



East End Complex Block 225 (049)

1430 "N" Street, Sacramento, CA 95814

Facility Condition Assessment

June 2015

Prepared for the State of California Department of General Services



TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
BACKGROUND	2
OBJECTIVE	2
SCOPE OF ASSESSMENT	3
SURVEY FINDINGS.....	3
INTRODUCTION.....	6
BUILDING BACKGROUND.....	6
BUILDING DESCRIPTION.....	6
FACILITY CONDITION ASSESSMENT.....	8
SCOPE OF ASSESSMENT	10
PRIORITY RANKING	11
CURRENT REPLACEMENT VALUE.....	15
FACILITY CONDITION INDEX.....	15
APPENDICES.....	18
APPENDIX A: ACCESSIBILITY ISSUES.....	18
APPENDIX B: GENERAL ASSESSMENT INFORMATION.....	20
APPENDIX C: CERTIFICATION.....	71
APPENDIX D: PHOTOS	74
APPENDIX E: TERMINOLOGY AND ABBREVIATIONS.....	96
APPENDIX F: BUILDING FACT SHEET	102
APPENDIX G: COST TABLES	104
APPENDIX H: SUPPORTING DOCUMENTATION	108
APPENDIX I: PRE-SURVEY QUESTIONNAIRE.....	122
APPENDIX J: ELEVATOR REPORT	128

THIS PAGE INTENTIONALLY BLANK

EXECUTIVE SUMMARY

BACKGROUND

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

The DGS portfolio comprises nearly 17 million gross square feet (GSF) of state-owned office facilities statewide, contained within 54 general-purpose state-owned office building sites. The FCA inventories and evaluates each of the DGS general purpose office buildings to benchmark current condition and establish a replacement value. This FCA assesses the infrastructure conditions for the East End Complex Block 225 (049).

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 East End Complex Block 225 (049) 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 East End Complex Block 225 (049) on December 15, 16, & 17, 2014. 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	\$199,858,355
Immediate Repair Costs (12 months)	\$3,360,636
1-5 Year Capital Needs	\$2,696,497
6-10 Year Capital Needs	\$8,626,362
Total 10-Year Capital Reserve Needs	\$14,683,494

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

Current Year FCI

$$\text{Current FCI} = \frac{\$3,360,636}{\$199,858,355}$$

Ten-Year FCI

$$\text{Ten-Year FCI} = \frac{\$14,683,494}{\$199,858,355}$$

Current Year FCI	Ten-Year FCI
1.68 %= Good Condition	7.35 %= Fair Condition

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

- Interior flooring replacements, including carpet and floor coatings, are recommended.
- Upgrade outdated direct digital controls for the heating and cooling system.
- Diagnose and repair the solar panel transformer/control system, which is not working, and is preventing operation of the solar panels.

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

THIS PAGE INTENTIONALLY BLANK

INTRODUCTION

BUILDING BACKGROUND

The East End Complex Block 225 (049) was designed by and constructed by the design build team of Hensel Phelps and Dreyfuss and Blackford Architects. Located at 1430 N Street, Sacramento, it is part of the Capitol Area East End Complex, which consists of five buildings: 049, 051, 052, 053, and 054 (or Blocks 225, 171, 172, 173, and 174, respectively). The East End Complex is the largest state-built general purpose office project in the history of California. The five buildings consolidate the headquarters of two state departments: the California Department of Education (CDE) and the Department of Health Services (DHS). The complex provides office space to 6,054 employees.

In 1997, California Legislature authorized the development of the Capitol Area East End Complex through the sale of revenue bonds. The Joint Rules Committee viewed this development as a landmark effort in effective cooperation with local government and development and management of public facilities, as well as a successful implementation of sustainable design principles and urban infill.

The entire Complex comprises approximately 1.56 million GSF of building area, approximately 1.16 million usable SF, and more than 1,600 parking spaces.

The first building in the complex to be built and occupied (July 2002) was East End Complex Block 225 (049). The Department of Education is the sole tenant of this building, and includes the State Superintendent of Schools, a Constitutional Officer. The building contains six occupied floors, plus a mechanical room on the seventh floor. The Department of Health Services occupies the other buildings in the East End Complex. The two departments operate separately, but share common use spaces in East End Block 172 (052) and event spaces in public areas.

The East End Complex Block 225 (049) includes ground floor child care, retail, and restaurant space. The building is approximately 475,128 GSF, with 298,859 SF of net usable area. The ratio of net usable to gross building area is 63 percent. The occupant capacity is 1,504.

BUILDING DESCRIPTION

The building structural system is a steel superstructure with concrete-topped metal floor decks. The roof structure is flat with a single-ply membrane over concrete decks. Some areas of the roof are overlaid with stone and tile.

The exterior walls are finished with granite veneer or precast concrete panels and aluminum-framed window walls.

The interior walls are painted drywall. The floor finishes are commercial carpet tiles, vinyl composition tile, ceramic tiles, and epoxy flooring. The ceilings are finished with acoustic tiles.

The building is served by five traction passenger elevators and a single hydraulic elevator from the parking garage to the lobby. There is one traction freight elevator.

Domestic hot water is provided by a series of electric water heaters located below the tenant spaces in the basement parking level.

Heating and cooling are provided by a four-pipe HVAC system with cooling towers, chillers, and boilers on the penthouse level. Under-floor air distribution occurs on floors two through six via large air supply/return shafts with three conditioning zones on each level. A separate first floor mechanical system serves four tenant lease spaces on the ground floor and is independent from the main building system. Individual split-system units condition other first floor ancillary spaces. A third-floor data room contains two Liebert cooling systems and battery back-ups.

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

A 500 kW diesel generator is located on the first floor.

Landscaping at the site is limited to a pocket park, which creates a transition between the office building and the historic apartment building next door. The landscaping consists of native grasses and trees irrigated by an underground irrigation system. Grey water is collected from the building, treated, and used in the water feature.

The sidewalks throughout the property are constructed of cast-in-place concrete with embedded stone features.

Project Statistics

Item	Description
Project Name	East End Complex Block 225
Building ID	049
Property Type	Administration
Year Built	2002
Number of Stories	6
Occupied	Yes
Land Area (acres)	2.2
Gross Square Feet (GSF)	475,128

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 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 East End Complex Block 225 (049) on December 15, 16, & 17, 2014. 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.

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

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.

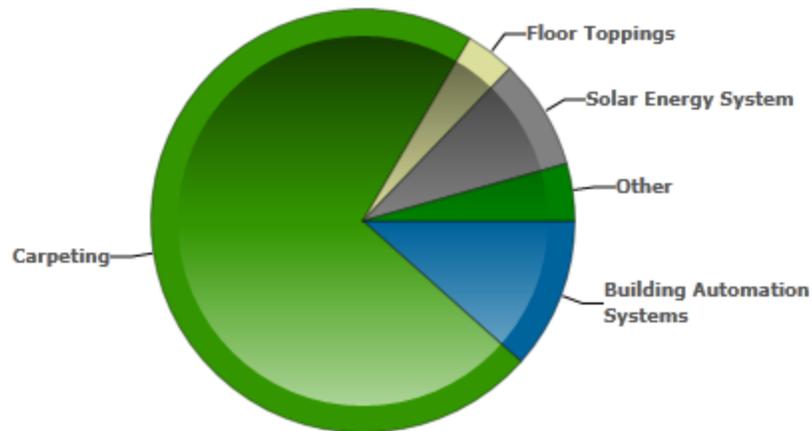
PRIORITY RATIO

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:

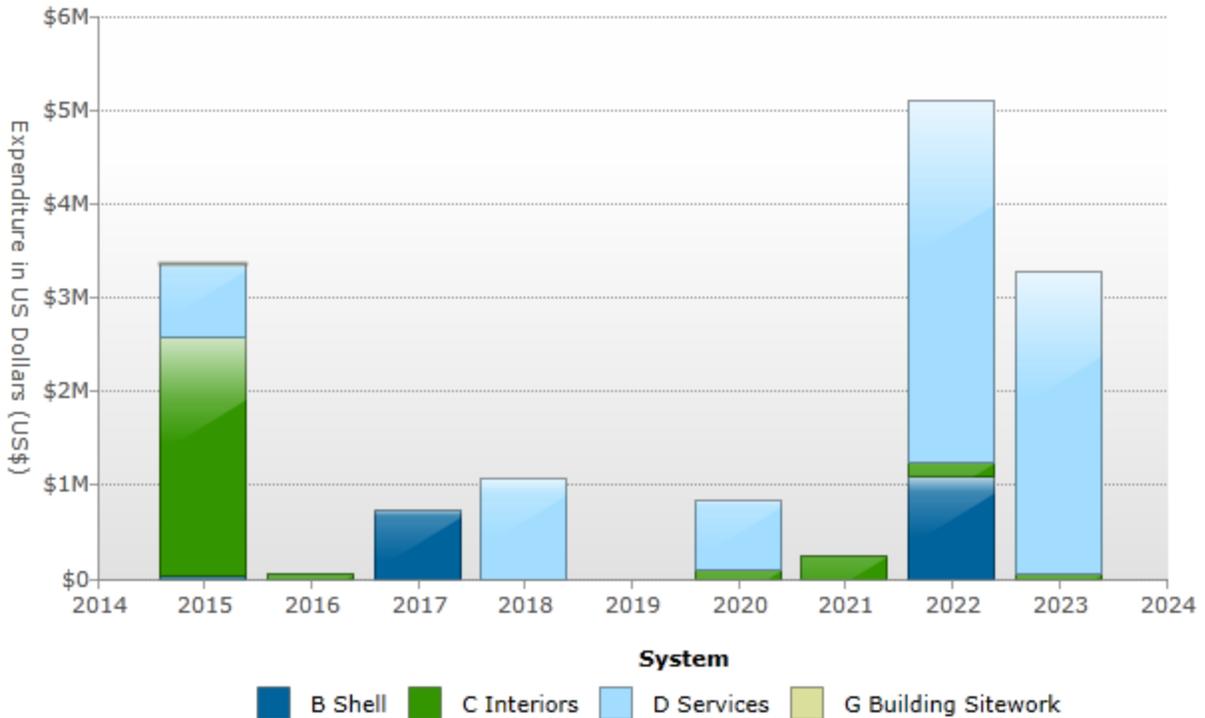
Condition	Definition
Good	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable 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
B3014	Flashings & Trim	\$37,690
C1021	Interior Doors	\$4,009
C3021	Floor Toppings	\$126,682
C3025	Carpeting	\$2,415,043
D1011	Passenger Elevators	\$42,480
D1012	Freight Elevators	\$42,480
D2034	Sanitary Waste Equipment	\$15,246
D3016	Solar Energy System	\$283,200
D3068	Building Automation Systems	\$388,845
G2031	Paving & Surfacing	\$4,960
	Total	\$3,360,636

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	\$37,690	\$2,545,735	\$772,251	\$0	\$0	\$4,960	\$3,360,636
2016	\$0	\$0	\$55,728	\$0	\$0	\$0	\$0	\$55,728
2017	\$0	\$739,904	\$0	\$0	\$0	\$0	\$0	\$739,904
2018	\$0	\$0	\$0	\$1,066,200	\$0	\$0	\$0	\$1,066,200
2020	\$0	\$0	\$100,624	\$734,042	\$0	\$0	\$0	\$834,666
2021	\$0	\$0	\$253,365	\$0	\$0	\$0	\$0	\$253,365
2022	\$0	\$1,085,984	\$157,133	\$3,861,874	\$0	\$0	\$0	\$5,104,991
2023	\$0	\$0	\$55,728	\$3,212,278	\$0	\$0	\$0	\$3,268,006
Total	\$0	\$1,863,578	\$3,168,313	\$9,646,644	\$0	\$0	\$4,960	\$14,683,494

CURRENT REPLACEMENT VALUE

The Current Replacement Value has been determined as \$199,858,355 for the East End Complex Block 225 Building (049). 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
475,128 GSF	\$421	\$199,858,355

FACILITY CONDITION INDEX

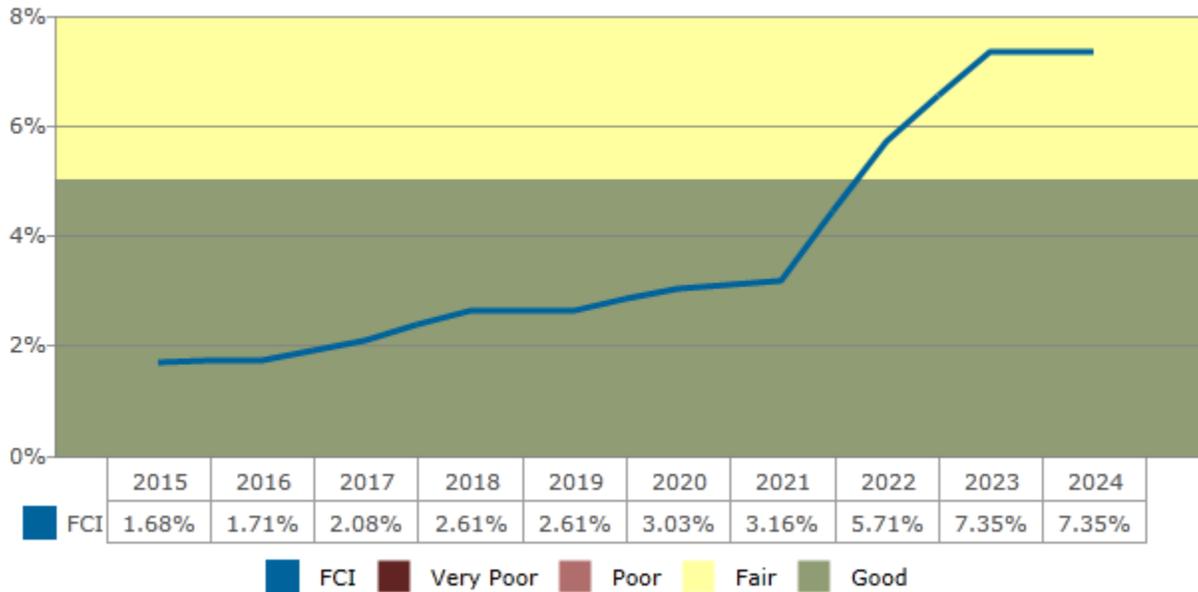
The FCI¹ is an indication of a building’s current and future overall condition. According to industry standards an FCI ratio of 65 percent, or the “rule of two-thirds,” is the threshold for identifying potential candidates for replacement or divestment.² Once the FCI ratio reaches 65 percent, or roughly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



THIS PAGE INTENTIONALLY BLANK

APPENDICES

APPENDIX A: ACCESSIBILITY ISSUES

APPENDIX B: GENERAL ASSESSMENT INFORMATION

A Substructure Systems

A10 FOUNDATIONS

Item	Description
A1011 Wall Foundations	A1011 Foundation Wall and Footings up to 12FT - Full Basement
Condition	Good
Qty / UOM	59900 / SF
RUL (years)	57
Location	Subterranean Parking Garage

OBSERVATIONS/COMMENTS:

The parking garage has reinforced concrete walls. No further action is required.

Item	Description
A1021 Pile Foundations	A1021 Pile Foundations
Condition	Good
Qty / UOM	100 / EA
RUL (years)	47
Location	Below grade

OBSERVATIONS/COMMENTS:

The total number of piles is estimated at 100. No further action is required

B Shell Systems

B10 SUPERSTRUCTURE

Item	Description
B10 Superstructure	B1032 Steel Frame Structure, Concrete slabs
Condition	Good
Qty / UOM	79809 / SF
RUL (years)	47
Location	Subterranean Parking Garage

OBSERVATIONS/COMMENTS:

This parking garage is reported to have minor amounts of water seepage. This is believed to be from bird pecked sealant at the roof coping joints. See roof coping asset for recommendation. Periodic restriping of the parking spaces will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B10	B1032 Restripe parking spaces	8.0 - 10,000 SF	497.0	OP - Maintenance	Priority 3	2017	3,976
B10	B1032 Restripe parking spaces	8.0 - 10,000 SF	497.0	OP - Maintenance	Priority 3	2022	3,976

Item	Description
B10 Superstructure	B1010 Frame Structure, Beams
Condition	Good
Qty / UOM	9000 / LF
RUL (years)	47
Location	Subterranean Parking Garage

OBSERVATIONS/COMMENTS:

No further action is recommended.

