

Westport High School
Westport, MA
Existing Conditions Systems Report
J#680 012 00.00
L#52167/Page 1/May 16, 2016

HVAC

Executive Summary

The majority of HVAC systems appear to be originally installed equipment and the systems have exceeded their expected service life. The building is heated by two hot water boilers. The boilers were installed in 1992 after the original steam heating equipment, however the boilers are nearing the end of their useful service life. The classrooms are heated and ventilated through the use of classroom unit ventilators. The gymnasium is served by two indoor air-handling units. The auditorium is served by an indoor air handling unit. The administration area offices are heated by fintube radiation and ventilated through the use of operable windows. The building systems are controlled by a DDC ATC Control system.

Heating Plant

There are two (2) Cleaver Brooks Model CB 200-200 Firtube hot water boilers. The boilers have a capacity of 8,369 MBH Gas input, and 6,600 MBH Net 1=B=R output capacity each. The boilers currently operate on natural gas only. The boilers appear to be in good condition but are nearing the end of their expected service life.



Boilers



Hot Water Pumps

Westport High School
Westport, MA
Existing Conditions Systems Report
J#680 012 00.00
L#52167/Page 2/May 16, 2016

The Boiler breeching system for each boiler is an insulated steel breeching system that connects to a masonry chimney. Chimney liner condition could not be observed at the time of field visit.

There is a total of seven pumps distributing heating hot water to the building. The pumps supply hot water to the auditorium, gymnasium, classrooms, woodshop and administration area.

In general, the building hot water piping system utilizes some of the original steam piping with some new piping installed when the building was converted from a steam system to hot water. There are areas with piping abandoned in place. There are sections of piping with missing or damaged piping insulation. Some piping insulation may contain asbestos.

Air Conditioning

The building is not air conditioned and the majority of building areas are only heated and ventilated. Where air conditioning is required, mainly window air conditioners are utilized. There are a few ductless split system air conditioning unit installed.

Administration

Administration areas are heated by fin tube radiation and ventilated naturally through the use of operable windows.



Classroom Unit Vent

Classrooms

The majority of classrooms are heated and ventilated through the use of wall mounted unit ventilators. The unit ventilators are originally installed equipment and generally in poor condition and beyond their expected service life.

Westport High School
Westport, MA
Existing Conditions Systems Report
J#680 012 00.00
L#52167/Page 3/May 16, 2016

Cafeteria and Kitchen

The Cafeteria is heated and ventilated through the use of an indoor air handling unit with overhead distribution ductwork.



Cafeteria

The kitchen exhaust hood is exhausted by a roof mounted exhaust air fan system ductwork could not be reviewed. The kitchen exhaust hood system appears to comply with NFPA 96 requirements.



Kitchen Exhaust Hood

Auditorium

The Auditorium is heated, cooled and ventilated by an indoor air handling unit with heating hot water heating section. The units are ducted to ceiling supply diffusers with a return plenum. The unit appears to be past its expected service life.

Westport High School
Westport, MA
Existing Conditions Systems Report
J#680 012 00.00
L#52167/Page 4/May 16, 2016



Auditorium – Condensing Unit



Auditorium –Air Handling Unit

Gymnasium and Locker Room

The Gymnasium is heated and ventilated by two indoor air handling units with hot water heating coil. The unit provides supply air to the Gymnasium through overhead ductwork supply diffusers. The units have exceeded its expected service life.



Gymnasium Units

The Locker Room is heated and ventilated by an indoor air handling unit with hot water heating coil. Supply and exhaust air is provided through overhead ductwork.

Westport High School
Westport, MA
Existing Conditions Systems Report
J#680 012 00.00
L#52167/Page 5/May 16, 2016



Locker Room

Library

The Library is heated by hot water radiators installed approximately 10' AFF and is ventilated through the use of operable windows. Ductless cooling units are installed to provide cooling to the Library.

Corridors and Entryways

The majority of entryways are heated by hot water cabinet heaters.

The majority of corridors are provided with code-required ventilation.

Ventilation and Exhaust Systems

The majority of rooftop exhaust fans appear to be in good condition.

Controls

The building control system was originally a pneumatic system and has been converted to a pneumatic electric control system. The control system includes air compressor, auxiliary air tank, air dryer, pneumatic control panels, control wiring and pneumatic air tubing. Both the air compressor and the air dryer appear to be in good condition.

The system was converted with the addition of KMC digital controls. The digital controls allow for operation of the pneumatic system and can be monitored off site.

Westport High School
Westport, MA
Existing Conditions Systems Report
J#680 012 00.00
L#52167/Page 6/May 16, 2016



ATC Compressor



ATC Control Panel



ATC Control –BMS Interface Controller