



May 2, 2018

Lemon Grove School District Building Maintenance Planning Report

Executive Summary:

This executive summary is meant to outline the findings of the maintenance master plan and condition assessment. The data was collected through interviews with staff and site inspections. The estimated life expectancy and replacement costs are derived from standard-to-the-industry estimates and recent pricing from similar projects. Each project budget may be different from these presented here as there are many variables that can affect the overall cost of a project. These estimates are intended to provide some information as to the true cost of maintenance repair and replacement of building systems.

This summary does not include an analysis of the district's maintenance department, staffing or budget for maintenance and operations. The professional building management industry recommends that 2-4% of the Current Replacement Value (CRV) of the district's buildings be set aside for maintenance and replacement each year. With 387,606 square feet of building space, and a current replacement value of \$350 per square foot, LGSD's CRV is approximately \$135,662,100. This is the amount that it would cost to replace all of the buildings in the district. The recommended budget for major building system replacement a minimum of 2%, or \$2.7 million per year.

This is a recommended amount based on the total square footage of building space. This budget is used as a frame of reference for this report as the actual cost of building maintenance is much more than what is recommended by the State of California for K-12 school maintenance. Traditional budget models make recommended budget assumptions based on school enrollment rather than actual building conditions, and therefore are inherently insufficient for sustainable maintenance.

Long Range Maintenance Planning:

This inventory and condition assessment was performed by SDCOE staff and its consultants to prepare a maintenance plan for short and long term maintenance. The primary focus will be to determine the maintenance and replacement expenses.

The following table represents a 20 year maintenance forecast, adjusted for inflation and including project soft costs. The 20-year forecast total is approximately \$46 million for the replacement of the district's major building systems and equipment. This does not include the on-going cost of maintenance and repairs such as maintenance employee salaries, tools, supplies, equipment, and contracted services for repair or maintenance.





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	2018	2019	2020	2021	2022
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -
Fencing	\$ 91,656	\$ -	\$ 132,530	\$ -	\$ 239,104
Finishes	\$ 869,749	\$ 47,965	\$ 999,454	\$ 427,287	\$ 223,644
HVAC	\$ 1,655,250	\$ 5,408	\$ 121,900	\$ 464,749	\$ 49,000
LowVoltage	\$ 93,750	\$ -	\$ 99,375	\$ -	\$ 28,000
Paving	\$ 356,012	\$ 281,104	\$ 109,280	\$ 62,611	\$ 5,236
Playground	\$ -	\$ 49,803	\$ 22,037	\$ -	\$ 76,608
Plumbing	\$ -	\$ -	\$ 498,001	\$ -	\$ -
Roofing	\$ 2,594,265	\$ 201,862	\$ 1,840,354	\$ 91,326	\$ 98,858
Total	\$ 5,660,683	\$ 586,141	\$ 3,822,931	\$ 1,045,972	\$ 720,450

	2023	2024	2025	2026	2027
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -
Fencing	\$ -	\$ 154,623	\$ 388,240	\$ -	\$ -
Finishes	\$ 3,623	\$ 69,480	\$ 2,479,047	\$ 39,134	\$ 29,797
HVAC	\$ 393,444	\$ 15,930	\$ 96,800	\$ -	\$ -
LowVoltage	\$ 115,000	\$ -	\$ 181,500	\$ -	\$ 87,313
Paving	\$ 716,363	\$ 1,122,994	\$ 124,744	\$ 71,227	\$ 5,937
Playground	\$ -	\$ 57,056	\$ 25,156	\$ -	\$ -
Plumbing	\$ -	\$ -	\$ -	\$ 8,138	\$ 5,556
Roofing	\$ -	\$ 429,058	\$ 1,242,857	\$ 85,548	\$ 431,510
Total	\$ 1,228,429	\$ 1,849,140	\$ 4,538,343	\$ 204,047	\$ 560,113

