



Elihu M. Harris State Building (602)

1515 Clay Street, Oakland, CA 94612

Facility Condition Assessment

September 2015

Prepared for the State of California Department of General Services



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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 Elihu M. Harris State Building (602).

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 Elihu M. Harris State Building (602) 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 Elihu M. Harris State Building (602) on February 9-11, 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	\$569,161,911
Immediate Repair Costs (12 months)	\$2,427,250
1-5 Year Capital Needs	\$15,592,077
6-10 Year Capital Needs	\$2,151,192
Total 10-Year Capital Reserve Needs	\$20,170,519

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

Current Year FCI

$$\text{Current FCI} = \frac{\$2,427,250}{\$569,161,911}$$

Ten-Year FCI

$$\text{Ten – Year FCI} = \frac{\$20,170,519}{\$569,161,911}$$

Current Year FCI	Ten-Year FCI
0.43 %= Good Condition	3.54 %= Good Condition

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

- One of the chillers is currently inoperative. Immediate replacement is recommended.
- The direct digital control (DDC) system is original and in need of a software and hardware upgrade.
- According to management staff, some surveillance cameras are inoperative and perimeter security lighting is lacking. The system should be repaired and additional lights installed.

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

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INTRODUCTION

BUILDING BACKGROUND

Designed by DMJM Keating Architects, the Oakland - Elihu M. Harris Building at 1515 Clay Street in Oakland was completed in 1998. It is strategically located in the city business center of downtown Oakland. The building was named after the former Assemblyman and Mayor of Oakland.

The 22-story building's steel frame exterior is clad in marble on the lower floors and features pre-cast concrete and glazing on upper story curtain walls. The outdoor plaza leads to an atrium with escalators to the second level. The second and third floor sky bridges are enhanced by the handrails by Mildred Howard. There are two levels of parking underground for 400 vehicles. The outdoor plaza contains benches and beautiful landscaping. The childcare fence panels are by artist by Rupert Garcia.

The interior contains ground floor retail and service spaces. The building contains a conference and training center, a 280-person auditorium and a childcare facility. There are 22 state agencies and boards housed at the Elihu M. Harris Building and occupancy numbers 1,674 employees. The gross building area is 879,983 SF, consisting of 724,029 gross square feet of office area with a net usable area of 543,172 SF, and 155,954 gross square feet of parking garage. The ratio of net usable to gross building area is 75%.

Jurisdictionally, the complex falls under the responsibility of the Oakland State Building Authority (a Joint Powers Authority) comprised of representatives from both the State of California and City of Oakland. This entity was formed as part of the lease revenue bonds issued to construct the Elihu M. Harris Building in 1998. The lease revenue bonds are scheduled for pay off in April 2023.

BUILDING DESCRIPTION

The building structural system is primarily steel and concrete column and beam superstructure with concrete-topped metal floor decks. The roof structure is flat with modified bitumen roofing. The exterior walls are granite and concrete panels, and glazed curtain walls in aluminum and steel framing.

Interior walls are painted drywall, granite, ceramic tile, and paneling. Floor finishes include carpet, terrazzo, vinyl composition tiles, and ceramic tiles. Ceilings are suspended acoustic tiles, painted drywall, and open atriums to the roof glazing.

The facility is served by 2 hydraulic and 14 traction passenger elevators. There is also a freight elevator that serves the lower level parking garage to the 23rd floor.

Domestic hot water is provided by commercial grade gas-fired water heaters located in the mechanical room.

Heating and cooling are provided by a central system of boilers, condensers, chillers, cooling towers, air handling units, and variable air volume terminals.

Life safety systems include fire sprinklers, hydrants, smoke detectors, alarms, extinguishers and wet standpipes. The building has an emergency diesel generator, one electric and two diesel fire pumps.

The building covers nearly the entire site. The only landscaping is a center courtyard area and narrow perimeter planters. The landscaping consists of trees, shrubs, and minimal lawn areas. Landscaped areas are irrigated by an in-ground drip irrigation system

Project Statistics

Item	Description
Project Name	Elihu M. Harris State Building
Building ID	602
Property Type	Administration
Year Built	1998
Number of Stories	24
Occupied	Yes
Land Area (acres)	2.28
Gross Square Feet (GSF)	879,983

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 Elihu M. Harris State Building (602) on February 9-11, 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 I.

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

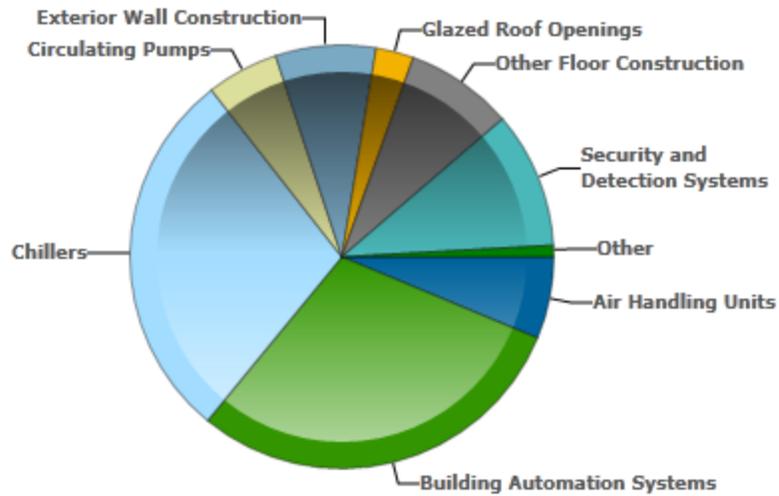
The four categories above are assigned a numerical value and the values are multiplied together for each cost observation. The resulting number is then assigned a priority by the capital planning software with

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:

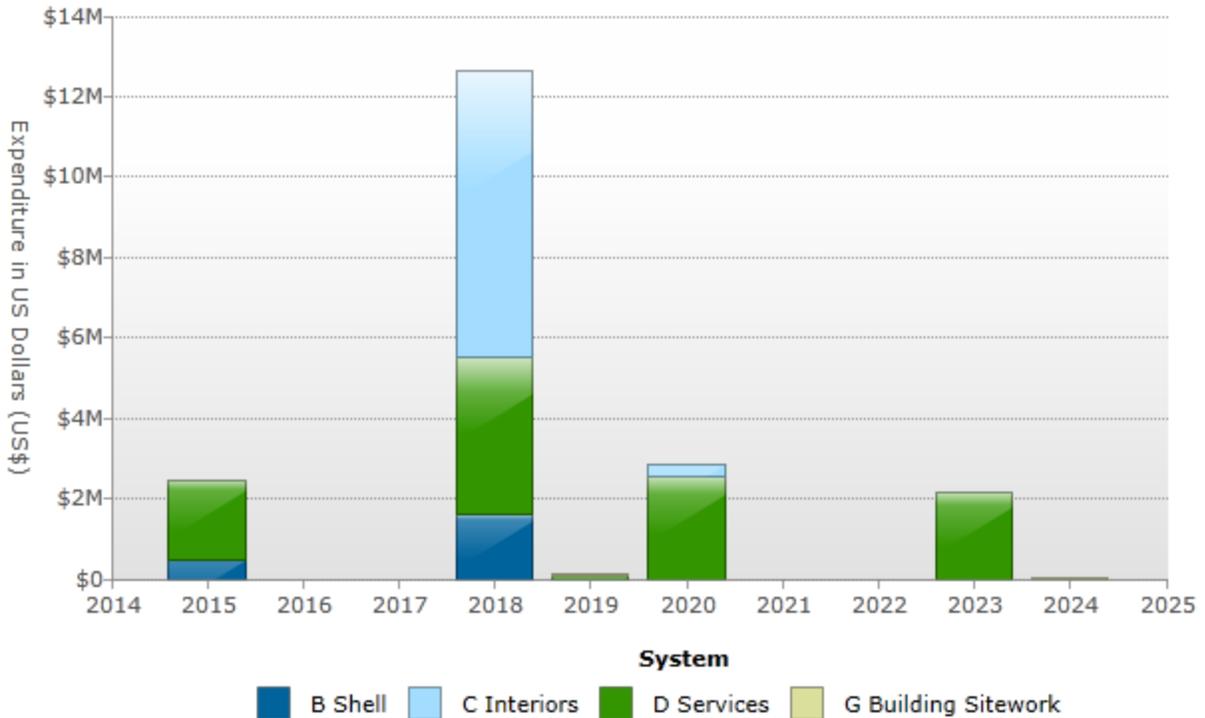
Condition	Definition
Good	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable 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
B1019	Other Floor Construction	\$199,987
B2011	Exterior Wall Construction	\$185,702
B3021	Glazed Roof Openings	\$69,888
D3022	Circulating Pumps	\$133,437
D3031	Chillers	\$692,148
D3031	Cooling Towers	\$6,000
D3041	Air Handling Units	\$152,000
D3068	Building Automation Systems	\$720,096
D4031	Fire Extinguishers	\$11,735
D5038	Security and Detection Systems	\$252,756
D5092	Emergency Light & Power Systems	\$3,500
	Total	\$2,427,250

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	\$455,578	\$0	\$1,971,672	\$0	\$0	\$0	\$2,427,250
2018	\$0	\$1,589,595	\$7,139,858	\$3,916,040	\$0	\$0	\$0	\$12,645,493
2019	\$0	\$0	\$0	\$97,414	\$0	\$0	\$19,840	\$117,254
2020	\$0	\$0	\$276,716	\$2,552,614	\$0	\$0	\$0	\$2,829,330
2023	\$0	\$0	\$0	\$2,131,352	\$0	\$0	\$0	\$2,131,352
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$19,840	\$19,840
Total	\$0	\$2,045,172	\$7,416,574	\$10,669,092	\$0	\$0	\$39,680	\$20,170,519

CURRENT REPLACEMENT VALUE

The Current Replacement Value has been determined as \$569,161,911 for the Elihu M. Harris State Building Building (602). 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
879,983 GSF	\$647	\$569,161,911

FACILITY CONDITION INDEX

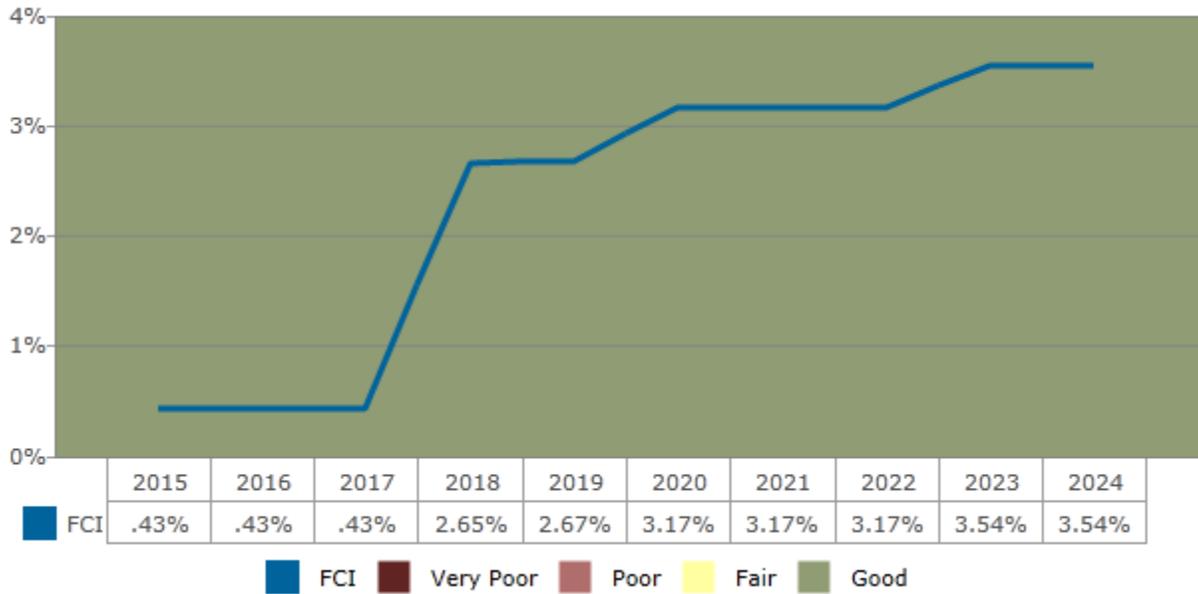
The FCI¹ is an indication of a building’s current and future overall condition. According to industry standards an FCI ratio of 65 percent, or the “rule of two-thirds,” is the threshold for identifying potential candidates for replacement or divestment.² Once the FCI ratio reaches 65 percent, or roughly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

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.

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



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APPENDICES

APPENDIX A: ACCESSIBILITY ISSUES

APPENDIX B: GENERAL ASSESSMENT INFORMATION

A Substructure Systems

A10 FOUNDATIONS

Item	Description
A1012 Column Foundations & Pile Caps	A1012 Structural Concrete, in place
Condition	Good
Qty / UOM	38,260 / SF
RUL (years)	33
Location	Site

OBSERVATIONS/COMMENTS:

No further action is required.