Item	Description
B1012 Upper Floors Construction	B1012 Metal Decking with Concrete Topping
Condition	Good
Qty / UOM	251759 / SF
RUL (years)	40
Location	First through sixth floors

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B1019 Other Floor Construction	B1019 Under Floor Air Distribution(UFAD)
Condition	Fair - Good
Qty / UOM	251759 / SF
RUL (years)	27
Location	2nd thru 6th floors

OBSERVATIONS/COMMENTS:

The top surface of the assembly of the floor air distribution system are round steel plates that are approximately 18 inches in diameter. According to the maintenance staff, the steel restricts regular floor finish cleaning methods because the water used can rust the steel or seep into the plenum and cause rust.

Item	Description
B1021 Flat Roof Construction	B1021 Structural Steel Beams Supporting Corrugated Metal Roof Deck with Lightweight Concrete Topping
Condition	Good
Qty / UOM	59902 / SF
RUL (years)	57
Location	Roofs

OBSERVATIONS/COMMENTS:

The structural system appears to be in good condition and no further action is required.

COST SUMMARY:

Type	Year	Total Expenditures
B10 Superstructure	2017	\$3,976
B10 Superstructure	2022	\$3,976

B20 EXTERIOR ENCLOSURE

Item	Description
B2011 Exterior Wall Construction	B2011 PreCast Concrete Panels
Condition	Good
Qty / UOM	86000 / SF
RUL (years)	37
Location	Exteriors

OBSERVATIONS/COMMENTS:

Periodic sealant replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B2011	B2011 Replace sealant	35,000.0 - LF	11.5	IN - Beyond Rated Life	Priority 2	2017	401,800

Item	Description
B2011 Exterior Wall Construction	B2011 Stone Veneer
Condition	Good
Qty / UOM	43450 / SF
RUL (years)	25
Location	First through sixth floors

OBSERVATIONS/COMMENTS:

Periodic sealant replacement will be required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B2011	B2011 Replace sealant at joints	21,350.0 - LF	15.7	IN - Beyond Rated Life	Priority 2	2017	334,128

Item	Description
B2011 Exterior Wall Construction	B2011 Curtain Wall Glazing
Condition	Good
Qty / UOM	12000 / SF
RUL (years)	22
Location	Exteriors

OBSERVATIONS/COMMENTS:

The curtain wall system is aluminum framed. No further action is required.

Item	Description
B2021 Windows	B2021 Windows
Condition	Good
Qty / UOM	100 / EA
RUL (years)	37
Location	Exteriors

OBSERVATIONS/COMMENTS:

The aluminum windows are double glazed. The maintenance staff explained that the report of a window leak was attributable to wind-driven rain, and that investigation and attempts to correct it were in progress.

Item	Description
B2031 Glazed Doors & Entrances	B2031 Pair Aluminum 4'-0" X 8'-0", slide
Condition	Good
Qty / UOM	2 / EA
RUL (years)	17
Location	Front entry

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B2031 Glazed Doors & Entrances	B2031 Aluminum Framed Glazed Doors
Condition	Good
Qty / UOM	4 / EA
RUL (years)	17
Location	Exteriors

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
B2032 Solid Exterior Doors	B2032 3'-0" X 7'-0" Steel, Insulated Core, Ptd. Door
Condition	Fair
Qty / UOM	9 / EA
RUL (years)	32
Location	Exteriors

OBSERVATIONS/COMMENTS:

No further action required.

Item	Description
B2034 Overhead Doors	B2034 Steel Mesh Rolling Overhead Door, Electric - 12' to 20'
Condition	Good
Qty / UOM	2 / EA
RUL (years)	17
Location	Entry to garage, loading dock

OBSERVATIONS/COMMENTS:

Based on the RUL, replacement is anticipated.

COST SUMMARY:

Type	Year	Total Expenditures
B20 Exterior Enclosure	2017	\$735,928

B30 ROOFING

Item	Description
B3011 Roof Finishes	B3011 TPO Roof 45 Mills, Full Adhered
Condition	Fair
Qty / UOM	599 / SQ
RUL (years)	7
Location	Roof

OBSERVATIONS/COMMENTS:

Based on the estimated RUL, the single-ply roofing membrane will require replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3011	Replace B3011 TPO Roof 45 Mills, Full Adhered	599.0 - SQ	1806.4	IN - Beyond Rated Life	Priority 4	2022	1,082,008

Item	Description
B3014 Flashings & Trim	B3014 Flashings & Trim
Condition	Fair
Qty / UOM	1000 / LF
RUL (years)	17
Location	Vertical surfaces at deck areas

OBSERVATIONS/COMMENTS:

The roof membrane is wrapped up the sides of the parapet wall and fixed to the wall with metal flashing and screws. The flashing needs no further attention. The connection of the metal flashing to the wall is weatherproofed with a line of sealant. This sealant is dry, cracked, and beginning to leak in some places. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3014	B3014 Replace sealant	1,000.0 - LF	9.5	OP - Maintenance	Priority 2	2015	9,520

Item	Description
B3014 Flashings & Trim	B3014 Coping
Condition	Fair
Qty / UOM	14000 / LF
RUL (years)	37
Location	Coping at parapets

OBSERVATIONS/COMMENTS:

The sealant between the sections of coping is failing due to birds pecking at it. Patching the sealant will remain a constant maintenance item until the sealant is replaced by a material that is not attractive to birds. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
B3014	B3014 Replace sealant at coping	1,800.0 - LF	15.7	OP - Maintenance	Priority 2	2015	28,170

COST SUMMARY:

Type	Year	Total Expenditures
B30 Roofing	2015	\$37,690
B30 Roofing	2022	\$1,082,008

C Interiors Systems

C10 INTERIOR CONSTRUCTION

Item	Description
C1021 Interior Doors	C1021 Fire Door, Wood, Flush, 60 Minute, Incl. Demo, with Hardware
Condition	Fair
Qty / UOM	450 / EA
RUL (years)	11
Location	Doors to corridors, offices

OBSERVATIONS/COMMENTS:

The doors show damage caused by the wheeled carts that are used for transporting mail and files. The automatic door closers appear to close too quickly to allow the carts through. The lever hardware is failing and requires replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C1021	C1021 Replace lever handle hardware as it fails	6.0 - EA	668.2	OP - Maintenance	Priority 3	2015	4,009

Item	Description
C1031 Fabricated Toilet Partitions	C1031 Fabricated Toilet Partitions
Condition	Fair
Qty / UOM	72 / EA
RUL (years)	7
Location	Restrooms

OBSERVATIONS/COMMENTS:

Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C1031	C1031 Replace toilet partitions	72.0 - EA	2182.4	IN - Beyond Rated Life	Priority 4	2022	157,133

COST SUMMARY:

Type	Year	Total Expenditures
C10 Interior Construction	2015	\$4,009
C10 Interior Construction	2022	\$157,133

C20 STAIRS

Item	Description
C2014 Stair Handrails and Balustrades	C2014 Steel Stairs
Condition	Good
Qty / UOM	3 / EA
RUL (years)	15
Location	Interior stairwells

OBSERVATIONS/COMMENTS:

There are three sets of interior steel stairs. No further action is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C2014	C2014 Prep and paint steel stairway parts	14,400.0 - SF	3.9	IN - Appearance	Priority 2	2016	55,728
C2014	C2014 Prep and paint steel stairway parts	14,400.0 - SF	3.9	IN - Appearance	Priority 2	2023	55,728

COST SUMMARY:

Type	Year	Total Expenditures
C20 Stairs	2016	\$55,728
C20 Stairs	2023	\$55,728

C30 INTERIOR FINISHES

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Drywall - Painted Finished Walls
Condition	Fair - Good
Qty / UOM	150000 / SF
RUL (years)	2
Location	Fourth through sixth floors

OBSERVATIONS/COMMENTS:

Periodic interior painting will be required.

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Drywall - Painted Finished Walls
Condition	Fair - Good
Qty / UOM	150000 / SF
RUL (years)	2
Location	First through third floors

OBSERVATIONS/COMMENTS:

Periodic interior painting will be required.

Item	Description
C3021 Floor Toppings	C3021 Epoxy Flooring
Condition	Fair
Qty / UOM	80 / CSF
RUL (years)	6
Location	Ground floor service corridors

OBSERVATIONS/COMMENTS:

Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3021	Replace C3021 Epoxy Flooring	80.0 - CSF	3167.1	IN - Appearance	Priority 4	2021	253,365

Item	Description
C3021 Floor Toppings	C3021 Epoxy Flooring
Condition	Poor
Qty / UOM	40 / CSF
RUL (years)	0
Location	Mail room, security room

OBSERVATIONS/COMMENTS:

The vinyl tile in the mail room and security room is losing its adhesion due to heavy wear. Replacement with epoxy flooring is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3021	C3021 Replace vinyl tile with epoxy	40.0 - CSF	3167.1	IN - Appearance	Priority 2	2015	126,682

Item	Description
C3024 Flooring	C3024 Vinyl Tile
Condition	Fair
Qty / UOM	800 / SY
RUL (years)	5
Location	Break rooms, copy rooms all floors

OBSERVATIONS/COMMENTS:

Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3024	Replace C3024 Vinyl Tile	800.0 - SY	125.8	IN - Appearance	Priority 4	2020	100,624

Item	Description
C3024 Flooring	C3024 4X4 Ceramic Tile
Condition	Good
Qty / UOM	10 / CSF
RUL (years)	17
Location	Restrooms

OBSERVATIONS/COMMENTS:

No further action required.

Item	Description
C3025 Carpeting	C3025 Carpet Tiles - Standard
Condition	Fair
Qty / UOM	11111 / SY
RUL (years)	0
Location	First through third floors

OBSERVATIONS/COMMENTS:

The carpeting is worn, stained, and requires replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3025	Replace C3025 Carpet Tiles - Standard	11,111.0 - SY	96.6	IN - Appearance	Priority 2	2015	1,073,385

Item	Description
C3025 Carpeting	C3025 Carpet Tiles - Standard
Condition	Poor - Fair
Qty / UOM	13888 / SY
RUL (years)	0
Location	Fourth through sixth floors

OBSERVATIONS/COMMENTS:

The carpeting is worn and dirty. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
C3025	Replace C3025 Carpet Tiles - Standard	13,888.0 - SY	96.6	IN - Appearance	Priority 2	2015	1,341,659

COST SUMMARY:

Type	Year	Total Expenditures
C30 Interior Finishes	2015	\$2,541,726
C30 Interior Finishes	2020	\$100,624
C30 Interior Finishes	2021	\$253,365

D Services Systems

D10 CONVEYING SYSTEMS

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Good
Qty / UOM	5 / EA
RUL (years)	17
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Elevators 1-5 are standard passenger elevators that serve the ground floor through floor six. Based on the elevator inspection report by Architectural Elevator Consulting, LLC the elevators will require modernization late in the term and a live load test as an immediate need. Car 4 requires immediate repair to return it to service.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	D1011 Perform 5 year full load test on elevators 1-5	5.0 - EA	7080.0	CC - Building Code	Priority 1	2015	35,400
D1011	D1011 Modernize cars 1-5 to include new controllers, VF drives, door operators, signal features and updated fire service	5.0 - EA	590000.0	FN - Modernization	Priority 4	2023	2,950,000

Item	Description
D1011 Passenger Elevators	D1011 Elevator Hydraulic System, 3,500 Lb Capacity
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Elevator Lobby

OBSERVATIONS/COMMENTS:

Elevator #6 is a hydraulic shuttle elevator serving the subterranean parking garage and the elevator lobby above. Based on the elevator inspection report by Architectural Elevator Consulting, LLC the elevator will require modernization and a live load test. Refer to the elevator report in the appendices.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1011	D1011 Perform 5 year full load test	1.0 - EA	7080.0	CC - Building Code	Priority 1	2015	7,080
D1011	D1011 Modernize parking garage elevator, car 6, with new controller, VF drive, fixtures and door equipment	1.0 - EA	424800.0	FN - Modernization	Priority 4	2022	424,800

Item	Description
D1012 Freight Elevators	D1012 Traction Geared Elevator - High Rise
Condition	Good
Qty / UOM	1 / EACH
RUL (years)	22
Location	Freight Elevator Lobby

OBSERVATIONS/COMMENTS:

The Freight Elevator is accessed through vestibule Room 1005 off of the main lobby. It serves the ground floor through the sixth floor. Based on the elevator inspection by Architectural Elevator Consulting, LLC the elevator will require modernization and a live load test. Refer to the elevator report in the appendices.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D1012	D1012 Perform five year full load test on freight elevator	1.0 - EA	7080.0	CC - Building Code	Priority I	2015	7,080
D1012	D1012 Repair car 4 and return to service	1.0 - EA	35400.0	IN - Reliability	Priority I	2015	35,400
D1012	D1012 Modernize freight elevator with new controller, VF drive, door operator and updated fire service	1.0 - EA	590000.0	FN - Modernization	Priority 4	2022	590,000

COST SUMMARY:

Type	Year	Total Expenditures
D10 Conveying Systems	2015	\$84,960
D10 Conveying Systems	2022	\$1,014,800
D10 Conveying Systems	2023	\$2,950,000

D20 PLUMBING

Item	Description
D2011 Water Closets	D2011 Children's Water Closet With 1.6 Gpf Unit
Condition	Good
Qty / UOM	8 / EA
RUL (years)	10
Location	Childcare Center

OBSERVATIONS/COMMENTS:

The child water closets are sized for smaller users in the Childcare Centers. No further action is required.

Item	Description
D2011 Water Closets	D2011 Commercial Grade Water Closet, 1.6 GPF Unit
Condition	Good
Qty / UOM	82 / EA
RUL (years)	22
Location	Throughout Facility
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

No further action is required.

Item	Description
D2012 Urinals	D2012 Urinal
Condition	Good
Qty / UOM	18 / EA
RUL (years)	22
Location	Throughout Facility

Item	Description
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

The urinals are functional and have been fit with automatic flush valves.

Item	Description
D2013 Lavatories	D2013 Counter Top Sink and Faucet
Condition	Good
Qty / UOM	59 / EA
RUL (years)	22
Location	Restrooms

OBSERVATIONS/COMMENTS:

The sink faucets have been fit with automatic sensors to conserve water.

Item	Description
D2014 Sinks	D2014 Stainless Steel Sink and Faucet
Condition	Good
Qty / UOM	28 / EA
RUL (years)	17
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Stainless steel sinks are found in break rooms on each floor and throughout Childcare Center. No further action is required.

Item	Description
D2016 Wash Fountains	D2016 Children's Wash Fountain
Condition	Good

Item	Description
Qty / UOM	3 / EACH
RUL (years)	10
Location	Childcare Center

OBSERVATIONS/COMMENTS:

The children's safety sinks are featured in the Childcare Center restrooms. No further action is required.

Item	Description
D2017 Showers	D2017 Stall Shower and Faucet
Condition	Good
Qty / UOM	10 / EA
RUL (years)	7
Location	Locker Rooms

OBSERVATIONS/COMMENTS:

There are five shower stalls in each of the men's and women's locker rooms on the first floor of the building. Each contains one ADA accessible stall with grab bars and bench. No further action is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2017	Replace D2017 Stall Shower and Faucet	10.0 - EA	4059.2	IN - Beyond Rated Life	Priority 4	2022	40,592

Item	Description
D2018 Drinking Fountains and Coolers	D2018 Drinking Fountain
Condition	Good
Qty / UOM	14 / EA
RUL (years)	5
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Drinking fountains are found outside each restroom and throughout the Childcare Center. Based on the estimated RUL, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2018	Replace D2018 Drinking Fountain	14.0 - EA	2876.6	IN - Beyond Rated Life	Priority 3	2020	40,272

Item	Description
D2021 Cold Water Service	D2021 Water Valve with 4-Inch Backflow Preventer
Condition	Good
Qty / UOM	6 / EA
RUL (years)	12
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Five backflow preventers are located in the domestic water supply line and one is located in the irrigation line. No further action is anticipated.

Item	Description
D2022 Hot Water Service	D2022 Domestic Hot Water Heater - Electric
Condition	Good
Qty / UOM	28 / EACH
RUL (years)	14
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

On-demand electric hot water heaters are found at each break room and Childcare Center sink. They appear to have been recently replaced in 2014. No further action is required.

Item	Description
D2022 Hot Water Service	D2022 80 Gallon Domestic Water Heater - Electric
Condition	Good
Qty / UOM	5 / EACH
RUL (years)	10
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

Five 80-gallon electric water heaters are located on the basement parking level and serve the vendor space above. No further action is required.

