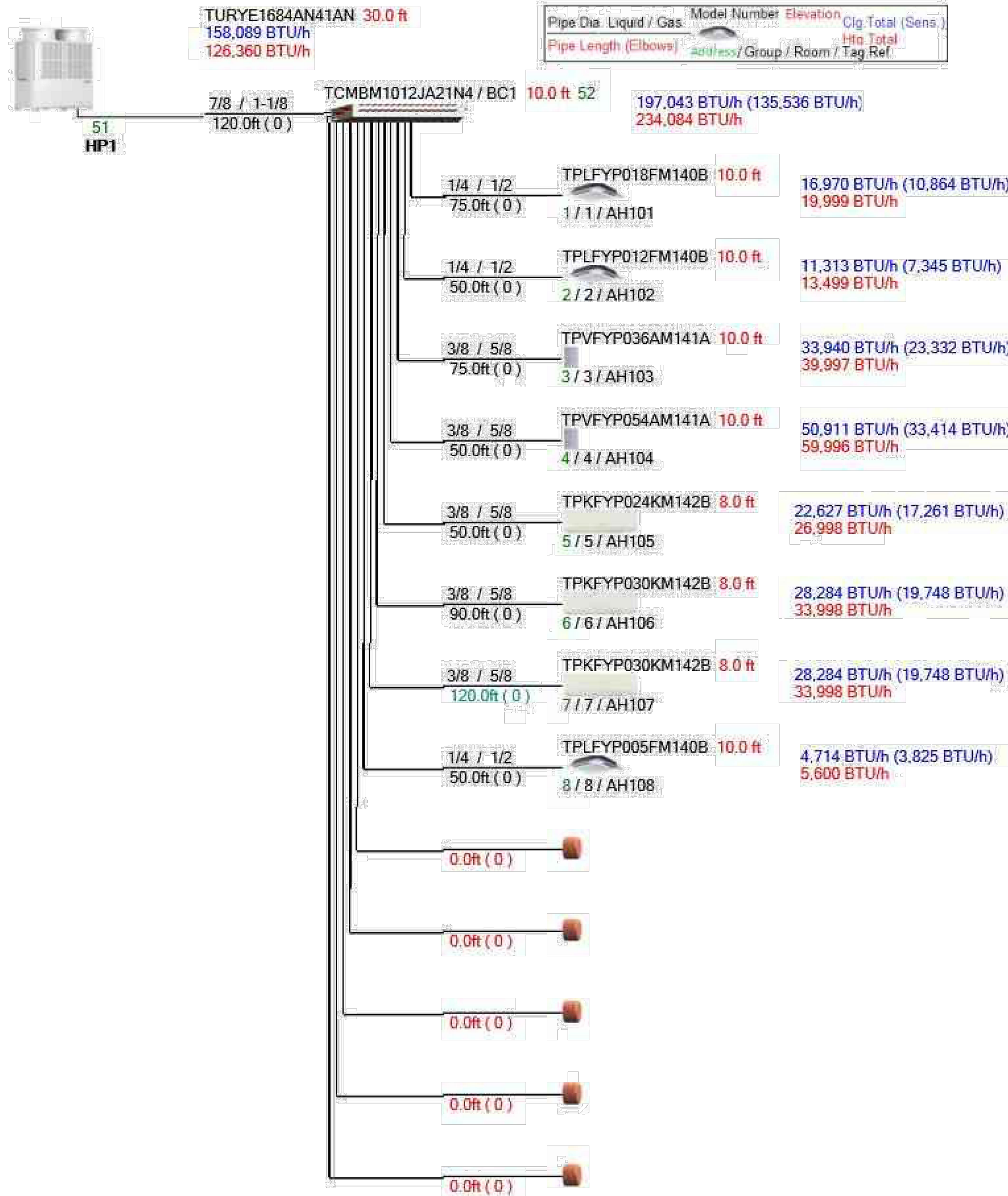
This drawing is schematic in nature. Final routing of piping & wiring shall be determined by the installing contractor and/or designer of record. Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.  
1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(24 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R302S-G1
J2	CMY-R304S-G1
J3	CMY-R305S-G1
J4	CMY-R306S-G
J5	CMY-R301S-G
SYMBOL	LIQUID PIPE GAS PIPE SIZE
P1	1/4 / 1/2
P2	3/8 / 5/8
P3	7/8 / 1-1/8
P4	3/8 / 5/8 / 3/4
P5	3/4 / 1-1/8
P6	3/4 / 7/8
SYMBOL	MODEL NUMBER
CR	TAC-CT530RAL-U



- SCHEMATIC DIAGRAM NOTES**
- ALL BRANCH CIRCUIT CONTROLLER UNITS TO HAVE SERVICE ISOLATION VALVES FOR EACH BRANCH TO ALLOW SERVICE TO ANY INDOOR UNIT WITHOUT FIELD INTERRUPTION TO OVERALL SYSTEM OPERATION (TYPICAL).
  - ALL ISOLATION VALVES TO BE LABELED IDENTIFYING THE INDOOR UNIT THAT THEY SERVE (TYPICAL).
  - VRF SYSTEM SCHEMATIC SHOWN FOR REFERENCE ONLY AND IS FOR BASIS OF DESIGN MANUFACTURER. IF APPROVED ALTERNATE MANUFACTURER IS USED THE SYSTEM SCHEMATIC AND RECOMMENDED INSTALLATION REQUIREMENTS SHOULD BE FOLLOWED AND APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

**A1 VRF SYSTEM SCHEMATIC - HP1**  
NOT TO SCALE



- PIPING DIAGRAM NOTES**
- PIPING LENGTHS SHOWN ARE A REPRESENTATIVE ESTIMATE. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING PIPING LENGTHS USING MOST DIRECT ROUTING WHILE MAINTAINING ACCEPTABLE CONCEALMENT. PIPE ROUTING SHALL BE APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

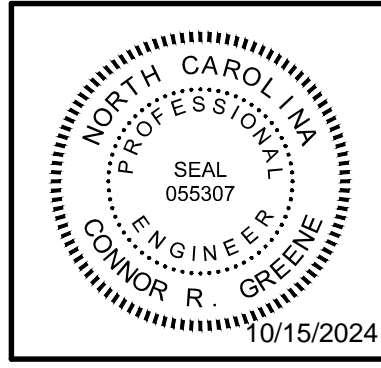
**A4 VRF PIPING DIAGRAM - HP1**  
NOT TO SCALE

REVISION NO.	ISSUED FOR CONSTRUCTION	DATE
0		10.11.24

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**SELF HELP BUILDING  
HVAC REPLACEMENT**  
272 N. FRONT STREET  
WILMINGTON, NC 28401

**MECHANICAL  
VRF SCHEMATIC  
AND PIPING DIAGRAM**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**M-702**

REVISION:  
0

CITY MULTI SYSTEM SCHEMATIC DWG.