B Shell Systems

B10 SUPERSTRUCTURE

Item	Description
B1012 Upper Floors Construction	B1010 Concrete Floor Slabs
Condition	Good
Qty / UOM	879,983 / SF
RUL (years)	53
Location	Upper Floors Construction

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B1019 Other Floor Construction	B1019 Parking Garage Waterproof Coating
Condition	Poor - Fair

Item	Description
Qty / UOM	8,400 / SF
RUL (years)	0
Location	Parking Garage B2

OBSERVATIONS/COMMENTS:

Based on the RUL, application of a waterproof coating is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B1019	B1019 Apply Waterproof Coating	8,400.0 - SF	23.8	IN - Reliability	Priority I	2015	199,987

Item	Description
B1031 Steel Frame Structure	B1031 Structural Steel Columns and Beams
Condition	Fair
Qty / UOM	879,983 / SF
RUL (years)	53
Location	Building Mainframe

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
B10 Superstructure	2015	\$199,987

B20 EXTERIOR ENCLOSURE

Item	Description
B2011 Exterior Wall Construction	B2011 Scrape and Paint Exterior Metal
Condition	Poor
Qty / UOM	24,000 / SF
RUL (years)	0

Item	Description
Location	Main roof and various ground level perimeter

OBSERVATIONS/COMMENTS:

Metal surfaces at high rise roof level show excessive rust and deteriorated paint. Various ground level surfaces and metal doors require painting.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B2011	Replace B2011 Scrape and Paint Exterior Metal	24,000.0 - SF	7.7	OP - Maintenance	Priority I	2015	185,702

Item	Description
B2011 Exterior Wall Construction	B2011 Granite Panel Walls
Condition	Good
Qty / UOM	92,000 / SF
RUL (years)	15
Location	Exterior Walls

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B2021 Windows	B2021 Aluminum Windows
Condition	Good
Qty / UOM	4,600 / EA
RUL (years)	13
Location	Exterior Walls

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B2021 Windows	B2021 Aluminum Storefront Windows
Condition	Good
Qty / UOM	6,200 / SF
RUL (years)	13
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B2031 Glazed Doors & Entrances	B2031 Glazed Entrance Doors
Condition	Good
Qty / UOM	28 / EA
RUL (years)	13
Location	Exterior Walls

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B2034 Overhead Doors	B2030 Steel Rolling Overhead Door, Electric - 12' to 20'
Condition	Fair
Qty / UOM	8 / EA
RUL (years)	20
Location	Exterior Walls

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
B20 Exterior Enclosure	2015	\$185,702

B30 ROOFING

Item	Description
B3011 Roof Finishes	B3011 Modified Bitumen Roofing Membrane
Condition	Fair
Qty / UOM	880 / SQ
RUL (years)	3
Location	Flat Roofs

OBSERVATIONS/COMMENTS:

The flat roofs are granular surface modified bitumen with concrete pavers in several locations. The roofs are original to the building construction. Based on the remaining useful life (RUL) and condition, roof replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3011	Replace B3011 Modified Bitumen Roofing Membrane	880.0 - SQ	1806.4	IN - Beyond Rated Life	Priority 2	2018	1,589,595

Item	Description
B3021 Glazed Roof Openings	B3021 Curved Plexi-Glas Panels
Condition	Fair
Qty / UOM	3,600 / SF
RUL (years)	13
Location	Atrium

OBSERVATIONS/COMMENTS:

Replacement of Curved Plexi-Glas Panels is not required, however, the panels should be resealed within the next 12 months.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3021	B3021 Reseal atrium roof	2,400.0 - LF	29.1	IN - Reliability	Priority 1	2015	69,888

COST SUMMARY:

Type	Year	Total Expenditures
B30 Roofing	2015	\$69,888
B30 Roofing	2018	\$1,589,595

C Interiors Systems

C10 INTERIOR CONSTRUCTION

Item	Description
C1014 Site Built Toilet Partitions	C1014 Toilet Partitions
Condition	Fair
Qty / UOM	60 / EA
RUL (years)	3
Location	Restrooms

OBSERVATIONS/COMMENTS:

Based on RUL and condition, toilet partition replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C1014	Replace C1014 Toilet Partitions	60.0 - EA	2182.4	IN - Beyond Rated Life	Priority 3	2018	130,944

Item	Description
C1021 Interior Doors	C1021 Interior Doors
Condition	Good
Qty / UOM	655 / EA

Item	Description
RUL (years)	15
Location	Entire Facility

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
C10 Interior Construction	2018	\$130,944

C30 INTERIOR FINISHES

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Paint Interior Walls, Drywall
Condition	Fair
Qty / UOM	528,000 / SF
RUL (years)	3
Location	Throughout interior

OBSERVATIONS/COMMENTS:

Based on RUL, the interior walls will require periodic repainting.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3012	C3012 Paint Interior Walls, Drywall	528,000.0 - SF	2.1	IN - Appearance	Priority 3	2018	1,126,118

Item	Description
C3024 Flooring	C3024 Vinyl Tile
Condition	Good
Qty / UOM	2,200 / SY
RUL (years)	5
Location	Entire Facility

OBSERVATIONS/COMMENTS:

Based on RUL, vinyl tile replacement is anticipated during the assessment period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3024	Replace C3024 Vinyl Tile	2,200.0 - SY	125.8	IN - Appearance	Priority 4	2020	276,716

Item	Description
C3024 Flooring	C3024 Terrazzo Flooring
Condition	Good
Qty / UOM	87,500 / SF
RUL (years)	13
Location	Entire Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
C3024 Flooring	C3024 Ceramic Tile Flooring
Condition	Fair
Qty / UOM	880 / CSF
RUL (years)	13
Location	Restrooms and select locations

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
C3024 Flooring	C3024 Quarry Tile Flooring
Condition	Fair
Qty / UOM	7,000 / SF

Item	Description
RUL (years)	33
Location	Lobby adjacent to Atrium

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
C3025 Carpeting	C3025 Carpet, Standard Commercial, Medium Traffic
Condition	Fair
Qty / UOM	58,640 / SY
RUL (years)	3
Location	Throughout interior

OBSERVATIONS/COMMENTS:

Based on RUL and condition, carpet replacement is anticipated during the assessment period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3025	Replace C3025 Carpet, Standard Commercial, Medium Traffic	58,640.0 - SY	96.6	IN - Appearance	Priority 3	2018	5,664,952

Item	Description
C3031 Ceiling Finishes	C3031 Painted Drywall Ceilings
Condition	Fair
Qty / UOM	48,000 / SF
RUL (years)	3
Location	Restrooms and select locations

OBSERVATIONS/COMMENTS:

Based on RUL and condition, repainting of drywall ceiling is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3031	C3031 Paint Drywall Ceilings	48,000.0 - SF	4.5	IN - Appearance	Priority 3	2018	217,843

Item	Description
C3032 Suspended Ceilings	C3032 Acoustical Ceiling Tile
Condition	Good
Qty / UOM	5,278 / CSF
RUL (years)	10
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
C30 Interior Finishes	2018	\$7,008,914
C30 Interior Finishes	2020	\$276,716

D Services Systems

D10 CONVEYING SYSTEMS

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	3
Location	Elevators 1-4

OBSERVATIONS/COMMENTS:

A 2015 assessment report by Elevator Consulting Associates is included in the appendices and details the anticipated modernization cost included in the report. This includes the consultant's suggested additional costs for cab finishes, associated trades, and consulting fees.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Replace D1011 Traction Elevator Machinery and Controls	4.0 - EA	275000.0	FN - Modernization	Priority 3	2018	1,100,000

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	3
Location	Elevators 5-8

OBSERVATIONS/COMMENTS:

A 2015 assessment report by Elevator Consulting Associates is included in the appendices and details the anticipated modernization cost included in the report. This includes the consultant's suggested additional costs for cab finishes, associated trades, and consulting fees.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Replace D1011 Traction Elevator Machinery and Controls	4.0 - EA	290000.0	FN - Modernization	Priority 3	2018	1,160,000

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	3
Location	Elevators 9-12

OBSERVATIONS/COMMENTS:

A 2015 assessment report by Elevator Consulting Associates is included in the appendices and details the anticipated modernization cost included in the report. This includes the consultant's suggested additional costs for cab finishes, associated trades, and consulting fees.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Replace D1011 Traction Elevator Machinery and Controls	4.0 - EA	290000.0	FN - Modernization	Priority 3	2018	1,160,000

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	5
Location	Elevators 14-15

OBSERVATIONS/COMMENTS:

A 2015 assessment report by Elevator Consulting Associates is included in the appendices and details the anticipated modernization cost included in the report. This includes the consultant's suggested additional costs for cab finishes, associated trades, and consulting fees.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Replace D1011 Traction Elevator Machinery and Controls	2.0 - EA	240000.0	FN - Modernization	Priority 3	2020	480,000

Item	Description
D1011 Passenger Elevators	D1011 Hydraulic Elevators, 5000 lb
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	5
Location	Elevators 16-17

OBSERVATIONS/COMMENTS:

A 2015 assessment report by Elevator Consulting Associates is included in the appendices and details the anticipated modernization cost included in the report. This includes the consultant's suggested additional costs for cab finishes, associated trades, and consulting fees.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	Replace D1011 Hydraulic Elevators, 5000 lb	2.0 - EA	135000.0	FN - Modernization	Priority 3	2020	270,000

Item	Description
D1012 Freight Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair
Qty / UOM	1 / EACH
RUL (years)	5
Location	Elevator 13

OBSERVATIONS/COMMENTS:

A 2015 assessment report by Elevator Consulting Associates is included in the appendices and details the anticipated modernization cost included in the report. This includes the consultant's suggested additional costs for cab finishes, associated trades, and consulting fees.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1012	Replace D1011 Traction Elevator Machinery and Controls	1.0 - EACH	315000.0	FN - Modernization	Priority 3	2020	315,000

COST SUMMARY:

Type	Year	Total Expenditures
D10 Conveying Systems	2018	\$3,420,000
D10 Conveying Systems	2020	\$1,065,000

D20 PLUMBING

Item	Description
D2011 Water Closets	D2011 Commercial Water Closet, Auto 1.6 GPF
Condition	Fair - Good
Qty / UOM	171 / EA

Item	Description
RUL (years)	18
Location	Throughout Facility
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The water closets have been fit with automatic sensors to conserve water. No further action is required.

Item	Description
D2011 Water Closets	D2011 Water Closet, Child
Condition	Fair - Good
Qty / UOM	5 / EA
RUL (years)	8
Location	Child Center
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

Based on RUL, replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2011	Replace D2011 Water Closet, Child	5.0 - EA	965.2	OP - Energy	Priority 4	2023	4,826

Item	Description
D2012 Urinals	D2012 Urinal, automatic
Condition	Fair - Good
Qty / UOM	54 / EA
RUL (years)	18
Location	Throughout Facility

Item	Description
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

Automatic flush valves were observed on the vast majority of plumbing fixtures. No further action is required.

Item	Description
D2013 Lavatories	D2013 China Wall Hung Lavatory and Faucet
Condition	Fair
Qty / UOM	5 / EA
RUL (years)	12
Location	Restrooms

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D2013 Lavatories	D2013 Counter Top Sink and Faucet - Auto
Condition	Fair - Good
Qty / UOM	156 / EA
RUL (years)	18
Location	Restrooms

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D2022 Hot Water Service	D2022 Domestic Hot Water Heater - Gas - 250 Gal
Condition	Good
Qty / UOM	2 / EA
RUL (years)	3

Item	Description
Location	23rd Floor Boiler Room

OBSERVATIONS/COMMENTS:

The commercial gas water heaters appear to be original. Based on RUL, replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2022	Replace D2022 Domestic Hot Water Heater - Gas - 250 Gal	2.0 - EA	46964.0	IN - Beyond Rated Life	Priority 3	2018	93,928

COST SUMMARY:

Type	Year	Total Expenditures
D20 Plumbing	2018	\$93,928
D20 Plumbing	2023	\$4,826

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	Site Physical Plant Chilled Water
Solar Thermal	No
Fuel Tank Type	N/A
Fuel Tank Size (gallons)	N/A
Fuel Tank Location	N/A
Gas Meter Location	Mechanical Room
Electrical Meter Location	Electrical Room
Water Meter Location	Street Vault

Item	Description
D3021 Boilers	D3020 Water Boiler, Gas
Condition	Good
Qty / UOM	2 / EA
RUL (years)	13
Location	23rd Floor Boiler Room

OBSERVATIONS/COMMENTS:

The HVAC boilers are original to the 1998 building construction. The burners were replaced in 2014. No further action is anticipated.

Item	Description
D3022.1 Circulating Pumps	D3022 Chilled Water Circ Pumps 50 HP
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	3
Location	Mechanical Room North

OBSERVATIONS/COMMENTS:

The chilled water distribution pumps and associated motors appear to be original. Two have required repair. All should have VFDs replaced. Based on RUL, replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022 Chilled Water Circulation Pumps 50 HP	4.0 - EA	47218.4	IN - Beyond Rated Life	Priority 2	2018	188,874
D3022	D3022 Replace variable frequency drives	4.0 - EA	3900.1	IN - Beyond Rated Life	Priority 2	2018	15,600

Item	Description
D3022.1 Circulating Pumps	D3022 HVAC Condenser Water Pumps 60 HP
Condition	Poor

Item	Description
Qty / UOM	2 / EA
RUL (years)	0
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The 60 hp condenser pumps and associated motors appear to be original. One VFD has failed. Based on overall condition, pumps and VFDs are recommended for replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022 HVAC Condenser Water Pumps 60 HP	2.0 - EA	47218.4	IN - Reliability	Priority I	2015	94,437
D3022	D3022 Replace VFDs for 60 HP Pumps	2.0 - EA	19500.1	IN - Reliability	Priority I	2015	39,000

Item	Description
D3022.1 Circulating Pumps	D3022 HVAC Condenser Water 30-50 HP
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	4
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The condenser water distribution pumps and associated motors appear to be original, although nearing the end of their expected life. Replacements are anticipated. VFDs should be added in the future.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022 HVAC Condenser Water Pumps 30-50 HP	2.0 - EA	44806.8	IN - Beyond Rated Life	Priority 3	2019	89,614
D3022	D3022 Add VFDs to Condenser Water Pumps	2.0 - EA	3900.1	OP - Energy	Priority 3	2019	7,800

Item	Description
D3022.I Circulating Pumps	D3023 HW Circulating 10-25 HP
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	3
Location	23rd Floor Boiler Room

OBSERVATIONS/COMMENTS:

The HW circulation pumps appear to be original equipment. Two pumps have VFDs, and two do not. Based on RUL, pumps should be replaced and VFDs should be upgraded and added for all.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3023 Hot Water Circulation Pumps 10-25 HP	4.0 - EA	24192.4	IN - Beyond Rated Life	Priority 2	2018	96,770
D3022	D3023 Replace 2 VFDs and add 2 VFDs.	4.0 - EA	3900.1	OP - Energy	Priority 3	2018	15,600

Item	Description
D3031.I Chillers	D3031 Chiller, Water Cooled, 775 Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	10
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The chiller is original to the 1998 construction of the building. New controls were added and the chiller is performing adequately. No further action is anticipated.

