



**Washoe County School District**

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The WCSD energy retrofit includes several the Energy Conservation Measures (ECM's) that will lead to improved classroom environments in all schools providing an equitable learning environment and supports the Capital Program Goal of Core School Investments. The specific ECM benefits include:

ECM 04.02-Programmable Network Thermostats

- 110 Portable Classroom HVAC Units affected
- Consistent scheduling and programming
- Reduced energy use during school breaks and holidays

ECM 09.01-Lighting Upgrades/09.02 Enhanced lighting (30 sites on FCIS list)

- 35,000 light fixtures to be replaced or retrofitted with high efficiency LED lighting (Total for 09.01 & 09.02 measures)
- Material standardization
- No flicker or buzzing
- Eliminate mercury in classrooms
- Increased HS gym light levels, replace field lighting
- Consistent color temperature
- Elimination of ballasts
- Parking lot lighting and security improvement
- Repair, retrofit, or replace damaged/broken fixtures
- Address over-lit classrooms and teacher complaints where TLED cannot
- Installing LED football field lighting at Damonte Ranch HS

ECM 09.03-Emergency Exit Signs and Bug-eye Fixtures (33 sites on FCIS list)

- 2,900 fixtures to be replaced
- Replace end of life LED exit signs and emergency "bug-eye" fixtures
- Standardize exit sign and "bug-eye" fixtures throughout Phase 2 facilities

ECM 18.01-Domestic Water Upgrades

- 1,800 flush valves to be rebuilt or replaced. 1,900 flow restriction devices to be installed
- Standardize wear components
- No need to stock replacement valves

ECM 18.03-Irrigation System Upgrades

- 40 irrigation controllers to be replaced
- Remotely accessible

All ECM's will reduce maintenance time and expense that is not included in the simple payback projections. The total cost of the project is not to exceed \$12,041,980 and will yield the following benefits for Phase 2 sites:

	Phase 1	Phase 2	Phase 3	Combined
Total Value of Upgrades	\$11.3M	\$12.0M	TBD	\$23.4M
Annual Operational Savings	\$1.1M	\$755k	TBD	\$1.9M
Avoided Capital FCIS Cost	\$12.9M	\$11.7M	TBD	\$24.6M
% Utility Cost Savings	27%	23%	TBD	25%
Estimated Incentives	\$464k	\$439k	TBD	\$903k
Audit fee (PCAPP Grant)	\$240,307	\$225,593	TBD	\$465,900
25-YR Net Present Value	\$27.4M	\$16.5M	TBD	\$43.9M
25-YR Internal Rate of Return	17.3%	12.3%	TBD	15.1%
Total Square Footage	2,499,792	2,585,981	2,200,207	7,285,980
Electricity Savings (kWh)	5,280,718	4,824,817	TBD	10,105,535
Natural Gas Savings (Therms)	80,577	42,090	TBD	122,667
Water Savings (kGal)	31,952	38,419	TBD	70,371
Annual CO2 Reduction [Tons]	4,210	3,679	TBD	7,889