This drawing is schematic in nature. Final routing of piping & wiring shall be determined by the installing contractor and/or designer of record. Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.

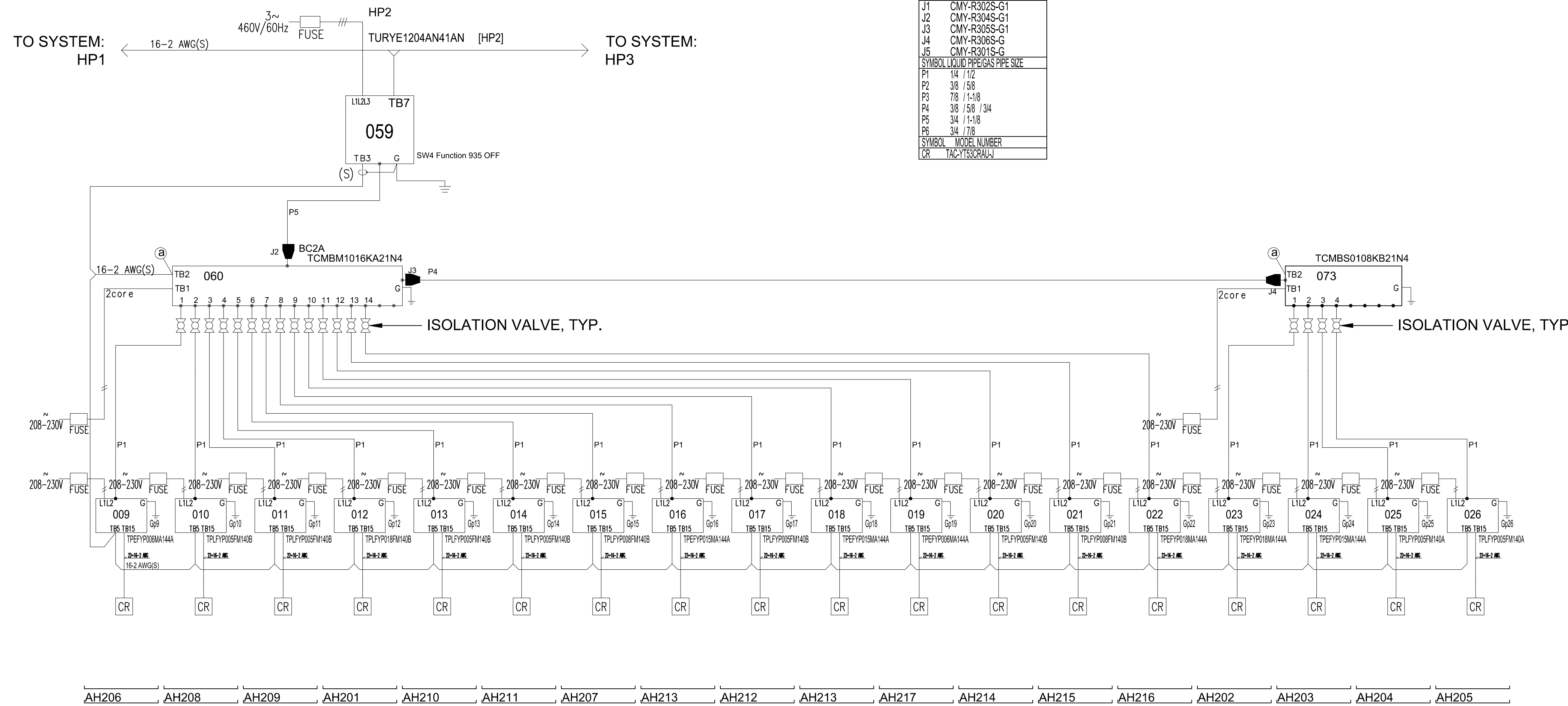
1.25mm<sup>3</sup>(16 AWG) : 1.25mm<sup>3</sup>(16 AWG) or more. 0.75mm<sup>3</sup>(20 AWG) : between 0.5mm<sup>3</sup>(24 AWG) and 0.75mm<sup>3</sup>(20 AWG).

DIAGRAM SYMBOL	DESCRIPTION
---	POWER WIRE
---	CONTROL WIRE
---	REF. PIPE

SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R302S-G1
J2	CMY-R304S-G1
J3	CMY-R305S-G1
J4	CMY-R306S-G1
J5	CMY-R301S-G

