Personnel Building (021)

801 Capitol Mall, Sacramento, CA 95814

Facility Condition Assessment

June 2015

Prepared for the State of California Department of General Services

EMG
ENGINEERING PEACE OF MIND

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EXECUTIVE SUMMARY

BACKGROUND

This Facility Condition Assessment (FCA), prepared by EMG Corporation (EMG) in collaboration with the Department of General Services (DGS) Real Estate Services Division (RESD) 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 Personnel Building (021).

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 Personnel Building (021) 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 Personnel Building (021) on January 7 & 8, 2015. The evaluation team reviewed available engineering studies and construction documents to familiarize themselves with the physical conditions. The evaluation team conducted a walk-through of the building to observe building systems and components, identify physical deficiencies, and formulate recommendations to remedy any deficiencies.

SURVEY FINDINGS

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

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

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

Key Finding	Metric
Current Replacement Value	$32,568,919
Immediate Repair Costs (12 months)	$7,992,254
1-5 Year Capital Needs	$793,764
6-10 Year Capital Needs	$1,997,587
Total 10-Year Capital Reserve Needs	$10,783,604

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

Current Year FCI

$$\text{Current FCI} = \frac{\$7,992,254}{\$32,568,919}$$

Ten-Year FCI

$$\text{Ten-Year FCI} = \frac{\$10,783,604}{\$32,568,919}$$

Current Year FCI	Ten-Year FCI
24.54 %= *Poor Condition*	**33.11 %= *Poor Condition***

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

- The existing steel framed single-pane windows are original. They are not energy efficient and have exceeded their expected useful life.
- Interior finish replacements, including flooring and acoustic ceiling tiles, are recommended.
- The heated and chilled air distribution system is antiquated, and in need of replacement.
- Installation of a fire sprinkler system is recommended.
- The building contains lead paint and asbestos. Remediation of hazardous materials is recommended.

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

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INTRODUCTION

BUILDING BACKGROUND

The Personnel Building (021), located at 801 Capitol Mall, Sacramento, was first occupied in 1954. The building envelope and interior finishes are original with only minor modifications over the past six decades. An interesting design feature of the building is that it is the mirror image of the Rehabilitation Building (010) at 721 Capitol Mall. The buildings sit opposite Eighth Street, with their front entries facing each other. The Personnel Building (021) is named after the primary tenant, the State Personnel Board (SPB), and is commonly referred to as the SPB Building. Due to its age, the building is considered historic and renovations or alterations are subject to review by the State Historic Preservation Officer.

The Personnel Building (021) shares half a city block with the historic Sutter Club Building. Both buildings are served on their north sides by a 20-foot, east-west alleyway that divides the block. The Personnel Building (021) is comprised of a primary mass and an east-west wing. The primary building, along Capitol Mall, contains six occupied floors plus an elevator penthouse and mechanical rooms on the roof. The east-west wing contains five occupied floors along the adjacent alleyway.

The occupied areas include open offices, private offices, computer rooms, storage rooms, and support spaces. A 125-seat auditorium is located on the ground floor. The gross building area is 84,400 SF with a net usable area of 58,828 SF. The ratio of net usable to gross building area is 69.7 percent. The occupant capacity is 232 The building does not have on-site parking.

BUILDING DESCRIPTION

The foundation is spread footing and cast-in-place concrete slab-on-grade. The building structural systems include cast-in-place concrete columns, beams, walls, and floor slabs. The roof structure is flat with single-ply membrane.

Exterior walls are painted concrete with single pane individual windows. The main entrance is a glass storefront system.

The building has painted drywall interior walls. Interior floor finishes include commercial carpet, vinyl composition tiles, and terrazzo, marble stone at elevator lobbies, and glazed tile with terrazzo base in the restrooms. The ceilings are finished with acoustic tiles and painted drywall.

There are three traction passenger elevators that serve all floors in the building.

The building is served by the DGS Central Utility Plant and has no on-site boilers and chillers. The hot and chilled water are looped around the building to all air handling units on roof and first floor. Mechanical rooms are located in rooftop penthouses. A vacant kitchen is located on the sixth floor.

Domestic hot water is supplied by a steam to water heat exchanger located in the mechanical room.