Item	Description
D3031.1 Chillers	D3031 Chiller, Water Cooled, 775 Ton
Condition	Poor
Qty / UOM	1 / EA
RUL (years)	0
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The chiller is original to the 1998 construction of the building, and is currently inoperative. Immediate replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3031	Replace D3031 Chiller, Water Cooled, 775 Ton	1.0 - EA	692147.9	IN - Beyond Rated Life	Priority 1	2015	692,148

Item	Description
D3031.2 Cooling Towers	D3031 Cooling Tower, Galvanized Steel, 360 Ton
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	8
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The cooling tower is original to the 1998 construction. There are no major signs of deterioration observed on the exterior encasements. In lieu of replacement and the large associated cost, a comprehensive refurbishment project is recommended to maintain the performance and prolong the lifespan of the cooling tower.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3031	Replace D3031 Cooling Tower, Galvanized Steel, 360 Ton	1.0 - EA	174593.0	IN - Beyond Rated Life	Priority 4	2023	174,593

Item	Description
D3031.2 Cooling Towers	D3031 Cooling Tower, Galvanized Steel ,775 Ton
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	5
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The cooling towers are original to the 1998 construction with no major signs of deterioration on the exterior encasements of the units. In lieu of replacement and the large associated costs, a comprehensive refurbishment project is recommended to maintain the performance and prolong the lifespan of the cooling towers. Replace failing VFDs.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3031	D3031 Replace Failing VFDs	2.0 - EA	3000.1	IN - Reliability	Priority 1	2015	6,000
D3031	Replace D3031 Cooling Tower, Galvanized Steel, 775 Ton	2.0 - EA	325028.3	IN - Beyond Rated Life	Priority 3	2020	650,057

Item	Description
D3032 Direct Expansion Systems	D3032 Condenser Coils 500 Ton
Condition	Good
Qty / UOM	2 / EA
RUL (years)	5
Location	23rd Floor

OBSERVATIONS/COMMENTS:

Fabricated AC units housing 6,400 MBH coils are original equipment. Based on RUL, replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Condenser Coils 500 Ton	2.0 - EA	210800.0	IN - Beyond Rated Life	Priority 3	2020	421,600

Item	Description
D3032 Direct Expansion Systems	D3032 Condenser Coils 250 Ton
Condition	Good
Qty / UOM	2 / EA
RUL (years)	5
Location	5th Floor

OBSERVATIONS/COMMENTS:

Fabricated AC units housing 3,100 MBH coils are original equipment. Based on RUL, replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Condenser Coils 250 Ton	2.0 - EA	161200.0	IN - Beyond Rated Life	Priority 3	2020	322,400

Item	Description
D3032 Direct Expansion Systems	D3032 Condenser Coils 100 Ton
Condition	Good
Qty / UOM	1 / EA
RUL (years)	5
Location	South Mechanical Room

OBSERVATIONS/COMMENTS:

Fabricated AC units housing are original equipment. Based on RUL, replacement is anticipated during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Condenser Coils 100 Ton	1.0 - EA	76963.1	IN - Beyond Rated Life	Priority 3	2020	76,963

Item	Description
D3041.1 Air Handling Units	D3041 Return Air RE1-4 - 88,250 CFM - 75 Hp
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	0
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The return air fans with VFDs are 75 hp, installed in fabricated air handlers that receive return air from VAV boxes located in each space. Management staff reported that motor failures are occurring in various areas of the building. Based on RUL and condition, fan motor replacement is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 Replace fan motors	4.0 - EA	19600.0	IN - Reliability	Priority 1	2015	78,400

Item	Description
D3041.1 Air Handling Units	D3041 Supply Air SF 9 - 42,000 CFM
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	South Building Mechanical Room

OBSERVATIONS/COMMENTS:

The return air fans with VFDs are 30 hp, installed in fabricated air handlers that receive return air from VAV boxes located in each space. Management staff reported that motor failures are occurring in various areas of the building. Based on RUL and condition, fan motor replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 Replace fan motors	1.0 - EA	4960.0	IN - Reliability	Priority I	2015	4,960

Item	Description
D3041.I Air Handling Units	D3041 Return Air RE 5-8 - 40,500 CFM - 30HP
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	0
Location	5th Floor

OBSERVATIONS/COMMENTS:

The return air fans with VFDs are 30 hp, installed in fabricated air handlers that receive return air from VAV boxes located in each space. Management staff reported that motor failures are occurring in various areas of the building. Based on RUL, motor replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D4041 Replace fan motors	4.0 - EA	4960.0	IN - Reliability	Priority I	2015	19,840

Item	Description
D3041.I Air Handling Units	D3041 Supply Air SF5-8 - 43,250 CFM
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	0
Location	5th Floor

OBSERVATIONS/COMMENTS:

The supply fans are 50 hp and need variable frequency drive (VFD) replacements. The fans are installed in air handlers that are ducted to a shaft feeding variable air volume (VAV) boxes located in each space. The air handling units (AHUs) are supplied with heated and chilled water from the 23rd floor mechanical room. Management staff

reported that motor failures are occurring in various areas of the building. Due to the age of the components, replacement of the motors is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 Replace fan motors	4.0 - EA	4960.0	IN - Reliability	Priority I	2015	19,840

Item	Description
D3041.1 Air Handling Units	D3041 Return Air RE 98 - 36,500 CFM - 30HP
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	South Building Mechanical Room

OBSERVATIONS/COMMENTS:

The return air fan with VFD is 30 hp, installed in a fabricated air handler that receives return air from VAV boxes located in each space. Management staff reported that motor failures are occurring in various areas of the building. Based on RUL, fan motor replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 Replace fan motors	1.0 - EA	4960.0	IN - Reliability	Priority I	2015	4,960

Item	Description
D3041.1 Air Handling Units	D3041 Supply Air SFI-4 - 96,750 CFM
Condition	Fair
Qty / UOM	4 / EA
RUL (years)	0
Location	23rd Floor

OBSERVATIONS/COMMENTS:

The supply fan motors are 125 hp and require VFD replacement. The fans are installed in air handlers ducted to a shaft, which feed VAV boxes located in each space. The AHUs are provided with heated and chilled water from the 23rd floor mechanical room. Management staff reported that motor failures are occurring in various areas of the building. Due to age and condition, replacement of the motors is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	D3041 Replace fan motors	1.0 - EA	24000.0	IN - Reliability	Priority I	2015	24,000

Item	Description
D3041.2 Terminal Units VAV	D3041 VAV Boxes with Coils
Condition	Fair
Qty / UOM	192 / EA
RUL (years)	13
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by variable air volume (VAV) terminals supplied with conditioned air from the central system air handlers. According to management staff, the vast majority of VAV terminals are original to the 1998 construction. No further action is required.

Item	Description
D3041.2 Terminal Units VAV	D3041 VAV Boxes No Coil
Condition	Fair
Qty / UOM	176 / EA
RUL (years)	13
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by variable air volume (VAV) terminals supplied with conditioned air from the central system air handlers. According to management staff, the vast majority of VAV terminals are original to the 1998 construction. No further action is required.

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Fan, under 15,000 CFM
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	3
Location	Parking Garage

OBSERVATIONS/COMMENTS:

Most of the miscellaneous rooftop exhaust fans are original to the 1998 construction and appear to be in working condition, although the fans are reportedly running continuously. Replacements are anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	Replace D3042 Exhaust Fan, under 15,000 CFM	2.0 - EA	26040.0	IN - Beyond Rated Life	Priority 2	2018	52,080

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Fan 40,000 CFM - Atrium
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	5
Location	Rooftop

OBSERVATIONS/COMMENTS:

The atrium rooftop exhaust fan is original to the 1998 construction. Based on RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	Replace D3042 Exhaust Fan 40,000 CFM - Atrium	1.0 - EA	16594.2	IN - Beyond Rated Life	Priority 3	2020	16,594

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Fan 26,000 CFM
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	3
Location	Rooftop

OBSERVATIONS/COMMENTS:

The rooftop exhaust fan is original to the 1998 construction and appears to be in working condition. Based on RUL, replacements is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3042	Replace D3042 Exhaust Fan 26,000 CFM	2.0 - EA	16594.2	IN - Beyond Rated Life	Priority 2	2018	33,188

Item	Description
D3045 Chilled Water Distribution	D3043 Heat Exchanger For Telco - Stainless
Condition	Fair
Qty / UOM	1 /
RUL (years)	13
Location	23rd Floor

OBSERVATIONS/COMMENTS:

This water to water heat exchanger appears to be original and supplies heat pumps located in the Telco rooms. No further action is anticipated.

Item	Description
D3052 Package Units	D3052 Computer/Server Room AC
Condition	Good
Qty / UOM	1 / EA

Item	Description
RUL (years)	12
Location	Parking Garage Telco

OBSERVATIONS/COMMENTS:

The Telco room in the basement is serviced by a Liebert unit located in the parking garage. No further action is required.

Item	Description
D3068 Building Automation Systems	D3068 Direct Digital Controls
Condition	Poor - Fair
Qty / UOM	879,883 / SF
RUL (years)	0
Location	Maintenance Admin Offices

OBSERVATIONS/COMMENTS:

The direct digital control (DDC) system is original to the building and limits maintenance staff in their ability to monitor and manage systems. Based on condition, system upgrade is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3068	Replace D3068 Direct Digital Controls	879,883.0 - SF	0.8	IN - Beyond Rated Life	Priority I	2015	720,096

COST SUMMARY:

Type	Year	Total Expenditures
D30 HVAC	2015	\$1,703,681
D30 HVAC	2018	\$402,112
D30 HVAC	2019	\$97,414
D30 HVAC	2020	\$1,487,614
D30 HVAC	2023	\$174,593

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	Yes
Heat Detector	No
Central Fire Alarm Panel Location	Security Desk
Annunciator Panel Location	1st floor security room
Fire Extinguishers	Yes
Fire Extinguisher Inspection Date	January 15, 2015
Distance to Nearest Fire Hydrant (ft)	20
Illuminated Exit Signs	Yes
Kitchen Suppression Systems	Yes
Halon Gas Systems	No
Smoke Evacuation Systems	N/A
Fire-rated Stairwells	Yes
Fire-rated Stairwell Finish	Drywall
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	Simplex Grinnell
Date of Last Fire Alarm Service	January 15, 2015
Are the individual office unit fire alarm systems monitored?	Yes
Are the common area fire alarm systems monitored?	Yes
Types of Common Areas Monitored	Entire Building
Fire Alarm Monitoring Company	Simplex Grinnell

Item	Description
D4011 Sprinkler Water Supply	D4011 Wet-Pipe Sprinkler System
Condition	Good
Qty / UOM	879883 / SF
RUL (years)	10
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D4011 Sprinkler Water Supply	D4011 Sprinkler Heads
Condition	Good
Qty / UOM	879883 / SF
RUL (years)	8
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The sprinkler riser and heads were installed in 1998. Based on RUL, the sprinkler heads should be replaced during the term.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D4011	Replace D4011 Sprinkler Heads	879,883.0 - SF	2.2	CC - Life Safety	Priority 3	2023	1,951,932

Item	Description
D4012 Sprinkler Pumping Equipment	D4012 Fire Pump Diesel 750 Gpm 280 HP
Condition	Good
Qty / UOM	2 / EA
RUL (years)	10
Location	Fire Pump Room

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D4012 Sprinkler Pumping Equipment	D4012 Fire Pump Electric 1250 Gpm 200 HP
Condition	Good
Qty / UOM	1 / EA
RUL (years)	10
Location	Fire Pump Room

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D4031 Fire Extinguishers	D4031 Ansul System at Kitchen Hood
Condition	Poor
Qty / UOM	1 / EA
RUL (years)	0
Location	Cafeteria

OBSERVATIONS/COMMENTS:

Ansul system is original, but has been tagged by the fire marshal. Replacement is scheduled within the next six months.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D4031	Replace D4031 Ansul System at Kitchen Hood	1.0 - EA	11735.1	CC - Life Safety	Priority 1	2015	11,735

COST SUMMARY:

Type	Year	Total Expenditures
D40 Fire Protection Systems	2015	\$11,735
D40 Fire Protection Systems	2023	\$1,951,932

D50 ELECTRICAL SYSTEMS

Item	Description
D5012 Low Tension Service & Dist.	D5012 Secondary Dry Transformer 400 kVA
Condition	Good
Qty / UOM	1 / EA
RUL (years)	23
Location	23rd Floor Electrical Room

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 1200 Amps
Condition	Good
Qty / UOM	1 / EA
RUL (years)	23
Location	South Mechanical Room

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 2500 Amps
Condition	Good
Qty / UOM	6 / EA
RUL (years)	23
Location	23rd Floor Electrical Room

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 800 Amps
Condition	Good
Qty / UOM	2 / EA
RUL (years)	23
Location	Main Electrical Room, Lower Level

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel 225 Amps, 30 Circuits
Condition	Good
Qty / UOM	75 / EA
RUL (years)	23
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 4000 Amps
Condition	Good
Qty / UOM	10 / EA
RUL (years)	23
Location	Main Electrical Room, Lower Level

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Secondary Dry Transformer 45 kVA
Condition	Good
Qty / UOM	10 / EA
RUL (years)	23
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Secondary Dry Transformer 35 kVA
Condition	Good
Qty / UOM	20 / EA
RUL (years)	23
Location	Electrical Riser Room

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm Panel

Item	Description
Condition	Good
Qty / UOM	1 / EA
RUL (years)	15
Location	Security Room

OBSERVATIONS/COMMENTS:

The fire alarm panel was replaced in 2014. No further action is required.

