



SPECIFICATIONS FOR HEATING AND VENTILATING WORK

- SCOPE OF THE WORK: Work shall include complete heating and ventilating systems as shown on the plans and as specified. Provide supervision, labor, material, equipment, machinery, plant and items necessary for complete systems tested and ready for operation.
- REGULATIONS: Materials and installation shall comply with local codes, applicable provisions of latest edition of National Fire Protection Association, local utility regulations and governmental departments having jurisdiction.
- DRAWINGS: These drawings are diagrammatic and indicate general arrangement of systems and work included. Where variances occur include the items of better quality, greater quantity or higher cost.
- COORDINATION OF WORK: The Contractor shall be responsible for the coordination and proper relation of his work to the building structure and to the work of other trades. Contractor shall provide dimensions and locations of all openings, shafts and similar items to the proper trades and shall install work as required so as not to delay the building construction. The Contractor is responsible for damage caused by his work or workmen. Repairing of damaged work shall be done by the Contractor at no additional cost.
- ACCESSIBILITY: Locate equipment which must be serviced or maintained in fully accessible positions where possible. Otherwise, furnish access panels of sufficient size and located so that the concealed equipment can be serviced.
- ROUGH-IN: Rough-in openings shall align vertically and horizontally with building structure. Wall-mounted thermostats shall be mounted 5'-4" above finished floor to bottom of thermostat.
- CUTTING AND PATCHING: The Contractor shall provide all cutting and patching necessary to install his work. Patching shall match adjacent surfaces. No structural members shall be cut without the approval of the Architect.
- CLEANING: Equipment shall be cleaned to remove foreign materials. Remove from the premises all unused material and debris resulting from the performance of the work.
- WIRING: Equipment control wiring for mechanical equipment shall be furnished by the Mechanical Contractor. Control wiring shall not include any wiring which carries motor current. All wiring shall be in metal conduit and shall comply with the Electrical specifications.
- QUIET OPERATION: Systems shall operate under conditions of load without unusual or excessive noise or vibration. Unusual or excessive noise or vibration shall be corrected.
- INSTRUCTIONS TO OWNER: Instruct the Owner in the proper operation and maintenance of the mechanical systems until the Owner is fully prepared to operate and maintain the systems. However, length of instruction time shall be limited to one (1/2) half day.
- GUARANTEE: Equipment, materials and labor required by these contract drawings shall be guaranteed to be free from defective materials or workmanship for one (1) year after final acceptance of the project unless specified for a longer period in other portions of the specifications. Defective materials or workmanship occurring during this period shall be corrected at no additional cost.
- PAINTING: General - Painting shall be limited to equipment and materials not otherwise protected from rusting such as hangers and supports. Paint shall be products of Sherwin-Williams, Pittsburgh, Pratt-Lambert or equal. Surface preparation, priming and paint application shall be in accordance with the manufacturer's instructions. Galvanized surfaces shall be pretreated with a phosphoric acid cleaning solution and primed. After preparation each item shall be painted to match adjacent walls or ceilings. Painting is not required of items with a factory-finish coat. Patch painting is required of any damaged areas to match factory-finish coat. Nameplates on equipment shall not be painted.
- LOUVER: Wall louver shall be Greenheck Model ESD-403 or equal, stationary drainable blade aluminum louver complete with 1/2 inch mesh matching bird screen in removable frame. Louver shall be 4 inches deep and blade spacing shall not exceed 4 inches on center. Finish shall be baked enamel. Submit manufacturer's standard color chart for architect selection.
- MOTOR OPERATED DAMPER: Motor operated damper shall be Greenheck Model VCD-23 or equal, parallel or opposed blade construction for two-position service. Damper shall be low leakage, multi-louver construction with brass or synthetic sleeve bearings, damper linkage, galvanized steel channel frame, and a maximum width of 6 inches. Blades shall be galvanized steel, interlocking type with extruded vinyl blade seals. Damper motor shall be either line voltage or low voltage and of sufficient capacity to operate the connected damper. Provide low voltage transformer if required.

EQUIPMENT NOTES

FAN:		GREENHECK OR EQUAL					
MARK	CAP CFM	S. P. IN. H ₂ O	HP	VOLTAGE & PHASE	SONES	TYPE	MODEL
EF-1	900	0.25	1/6	120V-1PH	7.0	SIDEWALL	SE1-14-440-B6

NOTE: PROVIDE DISCONNECT SWITCH, WALL COLLAR, MOTOR GUARD, MOTOR OPERATED DAMPER, WEATHERHOOD AND WALL MOUNTED THERMOSTAT (ADJUSTABLE SETPOINT).

UNIT HEATER: Q-MARK OR EQUAL

MARK	WATTS	CFM	VOLTAGE	MODEL NO.
			& PHASE	
UH-1	7500	650	460V-3PH	MUH-07-4

NOTE: PROVIDE WALL MOUNTED LOW VOLTAGE THERMOSTAT (ADJUSTABLE SETPOINT), LOW VOLTAGE CONTROL TRANSFORMER, POWER DISCONNECT SWITCH AND UNIVERSAL WALL AND CEILING MOUNTING BRACKET. HEATER SHALL BE UL APPROVED.

SEQUENCE OF CONTROL

EXHAUST FAN:

EF-1 SHALL BE CONTROLLED BY A WALL-MOUNTED THERMOSTAT. WHEN THE FAN IS ENERGIZED, ITS MOTORIZED DAMPER SHALL OPEN AND THE INTAKE LOUVER'S MOTORIZED DAMPER SHALL OPEN. WHEN THE FAN IS DE-ENERGIZED, THE DAMPERS SHALL BE CLOSED.

UNIT HEATER:

THE UNIT HEATER SHALL BE CONTROLLED BY A WALL MOUNTED THERMOSTAT.

GENERAL NOTES:

- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS.
- CONTRACTOR SHALL SEAL AND FLASH ALL PENETRATIONS IN WALLS.
- VERIFY WALL OPENINGS WITH STRUCTURE.
- VERIFY THE LOCATION OF THERMOSTATS WITH THE OWNER PRIOR TO ROUGH-IN.
- REFER TO ARCHITECTURAL AND ELECTRICAL DRAWINGS TO COORDINATE THE EXACT LOCATIONS OF MECHANICAL EQUIPMENT.
- CONTRACTOR SHALL PROVIDE ALL SUPPORTS REQUIRED TO MOUNT MECHANICAL EQUIPMENT.

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Revisions

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MILL MOUNTAIN WATER PROJECT
PUMP STATION
MECHANICAL
CITY OF ROANOKE, VIRGINIA

Vertical Scale:
AS SHOWN

Horizontal Scale:
AS SHOWN

Commission Number:
2120

Sheet No.:

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RECORD DRAWINGS

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