



CHARLOTTESVILLE ALBEMARLE AIRPORT AUTHORITY MECHANICAL SYSTEMS UPGRADE

100 BOWEN LOOP, SUITE 200
CHARLOTTESVILLE, VA 22911

ISSUED FOR BID

05/10/24

AEC PROJECT NUMBER
20541812009

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RS&H

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Virginia Registration No.:
0407-003771 / 0411-000438



VICINITY MAP
N.T.S.

CHO - CHARLOTTESVILLE
ALBEMARLE AIRPORT



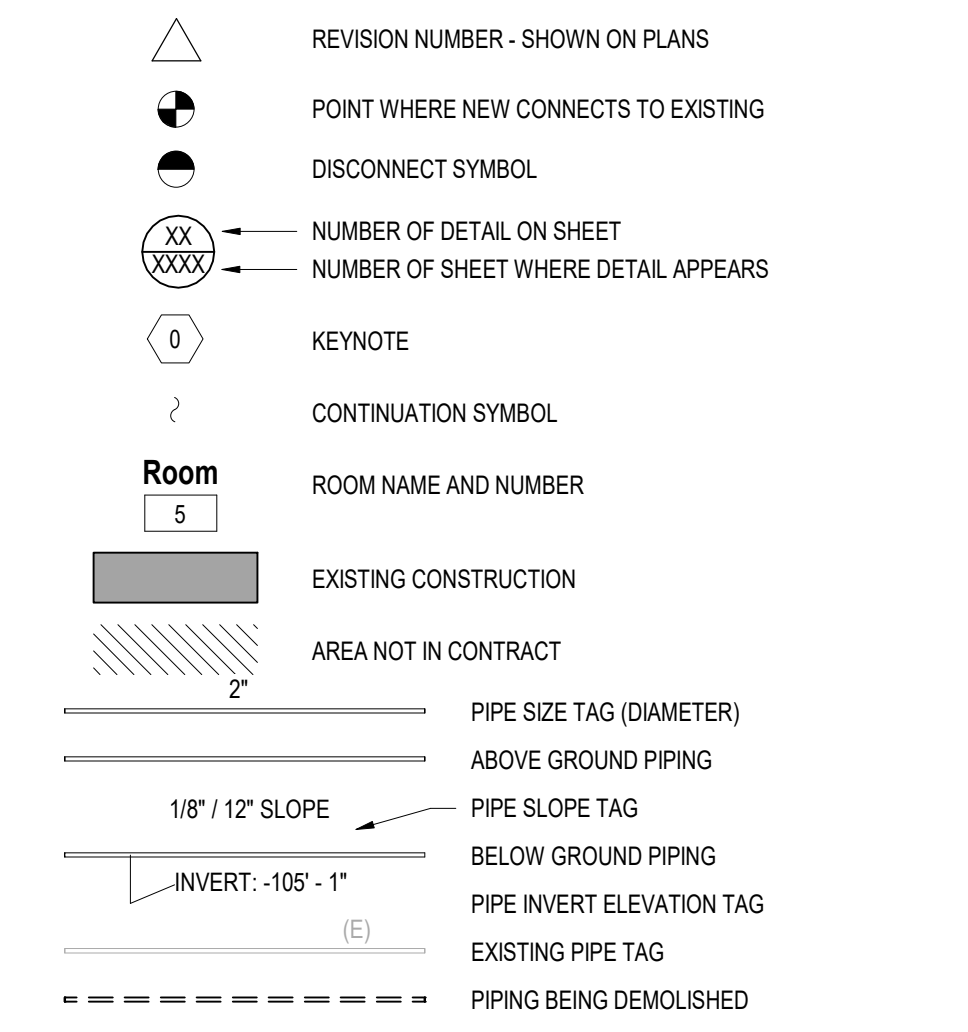
LOCATION MAP
N.T.S.