	2028	2029	2030	2031	2032
Electrical	\$ -	\$ -	\$ 8,078	\$ -	\$ 61,504
Fencing	\$ -	\$ -	\$ 101,563	\$ -	\$ 54,670
Finishes	\$ 352,011	\$ -	\$ 1,882,712	\$ -	\$ 322,704
HVAC	\$ 384,800	\$ 152,119	\$ 207,910	\$ 42,221	\$ 126,025
LowVoltage	\$ -	\$ -	\$ -	\$ -	\$ 71,000
Paving	\$ 121,898	\$ 2,150,215	\$ 1,802,855	\$ 79,843	\$ 6,639
Playground	\$ -	\$ 64,309	\$ 28,274	\$ -	\$ 97,128
Plumbing	\$ -	\$ -	\$ 967,810	\$ -	\$ -
Roofing	\$ -	\$ -	\$ 2,337,875	\$ -	\$ 360,954
Total	\$ 858,709	\$ 2,366,642	\$ 7,337,079	\$ 122,064	\$ 1,100,623

	2033	2034	2035	2036	2037
Electrical	\$ -	\$ -	\$ 147,902	\$ 91,667	\$ 2,778,117
Fencing	\$ 132,902	\$ -	\$ 392,265	\$ -	\$ 335,173
Finishes	\$ 394,844	\$ 128,846	\$ 877,100	\$ 48,602	\$ 154,113
HVAC	\$ 58,000	\$ 13,320	\$ 739,145	\$ 2,292,675	\$ 8,243
LowVoltage	\$ 135,938	\$ -	\$ 66,063	\$ -	\$ 39,250
Paving	\$ 903,240	\$ 124,196	\$ 1,098,625	\$ 88,459	\$ 7,340
Playground	\$ -	\$ 71,562	\$ 31,393	\$ -	\$ -
Plumbing	\$ -	\$ -	\$ 810,662	\$ 10,106	\$ 6,869
Roofing	\$ 878,134	\$ 107,604	\$ 898,155	\$ 669,395	\$ -
Total	\$ 2,503,057	\$ 445,528	\$ 5,061,310	\$ 3,200,904	\$ 3,329,104

5 Year	\$ 11,836,178
10 Year	\$ 20,216,250
15 Year	\$ 32,001,367
20 Year	\$ 46,541,270



The 20 year maintenance forecast suggests that the district will need approximately \$46 million in order to replace its aging building systems and to keep its buildings in good repair. To digest this amount further, focus should be given to the district’s current backlog of maintenance deficiencies and priorities for planned replacement.

Immediate Needs:

Each building system has a designed life expectancy which, when reached, the equipment should be replaced. When the equipment cannot be replaced, typically due to insufficient funds or unavailability of qualified labor, the system’s replacement must be deferred until such a time when it can be replaced. This is considered deferred maintenance, and contributes to the backlog of maintenance deficiencies.

Although equipment may be in service for longer than its design life, it isn’t without its costs. The longer a piece of equipment remains in service, the more it will cost to maintain as repairs will become more frequent and more difficult as parts may no longer be available. The equipment will also be less efficient to operate than newer models, thereby increasing its operating costs. Also, due to year to year increases in construction costs (labor and materials), replacement will be more expensive.

However, when faced with the challenge of limited resources, the decision to replace equipment might not be such an easy one. If the equipment is working as it was originally designed, it is not advisable to replace it when other equipment is in a more critical state of failure. Therefore, replacement must be prioritized based on its current condition. The following tables considered in their aggregate represent the entirety of the district’s current backlog of deficiencies for the specific general building systems reviewed, excluding project soft costs such as design, DSA fees, inspection or other support costs. Separately, they represent these deficiencies by school site and trade.

Priority 1 projects include the building systems and equipment currently in a poor state of repair and are candidates for replacement. This can include either building systems and equipment that has surpassed its useful life, or has failed prematurely. The priorities below list roofing as the main trade that needs immediate attention. This is a measure of its current condition, and not necessarily its potential impact to health/safety or building code issues.