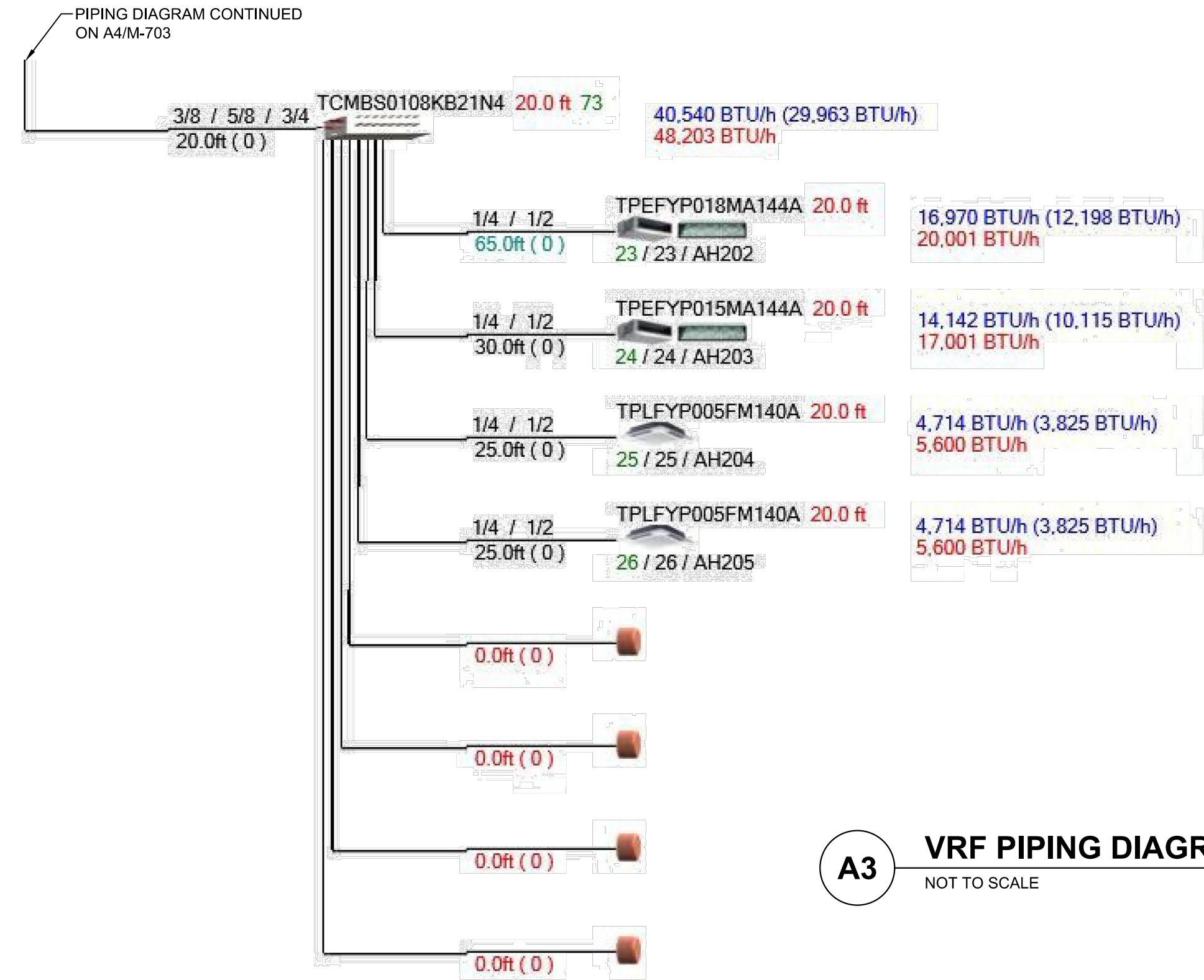
SYMBOL	LIQUID PIPING PIPE SIZE
P1	1/4 / 1/2
P2	3/8 / 5/8
P3	7/8 / 1-1/8
P4	3/8 / 3/8 / 3/4
P5	3/4 / 1-1/8
P6	3/4 / 7/8

SYMBOL	MODEL NUMBER
CR	TACYS03RAUJ

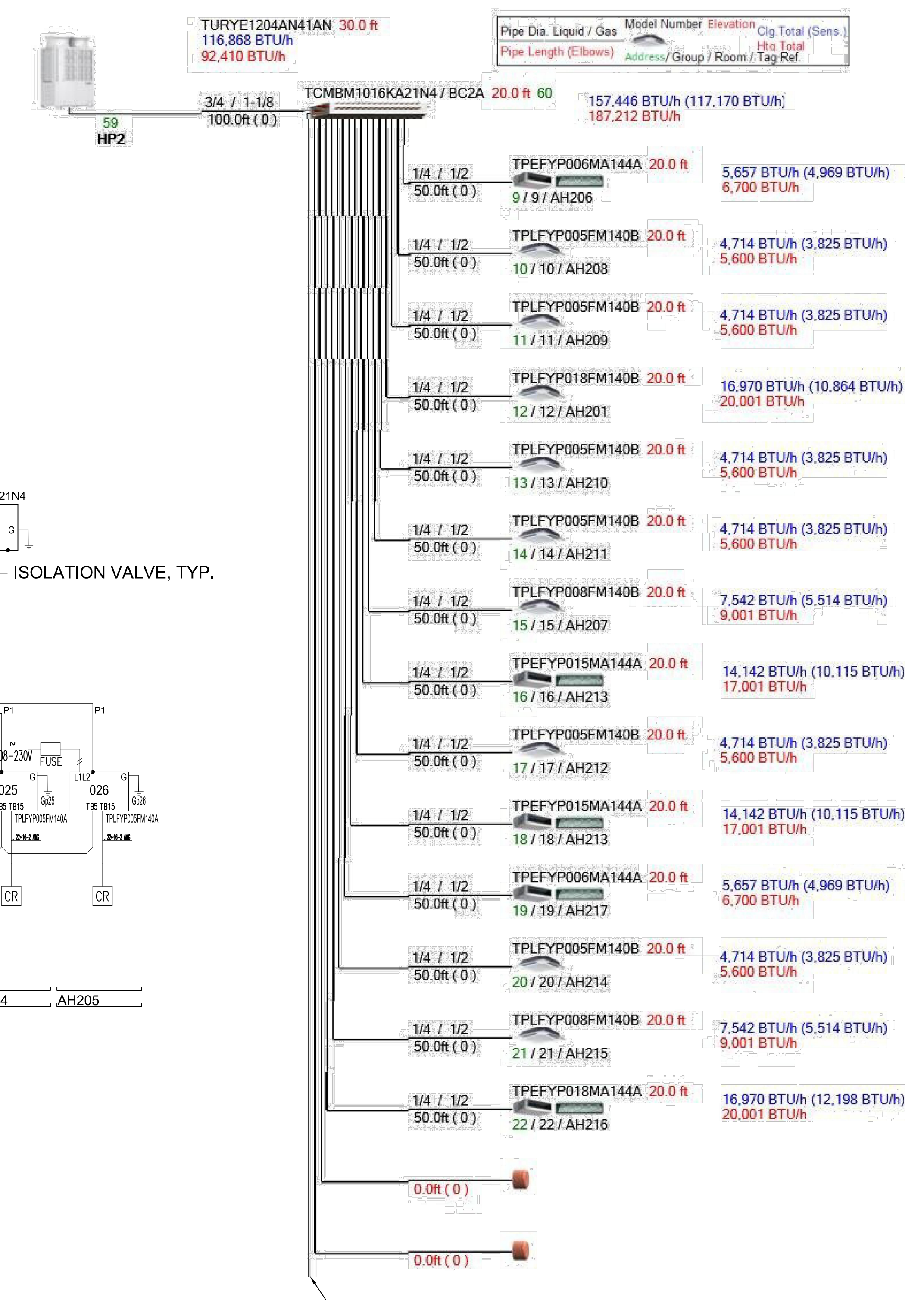


- SCHEMATIC DIAGRAM NOTES**
- ALL BRANCH CIRCUIT CONTROLLER UNITS TO HAVE SERVICE ISOLATION VALVES FOR EACH BRANCH TO ALLOW SERVICE TO ANY INDOOR UNIT WITHOUT FIELD INTERRUPTION TO OVERALL SYSTEM OPERATION (TYPICAL).
  - ALL ISOLATION VALVES TO BE LABELED IDENTIFYING THE INDOOR UNIT THAT THEY SERVE (TYPICAL).
  - VRF SYSTEM SCHEMATIC SHOWN FOR REFERENCE ONLY AND IS FOR BASIS OF DESIGN MANUFACTURER. IF APPROVED ALTERNATE MANUFACTURER IS USED THE SYSTEM SCHEMATIC AND RECOMMENDED INSTALLATION REQUIREMENTS SHOULD BE FOLLOWED AND APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

