



Senator William P. Campbell Building California Office of Emergency Services (087)

3650 Schriever Avenue, Mather, CA 95655

Facility Condition Assessment

June 2015

Prepared for the State of California Department of General Services



TABLE OF CONTENTS

EXECUTIVE SUMMARY..... 2

 BACKGROUND 2

 OBJECTIVE 2

 SCOPE OF ASSESSMENT 3

 SURVEY FINDINGS..... 3

INTRODUCTION 6

 BUILDING BACKGROUND..... 6

 BUILDING DESCRIPTION 6

 FACILITY CONDITION ASSESSMENT..... 7

 SCOPE OF ASSESSMENT 10

 PRIORITY RANKING 11

 CURRENT REPLACEMENT VALUE..... 15

 FACILITY CONDITION INDEX..... 15

APPENDICES 18

 APPENDIX A: ACCESSIBILITY ISSUES 18

 APPENDIX B: GENERAL ASSESSMENT INFORMATION 20

 APPENDIX C: CERTIFICATION 82

 APPENDIX D: PHOTOS..... 84

 APPENDIX E: TERMINOLOGY AND ABBREVIATIONS..... 112

 APPENDIX F: BUILDING FACT SHEET 118

 APPENDIX G: COST TABLES 120

 APPENDIX H: SUPPORTING DOCUMENTATION..... 124

 APPENDIX I: PRE-SURVEY QUESTIONNAIRE 134

 APPENDIX J: ELEVATOR REPORT 136

THIS PAGE INTENTIONALLY BLANK

EXECUTIVE SUMMARY

BACKGROUND

This Facility Condition Assessment (FCA), prepared by EMG Corporation (EMG) in collaboration with the Department of General Services (DGS) Real Estate Services Division (RESA) and the consulting team of Hellmuth, Obata & Kassabaum, Inc. (HOK), is a component of a comprehensive long-range strategic asset management plan for DGS's portfolio of general-purpose office buildings. The goal is to determine the best course of action to address DGS's general-purpose office buildings' infrastructure deficiencies and space needs with a focus on controlling long-term costs.

The DGS portfolio comprises nearly 17 million gross square feet (GSF) of state-owned office facilities statewide, contained within 54 general-purpose state-owned office building sites. The FCA inventories and evaluates each of the DGS general purpose office buildings to benchmark current condition and establish a replacement value. This FCA assesses the infrastructure conditions for the Senator William P. Campbell Building California Office of Emergency Services (087).

The assessment methodology identifies infrastructure systems and components requiring immediate repair or replacement based on their useful life expectancy. In addition, the FCA projects the capital funding needs over a ten-year lifecycle horizon period of 2015 to 2024. The assessments evaluate envelope, structure, plumbing, heating, air conditioning, energy and lighting controls, electrical, data/communications, elevators, fire protection and suppression, security, and utility capacity and systems. The replacement value is determined by multiplying the existing building square footage (SF) by the cost per SF to construct a new, similar building on a similar site.

OBJECTIVE

The objective of the FCA is to identify the capital reserves for infrastructure lifecycle repair/replacement needs over the ten-year lifecycle. The FCA projections will become the basis for the Facility Condition Index (FCI). The FCI is the ratio of immediate repair costs or capital reserve needs to the current replacement value of the existing building. The FCI is a key performance indicator that is used to objectively quantify and evaluate the current condition of a building and can be used to compare the relative condition of the subject building with other buildings within the same portfolio and as a trending matrix for infrastructure "health" over time.

The Senator William P. Campbell Building California Office of Emergency Services (087) FCI ratio will be incorporated as a comparative factor in the overall DGS portfolio analysis, enabling DGS to accurately rank and prioritize building repair/replacement needs in the long-range strategic plan.

SCOPE OF ASSESSMENT

The EMG evaluation team, comprised of engineers and architects, visited the Senator William P. Campbell Building California Office of Emergency Services (087) on February 2, 2015. The evaluation team reviewed available engineering studies and construction documents to familiarize themselves with the physical conditions. The evaluation team conducted a walk-through of the building to observe building systems and components, identify physical deficiencies, and formulate recommendations to remedy any deficiencies.

SURVEY FINDINGS

One of the major goals of the FCA is to calculate the FCI, which gives an indication of a building’s overall condition. Two FCI ratios are calculated and presented – Current Year and Ten-Year. The Current Year FCI is the ratio of Immediate Repair Costs to the building’s Current Replacement Value. Similarly, the Ten-Year FCI is the ratio of anticipated Capital Reserve Needs over the next ten years to the Current Replacement Value.

The values are based on a scale from 0-100 percent. A lower FCI ratio indicates that the building’s infrastructure is in “Good” condition. Based on industry standards, a “Good” condition building will have an FCI ratio at or below five percent. A “Fair” condition building will have an FCI ratio between five and ten percent. A “Poor” condition building will have an FCI ratio between 10 and 65 percent. A building with an FCI ratio exceeding 65 percent is considered “Very Poor” and is a candidate for replacement or divestment.

The table below represents summary-level findings for the FCA. The deficiencies identified in this assessment can be combined with potential new construction requirements to develop an overall strategy that can serve as the basis for a portfolio-wide capital improvement funding strategy. Key findings from the assessment include:

Key Finding	Metric
Current Replacement Value	\$43,211,061
Immediate Repair Costs (12 months)	\$384,346
1-5 Year Capital Needs	\$3,909,706
6-10 Year Capital Needs	\$2,192,952
Total 10-Year Capital Reserve Needs	\$6,487,004

$$FCI = \frac{\text{Immediate Repair Costs or Ten-Year Capital Reserve Needs}}{\text{Current Replacement Value of Building}}$$

Current Year FCI

$$\text{Current FCI} = \frac{\$384,346}{\$43,211,061}$$

Ten-Year FCI

$$\text{Ten-Year FCI} = \frac{\$6,487,004}{\$43,211,061}$$

Current Year FCI	Ten-Year FCI
0.89 % = <i>Good Condition</i>	15.01 % = <i>Poor Condition</i>

The major issues contributing to the Immediate Repair Costs and the Current Year FCI ratio are summarized below:

- Water has leaked into the building. Repair moisture infiltration on the flat roofs of all buildings.
- There are lighting controls on each floor of the building. A system upgrade, tied into the energy management system, is recommended.
- Pavement sealcoating, and restriping of the parking spaces is recommended.
- The irrigation controls are divided into zones. Based on their condition, and to conserve water, upgrades to the central control system and valves are recommended.

Further detail on the specific costs that make up the Immediate Repair Costs can be found in the cost tables in the appendices.

THIS PAGE INTENTIONALLY BLANK

INTRODUCTION

BUILDING BACKGROUND

The California Office of Emergency Services was designed by the team of Ross Drulis Cusenbery Architecture, Inc of Sonoma, in collaboration with Dreyfuss and Blackford Architects of Sacramento. Construction was completed in 2002. The facility includes two 2-story buildings and one single-story building. The facility is located on the campus of the decommissioned Mather Air Force Base at 3650 Schriever Avenue, Mather.

The single-tenant facility serves as a strategic command center for the State of California's Office of Emergency Services. It handles a full range of emergency response activities, including information gathering, strategic planning, collective decision making, and information dissemination. The facility is a 24-hour, high-security facility. The design of the building balances the need for high security and desire for symbolic permeability, as well as the operational need for controlled lighting and psychological desire for natural light. The design includes the use of daylighting strategies to create a work environment that alleviates stress associated with work in the public safety sector.

The gross building area is 117,704 SF with a net usable area of 109,375 SF. The ratio of net usable to gross building area is 92.9 percent. The occupant capacity is 413. Five hundred surface parking spaces are provided.

BUILDING DESCRIPTION

The building foundation is reinforced cast-in-place concrete-slab-on grade. The building structural system is a steel superstructure with concrete-topped metal floor decks. The main roof is flat with a single-ply membrane. A sloped accent roof is constructed of standing-seam metal.

The exterior walls are finished with corrugated metal with a reinforced concrete base and anodized metal panels. The walls of the mechanical plant building are made of concrete masonry unit walls.

The interior walls are painted drywall. The floor finishes consist of sealed concrete in the lobby, commercial carpet tiles and vinyl composition tiles in the office area, and ceramic tile in the restrooms. The ceilings are finished with acoustic tiles. The interior finishes in the mechanical plant are limited to a small office and break area, which are similar to the other office areas.

The building has one passenger elevator and one freight elevator, both of which are hydraulic.

Heating and cooling are provided by fire tube boilers and water-cooled chillers, respectively, and are located in the mechanical plant building.

Hot water is provided by a gas-fired water heater in each building.

Life safety systems include fire sprinklers, hydrants, smoke detectors, alarms, extinguishers, and dry standpipes.

The landscaping consists of trees, shrubs, and lawn areas. Landscaped areas are irrigated by an in-ground overhead spray sprinkler system.

The sidewalks throughout the property are constructed of cast-in-place concrete.

Project Statistics

Item	Description
Project Name	Senator William P. Campbell Building California Office of Emergency Services
Building ID	087
Property Type	Administration
Year Built	2002
Number of Stories	2
Occupied	Yes
Land Area (acres)	13.47
Gross Square Feet (GSF)	117,704

FACILITY CONDITION ASSESSMENT

The goal of the FCA is to gather the data necessary to understand the existing building’s condition, identify strategies to meet the building’s lifecycle needs, and create the foundation for a long-range strategic plan.

COMPONENTS OF THE FCA

Current conditions analysis

The current condition analysis identifies the existing building’s immediate requirements, including deferred maintenance, recommended discretionary improvements, and code non-compliance issues.

Anticipated building reserve analysis

The anticipated building reserve analysis projects the ongoing degradation of the building's components and costs associated with the reserve or replacement of these components as they reach the end of their useful lives.

Funding needs analysis

The funding needs analysis results in a summary report of deferred maintenance and systems reserve funding needs.

CALCULATION OF FUNDING NEEDS

Calculating probable funding needs involves identifying and quantifying the building's infrastructure systems or components that require immediate or future action over their lifecycle horizon. Funding needs are segregated into two categories, Immediate Repair Costs and Capital Reserve Needs. A Replacement Value is calculated and a Remaining Useful Life Estimate is determined as well as Opinions of Probable Cost in order to establish the FCI. The terms are defined as follows:

Immediate Repair Costs

Immediate Repair Costs are Opinions of Probable Cost that require immediate action as a result of: (1) material existing or potentially unsafe conditions, (2) material building or fire code violations, or (3) conditions that, if left un-remedied, have the potential to result in, or contribute to, critical element or system failure within **one year** that will likely result in a significant escalation of its remedial cost. Immediate Repair Costs are items which require action within year one.

Capital Reserve Needs

Capital Reserve Needs are recurring probable expenditures, which are not considered operation or maintenance expenses, that should be budgeted annually. In general, Capital Reserve Needs are reasonably predictable both in terms of frequency and cost. However, Capital Reserve Needs may also include components or systems that have an indeterminable life but nonetheless have a potential liability for failure within a ten-year period. The Capital Reserve Needs presented in the FCA represent average industry costs as of 2015, without inflation. The Ten-Year Expenditure Forecast table in Appendix G includes inflation by assuming a five percent annual inflation rate on Total Capital Needs by year.

Current Replacement Value

Current Replacement Value is determined by multiplying the existing building's SF by the Cost per SF to construct a new, similar building on a similar site. Current Replacement Value is not an appraised or

market value for the purposes of a property sale. To estimate the cost per SF, EMG referenced Marshall & Swift's *Marshall Valuation Service*. This building cost data index is an industry standard, adjusted annually, and relied upon by the insurance industry, as well as other agencies and organizations. Cost per SF is calculated by adjusting Marshall & Swift's unit cost for a Government Office Building to account for factors related to building systems, class of construction, and location to reflect the estimated cost of construction at the subject building site.

Remaining Useful Life

Remaining Useful Life (RUL) estimate is based upon site observations, research, and judgment, along with reference to Expected Useful Life (EUL) tables from various industry sources. A sample copy of the EUL table is included in the appendices. EMG estimates when a system or component will likely need replacement based on a visual review of the current condition and the RUL estimate. Exposure to the elements, quality of installation, extent of use, and quality and amount of preventive maintenance exercised are factors that impact the effective age of a system or component. As a result, a system or component might have an effective age that is greater or less than its actual chronological age. The RUL of a system or component equals the EUL less its effective age.

Opinions of Probable Cost

Opinions of Probable Cost are estimates for individual repair or replacement and are a key consideration of this engagement. These estimates may be based on invoice or bid documents provided by the owner or building manager, cost estimates developed by construction resources (such as R.S. Means), or EMG's experience with similar properties, city cost indexes, and projections of economic conditions. Where quantities cannot be derived from building plans, lump sum costs or allowances are utilized.

Opinions of Probable Cost should only be construed as preliminary, order-of-magnitude budgets. Actual costs will likely vary from EMG's estimates depending on type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing of the work (if applicable), quality of contractor, market conditions, and whether competitive pricing is solicited. ASTM E2018-08¹ recognizes that certain Opinions of Probable Cost cannot be developed within the scope of an FCA without further study. Instances where a visual inspection is not possible and further study is recommended, EMG provides a cost estimate of the additional study in the FCA.

Facility Condition Index

The FCI gives an indication of a building's overall state of condition. The values are based on a 0-100 percent scale. The Current Year FCI is the ratio of Immediate Repair Costs to Current Replacement

¹ ASTM 2018-08 is the national guideline for preparing a Facility Condition Assessment published by the American Society for the Testing of Materials.

Value. The Ten-Year FCI is the ratio of Capital Reserve Needs (2015 – 2024) to Current Replacement Value. The Ten-Year FCI is calculated using uninflated 2015 dollars because the year of project implementation is likely unknown or subject to change. Since both the repair/replacement costs and Current Replacement Value will increase at the same inflation rate, the impacts of inflation do not significantly affect the FCI ratio.

SCOPE OF ASSESSMENT

The evaluation team conducted a walk-through survey of Senator William P. Campbell Building California Office of Emergency Services (087) on February 2, 2015. The survey included analysis and observation of the building's interior and exterior, including the roofs. The evaluation team interviewed the building maintenance staff to inquire about the subject property's previous repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements. Opinions were developed based on the site evaluation, interviews with relevant maintenance providers and facilities managers, and previous experience with comparable properties. The evaluation team questioned those knowledgeable of the subject property's physical condition and operation (or knowledgeable of similar systems) to gain comparative information to use in evaluation of the subject property. In addition, the building staff provided documents and information to the evaluation team that were relevant to the subject property's physical improvements, extent, and type of use and assisted the team in identifying potential discrepancies between reported information and observed conditions.

The evaluation team made a visual assessment for compliance with the American with Disabilities Act (ADA) Accessibility Guidelines and the California Title 24 disabled access requirements. Items determined to be out of compliance are included in the repair/replacement costs. The assessments did not include detailed measurements to determine compliance under the regulations.

The data collected in the FCA are the basis of the projected ten-year Capital Reserve Needs. The goals of the FCA are:

- Benchmark current building condition with recommended corrections for deficiencies to establish the Immediate Repair Costs.
- Estimate life expectancy of various building systems and components to establish the Capital Reserve Needs for infrastructure lifecycle repair/replacement for the ten-year assessment period from 2015 to 2024.
- Provide estimates for corrections for Immediate Repairs Costs and projections for Capital Reserve Needs for lifecycle component replacement within the ten-year projection timeframe.
- Serve as a guide for future replacement, repairs, and improvements and assist DGS in prioritizing its capital budget and expenditures across its real estate portfolio.

PRIORITY RANKING

The recorded existing conditions, identified problems and deficiencies, documented corrective action, and quantities of recommended repairs and/or replacements are documented during the assessment process. Data are collected and entered directly into the assessment and capital planning database using tablet computers. Based on the discussions with the client and industry standards, a Priority Ranking is calculated for each cost observation. The Priority Ranking calculation is a function of four key categories.

PRIORITY RANKING CATEGORIES

Building Mission Ranking

A building can be ranked on a scale of one to ten based on conversations with the client regarding the importance of each building to the overall mission of the building. The properties reviewed during this assessment are all general-purpose office buildings and for the purposes of this study are all ranked the same for Building Mission.

Remaining Useful Life Ranking

The EUL projection of the component is calibrated against the RUL as estimated by the field assessor. This ratio is then utilized as a factor in the priority ranking. An RUL of zero years is given the highest priority and always results in ranking the component as Priority 1.

Asset Component Category

Each material or system (asset) evaluated is assigned a unique Unifomat code. The Unifomat designation is then associated with a ranking based on the overall importance to the operation of the building. An asset that is related to the building envelope, e.g. roof, window, or exterior siding, is assigned a higher ranking than a component such as a flooring, carpeting, or other finish material.

Functional Asset Categories

The cost associated with each asset or component evaluated is assigned to a category to include: Code Compliance, Facility Operations, Environmental Factors, Facility Functionality, and Integrity of the Facility. The Asset Categories are given a ranking based on their relative importance. For example, Code Compliance is ranked higher than Maintenance.

PRIORITY RATIO

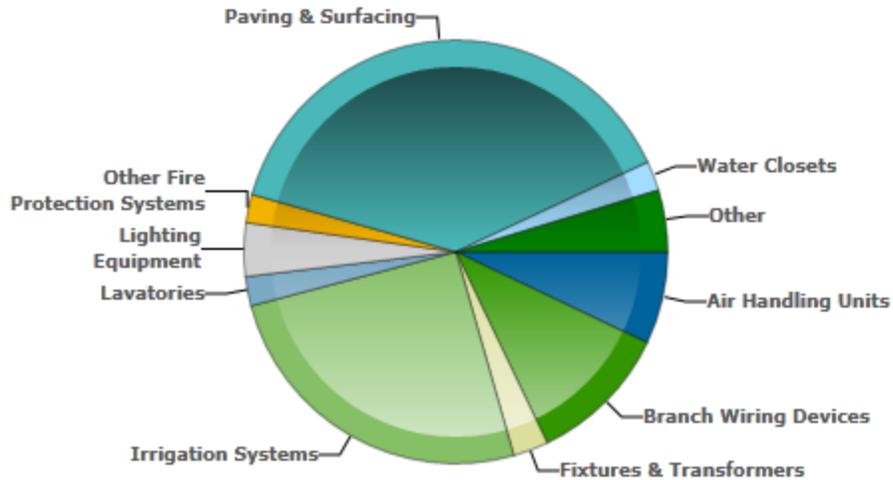
The four categories above are assigned a numerical value and the values are multiplied together for each cost observation. The resulting number is then assigned a priority by the capital planning software with

the lower range assigned Priority 1 and the higher range of numbers assigned among Priority 2, Priority 3, and Priority 4. Priority 5 is reserved for code issues that were permitted by the code at the time of construction but would be required only if a major renovation or code compliance project were to be undertaken.

The physical condition of building systems and related components are typically defined as being in one of four conditions: Good, Fair, Poor, or Very Poor, or a combination thereof. For the purposes of this report, the following definitions are used:

Condition	Definition
Good	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.
Very Poor	Subjected to hard or long-term wear. Has reached the end of its useful or serviceable life. Renewal is now necessary.

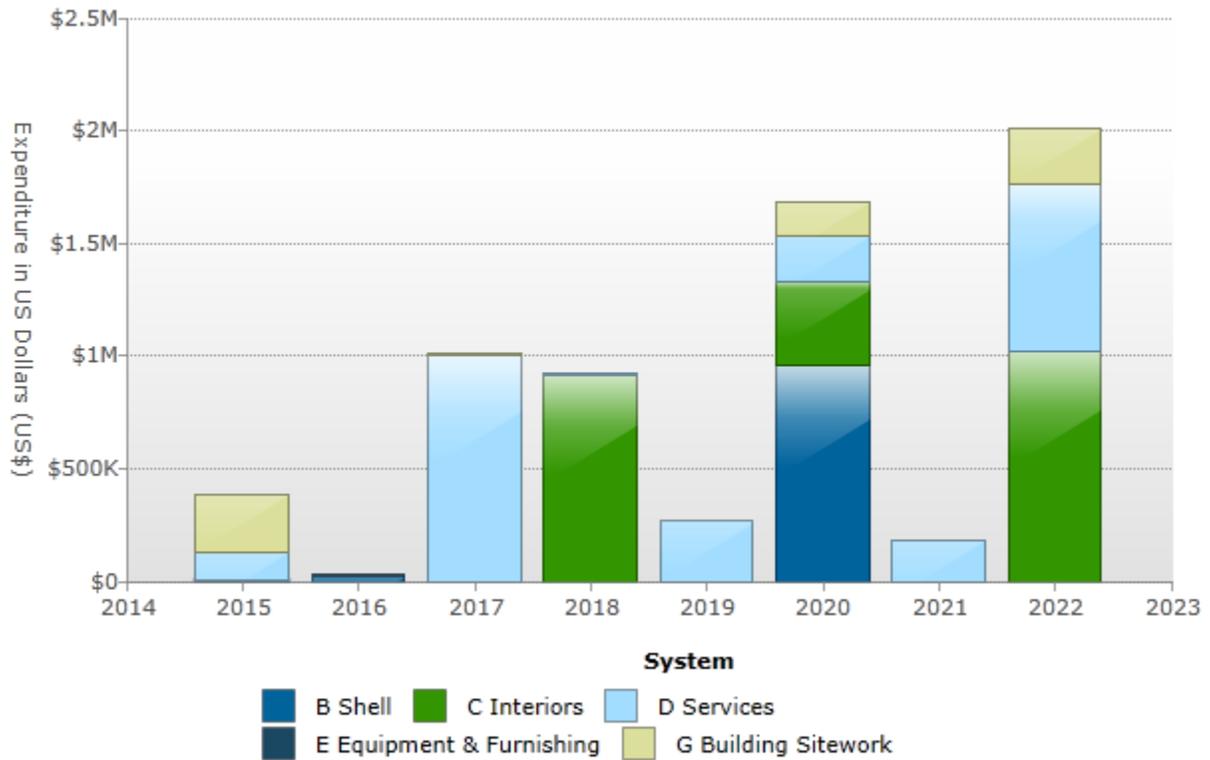
Distribution of Immediate Needs by Building System



Level	Building System	Estimated Cost
B3011	Roof Finishes	\$2,850
C3023	Hardeners and Sealers	\$5,050
D1011	Passenger Elevators	\$5,700
D2011	Water Closets	\$8,610
D2012	Urinals	\$2,870
D2013	Lavatories	\$8,610
D3041	Air Handling Units	\$27,140
D3042	Exhaust Ventilation Systems	\$831
D3051	Terminal Self-Contained Units	\$831
D4090	Other Fire Protection Systems	\$8,310
D5021	Branch Wiring Devices	\$41,667
D5022	Lighting Equipment	\$15,678
G2012	Paving & Surfacing	\$148,602
G2057	Irrigation Systems	\$97,279

Level	Building System	Estimated Cost
G4021	Fixtures & Transformers	\$10,317
	Total	\$384,346

Total Capital Needs By System and Year



Year	Building System							Total
	A Sub-Structure	B Shell	C Interiors	D Services	E Equip. & Furnishings	F Spec. Const. & Demolition	G Bldg. Site Work	
2015	\$0	\$2,850	\$5,050	\$120,248	\$0	\$0	\$256,198	\$384,346
2016	\$0	\$26,040	\$0	\$0	\$2,232	\$0	\$0	\$28,272
2017	\$0	\$0	\$0	\$1,005,496	\$0	\$0	\$9,300	\$1,014,796
2018	\$0	\$0	\$918,537	\$1,391	\$0	\$0	\$0	\$919,928
2019	\$0	\$0	\$0	\$265,181	\$0	\$0	\$0	\$265,181
2020	\$0	\$955,932	\$377,341	\$199,654	\$0	\$0	\$148,602	\$1,681,528
2021	\$0	\$0	\$0	\$180,704	\$0	\$0	\$0	\$180,704
2022	\$0	\$0	\$1,023,729	\$739,648	\$0	\$0	\$248,871	\$2,012,248
Total	\$0	\$984,822	\$2,324,657	\$2,512,322	\$2,232	\$0	\$662,971	\$6,487,004

CURRENT REPLACEMENT VALUE

The Current Replacement Value has been determined as \$43,211,061 for the Senator William P. Campbell Building California Office of Emergency Services (087). The Current Replacement Value is the existing building SF multiplied by the Cost per SF to construct a new, similar building. As noted previously, the basis of the Cost per SF amount is the Marshall & Swift Cost Valuation system. A copy of the cost calculation is included in Appendix H of this report.