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm System
Condition	Fair
Qty / UOM	879,983 / SF
RUL (years)	10
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D5038 Security and Detection Systems	D5038 Security and Detection System Upgrade
Condition	Poor
Qty / UOM	30,000 / SF
RUL (years)	0
Location	Grade level

OBSERVATIONS/COMMENTS:

Upgrade building security system. According to management staff, some surveillance cameras are inoperative and perimeter security lighting is lacking.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5038	Replace D5038 Security and Detection System Upgrade	30,000.0 - SF	8.4	IN - Beyond Rated Life	Priority I	2015	252,756

Item	Description
D5092 Emergency Light & Power Systems	D5092 Emergency Generator 2500 kW
Condition	Good
Qty / UOM	1 / EA
RUL (years)	18
Location	Emergency Generator Room

OBSERVATIONS/COMMENTS:

The 2500 KW emergency generator is located on the ground floor adjacent to the loading dock and is original to the building construction. No further action is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5092	D5092 Add/improve secondary containment for day tank	1.0 - EA	3500.0	EN - Air/ Water Quality	Priority I	2015	3,500

Item	Description
D5092 Emergency Light & Power Systems	D5092 Emergency Transfer Switch - 2500 KW
Condition	Good
Qty / UOM	1 / EA
RUL (years)	18
Location	Emergency Generator Room

OBSERVATIONS/COMMENTS:

The transfer switch associated with the emergency generator is original equipment. No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
D50 Electrical Systems	2015	\$256,256

G Building Sitework Systems

G20 SITE IMPROVEMENTS

Site Information	
Item	Description
Main Ingress and Egress	Jefferson Street
Access from	S
Additional Entrances	16th Street
Access from	N
Parking Count: Open lot	0
Parking Count: Sheltered by carports	0
Parking Count: Private garages	0
Parking Count: Subterranean garage	300
Parking Count: Freestanding parking structure	0
Number of ADA Compliant Spaces	12
Number of ADA Compliant Spaces for Vans	3
Method of obtaining parking count	Physical count
Property Identification Sign-Primary	Structure mounted
Property Identification Sign- Secondary	Structure mounted
Illuminated Identification Signage	No
Building Identification Sign	Yes
Illuminated Sign	No
Location of Property ID Sign	Front elevation of building
Trees Present	Yes
Shrubs Present	Yes
Grasses Present	Yes
Flower beds Present	Yes
Decorative Rocks Present	Yes
Lava Rocks Present	No
Ponds Present	No

Site Information	
Item	Description
Fountains Present	No
Topography	Flat

Item	Description
G2022 Paving & Surfacing	G2020 Restripe Parking Lot
Condition	Good
Qty / UOM	16 / 10000 SF
RUL (years)	4
Location	Parking Garage

OBSERVATIONS/COMMENTS:

Parking space restriping and associated pavement painting will be required during the assessment period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2022	Replace G2020 Restripe Parking Lot	16.0 - 10000 SF	1240.0	IN - Beyond Rated Life	Priority 3	2019	19,840
G2022	Replace G2020 Restripe Parking Lot	16.0 - 10000 SF	1240.0	IN - Beyond Rated Life	Priority 3	2024	19,840

Item	Description
G2033 Exterior Steps	G2033 Concrete Steps
Condition	Fair - Good
Qty / UOM	2,000 / SF
RUL (years)	18
Location	Site

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
G2056 Planters	G2056 Interior Lobby Area Planters
Condition	Fair
Qty / UOM	2,200 / SF
RUL (years)	33
Location	Entire Facility

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
G2056 Planters	G2056 Exterior Planters
Condition	Fair
Qty / UOM	3,600 / SF
RUL (years)	33
Location	Site

OBSERVATIONS/COMMENTS:

No further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
G20 Site Improvements	2019	\$19,840
G20 Site Improvements	2024	\$19,840

The weather at the time of the assessment was:

Item	Description
Approximate Outdoor Temperature (degrees F)	70
Weather Conditions	Clear
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	No
Document Year Built Information Obtained From	Client

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.

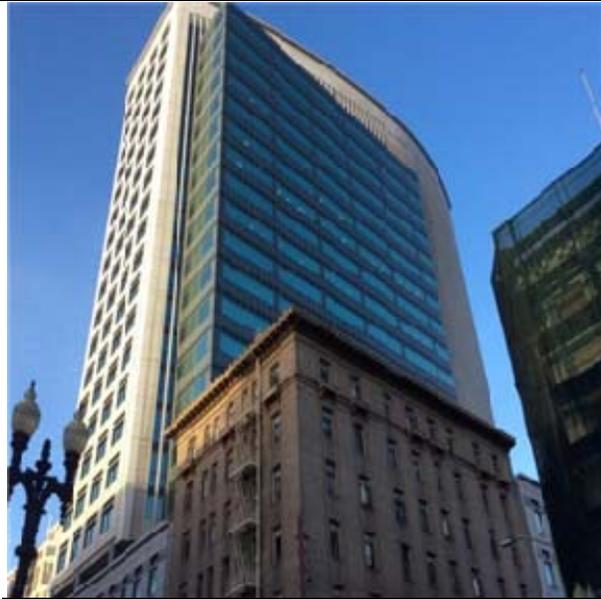
Prepared By: Geoffrey Straniere, Field Observer

Reviewed By:



Matthew Anderson, Program Manager

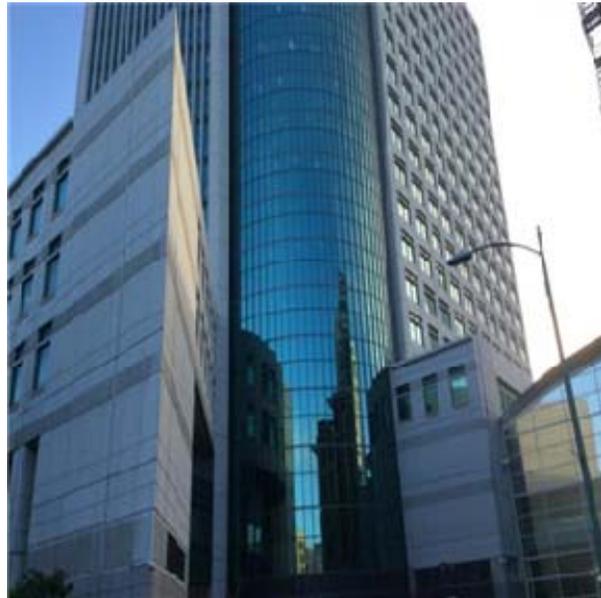
APPENDIX D: PHOTOS



:- Clay Street North



:- Clay Street South



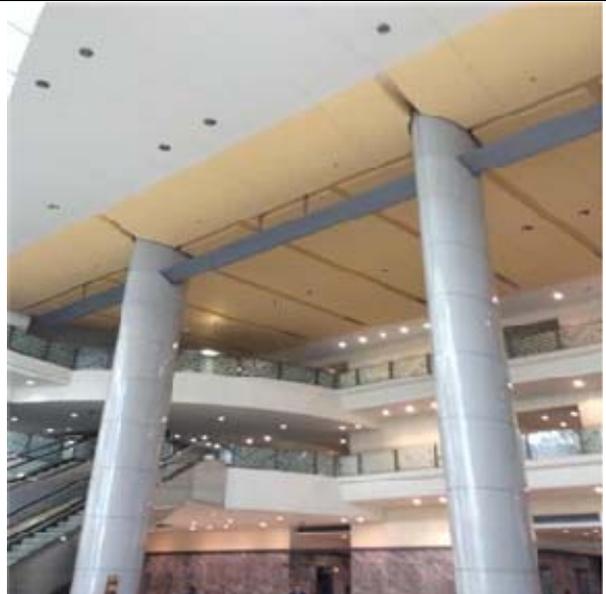
:- Jefferson Street West



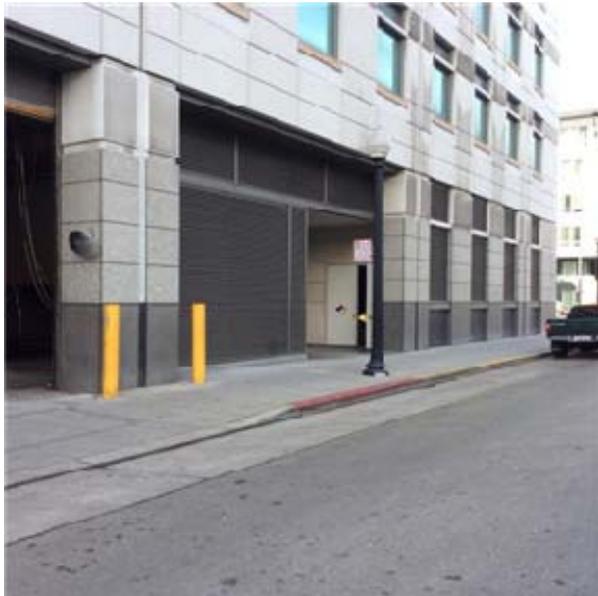
:- Jefferson Street Entrance



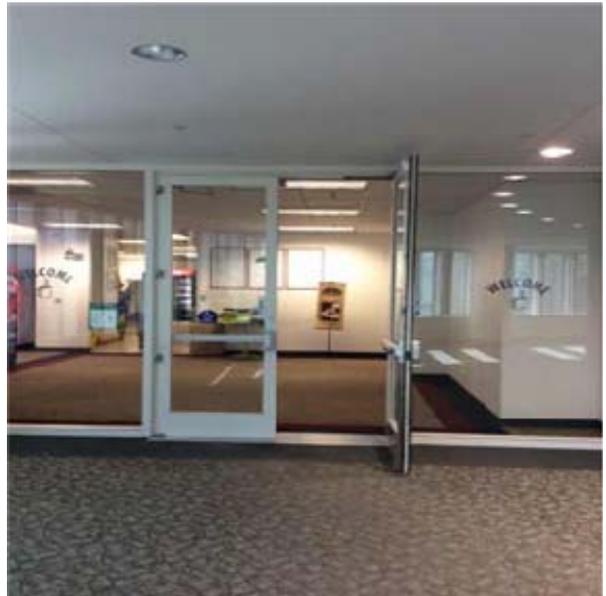
B1010 Concrete Floor Slabs



B1031 Structural Steel Columns and Beams



B2011 Granite Panel Walls



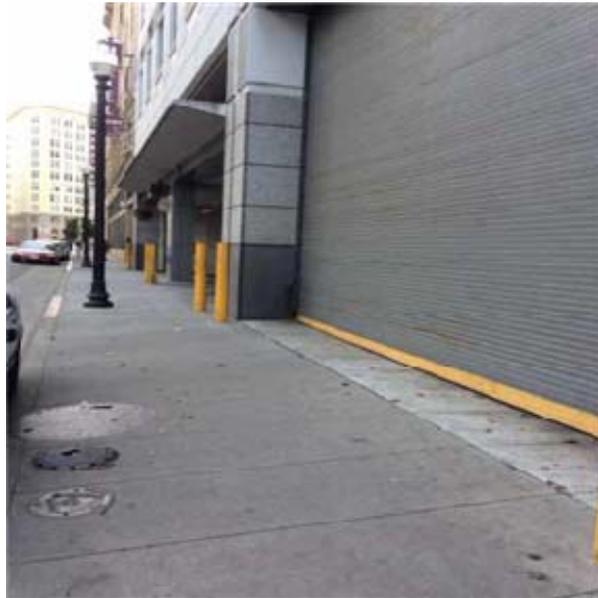
B2021 Aluminum Storefront Windows



B2021 Aluminum Windows



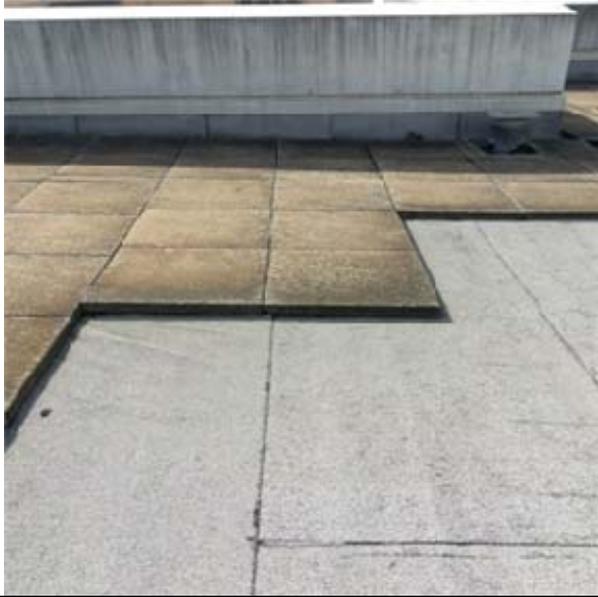
B2031 Glazed Entrance Doors



B2030 Steel Rolling Overhead Door, Electric - 12' to 20'