REVISIONS		
NO.	DESCRIPTION	DATE

**NOT ISSUED FOR
CONSTRUCTION**

BUILDING ID: BLDG. ID

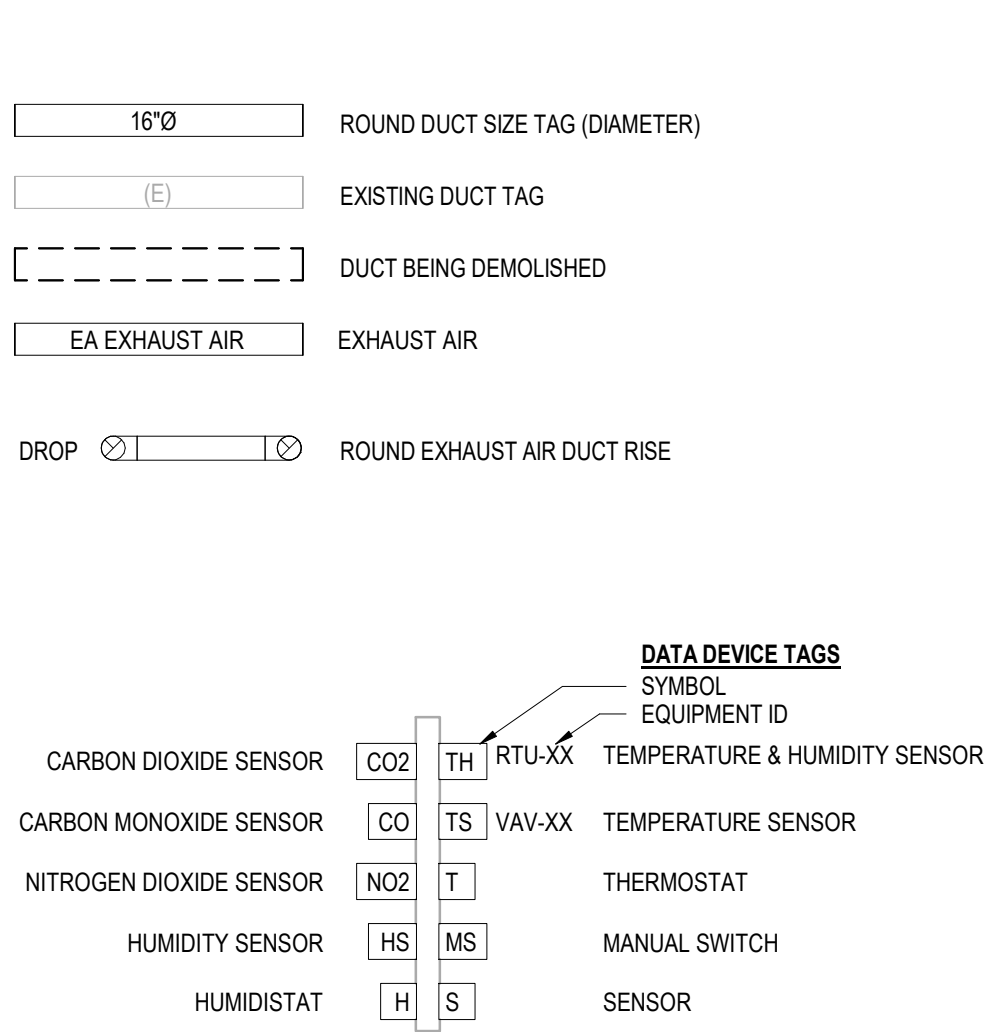
GENERAL MECHANICAL SYMBOLS



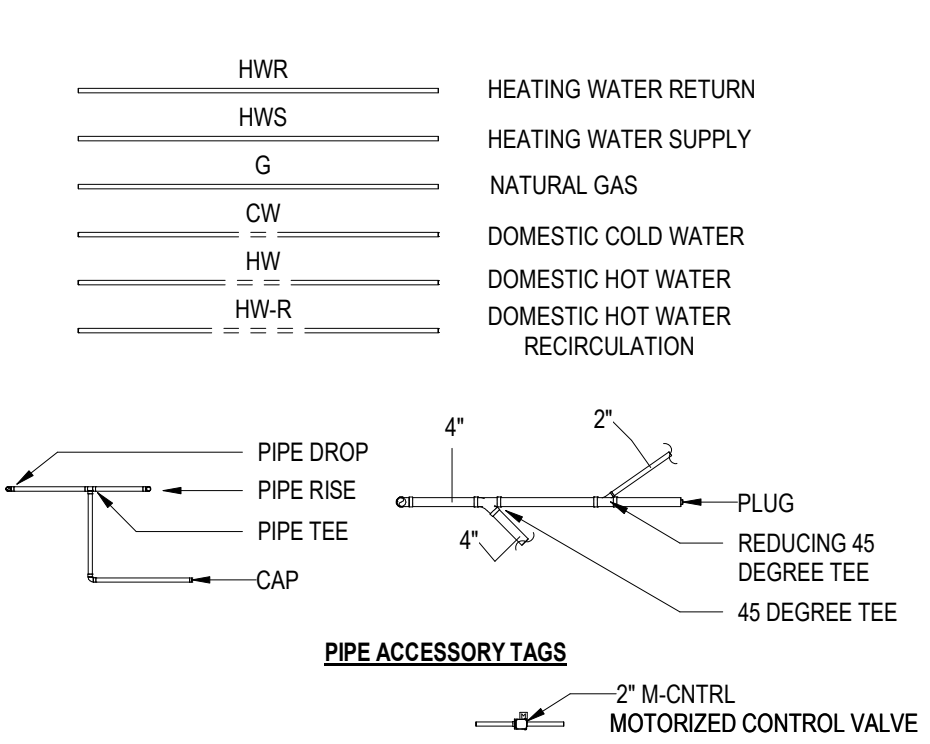
ABBREVIATIONS

Table of abbreviations and their corresponding full names, organized in two columns.