Item	Description
D2023 Domestic Water Supply Equipment	D2023 Domestic Water Booster Pump Station
Condition	Fair
Qty / UOM	3 / EA
RUL (years)	7
Location	Pump Room 1038

OBSERVATIONS/COMMENTS:

A dedicated pump room (#1038) has a domestic water booster pump station original to the 2002 construction. The station consists of three 5-horsepower pumps sequenced to a Moeller Control panel. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2023	Replace D2023 Domestic Water Booster Pump Station	3.0 - EA	33700.8	IN - Beyond Rated Life	Priority 4	2022	101,102

Item	Description
D2034 Sanitary Waste Equipment	D2034 Sump Pump, Large, 1.5 HP
Condition	Fair
Qty / UOM	8 / EACH
RUL (years)	7
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

Sump pumps are located throughout the basement level structure. Based on the estimated RUL, replacements are anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2034	Replace D2034 Sump Pump, Large, 1.5 HP	8.0 - EACH	19573.8	IN - Beyond Rated Life	Priority 4	2022	156,591

Item	Description
D2034 Sanitary Waste Equipment	D2034 Sanitary Waste, Grease Interceptor
Condition	Good
Qty / UOM	1 / EACH
RUL (years)	10
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

The 125-gallon per minute grease interceptor system requires no further action.

Item	Description
D2034 Sanitary Waste Equipment	D2034 Septic Holding Tank, 1500 Gallon
Condition	Poor
Qty / UOM	1 / EA
RUL (years)	0
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

The septic holding system serves food vendor spaces above at ground level. The tank has some physical damage to the top and cannot be covered properly. Based on condition, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2034	Replace D2034 Septic Holding Tank, 1500 Gallon	1.0 - EA	7434.0	IN - Reliability	Priority I	2015	7,434

Item	Description
D2034 Sanitary Waste Equipment	D2034 Sanitary Lift Station Pumps 75 Gpm
Condition	Poor
Qty / UOM	2 / EA
RUL (years)	0
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

Two submersible sanitary lift pumps serve the sanitary holding tank. The building engineer reported there are frequent issues related to pumps and they should be replaced.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2034	Replace D2034 Sanitary Lift Station Pumps 75 Gpm	2.0 - EA	3905.9	IN - Reliability	Priority 1	2015	7,812

Item	Description
D2095 Decorative Fountain Piping Devices	D2095 Fountain Pump
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	7
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

The fountain pump assembly appears to be functional; however, fountain use has been suspended since drought/water rationing.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D2095	Replace D2095 Fountain Pump	1.0 - EA	7703.0	IN - Beyond Rated Life	Priority 4	2022	7,703

COST SUMMARY:

Type	Year	Total Expenditures
D20 Plumbing	2015	\$15,246
D20 Plumbing	2020	\$40,272
D20 Plumbing	2022	\$305,988

D30 HVAC

Energy Supply	
Item	Description
Fuel Oil Type	N/A
Fuel Gas Type	Natural Gas
Solid Fuel Type	N/A
District Heat Type	Site Physical Plant Hot Water
District Cooling Type	Site Physical Plant Chilled Water
Solar Thermal	Yes
Fuel Tank Type	N/A
Fuel Tank Size (gallons)	N/A
Fuel Tank Location	N/A
Gas Meter Location	Gas meter is located near the service drive on the ground floor in Meter Room #1037
Electrical Meter Location	Electrical meter is located in the Main Switch Room on the basement parking level in Room B012
Water Meter Location	Water meter is located near the service drive on the ground floor in Meter Room #1037

Item	Description
D3016 Solar Energy System	D3016 Solar Panel 2' x 4'
Condition	Poor
Qty / UOM	300 / EACH
RUL (years)	3
Location	Penthouse

OBSERVATIONS/COMMENTS:

The solar panels occupy a large portion of the south facing penthouse walls on the building roof. The transformer/control system is reported to be inoperable. Solar panels appear functional but are not in operation. Diagnosis and repairs of the transformer/control system should be accomplished to bring the system online.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3016	D3016 Diagnose and repair the transformer/control system	1.0 - LS	283200.0	OP - Energy	Priority 1	2015	283,200
D3016	Replace D3016 Solar Panel 2' x 4'	300.0 - EACH	2310.4	OP - Energy	Priority 3	2018	693,132

Item	Description
D3021 Boilers	D3021 Water Boiler, Gas 2000 to 2312 MBH
Condition	Good
Qty / UOM	1 / EA
RUL (years)	22
Location	Penthouse boiler room

OBSERVATIONS/COMMENTS:

The domestic hot water boiler was installed in 2007. No further action is recommended.

Item	Description
D3021 Boilers	D3021 Water Boiler, Gas 5000 MBH
Condition	Fair

Item	Description
Qty / UOM	2 / EA
RUL (years)	17
Location	Boiler Room

OBSERVATIONS/COMMENTS:

Boilers on the Penthouse Level appear to be well maintained and in good working order.

Item	Description
D3022.1 Circulating Pumps	D3022 HVAC Chilled Water Circulation Pumps
Condition	Fair
Qty / UOM	6 / EA
RUL (years)	8
Location	Chiller Room

OBSERVATIONS/COMMENTS:

The chilled water distribution pumps and associated motors appear to be original and in functional condition.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022 HVAC Chilled Water Circulation Pumps	6.0 - EA	24794.2	IN - Beyond Rated Life	Priority 4	2023	148,765

Item	Description
D3022.1 Circulating Pumps	D3022 HVAC Heating Water Circulation Pumps 20 HP
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	8
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The 10-HP heating water distribution pumps and associated motors appear to be original. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3022	Replace D3022 HVAC Heating Water Circulation Pumps 20 HP	2.0 - EA	24794.2	IN - Beyond Rated Life	Priority 4	2023	49,588

Item	Description
D3023 Auxiliary Equipment	D3023 Condensate Return System
Condition	Fair
Qty / UOM	3 / EA
RUL (years)	7
Location	Chiller Room

OBSERVATIONS/COMMENTS:

The condensate return pumps and associated motors appear to be original. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3023	Replace D3023 Condensate Return System	3.0 - EA	16497.3	IN - Beyond Rated Life	Priority 4	2022	49,492

Item	Description
D3023 Auxiliary Equipment	D3023 Expansion Tank (steel, liquid expansion, rubber diaphragm, 317 gal cap.)
Condition	Fair
Qty / UOM	3 / EA
RUL (years)	8
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The heating water expansion tanks are steel with rubber diaphragms. Based on the estimated RUL, replacement is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3023	Replace D3023 Expansion Tank (steel, liquid expansion, rubber diaphragm, 317 gal cap.)	3.0 - EA	21308.1	IN - Beyond Rated Life	Priority 4	2023	63,924

Item	Description
D3031.1 Chillers	D3031 Chiller, Water Cooled, Centrifugal, 320 Ton
Condition	Good
Qty / UOM	3 / EA
RUL (years)	12
Location	Chiller Room

OBSERVATIONS/COMMENTS:

The Carrier centrifugal chillers use R-134A refrigerant. No further action is required.

Item	Description
D3031.2 Cooling Towers	D3031 Cooling Tower, Galvanized Steel, 254 Ton
Condition	Good
Qty / UOM	4 / EA
RUL (years)	12
Location	Penthouse

OBSERVATIONS/COMMENTS:

Baltimore Air Coil cooling towers will require only routine maintenance.

Item	Description
D3032 Direct Expansion Systems	D3032 Condenser 5-Ton, Roof Mounted
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	5
Location	First Floor Rooftop

OBSERVATIONS/COMMENTS:

Two rooftop condenser units are located separately above the first floor. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3032	Replace D3032 Condenser 5-Ton, Roof Mounted	2.0 - EA	12211.7	IN - Beyond Rated Life	Priority 3	2020	24,423

Item	Description
D3041.1 Air Handling Units	D3041 Interior AHU 20,000 CFM
Condition	Fair
Qty / UOM	6 / EA
RUL (years)	10
Location	Penthouse

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by six interior air handling units (AHUs), which feed three central supply ducts that run from the penthouse to the second floor below. The AHUs are provided with hot and chilled water from the penthouse boiler and chiller rooms. No further action is required.

Item	Description
D3041.1 Air Handling Units	D3041 300 CFM Relief Fans
Condition	Fair
Qty / UOM	12 / EA
RUL (years)	5
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Building relief fans serve restrooms throughout the building. Based on expected life, replacements are anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 300 CFM Relief Fans	12.0 - EA	1757.3	IN - Beyond Rated Life	Priority 3	2020	21,087

Item	Description
D3041.1 Air Handling Units	D3041 2500 CFM Supply and Exhaust Fans
Condition	Fair
Qty / UOM	16 / EA
RUL (years)	5
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

Fans in the basement parking level supply fresh air and remove exhaust air at the perimeter of the space. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 2500 CFM Supply and Exhaust Fans	16.0 - EA	7712.7	IN - Beyond Rated Life	Priority 3	2020	123,403

Item	Description
D3041.1 Air Handling Units	D3041 2,500 CFM Ventilation Fans
Condition	Fair
Qty / UOM	12 / EA
RUL (years)	7
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Return air handlers are located at the penthouse level near the top of each building exhaust columns. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 2,500 CFM Ventilation Fans	12.0 - EA	7712.7	IN - Beyond Rated Life	Priority 4	2022	92,552

Item	Description
D3041.I Air Handling Units	D3041 3000 - 3700 CFM Aluminum Dome Exhaust Fan
Condition	Good
Qty / UOM	8 / EA
RUL (years)	5
Location	Rooftop

OBSERVATIONS/COMMENTS:

Rooftop exhaust fans appear to be functionally adequate. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 3000 - 3700 CFM Aluminum Dome Exhaust Fan	8.0 - EA	6222.6	IN - Beyond Rated Life	Priority 3	2020	49,781

Item	Description
D3041.I Air Handling Units	D3041 Central Station AHU 33500 CFM
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	7
Location	First Floor AHU Room

OBSERVATIONS/COMMENTS:

These systems provide air conditioning to most of the ground floor. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3041	Replace D3041 Central Station AHU 33500 CFM	2.0 - EA	128123.2	IN - Beyond Rated Life	Priority 4	2022	256,246

Item	Description
D3043 Steam Distribution Systems	D3043 Plate heat exchanger in exhaust/supply duct (400 gpm)
Condition	Good
Qty / UOM	2 / EA
RUL (years)	15
Location	Chiller Room

OBSERVATIONS/COMMENTS:

Plate type heat exchangers in the chiller room appear to be in like-new condition.

Item	Description
D3052 Package Units	D3052 Single Zone Package Unit 10-Ton
Condition	Fair
Qty / UOM	6 / EA
RUL (years)	5
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Package units are locate above first floor and at the penthouse. Based on estimated RUL and condition, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3052	Replace D3052 Single Zone Package Unit 10-Ton	6.0 - EA	36890.3	IN - Beyond Rated Life	Priority 3	2020	221,342

Item	Description
D3052 Package Units	D3052 Computer/Sever Room AC, 5 Tons
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	3
Location	Data Room

OBSERVATIONS/COMMENTS:

The package units do not require any further action..

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3052	Replace D3052 Computer/Sever Room AC, 5 Tons	2.0 - EA	17548.5	IN - Beyond Rated Life	Priority 2	2018	35,097

Item	Description
D3053 Split-Systems	D3053 Multi-zone Package A/C Unit
Condition	Fair
Qty / UOM	11 / EACH
RUL (years)	5
Location	First Floor Rooftop

OBSERVATIONS/COMMENTS:

Split system units are located throughout first floor to condition vendor space and other isolated areas. Ten condensers are located on the roof of the first floor and one is located in the basement parking level. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3053	Replace D3053 Multi-zone Package A/C Unit	11.0 - EACH	23066.6	IN - Beyond Rated Life	Priority 3	2020	253,733

Item	Description
D3063 Heating/Cooling Air Handling Units	D3063 Variable Frequency Drive, 20 HP Motor
Condition	Fair
Qty / UOM	18 / EA
RUL (years)	3
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

There are various variable frequency drives (VFDs) supporting pump and chiller functions throughout the building. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3063	Replace D3063 Variable Frequency Drive, 20 HP Motor	18.0 - EA	18776.2	IN - Beyond Rated Life	Priority 2	2018	337,971

Item	Description
D3068 Building Automation Systems	D3068 DDC Controls
Condition	Poor
Qty / UOM	475128 / SF
RUL (years)	0
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

DDC controls are original to the building and according to building staff, have a history of premature failures. The system should be replaced.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D3068	Replace D3068 DDC Controls	475,128.0 - SF	0.8	OP - Energy	Priority I	2015	388,845

COST SUMMARY:

Type	Year	Total Expenditures
D30 HVAC	2015	\$672,045
D30 HVAC	2018	\$1,066,200
D30 HVAC	2020	\$693,769
D30 HVAC	2022	\$398,290
D30 HVAC	2023	\$262,278

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 with Battery Backup
Carbon Monoxide Detectors	Yes
Heat Detector	Yes
Central Fire Alarm Panel Location	Security Desk
Annunciator Panel Location	In Security Room Office \$1021
Fire Extinguishers	Yes
Fire Extinguisher Inspection Date	N/A
Distance to Nearest Fire Hydrant (ft)	N/A
Illuminated Exit Signs	Yes
Kitchen Suppression Systems	N/A
Halon Gas Systems	N/A
Smoke Evacuation Systems	N/A
Fire-rated Stairwells	Yes
Fire-rated Stairwell Finish	N/A
Stairwell Discharge	Exterior of the building at Grade
Stairwell Pressurized	Yes
Fire-Rated Doors Observed	Yes
Location of Fire-Rated Doors	N/A
Fire Alarm Service Company	Cerberus
Date of Last Fire Alarm Service	N/A
Are the individual office unit fire alarm systems monitored?	Yes
Are the common area fire alarm systems monitored?	Yes
Types of Common Areas Monitored	N/A

Fire and Life Safety System	
Item	Description
Fire Alarm Monitoring Company	N/A

Item	Description
D4011 Sprinkler Water Supply	D4011 Sprinkler Heads
Condition	Fair
Qty / UOM	475128 / SF
RUL (years)	12
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The fire sprinkler risers and heads are 13 years old and no action is required.

Item	Description
D4011 Sprinkler Water Supply	D4011 Wet-Pipe Sprinkler System
Condition	Good
Qty / UOM	475128 / SF
RUL (years)	22
Location	Throughout Facility
Date of Last Sprinkler Inspection	Month dd, 2013

OBSERVATIONS/COMMENTS:

The fire sprinkler system appears to be well maintained and in functional order.

Item	Description
D4012 Sprinkler Pumping Equipment	D4012 Fire Pump Electric 1000 Gpm
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Fire Riser Room

OBSERVATIONS/COMMENTS:

Fire pump appears to be periodically maintained and in functional order.

D50 ELECTRICAL SYSTEMS

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel 225 Amps, 30 Circuits
Condition	Good
Qty / UOM	42 / EA
RUL (years)	27
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

Panels are relatively new and no replacement action is required.

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 1600 Amps
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	27
Location	Main Electrical Room

OBSERVATIONS/COMMENTS:

The main switchgear is original 2002 Siemens equipment. The electrical service is reportedly adequate for the building's needs.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Secondary Dry Transformer 45 kVA
Condition	Good
Qty / UOM	16 / EA
RUL (years)	27
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

Step down transformers do not require any further action.

Item	Description
D5012 Low Tension Service & Dist.	D5012 Secondary Dry Transformer 75 kVA
Condition	Good
Qty / UOM	8 / EA
RUL (years)	27
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The vast majority of the step-down transformers are original. No further action is required.

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm Panel
Condition	Fair
Qty / UOM	8 / EA
RUL (years)	7
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

Periodic upgrades to the alarm system (panels and controls) have been made over the years. Replacement of panels is anticipated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5037	Replace D5037 Fire Alarm Panel	8.0 - EA	9402.5	CC - Life Safety	Priority 3	2022	75,220

Item	Description
D5038 Security and Detection Systems	D5038 Security System - Full Spec
Condition	Good
Qty / UOM	475128 / SF
RUL (years)	7
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The security system is a comprehensive system that includes cameras, closed circuit TV, and secured access features. Based on expected useful life and advancements in technology, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5038	Replace D5038 Security System - Full Spec	475,128.0 - SF	4.3	OP - Security	Priority 3	2022	2,052,410

Item	Description
D5092 Emergency Light & Power Systems	D5092 Emergency Generator 500 kW
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Basement Parking Level

OBSERVATIONS/COMMENTS:

The emergency generator is located in the basement parking level and is original to the building construction. Routine maintenance is anticipated.