B3011 Modified Bitumen Roofing Membrane



B3011 Modified Bitumen Roofing Membrane



B3021 Curved Plexi-Glas Panels



B3021 Curved Plexi-Glas Panels



CI014 Toilet Partitions



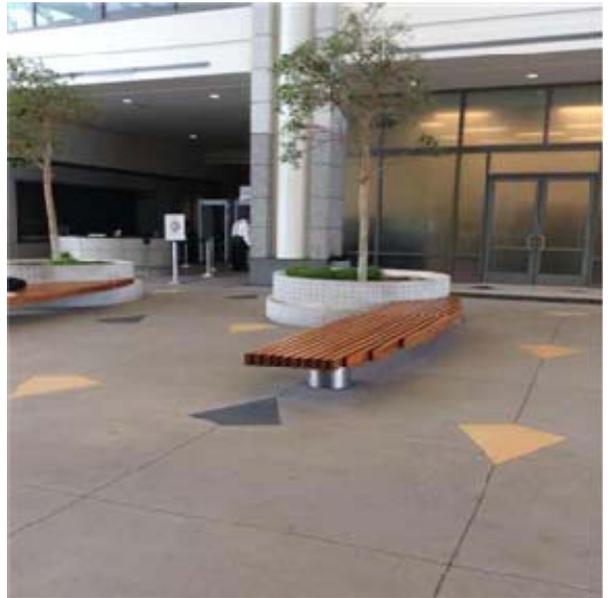
C1021 Interior Doors



C1021 Interior Doors



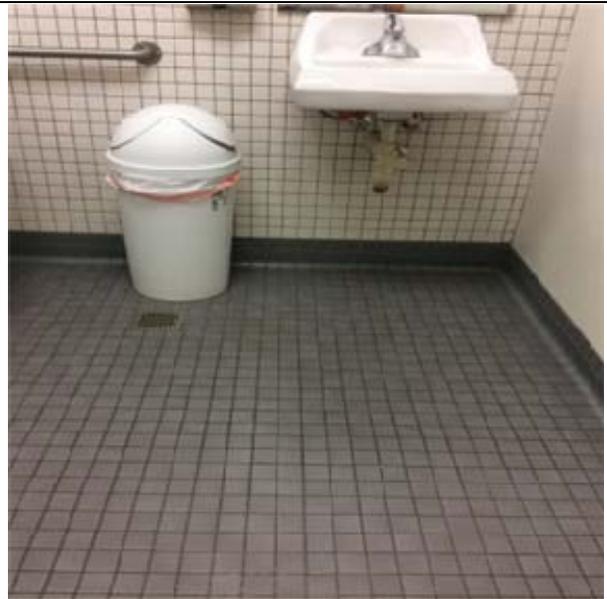
C3012 Paint Interior Walls, Drywall



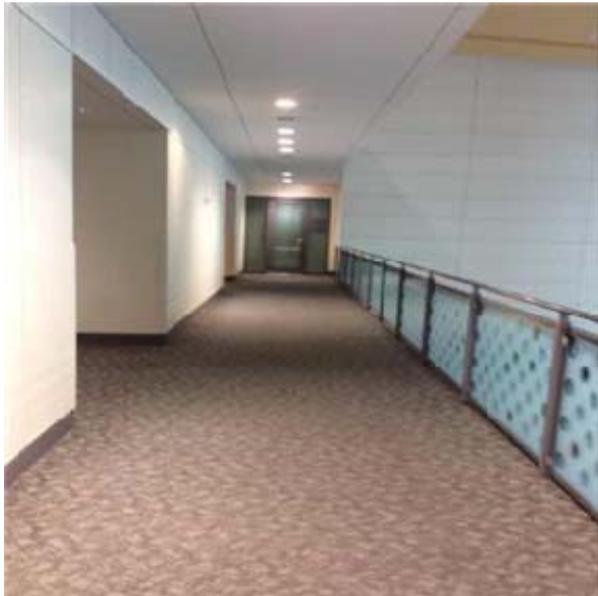
C3024 Quarry Tile Flooring



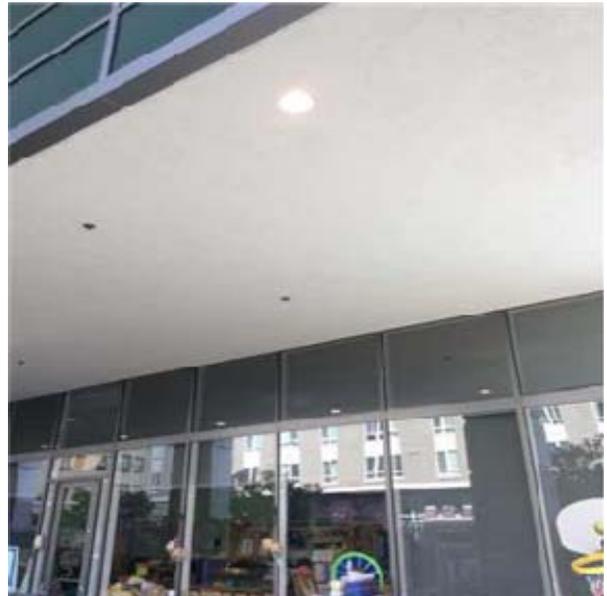
C3024 Vinyl Tile



C3024 Ceramic Tile Flooring



C3025 Carpet, Standard Commercial, Medium Traffic :-
Carpet



C3031 Painted Drywall Ceilings



C3032 Acoustical Ceiling Tile



D2011 Commercial Water Closet, Auto 1.6 GPF



D2011 Water Closet, Child



D2012 Urinal, Automatic



D2013 Counter Top Sink and Faucet - Auto



D2013 China Wall Hung Lavatory and Faucet



D2022 Domestic Hot Water Heater - Gas - 250 Gal



D3020 Water Boiler, Gas



D3023 HW Circulating 10-25 HP



D3022 Chilled Water Circ Pumps 50 HP



D3022 HVAC Condenser Water 30-50 HP



D3022 HVAC Condenser Water Pumps 60 HP



D303I Chiller, Water Cooled, 775 Ton



D303I Chiller, Water Cooled, 775 Ton



D303I Cooling Tower, Galvanized Steel, 360 Ton



D303I Cooling Tower, Galvanized Steel ,775 Ton



D3032 Condenser Coils 500 Ton



D3032 Condenser Coils 250 Ton



D3032 Condenser Coils 100 Ton :- South Building Mechanical



D3041 Return Air REI-4 - 88,250 CFM - 75 Hp



D3041 Supply Air SFI-4 - 96,750 CFM



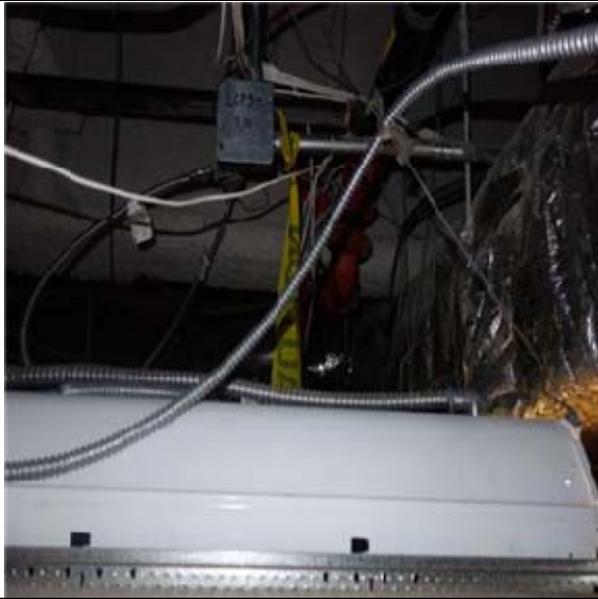
D3041 Supply Air SF 9 - 42,000 CFM



D3041 Return Air RE 5-8 - 40,500 CFM - 30HP



D3041 VAV Boxes with Coils



D3041 VAV Boxes No Coil



D3042 Exhaust Fan 40,000 CFM - Atrium



D3042 Exhaust Fan, Under 15,000 CFM



D3042 Exhaust Fan 26,000 CFM



D3043 Heat Exchanger For Telco - Stainless



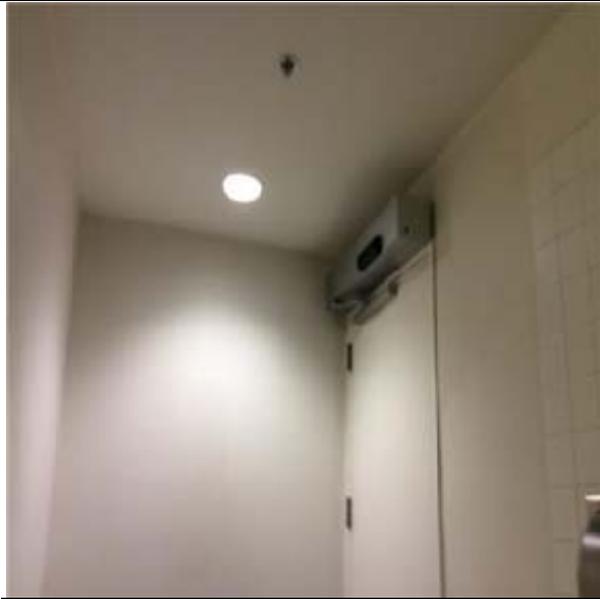
D3052 Computer/Server Room Air Condition



D3068 Direct Digital Controls



D401 I Wet-Pipe Sprinkler System



D4011 Sprinkler Heads



D4012 Fire Pump Diesel 750 Gpm 280 HP



D4012 Fire Pump Electric 1250 Gpm 200 HP



D4031 Ansul System at Kitchen Hood



D5010 Switchgear, Mainframe, 800 Amps



D5012 Secondary Dry Transformer 35 kVA



D5010 Switchgear, Mainframe, 4000 Amps



D5010 Switchgear, Mainframe, 1200 Amps



D5010 Switchgear, Mainframe, 2500 Amps



D5012 Secondary Dry Transformer 400 kVA



D5012 Breaker Panel 225 Amps, 30 Circuits



D5012 Secondary Dry Transformer 45 kVA



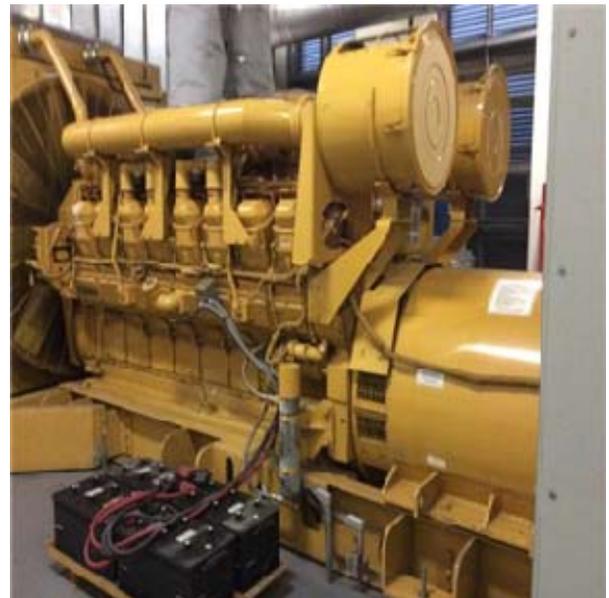
D5037 Fire Alarm Panel



D5037 Fire Alarm System



D5092 Emergency Transfer Switch - 2500 KW



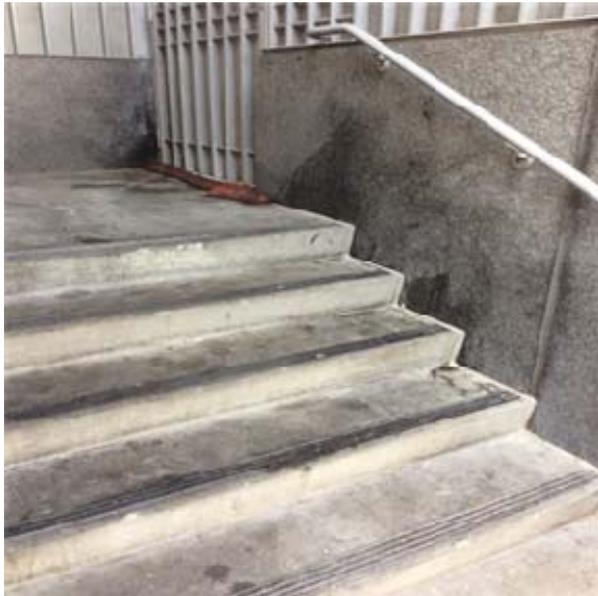
D5092 Emergency Generator 2500 kW



G2020 Restripe Parking Lot



G2020 Restripe Parking Lot



G2033 Concrete Steps



G2056 Interior Lobby Area Planters



G2056 Interior Lobby Area Planters



G2056 Exterior Planters

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

OAKLAND - ELIHU M. HARRIS BUILDING FACT SHEET

1515 Clay Street
Oakland
Alameda County

Category 4 - Low Priority - Constructed in Last 20 Years, Special Repairs and Maintenance

BUILDING INFORMATION

- Age: 16 years (completed in 1998)
- Size:*
 - 24-story, inclusive of 2 lower levels
 - 879,983 GSF 543,172 NUSF 543,172 Assigned SF
 - 2.28 acre parcel
 - 400 underground parking spaces
 - Capacity - 1,868 occupants
- Financial:
 - Oakland State Building Authority (a Joint Powers Authority)
 - Lease-Revenue Bonds 1998 Series A and 2005 Series A
 - Refunding Matures April 2023. Original balance \$156,785,402
 - Current balance as of 6/30/12 \$91,735,000
 - IRR Rate - \$3.10/month per SF, FY 2013-14 (DGS Price Book)
 - \$3.07/month per SF, FY 2014-15 (Proposed DGS Price Book)
- LEED Status: LEED-EB Certified 2009
- Tenants: 24 agencies, large tenants include Department of Industrial Relations (135,486 SF), Department of Social Services (83,623 SF), Department of Justice (47,942 SF), and Water Quality Control Board (39,897 SF)



SPI Structure #: 4702
Real Property #: 10208
BPM #: 602

COMPLETED STUDIES AND SIGNIFICANT FINDINGS

A. 2009 American Disability Act Accessibility Compliance Survey

This survey indicated that the building, being relatively new, was found to be largely in compliance with the Americans with Disabilities Act. However, some non-accessible features were noted requiring improvement such as exterior path of travel upgrades, main building entrance signage, basement level parking stalls and locker room upgrades.

