

CONTRACT #        N00485-10B-0445  
PROJECT #         10M045CN  
MACC #            10-0445  
MAXIMO#          4277822

TITLE: HVAC REPLACEMENT FOR M116

**ATTACHMENTS:**

M1 Bldg M116  
Map Location M116

**SCOPE OF WORK:** The contractor shall provide all material, labor, equipment and supervision required to accomplish the following: The replacement of the HVAC unit, AC-1 with a heat pump of the same size and connecting ductwork for complete installation. Cleaning of AC-1 system existing ductwork.

**Detailed requirements and specifications –**

**HVAC WORK:**

**Demolition:**

1. Remove the existing 15 ton packaged DX ac unit and related steam coil and piping back to mechanical room. Unit is shown as AC-1 on drawing M1, Mechanical Floor Plan.
2. Secure the steam and condensate in the mechanical room prior to demolition. Permanently cap or plug steam supply and condensate lines in the mechanical room, back to where they branch off of the headers.
3. Remove ductwork to points shown on drawing M1, Mechanical Floor Plan.
4. Remove O.A. damper switch wiring from existing 15 ton DX unit for reconnection on new heat pump unit.
5. Secure and remove line voltage from DX unit to disconnect; remove control wiring for use on new units if possible.

**New work:**

1. Install one 15 ton packaged heat pump with 20kw heat strip. 208 volt; three phase.
2. Phase protection and monitoring on the 15 ton 3 phase packaged heat pump.
3. Connect control voltage for O.A. damper to indoor switches for 15 ton heat pump.

4. Install appropriate conduit and wiring from disconnect to connect new packaged heat pump in accordance with manufacturer's specifications and NEC codes.
5. Fabricate new supply and return ducts that will allow connection to the existing ducts to building zones.
6. Seal and insulate ductwork in accordance with SMACNA regulations.
7. Reconnect control voltage to new packaged heat pump unit.
8. Fabricate supply duct for the 15 ton packaged heat pump that will extend from the unit to the elbow of the of remaining supply duct.(M1)
9. Fabricate return duct for the 15 ton packaged heat pump that will extend from the unit to the elbow of the of remaining return duct.(M1)
10. Clean existing duct work system attached to unit AC-1, before reconnecting new duct for complete installation. It is NOT the intent of this project to clean the ductwork of the other building M116 HVAC systems.
11. Fabricate and install metal cover over all exposed supply and return ducts for packaged heat pump.
12. Install digital thermostat for the new heat pump and program for most efficient operation.

**Specifications:**

1. Contractor shall comply with N.C. mechanical codes and EPA regulations during the completion of this project.
2. Provide manufacturer and specifications with bid proposal. Provide installation, start up, and maintenance manuals for new equipment.
3. Demo'ed DX unit and all other material become property of contractor and shall be removed from base site at contractors expense.
4. (TAB) balance each system prior to completion of the project.(see M1)

**ELECTRICAL WORK:** Refer to E1 for locations.

**Demolition:**

1. Remove Air Conditioning circuit complete to unit #1 conduit, wiring, circuit breaker, disconnect, fuses and related wiring to the load side of the disconnect.

**Construction:**

1. Install conduit, wiring, disconnect, fuses and HACR circuit breaker from Westinghouse MDP panel to one heat pump unit #1. Conduit shall be installed in crawl space.
2. Contractor shall coordinate with the HVAC contractor to properly size unit disconnect, branch circuit and over current protection. Install 1 each three phase 120/208 volt NEMA 3R disconnect fused switch near heat pump #1. Over current protection shall be installed in accordance with the manufactures specifications, if the over current is specified as "MAX FUSE ONLY" the safety switches shall be replaced with fusible disconnects and fused according to manufacturers specifications.
3. Install blank inserts in Westinghouse MDP panel for any open spaces from removed breakers.
4. Mark new panel directory to reflect changes and mark as service disconnect as required.  
Each disconnecting means shall be legibly marked to indicate its purpose with panel name, voltage and circuit numbers. The markings shall be of sufficient durability to withstand the environment involved.
5. Install one dedicated 120 volt 20 amp receptacle circuit and breaker from panel B to feed a GFCI receptacle near each heat pump. Install one GFCI receptacle within 25 feet of each unit and install in use covers for outdoor use.

**Specifications:**

1. Equipment, material, installation and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70.
2. All conductors shall be copper and insulation shall be 600 volt, type THHN/THWN conductors smaller than #10 shall be solid unless noted elsewhere.

**GENERAL REQUIREMENTS:**

Remove all debris from work site and clean site at completion of job.

**SPECIAL SCHEDULING AND ACCESS:**

POC: Marvin Jones: Phone: 450-0991; Cell: 910:389-5765.

**HAZARDOUS MATERIALS:** None Identified

**ENVIRONMENTAL:**

Contractor shall remove and reclaim refrigerant in accordance with N.C. code and EPA standards (section 608).