Item	Description
D5092 Emergency Light & Power Systems	D5092 Ups Battery Transformer 1.0 kVA
Condition	Good
Qty / UOM	2 / EA
RUL (years)	7
Location	Data Room

OBSERVATIONS/COMMENTS:

The uninterruptible power supply (UPS) battery backup serves the data room. Based on the estimated RUL, replacement is expected.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
D5092	Replace D5092 Ups Battery Transformer 1.0 kVA	2.0 - EA	7582.7	IN - Beyond Rated Life	Priority 4	2022	15,165

Item	Description
D5092 Emergency Light & Power Systems	D5092 Emergency Transfer Switch
Condition	Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Main Electrical Room

OBSERVATIONS/COMMENTS:

The transfer switch for the emergency generator is reported to be functioning adequately. The transfer switch is original equipment and a conjunctive replacement is recommended when the generator is replaced.

COST SUMMARY:

Type	Year	Total Expenditures
D50 Electrical Systems	2022	\$2,142,796

G Building Sitework Systems

G20 SITE IMPROVEMENTS

Site Information	
Item	Description
Main Ingress and Egress	N Street
Access from	N
Additional Entrances	14 th Street
Access from	W
Parking Count: Open lot	N/A
Parking Count: Sheltered by carports	N/A
Parking Count: Private garages	N/A
Parking Count: Subterranean garage	213
Parking Count: Freestanding parking structure	N/A
Number of ADA Compliant Spaces	7
Number of ADA Compliant Spaces for Vans	2
Method of obtaining parking count	Site plan
Property Identification Sign-Primary	Monument Sign
Property Identification Sign- Secondary	N/A
Illuminated Identification Signage	No
Building Identification Sign	N/A
Illuminated Sign	No
Location of Property ID Sign	Front elevation of building
Trees Present	Yes
Shrubs Present	Yes
Grasses Present	Yes
Flower beds Present	No
Decorative Rocks Present	Yes
Lava Rocks Present	No
Ponds Present	No
Fountains Present	Yes
Topography	Flat

Item	Description
G2031 Paving & Surfacing	G2031 Paving & Surfacing
Condition	Poor - Fair
Qty / UOM	18 / SF
RUL (years)	37
Location	At the entry

OBSERVATIONS/COMMENTS:

Small rounded rocks have been set into concrete adjacent to the pedestrian walkway. Some of the stones are displaced and the condition is considered hazardous for pedestrians. It is recommended to replace the uneven surfacing material with a more uniform paving product.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost (\$)	Plan Type	Priority	Year	Expenditures (\$)
G2031	G2031 Replace uneven surfacing material with something less hazardous	20.0 - SF	248.0	CC - Life Safety	Priority I	2015	4,960

COST SUMMARY:

Type	Year	Total Expenditures
G20 Site Improvements	2015	\$4,960

The weather at the time of the assessment was:

Item	Description
Approximate Outdoor Temperature (degrees F)	60
Weather Conditions	Rainy
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	No
Termite Inspection Report Reviewed	No
Boiler Certificates Reviewed	No
Document Year Built Information Obtained From	High Performance Buildings

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: Kay van der Have, Field Observer

Reviewed By: 
Matt Anderson, Program Manager

APPENDIX D: PHOTOS



:- Partial side elevation along 14th Street



:- Partial side elevation along O Street



:- Pedestrian elevation along 15th Street



:- Pocket Park



B1019 Under Floor Air Distribution(UFAD) :-
Underfloor distribution supply air vent



B1019 Under Floor Air Distribution(UFAD):- Joints
between the steel plates are sealed with duct tape.



B2011 Stone Veneer



B2011 PreCast Concrete Panels



B2011 Curtain Wall Glazing



B2021 Windows



B2031 Aluminum Framed Glazed Doors



B2034 Steel Mesh Rolling Overhead Door, Electric - 12' to 20':- loading dock and at entry to garage



B3011 TPO Roof 45 Mills, Full Adhered



B3011 TPO Roof 45 Mills, Full Adhered:- fourth floor rooftop terrace



B3014 Coping :- Patched sealant



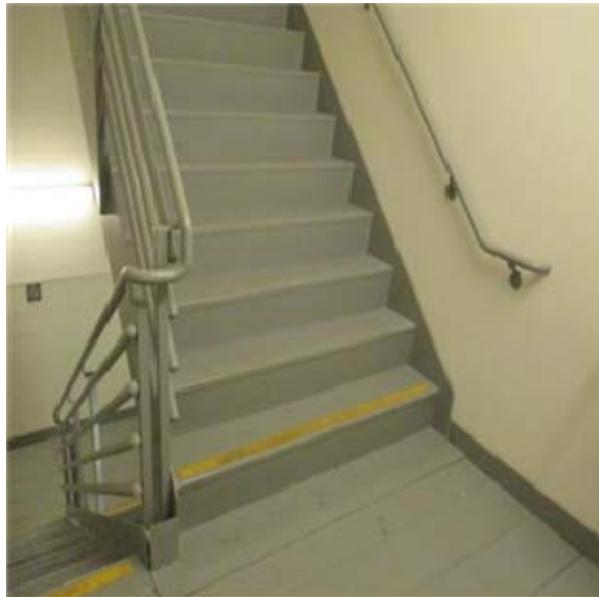
B3014 Flashings & Trim:- Failing sealant



C1021 Fire Door, Wood, Flush, 60 Minute, Incl. Demo, with Hardware :- The spring has failed in this lever set



C1031 Fabricated Toilet Partitions



C2014 Steel Stairs



C3012 Drywall - Painted Finished Walls



C3012 Drywall - Painted Finished Walls



C3021 Epoxy Flooring:- Vinyl tile that has been replaced is lifting



C3021 Epoxy Flooring :- A large area of vinyl has come up



C3021 Epoxy Flooring



C3024 4X4 Ceramic Tile :- restroom floors



C3024 Vinyl Tile:- Flooring in the break rooms



C3024 Vinyl Tile :- Interlocking tile



C3025 Carpet Tiles - Standard:- Condition of carpet



C3025 Carpet Tiles - Standard :- Seams coming loose



D1011 Elevator Hydraulic System, 3,500 Lb Capacity



D1011 Traction Elevator Machinery and Controls



D1012 Traction Geared Elevator - High Rise



D2011 Commercial Grade Water Closet, 1.6 GPF Unit



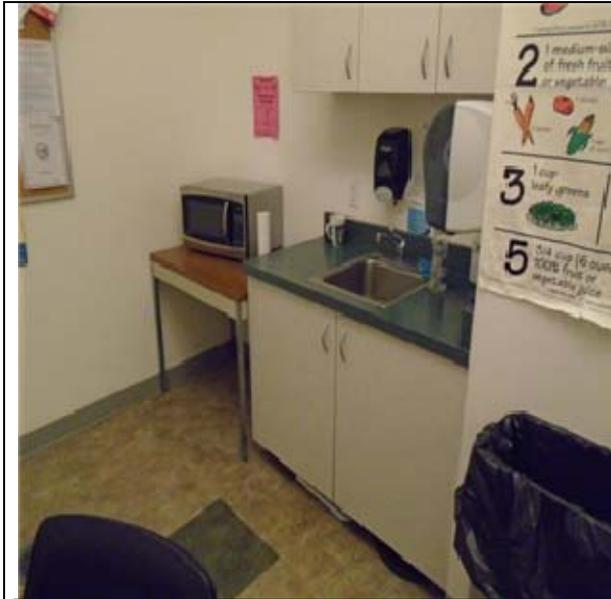
D2011 Children's Water Closet With 1.6 Gpf Unit



D2012 Urinal



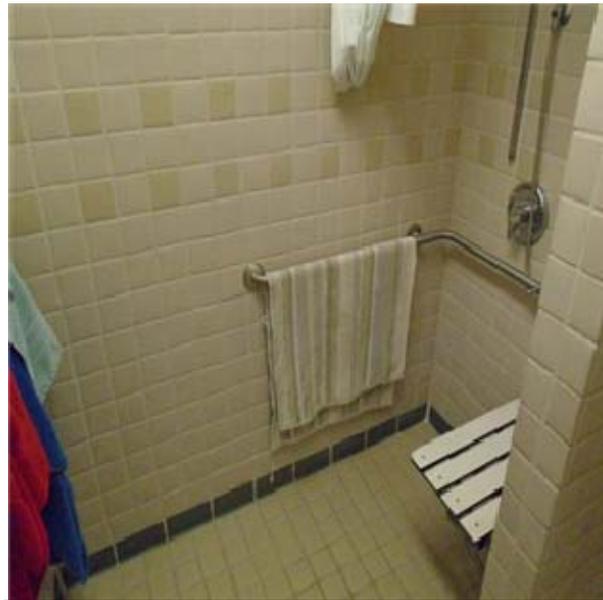
D2013 Counter Top Sink and Faucet



D2014 Stainless Steel Sink and Faucet



D2016 Children's Wash Fountain



D2017 Stall Shower and Faucet



D2018 Drinking Fountain



D2022 80 Gallon Domestic Water Heater - Electric



D2022 Domestic Hot Water Heater - Electric



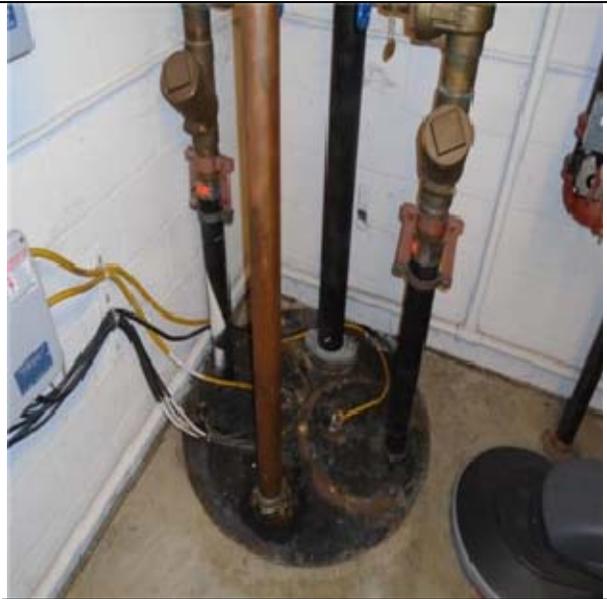
D2023 Domestic Water Booster Pump Station



D2023 Domestic Water Booster Pump Station



D2023 Domestic Water Booster Pump Station



D2034 Sump Pump, Large, 1.5 HP



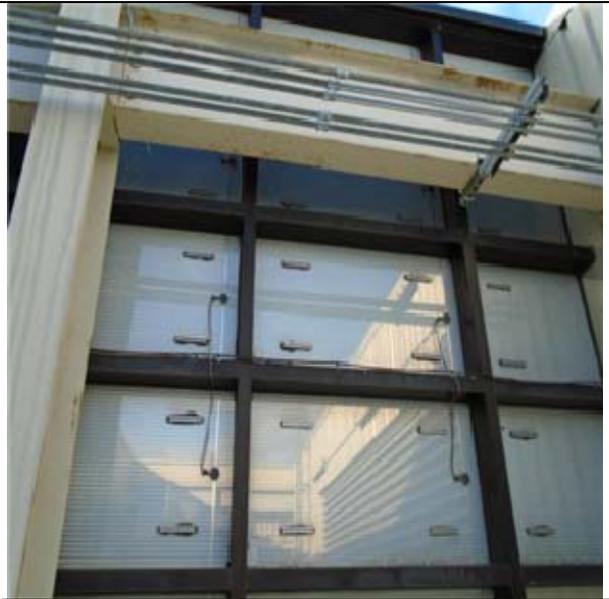
D2034 Septic Holding Tank, 1500 Gallon



D2095 Fountain Pump



D3016 Solar Panel 2' x 4'



D3016 Solar Panel 2' x 4'



D3021 Water Boiler, Gas 2000 to 2312 MBH



D3021 Water Boiler, Gas 5000 MBH



D3022 HVAC Chilled Water Circulation Pumps



D3022 HVAC Heating Water Circulation Pumps 20 HP



D3023 Expansion Tank (steel, liquid expansion, rubber diaphragm, 317 gal cap.)



D3023 Condensate Return System



D3031 Chiller, Water Cooled, Centrifugal, 320 Ton



D3031 Cooling Tower, Galvanized Steel, 254 Ton



D3032 Condenser 5-Ton, Roof Mounted



D3041 2500 CFM Supply and Exhaust Fans



D304I 3000 - 3700 CFM Aluminum Dome Exhaust Fan



D304I 2,500 CFM Ventilation Fans



D304I Interior AHU 20,000 CFM



D304I Central Station AHU 33500 CFM



D3043 Plate heat exchanger in exhaust/supply duct (400 gpm)



D3052 Single Zone Package Unit 10-Ton



D3052 Computer/Sever Room AC, 5 Tons



D3053 Multi-zone Package A/C Unit



D3063 Variable Frequency Drive, 20 HP Motor



D4011 Wet-Pipe Sprinkler System



D4012 Fire Pump Electric 1000 Gpm



D5012 Secondary Dry Transformer 75 kVA



D5010 Switchgear, Mainframe, 1600 Amps



D5012 Breaker Panel 225 Amps, 30 Circuits



D5037 Fire Alarm Panel



D5038 Security System - Full Spec



D5092 Emergency Generator 500 kW



D5092 Ups Battery Transformer 1.0 kVA



D5092 Emergency Transfer Switch



G2031 Paving & Surfacing:- Decorative rocks adjacent to pedestrian walkway

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

EAST END 5-BUILDING COMPLEX FACT SHEET

Multiple in East Capitol Area - See Below

Sacramento

Sacramento County

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

BUILDING INFORMATION

- Age: 11-12 years (completed in 2002-03)
- Size:*
 - Five 5-7-story structures in this complex
 - 2,178,825 GSF combined (Includes Garage)
 - 10.07 acre complex total
 - 1,609 parking structure spaces
 - Capacity - 6,054 occupants
- Financial:
 - State Public Works Board
 - Lease-Revenue Bond 2002 Series A, matures December 2027
 - Original Bond \$455,165,000 - Balance as of 6/30/13
 - \$338,170,000
 - IRR Rate - \$3.49/month per SF, FY 2013-14 (DGS Price Book)
 - \$3.41/month per SF, FY 2014-15 (Proposed DGS Price Book)
- LEED Status: Certified Silver LEED-EB, 2010
- Tenants:
 - 1430 N Street - Block 225 Completed in 2002 (11 years)
Occupied by the Department of Education. SOLD retail tenants are
KI Gifts, Yellowbill, Zia's Deli, Curry Club, and East End Child Care
Center
475,128 GSF 298,859 NSF 298,859 Assigned SF
 - 1501 Capitol Avenue - Block 171 Completed in 2003 (10 years)
Occupied by the Department of Public Health and Department of
Health Care Services
436,102 GSF 358,073 NSF 358,073 Assigned SF
 - 1500 Capitol Avenue - Block 172 Completed in 2003 (10 years)
Occupied by the Department of Health Care Services and the
Department of Public Health
177,992 GSF 132,436 NSF 132,436 Assigned SF
 - 1615 Capitol Avenue - Block 173 Completed in 2003 (10 years)
Occupied by the Department of Public Health, the Department of
Health Care Services and a Department of Rehabilitation restaurant
219,444 GSF 169,060 NSF 162,240 Assigned SF
 - 1616 Capitol Avenue - Block 174 Completed in 2003 (10 years)
Occupied by the Department of Public Health and the Mental
Health Services Oversight Commission
248,118 GSF 198,979 NSF 198,404 Assigned SF



Real Property #: 10500

SPI Structure #: 5155

BPM #: 049

SPI Structure #: 5157

BPM #: 051

SPI Structure #: 5156

BPM #: 052

SPI Structure #: 5159

BPM #: 053

SPI Structure #: 5160

BPM #: 054

COMPLETED STUDIES AND SIGNIFICANT FINDINGS

A. 2009 American Disability Act Accessibility Compliance Survey

This survey indicated various areas of inaccessibility, with a significant number involving potential major alterations in Blocks 171, 172, 173, 174, and 225. Items include room identification signage and exit stair signage in all buildings and in Block 173 corrections in the men's and women's showers in the locker rooms.

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

This report noted some probable future repairs. The recommendations include tuck point mortar and clean stone at the amphitheater between buildings at Blocks 173 and 174, and a reserve for corrections to inspect and certify the window washing system for Blocks 171-174. An additional recommendation is to include a reserve to apply non-slip elastomeric traffic coat at the top level of the parking garage deck.