Building Area	Cost/SF	Current Replacement Value
117,704 GSF	\$367	\$43,211,061

FACILITY CONDITION INDEX

The FCI¹ is an indication of a building’s current and future overall condition. According to industry standards an FCI ratio of 65 percent, or the “rule of two-thirds,” is the threshold for identifying potential candidates for replacement or divestment.² Once the FCI ratio reaches 65 percent, or roughly two-thirds of the Current Replacement Value of the estimated cost to replace a building, it may

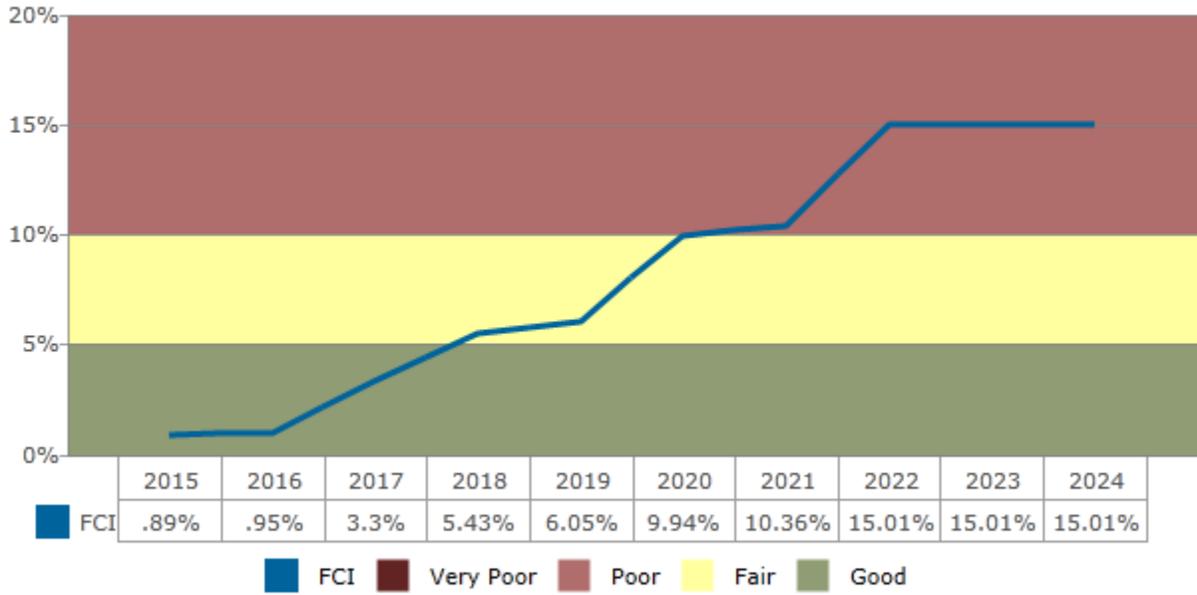
² Sean C. Rush (1991). Managing the Facilities Portfolio: a Practical Approach to Institutional Facility Renewal and Deferred Maintenance. National Association of College and University Business Officers. pp. 26–66. ISBN 978-0-915164-59-2.

not be prudent to continue to fund repairs. In cases where aggressive facilities planning is expected to be necessary, this threshold may be adjusted to address more pressing needs.

Condition	Definition	Value
Good	In new or well-maintained condition, with no visual evidence of wear, soiling or other deficiencies.	0% to 5%
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.	Greater than 5% to 10%
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	Greater than 10% to 65%
Very Poor	Subjected to hard or long-term wear. Has reached the end of its useful or serviceable life. Renewal is now necessary.	Greater than 65%

The chart below indicates the cumulative effects of the FCI ratio over the ten-year study period assuming the required funds are NOT provided to address the identified repairs and replacements for each year.

Cumulative Effects of FCI over the Study Period



APPENDICES

APPENDIX A: ACCESSIBILITY ISSUES

Recommendations:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Install Braille plate at phone	1.0 - EA	100.0	CC - Accessibility	Priority 1	2015	100
D1011	D1011 Install Braille plates on phone	1.0 - EA	100.0	CC - Accessibility	Priority 1	2015	100

Cost Summary:

Year	Total Expenditures
2015	\$200

APPENDIX B: GENERAL ASSESSMENT INFORMATION

A Substructure Systems

A10 FOUNDATIONS

Item	Description
A1031 Standard Slab on Grade	A1030 Standard Concrete Slab
Condition	Good
Qty / UOM	59200 / SF
RUL (years)	26
Location	All Buildings

OBSERVATIONS/COMMENTS:

No further action is required.

B Shell Systems

B10 SUPERSTRUCTURE

Item	Description
B1031 Steel Frame Structure	B1031 Structural Steel Columns and Beams Frame
Condition	Good
Qty / UOM	59200 / SF
RUL (years)	57
Location	All Buildings

OBSERVATIONS/COMMENTS:

No further action is required.

B20 EXTERIOR ENCLOSURE

Item	Description
B2011 Exterior Wall Construction	B2011 Reinforced Concrete Masonry Units
Condition	Good
Qty / UOM	4200 / SF
RUL (years)	27
Location	Building C

OBSERVATIONS/COMMENTS:
 No further action is required.

Item	Description
B2011 Exterior Wall Construction	B2010 Siding - Metal Panel Siding
Condition	Good
Qty / UOM	14000 / SF
RUL (years)	16
Location	All Buildings

OBSERVATIONS/COMMENTS:
 No further action is required.

Item	Description
B2011 Exterior Wall Construction	B2011 Finished Concrete Wall Wainscot
Condition	Good
Qty / UOM	42500 / SF
RUL (years)	16
Location	All Buildings

OBSERVATIONS/COMMENTS:
 No further action is required.

Item	Description
B2021 Windows	B2021 Window Gaskets
Condition	Good
Qty / UOM	300 / LF
RUL (years)	1
Location	All Buildings

OBSERVATIONS/COMMENTS:

There are three reported active window leaks where gaskets require replacement. There are minimal other areas of gasket shrinkage. Based on these conditions, partial gasket replacement is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B2021	Repair/ replace gaskets	300.0 - LF	86.8	IN - Beyond Rated Life	Priority 1	2016	26,040

COST SUMMARY:

Type	Year	Total Expenditures
B20 Exterior Enclosure	2016	\$26,040

B30 ROOFING

Item	Description
B3011 Roof Finishes	B3011 TPO Roof Replacement
Condition	Fair
Qty / UOM	563 / SQ
RUL (years)	5
Location	All Flat Roof Areas

OBSERVATIONS/COMMENTS:

Some small ceiling stains were observed. Roof leaks have reportedly been problematic, notably above server equipment. Repairs should be accomplished on an as-needed basis. Based on the estimated RUL, roof replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3011	D3011 Repair roof leaks	1.0 - LS	2850.0	OP - Maintenance	Priority 2	2015	2,850
B3011	Replace B3011 TPO Roof Replacement	563.0 - SQ	1697.9	IN - Beyond Rated Life	Priority 3	2020	955,932

Item	Description
B3011 Roof Finishes	B3011 Metal Low Slope Roofing, Total
Condition	Good
Qty / UOM	170 / SQ
RUL (years)	26
Location	All Buildings

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
B30 Roofing	2015	\$2,850
B30 Roofing	2020	\$955,932

C Interiors Systems

C10 INTERIOR CONSTRUCTION

Item	Description
C1021 Interior Doors	C1021 Interior Doors
Condition	Fair
Qty / UOM	60 / EA
RUL (years)	11
Location	All Buildings

OBSERVATIONS/COMMENTS:

No further action is required.

C30 INTERIOR FINISHES

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Repaint interiors
Condition	Fair - Good
Qty / UOM	51000 / SF
RUL (years)	3
Location	All Buildings

OBSERVATIONS/COMMENTS:

Periodic interior painting will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3012	Repaint interiors	51,000.0 - SF	1.9	IN - Appearance	Priority 3	2018	97,390

Item	Description
C3023 Hardeners and Sealers	C3023 Seal Lobby Floor
Condition	Fair
Qty / UOM	1000 / SF
RUL (years)	0
Location	Building A - Lobby
Floor Toppings	Poured Epoxy Sealant
Hardeners and Seals	Urethane Sealer

OBSERVATIONS/COMMENTS:

Based on the current condition, the lobby floor requires resealing.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3023	Replace C3023 Seal Lobby Floor	1,000.0 - SF	5.1	IN - Appearance	Priority 2	2015	5,050

Item	Description
C3024 Flooring	C3024 Ceramic Tile
Condition	Good
Qty / UOM	10 / CSF
RUL (years)	17
Location	Restrooms

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
C3024 Flooring	C3024 Vinyl Tile
Condition	Good
Qty / UOM	3000 / SY
RUL (years)	5
Location	Buildings A & B

OBSERVATIONS/COMMENTS:

Replacement of the vinyl floor tile finishes is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3024	Replace C3024 Vinyl Tile	3,000.0 - SY	125.8	IN - Appearance	Priority 4	2020	377,341

Item	Description
C3025 Carpeting	C3025 Carpeting
Condition	Good
Qty / UOM	8500 / SY
RUL (years)	3
Location	Buildings A & B

OBSERVATIONS/COMMENTS:

Based on the estimated RUL, carpet replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3025	Replace C3025 Carpeting	8,500.0 - SY	96.6	IN - Appearance	Priority 3	2018	821,148

Item	Description
C3032 Suspended Ceilings	C3032 Acoustical Tile With Exposed Grid System
Condition	Good
Qty / UOM	852 / CSF
RUL (years)	7
Location	All Buildings

OBSERVATIONS/COMMENTS:

Based on the estimated RUL, replacement of the acoustical ceiling tile system is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3032	Replace C3032 Acoustical Tile With Exposed Grid System	852.0 - CSF	1201.6	IN - Appearance	Priority 4	2022	1,023,729

Item	Description
C3033 Other Ceilings	C3033 Perforated Metal Panels Acoustical
Condition	Good
Qty / UOM	850 /
RUL (years)	17
Location	Buildings A & B

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
C30 Interior Finishes	2015	\$5,050
C30 Interior Finishes	2018	\$918,537
C30 Interior Finishes	2020	\$377,341
C30 Interior Finishes	2022	\$1,023,729

D Services Systems

D10 CONVEYING SYSTEMS

Item	Description
D1011 Passenger Elevators	D1011 Hydraulic Service Elevator 4500 lbs
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building B - Elevator Rooms

OBSERVATIONS/COMMENTS:

The hydraulic service elevator is original to the building. It originates on the first floor and opens to the other side on the second floor. The date of past inspection was 1/2/2014. The elevators are missing Braille markings on the call buttons.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Install handrails on the service car	2.0 - EA	600.0	CC - Building Code	Priority 1	2015	1,200
D1011	Remove plywood panelling, install fire rated wood	1.0 - EA	4000.0	CC - Building Code	Priority 1	2015	4,000
D1011	D1011 Repair car lanterns	2.0 - EA	150.0	CC - Building Code	Priority 1	2015	300
D1011	Install Braille plate at phone	1.0 - EA	100.0	CC - Accessibility	Priority 1	2015	100

Item	Description
D1011 Passenger Elevators	D1011 Hydraulic Passenger Elevator 3000 lbs
Condition	Good
Qty / UOM	1 / EA
RUL (years)	13
Location	Building B - Elevator Rooms

OBSERVATIONS/COMMENTS:

The hydraulic passenger elevator is original to the building. It originates on the first floor and was last inspected on 1/2/2014. The elevator is missing Braille markings on the call buttons and handrails.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	D1011 Install Braille plates on phone	1.0 - EA	100.0	CC - Accessibility	Priority 1	2015	100

COST SUMMARY:

Type	Year	Total Expenditures
D10 Conveying Systems	2015	\$5,700

D20 PLUMBING

Item	Description
D2011 Water Closets	D2011 Water Closet, 1.6 GPF Unit
Condition	Fair
Qty / UOM	30 / EA
RUL (years)	22
Location	All Buildings
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The toilets are furnished with manual flush valves. Automatic flush valves are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2011	D2011 Replace flush valve with automatic	30.0 - ea	287.0	FN - Modernization	Priority 2	2015	8,610

Item	Description
D2012 Urinals	D2012 Urinals
Condition	Fair
Qty / UOM	10 / EA
RUL (years)	22
Location	All Buildings
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The urinals have manual flush valves. Replacement with automatic valves is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2012	D2012 Automatic flush valves	10.0 - ea	287.0	FN - Modernization	Priority 2	2015	2,870

Item	Description
D2013 Lavatories	D2012 Countertop Lavatory
Condition	Fair
Qty / UOM	32 / EA
RUL (years)	22
Location	All Buildings

OBSERVATIONS/COMMENTS:

The lavatory sinks are functional and have manual faucets. Automatic faucets are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2013	D2012 Automatic valves	30.0 - ea	287.0	FN - Modernization	Priority 2	2015	8,610

Item	Description
D2014 Sinks	D2014 Kitchen Top Sink and Faucet
Condition	Good
Qty / UOM	5 / EA
RUL (years)	7
Location	All Buildings

OBSERVATIONS/COMMENTS:

The kitchen countertop sinks are furnished with manual faucets. Based on estimated RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2014	Replace D2014 Kitchen Top Sink and Faucet	5.0 - EA	2946.4	IN - Beyond Rated Life	Priority 4	2022	14,732

Item	Description
D2017 Showers	D2017 Stall Shower and Faucet
Condition	Good
Qty / UOM	4 / EA
RUL (years)	11
Location	All Buildings

OBSERVATIONS/COMMENTS:

The roll in shower in the restroom is in good condition and ADA compliant. No further action required.

Item	Description
D2018 Drinking Fountains and Coolers	D2018 Drinking Fountain
Condition	Good
Qty / UOM	8 / EA
RUL (years)	6
Location	All Buildings

OBSERVATIONS/COMMENTS:

Drinking fountains are located near restroom areas. Based on estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2018	Replace D2018 Drinking Fountain	8.0 - EA	2876.6	IN - Beyond Rated Life	Priority 3	2021	23,013

Item	Description
D2022 Hot Water Service	D2022 DHW Heater - Gas 100 Gal
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Building B - Roof

OBSERVATIONS/COMMENTS:

The 100-gallon, 250 MBH gas water heater provides hot water for the kitchen and restrooms. Based on estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2022	Replace D2022 DHW Heater - Gas 100 Gal	1.0 - EA	20378.6	IN - Beyond Rated Life	Priority 3	2019	20,379

Item	Description
D2022 Hot Water Service	D2022 DHW Heater - Gas 81 Gal
Condition	Good
Qty / UOM	81 / EA
RUL (years)	4
Location	Building A - Mechanical Rooms

OBSERVATIONS/COMMENTS:

The 81-gallon, 180 MBH gas water heater provides hot water for the kitchen and restrooms in building A. Based on its estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2022	Replace D2022 DHW Heater - Gas 81 Gal	81.0 - EA	144.4	IN - Beyond Rated Life	Priority 3	2019	11,699

Item	Description
D2023 Domestic Water Supply Equipment	D2023 Air Separator
Condition	Good
Qty / UOM	2 / EA
RUL (years)	7
Location	Building C

OBSERVATIONS/COMMENTS:

Air separators reduce energy consumption and prolong the life of domestic water system pumps, piping and components by removing air and dirt from the system to prevent problems such as reduced heat transfer, loss of efficiency, pipe corrosion, pump damage, and operating noise. Based on estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2023	Replace D2023 Air Separator	2.0 - EA	20461.2	IN - Beyond Rated Life	Priority 4	2022	40,922

Item	Description
D2023 Domestic Water Supply Equipment	D2023 DHW Distribution Pump 3 HP
Condition	Good
Qty / UOM	2 / EA
RUL (years)	11
Location	Building C

OBSERVATIONS/COMMENTS:

According to the building staff, the city pressure of 45 psi is adequate to provide the cold water to the water heaters in each building; hence the originally installed inline pumps are not used.

Item	Description
D2023 Domestic Water Supply Equipment	D2023 DHW Distribution Pump 2 HP
Condition	Good
Qty / UOM	1 / EA
RUL (years)	2
Location	Building C

OBSERVATIONS/COMMENTS:

Inline cold water pumps provide feed for the domestic hot water (DHW) supply to the building. According to the building staff the city pressure of 45 psi is adequate to provide the DHW cold water to the water heaters in each building. Hence, the inline pumps are not used. No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
D20 Plumbing	2015	\$20,090
D20 Plumbing	2019	\$32,078
D20 Plumbing	2021	\$23,013
D20 Plumbing	2022	\$55,654

D30 HVAC

Energy Supply	
Item	Description
Fuel Oil Type	N/A
Fuel Gas Type	Natural Gas
Solid Fuel Type	N/A
District Heat Type	N/A
District Cooling Type	N/A
Solar Thermal	N/A
Fuel Tank Type	N/A
Fuel Tank Size (gallons)	N/A
Fuel Tank Location	N/A
Gas Meter Location	Near central plant - west side
Electrical Meter Location	Inside Central Plant
Water Meter Location	Vault in sidewalk

Item	Description
D3021 Boilers	D3021 Hydronic Gas Boilers (2000 MBH)
Condition	Good
Qty / UOM	2 / EA
RUL (years)	20
Location	Building C

OBSERVATIONS/COMMENTS:

Three hydronic heating boilers supply the heating to all three buildings. The equipment runs based on call for heat from the energy management system (EMS). No further action is required.

Item	Description
D3022.1 Circulating Pumps	D3022.1 Chiller Distribution Pump 15 hp
Condition	Good
Qty / UOM	2 / EA
RUL (years)	6
Location	Building C

OBSERVATIONS/COMMENTS:

Distribution pumps for the chiller circulate chilled water to the air handlers for each building. The pumps have connected variable frequency drives (VFDs) and control the flow based on the EMS. Based on their estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022.1 Chiller Distribution Pump 15 hp	2.0 - EA	71033.1	IN - Beyond Rated Life	Priority 3	2021	142,066

Item	Description
D3022.1 Circulating Pumps	D3022.1 HW Secondary Water Circulation Pumps 5 HP
Condition	Good
Qty / UOM	3 / EA
RUL (years)	5
Location	Building C

OBSERVATIONS/COMMENTS:

Distribution pumps for the boiler supplies hot water to the air handlers for each building. The pumps have connected VFDs that control the flow based on the EMS. Based on their estimated RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022.1 HW Secondary Water Circulation Pumps 5 HP	3.0 - EA	17558.0	IN - Beyond Rated Life	Priority 3	2020	52,674

Item	Description
D3022.1 Circulating Pumps	D3022.1 Heating Primary Water Circulation Pumps 3 HP
Condition	Good
Qty / UOM	2 / EA
RUL (years)	5
Location	Building C

OBSERVATIONS/COMMENTS:

Primary distribution pumps for the boiler recirculates hot water through the primary loop. The pumps are working adequately. Based on estimated RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022.1 Heating Primary Water Circulation Pumps 3 HP	2.0 - EA	17558.0	IN - Beyond Rated Life	Priority 3	2020	35,116

Item	Description
D3022.1 Circulating Pumps	D3022.1 Chiller Condenser Pump 15 hp
Condition	Good
Qty / UOM	2 / EA
RUL (years)	7
Location	Building C

OBSERVATIONS/COMMENTS:

The condenser pumps for the chiller circulate chilled water to the air handling unit. The water flow is controlled by the EMS. Based on their estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022.1 Chiller Condenser Pump 15 hp	2.0 - EA	23836.6	IN - Beyond Rated Life	Priority 4	2022	47,673

Item	Description
D3022.1 Circulating Pumps	D3022.1 Chiller Primary Pump 10 hp
Condition	Good
Qty / UOM	3 / EA
RUL (years)	7
Location	Building C

OBSERVATIONS/COMMENTS:

Primary distribution pumps for the chiller recirculates chilled water through the primary loop. Based on estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022.1 Chiller Primary Pump 10 hp	3.0 - EA	19837.2	IN - Beyond Rated Life	Priority 4	2022	59,512

Item	Description
D3023 Auxiliary Equipment	D3023 DHW Expansion Tank (185 Gal)
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

The expansion tank for the domestic hot water system is functioning adequately. No further action is required.