B. 2010 Marx/Okubo Property Condition Assessment (For Sale-Leaseback)

This report made recommendations for minor immediate maintenance items to prevent moisture intrusion, corrosion, and also conduct accessibility upgrades. Noted for years 1 through 10 were other standard maintenance/repair items associated with the roof, HVAC system, and other building equipment related issues.

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 upgrade plans are currently under review by the DSA with approval estimated in April-May 2014 funded as part of the Statewide ADA/POT BCP by DOF. The building has been earmarked @ \$3 million for these upgrades. Construction is estimated to begin in FY 14-15.

ADDITIONAL BUILDING ISSUES

The building had both of its boilers go down in the 4th quarter of 2013 and (2) rented boilers have been installed while DGS Special Programs Section evaluates permanent energy efficient boiler replacement feasibility and cost.

CURRENT UTILIZATION PROJECTS

- DIR is in process of backfilling behind DOJ on the 4th Floor (2,548 SF)
- BOE is taking 5,333 sf "as is" on the 11th floor, backfilling DCA space.
- CDCR is vacating 20,422 sf on the 10th floor. DOJ is in process of backfilling @ 5,000 SF of CDCR's 10th Floor space. The remaining @ 15,000 SF has been reserved for the State Coastal Conservancy pending a decision re: tenant improvements and DSA policy on the Building's ADA/POT project.

RECENTLY COMPLETED PROJECTS

TBD

Cost

* Source: Statewide Property Inventory

Elihu M. Harris Building Fact Sheet

1515 Clay Street
Oakland

**Category 4 - Low Priority - Constructed in the Last 20 Years
Special Repairs and Maintenance**

ACTIVE PROJECTS

Cost

TBD

PLANNED SPECIAL REPAIRS BY FISCAL YEAR

Estimated Cost

TBD

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

APPENDIX G: COST TABLES

10 YEAR EXPENDITURE FORECAST



Elihu M. Harris State Building
1515 Clay Street
Oakland, California

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

B. SHELL																													
B10 SUPERSTRUCTURE																													
B1019	Subfloor	B1019 Parking Garage Waterproof Coating	Parking Garage B2	B1019 Apply Waterproof Coating	10	0	8,400.00	SF	\$23.81	IN - Reliability	Priority 1	\$199,987	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$199,987	\$0						
B20 EXTERIOR ENCLOSURE																													
B2011	B2011 Exterior Wall Construction	B2011 Scrape and Paint Exterior Metal	Main roof and various ground level perimeter	Replace B2011 Scrape and Paint Exterior Metal	10	0	24,000.00	SF	\$7.74	OP - Maintenance	Priority 1	\$185,702	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$185,702	\$0						
B30 ROOFING																													
B3011	Modified Bitumen, Total Roof	B3011 Modified Bitumen Roofing Membrane	Flat Roofs	Replace B3011 Modified Bitumen Roofing Membrane	20	3	880.00	SQ	\$1,806.36	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$1,589,595	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,589,595					
B3021	Curved Plexi-Glas Panels	B3021 Curved Plexi-Glas Panels	Atrium	B3021 Reseal atrium roof	15	0	2,400.00	LF	\$29.12	IN - Reliability	Priority 1	\$69,888	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$69,888	\$0						
Shell Subtotal												\$455,578	\$0	\$0	\$1,589,595	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$455,578	\$1,589,595

C. INTERIORS																												
C10 INTERIOR CONSTRUCTION																												
C1014	C1014 Site Built Toilet Partitions	C1014 Toilet Partitions	Restrooms	Replace C1014 Toilet Partitions	20	3	60.00	EA	\$2,182.40	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$130,944	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$130,944					
C30 INTERIOR FINISHES																												
C3012	Paint Interior Walls, Drywall	C3012 Paint Interior Walls, Drywall	Throughout interior	C3012 Paint Interior Walls, Drywall	10	3	528,000.00	SF	\$2.13	IN - Appearance	Priority 3	\$0	\$0	\$0	\$1,126,118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,126,118					
C3024	Vinyl Tile	C3024 Vinyl Tile	Entire Facility	Replace C3024 Vinyl Tile	20	5	2,200.00	SY	\$125.78	IN - Appearance	Priority 4	\$0	\$0	\$0	\$0	\$276,716	\$0	\$0	\$0	\$0	\$0	\$0	\$276,716					
C3025	Carpet, Standard Commercial, Medium Traffic	C3025 Carpet, Standard Commercial, Medium Traffic	Throughout interior	Replace C3025 Carpet, Standard Commercial, Medium Traffic	10	3	58,640.00	SY	\$96.61	IN - Appearance	Priority 3	\$0	\$0	\$0	\$5,664,952	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,664,952					
C3031	Drywall - Painted Finished Ceilings	C3031 Painted Drywall Ceilings	Restrooms and select locations	C3031 Paint Drywall Ceilings	20	3	48,000.00	SF	\$4.54	IN - Appearance	Priority 3	\$0	\$0	\$0	\$217,843	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$217,843					
Interiors Subtotal												\$0	\$0	\$0	\$7,139,858	\$0	\$276,716	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,416,574

D. SERVICES																							
D10 CONVEYING SYSTEMS																							
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevators 9-12	Replace D1011 Traction Elevator Machinery and Controls	25	3	4.00	EA	\$290,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$1,160,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,160,000
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevators 1-4	Replace D1011 Traction Elevator Machinery and Controls	25	3	4.00	EA	\$275,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$1,100,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,100,000
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevators 14-15	Replace D1011 Traction Elevator Machinery and Controls	25	5	2.00	EA	\$240,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$0	\$480,000	\$0	\$0	\$0	\$0	\$0	\$0	\$480,000
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevators 5-8	Replace D1011 Traction Elevator Machinery and Controls	25	3	4.00	EA	\$290,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$1,160,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,160,000
D1011	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Hydraulic Elevators, 5000 lb	Elevators 16-17	Replace D1011 Hydraulic Elevators, 5000 lb	25	5	2.00	EA	\$135,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$0	\$270,000	\$0	\$0	\$0	\$0	\$0	\$0	\$270,000
D1012	Traction Geared Elevator - High Rise	D1011 Traction Elevator Machinery and Controls	Elevator 13	Replace D1011 Traction Elevator Machinery and Controls	25	5	1.00	EACH	\$315,000.00	FN - Modernization	Priority 3	\$0	\$0	\$0	\$0	\$315,000	\$0	\$0	\$0	\$0	\$0	\$0	\$315,000
D20 PLUMBING																							
D2011	Flush Valve & Water Closet	D2011 Water Closet, Child	Child Center	Replace D2011 Water Closet, Child	25	8	5.00	EA	\$965.24	OP - Energy	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,826	\$4,826
D2022	Domestic Hot Water Heater - Gas LARGE	D2022 Domestic Hot Water Heater - Gas - 250 Gal	23rd Floor Boiler Room	Replace D2022 Domestic Hot Water Heater - Gas - 250 Gal	20	3	2.00	EA	\$46,964.00	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$93,928	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$93,928
D30 HVAC																							
D3022.1	Circulation Pump 40 HP	D3022 HVAC Condenser Water 30-50 HP	23rd Floor	D3022 Add VFDs to Condenser Water Pumps	20	4	2.00	EA	\$3,900.10	OP - Energy	Priority 3	\$0	\$0	\$0	\$7,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,800
D3022.1	Circulation Pump 40 HP	D3022 HVAC Condenser Water 30-50 HP	23rd Floor	Replace D3022 HVAC Condenser Water Pumps 30-50 HP	20	4	2.00	EA	\$44,806.80	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$89,614	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$89,614
D3022.1	Circulation Pump 60 HP	D3022 Chilled Water Circ Pumps 50 HP	Mechanical Room North	D3022 Replace variable frequency drives	20	3	4.00	EA	\$3,900.10	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$15,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,600
D3022.1	Circulation Pump 60 HP	D3022 Chilled Water Circ Pumps 50 HP	Mechanical Room North	Replace D3022 Chilled Water Circulation Pumps 50 HP	20	3	4.00	EA	\$47,218.38	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$188,874	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$188,874
D3022.1	Circulation Pump 60 HP	D3022 HVAC Condenser Water Pumps 60 HP	23rd Floor	D3022 Replace VFDs for 60 HP Pumps	20	0	2.00	EA	\$19,500.10	IN - Reliability	Priority 1	\$39,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$39,000
D3022.1	Circulation Pump 60 HP	D3022 HVAC Condenser Water Pumps 60 HP	23rd Floor	Replace D3022 HVAC Condenser Water Pumps 60 HP	20	0	2.00	EA	\$47,218.38	IN - Reliability	Priority 1	\$94,437	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$94,437
D3022.1	Circulation Pump, 7 to 10 HP	D3023 HW Circulating 10-25 HP	23rd Floor Boiler Room	D3023 Replace 2 VFDs and add 2 VFDs.	20	3	4.00	EA	\$3,900.10	OP - Energy	Priority 3	\$0	\$0	\$0	\$15,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,600
D3022.1	Circulation Pump, 7 to 10 HP	D3023 HW Circulating 10-25 HP	23rd Floor Boiler Room	Replace D3023 Hot Water Circulation Pumps 10-25 HP	20	3	4.00	EA	\$24,192.40	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$96,770	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$96,770
D3031.1	Water Cooled Chiller, Centrifugal, 500-Ton	D3031 Chiller, Water Cooled, 775 Ton	23rd Floor	Replace D3031 Chiller, Water Cooled, 775 Ton	20	0	1.00	EA	\$692,147.89	IN - Beyond Rated Life	Priority 1	\$692,148	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$692,148
D3031.2	Cooling Tower, Galvanized Steel, 800 Ton	D3031 Cooling Tower, Galvanized Steel, 775 Ton	23rd Floor	D3031 Replace Failing VFDs	0	0	2.00	EA	\$3,000.10	IN - Reliability	Priority 1	\$6,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,000	\$0
D3031.2	Cooling Tower, Galvanized Steel, 800 Ton	D3031 Cooling Tower, Galvanized Steel, 775 Ton	23rd Floor	Replace D3031 Cooling Tower, Galvanized Steel, 775 Ton	25	5	2.00	EA	\$325,028.30	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$650,057	\$0	\$0	\$0	\$0	\$0	\$0	\$650,057
D3031.2	Cooling Tower, Galvanized Steel, 400 Ton	D3031 Cooling Tower, Galvanized Steel, 360 Ton	23rd Floor	Replace D3031 Cooling Tower, Galvanized Steel, 360 Ton	25	8	1.00	EA	\$174,592.99	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,593	\$0	\$0	\$174,593
D3032	Evaporative Condensers 100 Ton	D3032 Condenser Coils 100 Ton	South Mechanical Room	Replace D3032 Condenser Coils 100 Ton	20	5	1.00	EA	\$76,963.08	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$76,963	\$0	\$0	\$0	\$0	\$0	\$0	\$76,963
D3032	Evaporative Condensers 100 Ton	D3032 Condenser Coils 500 Ton	23rd Floor	Replace D3032 Condenser Coils 500 Ton	20	5	2.00	EA	\$210,800.00	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$421,600	\$0	\$0	\$0	\$0	\$0	\$0	\$421,600
D3032	Evaporative Condensers 100 Ton	D3032 Condenser Coils 250 Ton	5th Floor	Replace D3032 Condenser Coils 250 Ton	20	5	2.00	EA	\$161,200.00	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$322,400	\$0	\$0	\$0	\$0	\$0	\$0	\$322,400
D3041.1	Central Station Ahu 63000 CFM	D3041 Supply Air SF5-8 - 43,250 CFM	5th Floor	D3041 Replace fan motors	0	0	4.00	EA	\$4,960.00	IN - Reliability	Priority 1	\$19,840	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,840
D3041.1	Central Station Ahu 63000 CFM	D3041 Return Air RE 5-8 - 40,500 CFM - 30HP	5th Floor	D4041 Replace fan motors	0	0	4.00	EA	\$4,960.00	IN - Reliability	Priority 1	\$19,840	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,840
D3041.1	Central Station Ahu 63000 CFM	D3041 Return Air RE 98 - 36,500 CFM - 30HP	South Building Mechanical Room	D3041 Replace fan motors	0	0	1.00	EA	\$4,960.00	IN - Reliability	Priority 1	\$4,960	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,960
D3041.1	Central Station Ahu 63000 CFM	D3041 Return Air RE1-4 - 88,250 CFM - 75 Hp	23rd Floor	D3041 Replace fan motors	0	0	4.00	EA	\$19,600.00	IN - Reliability	Priority 1	\$78,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$78,400
D3041.1	Central Station Ahu 63000 CFM	D3041 Supply Air SF1-4 - 96,750 CFM	23rd Floor	D3041 Replace fan motors	0	0	1.00	EA	\$24,000.00	IN - Reliability	Priority 1	\$24,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,000
D3041.1	Central Station Ahu 63000 CFM	D3041 Supply Air SF 9 - 42,000 CFM	South Building Mechanical Room	D3041 Replace fan motors	10	0	1.00	EA	\$4,960.00	IN - Reliability	Priority 1	\$4,960	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,960
D3042	Exhaust Fan, Sidewall 11,250 CFM	D3042 Exhaust Fan 40,000 CFM - Atrium	Rooftop	Replace D3042 Exhaust Fan 40,000 CFM - Atrium	20	5	1.00	EA	\$16,594.18	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$16,594	\$0	\$0	\$0	\$0	\$0	\$0	\$16,594
D3042	Exhaust Fan, Sidewall 11,250 CFM	D3042 Exhaust Fan 26,000 CFM	Rooftop	Replace D3042 Exhaust Fan 26,000 CFM	20	3	2.00	EA	\$16,594.18	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$33,188	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$33,188
D3042	Exhaust Fan, Sidewall 11,250 CFM	D3042 Exhaust Fan, under 15,000 CFM	Parking Garage	Replace D3042 Exhaust Fan, under 15,000 CFM	20	3	2.00	EA	\$26,040.00	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$52,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$52,080
D3068	Direct Digital Controls (DDC) Extensive	D3068 Direct Digital Controls	Maintenance Admin Offices	Replace D3068 Direct Digital Controls	20	0	879,883.00	SF	\$0.82	IN - Beyond Rated Life	Priority 1	\$720,096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$720,096
D40 FIRE PROTECTION SYSTEMS																							