* Source: Statewide Property Inventory

APPENDIX G: COST TABLES

10 YEAR EXPENDITURE FORECAST



East End Complex Block 225
1430 N Street
Sacramento

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 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
-----------	-----------------------	-------	----------	--------	-----------	-----------	------	---------------	-----------	-----------	----------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	----------------	---------------------	----------------------

A. SUBSTRUCTURE

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

B. SHELL

B10 SUPERSTRUCTURE																											
B10	B10 Superstructure	B1032 Steel Frame Structure, Concrete slabs	Subterranean Parking Garage	B1032 Restripe parking spaces	5	2	8.00	10,000 SF	\$497.00	OP - Maintenance	Priority 3	\$0	\$0	\$3,976	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,952			
B20 EXTERIOR ENCLOSURE																											
B2011	Stone Veneer - First Floor	B2011 Stone Veneer	First through sixth floors	B2011 Replace sealant at joints	15	2	21,350.00	LF	\$15.65	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$334,128	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$334,128			
B2011	B2011 Exterior Wall Construction	B2011 PreCast Concrete Panels	Exteriors	B2011 Replace sealant	15	2	35,000.00	LF	\$11.48	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$401,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$401,800			
B30 ROOFING																											
B3011	Tpo, Roof 45 Mills, Full Adhered	B3011 TPO Roof 45 Mills, Full Adhered	Roof	Replace B3011 TPO Roof 45 Mills, Full Adhered	20	7	599.00	SQ	\$1,806.36	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,082,008			
B3014	B3014 Flashings & Trim	B3014 Flashings & Trim	Vertical surfaces at deck areas	B3014 Replace sealant	15	0	1,000.00	LF	\$9.52	OP - Maintenance	Priority 2	\$9,520	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,520			
B3014	B3014 Flashings & Trim	B3014 Coping	Coping at parapets	B3014 Replace sealant at coping	15	0	1,800.00	LF	\$15.65	OP - Maintenance	Priority 2	\$28,170	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$28,170			
Shell Subtotal												\$37,690	\$0	\$739,904	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,085,984	\$0	\$0	\$37,690	\$1,825,888

C. INTERIORS

C10 INTERIOR CONSTRUCTION																								
C1021	Fire Door, Wood, Flush, 60 Minute, Incl. Demo, with Hardware	C1021 Fire Door, Wood, Flush, 60 Minute, Incl. Demo, with Hardware	Doors to corridors, offices	C1021 Replace lever handle hardware as it fails	15	0	6.00	EA	\$668.21	OP - Maintenance	Priority 3	\$4,009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,009	\$0
C1031	C1031 Fabricated Toilet Partitions	C1031 Fabricated Toilet Partitions	Restrooms	C1031 Replace toilet partitions	20	7	72.00	EA	\$2,182.40	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$157,133	\$0	\$0	\$0	\$0	\$157,133
C20 STAIRS																								
C2014	C2014 Stair Handrails and Balustrades	C2014 Steel Stairs	Interior stairwells	C2014 Prep and paint steel stairway parts	7	1	14,400.00	SF	\$3.87	IN - Appearance	Priority 2	\$0	\$55,728	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$55,728
C30 INTERIOR FINISHES																								
C3021	Epoxy Flooring	C3021 Epoxy Flooring	Mail room, security room	C3021 Replace vinyl tile with epoxy	15	0	40.00	CSF	\$3,167.06	IN - Appearance	Priority 2	\$126,682	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$126,682
C3021	Epoxy Flooring	C3021 Epoxy Flooring	Ground floor service corridors	Replace C3021 Epoxy Flooring	15	6	80.00	CSF	\$3,167.06	IN - Appearance	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$253,365	\$0	\$0	\$0	\$0	\$253,365
C3024	Vinyl Tile	C3024 Vinyl Tile	Break rooms, copy rooms all floors	Replace C3024 Vinyl Tile	18	5	800.00	SY	\$125.78	IN - Appearance	Priority 4	\$0	\$0	\$0	\$0	\$0	\$100,624	\$0	\$0	\$0	\$0	\$0	\$0	\$100,624
C3025	Carpet Tiles - Standard	C3025 Carpet Tiles - Standard	Fourth through sixth floors	Replace C3025 Carpet Tiles - Standard	10	0	13,888.00	SY	\$96.61	IN - Appearance	Priority 2	\$1,341,659	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,341,659
C3025	Carpet Tiles - Standard	C3025 Carpet Tiles - Standard	First through third floors	Replace C3025 Carpet Tiles - Standard	10	0	11,111.00	SY	\$96.61	IN - Appearance	Priority 2	\$1,073,385	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,073,385
Interiors Subtotal												\$2,545,735	\$55,728	\$0	\$0	\$0	\$0	\$100,624	\$253,365	\$157,133	\$55,728	\$0	\$2,545,735	\$622,578

D. SERVICES

D10 CONVEYING SYSTEMS																								
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Throughout Facility	D1011 Modernize cars 1-5 to include new controllers, VF drives, door operators, signal features and updated fire service	15	8	5.00	EA	\$590,000.00	FN - Modernization	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,950,000	\$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Throughout Facility	D1011 Perform 5 year full load test on elevators 1-5	10	0	5.00	EA	\$7,080.00	CC - Building Code	Priority 1	\$35,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,400
D1011	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Elevator Hydraulic System, 3,500 Lb Capacity	Elevator Lobby	D1011 Modernize parking garage elevator, car 6, with new controller, VF drive, fixtures and door equipment	20	7	1.00	EA	\$424,800.00	FN - Modernization	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$424,800	\$0	\$0	\$0	\$0	\$424,800
	Elevator Hydraulic System, 3,500 Lb Capacity	D1011 Elevator Hydraulic System, 3,500 Lb Capacity	Elevator Lobby	D1011 Perform 5 year full load test	10	0	1.00	EA	\$7,080.00	CC - Building Code	Priority 1	\$7,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,080
D1012	Traction Geared Elevator - High Rise	D1012 Traction Geared Elevator - High Rise	Freight Elevator Lobby	D1012 Modernize freight elevator with new controller, VF drive, door operator and updated fire service	15	7	1.00	EA	\$590,000.00	FN - Modernization	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$590,000	
	Traction Geared Elevator - High Rise	D1012 Traction Geared Elevator - High Rise	Freight Elevator Lobby	D1012 Perform five year full load test on freight elevator	10	0	1.00	EA	\$7,080.00	CC - Building Code	Priority 1	\$7,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,080
	Traction Geared Elevator - High Rise	D1012 Traction Geared Elevator - High Rise	Freight Elevator Lobby	D1012 Repair car 4 and return to service	15	0	1.00	EA	\$35,400.00	IN - Reliability	Priority 1	\$35,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,400
D20 PLUMBING																								
D2017	Stall Shower and Faucet	D2017 Stall Shower and Faucet	Locker Rooms	Replace D2017 Stall Shower and Faucet	20	7	10.00	EA	\$4,059.18	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,592
D2018	Drinking Fountain	D2018 Drinking Fountain	Throughout Facility	Replace D2018 Drinking Fountain	10	5	14.00	EA	\$2,876.60	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$40,272	\$0	\$0	\$0	\$0	\$0	\$0	\$40,272
D2023	Hydronic Circulating Pump, 5 HP	D2023 Domestic Water Booster Pump Station	Pump Room 1038	Replace D2023 Domestic Water Booster Pump Station	20	7	3.00	EA	\$33,700.80	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$101,102
D2034	Sanitary Lift Station Pumps 165 Gpm	D2034 Sanitary Lift Station Pumps 75 Gpm	Basement Parking Level	Replace D2034 Sanitary Lift Station Pumps 75 Gpm	15	0	2.00	EA	\$3,905.94	IN - Reliability	Priority 1	\$7,812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,812
D2034	D2034 Sanitary Waste Equipment	D2034 Sump Pump, Large, 1.5 HP	Basement Parking Level	Replace D2034 Sump Pump, Large, 1.5 HP	20	7	8.00	EACH	\$19,573.84	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$156,591
D2034	D2034 Sanitary Waste Equipment	D2034 Septic Holding Tank, 1500 Gallon	Basement Parking Level	Replace D2034 Septic Holding Tank, 1500 Gallon	25	0	1.00	EA	\$7,434.00	IN - Reliability	Priority 1	\$7,434	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,434
D2095	Pool Pump, Up to 2 HP and 150 Gpm	D2095 Fountain Pump	Basement Parking Level	Replace D2095 Fountain Pump	20	7	1.00	EA	\$7,703.04	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,703
D30 HVAC																								
D3016	Solar Panel 3' x 8'	D3016 Solar Panel 2' x 4'	Penthouse	D3016 Diagnose and repair the transformer/control system	15	0	1.00	LS	\$283,200.00	OP - Energy	Priority 1	\$283,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$283,200
	Solar Panel 3' x 8'	D3016 Solar Panel 2' x 4'	Penthouse	Replace D3016 Solar Panel 2' x 4'	15	3	300.00	EACH	\$2,310.44	OP - Energy	Priority 3	\$0	\$0	\$0	\$693,132	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$693,132
D3022.1	Base-mounted circulating pumps (500 GPM, 20 HP)	D3022 HVAC Chilled Water Circulation Pumps	Chiller Room	Replace D3022 HVAC Chilled Water Circulation Pumps	20	8	6.00	EA	\$24,794.16	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$148,765
D3022.1	Circulation Pump 30 HP	D3022 HVAC Heating Water Circulation Pumps 20 HP	Boiler Room	Replace D3022 HVAC Heating Water Circulation Pumps 20 HP	20	8	2.00	EA	\$24,794.16	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$49,588
D3023	Expansion Tank (steel, liquid expansion, rubber diaphragm, 317 gal cap.)	D3023 Expansion Tank (steel, liquid expansion, rubber diaphragm, 317 gal cap.)	Boiler Room	Replace D3023 Expansion Tank (steel, liquid expansion, rubber diaphragm, 317 gal cap.)	20	8	3.00	EA	\$21,308.09	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$63,924
D3023	Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)	D3023 Condensate Return System	Chiller Room	Replace D3023 Condensate Return System	20	7	3.00	EA	\$16,497.34	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$49,492
D3032	Roof-Mounted Condenser 5-Ton	D3032 Condenser 5-Ton, Roof Mounted	First Floor Rooftop	Replace D3032 Condenser 5-Ton, Roof Mounted	15	5	2.00	EA	\$12,211.73	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$24,423
D3041.I	Air Handler 2500-3000 CFM	Replace D3041 2,500 CFM Ventilation Fans	Throughout Facility	Replace D3041 2,500 CFM Ventilation Fans	15	7	12.00	EA	\$7,712.67	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$92,552
D3041.I	Central Station Ahu 33500 CFM	Replace D3041 Central Station AHU 33500 CFM	First Floor AHU Room	Replace D3041 Central Station AHU 33500 CFM	15	7	2.00	EA	\$128,123.22	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$256,246
D3041.I	Air-Handler 300 CFM	Replace D3041 300 CFM Relief Fans	Throughout Facility	Replace D3041 300 CFM Relief Fans	15	5	12.00	EA	\$1,757.26	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,087

10 YEAR EXPENDITURE FORECAST

East End Complex Block 225
1430 N Street
Sacramento

Useful Life	Estimated Useful Life	Plan Type	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 ¹	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			
D3041.1	3000 - 3700 CFM Aluminum Dome Exhaust Fan	D3041 3000 - 3700 CFM Aluminum Dome Exhaust Fan	Rooftop	Replace D3041 3000 - 3700 CFM Aluminum Dome Exhaust Fan	15	5	8.00	EA	\$6,222.61	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$49,781	\$0	\$0	\$0	\$0	\$0	\$49,781			
D3041.1	Air Handler 2500-3000 CFM	D3041 2500 CFM Supply and Exhaust Fans	Basement Parking Level	Replace D3041 2500 CFM Supply and Exhaust Fans	15	5	16.00	EA	\$7,712.67	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$123,403	\$0	\$0	\$0	\$0	\$0	\$123,403			
D3052	Air Conditioner, Dx Package (Liebert) 5-Ton	D3052 Computer/Sever Room AC, 5 Tons	Data Room	Replace D3052 Computer/Sever Room AC, 5 Tons	20	3	2.00	EA	\$17,548.49	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$35,097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,097			
D3052	Single Zone Rooftop Unit 10-Ton	D3052 Single Zone Package Unit 10-Ton	Throughout Facility	Replace D3052 Single Zone Package Unit 10-Ton	15	5	6.00	EA	\$36,890.34	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$221,342	\$0	\$0	\$0	\$0	\$0	\$221,342			
D3053	Multi-zone Package A/C Unit	D3053 Multi-zone Package A/C Unit	First Floor Rooftop	Replace D3053 Multi-zone Package A/C Unit	20	5	11.00	EACH	\$23,066.64	IN - Beyond Rated Life	Priority 3	\$0	\$0	\$0	\$0	\$0	\$253,733	\$0	\$0	\$0	\$0	\$0	\$253,733			
D3063	Variable Frequency Drive, 20 HP Motor	D3063 Variable Frequency Drive, 20 HP Motor	Throughout Facility	Replace D3063 Variable Frequency Drive, 20 HP Motor	15	3	18.00	EA	\$18,776.16	IN - Beyond Rated Life	Priority 2	\$0	\$0	\$0	\$337,971	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$337,971			
D3068	Direct Digital Controls (DDC) Extensive	D3068 DDC Controls	Throughout Facility	Replace D3068 DDC Controls	20	0	475,128.00	SF	\$0.82	OP - Energy	Priority 1	\$388,845	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$388,845			
D50 ELECTRICAL SYSTEMS																										
D5037	Fire Alarm Panel	D5037 Fire Alarm Panel	Throughout Facility	Replace D5037 Fire Alarm Panel	15	7	8.00	EA	\$9,402.52	CC - Life Safety	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$75,220	\$0	\$0	\$0	\$75,220			
D5038	Security System - Full Spec	D5038 Security System - Full Spec	Throughout Facility	Replace D5038 Security System - Full Spec	10	7	475,128.00	SF	\$4.32	OP - Security	Priority 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,052,410	\$0	\$0	\$0	\$2,052,410			
D5092	Ups Battery Transformer 1.0 kVA	D5092 Ups Battery Transformer 1.0 kVA	Data Room	Replace D5092 Ups Battery Transformer 1.0 kVA	20	7	2.00	EA	\$7,582.68	IN - Beyond Rated Life	Priority 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,165	\$0	\$0	\$0	\$15,165			
Services Subtotal												\$772,251	\$0	\$0	\$1,066,200	\$0	\$734,042	\$0	\$3,861,874	\$3,212,278	\$0	\$772,251	\$8,874,393			

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 SITEMWORK																							
G20 SITE IMPROVEMENTS																							
G2031	G2031 Paving & Surfacing	G2031 Paving & Surfacing	At the entry	G2031 Replace uneven surfacing material with something less hazardous	15	0	20.00	SF	\$248.00	CC - Life Safety	Priority 1	\$4,960	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,960	\$0
Building Sitemwork Subtotal												\$4,960	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,960	\$0