HVAC SYMBOLS



PIPING SYMBOLS



GENERAL NOTES

- 1. PROVIDE COMPLETE PRODUCT DATA (SIZE, WEIGHT, OPERATING CHARACTERISTICS, WIRING DIAGRAMS, ETC) FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE DRAWINGS.
2. ALL HVAC SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODE REQUIREMENTS, VIRGINIA MECHANICAL CODE 2018, VIRGINIA PLUMBING CODE 2018, NATIONAL ELECTRICAL CODE 2017 AND VIRGINIA BUILDING CODE 2018.
3. PROVIDE OFFSETS IN NEW PIPING SYSTEMS AS REQUIRED TO FACILITATE INSTALLATION OF NEW WORK AT NO ADDITIONAL COST TO THE CONTRACT.
4. ALL NON-GALVANIZED SUPPORTS AND HANGERS FOR PIPING AND EQUIPMENT MUST BE CLEANED OF DEBRIS AND RUST, PROPERLY PREPPED, PRIMED AND PAINTED.
5. IN ADDITION TO THE SPECIFICATION REQUIREMENTS AND PRIOR TO ORDERING EQUIPMENT AND INSTALLATION OF NEW WORK, SUBMIT A COMPOSITE SHOP DRAWING (1/4" MIN. SCALE PLAN AND SECTIONS) SHOWING PIPING AND EQUIPMENT LAYOUT. THIS SHOP DRAWING MUST ALSO INDICATE MAINTENANCE/SERVICE SPACE FOR ALL EQUIPMENT.
6. CONCRETE PADS FOR MECHANICAL EQUIPMENT MUST BE SIZED, LOCATED AND PROVIDED BY DIVISION 23. PROVIDE 4' HIGH x UNIT LENGTH PLUS 4' x UNIT WIDTH PLUS 4' CONCRETE PADS FOR ALL HVAC EQUIPMENT MOUNTED ON GRADE OR FLOOR SLAB.
7. VERIFY ALL EQUIPMENT WITH MANUFACTURER'S CERTIFIED DRAWINGS, FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
8. UNLESS OTHERWISE INDICATED ALL DRAIN LINES FROM EACH PIECE OF EQUIPMENT MUST BE PIPED FULL SIZE OF DRAIN OUTLET, WITH P-TRAP TO FLOOR DRAIN OR JANITOR SINK.
9. ALL EQUIPMENT, PIPING, ETC., MUST BE SUPPORTED AS DETAILED AND SPECIFIED. ADDITIONAL SUPPORTS MUST BE PROVIDED AS REQUIRED TO PROPERLY SUPPORT ALL HVAC SYSTEM COMPONENTS.
10. VFD'S IF REQUIRED ARE INDICATED ON THE HVAC EQUIPMENT SCHEDULES AND ARE PROVIDED BY DIVISION 23. UNLESS OTHERWISE NOTED, FIELD LOCATE EACH VFD IN THE SAME ROOM THAT THE EQUIPMENT IT SERVES IS LOCATED. VFD'S MUST BE LOCATED SO THEY CAN EASILY BE ACCESSED, HAVE PROPER MAINTENANCE SPACE AND COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. GROUND VFD'S IN ACCORDANCE WITH NEC. VFD'S MUST NOT BE MOUNTED ON HVAC EQUIPMENT, UNLESS NOTED OTHERWISE OR FACTORY MOUNTED.
11. ALL HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS SHOWN ON THE CONTRACT DRAWINGS MUST BE NEW.
12. SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE HVAC DRAWINGS.
13. THIS PROJECT REQUIRES COORDINATION DRAWINGS. REFER TO SPECIFICATION SECTIONS 01400, 13000 AND 230050 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