**A1 VRF SYSTEM SCHEMATIC - HP2**  
NOT TO SCALE



**A3 VRF PIPING DIAGRAM - HP2 / BC2B**  
NOT TO SCALE



- PIPING DIAGRAM NOTES**
- PIPING LENGTHS SHOWN ARE A REPRESENTATIVE ESTIMATE. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING PIPING LENGTHS USING MOST DIRECT ROUTING WHILE MAINTAINING ACCEPTABLE CONCEALMENT. PIPE ROUTING SHALL BE APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

**A4 VRF PIPING DIAGRAM - HP2 / BC2A**  
NOT TO SCALE

10.11.24 Date

ISSUED FOR CONSTRUCTION

REVISION NO. 0 DESCRIPTION: NCH P-6506

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 055307  
 NORTH CAROLINA  
 PROFESSIONAL ENGINEER  
 CONNOR R. GREENE  
 10/15/2024

SELF HELP BUILDING HVAC REPLACEMENT  
 272 N. FRONT STREET  
 WILMINGTON, NC 28401

MECHANICAL VRF SCHEMATIC AND PIPING DIAGRAM

JOB NO.: 24069  
 DRAWN: CRG  
 DESIGNED: CRG  
 CHECKED: CRG

DRAWING NO.: **M-703**

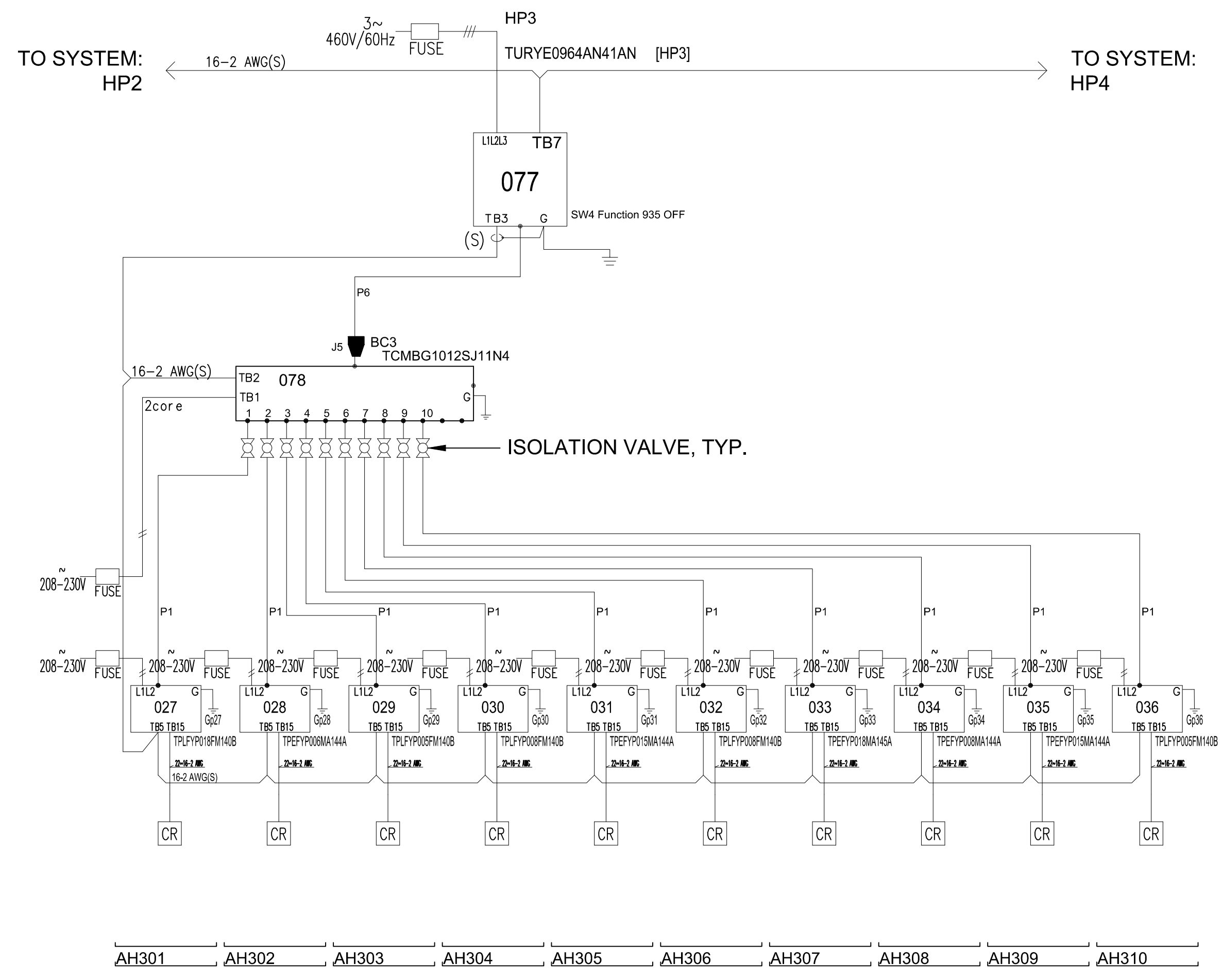
REVISION: 0

DIAGRAM SYMBOL LEGEND	CONT.No	PAGE
--- POWER WIRE		
--- CONTROL WIRE		
--- REF. PIPE		

CITY MULTI SYSTEM SCHEMATIC DWG.