Z. GENERAL																							
General Subtotal												\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

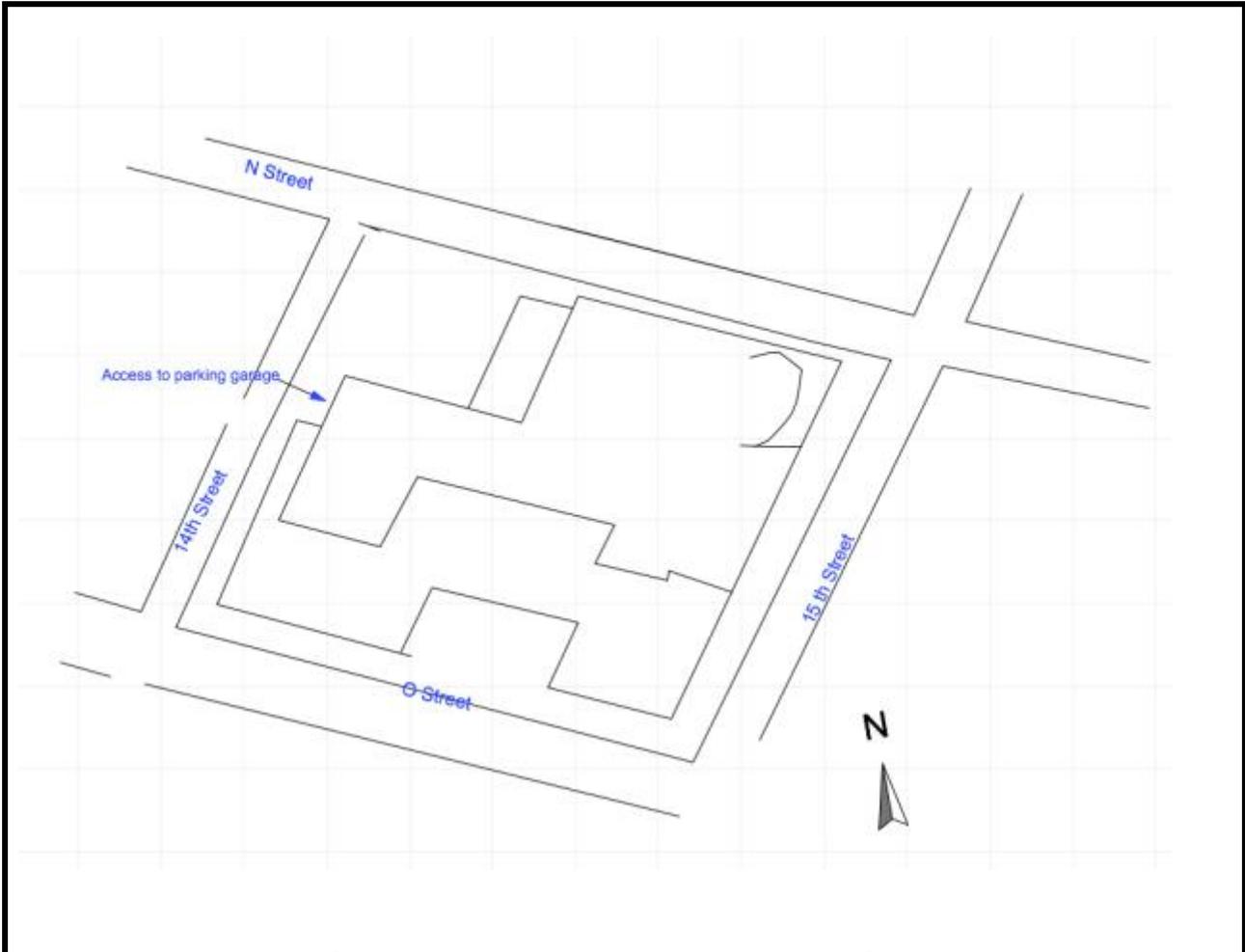
Expenditure Totals per Year	\$3,360,636	\$55,728	\$739,904	\$1,066,200	\$0	\$834,666	\$253,365	\$5,104,991	\$3,268,006	\$0	\$3,360,636	\$11,322,859
Total Cost (Inflated @ 3% per Yr.)	\$3,360,636	\$58,514	\$815,744	\$1,234,260	\$0	\$1,065,269	\$339,533	\$7,183,236	\$4,828,333	\$0	Total *	\$14,683,494

* - Present Value Currency

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

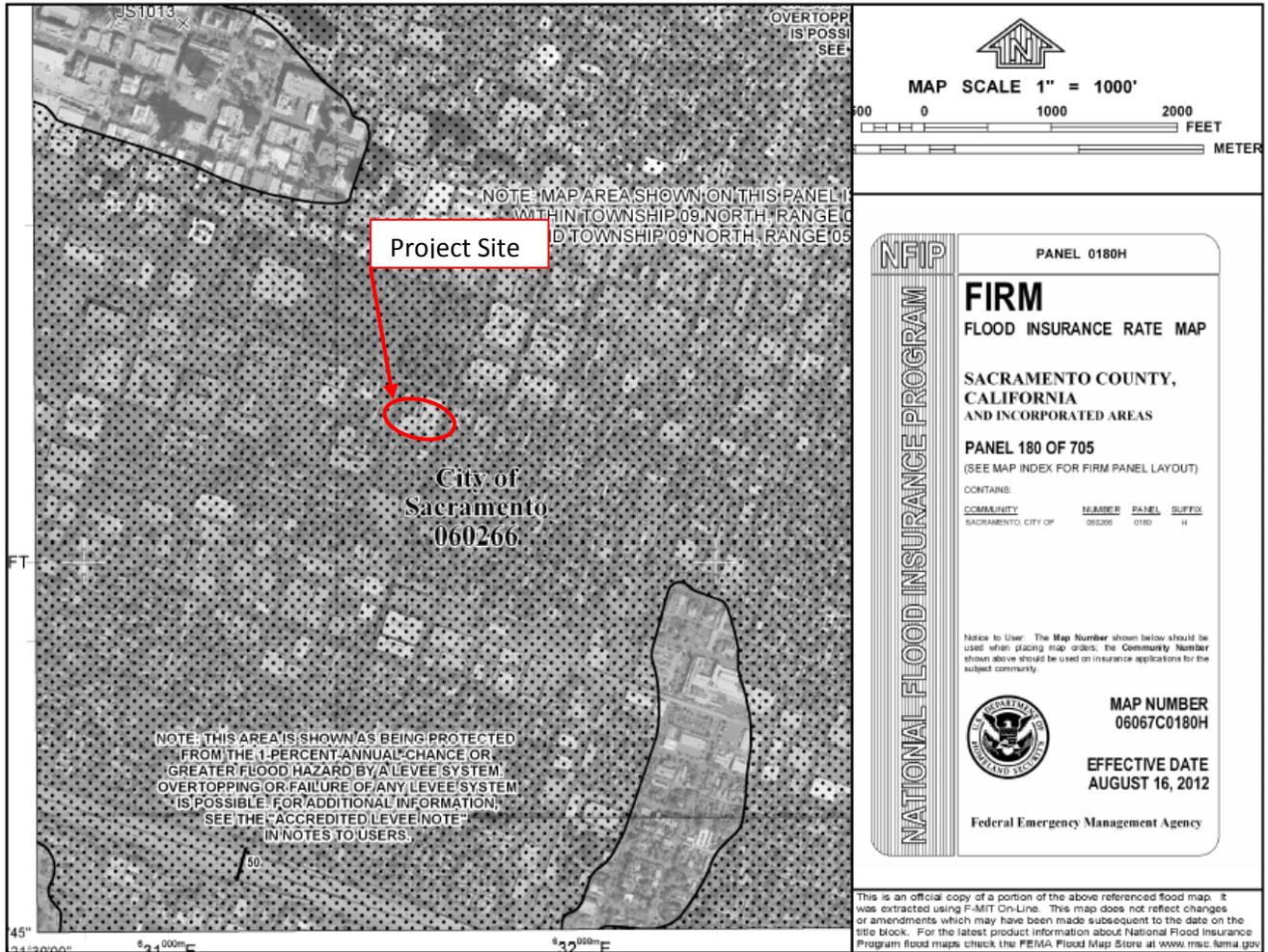
Current Repl.Value \$199,858,355

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-020.305</p> <p>Project Name:</p> <p>East End Complex Block 225</p>
		<p>On-Site Date:</p> <p>December 15, 16, & 17, 2014</p>

Flood Map



	SOURCE: FEMA	Project Number: 111326.14R-020.305
		Project Name: East End Complex Block 225
Not drawn to scale. The north arrow indicator is an approximation of 0° North.		On-Site Date: December 15-17, 2014

Estimate of Structures Cost Using Marshall Cost Systems			
East End Complex Block 225 (049)			
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	\$318.23	502,419	\$159,886,684
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
	\$0.00	0	\$0
	Total	502,419	\$159,886,684
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	\$159,886,684	25.00%	\$199,858,355
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
	\$0	25.00%	\$0
Cost Per SF	\$397.79	Total Estimate	\$199,858,355

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

ADA Checklist

Property Name: East End Complex Block 225

Date: December 15, 16 and 17, 2014

Project Number: 111326.14R-020.305

EMG Abbreviated Accessibility Checklist					
	Building History	Yes	No	N/A	Comments
1.	Has the management previously completed an ADA review?				Unknown, according to the PSQ
2.	Have any ADA improvements been made to the property?	✓			
3.	Does a Barrier Removal Plan exist for the property?				Unknown, according to the PSQ
4.	Has the Barrier Removal Plan been reviewed/approved by an arms-length third party such as an engineering firm, architectural firm, building department, other agencies, etc.?				Unknown, according to the PSQ
5.	Has building ownership or management received any ADA related complaints that have not been resolved?		✓		
6.	Is any litigation pending related to ADA issues?				Unknown
	Parking	Yes	No	N/A	Comments
1.	Are there sufficient accessible parking spaces with respect to the total number of reported spaces?	✓			213 total spaces, seven accessible spaces provided
2.	Are there sufficient van-accessible parking spaces available (96" wide/ 96" aisle for van)?	✓			Seven accessible spaces one of which is van accessible
3.	Are accessible spaces marked with the International Symbol of Accessibility? Are there signs reading "Van Accessible" at van spaces?	✓			
4.	Is there at least one accessible route provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, if provided, and public streets and sidewalks?	✓			
5.	Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs?	✓			
6.	Does signage exist directing you to accessible parking and an accessible building entrance?	✓			

EMG Abbreviated Accessibility Checklist					
	Ramps	Yes	No	N/A	Comments
1.	If there is a ramp from parking to an accessible building entrance, does it meet slope requirements? (1:12)			✓	No ramp
	Ramps	Yes	No	N/A	Comments
2.	Are ramps longer than 6 ft complete with railings on both sides?			✓	No ramp
3.	Is the width between railings at least 36 inches?			✓	No ramp
4.	Is there a level landing for every 30 ft horizontal length of ramp, at the top and at the bottom of ramps and switchbacks?			✓	No ramp
	Entrances/Exits	Yes	No	N/A	Comments
1.	Is the main accessible entrance doorway at least 32 inches wide?	✓			
2.	If the main entrance is inaccessible, are there alternate accessible entrances?			✓	Main entry is accessible
3.	Can the alternate accessible entrance be used independently?			✓	
4.	Is the door hardware easy to operate (lever/push type hardware, no twisting required, and not higher than 48 inches above the floor)?	✓			
5.	Are main entry doors other than revolving door available?	✓			
6.	If there are two main doors in series, is the minimum space between the doors 48 inches plus the width of any door swinging into the space?			✓	No doors in series
	Paths of Travel	Yes	No	N/A	Comments
1.	Is the main path of travel free of obstruction and wide enough for a wheelchair (at least 36 inches wide)?	✓			
2.	Does a visual scan of the main path reveal any obstacles (phones, fountains, etc.) that protrude more than 4 inches into walkways or corridors?		✓		No obstacles in view
3.	Are floor surfaces firm, stable, and slip resistant (carpets wheelchair friendly)?	✓			
4.	Is at least one wheelchair-accessible public telephone available?			✓	No public phones
5.	Are wheelchair-accessible facilities (toilet rooms, exits, etc.) identified with signage?	✓			
6.	Is there a path of travel that does not require the use of stairs?	✓			

EMG Abbreviated Accessibility Checklist					
7.	If audible fire alarms are present, are visual alarms (strobe light alarms) also installed in all common areas?	✓			
Elevators		Yes	No	N/A	Comments
1.	Do the call buttons have visual signals to indicate when a call is registered and answered?				
Elevators		Yes	No	N/A	Comments
2.	Are there visual and audible signals inside cars indicating floor change?				
3.	Are there standard raised and Braille marking on both jambs of each host way entrance?				
4.	Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?				
5.	Do elevator lobbies have visual and audible indicators of car arrival?				
6.	Does the elevator interior provide sufficient wheelchair turning area (51" x 68")?				
7.	Are elevator controls low enough to be reached from a wheelchair (48 inches front approach/54 inches side approach)?				
8.	Are elevator control buttons designated by Braille and by raised standard alphabet characters (mounted to the left of the button)?				
9.	If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?				
Restrooms		Yes	No	N/A	Comments
1.	Are common area public restrooms located on an accessible route?	✓			
2.	Are pull handles push/pull or lever type?				
3.	Are there audible and visual fire alarm devices in the toilet rooms?	✓			
4.	Are corridor access doors wheelchair-accessible (at least 32 inches wide)?	✓			
5.	Are public restrooms large enough to accommodate a wheelchair turnaround (60" turning diameter)?	✓			
6.	In unisex toilet rooms, are there safety alarms with pull cords?			✓	No unisex restrooms
7.	Are stall doors wheelchair accessible (at least 32" wide)?	✓			
8.	Are grab bars provided in toilet stalls?	✓			

EMG Abbreviated Accessibility Checklist					
9.	Are sinks provided with clearance for a wheelchair to roll under (29" clearance)?	✓			
10.	Are sink handles operable with one hand without grasping, pinching or twisting?	✓			
11.	Are exposed pipes under sink sufficiently insulated against contact?	✓			
12.	Are soap dispensers, towel, etc. reachable (48" from floor for frontal approach, 54" for side approach)?	✓			
	Restrooms	Yes	No	N/A	Comments
13.	Is the base of the mirror no more than 40" from the floor?	✓			

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: JORDAN JUNIO

Building name: East End Complex Block 225 (049)

What is your association with this property? MANAGE AND MAINTAIN THE BUILDING

What is the length of your association with this property? AROUND SEVEN YEARS

Phone number: 916-445-3501

Please provide information about inspections relating to the following items

Inspections	Date Last Inspected	List Name & Contact for Maintenance Contractor, if any.
1. Elevators	MAY 2014	THYSSEN KRUPP ELEVATOR CO.
2. HVAC, Mechanical, Electric, Plumbing	MONTHLY, QUARTERLY, SEMIANNUALLY, ANNUAL, LAST BEING JANUARY 2015	PARTLY CONTRACT OUT AND IN HOUSE, BUILDING AND PROPERTY MANAGEMENT,- CONTRACTOR-AMERICAN CHILLER SERVICE
3. Life-Safety/Fire	OCTOBER 2014 -QUARTERLY, SEMI-ANNUAL, SEMI ANNUAL	SIEMENS INC. CONTRACT # 3164788 expires September 2015
4. Roofs	January 2015-QUARTERLY, SEMI-ANNUAL, ANNUAL	IN-HOUSE-BUILDING AND PROPERTY MANAGEMENT ENGINEERING STAFF

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

NONE

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

FOR THE SUCCEEDING FISCAL YEAR, 2015-2016 - I RECOMMENDED CHILLER #3 TO BE UPGRADED TO VFD CONTROLLED WITH APPROXIMATE COST OF \$150,000.00

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

12 YEARS

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

MAJOR EQUIPMENTS LIKE BOILERS & CHILLERS MAJOR MAINTENANCE AND REPAIRS ARE/WERE CONTRACTED OUT....