14. DISCREPANCIES AND CONFLICTS BETWEEN MECHANICAL SYSTEMS AND OTHER DISCIPLINE (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION) DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE A/E PRIOR TO CONSTRUCTION OF SUBJECT SYSTEMS. FAILURE TO NOTIFY A/E OF THE SUBJECT PROBLEMS MUST CONSTITUTE ACCEPTANCE OF ALL CONDITIONS AND ANY CORRECTIVE WORK REQUIRED AS DIRECTED BY A/E. THE SUBJECT CORRECTIVE WORK MUST BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
15. ALL FURNISHED EQUIPMENT MUST FIT THE ALLOCATED SPACE. PROVIDE ALL MODIFICATIONS TO THE OPENINGS, IN ROOF OR SLAB, STEEL SUPPORTS, ELECTRICAL REQUIREMENTS AND ANY OTHER BUILDING COMPONENTS REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF SUBJECT EQUIPMENT.
16. PRIOR TO FINAL INSPECTION OF EQUIPMENT BY A/E, EACH PIECE OF MECHANICAL EQUIPMENT MUST BE CLEANED AND ALL FOREIGN MATERIALS REMOVED. ALL PENETRATIONS THRU UNIT CASINGS MUST BE PROPERLY SEALED AND ALL CONTROL DEVICES MUST BE OPERATIONAL AND CALIBRATED.
17. ALL FINISHES DAMAGED DURING THE INSTALLATION OF NEW HVAC SYSTEM MUST BE REPAIRED TO MATCH EXISTING ADJACENT FINISHES.
18. COORDINATE LOCATION OF HVAC EQUIPMENT AND SYSTEM ROUTINGS SO THAT HVAC EQUIPMENT AND PIPING ARE NOT LOCATED ABOVE ELECTRICAL EQUIPMENT, PANELS OR ELEVATOR EQUIPMENT.
19. FOR ALL THREE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT IN CONSTANT SPEED APPLICATIONS, PROVIDE FULL VOLTAGE, COMBINATION MAGNETIC TYPE, THREE-PHASE POWER, MOTOR STARTER/CONTROLLERS WITH UNDER VOLTAGE RELEASE, MOTOR CIRCUIT PROTECTOR TYPE DISCONNECT WITH SHORT-CIRCUIT PROTECTION, HANDS-OFF-AUTOMATIC SWITCH AND GREEN PILOT LIGHT IN CONTROL PANEL COVER. PROVIDE THE APPROPRIATE NUMBER OF NORMAL OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
20. FOR ALL SINGLE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT, PROVIDE ELECTRICAL DISCONNECT AND THE APPROPRIATE NUMBER OF NORMALLY OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

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CHO AIRPORT

PROJECT TITLE:
MECHANICAL SYSTEMS UPGRADE

PROJECT ADDRESS:
100 BOWEN LOOP, SUITE 200
CHARLOTTESVILLE, VA 22911

REVISIONS table with columns for NO., DESCRIPTION, and DATE.

DATE ISSUED: 09/10/24
REVIEWED BY: KMN
DRAWN BY: SMB
DESIGNED BY: SMB

PROJECT NUMBER: 20541812009

SEAL:

SHEET TITLE:
MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

SHEET ID:
M001

PROJECT STATUS:
ISSUED FOR BID

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GENERAL DEMOLITION NOTES	
1.	NATURAL GAS PIPING SHALL BE ROUTED NO LESS THAN 12" BELOW GRADE, UNLESS OTHERWISE NOTED.