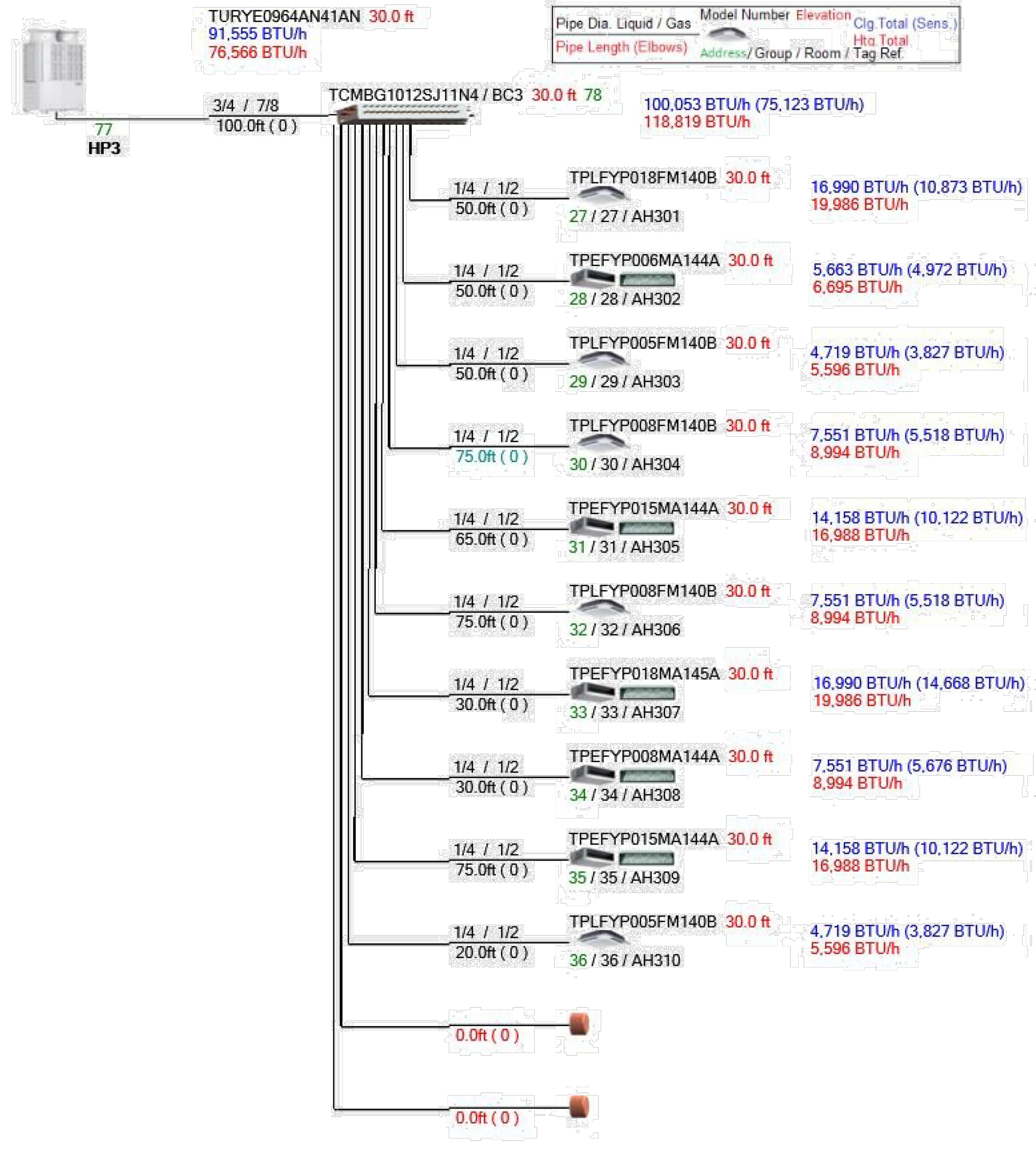
This drawing is schematic in nature. Final routing of piping & wiring shall be determined by the installing contractor and/or designer of record. Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.  
 1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R302S-G1
J2	CMY-R304S-G1
J3	CMY-R305S-G1
J4	CMY-R306S-G1
J5	CMY-R307S-G1
J6	CMY-R308S-G1
SYMBOL LIQUID PIPE GAS PIPE SIZE	
P1	1/4 / 1/2
P2	3/8 / 5/8
P3	7/8 / 1-1/8
P4	3/8 / 5/8 / 3/4
P5	3/4 / 1-1/8
P6	3/4 / 7/8
SYMBOL MODEL NUMBER	
CR	TAC-YTSCRAHJ



- SCHEMATIC DIAGRAM NOTES**
- ALL BRANCH CIRCUIT CONTROLLER UNITS TO HAVE SERVICE ISOLATION VALVES FOR EACH BRANCH TO ALLOW SERVICE TO ANY INDOOR UNIT WITHOUT FIELD INTERRUPTION TO OVERALL SYSTEM OPERATION (TYPICAL).
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**A1 VRF SYSTEM SCHEMATIC - HP3**  
NOT TO SCALE



- PIPING DIAGRAM NOTES**
- PIPING LENGTHS SHOWN ARE A REPRESENTATIVE ESTIMATE. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING PIPING LENGTHS USING MOST DIRECT ROUTING WHILE MAINTAINING ACCEPTABLE CONCEALMENT. PIPE ROUTING SHALL BE APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

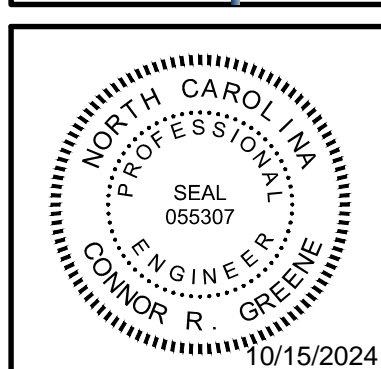
**A4 VRF PIPING DIAGRAM - HP3**  
NOT TO SCALE