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			
10. Are there any "down" or unusable units?		x			WE HAD ISSUES WITH CHILLER #3 TRIPPING OFF ON LOW/HIGH PRESSURE, WE ARE CONTRACTING THIS OUT AND WILL BE SCHEDULED AS PART OF THE ANNUAL PREVENTIVE MAINTENANCE -MARCH 2015.
11. Are there any problems with erosion, storm-water drainage or areas of paving that do not drain?		x			
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			
14. Are there any problems with foundations or structures?		x			

Question	Y	N	N/A	Unk	Comments
15. Is there any water infiltration in basements or crawl spaces?	x				The issue is the water leak from the childcare playground area into the parking garage below which appears to be coming through the decking area underneath the play surface material. Water is penetrating into the basement parking garage level around the drain pipe of the catch basin above. The second issue is the gap that now exists in between the play surface material and the concrete surface. The play surface material should abut tightly to the concrete deck. This gap, which varies from about a half inch to around an inch, is currently filled with dirt and debris.
16. Are there any wall, or window leaks?	x				MINOR WINDOW LEAKS, MULTIPLE SPOTS DUE TO CAULKING DETERIORATION.
17. Are there any roof leaks?		x			
18. Is the roofing covered by a warranty or bond?		x			WARRANTY EXPIRED IN 2013.
19. Are there any poorly insulated areas?				x	BUILDING MET THE LEED CERTIFICATION - CURRENTLY -PLATINUM
20. Is Fire Retardant Treated (FRT) plywood used?				x	
21. Is exterior insulation and finish system (EIFS) or a synthetic stucco finish used?				x	

Question	Y	N	N/A	Unk	Comments
22. Are there any problems with the utilities, such as inadequate capacities?		x			
23. Are there any problems with the landscape irrigation systems?		x			
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				R-134 - FOR THE MAIN CHILLERS, 2-ACU from the 1st floor uses R22.
26. Has any part of the property ever contained visible suspect mold growth?		x			
27. Is there a mold Operations and Maintenance Plan?	x				DGS-RES-D-BPM-ESHOP Environmental Health and Safety Operation Program
28. Have there been indoor air quality or mold related complaints from tenants?		x			
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			
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	

Question	Y	N	N/A	Unk	Comments
35. Are there any recalled fire sprinkler heads (Star, GEM, Central, Omega)?		x			
36. Is there any pending litigation concerning the property?				x	sealese lease back issue in 2008
37. Has the State previously completed an ADA or 'Title 24 review?	x				
38. Have any ADA or Title 24 improvements been made to the property?				x	
39. Does a Barrier Removal Plan exist for the property?			x		
40. Has the Barrier Removal Plan been approved by a credentialed third party?			x		
41. Have there been any ADA or Title 24 related complaints?				x	
42. Have there been any complaints about the elevators or wait times?		x			
43. Are there any problems with exterior lighting?		x			
44. Are there any other significant issues/hazards with the property?		x			
45. Are there any unresolved construction defects at the property?		x			

APPENDIX J: ELEVATOR REPORT



East End Education
1430 "N" Street
Sacramento, CA

Due Diligence
Elevator Report

February 22, 2015

Prepared for:

Ms. Karla Rodriquez
EMG Corporation
Hunt Valley, MD 21212

Prepared by:

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



TABLE OF CONTENTS

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

Section I: Executive Summary

A. Introduction

On February 3, 2015 Bob Nicholson and Russell Holt of Architectural Elevator Consulting, LLC (AEC) surveyed all the vertical transportation systems at the East End Education 1430 N Street, Sacramento, CA. There are six (6) geared and one (1) gearless traction elevators. The elevators provide vertical transportation to the office floors on levels 1-6. The purpose of the survey was to review the major components, to identify upgrades needed over the next ten years and check for compliance with various codes. In addition to reviewing the major components of the elevators we checked the performance parameters of the equipment and tested safety devices such as door restrictors, electric edges and emergency phones.

All the traction elevators were manufactured and installed by Montgomery/Kone Elevator Company during the original building construction in 2001. The elevators have Kone Miprom AI controllers, Kone door operators and innovation fixtures.

During our survey we noted that the elevators were being poorly maintained by ThyssenKrupp Elevator. Housekeeping in the machine rooms was satisfactory, but most car tops and pits were very dirty. Door performance is slow and should be improved. Car 4 was shut down all day and appeared to have been out for a few days or more. All of the elevators have had annual and five year full load tests as required by Group III in California, but they are all overdue. The last annual test was in 2011 and the last five year test was in 2008. These should be scheduled ASAP.

B. Elevator Layout

Elevators 1-5 are the main passenger cars and serve floors 1-6. In addition Car 3 goes to one below level garage floor. Car 6 is a two stop gearless elevator that provides service from the garage level to the first floor. The service elevator, Car 7, provides access to all office floors and the basement. All the elevators have fast and efficient center opening doors, except the service car which has side opening doors. The number, speed and size of the elevators appear to be adequate to provide satisfactory service for the building.

Elevator Summary				
Elevator Bank	Elevator Speed	Floors Served	Capacity	Door Type
Cars 1,2,4,5	350 FPM	1-6	4,000 lbs.	Center
Car 3	350 FPM	G,1-6	4,000 lbs.	Center
Car 6	200 FPM	G-1	4,000 lbs.	Center
Car 7	350 FPM	1-6	4,000 lbs.	Side

C. Condition/Components

Most the major components of the elevators were found to be in good condition. The elevators have solid-state controllers with energy efficient VF AC drives. The car and hall signal fixtures meet ADA and were in good condition. The machines, car equipment and door operators are in good condition. All of the equipment is 14 years old and should last another 7 to 10 years without needing a modernization. In **Section II** of this report we provide an in-depth review of each of the major components of the elevators with photographs.

D. Maintenance/Performance

The elevators are currently being maintained by ThyssenKrupp Elevator. The level of maintenance was noted to be below average. The performance was observed to be below the designed times and speeds. This needs to be remedied. All the pits and car tops were found to be dirty. The annual and five year tests are overdue. Several of the counterweight roller guides were falling apart. Car 4 was shut down all day and no-one from TKE arrived to do service to try and get it running. In *Appendix C* of this report we provide a summary of the performance times for each elevator followed by a maintenance deficiency list. We recommend this list be provided to the elevator service provider so they can correct these items.

E. Code Review:

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

1. **Americans with Disability Act (ADA)/California T24:** In 1990 the federal government enacted ADA to make public spaces more accessible to disabled persons. California has a few specific accessibility requirements in addition to ADA. All of the elevators meet most ADA and California Title 24 requirements. The sizes of the passenger elevators meet ADA for new and existing elevators. All the cars had proper hall lanterns and gongs. *Appendix A* provides a complete listing of the ADA/T24 requirements. The following is a list of which items need to be corrected to meet ADA:
 - a. **Hall Dwell Time:** The hall call dwell time is just under 5.0 seconds on all cars. This should be increased so it is over 5.0 seconds.
2. **Retro Active Codes for Existing Elevators:** We reviewed the elevators for compliance to A17.3 Code, the national safety code for existing elevators. This code requires all elevators, no matter age or installation date, to meet a minimum level of safety. A17.3 is not adopted in California, thus not required by the State, but highly recommended. A complete check list for this retro-active code is included in *Appendix B* of this report. The elevators have been retro-actively upgraded for most of these codes. All elevators are in full compliance with A17.3.
3. **Seismic:** The elevators were installed in 2001 under California Group III seismic code. They have seismic fishplates, brackets and full seismic operation. No work is needed for seismic compliance.

F. Recommendation:

We recommend all the elevators have a five year full load test performed as soon as possible. The State of California exempts older elevators from being tested, but these were installed under Group III and are required to have annual and five year full load tests. The car tops, pits and machine room should be cleaned. If service on the elevators is improved and maintained, the major components should last another 7 to 10 years without a modernization. The Kone Miprom A/I controllers are a slight concern, as these had a limited run cycle and support may become a challenge in the next 5-7 years.

Section II : Component Review

A. MACHINE ROOM:

Controllers:

The controllers for were manufactured by Kone just after they purchased Montgomery Elevator in 2000. They are Miprom A/I. These particular controllers had a limited run and long term support is questionable.



Machines:

Elevators 1-5 and 7 have geared Hollister Whitney machines. Most the machines had minor oil leaks and some had enough that warrant changing the seals. These machines are generally in good condition and do not need updated anytime soon. Elevator 6 has a gearless machine manufactured by Kone.



B. HOISTWAY:

Hoistway Construction:

The hoistway (elevator shaft) is the main area where the elevators go up and down. The hoistways are mostly built of drywall and in good condition. No work is anticipated at this time.

Car Guide Rails:

The car rails are in good condition and have seismic fish plates. No work is needed on the guide rails.

Pits:

The pits were found to be dry but very dirty.



C. CAR TOP:

Door Operator:

The door operators are Kone's PMSSC which is basically a MAC door operator with the Kone name on it. These operators are known to be fairly reliable and no work is needed on these.

Car Roller/Slide Guides:

On both sides of the elevators and on the top and bottom roller guides keep the elevators riding up and down the steel guide rails. The counterweight rollers were noted to be in bad condition and need to be replaced immediately as part of the maintenance program.



D. SIGNAL FIXTURES:

Car Operating Panels:

All the Car Operating Panels (COP's) are original, and The panels are in good condition and meet all ADA and T24. No work is anticipated on the car operating panels in the near term.



Hall Lanterns:

Hall lanterns inform persons waiting in the hall of which direction the elevator is about to travel in next. ADA requires that the hall lanterns illuminate and sound for the waiting passengers. The existing passenger elevators have hall lanterns for each car. The lanterns have the proper gong for up and down.

Hall Call Pushbuttons:

At each floor hall call push buttons are located so that users can call the elevator. The hall call stations have raised operation buttons which meet ADA and California Title 24. They also have the code required fire exit signs in station.



E. CAB INTERIOR:

Wall Finish:

The existing cab interiors are in good condition and have the code required handrails. The service car has a stainless steel cab.

Ceilings:

The passenger elevators have down light ceilings with incandescent light fixtures. The light fixtures could be updated with energy efficient LED's and/or the entire ceiling could be replaced.



Vertical Transportation

East End Education - 1430 "N" Street

Item No.	Recommendation	Rating	Quantity	Unit	Unit Cost	Immediate Code Items	Immediate - Repair	Years 1-3	Years 4-6	Years 7-10	Totals
1	Modernize Cars 1-5,7 with new controllers, VF drives, door operators, signal fixtures and updated fire service.	4	6	EA	\$250,000.00					\$1,500,000	\$1,500,000
2	Modernize parking garage elevator, Car 6, with new controllers, VF drive, fixtures and door equipment.	4	1	EA	\$180,000.00					\$180,000	\$180,000
3	Perform five year full load tests. The elevators are installed under Group III and are required to have tests. Last five year was performed in October 2008 and is currently overdue.	1	7	EA	\$3,000.00	\$21,000					\$21,000
4	Repair Car 4 and return to service.	2	1	EA	\$15,000.00		\$15,000				\$15,000
5				EA							\$0
6				EA							\$0
7				EA							\$0
8				EA							\$0
9				EA							\$0
10				EA							\$0
11											
12											
	Subtotal					\$21,000	\$15,000	\$0	\$0	\$1,680,000	\$1,716,000
		1	\$21,000	Code and Safety							
		2	\$15,000	Deferred Maintenance & Repair							
		3		Capital Expenditure							
		4	\$1,680,000	Modernization / Improvements							
		5	\$1,716,000	Total							

Rating:
 1 - Code and Safety
 2 - Repair and Maintenance
 3 - Capital Expenditure
 4 - Modernization / Improvements
 5 - Total

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
		Cars 1-7
	GENERAL	
4.10.1	Elevator must comply with ASME A17.1-1990. Freight elevators are not acceptable unless only elevator provided, and is permitted to carry passengers, both public and employees.	Yes
	AUTOMATIC OPERATION	
4.10.2	Elevators must be Automatic.	Yes
4.10.2	Self-leveling to within 1/2 in.	Yes
	HALL CALL BUTTONS	
4.10.3	Buttons centered at 42 in. above the floor.	Yes
4.10.3	Buttons to illuminate when call is entered and extinguish when answered.	Yes
4.10.3	Buttons to be at least 3/4 in. in the smallest dimension.	Yes
4.10.3	Up button located above down button.	Yes
4.10.3	Buttons raised or flushed. (T24 must be raised)	Yes
4.10.3	Objects mounted beneath hall buttons not to project into the lobby more than 4 in.	Yes
	HALL or CAR LANTERNS	
4.10.4	Visible and audible signals at each hoistway entrance to indicate which car is responding to the call.	Yes – Hall
4.10.4	Audible signals to sound once for up and twice for “down” or may verbal announcement stating “up” “down.”	Yes
4.10.4	Hall directional lantern centered 72 in. above floor.	Yes
4.10.4	Directional lantern visible elements minimum of 2-½ in. in the smallest dimension.	Yes
4.10.4	Directional lanterns must be visible from the vicinity of the hall call button.	Yes
4.10.4	In car lanterns, meeting the requirements above are acceptable in lieu of hall directional lanterns.	N/A
	HOISTWAY ENTRANCES	
4.10.5	Raised and Braille floor designations are required on both door jambs. Permanently applied plates are acceptable. (T24 must be to the left)	Yes
4.10.5	Centerline of floor designation characters 60 in. above floor.	Yes
4.30.4	Characters must be 2 in. high, raised 1/32 in. upper sans serif (block letters) or simple serif type.	Yes
4.30.4	Grade II Braille to accompany raised characters.	Yes
	DOOR PROTECTIVE & REOPENING DEVICES	
4.10.6	Doors must open and close automatically.	Yes
4.10.6	Non-contact door reopening device at 5 in. and 29 in. above the floor.	Yes
4.1.6(3)(c)	If safety edges are provided on existing elevators, the non-contact door reopening devices may be omitted.	Yes
4.10.6	Reopening device to remain operational for at least 20 seconds.	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
		Cars 1-7
	DOOR AND SIGNAL TIMING	
4.10.7	Minimum acceptable door open time from notification car is answering a hall call until the car doors begin to close: $T=D/(1.5ft/s)$, where T is the total time in and D is the distance from a point in the lobby or corridor 60 in. directly in front of the farthest button controlling that car to centerline of its hoistway door.	Yes
4.10.7	Minimum acceptable notification time 5.0 seconds.	Yes
	DOOR DELAY FOR CAR CALLS	
4.10.8	Doors to remain open for a minimum of 3.0 seconds in response to car calls.	Yes
	FLOOR PLAN NEW ELEVATOR	
4.10.9	At least 36" wide door. Side Open Door: Cab must be 5'-8" wide x 4'-3" deep Center Open Door: Cab must be 6'-8" wide by 4'-3" deep	Yes
	FLOOR PLAN EXISTING ELEVATOR	
4.1.6	Minimum of 48" x 48"	Yes
4.10.9	Clearance between car platform sill and edge of hoistway landing sill no greater than 1-¼ in.	Yes
	Handrails Circular Square Dia. ____ Top of Handrail ____ Height Side Back (T24 must be 32")	Yes
	FLOOR SURFACES	
4.10.10	Surfaces to be stable, firm and slip resistant.	Yes
4.5.3	Carpeting if installed must have firm cushion, pad or backing, or no cushion or pad. Carpeting must have level loop, textured loop, level pile texture. Carpeting pile thickness not to exceed 1/2 in. Carpeting must have exposed edges fastened to the floor surface. Exposed edges of carpets must be trimmed.	Yes
	ILLUMINATION LEVELS	
4.10.11	Five foot-candles of illumination to be provided at car controls, platform and at sill.	Yes
	CAR CONTROLS	
4.10.12	Buttons to be at least 3/4 in. in their smallest dimension.	Yes
4.10.12	Buttons must be flush or raised. (T24 must be raised)	Yes
4.10.12	Buttons must be designated by raised characters and Braille or symbols complying with ASME A17.1 Rule 210.13.	Yes
4.10.12	Characters must be a minimum of 5/8 in. high, upper case sans (block letters) or simple serif type.	Yes
4.10.12	Grade II Braille to accompany raised character of symbol.	Yes
4.10.12	Raised designations must be to the immediate left of the button to which they apply.	Yes
4.10.12	Call button illuminates when call is entered and extinguish when answered.	Yes

Appendix A
ADA/California T24 ELEVATOR CHECKLIST

ADA	Item	Complies Yes/No/N/A
		Cars 1-7
4.10.12	Floor buttons must be no higher than 48 in. when located in front return. Buttons must be no higher than 54 in. when a side approach provided.	Yes
4.10.12	Emergency controls, including emergency alarm and emergency stop (if provided) must be grouped at the bottom of the panel and have centerlines no less than 35 in. above the finished floor.	Yes
4.10.12	Controls must be on the front return wall with center-opening doors. They may be on the front return or strike jamb sidewall with side doors.	Yes
	CAR POSITION INDICATORS	
4.10.13	Visual car position indicator must be provided above control panel or over door.	Yes
4.10.13	Car position indicator numerals must be a minimum of 1/2 in. high.	Yes
4.10.13	Audible signal to sound as the car passes or stops at a floor and a corresponding floor designation must illuminate. Audible signal must be at least 20 dB with a frequency no higher than 1,500 Hz.	Yes
4.10.13	A button to activate audible signal only for desired trip may be provided.	N/A
4.10.13	An automatic verbal announcement the floor at which a car stops may be substituted for the audible signal.	N/A
	EMERGENCY COMMUNICATIONS	
4.10.14	If provided, emergency two-way communication systems between the elevator and a point outside the hoistway must comply with ASME A17.1-1990, Rule 211.1.	Yes
4.10.14	The highest operable part must be a maximum of 48 in. from the car floor.	Yes
4.10.14	Emergency communication identification must be provided and located adjacent to the device. Characters must be a minimum of 5/8 in. high raised 1/32 in., upper case serif (block letters) or simple serif type, and accompanied by Grade II Braille.	Yes
4.10.13	If a handset is provided the cord must be at least 29 in. long.	N/A
4.27.4	If located in a closed compartment, the door must be operable with one hand. It must not require tight grasping, pinching or twisting of the wrist. The force required to open the door must not exceed 5 lb/f.	N/A
4.10.13	The system must not require voice communication.	Yes