Trade	LG AcademyES	LG AcademyMS	District Office	Liberty Charter	Monterey HeightsES	Mount VernonES	San AltosES	San MiguelES	Vista LaMesaES
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fencing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Finishes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,300.00	\$ -	\$ 62,400.00	\$ 101,396.75
HVAC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LowVoltage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Paving	\$ -	\$ -	\$ 15,385.00	\$ 66,682.50	\$ -	\$ -	\$ -	\$ 60,136.13	\$ 204,875.00
Plumbing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing	\$ -	\$ 313,677.50	\$ -	\$ 93,600.00	\$ 711,040.59	\$ 94,089.60	\$ -	\$ 362,612.25	\$ 189,280.80
Playground	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 313,677.50	\$ 15,385.00	\$ 160,282.50	\$ 711,040.59	\$ 96,389.60	\$ -	\$ 485,148.38	\$ 495,552.55



Priority 2 work represents equipment that is showing signs of wear and tear and is not expected to meet its life expectancy, or has already exceeded its life expectancy and should be replaced in the next 1-3 years. Abnormal wear and tear can be the result of environmental conditions, vandalism or inadequate maintenance. The building systems and equipment are generally in fair condition, however, it should be considered for replacement in the near future.

Trade	LG AcademyES	LG AcademyMS	District Office	Liberty Charter	Monterey HeightsES	Mount VernonES	San AltosES	San MiguelES	Vista LaMesaES
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fencing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Finishes	\$ -	\$ -	\$ -	\$ 91,656.25	\$ -	\$ -	\$ -	\$ -	\$ -
HVAC	\$ 29,975.00	\$ 86,451.00	\$ -	\$ 131,060.50	\$ 102,001.00	\$ 56,572.25	\$ 2,300.00	\$ 15,784.00	\$ 62,477.50
LowVoltage	\$ -	\$ -	\$ -	\$ 22,500.00	\$ -	\$ -	\$ -	\$ -	\$ -
Paving	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plumbing	\$ -	\$ -	\$ -	\$ 8,933.50	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Playground	\$ 91,857.50	\$ 587,295.00	\$ -	\$ -	\$ 111,573.00	\$ 39,238.93	\$ -	\$ -	\$ -
Total	\$ 121,832.50	\$ 673,746.00	\$ -	\$ 254,150.25	\$ 213,574.00	\$ 95,811.18	\$ 2,300.00	\$ 15,784.00	\$ 62,477.50

Priority 3 level work is generally in good to fair condition, but it has exceeded its life expectancy. This equipment is likely to meet its life expectancy with continued maintenance otherwise it will slip to a lower priority level.

Trade	LG AcademyES	LG AcademyMS	District Office	Liberty Charter	Monterey HeightsES	Mount VernonES	San AltosES	San MiguelES	Vista LaMesaES
Electrical	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fencing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Finishes	\$ 6,093.75	\$ 184,218.75	\$ -	\$ -	\$ 7,312.50	\$ 6,468.75	\$ -	\$ -	\$ 12,937.50
HVAC	\$ 249,750.00	\$ 389,000.00	\$ 25,000.00	\$ 61,000.00	\$ 7,500.00	\$ 48,625.00	\$ 239,500.00	\$ 194,250.00	\$ 418,125.00
LowVoltage	\$ 18,750.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00
Paving	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plumbing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roofing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Playground	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 274,593.75	\$ 573,218.75	\$ 25,000.00	\$ 61,000.00	\$ 14,812.50	\$ 55,093.75	\$ 264,500.00	\$ 219,250.00	\$ 456,062.50



Budget:

The condition assessment and database created by SDCOE for the Lemon Grove School District can utilize this report for future budgeting to replace the building systems and equipment prior to failure.

Recommendations:

Traditionally, maintenance budgets are set at 3% of total district expenditures, or \$471,387 per year for the Lemon Grove maintenance department. This includes staff salaries/benefits, supplies, materials and contracted services.

Additionally, it is recommended that the district make a commitment to its Deferred Maintenance account in the amount of $\frac{1}{2}$ of 1% of total expenditures.

As funds become available, roofing should be a priority of the district as it not only accounts for the lion's share of deficiencies (\$1.76 million in priority 1 repairs), but can also have one of the greatest impacts on the educational program. Water intrusion into school buildings can cause serious indoor air quality issues, damage expensive equipment, and if left unmitigated, can cause structural damage to the roof and roof deck.

Attachments (Provided separately): Excel Database and condition assessments