DATE	10.11.24
REVISION NO.	0
ISSUED FOR CONSTRUCTION	
DESCRIPTION	

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WILMINGTON, NC 28401

**MECHANICAL VRF SCHEMATIC AND PIPING DIAGRAM**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**M-704**

REVISION:	0
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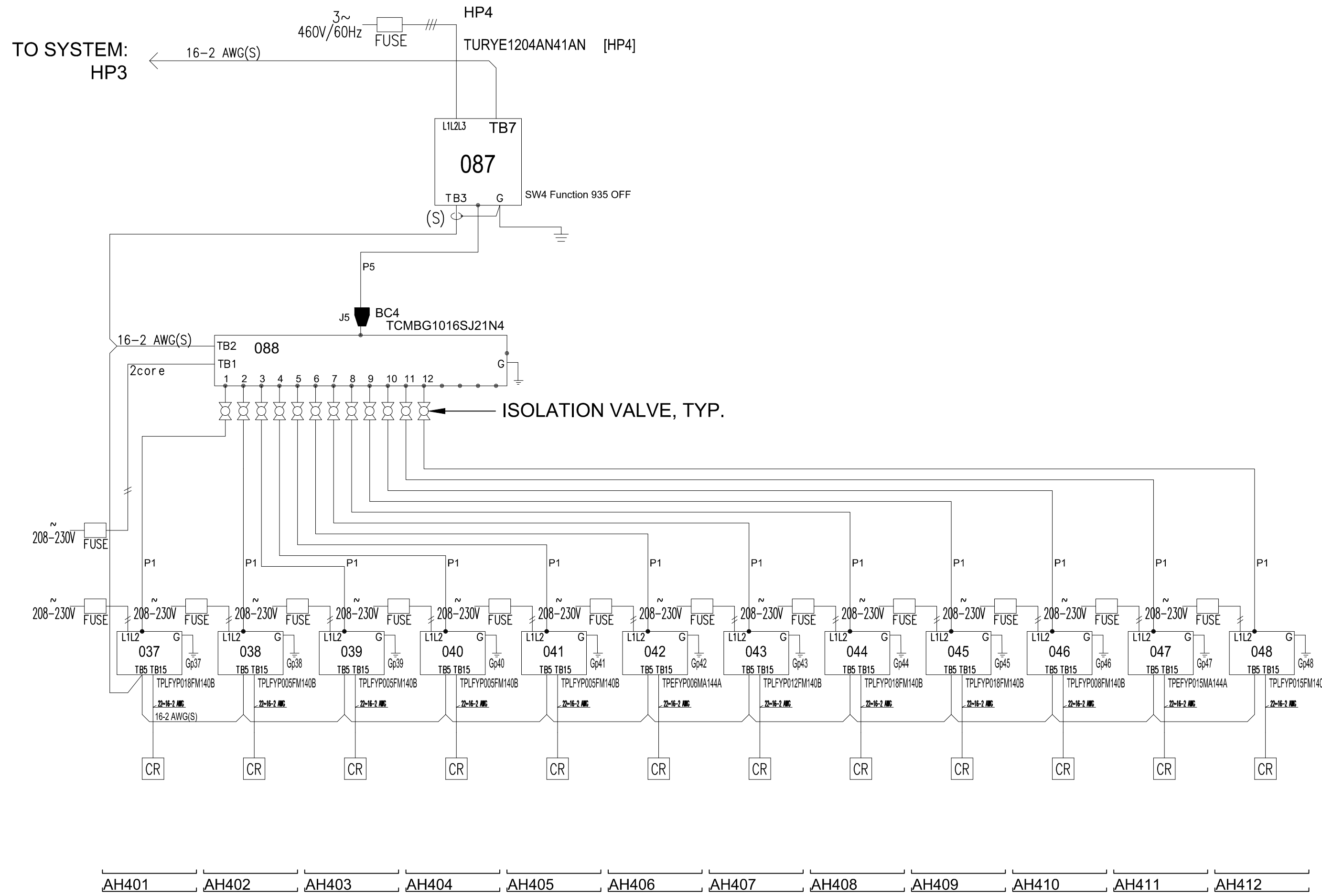
### CITY MULTI SYSTEM SCHEMATIC DWG.

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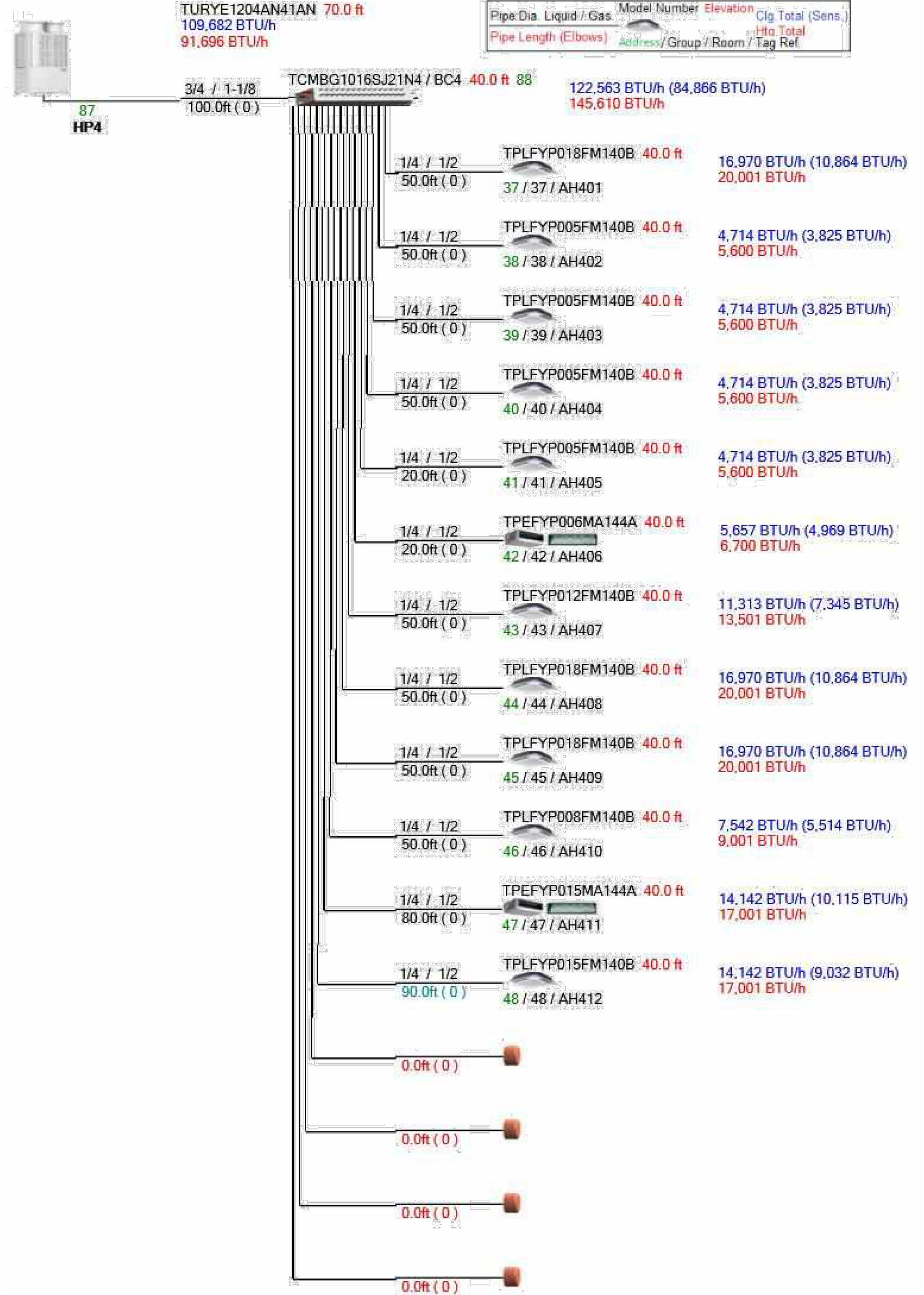
DIAGRAM SYMBOL LEGEND	CONT.No	PAGE
--- POWER WIRE		
--- CONTROL WIRE		
--- REF. PIPE		