Item	Description
D3023 Auxiliary Equipment	D3023 Expansion Tank (264 Gal)
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

The expansion tank for the closed loop hot water system protects the system from excessive pressure. No further action is required.

Item	Description
D3031.1 Chillers	D3031.1 Water cooled chiller 200 ton
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

The 200-ton water cooled centrifugal chiller supplies chilled water to all buildings and is controlled by the EMS. The refrigerant was in process of being replaced during the site visit. No further action is required.

Item	Description
D3031.1 Chillers	D3031.1 Chiller, Water Cooled, Screw-Type 200 Ton
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	10
Location	Building C

OBSERVATIONS/COMMENTS:

The 200-ton water cooled screw-type chiller supplies chilled water to all buildings and is controlled by the EMS. No further action is required.

Item	Description
D3031.2 Cooling Towers	D2094 Cooling Tower chemical water treatment
Condition	Good
Qty / UOM	1 / EA
RUL (years)	7
Location	Building C

OBSERVATIONS/COMMENTS:

Chemical feeder for cooling tower water. Based on POC it is original to building and works adequately. Based on its estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3031	Replace D2094 Cooling Tower chemical water treatment	1.0 - EA	35840.0	IN - Beyond Rated Life	Priority 4	2022	35,840

Item	Description
D3031.2 Cooling Towers	D3031.2 Cooling Towers
Condition	Good
Qty / UOM	2 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

Two cooling towers for the chillers are located on the east side of the central plant. Both units have two fan motors. There are no VFDs. All equipment is working adequately and only fan motor replacements are anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3031	D3031 Fan motors	4.0 - ea	2404.5	OP - Energy	Priority 2	2017	9,618

Item	Description
D3032 Direct Expansion Systems	D3032 Air Cooled Condenser 7 tons
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	2
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

The condenser provides cooling for the computer room. Based on its RUL and condition, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Air Cooled Condenser 7 tons	1.0 - EA	17348.0	OP - Energy	Priority 2	2017	17,348

Item	Description
D3032 Direct Expansion Systems	D3032 Air Cooled Condenser, 65 Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

The condenser unit serves the high density computer room air conditioning units. Based on estimated RUL, condenser replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Air Cooled Condenser, 65 Ton	1.0 - EA	118319.5	IN - Beyond Rated Life	Priority 3	2019	118,320

Item	Description
D3032 Direct Expansion Systems	D3032 Air Cooled Condenser, 12 Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	5
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

The condenser provides cooling for the computer room. Based on its RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Air Cooled Condenser, 12 Ton	1.0 - EA	45608.7	IN - Beyond Rated Life	Priority 3	2020	45,609

Item	Description
D3032 Direct Expansion Systems	D3032 Air Cooled Condenser, 25 Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

Liebert air cooled condenser units provide cooling for the computer and data rooms. These are original to the building and replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Air Cooled Condenser, 25 Ton	1.0 - EA	82389.9	IN - Beyond Rated Life	Priority 3	2019	82,390

Item	Description
D3041.1 Air Handling Units	D3041.1 AHU 18000-20000 CFM
Condition	Good
Qty / UOM	4 / EA
RUL (years)	12
Location	Building B - Roof

OBSERVATIONS/COMMENTS:

Multiple air handlers supply the fan coils and VAV boxes with desired air temperature based on the call for heating or cooling from the zonal temperature sensors. All AHUs are equipped with 2-pipe hot water or chilled water loop for heating or cooling. Dampers on the air handlers are digital and controlled by the EMS system. There are VFDs for all supply and return AHU motors. The equipment is functioning adequately. No further action is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 New Motor	8.0 - ea	1993.5	OP - Energy	Priority 1	2015	15,948

Item	Description
D3041.1 Air Handling Units	D3041.1 AHU 24000-27000 CFM
Condition	Good
Qty / UOM	2 / EA
RUL (years)	11
Location	Building A - Mechanical Rooms

OBSERVATIONS/COMMENTS:

Multiple air handlers supply the fan coils and VAV boxes located in building with desired air temperature based on the call for heating or cooling from the zonal temperature sensors. All air handling units (AHUs) are equipped with 2-pipe hot water supply (HWS) or chilled water supply (CWS) loop for heating or cooling. Dampers on the AHUs are all digital and are controlled by the energy management system (EMS). Variable frequency drives (VFDs) for all supply and return AHU motors are also controlled by the EMS. Based on expected life, motor replacements are anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 New Motor	4.0 - ea	2798.0	OP - Energy	Priority 1	2015	11,192

Item	Description
D3041.2 Terminal Units VAV	D3041 VAV Boxes
Condition	Fair
Qty / UOM	500 / EA
RUL (years)	17
Location	All Buildings

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by variable air volume (VAV) boxes supplied with conditioned air from the central system air handlers. They supply the multiple diffusers located in office spaces. Some have reheat coils. The CFM range is from 200 - 2700 CFM for the boxes. The equipment is functioning adequately. No further action is required.

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Air Relief Vent
Condition	Good
Qty / UOM	4 / EA
RUL (years)	17
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

Gravity relief vents for AHU-1 and AHU-2 function on pressure differential between the inside and outside air. The vents do not have moving parts. No further action is required.

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust fan 15000 cfm
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	6
Location	Building C Roof

OBSERVATIONS/COMMENTS:

Exhaust fans on the roof are connected to the HVAC duct system and exhaust air out of the building to keep the building in balance with the supply air. This is used to exhaust air when the generator operates. The majority of the fans are belt driven. Replacement of the belts and motors is done by the maintenance staff on as-needed basis. Replacement with direct drive fans is recommended.

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Unit Exhaust Fan (1/4 hp)
Condition	Poor - Fair
Qty / UOM	3 / EA
RUL (years)	7
Location	Building C Roof

OBSERVATIONS/COMMENTS:

Exhaust fans on the roof are connected to the HVAC duct system and exhaust air out of the building to maintain balance with the supply air. The majority of the fans are belt driven. Replacement of the belts and motors is accomplished by the maintenance staff on an as-needed basis. Replacement with direct drive fans is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	Replace D3042 Unit Exhaust Fan (1/4 hp)	3.0 - EA	1391.3	IN - Beyond Rated Life	Priority 4	2022	4,174

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Fan 1/2 hp
Condition	Poor - Fair
Qty / UOM	1 / EA
RUL (years)	3
Location	Building C Roof

OBSERVATIONS/COMMENTS:

Exhaust fans on the roof are connected to the HVAC duct system and exhaust air out of the building to keep the building in balance with the supply air. Majority of the fans are belt driven. Replacement of the belts and motors is done by the maintenance staff on as-needed basis. Replacement with direct drive fans is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	Replace D3042 Exhaust Fan 1/2 hp	1.0 - EA	1391.3	IN - Beyond Rated Life	Priority 2	2018	1,391

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Fan upto 400 CFM
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	12
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

Roof mounted exhaust fans are connected to the HVAC duct system and exhaust air to keep the building in balance with the supply air. The majority of the fans are belt driven. Replacement of the belts and motors is done by the maintenance staff on as-needed basis. Replacement with direct drive fans or motors is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	D3042 New Motor	1.0 - ea	831.0	OP - Energy	Priority 1	2015	831

Item	Description
D3044 Hot Water Distribution	D3023 Expansion Tank 5 Gal
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	A-Mechanical Rooms

OBSERVATIONS/COMMENTS:

The expansion tank for the domestic hot water system protects it from excessive pressure. No further action is required.

Item	Description
D3044 Hot Water Distribution	D3023 Expansion Tank 5 Gal
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building B - Roof

OBSERVATIONS/COMMENTS:

The expansion tank for the closed loop HVAC hot water system protects system from excessive pressure. No further action is required.

Item	Description
D3051 Terminal Self-Contained Units	D3040 Roof Mini-Split system Ductless 3-Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Building A - Roof

OBSERVATIONS/COMMENTS:

The mini-split ductless system provides cooling for the Uninterruptible Power Supply (UPS) room. The temperature is maintained at 76F. Based on estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3051	Replace D3040 Roof Mini-Split system Ductless 3-Ton	1.0 - EA	16197.0	IN - Beyond Rated Life	Priority 3	2019	16,197

Item	Description
D3051 Terminal Self-Contained Units	D3051 Mini-Split system Ductless 1.5 Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	4
Location	Building C Roof

OBSERVATIONS/COMMENTS:

The ductless mini-split system provides cooling for the electrical room. Based on its estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3051	Replace D3051 Mini-Split system Ductless 1.5 Ton	1.0 - EA	16197.0	IN - Beyond Rated Life	Priority 3	2019	16,197

Item	Description
D3051 Terminal Self-Contained Units	D3051 Fan Coil 1-4 tons cooling
Condition	Good
Qty / UOM	17 / EA
RUL (years)	5
Location	All Buildings

OBSERVATIONS/COMMENTS:

Fan coil units provide conditioned air to all telecom and electrical rooms. All rooms are maintained at 76F. Fan coils are ceiling mounted above acoustic tiles. Based on estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3051	Replace D3051 Fan Coil 1-4 tons cooling	17.0 - EA	3736.2	IN - Beyond Rated Life	Priority 3	2020	63,516

Item	Description
D3051 Terminal Self-Contained Units	D3051 Fan Coil 1-2 tons cooling
Condition	Good
Qty / UOM	1 / EA
RUL (years)	11
Location	Building C

OBSERVATIONS/COMMENTS:

The fan coil unit provides conditioned air to multiple diffusers in the chiller room. No further action is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3051	D3051 new motor	1.0 - ea	831.0	OP - Energy	Priority 1	2015	831

Item	Description
D3052 Package Units	D3052 Packaged Units, Gas Heat, 2-Ton Cooling
Condition	Good
Qty / UOM	1 / EA
RUL (years)	6
Location	Building C Roof

OBSERVATIONS/COMMENTS:

Packaged rooftop units provide additional cooling or heating to the office areas in the central plant. Based on their estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3052	Replace D3052 Packaged Units, Gas Heat, 2-Ton Cooling	1.0 - EA	15625.3	IN - Beyond Rated Life	Priority 3	2021	15,625

Item	Description
D3052 Package Units	D3052 Computer Room A/C Units, 5 Ton
Condition	Good
Qty / UOM	2 / EA
RUL (years)	7
Location	A-Computer and Data Room

OBSERVATIONS/COMMENTS:

Liebert computer room air condition units provide cooling for the computer/data rooms. The units are original to the building and based on estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3052	Replace D3052 Computer Room A/C Units, 5 Ton	2.0 - EA	18440.8	IN - Beyond Rated Life	Priority 4	2022	36,882

Item	Description
D3052 Package Units	D3052 Horizontal Row cooler 8.6 Ton
Condition	Good
Qty / UOM	5 / EA
RUL (years)	7
Location	Building A - Computer and Data Room

OBSERVATIONS/COMMENTS:

The Liebert XDH cooling module is designed to be placed within a row of server enclosures in a hot-aisle/cold-aisle arrangement. Warmer air from the enclosures is drawn in through the rear of the unit, cooled and blown into the cold aisle in a diffuse pattern. The cooling air is then drawn into the enclosures to cool the equipment. The unit has dual refrigeration circuits, one in the upper half of the unit and the other in the lower half. This permits increasing and decreasing cooling levels in response to server room conditions. Controls on the front of the XDH permit independent operation of the two banks of fans. The system does not need a drain connection. A condensate pan under each refrigeration unit collects the small amount of moisture expected in the server room. Based on their estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3052	Replace D3052 Horizontal Row cooler 8.6 Ton	5.0 - EA	18440.8	IN - Beyond Rated Life	Priority 4	2022	92,204

Item	Description
D3068 Building Automation Systems	D3068 Direct Digital Controls
Condition	Fair - Good
Qty / UOM	117704 / SF
RUL (years)	2
Location	All Buildings

OBSERVATIONS/COMMENTS:

All buildings' HVAC equipment run on direct digital control (DDC) system tied into the EMS (Metasys). There are some pneumatic controls still used in the central plant. Most of the system is original to the building. Upgrade of DDC system is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3068	Replace D3068 Direct Digital Controls	117,704.0 - SF	8.2	FN - Modernization	Priority 2	2017	969,128

Item	Description
D3091 Special Cooling Systems & Devices	D3041 York Refrigerant recovery unit 1 hp
Condition	Good
Qty / UOM	1 / EA
RUL (years)	17
Location	Building C

OBSERVATIONS/COMMENTS:

The refrigerant recovery unit for York chillers has a 1-HP vacuum pump. No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
D30 HVAC	2015	\$28,802
D30 HVAC	2017	\$996,094
D30 HVAC	2018	\$1,391
D30 HVAC	2019	\$233,103
D30 HVAC	2020	\$196,914
D30 HVAC	2021	\$157,691
D30 HVAC	2022	\$276,284

D40 FIRE PROTECTION SYSTEMS

Fire and Life Safety System	
Item	Description
Fire Alarm System Components Present	
Smoke detectors	Yes
Pull stations	Yes
Audible alarms	Yes
Strobe lights	Yes
Central fire alarm panel	Yes
Annunciator panel	Yes
Smoke Detectors Power Supply	Hardwired Electric
Carbon Monoxide Detectors	N/A
Heat Detector	N/A
Central Fire Alarm Panel Location	Main Lobby Entrance
Annunciator Panel Location	N/A
Fire Extinguishers	Yes
Fire Extinguisher Inspection Date	December 9, 2014
Distance to Nearest Fire Hydrant (ft)	50
Illuminated Exit Signs	Yes
Kitchen Suppression Systems	No
Halon Gas Systems	Yes
Smoke Evacuation Systems	No
Fire-rated Stairwells	No
Fire-rated Stairwell Finish	N/A
Stairwell Discharge	Exterior of the building at Grade
Stairwell Pressurized	No
Fire-Rated Doors Observed	Yes
Location of Fire-Rated Doors	Stairwells
Fire Alarm Service Company	N/A
Date of Last Fire Alarm Service	N/A
Are the individual office unit fire alarm systems monitored?	No
Are the common area fire alarm systems monitored?	No
Types of Common Areas Monitored	N/A
Fire Alarm Monitoring Company	N/A

Item	Description
D4011 Sprinkler Water Supply	D4011 Wet-Pipe Sprinkler System
Condition	Good
Qty / UOM	117704 / SF
RUL (years)	12
Location	All Buildings

OBSERVATIONS/COMMENTS:

The wet pipe sprinkler system is located throughout the facility office spaces and computer data room in Building A. The system is original to the building. No further action is required.

Item	Description
D4012 Sprinkler Pumping Equipment	D4012 Jockey pump (1.5hp)
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

The jockey pump serves to maintain 75 psi pressure within the system. No further action is required.

Item	Description
D4012 Sprinkler Pumping Equipment	D4012 Fire pump (30 hp)
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

One 30-HP fire pump supplies water to all buildings in case of fire emergency. The pump is tested once a week. No further action is required.

Item	Description
D4090 Other Fire Protection Systems	D4090 Fire damper motor 2 hp
Condition	Poor
Qty / UOM	10 / EA
RUL (years)	0
Location	All Buildings

OBSERVATIONS/COMMENTS:

Fire damper motors located at various areas in the building fail once opened and do not reset to their original position. It is an ongoing process to replace these motors. Reportedly, 15 motors have been replaced and 10 more are still in need.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D4090	D4090 motor replace	10.0 - ea	831.0	CC - Life Safety	Priority 1	2015	8,310

Item	Description
D4091 Carbon Dioxide Systems	D4091 FM200 with Tank
Condition	Good
Qty / UOM	1 / EA
RUL (years)	11
Location	Building A - Computer and Data Room

OBSERVATIONS/COMMENTS:

FM 200 fire suppression agent is stored in a tank. It is specifically designed for the computer room. Based on its estimated RUL, replacement is anticipated.

COST SUMMARY:

Type	Year	Total Expenditures
D40 Fire Protection Systems	2015	\$8,310

D50 ELECTRICAL SYSTEMS

Item	Description
D5011 High Tension Service & Dist.	D5011 Main Dry Transformer
Condition	Good
Qty / UOM	3 / EA
RUL (years)	17
Location	All Exterior

OBSERVATIONS/COMMENTS:

The transformers for all buildings are original equipment. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Dry Transformer 30 kVA
Condition	Good
Qty / UOM	2 / EA
RUL (years)	17
Location	A & B Electrical Rooms

OBSERVATIONS/COMMENTS:

The secondary transformers in all electrical rooms are original equipment. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Dry Transformer 112.5 kVA
Condition	Good
Qty / UOM	2 / EA
RUL (years)	17
Location	A & B Electrical Rooms

OBSERVATIONS/COMMENTS:

The secondary transformers in all electrical rooms are original equipment. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Dry Transformer 45 kVA
Condition	Good
Qty / UOM	6 / EA
RUL (years)	17
Location	Buildings A & B - Electrical Rooms

OBSERVATIONS/COMMENTS:

The secondary transformers in all electrical rooms are original equipment. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel <250 Amps
Condition	Fair - Good
Qty / UOM	30 / EA
RUL (years)	11
Location	A & B Electrical Rooms

OBSERVATIONS/COMMENTS:

The breaker panels in all electrical rooms are original equipment. The electrical service is reportedly adequate. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Emergency Switchgear 1600 Amps
Condition	Good
Qty / UOM	1 / EA
RUL (years)	11
Location	Building C

OBSERVATIONS/COMMENTS:

The main emergency switchgear is original equipment. The electrical service is reportedly adequate. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Switchgear 2500 Amps
Condition	Good
Qty / UOM	2 / EA
RUL (years)	11
Location	Building C

OBSERVATIONS/COMMENTS:

The main switchgear is original equipment. The electrical service is reportedly adequate. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel 400 <1600 Amps
Condition	Fair - Good
Qty / UOM	9 / EA
RUL (years)	11
Location	A & B Electrical Rooms

OBSERVATIONS/COMMENTS:

The breaker panels in all electrical rooms are original equipment. The electrical service is reportedly adequate. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Dry Transformer 150 kVA
Condition	Good
Qty / UOM	2 / EA
RUL (years)	17
Location	Buildings A & B - Electrical Rooms

OBSERVATIONS/COMMENTS:

The secondary transformers in all electrical rooms are original equipment. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Emergency Distribution Panel, 1200 Amp
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

The emergency breaker panels in the central plant are original equipment. No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel 250<400 Amps
Condition	Fair - Good
Qty / UOM	13 / EA
RUL (years)	11
Location	A & B Electrical Rooms

OBSERVATIONS/COMMENTS:

The breaker panels in all electrical rooms are original. No further action is required.

Item	Description
D5021 Branch Wiring Devices	D5021 Motion Sensor Lighting Control
Condition	Poor - Fair
Qty / UOM	7 / EA
RUL (years)	5
Location	Buildings A & B - Telecom Room

OBSERVATIONS/COMMENTS:

There are occupancy wall sensor for all the fixtures inside rooms and telecom spaces. Most were operating properly. Based on their RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5021	Replace D5021 Motion Sensor Lighting Control	7.0 - EA	219.1	IN - Beyond Rated Life	Priority 3	2020	1,533

Item	Description
D5021 Branch Wiring Devices	D5021 Lighting Control Unit
Condition	Poor - Fair
Qty / UOM	117704 / SF
RUL (years)	0
Location	Buildings A & B - Electrical Rooms

OBSERVATIONS/COMMENTS:

The unit provides lighting control on each floor. Based on its RUL is recommended for an upgrade and to be tied into the EMS.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5021	Replace D5021 Lighting Control Unit	117,704.0 - SF	0.4	OP - Energy	Priority 1	2015	41,667

Item	Description
D5022 Lighting Equipment	D5022 T8 Lamps and Instant Electronic Ballast
Condition	Good
Qty / UOM	968 / EA
RUL (years)	7
Location	All buildings

OBSERVATIONS/COMMENTS:

Replace lighting in conjunction with suspended ceiling tile replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5022	Replace D5022 T8 Lamps and Instant Electronic Ballast	968.0 - EA	401.2	FN - Modernization	Priority 4	2022	388,362

Item	Description
D5022 Lighting Equipment	D5022 Wall Pack 70 W HPS
Condition	Poor - Fair
Qty / UOM	10 / EA
RUL (years)	0
Location	All Exterior

OBSERVATIONS/COMMENTS:

Exterior wall packs around the property are centrally controlled. Replacement with less wattage and more efficient lighting is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5022	Replace D5022 Wall Pack 70 W HPS	10.0 - EA	1206.0	OP - Energy	Priority 1	2015	12,060

Item	Description
D5022 Lighting Equipment	D5022 Canopies 70 W HPS
Condition	Poor - Fair
Qty / UOM	3 / EA
RUL (years)	0
Location	All Exterior

OBSERVATIONS/COMMENTS:

Canopy lighting in the east side of central plant are high pressure sodium (HPS) lighting. Upgrade to lower wattage light-emitting diode (LED) is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5022	Replace D5022 Canopies 70 W HPS	3.0 - EA	1206.0	OP - Energy	Priority 1	2015	3,618

Item	Description
D5022 Lighting Equipment	D5022 Wall Pack 70 W LED
Condition	Poor
Qty / UOM	1 / EA
RUL (years)	5
Location	Site

OBSERVATIONS/COMMENTS:

Three LED wall packs on the west side of Building-A are functional except one. Replacement is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5022	Replace D5022 Wall Pack 70 W LED	1.0 - EA	1206.0	OP - Energy	Priority 3	2020	1,206

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm Panel
Condition	Good
Qty / UOM	1 / EA
RUL (years)	2
Location	All Buildings

OBSERVATIONS/COMMENTS:

The fire alarm central panel is located in the main lobby. It notifies the central computer panel, which distributes the information. Based on its RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5037	Replace D5037 Fire Alarm Panel	1.0 - EA	9402.5	CC - Life Safety	Priority 1	2017	9,403

Item	Description
D5037 Fire Alarm Systems	D5037 Central Panel and Fire Pump Control
Condition	Good
Qty / UOM	1 / EA
RUL (years)	7
Location	Building C

OBSERVATIONS/COMMENTS:

The central panel controls the operation of the fire pump and is installed at the central plant. Based on its estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5037	Replace D5037 Central Panel and Fire Pump Control	1.0 - EA	10158.2	CC - Life Safety	Priority 3	2022	10,158

Item	Description
D5092 Emergency Light & Power Systems	D5092 Diesel Generator 500 KW
Condition	Good
Qty / UOM	1 / EA
RUL (years)	17
Location	Building C
Generator Fuel	Diesel
Power Rating kVA	1560

OBSERVATIONS/COMMENTS:

The generator serves all building backup emergency services and lighting. It was installed in 2007 as a backup to the main generator. The unit is tested monthly according to building staff. No further action is required.