10 YEAR EXPENDITURE FORECAST

Elihu M. Harris State Building
 1515 Clay Street
 Oakland, California

Useful Life ¹	Estimated Useful Life	Plan Type ²	OP: Operations	CC: Code Compliance	Legend
	Remaining Useful Life		EN: Environmental	FN: Functionality	
			IN: Integrity		Deferred
					Scheduled

Element #	Component Description	Asset	Location	Action	EUL (Yrs)	RUL (Yrs)	Qty.	Unit of Meas.	Unit Cost	Plan Type	Priority ²	2015 Year 0	2016 Year 1	2017 Year 2	2018 Year 3	2019 Year 4	2020 Year 5	2021 Year 6	2022 Year 7	2023 Year 8	2024 Year 9	Total - Deferred	Total - Scheduled	
D4011	Sprinkler Head	D4011 Sprinkler Heads	Throughout Facility	Replace D4011 Sprinkler Heads	25	8	879,883.00	SF	\$2.22	CC - Life Safety	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,951,932	\$0	\$1,951,932
D4031	Install Ansul System at Kitchen Hood	D4031 Ansul System at Kitchen Hood	Cafeteria	Replace D4031 Ansul System at Kitchen Hood	17	0	1.00	EA	\$11,735.10	CC - Life Safety	Priority 1	\$11,735	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,735	\$0
D50 ELECTRICAL SYSTEMS																								
D5038	Security System - Full Spec	D5038 Security and Detection System Upgrade	Grade level	Replace D5038 Security and Detection System Upgrade	10	0	30,000.00	SF	\$8.43	IN - Beyond Rated Life	Priority 1	\$252,756	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$252,756	\$0
D5092	Diesel Generator, 2,500 kW.	D5092 Emergency Generator 2500 kW	Emergency Generator Room	D5092 Add/improve secondary containment for day tank	0	0	1.00	EA	\$3,500.00	EN - Air/ Water Quality	Priority 1	\$3,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,500	\$0
Services Subtotal												\$1,971,672	\$0	\$0	\$3,916,040	\$97,414	\$2,552,614	\$0	\$0	\$2,131,352	\$0	\$1,971,672	\$8,697,420	
E. EQUIPMENT & FURNISHING																								
Equipment & Furnishing Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
F. SPECIAL CONSTRUCTION AND DEMOLITION																								
Special Construction And Demolition Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G. BUILDING SITEWORK																								
G20 SITE IMPROVEMENTS																								
G2022	G2022 Paving & Surfacing	G2020 Restripe Parking Lot	Parking Garage	Replace G2020 Restripe Parking Lot	5	4	16.00	10000 SF	\$1,240.00	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$19,840	\$0	\$0	\$0	\$0	\$0	\$19,840	\$0	\$39,680
Building Sitework Subtotal												\$0	\$0	\$0	\$0	\$19,840	\$0	\$0	\$0	\$0	\$0	\$19,840	\$0	\$39,680
Z. GENERAL																								
General Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Expenditure Totals per Year												\$2,427,250	\$0	\$0	\$12,645,493	\$117,254	\$2,829,330	\$0	\$0	\$2,131,352	\$19,840	\$2,427,250	\$17,743,269	
Total Cost (Inflated @ 5% per Yr.)												\$2,427,250	\$0	\$0	\$14,638,739	\$142,523	\$3,611,022	\$0	\$0	\$3,148,977	\$30,778	Total *	\$20,170,519	

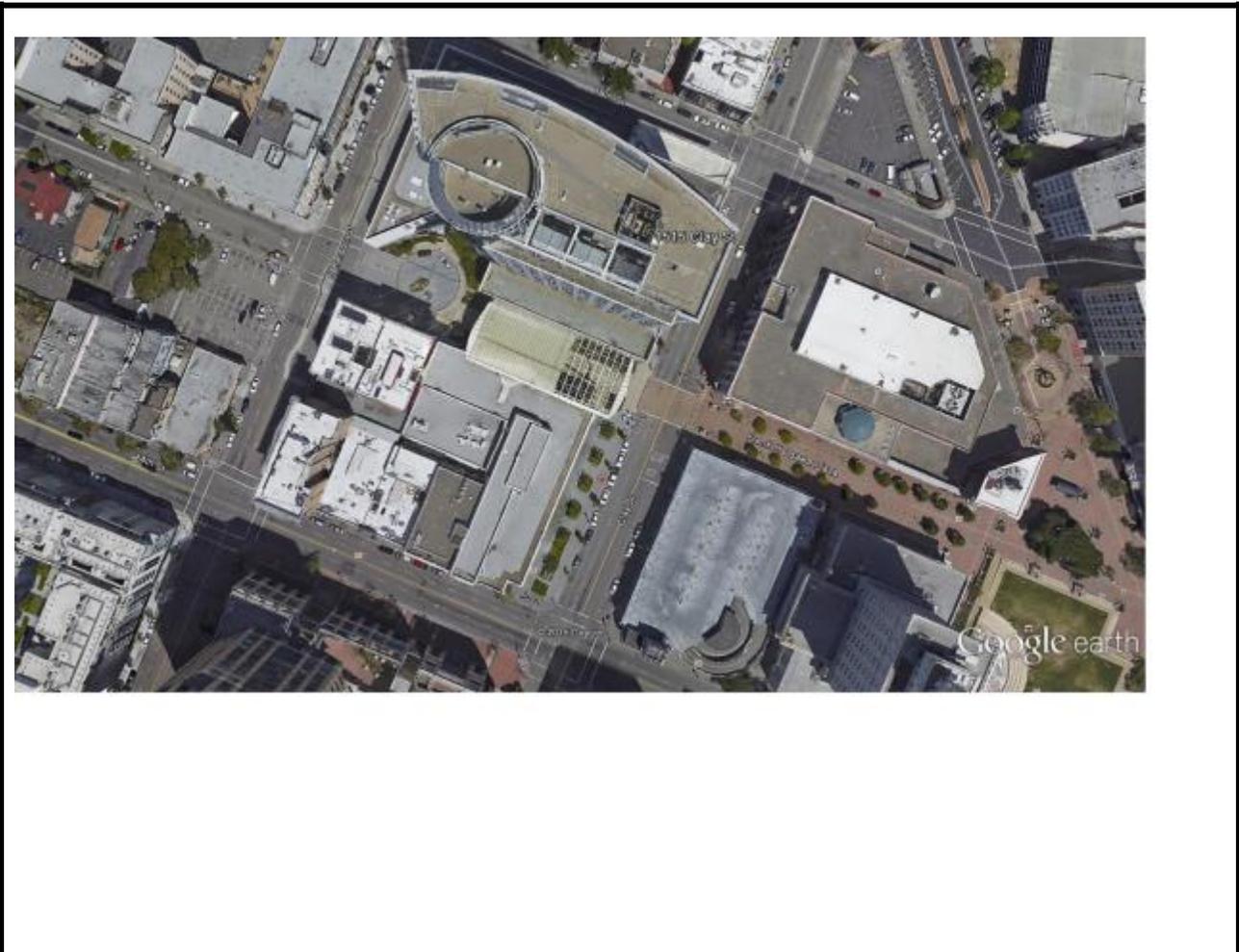
* - Present Value Currency

Footnotes

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

Current Repl.Value \$569,161,911

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-035.305</p> <p>Project Name:</p> <p>Elihu M. Harris State Building</p>
		<p>On-Site Date:</p> <p>February 9-11, 2015</p>

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 ARCHTECTURAL 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

Estimate of Structures Cost Using Marshall Cost Systems			
Elihu M. Harris			
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 TypeTotal
Main Building	\$602.28	724,029	\$436,066,400
Underground Parking	\$123.52	155,954	\$19,263,129
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
	Total	879,983	\$455,329,529
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	\$436,066,400	25.00%	\$545,083,000
Underground Parking	\$19,263,129	25.00%	\$24,078,911
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
Cost Per SF	\$646.79	Total Estimate	\$569,161,911

APPENDIX I: PRE-SURVEY QUESTIONNAIRE

Property Condition Assessment: Pre-Survey Questionnaire

This questionnaire should be completed by someone knowledgeable about the subject property. The completed form should be presented to EMG's Field Observer on the day of the site visit. If the form is not completed, EMG's Project Manager will require additional time during the on-site visit with such a knowledgeable person in order to complete the questionnaire. During the site visit, EMG's Field Observer may ask for details associated with selected questions. This questionnaire will be utilized as an exhibit in EMG's final Property Condition Report.

Name of person completing questionnaire: Scott Hixon

Building name: Elihu M. Harris State Building (602)

What is your association with this property? Building Manager

What is the length of your association with this property? 3+ Months

Phone number: (510) 622-2564

Please provide information about inspections relating to the following items

Inspections	Date Last Inspected	List Name & Contact for Maintenance Contractor, if any.
1. Elevators	4/14/2014	Thyssenkrupp Elevator Corp.
2. HVAC, Mechanical, Electric, Plumbing	N/A	
3. Life-Safety/Fire	1/2014	Simplex Grinnell
4. Roofs	N/A	

5. List any major capital improvements within the last three years.

Boiler Repair Project - both boilers, which had failed and serve entire building, were rebuilt and new burners were installed.

6. Are there any other major capital expenditures planned in the near term?

Cooling Towers Retrofit - Repair/Replace. Building Automation Management System Upgrade - Will provide updates to current technology available, allowing optimum efficiency for extended energy savings.

7. What is the age of the roof(s)?

17 Years.

8. What building systems (HVAC, roof, interior/exterior finishes, paving etc.) are the responsibilities of contractors to repair or replace?

Elevators, Roof, Emergency Generators, Fire Systems, Security Systems, Access Control Systems, BMS or EMS Systems, exterior finishes, some hard interior finishes, carpet, window replacement.

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. Note: N/A indicates "Not Applicable", Unk indicates "Unknown"

Question	Y	N	N/A	Unk	Comments
9. Are there any unresolved building, or fire code issues?	x				Response to most recent State Fire Marshall is not complete at this time. Door repair on 9th Floor, underway.
10. Are there any "down" or unusable units?	x				Various HVAC System failures. Motor and VFD failures in all areas, for Cooling & Heating water pumps, Air Supply and Return Fans. Security Systems - A number of the Surveillance Cameras are non-operational.
11. Are there any problems with erosion, storm-water drainage or areas of paving that do not drain?				x	

Question	Y	N	N/A	Unk	Comments
12. Is the property served by a private water well?		x			
13. Is the property served by a private septic system or other waste treatment systems?		x			Public Wastewater Utility
14. Are there any problems with foundations or structures?				x	
15. Is there any water infiltration in basements or crawl spaces?	x				B-2 Parking Garage has various groundwater waterproofing leaks, which increase with seasonal rainfall.
16. Are there any wall, or window leaks?				x	None noted at this time.
17. Are there any roof leaks?		x			None noted at this time.
18. Is the roofing covered by a warranty or bond?				x	Warranty - 3 years remaining, patch repair only. Warranty documents on file not complete to verify.
19. Are there any poorly insulated areas?		x			
20. Is Fire Retardant Treated (FRT) plywood used?		x			
21. Is exterior insulation and finish system (EIFS) or a synthetic stucco finish used?	x				
22. Are there any problems with the utilities, such as inadequate capacities?				x	Nothing reported recently to date.
23. Are there any problems with the landscape irrigation systems?				x	Currently under water reduction plan for drought response. Indoor planters may contribute to water basement water intrusion issues.
24. Has a termite/wood boring insect inspection been performed within the last year?			x		
25. Do any of the HVAC systems use R-11, 12, or 22 refrigerants?	x				No R-11 or R-12. R-22 System on-site.
26. Has any part of the property ever contained visible suspect mold growth?		x			
27. Is there a mold Operations and Maintenance Plan?			x		
28. Have there been indoor air quality or mold related complaints from tenants?	x				Possible Library Area. Unconfirmed.

