

March 26, 2008

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

MECA 2008
PORTLAND, ME

HVAC:

1. Provide new packaged high efficiency rooftop air conditioning units as indicated, Trane, Lennox, York or Carrier. Provide units with 24" high roof curbs, economizers, powered exhaust, unit mounted disconnect switch, hot water heating coils and controls compatible with the Trane BAS.
2. Unless otherwise indicated, round ductwork shall be exposed spiral seam type. Exposed ductwork shall be spiral seam sheetmetal, "Paint-Grip" galvanized, Semco or Eastern Sheetmetal. Exterior ductwork shall be double-wall with 2" thick insulation and aluminum jacket with waterproof seams and joints. Acoustical duct insulation for rectangular ductwork shall be Armaflex Type "SA". Concealed supply ductwork shall be insulated with 1½" thick fiberglass ductwrap with FSK.
3. Automatic Temperature Controls shall be Trane DDC with all necessary devices, sensors and controllers. The control system shall be compatible with the existing Trane controllers and shall include the addition of a Tracer PC Workstation with Windows 2000 for NT, Tracer Summit Color Graphics software and a Tracer Summit (BCU) Panel, System Communications Processing Controller. Integration, upgrade and / or replacement of existing Trane DDC controllers shall be included, as required. All low and line voltage wiring, terminations and EMT shall be included. Existing air conditioning unit (**AC8**) shall have a new variable frequency drive (**VFD**) controlled from duct static pressure. The discharge air temperature shall be reset based on the return air temperature. All variable air volume boxes shall have DDC controllers with discharge air temperature sensors.
4. System installation shall be in conformance with all applicable local and national codes.
5. Toilet exhaust fans (EF) shall be Fantech Model PB100, Panasonic, or approved equal, ceiling type, interlocked with the lights, 90 SCFM @ .1"w.g. static pressure. Furnish with aluminum wall caps.
6. Variable air volume boxes shall be Trane, double-wall construction with hot water heating coils.

7. Hot water piping shall be Schedule 40 carbon steel with 1" thick fiberglass pipe insulation. Exterior pipe insulation to AC units shall be protected with PVC jacketing with solvent-welded seams and joints. Ball valves shall be Apollo, bronze body and stainless steel ball. CP1 and CP2 shall be Taco Model 008 inline pumps, 8 GPM at 11 feet of head, .04 Hp., 120V.
8. Grilles, registers and diffusers shall be Price or Metalaire. Sidewall diffusers at exposed ductwork shall be extruded aluminum linear bar grilles. Ceiling diffusers shall be aluminum construction and have a 24"x24" ceiling panel. All grilles, registers and diffusers shall have an aluminum opposed blade volume damper.
9. System air and water balancing shall be in accordance with the NEBB and AABC.

Plumbing:

1. Plumbing fixtures shall be provided as indicated on the Architectural drawings. Fixture type and manufacturer shall be Kohler, Eljer, American-Standard, or equal, with model and color selected by the Architect. Water closets shall be floor-mounted flush valve type. Flush valves shall be Toto, Sloan or Zurn, ultra low flush or dual flush type. Lavatories shall be wall hung or vanity type as indicated. Fixture trim shall be Symmons or Chicago-Faucets., metering type with mixing capability, chrome-plated brass or as selected by the Architect. The handwash sink shall be stainless steel by Advance Tabco or Elkay. All fixtures shall be water-conserving. Water piping shall be Type "L" copper tube with lead-free soldered joints or Schedule 40 CPVC with solvent-welded joints. Hot, Cold and Recirculated Hot Water piping shall be insulated with 1" thick fiberglass or 1/2" thick flexible unicellular insulation (Armaflex). Sanitary piping shall be Schedule 40 PVC with solvent-welded joints. Vent piping shall be Schedule 40 PVC. Shut-off valves shall be Apollo or Watts ball valves. Connect piping to existing.

Sprinklers:

1. Existing sprinkler piping shall be modified, as required. Provide new sprinkler heads with semi-recessed heads with a white finish for areas with acoustical tile ceilings.

END OF OUTLINE SPECIFICATION