Feb 10, 2014

Mechanical/Electrical Outline Specification by
Bennett Engineering, Freeport, ME for the

Seaside Rehabilitation Existing Wing Renovation
Portland, ME

Demolition – Both Trades shall remove all mechanical/plumbing/electrical equipment as needed to facilitate the new floor plan.

DIVISION 23-HVAC

A. Main Heating System: (Alternate #4)
Existing: Heat is electric baseboard in patient rooms and electric duct coil in air handler
Proposed heating system: (2) new high efficiency NG fired condensing boilers 399,000 BTU fully modulating installed in existing boiler room. Boilers will be located where old generator was removed and side wall vented. Existing NG gas piping in boiler room will be tapped. Install new forced hot water baseboard in all patient rooms and common areas to accommodate new floor plan. Patient rooms will have hydronic wall heaters. Heating water piping mains will be Type L copper and be insulated with fiberglass or flexible unicellular insulation. Branch piping (1" and less) may be PEX tubing insulated with flexible unicellular insulation. All piping and valves will be marked and tagged in accordance with ANSI. New pumps with variable speed drives shall be install in boiler room. Temp controls will be zone valves and t-stats for each space to suit new floor plan.

B. Ventilation System:
Existing: Bathrooms have individual fans that vent into the attic soffit. Central air handler is located in attic and has very poor access. Unit has electric heating coil and DX coil for cooling. The outside air intake is not directly connected to the outside air louver so the ventilation air is being drawn from the attic space.
Proposed system: New heat recovery unit with proper filtration, hydronic heating and DX cooling coil. There will need to be a heated attic space for the new unit. Ventilation of the patient and staff areas Per ASHRAE 62.2-2007. Much of the existing ductwork can be re-used. Insulate all existing ductwork and piping to meet Maine Uniform Building and Energy Codes (MUBEC).
Deduct alt: Furnish and install new bathroom exhaust fans.

C. Air conditioning (Alternate #2)
Existing: – air handler in the attic has DX coil with exterior condensing unit.
Proposed system: Need alternate to cool with Heat pump (city multi) or similar system. One heat pump for each zone.

D. System design/installation will be in conformance with Maine Plumbing Code (Uniform Plumbing Code 2009), NFPA and ASHRAE Standards.

DIVISION 22-Plumbing

A. Furnish and install new bathroom fixtures per revised floor plan. Sanitary piping shall be run in crawl space.

B. Furnish and install new mop basin with trim.

C. Plumbing fixtures will be provided as indicated on the Architectural drawings and to comply with Maine Plumbing Code (Uniform Plumbing Code 2009). Fixture type and manufacturer will be Toto, Eljer, Kohler, American-Standard, or equal. Water closets will be low flow (1.28gpf), floor-mounted tank type as indicated. Stainless steel sinks will be provided in the kitchens. All fixtures will be water-conserving type and ADA-compliant where applicable. Floor drains will be provided in certain areas as indicated. Water piping shall be Type L copper tube with lead-free soldered joints and insulated with fiberglass or flexible unicellular insulation. Branch water piping (1" and smaller) may also be PEX (Uponor AquaPEX) or CPVC piping (Flowguard Gold / Corzan or equal) and insulated with fiberglass or flexible unicellular insulation. LP gas piping will be Schedule 40 carbon steel with threaded joints. Shut-off valves will be Apollo or Watts ball valves. Water hammer arrestors will be provided where required and at all Units.

D. Existing domestic water mains shall be re-used.

DIVISION 26-Electrical System

The electrical systems shall include the following items:

A. All new electrical work shall comply with National Electrical Code 2014 and Maine Uniform Building Energy Code (MUBEC). Existing electrical service is 120/208V, 3 phase, 4 wire. Existing panel and feeders shall be re-used. Branch circuits to remain as much as possible to accommodate new floorplan. This will serve the building loads that will include mechanical equipment. Existing subpanels will be re-used throughout the building to serve the users electrical needs.

B. All lighting shall be energy efficient with motion sensors in common spaces. Lighting plan shall be coordinated with the Architect.

C. Modify existing fire alarm system as needed for new floor plan consisting of: pullstations, horn/strobes (strobes as required by ADA), smoke detection and heat detection. Automatic fire department notification shall be by dedicated phone line and dialer. Current ADA and Life Safety Codes would require a full coverage fire alarm system in this building.

D. Install exit signs and emergency lighting per Life Safety Code 101.

E. Install power receptacles to meet current needs coordinate with Architect. All circuits shall have separate neutrals.

F. All mechanical loads including pumps, boiler, air handling equipment shall be provided power.

END OF OUTLINE SPECIFICATION