BOILER ROOM DEMOLITION NOTES	
MARK	DESCRIPTION
1	REMOVE EXISTING FUEL OIL SYSTEM COMPLETE TO POINT INDICATED. SEE IMAGE 2, THIS SHEET. INCLUDES PIPING, EQUIPMENT, SUPPORTS, CONTROLS, WIRING AND APPURTENANCES. CAP PIPING BELOW FLOOR.
2	REMOVE EXISTING PROPANE SUPPLY SYSTEM COMPLETE. SEE IMAGE 1, THIS SHEET. INCLUDES PIPING, EQUIPMENT, SUPPORTS, WIRING AND APPURTENANCES. CAP PIPING AT ROOM ENTRANCE.
3	REMOVE EXISTING HEATING HOT WATER BOILER COMPLETE. INCLUDES CONTROLS, WIRING, SUPPORTS, AND APPURTENANCES.
4	REMOVE EXISTING HOT WATER PIPING COMPLETE TO POINT INDICATED. INCLUDES INSULATION, SUPPORTS, CONTROLS, WIRING AND APPURTENANCES.
5	REMOVE EXISTING DRAIN PIPING COMPLETE. INCLUDES SUPPORTS AND APPURTENANCES.
6	REMOVE EXISTING EXHAUST FLUE COMPLETE. INCLUDES ROOF STACK, INSULATION, SUPPORTS AND APPURTENANCES.
7	DISCONNECT EXISTING HWS AND HW/R PIPING FROM EXISTING HWP. REMOVE HWP COMPLETE. INCLUDES SUPPORTS AND APPURTENANCES. SEE PHOTO 3, THIS SHEET.
8	EXISTING ROOF PENETRATION TO REMAIN FOR NEW WORK.
9	REMOVE EXISTING DOMESTIC HOT WATER HEATER COMPLETE. INCLUDES CONTROLS, WIRING, SUPPORTS, AND APPURTENANCES.



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DATE ISSUED: 09/10/24
REVIEWED BY: KMN
DRAWN BY: SMB
DESIGNED BY: SMB
PROJECT NUMBER: 20541812009
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SEAL:

SHEET TITLE:
MECHANICAL ROOM
DEMO PLANS

SHEET ID:

MD101

PROJECT STATUS:
ISSUED FOR BID



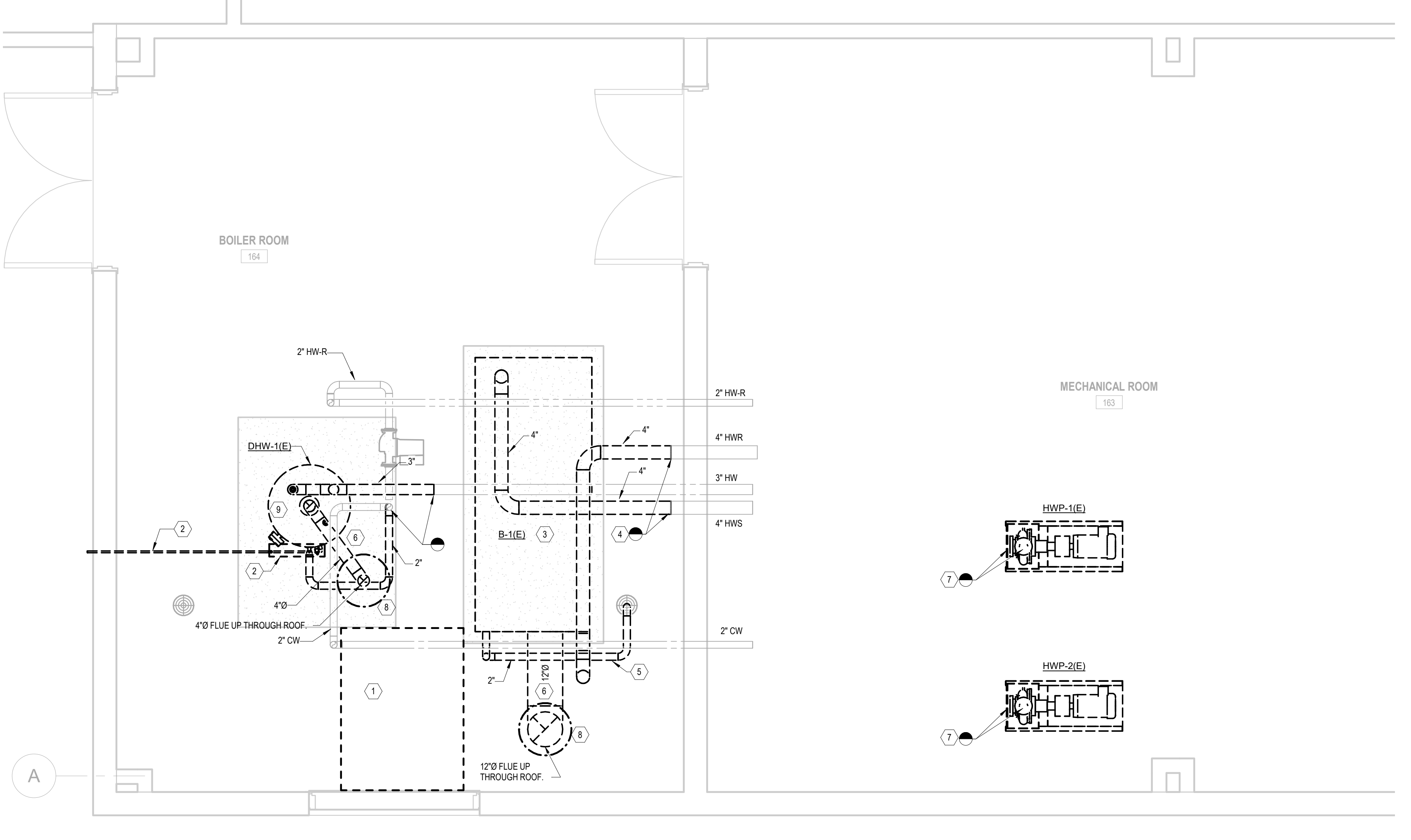
B1 EXISTING DHW PROPANE SYSTEM
SCALE: N.T.S.