Item	Description
D5092 Emergency Light & Power Systems	D5092 Diesel Generator 1000 KW
Condition	Good
Qty / UOM	1 / EA
RUL (years)	27
Location	Building C
Generator Fuel	Diesel
Power Rating kVA	1560

OBSERVATIONS/COMMENTS:

The generator provides emergency backup services and lighting for the building. The unit is tested monthly according to building staff. No further action is required.

Item	Description
D5092 Emergency Light & Power Systems	D5092 Ups System Battery backup
Condition	Good
Qty / UOM	1 / EA

Item	Description
RUL (years)	7
Location	Building A - UPS Room

OBSERVATIONS/COMMENTS:

The UPS battery backup rated at 65 kVA serves the computer room and other emergency devices as backup power. Tivo Electric is the service contractor and service is performed each year. Based on estimated RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5092	Replace D5092 Ups System Battery backup	1.0 - EA	9189.2	IN - Beyond Rated Life	Priority 4	2022	9,189

COST SUMMARY:

Type	Year	Total Expenditures
D50 Electrical Systems	2015	\$57,346
D50 Electrical Systems	2017	\$9,403
D50 Electrical Systems	2020	\$2,739
D50 Electrical Systems	2022	\$407,709

E Equipment & Furnishing Systems

E20 FURNISHINGS

Common Area Fixtures Furnishings and Equipment (FF&E)	
Item	Description
Dining Room Chairs Present	N/A
Desks Present	N/A
Tables Present	N/A
Entertainment Center Present	N/A
Sofa Present	N/A
Living Room Chairs Present	N/A
Exercise Equipment Present	N/A
Fixed Artwork Present	N/A
Fixed Casework Present	N/A
Blinds and Other Window Treatments Present	N/A

Item	Description
E2012 Fixed Casework	E2012 Cabinet Repairs
Condition	Fair - Good
Qty / UOM	6 / EACH
RUL (years)	1
Location	Kitchens

OBSERVATIONS/COMMENTS:

Some softness in the wood occurs beneath the sinks at piping openings. Repair is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
E2012	Replace E2012 Cabinet Repairs	6.0 - EACH	372.0	IN - Beyond Rated Life	Priority 3	2016	2,232

COST SUMMARY:

Type	Year	Total Expenditures
E20 Furnishings	2016	\$2,232

G Building Sitework Systems

G20 SITE IMPROVEMENTS

Site Information	
Item	Description
Main Ingress and Egress	Schriever Avenue
Access from	N
Additional Entrances	Old Placerville Road
Access from	W
Parking Count: Open lot	535
Parking Count: Sheltered by carports	0
Parking Count: Private garages	0
Parking Count: Subterranean garage	0
Parking Count: Freestanding parking structure	0
Number of ADA Compliant Spaces	11
Number of ADA Compliant Spaces for Vans	2
Method of obtaining parking count	Site plan
Property Identification Sign-Primary	Monument Sign
Property Identification Sign- Secondary	N/A
Illuminated Identification Signage	No
Building Identification Sign	Yes
Illuminated Sign	No
Location of Property ID Sign	Main entrance drive
Trees Present	Yes
Shrubs Present	Yes
Grasses Present	Yes
Flower beds Present	Yes
Decorative Rocks Present	No
Lava Rocks Present	No
Ponds Present	No
Fountains Present	No
Topography	Flat

Item	Description
G2012 Paving & Surfacing	G2012 Asphalt- seal coat
Condition	Fair
Qty / UOM	187250 / SF
RUL (years)	0
Location	Parking Lot

OBSERVATIONS/COMMENTS:

Some long cracks are present at most parking areas; however, no notable settlement or alligator cracking was observed. Based on RUL and condition, minor crack repair, seal coating, and striping is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2012	Reseal	187,250.0 - SF	0.8	IN - Beyond Rated Life	Priority 1	2015	148,602
G2012	Reseal	187,250.0 - SF	0.8	IN - Beyond Rated Life	Priority 1	2020	148,602

Item	Description
G2055 Planting	G2055 Landscaping
Condition	Good
Qty / UOM	150 / EA
RUL (years)	2
Location	Site

OBSERVATIONS/COMMENTS:

Shrubs and groundcover appear somewhat barren. Due to water conservation mandates, add drought tolerant (xeriscape) shrubs and ground cover.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2055	Replace G2055 Landscaping	150.0 - EA	62.0	IN - Beyond Rated Life	Priority 3	2017	9,300

Item	Description
G2057 Irrigation Systems	G2057 Irrigation system upgrade -exterior
Condition	Fair - Good
Qty / UOM	156902 / SF
RUL (years)	0
Location	Site

OBSERVATIONS/COMMENTS:

The landscaping and irrigation controls (WaterTronics) manage the zonal landscaping areas. Based on condition, an upgrade to the central control is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2057	Replace G2057 Irrigation system upgrade -exterior	156,902.0 - SF	0.6	FN - Modernization	Priority 2	2015	97,279

COST SUMMARY:

Type	Year	Total Expenditures
G20 Site Improvements	2015	\$245,881
G20 Site Improvements	2017	\$9,300
G20 Site Improvements	2020	\$148,602

G30 SITE CIVIL/MECHANICAL UTILITIES

Item	Description
G3063 Fuel Storage Tanks	G3063 Diesel Tank, 4000 Gallon
Condition	Good
Qty / UOM	1 / EA
RUL (years)	7
Location	Building C

OBSERVATIONS/COMMENTS:

The diesel storage tank serves the emergency generators. Based on its estimated RUL, replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G3063	Replace G3063 Diesel Tank, 4000 Gallon	1.0 - EA	36597.6	IN - Beyond Rated Life	Priority 4	2022	36,598

Item	Description
G3063 Fuel Storage Tanks	G3063 Diesel Tank, 1500 Gallon
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Building C

OBSERVATIONS/COMMENTS:

The diesel fuel tank serves the emergency generators. No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
G30 Site Civil/Mechanical Utilities	2022	\$36,598

G40 SITE ELECTRICAL UTILITIES

Item	Description
G4021 Fixtures & Transformers	G4021 Bollards 70W MH
Condition	Poor - Fair
Qty / UOM	6 / EA
RUL (years)	0
Location	All Exterior

OBSERVATIONS/COMMENTS:

The bollard lighting fixtures around the property are metal halide. The fixtures are original equipment. Based on the age and energy efficiency, lower wattage fixtures with higher lumens are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G4021	Replace G4021 Bollards 70W MH	6.0 - EA	1719.5	OP - Energy	Priority 2	2015	10,317

Item	Description
G4022 Poles	G4021 Pole Lamps 400 W
Condition	Good
Qty / UOM	60 / EA
RUL (years)	7
Location	All Exterior

OBSERVATIONS/COMMENTS:

Exterior lighting around the parking areas consists of high pressure sodium fixtures. The fixtures are original to the property. Based on the age and energy efficiency, lower wattage fixtures with higher lumens are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G4022	Replace G4021 Pole Lamps 400 W	60.0 - EA	3537.9	OP - Energy	Priority 4	2022	212,274

COST SUMMARY:

Type	Year	Total Expenditures
G40 Site Electrical Utilities	2015	\$10,317
G40 Site Electrical Utilities	2022	\$212,274

The weather at the time of the assessment was:

Item	Description
Approximate Outdoor Temperature (degrees F)	60
Weather Conditions	Cloudy
Snow Covering Ground	No
Wind Conditions	Little to no wind

The documentation provided at the time of the assessment is as:

Item	Description
Site Plan Reviewed	Yes
Floor Plan Reviewed	Yes
Construction Drawings Reviewed	Yes
Termite Inspection Report Reviewed	No
Boiler Certificates Reviewed	
Document Year Built Information Obtained From	Cal EMA website

APPENDIX C: CERTIFICATION

EMG has completed a FCA of the subject property listed on the cover page. The FCA was performed at the Client's request using methods and procedures consistent with good commercial and customary practice conforming with ASTM E2018-08, Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process. Within this Property Condition Report (PCR), EMG's reference to the Client follows the ASTM guide's definition of User, that is, the party that retains EMG for the preparation of a baseline FCA of the subject property.

This report is exclusively for the use and benefit of the Client identified on the first page of this report. The purpose for which this report shall be used shall be limited to the use as stated in the contract between the client and EMG.

The opinions EMG expresses in this report were formed utilizing the degree of skill and care ordinarily exercised by any prudent architect or engineer in the same community under similar circumstances. EMG assumes no responsibility or liability for the accuracy of information contained within this report that has been obtained from the Client or the Client's representatives, from other interested parties, or from the public domain. The conclusions presented represent EMG's professional judgment based on information obtained during the course of this assignment. EMG's evaluations, analyses, and opinions are not representations regarding the building design, structural soundness, or actual value of the property. Factual information regarding operations, conditions, and test data provided by the Client or the Client's representative has been assumed to be correct and complete. The conclusions presented within this report are based on the data provided, observations made, and conditions that existed specifically on the date of the assessment. EMG certifies that EMG has no undisclosed interest in the subject property, that EMG's relationship with the Client is at arms-length, and that EMG's employment and compensation are not contingent upon the findings or estimated costs to remedy any noted deficiencies due to deferred maintenance and/or any noted component or system replacements.

EMG's FCA cannot wholly eliminate the uncertainty regarding the presence of physical deficiencies and/or the performance of a subject property's building systems. Preparation of a FCA in accordance with ASTM E2018-08 is intended to reduce, but not eliminate, the uncertainty regarding the potential for component or system failure and to reduce the potential that such component or system failure may not be initially observed. This FCA was prepared recognizing the inherent subjective nature of EMG's opinions as to such issues as workmanship, quality of original installation, and estimating the remaining useful life of any given component or system. It should be understood that EMG's suggested remedy may be determined under time constraints or may be formed without the aid of engineering calculations, testing, exploratory probing, the removal of materials, or design. Furthermore, there may be other alternate or more appropriate schemes or methods to remedy the noted physical deficiencies. EMG's opinions are generally formed without detailed knowledge from individuals familiar with the performance of noted components or systems.

Any questions regarding this report should be directed to the Program Manager.

Prepared By: Timothy Harder, Field Observer

Reviewed By:



Matt Anderson, Program Manager

APPENDIX D: PHOTOS



:- Exterior Elevation



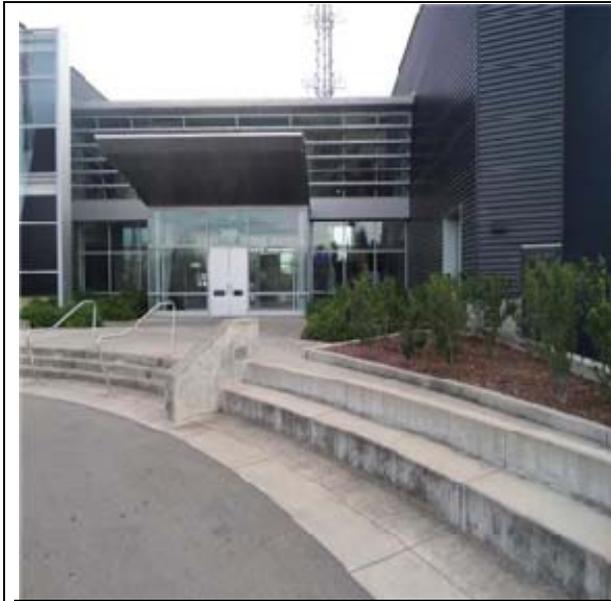
:- Glass Windows



:- Central Plant



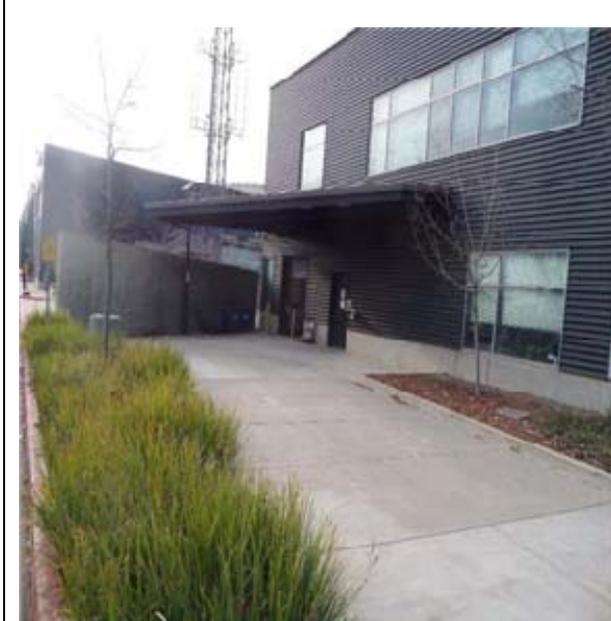
:- Parking Area



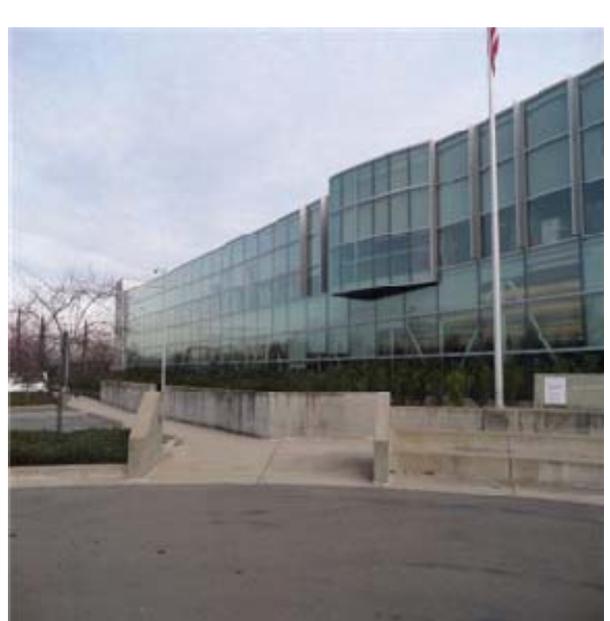
:- Main Entrance



:- Cooling Tower with Water Reclamation



:- Rear Entrance



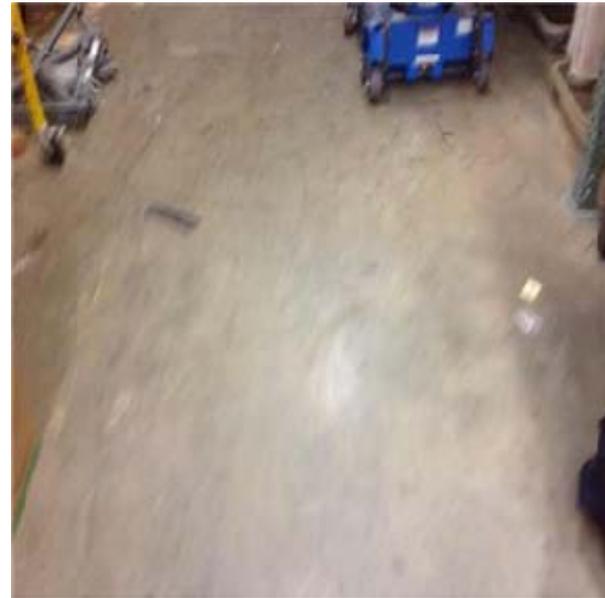
:- Glass wall



:- Solid wall finish



:- Accent color wall



A1030 Standard Concrete Slab



B1031 Structural Steel Columns and Beams Frame



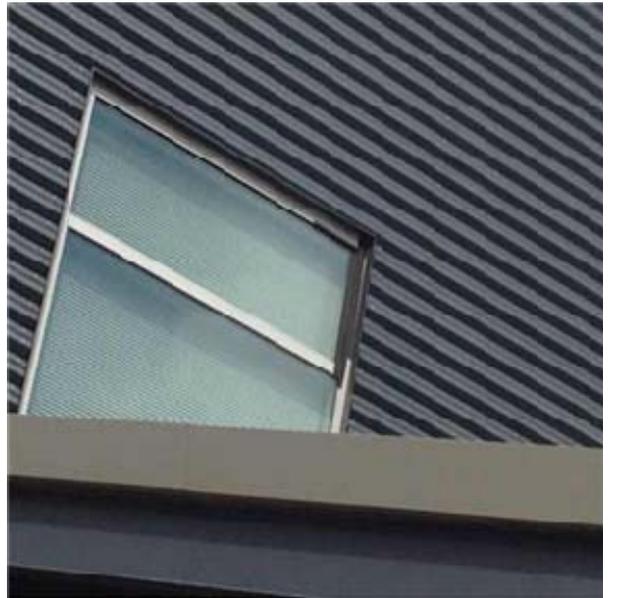
B2011 Finished Concrete Wall Wainscot



B2010 Siding - Metal Panel Siding



B2011 Reinforced Concrete Masonry Units



B2021 Window Gaskets



B3011 TPO Roof Replacement



B3011 Metal Low Slope Roofing, Total



C1021 Interior Doors



C3012 Repaint interiors



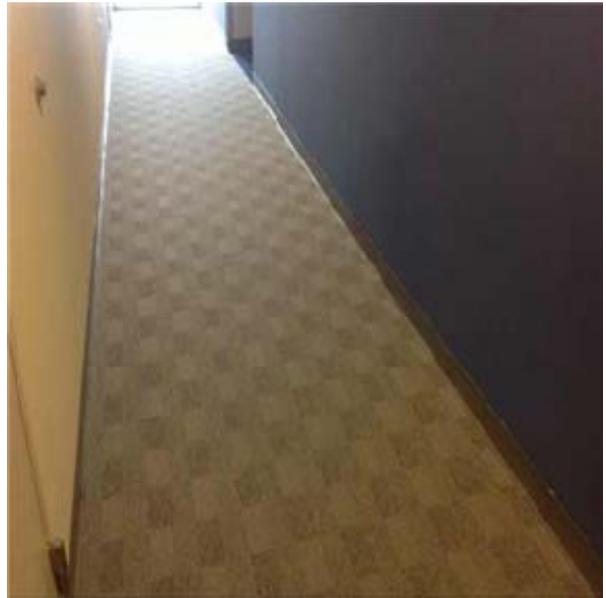
C3023 Seal Lobby Floor



C3024 Vinyl Tile:- server room



C3024 Ceramic Tile



C3025 Carpeting



C3032 Acoustical Tile With Exposed Grid System



C3033 Perforated Metal Panels Acoustical



D1011 Hydraulic Service Elevator 4500 lbs



D1011 Hydraulic Passenger Elevator 3000 lbs



D2011 Water Closet, 1.6 GPF Unit



D2012 Urinals



D2012 Countertop Lavatory



D2014 Kitchen Top Sink and Faucet



D2017 Stall Shower and Faucet



D2017 Stall Shower and Faucet



D2018 Drinking Fountain



D2022 DHW Heater - Gas 100 Gal



D2022 DHW Heater - Gas 81 Gal



D2023 Air Separator



D2023 DHW Distribution Pump 3 HP



D2023 DHW Distribution Pump 2 HP



D3021 Hydronic Gas Boilers (2000 MBH)



D3022.1 HW Secondary Water Circulation Pumps 5 HP



D3022.1 Chiller Condenser Pump 15 hp



D3022.1 Chiller Primary Pump 10 hp



D3022.1 Heating Primary Water Circulation Pumps 3 HP



D3022.1 Chiller Distribution Pump 15 hp



D3023 Expansion Tank (264 Gal)



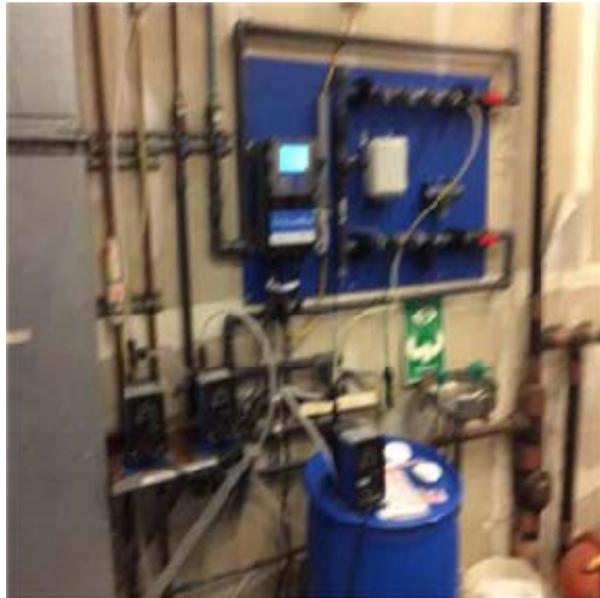
D3031.1 Chiller, Water Cooled, Screw-Type 200 Ton



