

PROJECT NARRATIVE

VA PROJECT #VA244-P-1491

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LOUIS A. JOHNSON VA MEDICAL CENTER

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REPAIR AND ADD REDUNDANCY TO AHU-32 & AHU-31

This narrative is intended to supplement the 90% Construction Documents submittal. This in combination with the drawings and specifications describes the scope of work of the project.

General Project Scope of Work

The proposed renovation work for the VAMC Clarksburg, West Virginia facility shall include the installation of a new rooftop air handling unit (RTU) with service vestibule, a new energy recovery exhaust unit (ERU), interconnecting ductwork, associated controls, valves, and piping. Two new unfired steam to steam generators, one to replace the existing steam to steam generator and one to serve the new RTU steam humidification manifold. Additional work shall include replacement of the existing air cooled chiller 1-ACCU-31/32, chilled water pumps 1-P-38 and 1-P-39, inline energy recovery pump 1-P-31 and other miscellaneous mechanical and electrical equipment plus related general trades work to support the project. The building systems and service infrastructure affected shall be checked and adjusted to accommodate the new equipment.

General Contractor Scope of Work

The General Contractor will provide all supervision, scheduling, and management of the project, plus miscellaneous general trades work. General Contractor may assign some of the General Contractor work to the mechanical or electrical contractors, but will continue to be responsible for the assigned work.

Management of the Project includes:

1. Planning, supervising, managing, and scheduling activities of the contractors.
2. Coordinating and maintaining communications with the Owner.
3. Implementing and managing the security plan and procedures.
4. Managing and supervising the fire safety requirements.

5. Managing and coordinating the project activities and project storage areas with the operations of the Owner.
6. Surveying of the work area prior to and after the work.
7. Providing protection of the existing facility during the work.
8. Providing and maintaining infection prevention measures.
9. Providing interim and final cleanup of the project work areas.
10. Providing facilities for removal and disposal of waste materials.
11. Supervising and maintaining requirements for construction waste management.
12. Maintaining, coordinating, and delivering as-built drawings.
13. Managing and coordinating tie-in, maintenance, and restoration to original condition of temporary utility connections.
14. Managing and coordinating of required testing before, during, and after the work.
15. Managing, coordinating, and participating in furnishing Maintenance and Operating manuals and verbal instructions.
16. Furnishing and installing required safety signs.
17. Developing, managing, coordinating, supervising, and complying with the project schedule.
18. Coordinating and submitting the monthly certificates for payment for all contractors.
19. Updating the project schedule and attending monthly schedule update meetings.
20. Coordinating the contractors' efforts required to maintain the project completion date.
21. Coordinating submittal of shop drawings, product data, and samples.
22. Coordinating and supervising the requirements for commissioning.

General Trades work includes but is not limited to:

1. Submitting shop drawings, product data, and samples for items related to the General Trades work.
2. Furnishing, installing, maintaining, and removing temporary environmental controls.
3. Providing cutting, alterations, removal, and patching of existing work as necessary to install new work.

4. Demolishing portions of the existing building as necessary to perform the work.
5. Furnishing and installing metal stairs to new rooftop unit.
6. Furnishing and installing rough carpentry.
7. Furnishing and installing roof & deck insulation.
8. Furnishing and installing roofing system and walkway pads.
9. Furnishing and installing flashing & sheet metal.
10. Furnishing and installing joint sealants.
11. Furnishing and installing firestopping.
12. Furnishing and installing other work of the project not specifically assigned to the mechanical, electrical, or other contractors.

Mechanical Scope Of Work

The proposed work area affects the existing 4th Floor, mechanical equipment room and roof of the Clinical Addition. The two existing air handling units, 1-AH-31 and 1-AH-32, serve the operating rooms, ICU and support spaces. These air handling units shall remain in operation throughout the installation of the new RTU. The respective energy recovery systems including coils, pumps, and piping, shall remain in place. The new RTU will be equipped with its own coil and pump and operate with the new energy recovery unit located on the roof.

The new rooftop air handling unit will be located on the 4th Floor Addition Mechanical Penthouse roof. The unit will be 100% outdoor air containing pre-filters, glycol energy recovery coil, glycol heating coil, glycol cooling coil, UV lights, dual plenum supply fans, final filters and a humidifier manifold section. The humidifier section will be served from a new steam to steam generator located within the mechanical room below. A four foot wide vestibule with two entry points will be attached to the new RTU.