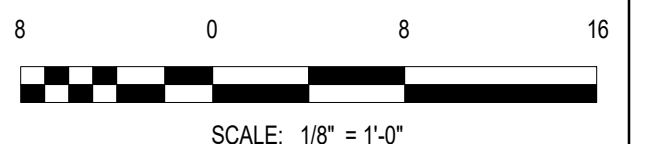
B2 EXISTING FUEL SYSTEM
SCALE: N.T.S.



A1 EXISTING HWP
SCALE: N.T.S.



A3 MAIN TERMINAL BOILER ROOM DEMO PLAN
SCALE: 1/2" = 1'-0"



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ELECTRICAL ABBREVIATIONS

Table of electrical abbreviations including AC (Air Conditioning), AF (Amp Fuse), AL (Aluminum), and others, with their corresponding full names.

DEMOLITION LEGEND

Demolition legend symbols and codes: XD = Existing must be removed, XM = Existing must be moved to new location, etc.

MOUNTING HEIGHTS

Table of mounting heights for various electrical components: Above counter devices, wall luminaires, exterior speakers, etc.

ELECTRICAL SYMBOLS POWER SYSTEMS

Table of electrical symbols for power systems: Simplex receptacle, duplex receptacle, junction box, etc.

ELECTRICAL SYMBOL NOTES

Notes explaining symbols: EXIT LIGHTS: STEM INDICATES WALL MOUNTING... DEVICES: THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER... TRANSFORMERS: 'TA' INDICATES THE TRANSFORMER IDENTIFIER...

GENERAL NOTES

- 1. ALL ELECTRICAL WORK MUST COMPLY WITH NATIONAL ELECTRICAL CODE, NFPA 70... 2. THOROUGHLY REVIEW THE PROJECT TO ENSURE THAT ALL WORK MUST MEET OR EXCEED THE ABOVE REQUIREMENTS...

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REVISIONS table with columns: NO., DESCRIPTION, DATE

DATE ISSUED: 05/10/2024
REVIEWED BY: SVS
DRAWN BY: STS
DESIGNED BY: STS
PROJECT NUMBER: 20541812009

SEAL:

SHEET TITLE: ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

SHEET ID:

E001

PROJECT STATUS: ISSUED FOR BID

5/7/2024 3:23:12 PM Autodesk Docs://20541812009_CHO_Mechanical Systems Upgrade/E_001.rvt