D3031.1 Water cooled chiller 200 ton



D3031.2 Cooling Towers



D2094 Cooling Tower chemical water treatment



D3032 Air Cooled Condenser, 25 Ton



D3032 Air Cooled Condenser, 12 Ton



D3032 Air Cooled Condenser 7 tons



D3032 Air Cooled Condenser, 65 Ton



D3041.1 AHU 24000-27000 CFM



D3041.1 AHU 18000-20000 CFM



D3041 VAV Boxes



D3042 Exhaust Air Relief Vent



D3042 Exhaust Fan upto 400 CFM



D3042 Exhaust fan 15000 cfm



D3042 Unit Exhaust Fan (1/4 hp)



D3023 Expansion Tank 5 Gal



D3040 Roof Mini-Split system Ductless 3-Ton



D3051 Fan Coil 1-4 tons cooling



D3051 Mini-Split system Ductless 1.5 Ton



D3051 Mini-Split system Ductless 1.5 Ton



D3052 Packaged Units, Gas Heat, 2-Ton Cooling



D3052 Computer Room A/C Units, 5 Ton



D3068 Direct Digital Controls



D3041 York Refrigerant recovery unit 1 hp



D4011 Wet-Pipe Sprinkler System



D4012 Jockey pump (1.5hp)



D4012 Fire pump (30 hp)



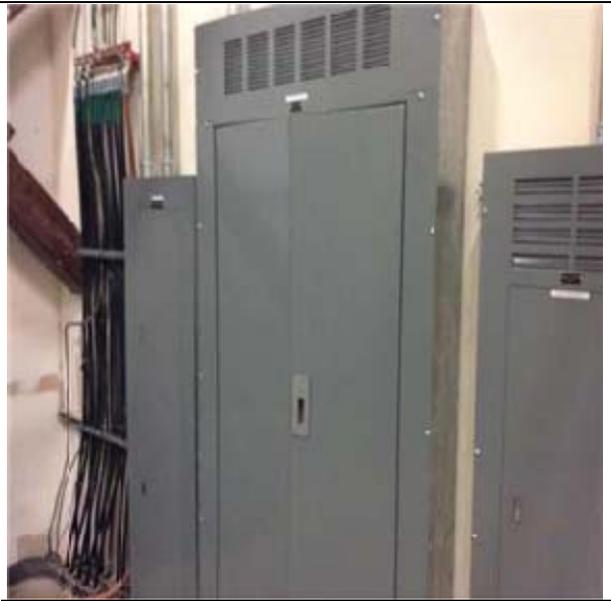
D4091 FM200 with Tank



D5011 Main Dry Transformer



D5012 Dry Transformer 30 kVA



D5012 Breaker Panel 400 <1600 Amps



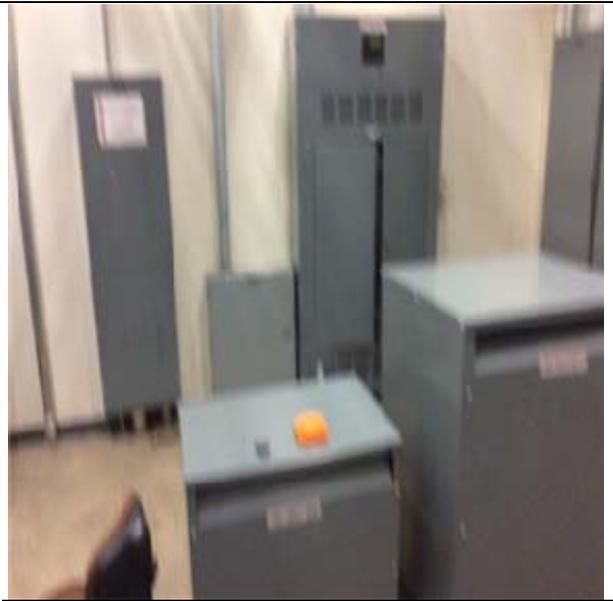
D5012 Breaker Panel <250 Amps



D5012 Breaker Panel 250<400 Amps



D5012 Emergency Switchgear 1600 Amps



D5012 Dry Transformer 112.5 kVA



D5012 Dry Transformer 45 kVA



D5012 Emergency Distribution Panel, 1200 Amp



D5012 Dry Transformer 150 kVA



D5012 Switchgear 2500 Amps



D5021 Motion Sensor Lighting Control



D5021 Lighting Control Unit



D5022 Wall Pack 70 W LED



D5022 Wall Pack 70 W HPS



D5022 Canopies 70 W HPS



D5037 Fire Alarm Panel



D5037 Central Panel and Fire Pump Control



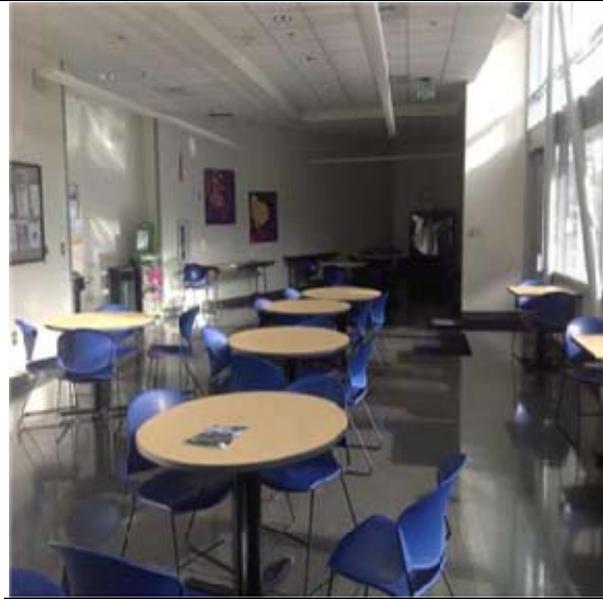
D5092 Diesel Generator 1000 KW



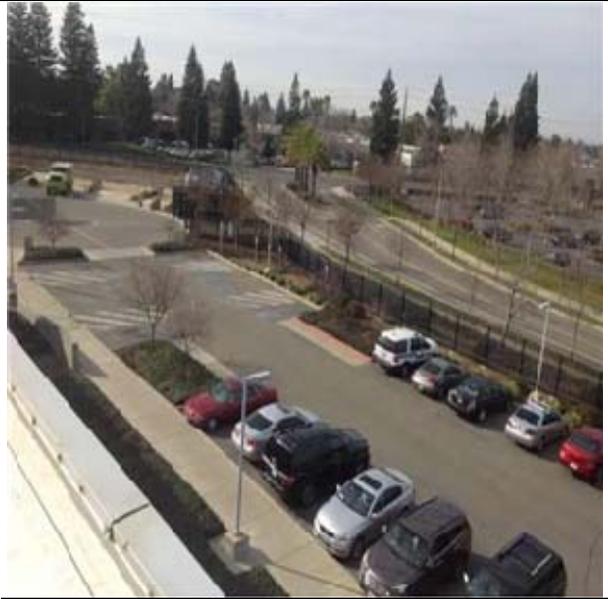
D5092 Diesel Generator 500 KW



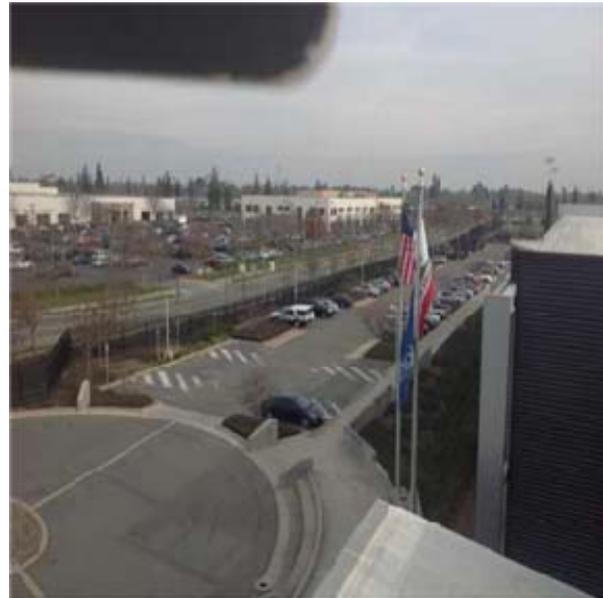
D5092 Ups System Battery backup



E2012 Cabinet Repairs



G2012 Asphalt- seal coat



G2055 Landscaping



G2057 Irrigation system upgrade -exterior



G3063 Diesel Tank, 1500 Gallon



G3063 Diesel Tank, 4000 Gallon



G4021 Bollards 70W MH



G4021 Pole Lamps 400 W

APPENDIX E: TERMINOLOGY AND ABBREVIATIONS

TERMINOLOGY and ABBREVIATIONS	
Actual Knowledge	Information or observations known first hand by EMG.
ADA	The Americans with Disabilities Act
AHU	Air Handling Unit
Ancillary Structures	Structures that are not the primary improvements of the Property but which may have been constructed to provide support uses.
ASTM	American Society for Testing and Materials
Baseline	A minimum scope level of observation, inquiry, research, documentation review, and cost estimating for conducting a Property Condition Assessment as normally conducted by EMG.
BOMA	Building Owners & Managers Association
Building	Referring to the primary building or buildings on the Property, which are within the scope of the FCA.
Building Codes	A compilation of rules adopted by the municipal, county and/or state governments having jurisdiction over the Property that govern the property's design &/or construction of buildings.
Building Department Records	Information concerning the Property's compliance with applicable Building, Fire and Zoning Codes that is readily available for use by EMG within the time frame required for production of the Property Condition Assessment.
Building Systems	Interacting or interdependent components that comprise a building such as structural, roofing, side wall, plumbing, HVAC, water, sanitary sewer and electrical systems.
BUR	Built Up Roof
CBC	California Building Code
Component	A piece of equipment or element in its entirety that is part of a system.
CFM	Cubic Feet per Minute, usually referring to air flow in a heating or cooling system.
Dangerous or Adverse Conditions	Situations which may pose a threat or possible injury to the Project Manager, or those situations which may require the use of special protective clothing, safety equipment, access equipment, or any precautionary measures.
Deferred Maintenance	Deficiencies that result from postponed maintenance, or repairs that have been put off until a later time and that require repair or replacement to an acceptable condition relative to the age of the system or property.
DHW	Domestic Hot Water
DDC	Direct Digital Controls, for HVAC systems
Dismantle	To take apart; disassemble; tear down any component, device or piece of equipment that is bolted, screwed, secured, or fastened by other means.
DWV	Drainage Waste Ventilation
EPDM	Ethylene propylene diene terpolymer, a single ply roofing material, usually black
EIFS	Exterior Insulation and Finish System
EMS	Energy Management System
Engineering	Analysis or design work requiring extensive formal education, preparation and experience in the use of mathematics, chemistry, physics, and the engineering sciences as provided by a Professional Engineer licensed to practice engineering by any state of the 50 states.
Expected Useful Life (EUL)	The average amount of time in years that a system or component is estimated to function when installed new.

TERMINOLOGY and ABBREVIATIONS	
FEMA	Federal Emergency Management Agency
Fire Department Records	Information generated or acquired by the Fire Department having jurisdiction over the Property, and that is readily available to EMG within the time frame required for production of the FCA.
FIRM	Flood Insurance Rate Maps
FM	Factory Mutual
FRT	Fire Retardant Treated
Guide	A series of options or instructions that do not recommend a specific course of action.
HP	Horse Power, a unit of measure for pumps and motors.
HVAC	Heating, Ventilating & Air Conditioning
IAQ	Indoor Air Quality
Immediate Repairs	Physical deficiencies that require immediate action as a result of: (i) existing or potentially material unsafe conditions, (ii) significant negative conditions impacting tenancy/marketability, (iii) material building code violations, or (iv) poor or deteriorated condition of critical element or system, or (v) a condition that if left "as is", with an extensive delay in addressing same, has the potential to result in or contribute to critical element or system failure within one (1) year.
Interviews	Interrogatory with those knowledgeable about the Property.
kVA	Kilo Volt Amps, a measurement used for electrical devices where Amps is the plural of Amperage, a measure of electrical force.
kW	One thousand Watts, a measure of electrical output.
Material	Having significant importance or great consequence to the asset's intended use or physical condition.
MEP	Mechanical, Electrical, and Plumbing
NFPA	National Fire Protection Association
Observations	The results of the Project Manager's Walk-through Survey.
Observe	The act of conducting a visual, unaided survey of items, systems or conditions that are readily accessible and easily visible on a given day as a result of the Project Manager's walk-through.
Obvious	That which is plain or evident; a condition that is readily accessible and can be easily seen by the Project Manager as a result of his Walk-through without the removal of materials, moving of chattel, or the aid of any instrument, device, or equipment.
Owner	The entity holding the deed to the Property that is the subject of the FCA.
Physical Deficiency	Patent, conspicuous defects, or significant deferred maintenance of the Property's material systems, components, or equipment as observed during the Project Manager's Walk-through Survey. Material systems, components, or equipment that are approaching, have realized, or have exceeded their typical Expected Useful Life (EUL); or, that have exceeded their useful life result of abuse, excessive wear and tear, exposure to the elements, or lack of proper or adequate maintenance. This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous repairs, normal operating maintenance, and conditions that do not present a material deficiency to the Property.
PVC	Poly Vinyl Chloride

TERMINOLOGY and ABBREVIATIONS	
Practically Reviewable	Information that is practically reviewable means that the information is provided by the source in a manner and form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data.
Practice	A definitive procedure for performing one or more specific operations or functions that does not produce a test result.
Primary Improvements	The site and building improvements that are of fundamental importance with respect to the Property.
Project Manager	The individual Professional Engineer, Contractor, or Registered Architect having a general, well rounded knowledge of all pertinent site and building systems and components that conducts the on site visit and walk-through observation.
Property	The site and building improvements, which are specifically within the scope of the FCA to be prepared in accordance with the agreement between the Client and EMG.
Readily Accessible	Those areas of the Property that are promptly made available for observation by the Project Manager without the removal of materials or chattel, or the aid of any instrument, device, or equipment at the time of the Walk-through Survey.
Reasonably Ascertainable	Information that is publicly available, provided to EMG's offices from either its source or an information research/retrieval concern, practically reviewable, and available at a nominal cost for either retrieval, reproduction or forwarding.
Recreational Facilities	Spas, saunas, steam baths, swimming pools, tennis courts, playground equipment, and other exercise, entertainment, or athletic facilities.
Remaining Useful Life (RUL)	<p>The consultant's professional opinion of the number of years before a system or component will require replacement or reconditioning. The estimate is based upon observation, available maintenance records, and accepted EUL's for similar items or systems.</p> <p>Inclement weather, exposure to the elements, demand on the system, quality of installation, extent of use, and the degree and quality of preventive maintenance exercised are all factors that could impact the RUL of a system or component. As a result, a system or component may have an effective age greater or less than its actual age. The RUL may be greater or less than its Expected Useful Life (EUL) less actual age.</p>
Replacement Costs	Costs to replace the system or component "in kind" based on Invoices or Bid Documents provided by the current owner or the client, construction costs developed by construction resources such as <i>Means</i> and <i>Dodge</i> , EMG's experience with past costs for similar properties, or the current owner's historical incurred costs.
RTU	Rooftop Unit
Shut-Down	Equipment or systems that are not operating at the time of the Project Manager's Walk-through Survey. Equipment or systems may be considered shutdown if it is not in operation as a result of seasonal temperatures.
Significant	Important, material, and/or serious.
Site Visit	The visit to the property by EMG's Project Manager including walk-through visual observations of the Property, interviews of available project personnel and tenants (if appropriate), review of available documents and interviews of available municipal personnel at municipal offices, all in accordance with the agreement for the Property Condition Assessment.

TERMINOLOGY and ABBREVIATIONS	
Specialty Consultants	Practitioners in the fields of engineering, architecture; or, building system mechanics, specialized service personnel or other specialized individuals that have experience in the maintenance and repair of a particular building component, equipment, or system that have acquired detailed, specialized knowledge in the design, assessment, operation, repair, or installation of the particular component, equipment, or system.
Structural Component	A component of the building, which supports non-variable forces or weights (dead loads) and variable forces or weights (live loads).
Suggested Remedy	A preliminary opinion as to a course of action to remedy or repair a physical deficiency. There may be alternate methods that may be more commensurate with the Client's requirements. Further investigation might make other schemes more appropriate or the suggested remedy unworkable. The suggested remedy may be to conduct further research or testing, or to employ Specialty Consultants to gain a better understanding of the cause, extent of a deficiency (whether observed or highly probable), and the appropriate remedy.
Survey	Observations as the result of a walk-through scan or reconnaissance to obtain information by EMG of the Property's readily accessible and easily visible components or systems.
System	A combination of interacting or interdependent components assembled to carry out one or more functions.
Technically Exhaustive	The use of measurements, instruments, testing, calculations, exploratory probing or discover, and/or other means to discover and/or troubleshoot Physical Deficiencies, develop scientific or Engineering findings, conclusions, and recommendations.
Term	Reserve Term: The number of years that Capital Reserves are projected for as specified in the Expenditure Forecast.
TPO	Thermoplastic polyolefin, a white single ply roofing material, usually white
Timely Access	Entry provided to the Project Manager at the time of his site visit.
UST	Underground Storage Tank
Walk-through Survey	The Project Manager's site visit of the Property consisting of his visual reconnaissance and scan of readily accessible and easily visible components and systems. This definition connotes that such a survey should not be considered in depth, and is to be conducted without the aid of special protective clothing, exploratory probing, removal of materials, testing, or the use of special equipment such as ladders, scaffolding, binoculars, moisture meters, air flow meters, or metering/testing equipment or devices of any kind. It is literally the Project Manager's walk of the Property and observations.

APPENDIX F: BUILDING FACT SHEET

CALIFORNIA OFFICE OF EMERGENCY SERVICES BUILDING FACT SHEET

3650 Schriever Avenue

Mather

Sacramento County

Category 3a - Low Priority - Specialty Building, Special Repairs and Maintenance

BUILDING INFORMATION

- Age: 12 years (completed in 2002)
- Size:* 2 2-story buildings and 1 1-story building
117,704 GSF 109,375 NUSF 109,375 Assigned SF
13.47 Acre Parcel
500 surface parking spaces
Capacity - 413 occupants
- Financial: General Fund monies used to construct the buildings
Billed by BPM for partial services only (not part of BRA)
Cal OES budgets for special repairs.
- LEED Status: Currently pursuing a LEED-EB Silver certification
- Tenants: One tenant Agency, building specifics include; Bldg A 2-story 45,470 GSF, Bldg B 2-story 63,905 GSF, and Bldg C 1-story 8,329 GSF



SPI Structure #: 45348-9
 Real Property #: 10357
 BPM #: 087

COMPLETED STUDIES AND SIGNIFICANT FINDINGS

A. 2009 American Disability Act Accessibility Compliance Survey

This survey indicated various areas of inaccessibility with a significant number involving major interior alterations including all drinking fountains, men's and women's showers in Building B, men's and women's toilet stall width in Building A, toilet and urinal height, handrails in stairs 1, 3, and 7 (two interior stairs and an exterior stair), and ramps.

B. 2009 Marx/Okubo Property Condition Assessment (For Sale-Leaseback)

This report noted some probable future repairs. The recommendations include a reserve for regularly scheduled crack, repair, seal coat, and restripe of asphalt pavement, address water infiltration at Building B south elevation sunscreen to window joints during periods of heavy wind-driven rain, and reserve to improve emergency generator ventilation system that is reportedly inadequate.

C 2012 Access Compliance Conceptual Budget/Evaluation

In follow up to the 2009 American Disability Act Accessibility Compliance Survey this report provides the Conceptual Cost and Path of Travel Plans. ADA upgrades have not been proposed for this building as part of the DGS's ten year ADA Compliance Upgrades and Deferred Special Repairs Program.

ADDITIONAL BUILDING ISSUES

Roof leaks with ongoing warranty issues from the original build-out, and window leaks.

CURRENT UTILIZATION PROJECTS

No planned utilization projects.

RECENTLY COMPLETED PROJECTS

TBD

Cost

ACTIVE PROJECTS

TBD

Cost

PLANNED SPECIAL REPAIRS BY FISCAL YEAR

TBD

Estimated Cost

DGS STRATEGY: Continue to operate/maintain the building as-is through the special repair/maintenance process; no capital outlay work is required at this building at this time.