Life safety systems include fire extinguishers and a fire alarm system.

The building covers nearly the entire site. Landscaping consists of planters, shrubs, trees, and lawn along the front elevation. Landscaped areas are irrigated by a drip irrigation system.

There is no onsite parking. The sidewalks throughout the property are constructed of cast-in-place concrete.

Project Statistics

Item	Description
Project Name	Personnel Building
Building ID	021
Property Type	Administration
Year Built	1954
Number of Stories	6
Occupied	Yes
Land Area (acres)	0.52
Gross Square Feet (GSF)	84,400

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 E2018-08[1] 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.

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

SCOPE OF ASSESSMENT

The evaluation team conducted a walk-through survey of Personnel Building (021) on January 7 & 8, 2015. The survey included analysis and observation of the building's interior and exterior, including the roofs. The evaluation team interviewed the building maintenance staff to inquire about the subject property's previous repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements. Opinions were developed based on the site evaluation, interviews with relevant maintenance providers and facilities managers, and previous experience with comparable properties. The evaluation team questioned those knowledgeable of the subject property's physical condition and operation (or knowledgeable of similar systems) to gain comparative information to use in evaluation of the subject property. In addition, the building staff provided documents and information to the evaluation team that were relevant to the subject property's physical improvements, extent, and type of use and assisted the team in identifying potential discrepancies between reported information and observed conditions.

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

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

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

PRIORITY RANKING

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

PRIORITY RANKING CATEGORIES

Building Mission Ranking

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

Remaining Useful Life Ranking

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

Asset Component Category

Each material or system (asset) evaluated is assigned a unique Uniformat code. The Uniformat 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 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.

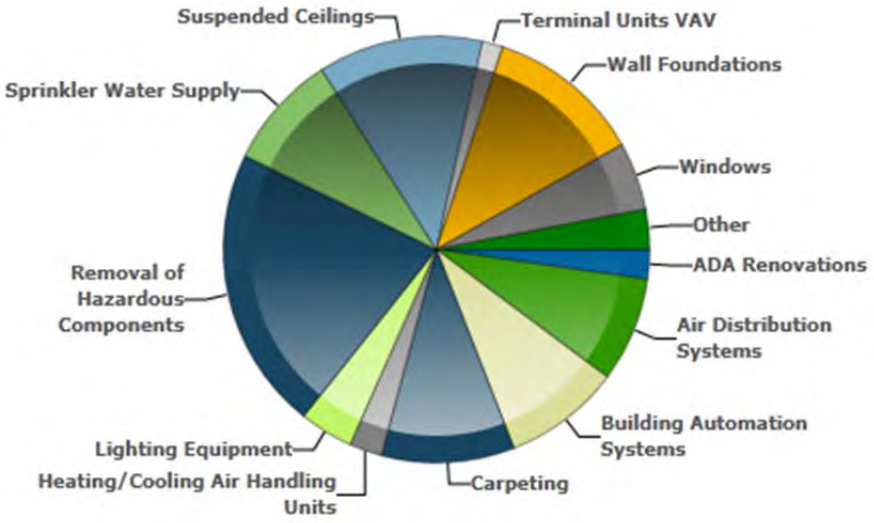
PRIORITY RATIO

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:

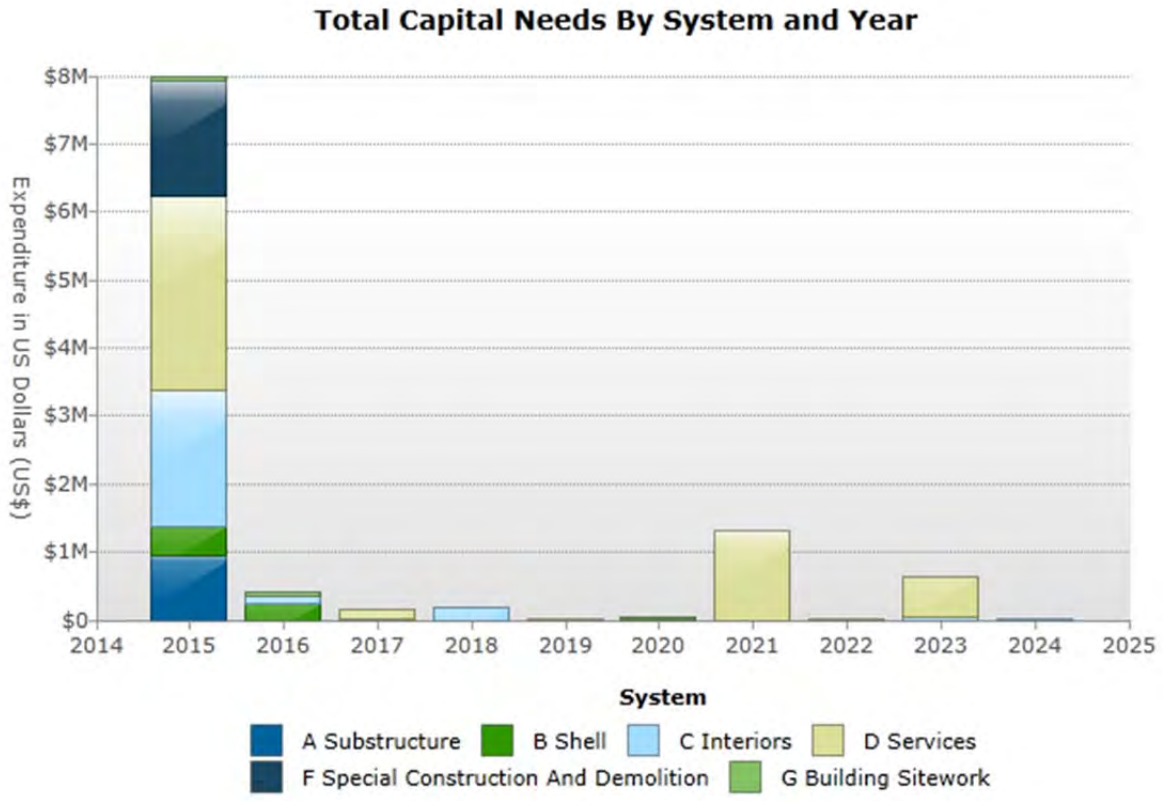
Condition	Definition
Good	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.
Fair	Subjected to wear and soiling but is still in a serviceable and functioning condition.
Poor	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable 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
A1011	Wall Foundations	$942,000
B1021	Flat Roof Construction	$20,750
B2021	Windows	$411,381
B2034	Overhead Doors	$4,966
C1035	Identifying Devices	$3,794
C3005	ADA Renovations	$178,560
C3024	Flooring	$15,723
C3025	Carpeting	$806,657
C3032	Suspended Ceilings	$1,000,382
D1011	Passenger Elevators	$22,500
D3041	Air Distribution Systems	$636,308
D3041	Air Handling Units	$78,772
D3041	Terminal Units VAV	$124,578
D3052	Package Units	$36,882
D3063	Heating/Cooling Air Handling Units	$197,309

Level	Building System	Estimated Cost
D3068	Building Automation Systems	$709,796
D4011	Sprinkler Water Supply	$697,144
D5022	Lighting Equipment	$326,726
D5092	Emergency Light & Power Systems	$5,285
F2021	Removal of Hazardous Components	$1,719,284
G2031	Paving & Surfacing	$5,667
G2033	Exterior Steps	$47,789
	Total	**$7,992,254**



	Building System							
Year	A Sub-Structure	B Shell	C Interiors	D Services	E Equip. & Furnishings	F Spec. Const. & Demolition	G Bldg. Site Work	Total
2015	$942,000	$437,098	$2,005,116	$2,835,300	$0	$1,719,284	$53,456	**$7,992,254**
2016	$0	$238,439	$127,365	$0	$0	$0	$48,288	**$414,092**
2017	$0	$0	$23,213	$128,674	$0	$0	$0	**$151,886**
2018	$0	$0	$172,087	$0	$0	$0	$0	**$172,087**
2019	$0	$0	$0	$21,226	$0	$0	$0	**$21,226**
2020	$0	$12,400	$0	$0	$0	$0	$22,072	**$34,472**
2021	$0	$0	$0	$1,309,765	$0	$0	$0	**$1,309,765**
2022	$0	$0	$0	$16,270	$0	$0	$0	**$16,270**
2023	$0	$0	$28,499	$619,840	$0	$0	$0	**$648,339**
2024	$0	$0	$23,213	$0	$0	$0	$0	**$23,213**
Total	**$942,000**	**$687,936**	**$2,379,493**	**$4,931,074**	**$0**	**$1,719,284**	**$123,816**	**$10,783,604**

