

# AUBURN HIGH SCHOOL HVAC System Assessment



Completed for:



March 9, 2021

Site Visits, Analysis & Report by:  
Metrix Engineers  
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## **SCOPE**

Metrix Engineers was hired to perform an assessment of the existing heating, ventilation and air conditioning systems at the Auburn High School site in Auburn School District. The goal of the assessment was to provide an executive summary level of detail regarding the type and condition of the existing mechanical systems, determine if the systems are operating in compliance with their original design intent, and identify any areas of improvement based on site observations.

Auburn High School is a newer facility completed in 2014 that replaced the existing school. The new facility is a three-story building of approximately 257,000 square feet that consists of a classroom wing with an administration area, a Commons, Music and CTE classroom area, a performing arts center, athletics area, and Auto Shop.

A site walk was conducted on March 8, 2021 to review the existing mechanical systems. This report summarizes Metrix observations based on that visit.

## **EXECUTIVE SUMMARY**

The building appears to be operating per its original design intent. No major operating points of concern were observed and there are no spaces that have been modified such that the original design intent isn't still appropriate.

## **EXISTING SYSTEM OBSERVATIONS**

### **HVAC:**

A central gas fired boiler plant comprised of two high efficiency 9,900 MBH gas fired boilers is located in a dedicated boiler room. Heating water is distributed to the building via three central system pumps on a pump skid also located in the boiler room. Two 200-ton central cooling chillers are located on grade near the boiler room and loading dock. Three central systems pumps located in the boiler room on the same pump skid as the heating water pumps distribute chilled water throughout the building.

Heating, cooling and ventilation at the general classrooms and administration spaces is provided by a variable air volume (VAV) system, with the VAV's and dedicated air handling unit. Dedicated air handling units provide heating, cooling and ventilation to computer labs, music spaces, and gym spaces. Heat recovery units serve art, science, CTE classrooms and locker rooms provide heating cooling and ventilation to the spaces. Dual core heat recovery devices provide ventilation air to the air handling equipment. All of the air handling units, heat recovery units and VAV's are located in mechanical penthouses. Rooftop packaged heat pumps provide heating, cooling and ventilation to the performing arts area.

A spot check of various HVAC system components was completed during the site visit, including the internals of various air handling units and heat recovery units. All heating and ventilation systems checked were verified operational with no major issues noted.

There were a number of spaces where the space type changed from original design, and they are listed below, however the design ventilation has been verified to be sufficient for the current use of the space.

- West Library area is operating as classroom with a moveable partial height partition.
- East Library area is operating as classroom with a moveable partial height partition.
- Conference Room 212D in Library is operating as an office.



- Workroom 212C in Library is operating as an office.
- Media 212B is operating as an office with storage.
- Storage 102 has a flammable storage cabinet. There is a dedicated exhaust fan in the space, but it appears to be operating via thermostat and not on time schedulings.
- Conference 128 in the Main Office administration area is operating as an office.
- Alumni Room 122 in the Main Office administration area is operating as an office.
- Computer 510A in the CTE Wood Shop is operating as storage.

Note 1

**Controls:**

Building automation system controls are Alerton Envision controls.

A review of the Building Automation System and outside air damper setpoints was conducted and all systems and spaces appear to be meeting or exceeding design outdoor airflow ventilation rates.

During control system review the following system deficiencies were identified:

- HC-801 and CH-074 had heating coils commanded to 100% but no increase in supply air temperature inferring control valve is in a failed closed position.
- EF-102, EF-404 and EF-807 fan failure

Note 2

Note 3

During control system review, only one space temperature deficiency was identified outside of the equipment above. The control system appeared to be responding as desired, so it is unclear why the following spaces were not at setpoint; this potentially infers a door or window may have been ajar on the on the day of review when OAT was observed at 51F:

- HC-807

Note 4





Auburn High School  
HVAC System Assessment Notes

Note	Additional Notes		Estimated Completion Date	Final Completion Date
1		Submit work request	3/18/21	3/18/21
	1.1	WO 1-358886	4/27/21	4/23/21
2		Submit work request	3/18/21	3/18/21
	2.1	WO 1-358884 to 1-358885	4/5/21	4/6/21
	2.2	WO- 1-358885	5/7/21	5/4/21
3		Submit work request	3/18/21	3/18/21
	3.1	WO 1-358886 to 1-358888	4/5/21	4/8/21
		1-358886 to 1-358887	4/27/21	4/23/21
4		Submit work request	3/18/21	3/18/21
	4.1	WO 1-358889	4/5/21	4/23/21

Revision Date 5/4/21