

**6641 Building Name:** Fairhaven Fire and Police Station

**Address:** 150 Washington Street

**Building Use:** Fire Station, Police Station, Emergency Medical Services Storage

**Year of Construction:** 1964 **Last Modification/Addition:** 2000

**Report By:** GGD **GSF** 16,637 **Date:** January 5, 2018

**EXISTING SYSTEM:**

☒ Heating ☒ Air Conditioning ☒ Mechanical Ventilating

**Energy Sources(s):** Natural Gas Heating/ Electric Cooling

**System Type(s):** Fire Station: (1) "H.B. Smith" Cast Iron Sectional hot water boiler (1043 MBH Output) with "Power Flame" Natural gas burner and (3) Inline Circulator Zone Pumps, wall-mounted fin-tube radiators throughout the occupied zones, (4) overhead gas-fired radiant heaters in the apparatus bay, (1) Vehicle Exhaust system similar to "Plymovent" in the apparatus bay, Natural Ventilation via operable windows, ceiling-mounted de-stratification fans throughout the building, (2) Roof-mounted exhaust fans & (2) Ceiling-mounted exhaust fans for general and toilet exhaust, and (1) "Carrier" Split DX Air-conditioning system in the dispatch area. Police Station: (1) Horizontal gas-fired furnace with a duct-mounted DX 4-ton cooling coil located in the attic for heating/cooling/ventilation of the second floor occupiable areas, (1) "Bryant" vertical gas-fired furnace with duct-mounted DX 3-ton cooling coil for heating/cooling/ventilation of the first-floor classroom and office area, (2) "Carrier" roof-mounted gas-fired/ DX air-handling units providing heating/cooling/ventilation to the majority of the first floor and basement occupiable areas, (1) 2-ton split air-conditioning system serving the Dispatch area, (1) ¾-ton split air-conditioning system serving the basement server room, (1) Portable de-humidifier within the second floor fitness area, and various roof/ceiling/inline exhaust fans for general and toilet exhaust. EMS & Dive team Apparatus Bays: (1) Horizontal gas-fired unit heater direct vented through the roof in each of (2) apparatus bays and (1) side-wall-mounted exhaust fan interlocked with a motorized damper for an intake louver in each of (2) apparatus bays.

**Zones:** (15) Zones Total: (5) in the Police Station, (2) in the EMS & Dive team Apparatus Bays, (4) in the Fire Station, and (4) in the fire Station Apparatus Bay.

**Controls:** Electronic stand-alone zone temperature sensors; no central control system.

**Condition(s):** The Fire Station's hot water heating system and all related components has surpassed its expected service life and appears to be in fair/poor condition. The split DX system serving the fire station dispatch area is beyond its expected service life and appears to be in fair/ poor condition. The Fire Station apparatus bay heating and exhaust equipment has surpassed its expected service life and appears to be in fair/ poor condition. The destratification fans throughout the Fire Station building have surpassed their

expected service life and appear to be in poor condition. The EMS Apparatus bay and Dive bay exhaust systems were reported as broken/ inoperable and require replacement. The Police station roof-mounted exhaust fans and packaged air handling units appear to have been installed somewhat recently and seem to be in good condition. The police station indoor air-handling units and split DX cooling components appear to be in fair condition but have surpassed their expected service lives. In general, the HVAC systems require replacement and upgrading throughout for code compliance and thermal comfort.

**Mech Rooms(s):** (3) Mechanical rooms house the indoor air-handling units and (1) Domestic Water heater.

**Code Issues:** Lack of General Exhaust or related CO/NO2 detection systems in Apparatus Bays & Sally Ports.

#### SUGGESTED ACTIONS:

**Upgrade System:** ☒

**Replace System:** ☒

**Add to Existing:** ☐

**No Action Req'd:** ☐

**Replace Controls:** ☒

**Code Compliance:** Not currently code compliant due to the lack of harmful-fume removal capability in each of the apparatus bays and sally ports.

#### RECOMMENDED ACTIONS:

1. Replace failed apparatus bay exhaust fans and install a gas detection system to control operation of the vehicle-parking area exhaust systems, as a minimum. Our recommendation would be a full HVAC system re-design for greater efficiency, zone control, thermal comfort, and air quality.

#### GENERAL COMMENTS:

Most components of the HVAC systems throughout are exceeding their expected service lives and will likely require replacement in the near-future.



*Fire Station – HW Zone Circulator Pumps*



*Fire Station – Gas Fired Radiant Heater*



*Police Station – Apparatus Bay  
Gas Fired Unit Heater*



*Police Station – Packaged Roof Mounted  
Air Handling Unit*

