

Domestic Cold Water System:

The existing Domestic Cold Water Service is a three-quarter inch (3/4"), which enters through the basement foundation wall on the Northwest side of the building. A three-quarter inch (3/4") water meter and pressure regulating valve are installed on this cold water service line. The water service line is not equipped with a backflow prevention device. At the time of installation a backflow prevention device was not required.

The present Massachusetts Plumbing Code 248 CMR states "A potable water supply system shall be designed, installed and maintained in such manner as to prevent contamination from nonpotable liquids, solids, or gases from being introduced into the potable water supply through cross connections or any other piping connections to the system".

In order to insure the protection of the Town water from any cross connections, etc, the installation of a reduced pressure zone backflow prevention device is required.

The existing plumbing fixtures; water closets, lavatories, etc. which are "Grandfathered" do not meet the present plumbing code energy requirements. The existing water closets require three (3) gallons of water per flush, when the new code mandates one and one half (1-1/2) gallons per flush. Faucets sets on lavatories for public use require metering faucets, etc.

The domestic water distribution system presently is approximately fifty (50) percent insulated. The Massachusetts State Building Code 780 CMR, Chapter 13, requires one-inch (1") thick insulation provided for piping carrying fluid having a temperature of 140 degrees F or less.

Sanitary Waste & Vent System:

The existing sanitary waste & vent system as installed is in compliance with the Massachusetts State Plumbing Code that was current at the time of installation. The present Massachusetts State Plumbing Code has adapted more stringent requirements regarding environmental issues.

For example: The present plumbing code mandates that all floor drains be equipped with Trap Primers. Trap Primers are installed on floor drains that do not receive sufficient water to maintain a trap seal. Once the trap seal is lost, due to evaporation; sewer gases will escape to the spaces atmosphere. Trap Primers discharge water to the floor drain trap maintaining the trap seal.

Plumbing System Description:

As stated, under the Code Analysis the facility has a 3/4" domestic cold water service, which enters through the Basement foundation wall at the southeast side of the building.

The domestic water piping distribution system is in good condition. Approximately fifty percent of the domestic water piping is insulated.

A 15 gallon electric hot water heater located in the first floor Janitor's Closet is in fair condition. The water heater appears to be approximately eight to ten years old. Average life expectancy for a water heater is eight years. Unit will probably need replacing within the next two years.

The plumbing fixtures throughout the facility are in good condition and meet the handicap requirements. Due to their age, they do not meet the present energy code and unless replaced they do not have to.

The existing water cooler has been removed. The present Massachusetts Plumbing Code requires one water cooler per 1000 occupants. Since the water cooler was included in a previous Building Permit it should be replaced.

Heating System Description:

The heating system consists of two oil fired hot water boilers manufactured by the Weil Mclain Company. The present condition of the boilers is poor to fair. They appear to be approximately fifteen to twenty years old. The average life expectancy of these boilers is twenty years.

Two new 275 gallon double wall fuel oil tanks have been installed which serves the boilers. The fuel supply oil piping feeding the boilers presently has a plywood barrier erected to protect the fuel oil piping from possible damage. This piping arrangement and/or location should be reviewed.

The remainder of the building's heating system consists of hot water piping distribution system, baseboard radiation in the First Floor Office Areas, Toilet Rooms, and Second Floor Meeting Room. The entry and stair areas are heated with hot water convectors. The condition of the baseboard radiation is good; the convectors are in fair condition.

The heating system controls are manufactured by White Rodgers. The existing system has four zones. Thermostats are located in the First Floor Meeting / Multi-Purpose Room, one in each office presently occupied by the fire department, and one for the Second Floor Meeting Room. The control system is approximately five years old. The existing control system has a life expectancy of approximately twenty years.

The existing heating system control sequence of operation provides that when the space or zone thermostat calls for heat, its respected zone control valve located in the Boiler Room opens, allowing hot water to circulate through the board radiation. When the space or zone is satisfied the zone valve closes. The Boiler is controlled via an outside reset control. This type of control adjust the hot water supply temperature. As the outside air temperature increases, the hot water supply temperature decreases. When the outside temperature reaches a preset temperature, approximately 60 degrees F., the boiler is disabled.

The fire alarm system is in good condition. All four (4) zones are currently in use, and no additional zones may be used on this conventional zoned system. Some of the manual pull stations appear to be of an older type than others.

Most of the lighting is old and should be replaced. Most of the fluorescent fixtures on the First floor have discolored lenses indicative of ballast seepage typical of aged fixtures. There are cracked lenses on some of the Second floor recessed 2' x 4' fluorescent troffers, and the remaining lenses are thin and often warped. There are also wraparound fixtures with discolored or missing lenses in some parts of the building.

The Basement is lit mainly with inefficient porcelain socket incandescent fixtures. There are many older incandescent fixtures throughout the building and on the exterior which are old and worn and do not match each other. Except for the unused pendant mounted incandescent fixtures above the Second floor suspended ceiling, which also do not match each other, the incandescent fixtures are not "traditional" in appearance and do not enhance the historical aspect of the building.

The wiring to the lights serving the Second floor Meeting room is mostly loose ROMEX wiring, connected in open standard sized junction boxes with so many wires spliced in them that the top faceplate is off, and the wires within all jut out.

The emergency lighting fixtures and remote heads are old. The exit signs are inefficient incandescent fixtures. The Basement exit sign is currently not working. The existing dull yellow emergency fixtures and black exit fixtures are not aesthetically pleasing and detract from the historical aspect of the building.

The power receptacles and wall switches are mostly black, which does not blend in with the surroundings. A few switches are beige, quiet-type, but most are not. There are not nearly enough power receptacles in the office areas, and they are currently supplemented with a number of portable plug strips. There are, however, fairly new surface mounted CAT 5e data jacks, which are in good condition and apparently adequate in quantity.

The utility lines serving the building have three phase power available, but the existing electrical service is 200 Amps, 120/240 Volts, single phase, 60 Hz. The electrical service entrance appears to meet code. However, the service wires from the utility pole are located somewhat close to a second floor window, and could pose a danger, especially if the electrical service is upgraded as will be required for a possible new elevator. The MDP (Main Distribution Panel) is 40 poles with a 200A-2P main circuit breaker and includes, several basement circuits, (2) 30A-2P breakers serving an air conditioner and the old records building, and (2) 100A-1P breakers likely serving a panelboard on the Second floor (and not fuse box(es) as labeled). The MDP feeds through to an adjacent 150A-2P circuit breaker in a separate enclosure serving panelboard on the First floor. There are 19 spaces available in the MDP.

The First floor panel is a recessed 28 pole, 200 Amp MLO (Main Lug Only) panelboard in fair condition, with all poles used for 15A or 20A 120 Volt circuits, except circuit #27 is a spare 20A-1P circuit breaker. The Second floor panel is a surface mounted 24 pole MLO panelboard in good condition with nine (9) 15A or 20A 120 Volt circuits and the rest spaces. The old fuse box(es) are no longer in use.

There is currently no existing sound system and no existing lightning protection system.