

## Orchard Elementary HVAC Redesign

The maintenance staff and I have met twice with SKW on the design of the HVAC replacement at Orchard Elementary. Because of the estimated construction cost of the project, DSA will require additional upgrades adding to the overall construction cost. I asked the architect to provide a description of the schematic plan.

In the Admin Building, there are currently multiple air handling units separating the office spacing into multiple zones. Since the office is already zoned this way, the plan is to replace back with a VRF system which has separate air handler units to maintain that zoning. These units will be installed above the ceiling on existing mechanical platforms, utilizing existing ductwork. Interior visual disturbance will be minimal. The condenser units will be placed outside the library's northeast corner (probably 2) to support the new units. We will screen these condensers with a masonry and wrought iron fencing. We will also be adding fold up metal access ladders in the ceiling to help facilitate accessing the existing mechanical platforms. We will also be removing the accordion door in the principal's office and replacing it with a physical wall. We are doing a final check on accessibility in this building, but it doesn't look like we will need to upgrade the restrooms. We will also update door signage.

In the 3 classroom buildings that are similar, (C, C1, D), the floor mounted air handlers on the exterior door side of the classroom will be removed. We will replace the air handler with casework. Upon investigation of the attic area of the building, with minimal structural modification, units will be placed in the attic area. We will provide supply louvers closer to the top of this wall and push the conditioned air down the sloped ceiling of the classroom. Returns louvers will be installed lower on this wall. We will take down the ceiling in the workroom to help facilitate the installation of the new mechanical systems. We will install a new ceiling and new ductwork in the new ceiling of the workroom. We will install one large fresh air duct, tie this duct into each of the mechanical units, and daylight this louver in west of the building façade (centered on the building up high). The condenser units will be installed on the west side of the buildings in new masonry and wrought iron enclosures in existing landscaping area. In order to meet new accessible code requirements, we will remove the doors on the sink cabinets in each of the classrooms. We will make some minor modifications to partitions in the restrooms to bring it up to current requirements. We will also replace door signage.

In the kinder building, the existing air handlers are above the ceiling. We will install the new units on the existing mechanical platforms above the ceiling. We will reuse the existing ductwork and louvers. The new condensers will be installed on the north side of the building in a new masonry and wrought iron enclosure in the existing landscaping area. Restrooms in this building will be relabeled, "Restroom" in compliance with new legislation & DSA's new restroom labeling directive. We will also have to remove fixtures out of this restroom and modify the partitions. We will take doors off the sink cabinets and update all door labels.

Like in the office and the kinder building, existing mechanical units in the MPR are installed on mechanical platforms on the ceiling. We will be replacing the units on the platforms and reusing existing ductwork. New condensing units will be placed in the existing enclosed yard behind the MPR building. We will have switch the swing of a few doors near the kitchen to

make them ADA compliant. We will have to add assistive listening devices, if the sound system currently isn't equipped for them. The restrooms in the building currently meet code. We will also be updating the building signage.

Site related improvements include barrier removal at the parking lot. We will be restriping the accessible stalls. We will be adding a 20 wide parent drop off adjacent to the office. We will also have to replace ramps and concrete in several areas due to slopes exceeding code maximums. We will also be running new electrical and gas to each building to support the new mechanical units. These new lines will be coming from the existing electrical / chiller yard enclosure and travel around the quad, trying to stay in existing landscaping.

Also in speaking with DSA, we may have to do a full fire alarm upgrade across the campus because the project is over \$200,000 DSA sees the project as a full modernization, not a simple mechanical replacement because we are not replacing like for like and the cost of project is over the accessible and fire alarm thresholds, (\$156,000 and \$200,000) respectively. Luckily, most of the accessible modifications are relatively minor.

Because we did not anticipate fire alarm requirements for this project, and if it is in fact required, we will incur additional design fees mostly related to electrical engineering.

We anticipate the construction will require 9 months, and I will work with Travis Manley, Principal to work on a plan of moving classes to accommodate construction. DSA is backlogged on plan checks and is taking up to 8 weeks for review. Design and DSA review is expected to take longer than expected.

A project start date is estimated to begin the first week of September, with the project ending May 2018.

Project Cost Estimate based on equivalent type work at Sylvan Elementary:

Construction without fire alarm: \$1,664,978  
Fire Alarm Upgrade: \$280,000  
Architect Fees: \$133,800  
Fire Alarm Design Fees: \$30,000 (mostly electrical design)  
Total Estimated Project Cost: \$2,108,778

Over budget \$108,778

Total Estimated Project Cost with No Fire Alarm: \$1,798,778