

ARTHUR JACOBSEN ELEMENTARY SCHOOL HVAC System Assessment



Completed for:



March 2, 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 Arthur Jacobsen Elementary 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.

The existing facility is a two-story building of approximately 53,950 square feet and also includes four portables on site. The facility was originally constructed in 2007.

A site walk was conducted on February 18, 2021 to review the existing mechanical systems. This report summarizes Metrix observations based on that visit.

EXECUTIVE SUMMARY

The existing building appears to be operating per its original design intent. No major points of operational concern were observed.

There are a few spaces that have been modified from their original use as noted in the observations section below. However, modifications appear to maintain HVAC design best practices

EXISTING HVAC SYSTEM OBSERVATIONS

All observed equipment is original to the building construction date.

The heating, ventilation and ventilation system is generally served by central variable volume air handling units serving fan powered terminal units and variable air volume squeeze boxes located in the attic spaces. Single zone air handling units provide airflow to larger single zone spaces such as the Gym, Library and Kitchen.

A central boiler gas fired boiler plant comprised of two 2041MBH boilers distributes heating water via central system pumps throughout the facility to all air handling unit and terminal unit heating coils. A 125-ton air-cooled chiller located on site provides chilled water via central system pumps to the central and single zone air handling unit cooling coils.

A spot check of various HVAC system components was completed during the site visit, including the internals of various air handling units and unit ventilators. All heating and ventilation systems checked were verified operational with no issues noted. Equipment appeared to be well maintained.

In general, all spaces in the facility appeared to be meeting or exceeding designed outdoor airflow ventilation rates including classrooms, offices, gymnasium, stage, kitchen, and various support spaces. A few additional observed operational considerations to be aware of include:

- Library storage room appears to be partially used as an office. Outdoor airflow ventilation rates appear to meet or exceed the needs of this space as an office or conference room.
- The second floor storage room east of the main stair has been converted for use as an office. Outdoor airflow ventilation rates appear to meet or exceed the needs of this space as an office or conference room.



Controls:

Building automation system controls are provided by a KMC direct digital control system.

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, no space temperature deficiencies were identified.





Arthur Jacobsen Elementary
HVAC System Assessment Notes

		Estimated Completion Date	Final Completion Date
	No deficiencies found	No action planned	

Revision Date 3/9/21