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

A17.3	Code Item	Cars: 1-7
2.1	HOISTWAYS	
2.1.1	Hoistway Construction (Enclosed & Fire rated per local code or ANSI/NFPA No. 101)	Yes
2.1.2	Windows in Hoistway Enclosures: (If provided are they guarded properly.)	Yes
2.1.3	Projections in Hoistway (Must be flush and level; Leveling zone +3”./ 60 to 75 deg bevel.)	Yes
2.1.4	Pipes Conveying Gases, Vapors, or Liquids. (If provided must be properly covered & securely fastened.)	Yes
2.1.5	Counterweight Guards (Start at 12” go to 84” above pit floor; not needed with comp rope/chain)	N/A
2.2	MACHINE ROOMS AND MACHINERY SPACES	
2.2.1	Enclosures – Designated Machine Room (No-non elevator equipment- existing can stay)	Yes
2.2.2	Access to Machine Rooms and Machinery Spaces (A permanent means to the machine room- locked door)	Yes
2.2.3	Lighting(Permanent lighting in all machine rooms)	Yes
2.2.4	Ventilation (Natural or mechanical to avoid overheating)	Yes
2.2.5	Pipes Conveying Gases, Vapors, or liquids (Existing pipes allowed if guarded to prevent discharge)	Yes
2.2.6	Protection From Weather	Yes
2.3	PITS	
2.3.1	Access to Pits (Means of access to all pits. If access door provide closer & keys onsite.)	Yes
2.3.2	Drains (Drains connected directly to the sewer are not permitted.)	Yes
2.3.3	Stop Switch (A stop switch shall be provided for every pit. Locate near access, color, etc.)	Yes
2.4	CLEARANCES AND RUNBYS	
2.4.1	Horizontal Car Clearances (Not more then 5” for horizontal doors; 7.5” for vertical doors)	Yes
2.4.2	Bottom Car Clearances (Car shall not strike any equipment when resting on fully compressed buffer.)	Yes
2.4.3	Bottom Car and Counterweight Runby (Shall not exceed 24” for cars; or 36” for cwt.)	Yes
2.4.4	Top Car Clearance (Car does not strike any overhead structure)	Yes
2.4.5	Landing Sill Clearance (At least ½” for side guides; at least ¾” for corner guides. Max cannot exceed 1 ½”.)	Yes
2.5	PROTECTION OF SPACES BELOW HOISTWAYS	
2.5	Counterweight safeties required	N/A
2.6	HOISTWAY ENTRANCES	
2.6.1	Doors or Gates Required (Passenger Elevators – full width/height – no hand latches.) (Freight Elevators – at least 6-0” gate)	Yes
2.6.2	Closing of Hoistway Doors (Door closers required on cars except swinging portion of horizontal door)	Yes
2.6.3	Hoistway Door Vision Panels (Required on manually operated or self closing doors, location, Size, and type of glass)	N/A
2.6.4	Door Hangers (Prevent jumping, and stops, 4 times load)	Yes
2.6.5	Non-Shearing Astragals (For vertical bi-parting doors only)	N/A
2.6.6	Pull Straps (Must not be more than 6’-6” from floor when open)	N/A
2.7	HOISTWAY DOOR LOCKING DEVICES, PARKING, DEVICES, AND ACCESS	
2.7.1	Hoistway Door or Gate Locking Devices (Mechanical and electrical interlocks required)	Yes
2.7.2	Elevator Parking Device (For cars operated from within car only)	N/A
2.7.3	Access to Hoistway (Hoistway door unlocking devices and access switches)	Yes

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

A17.3	Code Item	Cars: 1-7
2.7.4	Restricted Opening of Hoistway Doors and/or Car Doors on Passenger Elevators (Cannot open more than 4” outside unlocking zone +-18” max.)	Yes
2.7.5	Hoistway Emergency Door Contacts (Positively opened)	Yes
2.8	POWER OPERATION OF DOORS AND GATES	
2.8.1	Kinetic Energy and Force Limitations for Power-operated Horizontal Sliding Doors. (Shall not exceed 7ft/lbs. with re-opening device, without 2.5ft/lbs.; cannot exceed 30 ft/lbs)	Yes
2.8.2	Reopening Device for Power-Operated Car Doors or Gates (Can be rendered inoperative if less than 2.5ft/lb)	Yes
	Part III	
3.1	Buffers And Bumpers (Car and counterweight buffers are required)	Yes
3.2	Counterweights (The weights shall be protected so that they cannot be dislodged. The rod nuts shall be protected)	Yes
3.3	CAR FRAMES AND PLATFORMS	
3.3.1	Car Platforms(Cover entire area)	Yes
3.3.2	Platform Guards (Aprons) (Vertical face at least 21”, 60-75deg, withstand 150#)	Yes
3.3.3	Hinged Platform Sills(Must have contacts & prevent operation unless within 2”)	N/A
3.3.4	Floating (Movable) Platforms(Prohibited if car can move when door is not closed)	N/A
3.3.5	Protection of Platforms Against Fire (Must be covered with sheet metal or fire resistant material)	Yes
3.4	CAR ENCLOSURES	
3.4.1	Car Enclosures (Passenger – total enclosed; Frt maybe perforated, but not by the cwt.; Car top must withstand 300lbs on any 2sqft.)	Yes
3.4.2	Car Doors and Gates (Must have gate or door and electric contract)	Yes
3.4.3	Location of Car Doors and Gates (Hor, distance not more than 5 ½”, Swing door 4” max., space and site guard requirements.)	Yes
3.4.4	Emergency Exits (Cover hinged, single car blind shaft-every 36’, side allowed)	Yes
3.4.5	Car Illumination (At least two lights, 5ftc; frt=2.5ftc; emerg. .2ftc for 4 hrs.)	Yes
3.4.6	Protection of Light Bulbs and Tubes (Guarded or coated to prevent breaks)	Yes
3.5	SAFTIES	
3.5.1	Car Safeties (Every car must have a safety)	Yes
3.5.2	Counterweight Safeties (If occupied space below)	Yes
3.5.3	Safeties to Stop Ascending Cars or Counterweights Prohibited (Cannot be provided)	Yes
3.5.4	Application and Release of Safeties (Must be mechanical can only release if car goes up)	Yes
3.5.5	Max. Permissible Movement of Gov. Rope to Oper. Safety (For type “B” Safties-200ft or less 42in.; 201 to 375fpm – 36in.; Over 375 FPM 30in. Cwt. = 42in all speeds.)	Yes
3.5.6	Rail Lubricants and Lubrication Plate (Plate on cross head stating type of lubricant or none at all.)	Yes
3.5.7	Overall Length of Guide Rails (Extended to prevent disengaging)	Yes
3.6	SPEED GOVERNORS	
3.6.1	Speed Governor Overspeed and Car Safety Mechanism Switches. (A switch shall be provided when speed is over 150FPM. For static control switch shall be for all speeds & both direct.)	Yes
3.6.2	Governor Ropes (Shall be of iron, steel, monel metal, phosphor bronze, or ss. At least 3/8” in diameter Tiller rope not allowed.)	Yes
3.7	CAPACITY AND LOADING	
3.7.1	Minimum Rated Load for Passenger Elevators (per table 3.7.1)	Yes
3.7.2	Use of Partitions for Reducing Inside Net Platform Area (Partitions must be permanent and symmetrical)	N/A
3.7.3	Min. Rated Load for Freight Elevators (Class A = Not more than ¼ of total cap.; Class B = Motor Veh.; Class C = loading with industrial truck, etc.)	N/A
3.7.4	Capacity Plates (Every car must have one with rated load; Frt : one piece loads, loading and unloading; ¼” high for pass, 1”	Yes

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

A17.3	Code Item	Cars: 1-7
	for frt.)	
3.7.5	Signs on Freight Elevators (NOT A PASS ELEV...etc. ½” high letters)	N/A
3.8	DRIVING MACHINES AND SHEAVES	
3.8.1	General Requirements (Must be cast iron or steel, fin. Grooves no set screws)	Yes
3.8.2	Winding Drum Machines (Must have slack rope switch; Chain, belt, or rope-driven mechanisms shall not be used.)	N/A
3.8.3	Indirect-Drive Machines (Must be at least 3 belts, safety factor of 10)	Yes
3.8.4	Brakes (Must be released electrically and have spring or gravity and friction)	Yes
3.9	TERMINAL STOPPING DEVICES	
3.9.1	Normal and Terminal Stopping Devices (Locate at upper and lower terminals. If in machine room provide broken rope, tape or chain switch)	Yes
3.9.2	Final Terminal Stopping Devices (Winding drum machines- on machines and in hoistway; Traction – in the hoistway operated by the car.)	Yes
3.10	OPERATING DEVICES AND CONTROL EQUIPMENT	
3.10.1	Types of Operating Devices (Rope or rod devices shall not be used.)	Yes
3.10.2	Car-Switch Operation Elevators (If provided must return to stop position if released by hand)	Yes
3.10.3	Top-of-Car Operating Devices (Continuous pressure <150FPM; between crosshead & door)	Yes
3.10.4	Electrical Provisions	
	(a) Slack Rope Switch	N/A
	(b) Motor-Generator Running Switch	N/A
	(c) Compensating Rope Sheave Switch	N/A
	(d) Broken rope, tape or chain	Yes
	(e) Stop Switch – Top of Car- marked “stop” & “run”	Yes
	(f) Car-Safety Mechanism Switch	Yes
	(g) Speed Gov. Overspeed Switch	Yes
	(h) Final Terminal Stopping Devices	Yes
	(i) Emergency Terminal Stopping Devices (reduced stroke)	Yes
	(j) Motor Generator Overspeed Protection	N/A
	(k) Motor Field Sensing Means (not required w/ static drive)	Yes
	(m) Buffer Switches for Oil Buffers (type c safety)	N/A
	(n) Hoistway Door Interlocks or Hoistway Door Contacts	Yes
	(p) Car Door or Gate Electric Contacts	Yes
	(q) Normal Terminal Stopping Devices	Yes
	(r) Car Side Emergency Exit Electric Contact	N/A
	(s) Electric Contacts for Hinged Car Platform Sills	N/A
	(t) In-Car Stop Switch (Must be keyed, if provided)	Yes
	(u) Emergency Stop Switch (Must be provided for freight cars)	Yes
	(v) Stop Switch in Pit	Yes
	(w) Buffer Switches for Gas Spring Return Oil Buffers	N/A
3.10.5	Power Supply Line Disconnecting Means (Provided w/ overcurrent protection, within site, and numbered)	Yes
3.10.6	Phase Reversal and Failure Protection (Means to prevent starting if out of phase)	Yes
3.10.7	Devices for Making Hoistway Door Interlocks or Electric Contacts, or Car Door or Gate Electric Contacts Inoperative (These devices are prohibited)	Yes
3.10.8	Release and Application of Driving Machine Brakes (If ungrounded or if stop switch is pulled shall release brake)	Yes
3.10.9	Control and Operating Circuit Requirements (The failure of any single magnetically operated switch)	Yes
3.10.10	Absorption of Regenerated Power (Provide means to absorb energy during overhauling)	Yes

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

A17.3	Code Item	Cars: 1-7
3.11	EMERGENCY OPERATION AND SIGNALING DEVICES	
3.11.1	Car Emergency Signaling Devices (Audible signal, two-way communication, on emerg. power)	Yes
3.11.2	Operations of Elevators Under Standby (Emergency) Power (If provided must be able to absorb regenerative power)	Yes
3.11.3	Firefighters’ Service (A17.1-1987 Rules 211.3 through 211.8- appendix C; phase I and II switches shall be the same in each bldg)	Yes
3.12	SUSPENSION MEANS AND THEIR CONNECTIONS	
3.12.1	Suspension Means (Must be wire rope made of iron or steel- Elevator ropes only)	Yes
3.12.2	Rope Data Tag	Yes
3.12.3	Factor of Safety ($f = SxN/W$ or table 3.12.3)	Yes
3.12.4	Minimum Number and Diameter of Suspension Ropes (3 for traction; 2 for drum; minimum diameter = 3/8”)	Yes
3.12.5	Suspension Rope Equalizers (When provided shall be of the individual-compression spring type)	Yes
3.12.6	Securing of Suspension Wire Ropes to Winding Drums (rope must be secured by clamps or tapered babbitted sockets.)	N/A
3.12.7	Spare Turns on Winding Drums (Not less then one turn of the rope when car is on buffer)	N/A
3.12.8	Suspension Rope Fastenings (Spliced eyes by return loop may continue in service)	Yes
3.12.9	Auxiliary Rope Fastening Devices	N/A

Appendix “C”

Performance Review and Maintenance Deficiency List

Performance Review:

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

Part A: Definitions

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

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

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

Appendix "C"

Performance Review and Maintenance Deficiency List

1430 N Street							
	PERFORMANCE TIMES	Design	CAR 1	CAR 2	CAR 3	CAR 4	CAR 5
7.1	Door Open Time	1.7	3.6	2.6	2.8	Out of Service	4.3
7.2	Door Close Time	2.7	3.5	3.0	3.8		4.1
7.3	Floor to Floor Up	9.6	11.5	12.5	12.1		12.7
9.6	Floor to Floor Down	9.6	10.5	11.9	11.6		12.5
7.5	Full Speed Up	350 FPM	DNC	354	360		354
7.6	Full Speed Down	350 FPM	DNC	350	360		354
7.7	Jerk Rate Up	< 7.0	DNC	6.0	6.8		5.9
7.8	Jerk Rate Down	<7.0	DNC	12.3	11.9		4.8
7.9	Power Closing of Door (Pressure Gauge)	<30lbs	>30 lbs	20 lbs	20 lbs		>30
7.10	Interrupted Ray	.5sec	2.7	3.2	3.9		5.9
7.11	Car Dwell Time	3.0	5.6	5.5	6.1		5.7
7.12	Hall Call Dwell Time	5.0	4.1	4.1	4.1		4.1
7.13	Hall/Car Lantern Time	8.0	4.8	4.8	4.7		4.8
	Nudging	20.0	20.3	21	21		21.6
	Test Emergency Phone	Yes	Yes	Yes	No		No

Items in Red do not comply and should be adjusted.

Car #	GENERAL MAINTENANCE DEFICIENCIES
	Car 1
1.1	Only Cars 1 and 2 control dispatching.
1.2	Clean oil residue off of machine.
1.3	Clean pit.
	Car 2
2.1	Clean oil residue off of machine.
2.2	Car top is dirty.
2.3	Pit is dirty.

Appendix “C”
Performance Review and Maintenance Deficiency List

	Car 3
3.1	Clean oil residue off of machine.
3.2	Clean pit.
	Car 4
4.1	Clean oil residue off of machine.
4.2	Clean pit.
4.3	Restore car to service was shut down all day.
	Car 5
5.1	Clean oil residue off of machine.
5.2	Clean pit.
5.3	Counterweight roller guides are worn out and need replaced immediately.
5.4	Car door is noisy and scraping against metal.
5.5	Car top is dirty.
	Car 6
	Not Items
	Car 7
7.1	Clean oil residue off of machine.
7.2	Clean pit.
7.3	Car top is dirty.
7.4	Several car station push button lights are out.

1430 N Street

Appendix “C”

Performance Review and Maintenance Deficiency List

	PERFORMANCE TIMES	Design Car 6	CAR 6	Design Car 7	CAR 7		
7.1	Door Open Time	1.7	2.1	2.5	2.5		
7.2	Door Close Time	2.7	4.1	4.4	5.2		
7.3	Floor to Floor Up	10.5	12.1	11.9	13.1		
9.6	Floor to Floor Down	10.5	11.9	11.9	14.1		
7.5	Full Speed Up	200 FPM	196	350 FPM	350		
7.6	Full Speed Down	200 FPM	195	350 FPM	354		
7.7	Jerk Rate Up	< 7.0	7.3	< 7.0	4.6		
7.8	Jerk Rate Down	<7.0	7.6	<7.0	4.3		
7.9	Power Closing of Door (Pressure Gauge)	<30lbs	30 lbs	<30lbs	30 lbs		
7.10	Interrupted Ray	.5sec	2.6	.5sec	2.4		
7.11	Car Dwell Time	3.0	5.6	3.0	5.0		
7.12	Hall Call Dwell Time	5.0	3.5	5.0	4.1		
7.13	Hall/Car Lantern Time	8.0	3.4	8.0	3.2		
	Nudging	20.0	33	20.0	10		
	Test Emergency Phone	Yes	No	Yes	No		



Prepared by

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

EMG Contact

Matthew Anderson
Program Manager
800.799.0660

EMG Project No.

111326.14R.020.305



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

