

May 19, 2004

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

YMCA SRO
PORTLAND, ME

Mechanical:

1. The hot water heating system will include two (2) gas-fired cast-iron hot water boilers. A radiant floor system will be used for heating throughout. An alternative to the radiant would be fin tube radiation. Units will have individual zone control. Room temperature sensors will be electronic and have a digital display with local setpoint adjustment. Two (2) base-mounted heating pumps will be provided. The building control system will be direct digital control (DDC). Hot water piping will be Schedule 40 steel or Type "L" copper tube and be insulated with fiberglass or flexible unicellular insulation. All piping and valves will be marked or tagged in accordance with ANSI. The Unit kitchens will be provided with a recirculating type range hood.
2. An air-to-air heat recovery unit with gas heat will be provided to supply fresh air to the corridors and common/office spaces in accordance with ASHRAE standards. The unit will also provide mechanical exhaust air for the Unit bathrooms. The fan motors will be premium high efficiency. The units will run continuously and be controlled through the Building Management System (BMS). The stairwells will be heated by cabinet heaters. Temperature sensors located in public spaces will be tamper-resistant or have tamperproof guards.
3. System designs will be in conformance with BOCA, NFPA, ASHRAE and Maine Energy Standards.

Plumbing:

1. Plumbing fixtures will be provided as indicated on the Architectural drawings. Fixture type and manufacturer will be Kohler, Eljer, American-Standard, or equal. Water closets will be floor-mounted tank type. Single bowl stainless steel sinks will be provided in each kitchen as indicated. Lavatories shall be wall hung or vanity type as indicated. Showers shall be Aquarius model S 4136 OT, open-top unit, ADA compliant recessed into the concrete topping of the floor system. All fixtures will be water-conserving type and ADA-compliant where applicable. Floor drains will be provided in certain areas such as mechanical spaces. A minimum of four (4) exterior frost-proof sillcocks will be provided, one on each side of the building. Water piping will be Type "L" copper tube with lead-free soldered joints. Water piping will be insulated with fiberglass or flexible

unicellular insulation. Shut-off valves will be Apollo or Watts ball valves. The domestic water service will be provided with dual reduced-pressure principle backflow preventers in parallel. The domestic water heater will be a commercial grade indirect-fired storage type water heater by SuperStor delivering the water at approximately 105°F. The domestic hot water system will be recirculated by an all-bronze circulator. Water hammer arrestors will be provided where required.

Sprinkler System:

1. The sprinkler system piping and components will be a wet-pipe system and will be installed in accordance with NFPA13 and BOCA. Sprinkler heads will be concealed type in finished areas with GWB ceilings and exposed pendent type in unfinished areas. The sprinkler system will be connected to the fire alarm system.

Electrical System:

All electrical work shall be performed in accordance with NFPA 70 (NEC).

Service and Distribution

1. Provide new 800A, 120/208 3-phase overhead electrical service. Units shall have individual metering.
2. Provide minimum #12 AWG copper wiring for branch circuit wiring.
3. Provide GFCI protection for circuits in kitchen and bathrooms.
4. Provide connections to mechanical equipment as required.

Fire Alarm System

1. Provide new Fire Detection and Alarm System in accordance with NFPA 72 and local requirements. Connect to sprinkler system.

Lighting

1. Provide ceiling/wall mounted light fixtures throughout building, Progress, Columbia or equal.
2. Provide Exit and Emergency Lighting as required.
3. Provide exterior wall mounted lighting as required.

Intercom System

1. Provide new weatherproof intercom/door release system at each entry connected to the phone system in each unit.

Telephone / Cable System

1. Provide telephone wiring for units and offices.
2. Provide CATV wiring for all units.

END OF OUTLINE SPECIFICATION