* Source: Statewide Property Inventory

APPENDIX G: COST TABLES

10 YEAR EXPENDITURE FORECAST



Senator William P. Campbell Building California Office of Emergency Services

3650 Schreiber Avenue

Mather

Useful Life

Estimated Useful Life
Remaining Useful Life

Plan Type

OP: Operations	CC: Code Compliance
EN: Environmental	FN: Functionality
IN: Integrity	

Legend

Deferred
Scheduled

Element #	Component Description	Asset	Location	Action	EUL (Yrs)	RUL (Yrs)	Qty.	Unit of Meas.	Unit Cost	Plan Type	Priority	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total - Deferred	Total - Scheduled
												Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9		

A. SUBSTRUCTURE

												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Substructure Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

B. SHELL

B20 EXTERIOR ENCLOSURE

B2021	B2021 Windows	B2021 Window Gaskets	All Buildings	Repair/replace gaskets	15	1	300.00	LF	\$86.80	IN - Beyond Rated Life	Priority 1	\$0	\$26,040	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,040
-------	---------------	----------------------	---------------	------------------------	----	---	--------	----	---------	------------------------	------------	-----	----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----------

B30 ROOFING

B3011	B3011 Roof Finishes	B3011 TPO Roof Replacement	All Flat Roof Areas	D3011 Repair roof leaks	15	0	1.00	LS	\$2,850.00	OP - Maintenance	Priority 2	\$2,850	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,850	\$0
	B3011 Roof Finishes	B3011 TPO Roof Replacement	All Flat Roof Areas	Replace B3011 TPO Roof Replacement	20	5	563.00	SQ	\$1,697.93	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$955,932	\$0	\$0	\$0	\$0	\$0	\$0	\$955,932
Shell Subtotal												\$2,850	\$26,040	\$0	\$0	\$0	\$955,932	\$0	\$0	\$0	\$0	\$0	\$2,850	\$981,972

C. INTERIORS

C30 INTERIOR FINISHES

C3012	Drywall - Painted Finished Walls	C3012 Repaint interiors	All Buildings	Repaint interiors	10	3	51,000.00	SF	\$1.91	IN - Appearance	Priority 3	\$0	\$0	\$0	\$97,390	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$97,390
C3023	Seal Floor Coating	C3023 Seal Lobby Floor	Building A - Lobby	Replace C3023 Seal Lobby Floor	15	0	1,000.00	SF	\$5.05	IN - Appearance	Priority 2	\$5,050	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,050	\$0
C3024	Vinyl Tile	C3024 Vinyl Tile	Buildings A & B	Replace C3024 Vinyl Tile	18	5	3,000.00	SY	\$125.78	IN - Appearance	Priority 4	\$0	\$0	\$0	\$0	\$377,341	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$377,341
C3025	Carpet, Standard Commercial, Medium Traffic	C3025 Carpeting	Buildings A & B	Replace C3025 Carpeting	8	3	8,500.00	SY	\$96.61	IN - Appearance	Priority 3	\$0	\$0	\$0	\$821,148	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$821,148
C3032	Acoustical Tile With Exposed Grid System	C3032 Acoustical Tile With Exposed Grid System	All Buildings	Replace C3032 Acoustical Tile With Exposed Grid System	20	7	852.00	CSF	\$1,201.56	IN - Appearance	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,023,729	\$0	\$0	\$0	\$0	\$1,023,729
Interiors Subtotal												\$5,050	\$0	\$0	\$918,537	\$0	\$377,341	\$0	\$1,023,729	\$0	\$0	\$0	\$5,050	\$2,319,607

D. SERVICES

D10 CONVEYING SYSTEMS

D1011	Freight Elevator, Hydraulic Equipment, 4,000 Lb	D1011 Hydraulic Service Elevator 4500 lbs	Building B - Elevator Rooms	D1011 Repair car lanterns	15	0	2.00	EA	\$150.00	CC - Building Code	Priority 1	\$300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$300	\$0
	Freight Elevator, Hydraulic Equipment, 4,000 Lb	D1011 Hydraulic Service Elevator 4500 lbs	Building B - Elevator Rooms	Install Braille plate at phone	10	0	1.00	EA	\$100.00	CC - Accessibility	Priority 1	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100	\$0
	Freight Elevator, Hydraulic Equipment, 4,000 Lb	D1011 Hydraulic Service Elevator 4500 lbs	Building B - Elevator Rooms	Install handrails on the service car	15	0	2.00	EA	\$600.00	CC - Building Code	Priority 1	\$1,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,200	\$0
	Freight Elevator, Hydraulic Equipment, 4,000 Lb	D1011 Hydraulic Service Elevator 4500 lbs	Building B - Elevator Rooms	Remove plywood panelling, install fire rated wood	10	0	1.00	EA	\$4,000.00	CC - Building Code	Priority 1	\$4,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,000	\$0
D1011	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Hydraulic Passenger Elevator 3000 lbs	Building B - Elevator Rooms	D1011 Install Braille plates on phone	10	0	1.00	EA	\$100.00	CC - Accessibility	Priority 1	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100	\$0

D20 PLUMBING

D2011	Commercial Grade Water Closet With 1.6 Gpf Unit	D2011 Water Closet, 1.6 GPF Unit	All Buildings	D2011 Replace flush valve with automatic	20	0	30.00	ea	\$287.00	FN - Modernization	Priority 2	\$8,610	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,610	\$0	
D2012	Urinal	D2012 Urinals	All Buildings	D2012 Automatic flush valves	20	0	10.00	ea	\$287.00	FN - Modernization	Priority 2	\$2,870	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,870	\$0
D2013	Lavatory, Wall Hung Cultured Marble Top, Wheelchair Accessible, 20" X 27" w/ Fixture	D2012 Countertop Lavatory	All Buildings	D2012 Automatic valves	15	0	30.00	ea	\$287.00	FN - Modernization	Priority 2	\$8,610	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,610	\$0
D2014	Kitchen Sink And Faucet	D2014 Kitchen Top Sink and Faucet	All Buildings	Replace D2014 Kitchen Top Sink and Faucet	20	7	5.00	EA	\$2,946.41	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,732	\$0	\$0	\$0	\$0	\$14,732	
D2018	Drinking Fountain	D2018 Drinking Fountain	All Buildings	Replace D2018 Drinking Fountain	10	6	8.00	EA	\$2,876.60	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$23,013	\$0	\$0	\$0	\$0	\$0	\$0	\$23,013	
D2022	Domestic Hot Water Heater - Gas	D2022 DHW Heater - Gas 81 Gal	Building A - Mechanical Rooms	Replace D2022 DHW Heater - Gas 81 Gal	15	4	81.00	EA	\$144.43	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$11,699	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,699	
D2022	Domestic Hot Water Heater - Gas	D2022 DHW Heater - Gas 100 Gal	Building B - Roof	Replace D2022 DHW Heater - Gas 100 Gal	15	4	1.00	EA	\$20,378.60	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$20,379	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,379	
D2023	Air Separator	D2023 Air Separator	Building C	Replace D2023 Air Separator	20	7	2.00	EA	\$20,461.20	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,922	\$0	\$0	\$0	\$0	\$40,922	

D30 HVAC

D3022.1	Circulation Pump, 7 to 10 HP	D3022.1 Chiller Primary Pump 10 hp	Building C	Replace D3022.1 Chiller Primary Pump 10 hp	20	7	3.00	EA	\$19,837.20	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$59,512	\$0	\$0	\$0	\$0	\$59,512
D3022.1	Heating Water Distribution Pump 3 HP	D3022.1 Heating Primary Water Circulation Pumps 3 HP	Building C	Replace D3022.1 Heating Primary Water Circulation Pumps 3 HP	20	5	2.00	EA	\$17,557.95	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$35,116	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,116
D3022.1	Circulation Pump, 7 to 10 HP	D3022.1 Chiller Condenser Pump 15 hp	Building C	Replace D3022.1 Chiller Condenser Pump 15 hp	20	7	2.00	EA	\$23,836.63	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$47,673	\$0	\$0	\$0	\$0	\$47,673
D3022.1	Base-mounted circulating pumps (500 GPM, 20 HP)	D3022.1 Chiller Distribution Pump 15 hp	Building C	Replace D3022.1 Chiller Distribution Pump 15 hp	20	6	2.00	EA	\$71,033.07	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$142,066	\$0	\$0	\$0	\$0	\$0	\$0	\$142,066
D3022.1	Heating Water Distribution Pump 3 HP	D3022.1 HW Secondary Water Circulation Pumps 5 HP	Building C	Replace D3022.1 HW Secondary Water Circulation Pumps 5 HP	20	5	3.00	EA	\$17,557.95	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$52,674	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$52,674
D3031.2	Cooling Tower, Galvanized Steel, 254 Ton	D3031.2 Cooling Towers	Building C	D3031 Fan motors	20	2	4.00	ea	\$2,404.50	OP - Energy	Priority 2	\$0	\$0	\$9,618	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,618
D3031.2	D3031.2 Cooling Towers	D2094 Cooling Tower chemical water treatment	Building C	Replace D2094 Cooling Tower chemical water treatment	20	7	1.00	EA	\$35,840.00	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,840	\$0	\$0	\$0	\$0	\$0	\$35,840
D3032	Roof-Mounted Condenser 7.5-Ton	D3032 Air Cooled Condenser 7 tons	Building A - Roof	Replace D3032 Air Cooled Condenser 7 tons	15	2	1.00	EA	\$17,348.00	OP - Energy	Priority 2	\$0	\$0	\$17,348	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,348
D3032	Roof-Mounted Condenser 15-Ton	D3032 Air Cooled Condenser, 25 Ton	Building A - Roof	Replace D3032 Air Cooled Condenser, 25 Ton	15	4	1.00	EA	\$82,389.89	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$82,390	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$82,390
D3032	Air Cooled Condenser, 75 Ton	D3032 Air Cooled Condenser, 65 Ton	Building A - Roof	Replace D3032 Air Cooled Condenser, 65 Ton	15	4	1.00	EA	\$118,319.51	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$118,320	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$118,320
D3032	Roof-Mounted Condenser 15-Ton	D3032 Air Cooled Condenser, 12 Ton	Building A - Roof	Replace D3032 Air Cooled Condenser, 12 Ton	15	5	1.00	EA	\$45,608.69	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$45,609	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$45,609
D3041.1	Air Handler 18,000-20,000 CFM	D3041.1 AHU 18000-20000 CFM	Building B - Roof	D3041 New Motor	15	0	8.00	ea	\$1,993.50	OP - Energy	Priority 1	\$15,948	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,948
D3041.1	Air Handler 20,000-22,000 CFM	D3041.1 AHU 24000-27000 CFM	Building A - Mechanical Rooms	D3041 New Motor	15	0	4.00	ea	\$2,798.00	OP - Energy	Priority 1	\$11,192	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,192
D3042	Exhaust Fan 375 CFM	D3042 Exhaust Fan upto 400 CFM	Building A - Roof	D3042 New Motor	15	0	1.00	ea	\$831.00	OP - Energy	Priority 1	\$831	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$831
D3042	Unit Exhaust Fan	D3042 Exhaust Fan 1/2 hp	Building C Roof	Replace D3042 Exhaust Fan 1/2 hp	20	3	1.00	EA	\$1,391.28	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$1,391	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,391
D3042	Unit Exhaust Fan	D3042 Unit Exhaust Fan (1/4 hp)	Building C Roof	Replace D3042 Unit Exhaust Fan (1/4 hp)	20	7	3.00	EA	\$1,391.28	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,174	\$0	\$0	\$0	\$0	\$4,174
D3051	Split System Ductless Ceiling Mount 3-Ton	D3051 Mini-Split system Ductless 1.5 Ton	Building C Roof	Replace D3051 Mini-Split system Ductless 1.5 Ton	15	4	1.00	EA	\$16,197.03	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$16,197	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,197
D3051	Fan Coil with Cooling and Heat 1.5 Ton	D3051 Fan Coil 1-4 tons cooling	All Buildings	Replace D3051 Fan Coil 1-4 tons cooling	15	5	17.00	EA	\$3,736.22	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$63,516	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$63,516
D3051	Fan Coil with Cooling and Heat 1.5 Ton	D3051 Fan Coil 1-2 tons cooling	Building C	D3051 new motor	15	0	1.00	ea	\$831.00	OP - Energy	Priority 1	\$831	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$831
D3051	Split System Ductless Ceiling Mount 3-Ton	D3040 Roof Mini-Split system Ductless 3-Ton	Building A - Roof	Replace D3040 Roof Mini-Split system Ductless 3-Ton	15	4	1.00	EA	\$16,197.03	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$16,197	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,197
D3052	Package Units, Gas Heat, 2 Ton Cooling	D3052 Packaged Units, Gas Heat, 2-Ton Cooling	Building C Roof	Replace D3052 Packaged Units, Gas Heat, 2-Ton Cooling	15	6	1.00	EA	\$15,625.34	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,625	\$0	\$0	\$0	\$0	\$0	\$15,625
D3052	Air Conditioner, Dx Package (Liebert) 5-Ton	D																							

10 YEAR EXPENDITURE FORECAST



Senator William P. Campbell Building California Office of Emergency Services
 3650 Schreiber Avenue
 Mather

Useful Life ¹	Estimated Useful Life
	Remaining Useful Life

Plan Type ²	OP: Operations	CC: Code Compliance
	EN: Environmental	FN: Functionality
	IN: Integrity	

Legend	Deferred
	Scheduled

Element #	Component Description	Asset	Location	Action	EUL (Yrs)	RUL (Yrs)	Qty.	Unit of Meas.	Unit Cost	Plan Type	Priority ²	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total - Deferred	Total - Scheduled	
												Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9			
D4090	D4090 Other Fire Protection Systems	D4090 Fire damper motor 2 hp	All Buildings	D4090 motor replace	15	0	10.00	ea	\$831.00	CC - Life Safety	Priority 1	\$8,310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,310	\$0	
D50 ELECTRICAL SYSTEMS																								
D5021	Motion Sensor Lighting Control Installation	D5021 Motion Sensor Lighting Control	Buildings A & B - Telecom Room	Replace D5021 Motion Sensor Lighting Control	10	5	7.00	EA	\$219.06	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$1,533	\$0	\$0	\$0	\$0	\$0	\$0	\$1,533
D5021	Motion Sensor Lighting Control Installation	D5021 Lighting Control Unit	Buildings A & B - Electrical Rooms	Replace D5021 Lighting Control Unit	20	0	117,704.00	SF	\$0.35	OP - Energy	Priority 1	\$41,667	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$41,667	\$0
D5022	Wall Pack 70 Watt High Pressure Sodium	D5022 Canopies 70 W HPS	All Exterior	Replace D5022 Canopies 70 W HPS	10	0	3.00	EA	\$1,206.03	OP - Energy	Priority 1	\$3,618	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,618	\$0
D5022	Wall Pack 70 Watt High Pressure Sodium	D5022 Wall Pack 70 W LED	Site	Replace D5022 Wall Pack 70 W LED	10	5	1.00	EA	\$1,206.03	OP - Energy	Priority 3	\$0	\$0	\$0	\$0	\$0	\$1,206	\$0	\$0	\$0	\$0	\$0	\$0	\$1,206
D5022	Wall Pack 70 Watt High Pressure Sodium	D5022 Wall Pack 70 W HPS	All Exterior	Replace D5022 Wall Pack 70 W HPS	10	0	10.00	EA	\$1,206.03	OP - Energy	Priority 1	\$12,060	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,060
D5022	T12 Lamps, with T8 Lamps and Add Instant Start Electronic Ballasts	D5022 T8 Lamps and Instant Electronic Ballast	All buildings	Replace D5022 T8 Lamps and Instant Electronic Ballast	20	7	968.00	EA	\$401.20	FN - Modernization	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$388,362	\$0	\$0	\$0	\$0	\$388,362
D5037	Central Panel	D5037 Central Panel and Fire Pump Control	Building C	Replace D5037 Central Panel and Fire Pump Control	15	7	1.00	EA	\$10,158.24	CC - Life Safety	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,158	\$0	\$0	\$0	\$0	\$10,158
D5037	Fire Alarm Panel	D5037 Fire Alarm Panel	All Buildings	Replace D5037 Fire Alarm Panel	15	2	1.00	EA	\$9,402.52	CC - Life Safety	Priority 1	\$0	\$0	\$9,403	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,403
D5092	Ups Battery Transformer 1.0 kVA	D5092 Ups System Battery backup	Building A - UPS Room	Replace D5092 Ups System Battery backup	20	7	1.00	EA	\$9,189.18	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,189	\$0	\$0	\$0	\$0	\$9,189
Services Subtotal												\$120,248	\$0	\$1,005,496	\$1,391	\$265,181	\$199,654	\$180,704	\$739,648	\$0	\$0	\$120,248	\$2,392,074	

E. EQUIPMENT & FURNISHING																								
E20 FURNISHINGS																								
E2012	E2012 Fixed Casework	E2012 Cabinet Repairs	Kitchens	Replace E2012 Cabinet Repairs	15	1	6.00	EACH	\$372.00	IN - Beyond Rated Life	Priority 3	\$0	\$2,232	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,232
Equipment & Furnishing Subtotal												\$0	\$2,232	\$0	\$2,232									

F. SPECIAL CONSTRUCTION AND DEMOLITION																								
Special Construction And Demolition Subtotal												\$0												

G. BUILDING SITEWORK																								
G20 SITE IMPROVEMENTS																								
G2012	Asphalt- Seal Coat- Roadways	G2012 Asphalt- seal coat	Parking Lot	Reseal	5	0	187,250.00	SF	\$0.79	IN - Beyond Rated Life	Priority 1	\$148,602	\$0	\$0	\$0	\$0	\$148,602	\$0	\$0	\$0	\$0	\$0	\$148,602	\$148,602
G2055	G2055 Planting	G2055 Landscaping	Site	Replace G2055 Landscaping	25	2	150.00	EA	\$62.00	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$9,300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,300
G2057	Irrigation System, Install New, Large Areas	G2057 Irrigation system upgrade -exterior	Site	Replace G2057 Irrigation system upgrade -exterior	15	0	156,902.00	SF	\$0.62	FN - Modernization	Priority 2	\$97,279	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$97,279	\$0
G30 SITE CIVIL/MECHANICAL UTILITIES																								
G3063	Diesel Tank,Above Ground 150 Gallon	G3063 Diesel Tank, 4000 Gallon	Building C	Replace G3063 Diesel Tank, 4000 Gallon	20	7	1.00	EA	\$36,597.60	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,598	\$0	\$0	\$0	\$0	\$36,598
G40 SITE ELECTRICAL UTILITIES																								
G4021	Landscape Ground Mounted Uplight Fixture Only	G4021 Bollards 70W MH	All Exterior	Replace G4021 Bollards 70W MH	15	0	6.00	EA	\$1,719.53	OP - Energy	Priority 2	\$10,317	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,317	\$0
G4022	Pole-Mounted Light 400 W HPS Fixture Only	G4021 Pole Lamps 400 W	All Exterior	Replace G4021 Pole Lamps 400 W	20	7	60.00	EA	\$3,537.89	OP - Energy	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$212,274	\$0	\$0	\$0	\$0	\$212,274
Building Sitework Subtotal												\$256,198	\$0	\$9,300	\$0	\$0	\$148,602	\$0	\$248,871	\$0	\$0	\$256,198	\$406,773	

Z. GENERAL																								
General Subtotal												\$0												

Expenditure Totals per Year	\$384,346	\$28,272	\$1,014,796	\$919,928	\$265,181	\$1,681,528	\$180,704	\$2,012,248	\$0	\$0	\$384,346	\$6,102,658
Total Cost (Inflated @ 5% per Yr.)	\$384,346	\$29,686	\$1,118,813	\$1,064,932	\$322,329	\$2,146,103	\$242,161	\$2,831,433	\$0	\$0	Total *	\$6,487,004

* - Present Value Currency

Footnotes

- Detailed descriptions for Useful Life and Plan Type can be found in the Appendices of the Facility Condition
- Detailed Descriptions of the Priorities can be found in the Appendices of the Facility Condition Assessment

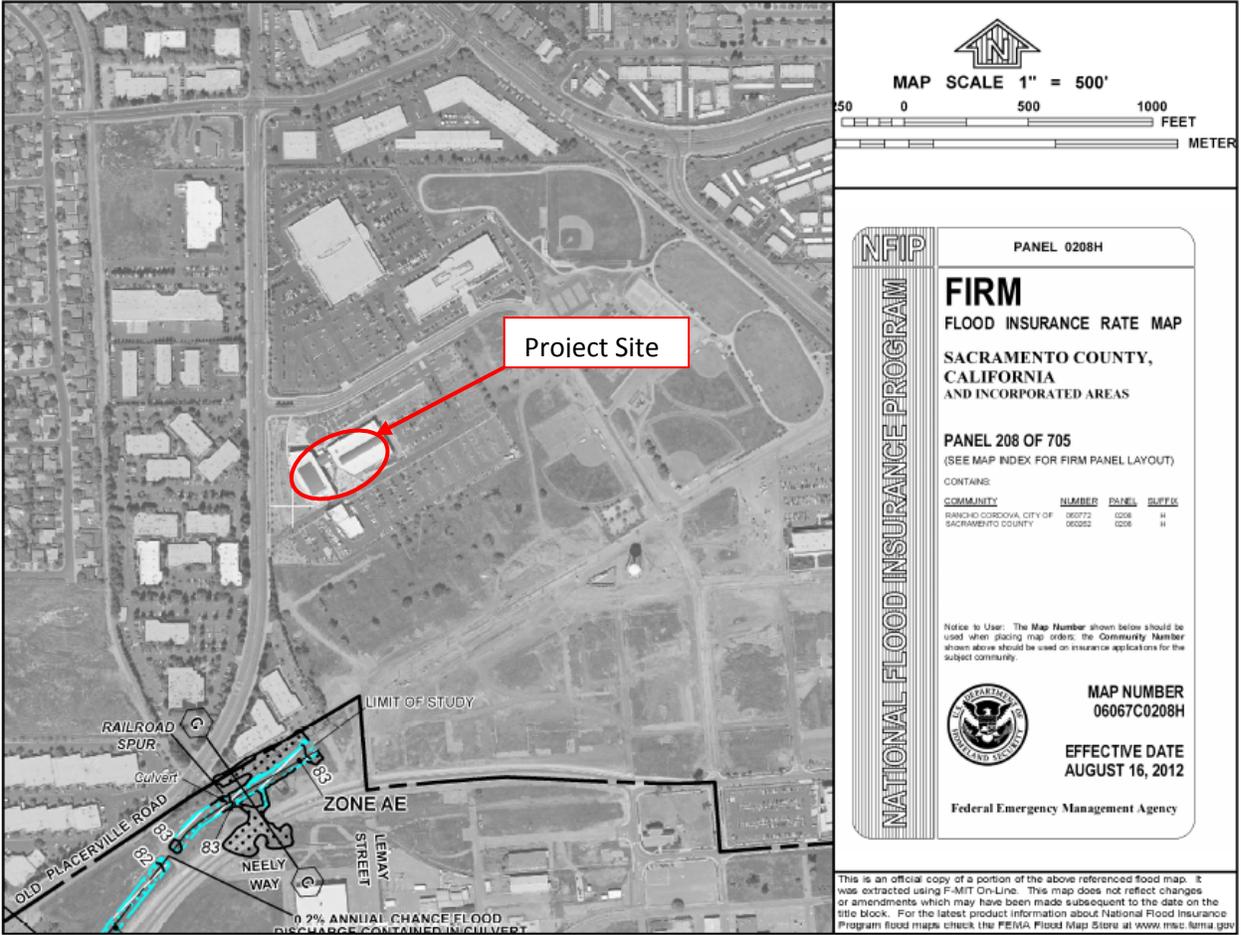
Current Repl.Value \$43,211,061

APPENDIX H: SUPPORTING DOCUMENTATION



	<p>Source:</p> <p>The north arrow indicator is an approximation of 0° North.</p>	<p>Project Number:</p> <p>111326.14R-019.305</p> <p>Project Name:</p> <p>Senator William P. Campbell Building California Office of Emergency Services</p>
		<p>On-Site Date:</p> <p>February 2, 2015</p>