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R302S-G1
J2	CMY-R304S-G1
J3	CMY-R305S-G1
J4	CMY-R306S-G
J5	CMY-R301S-G
SYMBOL LIQUID PIPE/GAS PIPE SIZE	
P1	1/4 / 1/2
P2	3/8 / 3/8
P3	7/8 / 1-1/8
P4	3/8 / 3/8 / 3/4
P5	3/4 / 1-1/8
P6	3/4 / 7/8
SYMBOL	MODEL NUMBER
CR	TAC-Y133CRALCJ



- #### SCHEMATIC DIAGRAM NOTES
- ALL BRANCH CIRCUIT CONTROLLER UNITS TO HAVE SERVICE ISOLATION VALVES FOR EACH BRANCH TO ALLOW SERVICE TO ANY INDOOR UNIT WITHOUT FIELD INTERRUPTION TO OVERALL SYSTEM OPERATION (TYPICAL).
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**A1 VRF SYSTEM SCHEMATIC - HP4**  
NOT TO SCALE



- #### PIPING DIAGRAM NOTES
- PIPING LENGTHS SHOWN ARE A REPRESENTATIVE ESTIMATE. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING PIPING LENGTHS USING MOST DIRECT ROUTING WHILE MAINTAINING ACCEPTABLE CONCEALMENT. PIPE ROUTING SHALL BE APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

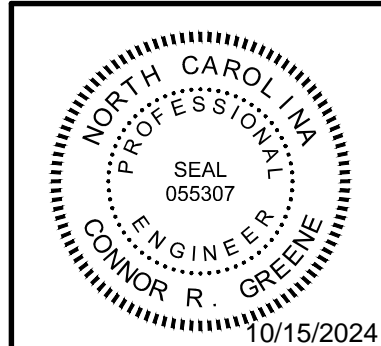
**A4 VRF PIPING DIAGRAM - HP4**  
NOT TO SCALE

10.11.24
Date
ISSUED FOR CONSTRUCTION
REVISION NO.
DESCRIPTION

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www.cbhfe.com  
NCE# P-4506



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WILMINGTON, NC 28401

**MECHANICAL VRF SCHEMATIC AND PIPING DIAGRAM**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO. **M-705**

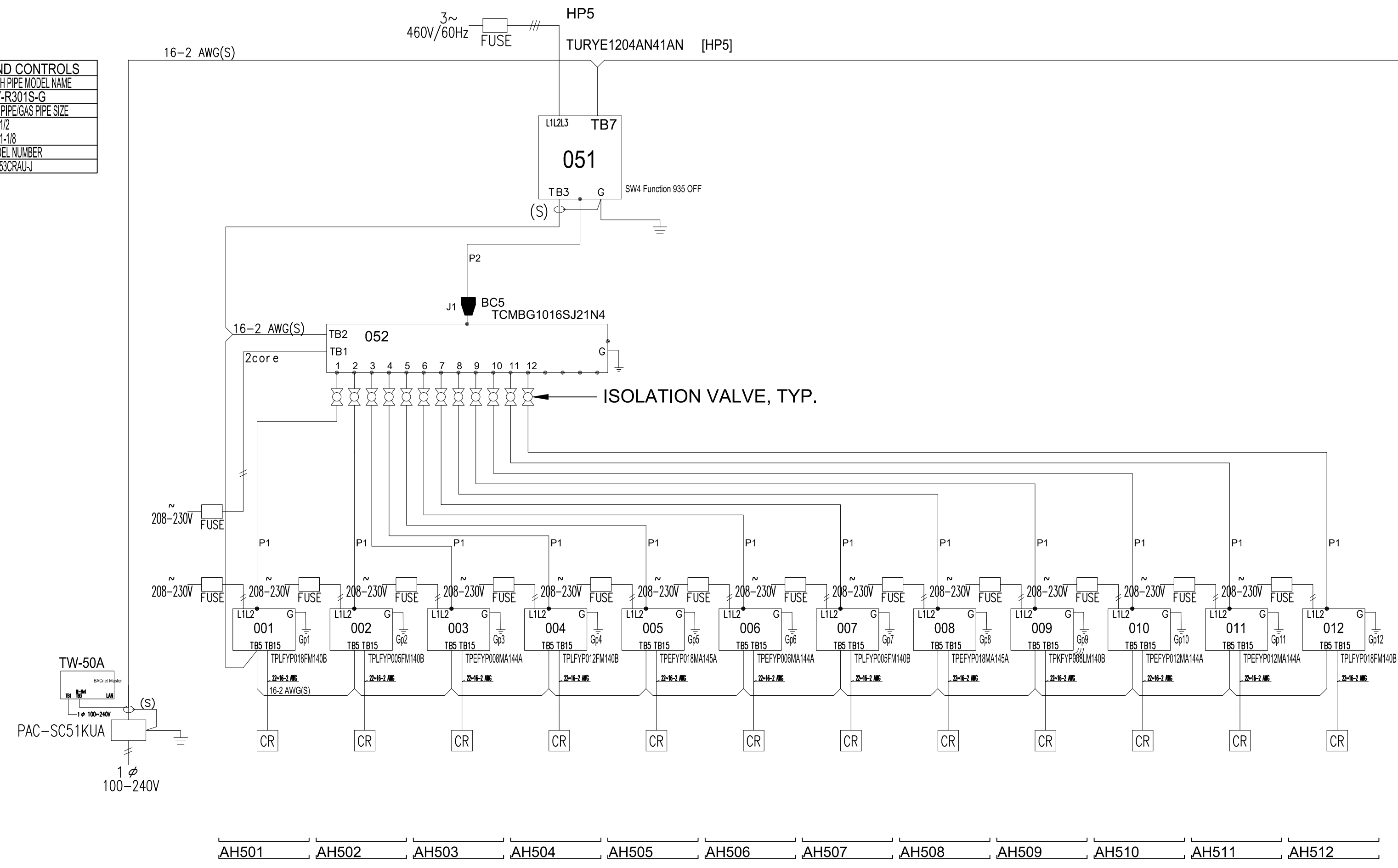
REVISION:	0
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DIAGRAM	SYMBOL	LEGEND	CONT.No	PAGE
DISPLAY	DESCRIPTION			
---	POWER WIRE			
---	CONTROL WIRE			
---	REF. PIPE			

CITY MULTI  
SYSTEM SCHEMATIC DWG.