CURRENT REPLACEMENT VALUE

The Current Replacement Value has been determined as $32,568,919 for the Personnel Building Building (021). 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
84,400 GSF	$386	$32,568,919

FACILITY CONDITION INDEX

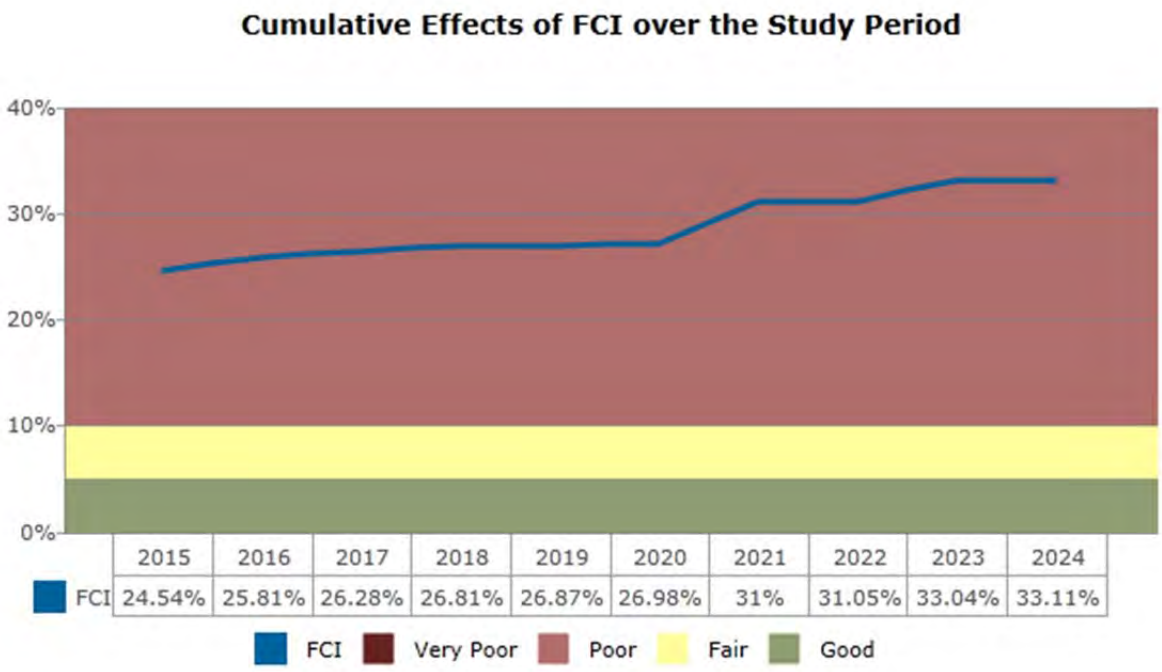
The FCI[1] is an indication of a building's current and future overall condition. According to industry standards an FCI ratio of 65 percent, or the "rule of two-thirds," is the threshold for identifying potential candidates for replacement or divestment.[2] Once the FCI ratio reaches 65 percent, or roughly two-thirds of the Current Replacement Value of the estimated cost to replace a building, it may

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

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

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

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



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APPENDICES

APPENDIX A: ACCESSIBILITY ISSUES

Item	Description
C3005 ADA Renovations	C3005 - ADA Restroom Renovations
Condition	Fair
Qty / UOM	6 / EA
RUL (years)	0
Location	All Floors

Item	Description
G2033 Exterior Steps	G2030 Accessible Ramp
Condition	Poor
Qty / UOM	25 / LF
RUL (years)	0
Location	West end entrance steps

RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3005	Replace C3005 - ADA Restroom Renovations	6.0 - EA	29760.0	CC - Accessibility	Priority 1	2015	178,560
G2033	Replace G2030 Accessible Ramp	25.0 - LF	1438.4	CC - Accessibility	Priority 1	2015	35,960
G2033	G2035 Modify concrete steps at entrance for accessible ramp	1.0 - EA	11829.0	CC - Accessibility	Priority 1	2015	11,829

COST SUMMARY:

Year	Total Expenditures
2015	$226,349

APPENDIX B: GENERAL ASSESSMENT INFORMATION

A Substructure Systems

A10 FOUNDATIONS

Item	Description
A1011 Wall Foundations	A1011 Wall Foundations
Condition	Good
Qty / UOM	1 / EA
RUL (years)	0
Location	All floors

OBSERVATIONS/COMMENTS:

Seismic upgrade is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
A1011	Replace A1011 Wall Foundations	1.0 - EA	942000.0	IN - Beyond Rated Life	Priority 1	2015	942,000

Item	Description
A1011 Wall Foundations	A1011 Foundation Slab
Condition	Good
Qty / UOM	15500 / SF
RUL (years)	30
Location	Foundation slab

OBSERVATIONS/COMMENTS:

The concrete spread foundation and slab show no signs of excessive settlement.

B Shell Systems

B10 SUPERSTRUCTURE

Item	Description
B1021 Flat Roof Construction	B1021 Roof Concrete Parapet
Condition	Poor - Fair
Qty / UOM	150 / LF
RUL (years)	0
Location	Roof

OBSERVATIONS/COMMENTS:

Repair cracks in concrete parapet wall next to penthouse, using epoxy injection.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B1021	Repair	150.0 - LF	138.3	CC - Life Safety	Priority 1	2015	20,750

COST SUMMARY:

Type	Year	Total Expenditures
B10 Superstructure	2015	$20,750

B20 EXTERIOR ENCLOSURE

Item	Description
B2011 Exterior Wall Construction	B2011 Exterior Concrete Walls
Condition	Fair - Good
Qty / UOM	38520 / SF
RUL (years)	15
Location	Exterior walls

OBSERVATIONS/COMMENTS:

Exterior walls are cast-in-place concrete with painted finish. Pressure washing and painting is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2011	B2011 Paint exterior walls	38,520.0 - SF	4.0	OP - Maintenance	Priority 2	2016	155,621
B2011	B2011 Pressure wash exterior walls	38,520.0 - SF	2.2	OP - Maintenance	Priority 2	2016	82,818

Item	Description
B2021 Windows	B2021 Windows, Single Pane Metal
Condition	Poor - Fair
Qty / UOM	207 / EA
RUL (years)	0
Location	Exterior elevations
Window Type	Fixed
Windows Material	Steel
Windows Glazing	Double Glazed
Window Operation	Manual

OBSERVATIONS/COMMENTS:

Single pane windows are original equipment and not energy efficient. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2021	Replace Windows	207.0 - EA	1987.3	IN - Beyond Rated Life	Priority 1	2015	411,381

Item	Description
B2031 Glazed Doors & Entrances	B2031 Glazed Doors & Entrances 6' x 7'
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	5
Location	West end

OBSERVATIONS/COMMENTS:

The aluminum full-vision double doors with transom at the west end, are showing signs of aging, and will require replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2031	Replace B2031 Glazed Doors & Entrances 6' x 7'	1.0 - EA	12400.0	IN - Beyond Rated Life	Priority 3	2020	12,400

Item	Description
B2031 Glazed Doors & Entrances	B2031 Entrance double doors to office area
Condition	Good
Qty / UOM	2 / EA
RUL (years)	18
Location	Main entrance
Door Hardware	Push Plate
Door Operation	Automatic
Glass Type	Tempered Glass
Door Frame	Metal Framed
Door Use	Entrance

OBSERVATIONS/COMMENTS:

Main entrance aluminum framed glass doors are in good condition and functioning adequately.