The new energy recovery exhaust unit will be located on the 4th Floor Addition Mechanical Penthouse roof. The unit will be 100% exhaust air containing pre-filters, glycol energy recovery coil, and exhaust fans. The unit will tie into the exhaust ducts of existing 1-ERU-31 and 1-ERU-32 and operate when the new RTU is running.

Upon completion of the new roof top unit installation, existing air handling unit 1-AH-32 will be rebuilt with new internal components supplied by the owner.

The existing outdoor air cooled chiller which is currently not operating shall be replaced with new. The new air cooled chiller shall be a scroll type compressor. New pumps and a revised piping configuration shall be installed to serve the two existing air handling units or one indoor air handling unit and the new RTU. Operating within a small pipe loop, a chilled water buffer tank will be added in order to carry a

larger system water volume. The outdoor air cooled chiller will be a redundant system to the main chilled water plant.

The most current VA guidelines and manuals shall be checked for requirements in this area.

Ductwork shall be demolished and replaced as needed to accommodate the new RTU tie in points. All of this ductwork should be within the mechanical equipment room and roof. All of the ductwork shall be stainless steel in accordance with VA standards. Chilled water, hot water, and steam piping shall be replaced as needed to support the new equipment loads.

The automatic temperature controls shall remain in place for the existing air handling units 1-AH-31 and 1-AH-32. New controls will be provided in order for the new RTU to function properly and operate as a redundant unit to either 1-AH-31 or 1-AH-32 as required through the BAS system.

The housekeeping pads and other miscellaneous structural work shall be made to accommodate the new HVAC equipment.

Operational issues with the exiting steam to steam generator serving 1-AH-31 were identified through the maintenance department and has been determined that the steam to steam generator and duct manifold will be replaced with an unfired steam generator. Piping and new control valves will be installed as necessary to support the new equipment.

The downstream ductwork distribution system and components are not part of this renovation scope.

Plumbing/Fire Protection Scope Of Work

The plumbing and fire protection work shall be limited to the necessary changes and relocations to accommodate the new mechanical equipment. Make up water lines will be connected to the new condensate coolers. R.O. water lines will be extended from the existing system to each new steam to steam generator.

Electrical Scope Of Work

The electrical work shall consist of new electrical services to the new air handling units, associated pumps and air cold chiller. New variable frequency drives will be provided where indicated, all other starters shall either be across-the-line or provided integral with the new equipment.

Existing electrical equipment and devices shall be relocated as needed for the mechanical equipment installation. New smoke detectors shall be provided in the new AHUs.

Due to the electrical demand of the new chiller, the feeder for the chiller shall originate at the basement floor emergency equipment distribution board. To provide adequate space within the existing switchboard for the new chiller breaker, the existing surge protective device (SPD) within the switchboard shall be relocated. The SPD shall be relocated from inside the switchboard to an enclosure next to the switchboard.

Structural Scope Of Work

Existing Conditions:

The structure of the existing third floor roof (fourth floor level) and mechanical penthouse roof (fifth floor level) is a two-way concrete slab system. The two-way slab system has edge beams around the perimeter with drop panels located at each column. The slab is nine inches in depth and reinforced for flexure in both directions in order to transmit loads from the slab to the columns by flexure, torsion, and shear.

Proposed Work:

A new 23,000 lb. air handling unit will be located on the roof of the existing mechanical penthouse roof. The proposed location of the new unit is between grids L and M and between grids 16 and 18. The structural curbing along the length of the unit is to align with the center of the beam below the slab along grid L (1'-0" +/- from the face of the building). The existing two-way slab system has been analyzed and can support the operating weight of the new unit (unit number 1-RTU-31/32) shown on drawing M103 (dated 02/13/2014).

An existing chiller that is currently located on the existing fourth floor roof is to be removed and replaced with a lighter 14,600 lb. air-cooled screw chiller. The operating weight of the existing chiller should be verified and the operating weight of the new chiller shall not exceed that magnitude. The weight of the new chiller shall be distributed with the same configuration of equipment rails and isolators as is currently there.

The existing structure has been analyzed using reference drawings provided by the Veterans Administration dated 07/18/1986. Actual conditions should be verified prior to placement of the new mechanical equipment.