Flood Map



SOURCE:

FEMA

Project Number:

111326.14R-019.305



Project Name:

**Senator William P. Campbell Building
California Office of Emergency
Services**

**Not drawn to scale. The north arrow
indicator is an approximation of 0° North.**

On-Site Date:

January 20, 2014

Estimate of Structures Cost Using Marshall Cost Systems			
Senator William P. Campbell Building California Office of Emergency Services (087)			
Site Calculation			
Estimate of Unusual Land Improvements Cost (Estimators Data Cost Base):			
Description	Cost	Estimated \$/ SF	Unusual Land Total
			\$0
Total			\$0
Estimate of Unusual Land Improvements Cost (Estimators Cost Data Base):			
Estimate of Structure Cost :			
Building Type	Cost per SF	Number of SF	Building Type Total
main building	\$293.69	117,704	\$34,568,849
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
Total		117,704	\$34,568,849
Estimate of Adjustments for Fees:			
Description	% increase		
Soft Costs	25.00%		
	0.00%		
	0.00%		
Total Fees/ Interest included in Marshall System			25.00%
Total Structure Estimate:			
Description	Unit	Fee Adjust	Adjusted Totals
main building	\$34,568,849	25.00%	\$43,211,061
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
Cost Per SF	\$367.12	Total Estimate	\$43,211,061

Expected Useful Life (EUL) Table	
SITE SYSTEM ITEMS	
ROADWAYS/ PARKING/ WALKWAYS	
Asphalt pavement	25
Asphalt seal coat	5
Concrete pavement	50
Curbing, asphalt	25
Curbing, concrete	50
Parking, stall striping	5
Parking, gravel surfaced	15
Security gate- rolling gate	10
Security gate- lift arm	10
Sidewalk, asphalt	25
Sidewalk, brick paver	30
Sidewalk, concrete	50
STORM SEWER, DRAINAGE AND EROSION CONTROL	
Catch basins, inlets, culverts	50
Earthwork, grading and erosion control	50
Storm drain lines	40
LANDSCAPING, TOPOGRAPHY AND FENCING	
Fencing, chain-link (4' height)	40
Fencing, dumpster enclosure (wood)	12
Fencing, Tennis Court (10' height)-Chain link	40
Fencing, wood privacy (6' height)	15
Fencing, wrought iron (4-6' height and decorative)	50
Fencing, concrete masonry unit (CMU)	30
Irrigation System	30
Retaining walls, 80 lb block type	50
Retaining walls, concrete masonry unit (CMU) with brick face	40
Fencing, PVC (6' height)	25
Retaining walls, timber (railroad tie)	25
SITE SYSTEM ITEMS	
GENERAL SITE IMPROVEMENTS	
Lighting (pole mounted)	25
Mail kiosk	10
Pool deck	15
Pool/ spa plaster liner	8
Signage, monument	20
Signage, roadway/ parking	10
Tennis court / basketball court surface (paint markings)	5

GENERAL SITE IMPROVEMENTS	
Tennis court Surface (acrylic emulsion)	10
Tot-lot (playground equipment)	10
SITE SANITARY AND WATER	
Domestic Hot Water (DHW) - supply / return	30
Lift station	50
Sanitary lines	50
Sanitary treatment	40
Water main	40
Water supply lines	50
Water tower	50
SITE MECHANICAL / ELECTRICAL	
Compactors	15
Dumpsters	10
Electrical distribution center	40
Electric main	40
Emergency Generator	25
Gas lines	40
Gas main	40
Heating supply/ return	40
Power distribution	40
Transformer	30
BUILDING ARCHITECTURAL ITEMS	
Wood Decks	20
Storage Sheds	30
Carports	40
Garages	50
Basement Stairs	50
Building mounted exterior lighting	10
Building mounted High Intensity Discharge (HID) lighting	10
Bulkhead	10
Canopy, concrete	50
Canopy, wood / metal	40
Ceilings, open or exterior	30
Chimney	40
Common area doors, interior (solid wood/ metal clad)	30
Common area floors, ceramic / quarry tile, terrazzo	50+
Common area floors, wood (strip or parquet)	30
Common area floors, resilient tile or sheet	15
Common area floors, carpet	8
Common area floors, concrete	50+

BUILDING ARCHITECTURAL ITEMS	
Common area railing	20
Common area ceiling, concrete	50+
Common area ceiling, acoustic tile (drop ceiling),	15
Common area countertop and sink	20
Common area dishwasher	15
Common area disposal	5
Common area kitchen cabinets, wood	15
Common area wall coverings	15
Caps, copings (aluminum/ terra-cotta) - Parapet	25
Exterior common door, aluminum and glass	30
Exterior common door, solid core wood or metal clad	25
Exterior stairs, wood	15
Exterior stairs, metal pan- concrete filled	30
Exterior stairs, concrete	50
Exterior unit door, solid wood/ metal clad	25
EXTERIOR CLADDING	
Aluminum Siding	40
Brick or block	40
Brownstone or stone veneer	40
Exterior Insulation Finishing Systems (EIFS)	20
Glass block	40
Granite block	40
Metal/ glass curtain wall	30
Precast concrete panel (tilt-up)	40
Vinyl siding	25
Wood shingle/ clapboard/ plywood, stucco, composite wood	20
Cement-board siding (Hardi-plank)/ non integral color	45
Fire Escapes	40
Foundations	50+
Roof hatch	30
Roof skylight	30
Insulation, wall	50+
Interior lighting	15
Interior railings	20
Mail facility, interior	20
Parapet wall,	50+
Penthouse	50
Railing, roof	25

INTERIORS	
Public bathroom accessories	7
Public bathroom fixtures	15
Refrigerator, common area	10
BUILDING ARCHITECTURAL ITEMS	
ROOF COVERINGS	
Built-up roof - Ethylene Propylene Diene Monomer (EPDM) / Thermoplastic Polyolefin (TPO)	20
Asphalt shingle (3-tab)	20
Wood shingles (cedar shake)	25
Slate, clay, concrete tile	40
Metal	40
Roof drainage exterior (gutter/ downspout)	10
Roof drainage interior (drain covers)	30
Roof structure	50+
Slab	50+
Service door	25
Soffits (wood/ stucco)	20
Soffits (aluminum or vinyl)	25
Stair structures	50+
Storm/ screen doors	7
Storm/ screen windows	10
Waterproofing (foundations)	50+
Windows (frames and glazing), vinyl or aluminum	30
Wood floor frame	50+
BOILER ROOM EQUIPMENT	
Blowdown and Water Treatment	25
Boiler Room Pipe Insulation	Included in boiler
Boiler Room Piping	Included in boiler
Boiler Room Valves	15
Boiler Temperature Controls	Included in boiler
Oil-fired, sectional	22
Gas/ dual fuel, sectional	25
Oil/ gas/ dual fired, low MBH	30
BOILERS	
Oil/ gas/ dual fired, high MBH	40
Gas fired atmospheric	25
Electric	20

BUILDING HEATING WATER TEMPERATURE CONTROLS	
Common area	15
Buzzer/Intercom, central panel	20
Central Unit Exhaust, roof mounted	15
Chilled Water Distribution	50+
Chilling Plant	15
Cooling Tower	25
Combustion Air, Duct with fixed louvers	30
Combustion Air, Motor louver and duct	25
CONDENSATE, FEEDWATER, WATER	
Feedwater only (hydronic)	10
Cooling Tower	25
DHW Circulating Pumps	by size
Tank only, dedicated fuel	10
Exchanger in storage tank	15
Exchanger in boiler	15
External tankless	15
Instantaneous (tankless type)	10
Domestic Hot Water Storage Tanks, Small (up to 150 gallons)	15
Domestic Hot Water Storage Tanks, Large (over 150 gallons)	15
Domestic Cold Water Pumps	15
ELECTRICAL & ELEVATOR	
Electrical Switchgear	50+
Electrical Wiring	30
Elevator, Controller, dispatcher	15
Elevator, Cab	15
Elevator, Machinery	30
Elevator, Shaft-way Doors	20
Elevator, Shaft-way Hoist rails, cables, traveling	25
Elevator, Shaft-way Hydraulic piston and leveling	25
EMERGENCY ALARM AND FIRE PROTECTION	
Call station	10
Emergency Generator	25
Emergency Lights	8
Evaporative Cooler	15
Fire Extinguisher	10
Fire Pumps	20
Fire Suppression	50+
Flue Exhaust	w/boiler
Free Standing Chimney	50+
Fuel Oil Storage	25

EMERGENCY ALARM AND FIRE PROTECTION	
Fuel Transfer System	25
Gas Distribution	50+
Heat Sensors	15
Heat Exchanger	35
Heating Risers and Distribution	50+
MECHANICAL – ELECTRIC – PLUMBING ITEMS	
Heating Water Circulating Pumps	by size
Heating Water Controller	15
Hot and Cold Water Distribution	50
HVAC	
Pad/ roof condenser	20
A/C window unit or through wall	10
Fan coil unit, electric	20
Fan coil unit, hydronic	30
Furnace (electric heat with A/C)	20
Furnace (electric heat with A/C)	20
Furnace (gas heat with A/C)	20
Packaged terminal air conditioner (PTAC)	15
Packaged HVAC (roof top units)	20
Heat pump condensing component	20
Heater, electric baseboard	25
Heater, wall mounted electric or gas	20
Hydronic heat/ electric A/C	20
Line Dryers	15
Master TV System	10
Motorized Valves	12
Outdoor Temperature Sensor	10
Pneumatic lines and Controls	30
POWER VENTILATOR	
Purchased Steam Supply Station	50+
Sanitary Waste and Vent System	50+
Sewage Ejectors	50
Smoke and Fire Detection System, central panel	15
Solar Hot Water	20
SUMP PUMP	
Commercial Sump Pump	15
Water Softening and Filtration	15
Water Tower	50+

PLAN TYPE DEFINITION

Within the report text a Plan Type is assigned to the various cost categories. The following is a brief description of the Plan Types that may be used in the report.

Code Compliance (CC)

- **Accessibility:** Conditions that are not in conformance with the American Disabilities Act Accessibility Guidelines
- **Building Code:** Conditions that are not in conformance with the Building codes
- **Life Safety:** Conditions that are not in conformance with the NFPA 101 Life Safety Code

Operations (OP)

- **Energy:** Conditions that adversely affect energy use or will decrease water or energy usage
- **Maintenance:** Components or systems that can usually be accomplished by the current maintenance staff
- **Security:** Conditions that compromise the protection of the asset or its occupants

Environmental (EN)

- **Air/ Water Quality:** Conditions that affect air or water quality
- **Asbestos:** Reported or suspected asbestos-containing material(ACM)
- **Lead:** Reported lead based paint
- **PCB:** Reported PCB containing equipment

Functionality (FN)

- **Mission:** Components which do not meet the mission of the organization
- **Modernization:** Conditions that need to be upgraded in appearance or function
- **Plant Adaptation:** Components or systems that must change to fit a new or adapted use
- **Obsolescence:** Components or systems that are or are becoming obsolete
- **Capacity:** Components or system which cannot meet demand load

Integrity (IN)

- **Appearance:** Problems with the material or system appearance that are not functional in nature
- **Reliability:** Components or systems which cannot be depended on to function as designed
- **Beyond Rated Life:** A component or system that has exceeded its rated life

APPENDIX I: PRE-SURVEY QUESTIONNAIRE

PSQ NOT RETURNED

APPENDIX J: ELEVATOR REPORT



Cal EMA
3650 Schriever Avenue
Mather, CA

Due Diligence
Elevator Report

February 27, 2015

Prepared for:

Ms. Karla Rodriquez
EMG Corporation
Hunt Valley, MD 21212

Prepared by:

Mr. Bob Nicholson
President
Architectural Elevator Consulting, LLC
1326 5th Ave., Suite 630
Seattle, WA 98101



TABLE OF CONTENTS

<i>Section I - Executive Summary</i>	_____	
A. Introduction	_____	I.1
B. Elevator Layout	_____	I.1
C. Condition/Components	_____	I.1
D. Maintenance and Performance	_____	I.2
E. Code Review: ADA/Retro-active codes	_____	I.2
F. Recommendation	_____	I.2
<i>Section II Component Review</i>	_____	
A. Machine Room	_____	II.1
B. Hoistway	_____	II.2
C. Car top	_____	II.2
D. Signal Fixtures	_____	II.3
E. Cab Interiors	_____	II.4
<i>Section III – Budget Pricing</i>	_____	<i>III</i>
Appendix A - Americans with Disability Act (ADA) and California T24		
Appendix B - A17.3 Retro-active Code Requirements		
Appendix C – Maintenance and Performance		

Section I: Executive Summary

A. Introduction

On February 27, 2015, Bob Nicholson of Architectural Elevator Consulting, LLC (AEC) surveyed all the vertical transportation systems at Cal EMA, 3650 Schriever Avenue, Mather, CA. There are two (2) hydraulic elevators that serve two stops each. The purpose of the survey was to review the major components, to identify upgrades needed over the next ten years and check for compliance with various codes. In addition to reviewing the major components of the elevators we checked the performance parameters of the equipment and tested safety devices such as door restrictors, electric edges and emergency phones.

The elevators were manufactured by ThyssenKrupp Elevator (TKE) in 2000 and installed locally by Capitol Elevator. The elevators have TKE power units, holeless twin post jacks, controllers, door operators, and door equipment. The power units are equipped with IMO pumps and TKE's I2 valves which are known to be high quality. The signal fixtures in the cars and hall were manufactured by TKE and also in good condition.

During our survey we noted that the elevators are being well maintained by Capitol Elevator. Housekeeping in the machine rooms, car tops and pits were clean. The performance was also noted to be good with only minor improvements needed. The state required five year tests were up-to-date and the annual tests were being performed by Capitol during our review.

B. Elevator Layout

The office building has two (2) elevators that serve the 1st and 2nd floor. Car 1 is a smaller passenger shaped elevator near the front entrance. Car 2 is a larger service elevator with front and rear openings. The elevators are rated for 85 to 140 Feet per Minute (FPM) in the up direction and 150 FPM in the down direction. The passenger elevator has fast and efficient center opening doors while the service elevator has slightly larger side opening doors. The passenger elevator has a 3,000 lbs. capacity while the service elevator has a larger capacity of 4,500 lbs. The speed and size of elevator appears to be adequate for the building.

Elevator Summary				
Elevator Bank	Elevator Speed	Floors Served	Capacity	Door Type
Passenger Car 1	140/150 FPM	1-2	3,000 lbs	Center
Service Car 2	85/150 FPM	1-2	4,500 lbs	Side

C. Condition

All of the major components of the elevators were found to be in good to excellent condition. The cab interiors are also in good condition, except wood panels were added to Car 2 that do not appear to be fire rated. These should be removed and fire rated panels installed along with handrails. No major work is anticipated in the next ten years. In **Section II** of this report we provide an in-depth review of each of the major components of the elevators with photographs.

D. Maintenance/Performance

The elevators are currently being maintained by Capitol Elevator. The level of maintenance was good. The performance was observed to be at or close to designed times and speeds. In *Appendix C* of this report we provide a summary of the performance times for the elevators followed by a maintenance deficiency list. The door restrictor on the north side of Car 2 should be corrected as soon as possible and the car lanterns on both front and rear entrances of Car 2 should be repaired. We recommend this list be provided to the elevator service provider so they can correct these items.

E. Code Review:

During our survey we reviewed the elevators for compliance to the following codes; Americans with Disabilities Act (ADA)/California T24, and compliance with the National Elevator Code for Existing Elevators, A17.3.

1. **Americans with Disability Act (ADA)/California T24:** In 1990 the federal government enacted ADA to make public spaces more accessible to disabled persons. California has a few specific accessibility requirements in addition to ADA. The elevator meets all ADA and California Title 24 requirements. The size of the elevators meets the requirements for new and existing elevators. The elevators have the proper hall/car lanterns and gongs but Car 2 gongs were not working. *Appendix A* provides a complete listing of the ADA/T24 requirements. The following is list of items that do not comply.
 - a. **Car Lanterns/Gongs:** Neither car riding lantern or gong on Car 2 worked. This is most likely a maintenance item and should be corrected as part of the service contract.
 - b. **Handrails:** Car 2 had the handrails removed and plywood installed. The handrails should be reinstalled on both sides.
 - c. **Phone Braille:** The phone box door should have a braille plate added.
2. **Retro Active Codes for Existing Elevators:** We reviewed the elevators for compliance to A17.3 Code, the national safety code for existing elevators. This code requires all elevators, no matter age or installation date, to meet a minimum level of safety. A17.3 is not adopted in California, thus not required by the State, however, because the elevators are newer they comply with all items. A complete check list for this retro-active code is included in *Appendix B* of this report.
3. **Seismic:** The elevators were installed under seismic code and have a seismic rupture valve in the pit, seismic retainers, fishplates and power unit hold downs.

F. Recommendation:

The elevators are approaching their mid-life and no major work is anticipated in the next 10 years if the elevators are properly maintained. The wood paneling that was added to the service car should be replaced with fire rated wood and the handrails should be reinstalled. The passenger cab should have subflooring added to the cab to eliminate the trip hazard at the car sill. The door restrictor and car lanterns on Car 2 should be repaired as soon as possible.

Section II: Component Review

A. MACHINE ROOM:

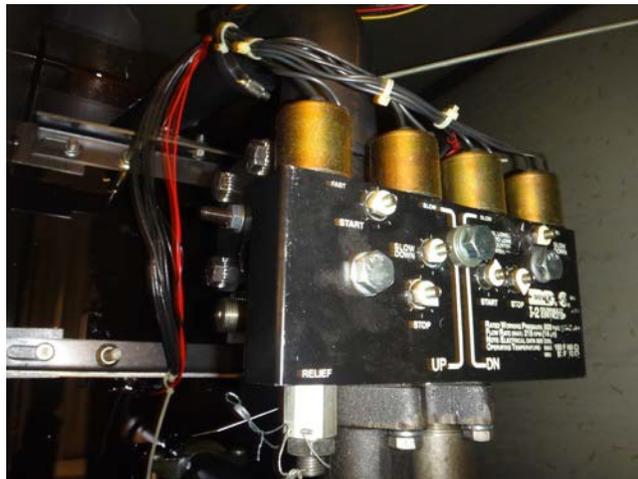
Controllers:

The controllers were manufactured by ThyssenKrupp Elevator when the elevators were installed in 2000. The controllers utilize digital board technology that is known to be reliable. These Dover DMC-1 models are known to be dependable. If properly maintained the controllers should last another 10 years with no major updates.



Hydraulic Power Units:

The elevators have TKE power units equipped with a TKE I2 valves and IMO pumps. The power units are in relatively good condition.



Disconnect:

The elevator disconnects are in good condition and do not need any work. The shunt trip feature is upstream and was being tested while onsite.



B. HOISTWAY:

Hoistway Construction:

The hoistway (elevator shaft) is the main area where the elevators go up and down. The hoistways were noted to be in good condition and do not need any work.

Car Guide Rails:

The car rails are in good condition and have seismic fishplates. No work is anticipated.



Pits:

The pits are in good condition. The pits are equipped with a seismic rupture valve.



C. CAR TOP:

Door Operator:

The door operators are Dover/Thyssen HD-85 models which are known to be reliable and dependable. The door operation was noted to be fair with room for improvement. The elevators have the code required door restrictor, but the north door of Car 2 door restrictor does not catch and should be adjusted.



Car Roller/Slide Guides:

On both sides of the elevators and on the top and bottom slide guides keep the elevators riding up and down the omega shaped guide rails. The existing ride quality was noted to be good. No work is anticipated on the guide rails.

D. SIGNAL FIXTURES:

Car Operating Panels:

The elevators have Car Operating Panels (COP) with stainless steel vandal buttons. The panels are in good condition and the buttons comply with ADA and Title 24. No work is needed on the COP.



Hall/Car Lanterns:

Hall or Car lanterns inform persons waiting in the hall of which direction the elevator is about to travel in next. ADA requires that the lanterns illuminate and sound for the waiting passengers. The existing elevators have Car lanterns. The lanterns have the proper gong for up and down, however on Car 2 neither of the car lanterns and gongs are operational.



Hall Call Pushbuttons:

At each floor hall call push buttons are located so that users can call the elevator. The hall call stations have raised operation buttons which are ADA and T24 compliant.

E. CAB INTERIOR:

Passenger Wall Finish:

The existing cab interiors are in good condition. The passenger elevator has decorative walls and the sides have the code required handrails. The railing heights are in compliance with Title 24 California code.



Service Wall Finish:

The service elevator has had the handrails removed and wood paneling added. The wood does not appear to be fire rated. We recommend further review to confirm if the wood is fire rated or not.



Ceilings:

The ceiling of the service car consists of translucent panels with a T frame design. The appearance is adequate. The passenger car has a down light ceiling that is in good condition.



Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
	GENERAL	
4.10.1	Elevator must comply with ASME A17.1-1990. Freight elevators are not acceptable unless only elevator provided, and is permitted to carry passengers, both public and employees.	Yes
	AUTOMATIC OPERATION	
4.10.2	Elevators must be Automatic.	Yes
4.10.2	Self-leveling to within 1/2 in.	Yes
	HALL CALL BUTTONS	
4.10.3	Buttons centered at 42 in. above the floor.	Yes
4.10.3	Buttons to illuminate when call is entered and extinguish when answered.	Yes
4.10.3	Buttons to be at least 3/4 in. in the smallest dimension.	Yes
4.10.3	Up button located above down button.	Yes
4.10.3	Buttons raised or flushed. (T24 must be raised)	Yes
4.10.3	Objects mounted beneath hall buttons not to project into the lobby more than 4 in.	Yes
	HALL or CAR LANTERNS	
4.10.4	Visible and audible signals at each hoistway entrance to indicate which car is responding to the call.	Yes –Car
4.10.4	Audible signals to sound once for up and twice for “down” or may verbal announcement stating “up” “down.”	No on Car 2
4.10.4	Hall directional lantern centered 72 in. above floor.	Yes
4.10.4	Directional lantern visible elements minimum of 2-½ in. in the smallest dimension.	Yes
4.10.4	Directional lanterns must be visible from the vicinity of the hall call button.	Yes
4.10.4	In car lanterns, meeting the requirements above are acceptable in lieu of hall directional lanterns.	Yes
	HOISTWAY ENTRANCES	
4.10.5	Raised and Braille floor designations are required on both door jambs. Permanently applied plates are acceptable. (T24 must be to the left)	Yes
4.10.5	Centerline of floor designation characters 60 in. above floor.	Yes
4.30.4	Characters must be 2 in. high, raised 1/32 in. upper sans serif (block letters) or simple serif type.	Yes
4.30.4	Grade II Braille to accompany raised characters.	Yes
	DOOR PROTECTIVE & REOPENING DEVICES	
4.10.6	Doors must open and close automatically.	Yes
4.10.6	Non-contact door reopening device at 5 in. and 29 in. above the floor.	Yes
4.1.6(3)(c)	If safety edges are provided on existing elevators, the non-contact door reopening devices may be omitted.	Yes
4.10.6	Reopening device to remain operational for at least 20 seconds.	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
	DOOR AND SIGNAL TIMING	
4.10.7	Minimum acceptable door open time from notification car is answering a hall call until the car doors begin to close: $T=D/(1.5ft/s)$, where T is the total time in and D is the distance from a point in the lobby or corridor 60 in. directly in front of the farthest button controlling that car to centerline of its hoistway door.	Yes
4.10.7	Minimum acceptable notification time 5.0 seconds.	Yes
	DOOR DELAY FOR CAR CALLS	
4.10.8	Doors to remain open for a minimum of 3.0 seconds in response to car calls.	Yes
	FLOOR PLAN NEW ELEVATOR	
4.10.9	At least 36" wide door. Side Open Door: Cab must be 5'-8" wide x 4'-3" deep Center Open Door: Cab must be 6'-8" wide by 4'-3" deep	Yes
	FLOOR PLAN EXISTING ELEVATOR	
4.1.6	Minimum of 48" x 48"	Yes
4.10.9	Clearance between car platform sill and edge of hoistway landing sill no greater than 1-¼ in.	Yes
	Handrails Circular Square Dia. ____ Top of Handrail ____ Height Side Back (T24 must be 34")	Yes Car 1 No Car 2
	FLOOR SURFACES	
4.10.10	Surfaces to be stable, firm and slip resistant.	Yes
4.5.3	Carpeting if installed must have firm cushion, pad or backing, or no cushion or pad. Carpeting must have level loop, textured loop, level pile texture. Carpeting pile thickness not to exceed 1/2 in. Carpeting must have exposed edges fastened to the floor surface. Exposed edges of carpets must be trimmed.	Yes
	ILLUMINATION LEVELS	
4.10.11	Five foot-candles of illumination to be provided at car controls, platform and at sill.	Yes
	CAR CONTROLS	
4.10.12	Buttons to be at least 3/4 in. in their smallest dimension.	Yes
4.10.12	Buttons must be flush or raised. (T24 Must be Raised)	Yes
4.10.12	Buttons must be designated by raised characters and Braille or symbols complying with ASME A17.1 Rule 210.13.	Yes
4.10.12	Characters must be a minimum of 5/8 in. high, upper case sans (block letters) or simple serif type.	Yes
4.10.12	Grade II Braille to accompany raised character of symbol.	Yes
4.10.12	Raised designations must be to the immediate left of the button to which they apply.	Yes
4.10.12	Call button illuminates when call is entered and extinguish when answered.	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
4.10.12	Floor buttons must be no higher than 48 in. when located in front return. Buttons must be no higher than 54 in. when a side approach provided.	Yes
4.10.12	Emergency controls, including emergency alarm and emergency stop (if provided) must be grouped at the bottom of the panel and have centerlines no less than 35 in. above the finished floor.	Yes
4.10.12	Controls must be on the front return wall with center-opening doors. They may be on the front return or strike jamb sidewall with side doors.	Yes
CAR POSITION INDICATORS		
4.10.13	Visual car position indicator must be provided above control panel or over door.	Yes
4.10.13	Car position indicator numerals must be a minimum of 1/2 in. high.	Yes
4.10.13	Audible signal to sound as the car passes or stops at a floor and a corresponding floor designation must illuminate. Audible signal must be at least 20 dB with a frequency no higher than 1,500 Hz.	Yes
4.10.13	A button to activate audible signal only for desired trip may be provided.	N/A
4.10.13	An automatic verbal announcement the floor at which a car stops may be substituted for the audible signal.	N/A
EMERGENCY COMMUNICATIONS		
4.10.14	If provided, emergency two-way communication systems between the elevator and a point outside the hoistway must comply with ASME A17.1-1990, Rule 211.1.	Yes
4.10.14	The highest operable part must be a maximum of 48 in. from the car floor.	Yes
4.10.14	Emergency communication identification must be provided and located adjacent to the device. Characters must be a minimum of 5/8 in. high raised 1/32 in., upper case serif (block letters) or simple serif type, and accompanied by Grade II Braille.	No braille on door cover.
4.10.13	If a handset is provided the cord must be at least 29 in. long.	Yes
4.27.4	If located in a closed compartment, the door must be operable with one hand. It must not require tight grasping, pinching or twisting of the wrist. The force required to open the door must not exceed 5 lb/f.	Yes
4.10.13	The system must not require voice communication.	Yes

Appendix “B”
A17.3
Code for Existing Hydraulic Elevators

A17.3		Complies Yes/No
2.1	HOISTWAYS	
2.1.1	Hoistway Construction (Enclosed & Fire rated per local code or ANSI/NFPA No. 101)	Yes
2.1.2	Windows in Hoistway Enclosures: (If provided are they guarded properly.)	Yes
2.1.3	Projections in Hoistway (Must be flush and level; Leveling zone +3”/ 60 to 75 deg bevel.)	Yes
2.1.4	Pipes Conveying Gases, Vapors, or Liquids. (If provided must be properly covered & securely fastened.)	Yes
2.2	MACHINE ROOMS AND MACHINERY SPACES	
2.2.1	Enclosures – Designated Machine Room (No-non elevator equipment- existing can stay)	Yes
2.2.2	Access to Machine Rooms and Machinery Spaces (A permanent means to the machine room- locked door)	Yes
2.2.3	Lighting (Permanent lighting in all machine rooms)	Yes
2.2.4	Ventilation (Natural or mechanical to avoid overheating)	Yes
2.2.5	Pipes Conveying Gases, Vapors, or liquids (Existing pipes allowed if guarded to prevent discharge)	Yes
2.2.6	Protection From Weather	Yes
2.3	PITS	
2.3.1	Access to Pits (Means of access to all pits. If access door provide closer & keys onsite.)	Yes
2.3.2	Drains (Drains connected directly to the sewer are not permitted.)	Yes
2.3.3	Stop Switch (A stop switch shall be provided for every pit. Locate near access, color, etc.)	Yes
	Single Bottom Jack: (If single bottom oil must be monitored and tracked)	Yes
2.4	CLEARANCES AND RUNBYS	
2.4.1	Horizontal Car Clearances (Not more than 5” for horizontal doors; 7.5” for vertical doors)	Yes
2.4.2	Bottom Car Clearances (Car shall not strike any equipment when resting on fully compressed buffer.)	Yes
2.4.3	Bottom Car and Counterweight Runby (Shall not exceed 24” for cars; or 36” for cwt.)	Yes
2.4.4	Top Car Clearance (Car does not strike any overhead structure)	Yes
2.4.5	Landing Sill Clearance (At least ½” for side guides; at least ¾” for corner guides. Max cannot exceed 1 ½”.)	Yes
2.5	If space below pit is accessible it must meet certain rules.	Yes
2.6	HOISTWAY ENTRANCES	
2.6.1	Doors or Gates Required (Passenger Elevators – full width/height – no hand latches.) (Freight Elevators – at least 6-0” gate)	Yes
2.6.2	Closing of Hoistway Doors (Door closers required on cars except swinging portion of horizontal door)	Yes
2.6.3	Hoistway Door Vision Panels (Required on manually operated or self closing doors, location, Size, and type of glass)	N/A
2.6.4	Door Hangers (Prevent jumping, and stops, 4 times load)	Yes
2.6.5	Non-Shearing Astragals (For vertical bi-parting doors only)	N/A
2.6.6	Pull Straps (Must not be more than 6’-6” from floor when open)	N/A
2.6.7	Bottom Guides (gibs must be provided.)	Yes
2.7	HOISTWAY DOOR LOCKING DEVICES, PARKING, DEVICES, AND ACCESS	
2.7.1	Hoistway Door or Gate Locking Devices (Mechanical and electrical interlocks required)	Yes
2.7.2	Closed position of Hoistway Doors	Yes
2.7.3	Elevator Parking Device (For cars operated from within car only)	N/A
2.7.4	Access to Hoistway (Hoistway door unlocking devices and access switches)	Yes
2.7.5	Restricted Opening of Hoistway Doors and/or Car Doors on Passenger Elevators (Cannot open more than 4” outside unlocking zone +-18” max.)	Yes
2.7.6	Hoistway Emergency Door Contacts (Positively opened)	Yes
2.8	POWER OPERATION OF DOORS AND GATES	
2.8.1	Kinetic Energy and Force Limitations for Power-operated Horizontal Sliding Doors. (Shall not	Yes

Appendix “B”

A17.3

Code for Existing Hydraulic Elevators

A17.3		Complies Yes/No
	exceed 7ft/lbs. with re-opening device, without 2.5ft/lbs.; cannot exceed 30 ft/lbs)	
2.8.2	Reopening Device for Power-Operated Car Doors or Gates (Can be rendered inoperative if less than 2.5ft/lb)	Yes
	Mechanical Equipment	
3.1	Buffers And Bumpers (Car and counterweight buffers are required)	Yes
	3.3 CAR FRAMES AND PLATFORMS	
3.3.1	Car Platforms (Cover entire area)	Yes
3.3.2	Platform Guards (Aprons) (Vertical face at least 21” A17.3, 60-75deg, withstand 150#)	Yes
3.3.3	Hinged Platform Sills (Must have contacts & prevent operation unless within 2”)	N/A
3.3.4	Floating (Movable) Platforms (Prohibited if car can move when door is not closed)	N/A
3.3.5	Protection of Platforms Against Fire (Must be covered with metal or fire resistant mat)	Yes
	3.4 CAR ENCLOSURES	
3.4.1	Car Enclosures (Passenger – total enclosed; Frt maybe perforated, but not by the cwt.; Car top must withstand 300lbs on any 2sqft.)	Yes
	Cab Lining Materials (Must have class 1 rating, flame spread of 25 or less.	Yes
3.4.2	Car Doors and Gates (Must have gate or door and electric contract)	Yes
3.4.3	Location of Car Doors and Gates (Hor, distance not more than 5 ½”, Swing door 4” max., space and site guard requirements.)	Yes
3.4.4	Emergency Exits (Cover hinged, single car blind shaft-every 36’, side allowed)	Yes
3.4.5	Car Illumination (At least two lights, 5ftc; frt=2.5ftc; emerg. .2ftc for 4 hrs.)	Yes
3.4.6	Protection of Light Bulbs and Tubes (Guarded or coated to prevent breaks)	Yes
	3.7 CAPACITY AND LOADING	
3.7.1	Minimum Rated Load for Passenger Elevators (per table 3.7.1)	Yes
3.7.2	Use of Partitions for Reducing Inside Net Platform Area (Partitions must be permanent and symmetrical)	Yes
3.7.3	Min. Rated Load for Freight Elevators (Class A = Not more than ¼ of total cap.; Class B = Motor Veh.; Class C = loading with industrial truck, etc.)	Yes
3.7.4	Capacity Plates (Every car must have one with rated load; Frt : one piece loads, loading and unloading; ¼” high for pass, 1” for frt.)	Yes
3.7.5	Signs on Freight Elevators (NOT A PASS ELEV...etc. ½” high letters)	Yes
	3.8 (4.3) DRIVING MACHINES AND SHEAVES	
4.3.1	Connection to Driving Machine (capable of withstanding, without damage, plunger stop)	Yes
4.3.2	Plunger Stop (If greater than 100FPM provide ETS)	Yes
4.3.3	Hydraulic Elevators (In-ground jacks- single vs. double bottom)	Yes
	4.4 Valves, Supply Piping, and Fittings	
4.4.1	Pump Relief Valve (Between pump & check valve, preset to open at 125% of working pressure, sized to allow proper capacity, must be sealed)	Yes
4.4.2	Check Valve (Will hold the elevator with rated load when pump stops.)	Yes
4.4.3	Mechanically Controlled Operating Valves (These types of valves are prohibited.)	Yes
4.4.4	Supply Piping and Fittings (Must be in sound condition and secured in place.)	Yes
		Yes
	Tanks	
4.5.1	Tanks General Requirements (Must be of adequate size and have an indicator.)	Yes
4.5.2	Pressure Tanks (Tanks subject to collapsing shall be provided with vacuum relief valves., pressure gage, inspectors gage, liquid level detector, hand holes, and manholes.)	Yes
	3.9 TERMINAL STOPPING DEVICES	
3.9.1	Normal and Terminal Stopping Devices (Locate at upper and lower terminals. If in machine room provide broken rope, tape or chain switch)	Yes
	3.10 OPERATING DEVICES AND CONTROL EQUIP.	
3.10.1	Types of Operating Devices (Rope or rod devices shall not be used.)	Yes
3.10.2	Car-Switch Operation Elevators (If provided must return to stop position if released by hand)	Yes
3.10.3	Top-of-Car Operating Devices (Continuous pressure <150FPM; bet. Crosshead and door.) (not needed on hydro’s if less than 15’ of travel)	Yes

Appendix “B”

A17.3

Code for Existing Hydraulic Elevators

A17.3		Complies Yes/No
3.10.4	Electrical Provisions	
	(e) Stop Switch – Top of Car- marked “stop” & “run”	Yes
	(h) Final Terminal Stopping Devices	Yes
	(i) Emergency Terminal Stopping Devices (reduced stroke)	N/A
	(m) Buffer Switches for Oil Buffers (type c safety)	N/A
	(n) Hoistway Door Interlocks or Hoistway Door Contacts	Yes
	(p) Car Door or Gate Electric Contacts	Yes
	(q) Normal Terminal Stopping Devices	Yes
	(r) Car Side Emergency Exit Electric Contact	N/A
	(s) Electric Contacts for Hinged Car Platform Sills	N/A
	(t) In-Car Stop Switch (Must be keyed, if provided)(WAC does not require it to be keyed)	Yes
	(u) Emergency Stop Switch (Must be provided for freight cars)	Yes
	(v) Stop Switch in Pit	Yes
	(w) Buffer Switches for Gas Spring Return Oil Buffers	N/A
3.10.5	Power Supply Line Disconnecting Means (Provided w/ overcurrent protection, within site, and numbered)	Yes
3.10.6	Phase Reversal and Failure Protection (Means to prevent starting if out of phase)	Yes
3.10.7	Devices for Making Hoistway Door Interlocks or Electric Contacts, or Car Door or Gate Electric Contacts Inoperative (These devices are prohibited)	Yes
3.10.9	Control and Operating Circuit Requirements (The failure of any single magnetically operated switch)	Yes
	Grounding and Overcurrent: Must comply with 620-61	Yes
3.11	EMERGENCY OPERATION AND SIGNALING DEVICES	
3.11.1	Car Emergency Signaling Devices (Audible signal, two-way communication, on emerg. power)	Yes
3.11.2	Operations of Elevators Under Standby (Emergency) Power (If provided must be able to absorb regenerative power)	Yes
3.11.3	Firefighters’ Service(A17.1-1987 Rules 211.3 through 211.8- appendix C; phase I and II switches shall be the same in each bldg)	Yes
4.7.3	Anticreep leveling devices	Yes
4.8	Additional Requirements for Counterweighted Hydraulics (Do not require buffers)	N/A
4.9	Additional Requirements for Roped Hydraulic Elevators.	N/A

Appendix “C”

Performance Review and Maintenance Deficiency List

Performance Review:

In this section we provide the results of randomly reviewing 50% or more of the performance of all elevators.

Part A: Definitions

A stopwatch, tachometer, and spring gauge are utilized to measure the performance of each elevator. Original equipment design, national and local codes and other factors govern these times. The following is an explanation of each item that was reviewed.

- **Car Door Dwell Time:** When an elevator is responding to a car call, the code requires the elevator doors to stay open a minimum of 3.0 seconds. This is to allow ample time for the passengers to exit.
- **Hall Call Dwell Time:** When an elevator is responding to a hall call, the code requires the elevator doors to stay open a minimum of 5.0 seconds. This is to allow ample time for the passengers to enter the elevator.
- **Floor-To-Floor Time:** This measures the time that it takes an elevator to go from one floor to the next floor. Door open and close times are calculated into this time to provide a meaningful measurement. The stopwatch is started when the doors start to close and is stopped when the elevator is level at the next floor with the doors $\frac{3}{4}$ open for center opening doors, and $\frac{1}{2}$ open for side opening doors.
- **Door Open Time:** The door open time is measured when the doors start to open until they are fully open.
- **Door Close Time:** The door close time is measured when the doors start to close until they are fully closed.
- **Full Speed:** Full speed of an elevator is measured in the machine room utilizing a tachometer or in the car using an accelerometer.
- **Door Closing Pressure:** The force required to prevent the doors from closing. This pressure is measured with a spring gauge.
- **Ride Quality:** Acceleration, deceleration, side-to-side sway and noise level are evaluated in this section.

On the following page the results of the elevators checked are provided.

Appendix “C”

Performance Review and Maintenance Deficiency List

	PERFORMANCE TIMES	Design 1	Car 1	Design 2	Car 2
7.1	Door Open Time	1.6	2.3	2.5	3.5/2.3
7.2	Door Close Time	2.4	3.5	4.4	4.1/3.8
7.3	Floor to Floor Up (18 to 19)	15.5	21.8	17.5	24.9
9.6	Floor to Floor Down (19 to 18)	15.5	22.1	17.5	24.9
7.5	Full Speed Up	140 FPM	114	80 FPM	82
7.6	Full Speed Down	150 FPM	95	150 FPM	110
7.7	Jerk Rate Up	< 7.0	7.0	< 7.0	6.5
7.8	Jerk Rate Down	< 7.0	8.9	< 7.0	11.7
7.9	Power Closing of Door (Pressure Gauge)	<30lbs	Split	<30lbs	15 lbs.
7.10	Interrupted Ray	.5sec	4.1	.5sec	4.0/5.2
7.11	Car Dwell Time	3.0	3.5	3.0	4.5/4.5
7.12	Hall Call Dwell Time	5.0	6.1	5.0	6.2/6.6
7.13	Car Lantern Time	8.0	5.0	8.0	none
7.14	Nudging	20.0	>20	20.0	>40
7.15	Test Emergency Phone	Yes	Yes	Yes	Yes

	Car 1
1.1	Small oil leak on top of car.
1.2	Pit sump gate is not installed.
1.3	One cab light is out.
1.4	Trip hazard on car sill, because carpet is too low.
1.5	Emergency hatch door on cab side is delaminating.
	Car 2
2.1	Doors are squeaky.
2.2	No car gong or lantern at front and rear.
2.3	Hoistway access switch in car is worn.
2.4	North door (top floor) slams closed at end of door travel.
2.5	North door restrictor just misses. Adjust so it works properly. South side works fine.

Appendix “C”

Performance Review and Maintenance Deficiency List

	PERFORMANCE TIMES	Design 1	Car 1	Design 2	Car 2
7.1	Door Open Time	1.6	2.3	2.5	3.5/2.3
7.2	Door Close Time	2.4	3.5	4.4	4.1/3.8
7.3	Floor to Floor Up (18 to 19)	15.5	21.8	17.5	24.9
9.6	Floor to Floor Down (19 to 18)	15.5	22.1	17.5	24.9
7.5	Full Speed Up	140 FPM	114	80 FPM	82
7.6	Full Speed Down	150 FPM	95	150 FPM	110
7.7	Jerk Rate Up	< 7.0	7.0	< 7.0	6.5
7.8	Jerk Rate Down	< 7.0	8.9	< 7.0	11.7
7.9	Power Closing of Door (Pressure Gauge)	<30lbs	Split	<30lbs	15 lbs.
7.10	Interrupted Ray	.5sec	4.1	.5sec	4.0/5.2
7.11	Car Dwell Time	3.0	3.5	3.0	4.5/4.5
7.12	Hall Call Dwell Time	5.0	6.1	5.0	6.2/6.6
7.13	Car Lantern Time	8.0	5.0	8.0	none
7.14	Nudging	20.0	>20	20.0	>40
7.15	Test Emergency Phone	Yes	Yes	Yes	Yes

	Car 1
1.1	Small oil leak on top of car.
1.2	Pit sump gate is not installed.
1.3	One cab light is out.
1.4	Trip hazard on car sill, because carpet is too low.
1.5	Emergency hatch door on cab side is delaminating.
	Car 2
2.1	Doors are squeaky.
2.2	No car gong or lantern at front and rear.
2.3	Hoistway access switch in car is worn.
2.4	North door (top floor) slams closed at end of door travel.
2.5	North door restrictor just misses. Adjust so it works properly. South side works fine.



Prepared by

EMG
222 Schilling Circle, Suite 275
Hunt Valley, Maryland 21031
800.733.0660
410.785.6220 (fax)
www.emgcorp.com

EMG Contact

Matthew Anderson
Program Manager
800.799.0660

EMG Project No.

111326.14R.019.305



Your partner in real estate lifecycle planning and management.
800.733.0660 | emgcorp.com