Item	Description
B2034 Overhead Doors	B2034 Steel Rolling Overhead Door, Manual - 8’ to 12’
Condition	Poor - Fair
Qty / UOM	1 / EA
RUL (years)	0
Location	Rear loading dock

OBSERVATIONS/COMMENTS:

The coiling steel service door has exceeded its expected serviceable life, shows corrosion, and has a missing hood. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
B2034	Replace B2034 Steel Rolling Overhead Door, Manual - 8' to 12'	1.0 - EA	4966.5	IN - Beyond Rated Life	Priority 1	2015	4,966

COST SUMMARY:

Type	Year	Total Expenditures
B20 Exterior Enclosure	2015	$416,348
B20 Exterior Enclosure	2016	$238,439
B20 Exterior Enclosure	2020	$12,400

B30 ROOFING

Item	Description
B3011 Roof Finishes	B3011 Building Roof
Condition	Good
Qty / UOM	155 / SQ
RUL (years)	12
Location	Roof
Insulation	None
Flashings and Trim	Metal
Roof Eaves and Soffits	No
Roof Drainage	Metal Gutter And Down Spouts
Roof Warranty	Yes

OBSERVATIONS/COMMENTS:

The single ply PVC roof membrane was reportedly replaced in 2007, and is functioning adequately.

C Interiors Systems

C10 Interior Construction

Item	Description
C1021 Interior Doors	C1021 Interior Doors
Condition	Poor
Qty / UOM	53 / EA
RUL (years)	1
Location	Throughout facility

OBSERVATIONS/COMMENTS:

Based on age and overall condition, all corridor wood doors require replacement with new fire doors rated at 60 minutes.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C1021	Replace C1021 Interior Doors	53.0 - EA	2403.1	IN - Beyond Rated Life	Priority 2	2016	127,365

Item	Description
C1035 Identifying Devices	C1035 Directional Signage
Condition	Poor
Qty / UOM	12 / EA
RUL (years)	0
Location	All floors

OBSERVATIONS/COMMENTS:

Provide directional signage to fire exit stairs at corridors of each floor, as part of life safety issue.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C1035	Replace C1035 Directional Signage	12.0 - EA	316.2	CC - Life Safety	Priority 1	2015	3,794

COST SUMMARY:

Type	Year	Total Expenditures
C10 Interior Construction	2015	$3,794
C10 Interior Construction	2016	$127,365

C20 STAIRS

Item	Description
C2011 Regular Stairs	C2011 Fire exit stairs
Condition	Good
Qty / UOM	4680 / SF
RUL (years)	20
Location	Stairs
Stairs Frame	Concrete
Stair Riser	Closed
Stair Treads	Concrete
Stair Railings	Metal
Stair Soffit Finishes	Plaster
Stair Handrail Finishes	Painted

OBSERVATIONS/COMMENTS:

There are two fire exit stairs with concrete flooring, and additional stair next to elevators with terrazzo flooring built in 1954. Stairs and handrails are scarred and will require painting.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C2011	C2011 Paint stair parts	9,360.0 - SF	2.5	IN - Appearance	Priority 3	2017	23,213
C2011	C2011 Paint stair parts	9,360.0 - SF	2.5	IN - Appearance	Priority 3	2024	23,213

COST SUMMARY:

Type	Year	Total Expenditures
C20 Stairs	2017	$23,213
C20 Stairs	2024	$23,213

C30 INTERIOR FINISHES

Item	Description
C3005 ADA Renovations	C3005 - ADA Restroom Renovations
Condition	Fair
Qty / UOM	6 / EA
RUL (years)	0
Location	All Floors

OBSERVATIONS/COMMENTS:

Per 2009 survey report, it is recommended to renovate all restrooms to meet ADA standards.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3005	Replace C3005 - ADA Restroom Renovations	6.0 - EA	29760.0	CC - Accessibility	Priority 1	2015	178,560

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Paint Interior Walls, Drywall
Condition	Good
Qty / UOM	80686 / SF
RUL (years)	3
Location	All Floor

OBSERVATIONS/COMMENTS:

Based on the expected life and normal wear, the interior walls will require painting during the assessment period.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3012	Replace C3012 Paint Interior Walls, Drywall	80,686.0 - SF	2.1	IN - Appearance	Priority 3	2018	172,087

Item	Description
C3012 Wall Finishes to Interior Walls	C3012 Marble Interior Wall Finish
Condition	Good
Qty / UOM	1100 / SF
RUL (years)	20
Location	Elevator lobby

OBSERVATIONS/COMMENTS:

Marble interior wall finishes should only require routine maintenance.

