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LICENSE #611215 (B, C-4, C7, C10, C20, C36, C38, C46)

Leslie Barnes
Pasadena Unified School District
351 S Hudson Ave
Pasadena, CA 91109

April 12, 2021

RE: NORMA COOMBS ELEMENTARY -- HVAC & VENTILATION ASSESSMENTS

EMCOR Services Mesa Energy Systems, and our team of experts (engineers, technicians, directors, managers and other building systems professionals) have provided assessment and improvement services in order to verify and improve HVAC systems, which includes ventilation systems, as part of PUSD's preparation for safe reopening of schools next week.

Results

The overall result was that systems are in acceptable order for reopening next week, under reduced occupancy. For reduced occupancy and this first phase of reopening, is recommended that, as long as temperatures remain comfortable and as long as there are no security concerns, that the windows may be opened to increase or supplement the amount of ventilation air to each space.

In preparation for the next phase, we have recommendations for repairs that are required to reach higher levels of ventilation required for full occupancy (planned for Fall). PUSD and EMCOR will work to ensure that repairs are made, and outside air requirements reached and verified as spaces are more and more occupied to full capacity.

The detailed results for **Norma Coombs Elementary** are as follows:

Air Quality: **23 classrooms and offices** assessed on **Mar 26-29, 2021**.

- Findings:
 - Number of classrooms/areas that passed: **22**
 - Number of classrooms that passed with modifications: **1**
 - Modifications necessary
 - Utilize windows and doors (for immediate/reduced occupancy)
 - Fan control – run at highest speed
 - Controls repair; outside air damper/actuator not connected to control system (**1** unit; Room 17 – not currently on list for occupancy)

Mechanical – **63 units** assessed on **Mar 20-29, 2021**.

- Findings: **51** units required short-term repairs. Most of these repairs will include normal maintenance tasking to be completed by the district on next round of maintenance.
- Recommendations
 - Short-term: all regular preventative maintenance should be resumed as normal:
 - Replace belts (Completed April 10, 2021).
 - Repair fan motor pulleys (Completed April 10, 2021).
 - Clean washable filters or replace disposable filters (Completed April 10, 2021).
 - Long-term
 - Repair outside air damper, intake, damper linkages (**12** units) Units had dampers manually opened until repairs can be made.

Thank You!

Jason Rivadeneyra, General Foreman
EMCOR Services Mesa Energy Systems Team