Question	Y	N	N/A	Unk	Comments
29. Is polybutylene piping used?				x	
30. Are there any plumbing leaks or water pressure problems?		x			
31. Are there any leaks or pressure problems with natural gas service?	x				Local Gas Utility has dropped our service several times with no notification, due to maintenance activities.
32. Does any part of the electrical system use aluminum wiring?		x			
33. Are there transformers inside the building?	x				
34. Do any Commercial units have less than 200-Amp service?		x			
35. Are there any recalled fire sprinkler heads (Star, GEM, Central, Omega)?				x	
36. Is there any pending litigation concerning the property?		x			
37. Has the State previously completed an ADA or 'Title 24 review?	x				Study in 2013/14??
38. Have any ADA or Title 24 improvements been made to the property?		x			Minimal local efforts by building maintenance, as needed for individuals in work areas.
39. Does a Barrier Removal Plan exist for the property?	x				ADA Access Barrier Project - To start in Spring/Summer 2015.
40. Has the Barrier Removal Plan been approved by a credentialed third party?				x	Assume so.
41. Have there been any ADA or Title 24 related complaints?		x			Requested upgrades and repair for individual/tenant on 9th Floor. Repairs underway, at this time. Upgrades to be addressed in coming project.
42. Have there been any complaints about the elevators or wait times?	x				Commonly Freight Elevator, excessive use. Breakdowns relatively common on all passenger elevator banks, with majority remain in operation.
43. Are there any problems with exterior lighting?	x				Inadequate in many areas, in regards to security and surveillance. Does not provide deterrent to ongoing illegal activities occurring on the property exterior, on a nightly basis.
44. Are there any other significant issues/hazards with the property?					Security & Surveillance Systems are a major concern. As many illegal and potentially harmful activities are occurring along the property's exterior on a daily/nightly basis.
45. Are there any unresolved construction defects at the property?		x			

APPENDIX J: ELEVATOR REPORT



Elevator Assessment

**Building 602 – Elihu M. Harris State Building
1515 Clay Street
Oakland, California 94612**

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Appendix A – Elevator Equipment Summary

The following chart provides an “at a glance” summary of all of the elevator equipment at the subject property.

Bank/Elevator Description	Elevator Number	Speed	Capacity	Floors Served	Date of Original Install	Date of Last Mod	Next Mod Due	Elevator Type	Machine / Power Unit Manuf.	Motor Control	Control Manuf.	Door Size/ Style	Door Equip. Manuf.
Elevators 1-4 (Group – ID# 109711-109714)	1	450 fpm	3,500 pounds	1-7	1997	N/A	3-5 years	Overhead Geared Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	2	450 fpm	3,500 pounds	1-7	1997	N/A	3-5 years	Overhead Geared Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	3	450 fpm	3,500 pounds	1-7	1997	N/A	3-5 years	Overhead Geared Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	4	450 fpm	3,500 pounds	1-7	1997	N/A	3-5 years	Overhead Geared Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
Elevators 5-8 (Group – ID# 109715-109718)	5	700 fpm	3,500 pounds	1, 8-15	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	6	700 fpm	3,500 pounds	1, 8-15	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	7	700 fpm	3,500 pounds	1, 8-15	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	8	700 fpm	3,500 pounds	1, 8-15	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
Elevators 9-12 (Group – ID# 109719-109722)	9	700 fpm	3,500 pounds	1, 16-22	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	10	700 fpm	3,500 pounds	1, 16-22	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	11	700 fpm	3,500 pounds	1, 16-22	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	12	700 fpm	3,500 pounds	1, 16-22	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
Elevator 13 (Simplex – ID# 10972)	9	500 fpm	5,000 pounds	B2, B1, 1-23	1997	N/A	3-5 years	Overhead Gearless Traction	Montgomery	SCR	Montgomery	52"x 96" Side Opening	MAC
Elevators 14-15 (Duplex – ID# 109724-109725)	14	350 fpm	3,500 pounds	1-3	1997	N/A	3-5 years	Overhead Geared Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
	15	350 fpm	3,500 pounds	1-3	1997	N/A	3-5 years	Overhead Geared Traction	Montgomery	SCR	Montgomery	42"x 96" Center Opening	MAC
Elevators 16-17 (Duplex – ID# 109726-109727)	16	125 fpm	3,000 pounds	B2, B1, 1	1997	N/A	3-5 years	Inground Hydraulic	Montgomery	EM Starter	Montgomery	42"x 84" Center Opening	MAC
	17	125 fpm	3,000 pounds	B2, B1, 1	1997	N/A	3-5 years	Inground Hydraulic	Montgomery	EM Starter	Montgomery	42"x 84" Center Opening	MAC
WC Lift – ID# Unknown	WC1	15 fpm	750 pounds		Unknown	N/A	20+ years	Lift	Porch-Lift	Lift	Porch-Lift	Swing Door	N/A

Appendix A - Continued – Escalator Equipment Summary

The following chart provides an “at a glance” summary of all of the elevator equipment at the subject property.

Escalator ID#	Manufacturer	Handrail Speed	Step Width	Floors Served	Date of Original Install	Date of Last Upgrade	State Inspection Date	State Inspection Status	Overall Level of Maintenance
109728	Montgomery	90 fpm	40"	L-2	2000	N/A	4/2014	Current	Average
109729	Montgomery	90 fpm	40"	L-2	2000	N/A	4/2014	Current	Average

Elevator Number	State Inspection Date	State Inspection Status	5-Year Test Date	5-Year Test Status	Annual Test Date	Annual Test Status	Fire Service Testing Logs	Machine Room Maintenance Logs	Overall Level of Maintenance	Modernization Priority
1	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
2	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
3	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
4	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
5	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
6	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
7	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
8	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
9	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
10	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
11	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
12	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
13	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
14	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
15	4/2014	Current	Not Required	Not Required	Not Required	Not Required	Current	Current	Above Average	Medium High
16	4/2014	Current	8/2012	Current	Not Required	Not Required	Current	Current	Above Average	Medium High
17	4/2014	Current	8/2012	Current	Not Required	Not Required	Current	Current	Above Average	Medium High

Appendix B – Repair Items

The following chart details items that must be scheduled for repair prior to the end of the current maintenance contract. Contractor shall provide a schedule to Owner and Consultant within two weeks of receipt of this report.

Building 602 – Elihu Harris Building				
Current Items			These Columns For Use by Contractor and in Future ECA Visits	
Item #	Item Description	Units Affected	Item Complete	Comments
1	Hoist ropes rouged and close to undersize – replace hoist ropes	1		

Appendix C – Maintenance Corrections

The following chart details minor maintenance items (cleaning, lubrication, adjustments, etc.) which should be addressed to the greatest extent possible prior to the building walkthroughs for the elevator maintenance bid process, projected to take place the first two weeks of April, 2015.

Building 602 – Elihu Harris Building				
Current Items			These Columns For Use by Contractor and in Future ECA Visits	
Item #	Item Description	Units Affected	Item Complete	Comments
1	Clean top of car	1-4		
2	Clean pits	1-4, 14-17		
3	Monitor rouge on hoist ropes	13		
4	Clean rope filings from floor and bed plate	13		
5	Clean oil from hoist machines and monitor leaks	14-15		
6	Clean machine room	16-17		
7	Seal oil leaks form oil cooler cable	16-17		
8	Properly store spare parts in machine room	16-17		
9	Repair oil leak – middle of step	Up Esc		

Appendix D – Owner’s Maintenance Items

The following items are not part of your elevator contract, and thus are typically corrected by building engineering or another non-elevator sub-contractor. ECA is happy to discuss any of these items at any time. Please feel free to call or e-mail Matt Ensley or Sean Colgan with any questions you may have.

Sean Colgan: 916-337-3572 – sean.colgan@elevatorconsultingassociates.com

Matt Ensley: 213-247-8992 – matt.ensley@elevatorconsultingassociates.com

Building 602 – Elihu Harris Building				
Current Items			These Columns For Use by University and in Future ECA Visits	
Item #	Item Description	Units Affected	Item Complete	Comments
1	Properly label machine room door – “Elevator Equipment Room – Authorized Personnel Only”	All		

Appendix E – Modernization Recommendation

It is commonly held in the industry that elevator equipment should be modernized every 20-25 years. While this is a valid generalization, the actual time for modernization can vary greatly from property to property, depending on the type of equipment installed, its age, the level of usage, etc. In this case, your equipment was installed in 1997 (18 years ago). Montgomery, the manufacturer of the elevator controls, was purchased by Kone long ago, and thus the support for the controls is limited, and we expect parts and support to become more scarce in the coming years, particularly the drives used in these controllers. The maintenance at this property is above average, which is likely keeping the elevator service in fairly good shape. However, we would expect elevator service to become increasingly more of an issue in the coming years as it become more difficult for the service company to get parts and support and to troubleshoot problems that crop up with the control circuit boards and drives. With these issues in mind, we would recommend budgeting for modernization of the elevator equipment in the next 3-5 years.

Note that the escalators were installed in 2000, and are thus 15 years old. Escalators typically last longer than elevators, assuming proper maintenance is performed. Therefore, we expect that the escalators, as well as the wheelchair lift, will not require modernization for at least another 15 years. As such, we are not recommending any budgets for those items at this time.

The following table shows the scope of the modernization based on our current observations. Note that the scope may change slightly by the time the elevators are modernized based on the condition of the equipment at that time, changes in code or ADA, etc.

Elevator Modernization Plan		
Item	Elevator(s)	Action
Elevator Control	All	New Solid State
Motor Control (Drive)	Traction	New
Solid State Starter	Hydraulic	New
Dispatching	New	Standard
Battery Lowering Operation	Hydraulic	New
Traction Machine	Traction	Refurbish
Secondary/Deflector Sheaves	Traction	Refurbish
Hoist Motor	Geared Traction	New
Power Unit	Hydraulic	New
Governor	Traction	Refurbish
Hoist Ropes	Traction	Replace only if needed due to measured size
Car Safety	Traction	Retain
Load Weighing Operation	Traction	New
Car Button Station	All	New
Car Position Indicator	All	New
In-Car Communication (ADA Phone)	All	New

Elevator Modernization Plan		
Car/Hall Lanterns	All	New
Hall Button Stations	All	New
Alarm Bells	All	New
Hoistway Limits	All	New
Wiring	All	New
Car Guides	All	Refurbish
Counterweight Guides	Traction	Refurbish
Counterweight	Traction	Retain
Guide Rails	All	Retain
Door Operation	All	New Closed Loop
Car and Hall Door Equipment	All	New/Refurbish as needed
Door Restrictor	All	New
Door Detector Edge	All	New
Pit Switch	All	New
Pit Springs/Buffers	All	Retain
Piston and Casing	Hydraulic	Retain
Earthquake Operation	Traction	New
Protection Against Ascending Car Overspeed and Unintended Car Movement (Rope Gripper)	Traction	New
Compliance with then-current elevator code	All	Included
Compliance with ADA	All	Included
Cab Interiors	All	Optional

The breakdown of modernization costs is as follows:

- Elevators 1-4: \$225,000 per elevator - \$900,000 total
- Elevators 5-8: \$250,000 per elevator - \$1,000,000 total
- Elevators 9-12: \$250,000 per elevator - \$1,000,000 total
- Elevator 13: \$275,000
- Elevators 14-15: \$200,000 per elevator - \$400,000 total
- Elevators 16-17: \$100,000 per elevator - \$200,000 total

The total recommended budget for the elevator portion of this modernization without cab interiors is \$3,775,000. If you choose to refurbish the cab interiors (floors, side and back walls and ceiling), we would recommend a budget of \$425,000 (\$25,000 per elevator). This budget assumes fairly standard finishes for the cab interiors. If you feel that you may want custom or “better than average” cabs, you may wish to add a contingency of 20% to this budget.

Not included in the above is work by other trades. When an elevator modernization occurs, it often precipitates the requirement for work in other related areas, either due to code changes since installation, different requirements for the new control systems, desired changes in look of the systems, etc. The most common required work is electrical work (new or modified disconnects in the machine

room, increase in lighting, etc.), fire and life safety work (addition of smoke detectors in elevator areas, addition or removal of sprinklers, etc.), general contracting (modifications for access to machine areas, cutting and patching for new fixtures, etc.) and potentially other areas. It is difficult for ECA to provide accurate budgets at this time, as our expertise is in the area of elevators and not necessarily in these other areas. However, we can estimate in this case that the required work by other trades will be roughly \$250,000. We think this is a fairly conservative estimate and, combined with our other budgets should provide you a placeholder to allocate the proper funds (we don't want this work to be a surprise for you down the road).

Finally, as the State typically employs an elevator consultant for assistance with elevator modernization projects, we would recommend adding \$75,000 to the budget for that purpose.

The total budget for the recommended modernization project is \$4,100,000. This includes the elevator contractor's portion of the work, work by other trades, and elevator consulting. It does not include cab interior refurbishment, which would add \$425,000 to the total project cost.

We would be happy to discuss this modernization recommendation or any other aspect of this report at any time. Please contact Sean Colgan at 916-337-3572, or by email at sean.colgan@elevatorconsultingassociates.com.



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