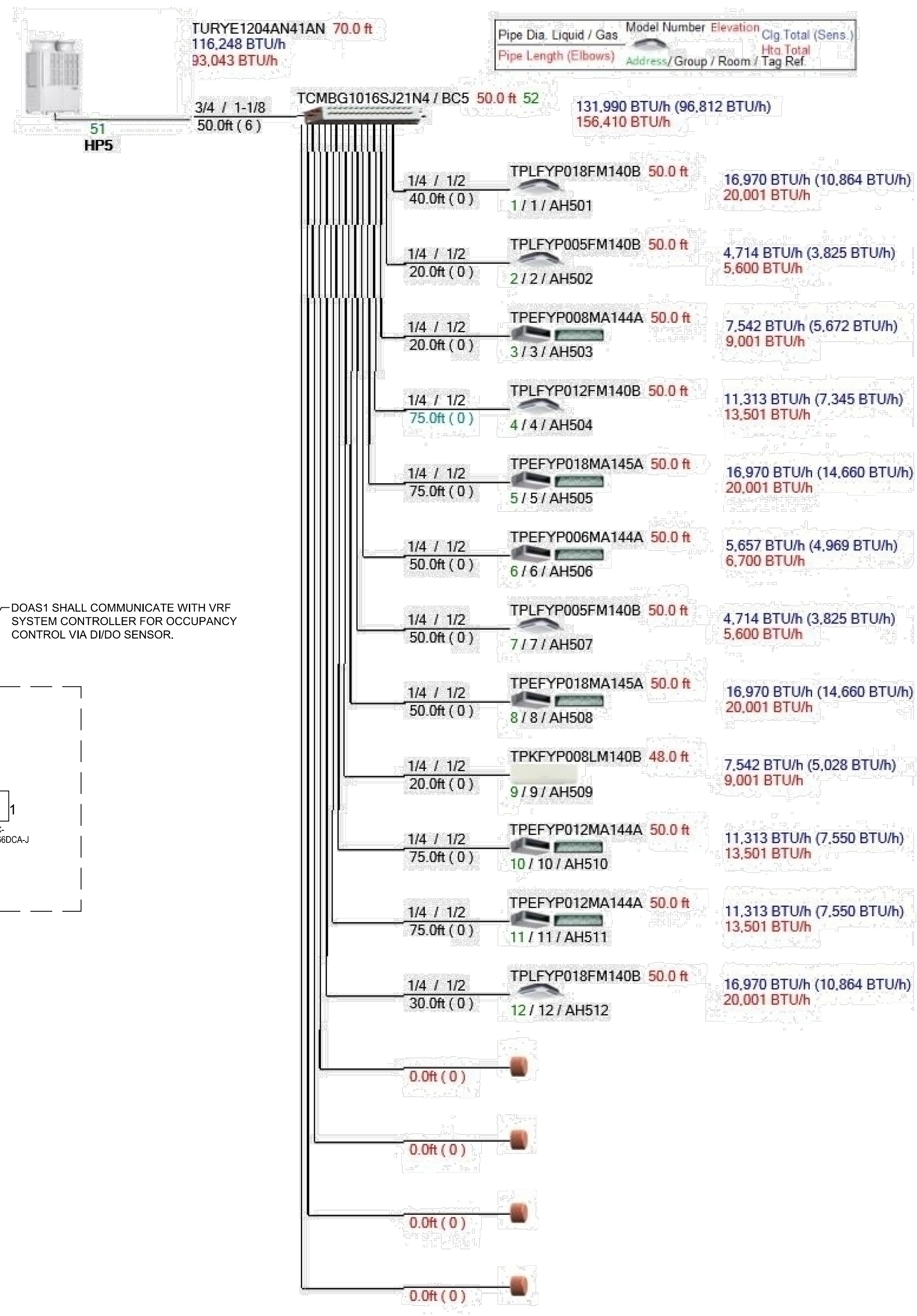
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1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

PIPING AND CONTROLS
SYMBOL BRANCH PIPE MODEL NAME
J1 CMY-R301S-G
SYMBOL LIQUID PIPE GAS PIPE SIZE
P1 1/4 1/2
P2 3/4 1-1/8
SYMBOL MODEL NUMBER
CR TAC-YTSCRAUJ



- SCHEMATIC DIAGRAM NOTES**
- ALL BRANCH CIRCUIT CONTROLLER UNITS TO HAVE SERVICE ISOLATION VALVES FOR EACH BRANCH TO ALLOW SERVICE TO ANY INDOOR UNIT WITHOUT FIELD INTERRUPTION TO OVERALL SYSTEM OPERATION (TYPICAL).
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**A1 VRF SYSTEM SCHEMATIC - HP5 & DOAS (PARTIAL)**  
NOT TO SCALE



- PIPING DIAGRAM NOTES**
- PIPING LENGTHS SHOWN ARE A REPRESENTATIVE ESTIMATE. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING PIPING LENGTHS USING MOST DIRECT ROUTING WHILE MAINTAINING ACCEPTABLE CONCEALMENT. PIPE ROUTING SHALL BE APPROVED BY GENERAL CONTRACTOR AND ENGINEER.

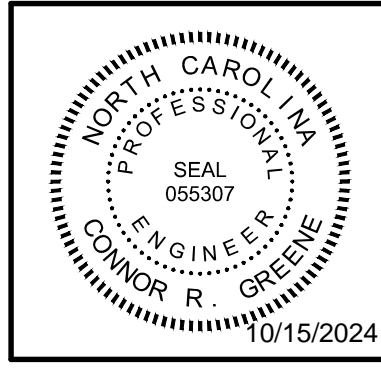
**A4 VRF PIPING DIAGRAM - HP5**  
NOT TO SCALE

REVISION NO.	0	ISSUED FOR CONSTRUCTION
DESCRIPTION:		

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**MECHANICAL  
VRF SCHEMATIC  
AND PIPING DIAGRAM**

JOB NO.:	24069
DRAWN:	CRG
DESIGNED:	CRG
CHECKED:	CRG

DRAWING NO:  
**M-706**

REVISION:	0
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