Item	Description
C3024 Flooring	C3024 Vinyl Tile
Condition	Poor
Qty / UOM	125 / SY
RUL (years)	0
Location	All Floors
Floor Toppings	Light Weight Concrete

OBSERVATIONS/COMMENTS:

Based on condition and remaining life, vinyl tile flooring replacement is required.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3024	Replace C3024 Vinyl Tile	125.0 - SY	125.8	IN - Appearance	Priority 2	2015	15,723

Item	Description
C3025 Carpeting	C3025 Carpet Tiles
Condition	Good
Qty / UOM	295 / SY
RUL (years)	8
Location	Auditorium
Floor Toppings	Light Weight Concrete

OBSERVATIONS/COMMENTS:

The flooring in the auditorium was upgraded in 2013. Based on expected life and normal wear, carpet tiles will require replacement by 2023.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3025	Replace C3025 Carpet Tiles	295.0 - SY	96.6	IN - Appearance	Priority 4	2023	28,499

Item	Description
C3025 Carpeting	C3025 Carpet flooring
Condition	Fair
Qty / UOM	8350 / SY
RUL (years)	0
Location	All Floor
Floor Toppings	Light Weight Concrete

OBSERVATIONS/COMMENTS:

All office areas and corridor floors are covered with carpet. Routine replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3025	Replace C3025 Carpet flooring	8,350.0 - SY	96.6	IN - Appearance	Priority 2	2015	806,657

Item	Description
C3032 Suspended Ceilings	C3030 Suspended and Glued Ceilings
Condition	Fair
Qty / UOM	810 / CSF
RUL (years)	0
Location	Throughout interior

OBSERVATIONS/COMMENTS:

Acoustical ceilings will require replacement, in conjunction with the recommended installation of a wet pipe sprinkler system.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
C3032	Replace C3030 Suspended and Glued Ceilings	810.0 - CSF	1235.0	IN - Beyond Rated Life	Priority 2	2015	1,000,382

COST SUMMARY:

Type	Year	Total Expenditures
C30 Interior Finishes	2015	$2,001,322
C30 Interior Finishes	2018	$172,087
C30 Interior Finishes	2023	$28,499

D Services Systems

D10 CONVEYING SYSTEMS

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	8
Location	Elevator

OBSERVATIONS/COMMENTS:

The gearless traction hardware is original from 1954, but elevator controls and cab interiors have been upgraded. Refer to the full elevator report in the appendices for details.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D1011	D1011 Clean machine rooms, pits, car tops. Adjust Doors	1.0 - EA	1500.0	OP - Maintenance	Priority 2	2015	1,500
D1011	D1011 Install door restrictors	1.0 - EA	3000.0	FN - Modernization	Priority 2	2015	3,000
D1011	D1011 perform 5-year load tests	1.0 - EA	3000.0	CC - Building Code	Priority 1	2015	3,000
D1011	Replace D1011 Traction Elevator Machinery and Controls	1.0 - EA	482300.0	IN - Beyond Rated Life	Priority 4	2023	482,300

Item	Description
D1011 Passenger Elevators	D1011 Traction Elevator Machinery and Controls
Condition	Fair - Good
Qty / UOM	2 / EA
RUL (years)	6
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The gearless traction hardware is original from 1954, but elevator controls and cab interior have been upgraded. Refer to full elevator report in Appendices for details.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D1011	D1011 Clean machine rooms, pits, and car tops.	2.0 - EA	1500.0	OP - Maintenance	Priority 2	2015	3,000
D1011	D1011 Install door restrictors or all three elevators	2.0 - EA	3000.0	FN - Modernization	Priority 2	2015	6,000
D1011	D1011 Perform 5-year load tests	2.0 - EA	3000.0	CC - Building Code	Priority 1	2015	6,000
D1011	Replace D1011 Traction Elevator Machinery and Controls	2.0 - EA	418600.0	IN - Beyond Rated Life	Priority 3	2021	837,200

COST SUMMARY:

Type	Year	Total Expenditures
D10 Conveying Systems	2015	$22,500
D10 Conveying Systems	2021	$837,200
D10 Conveying Systems	2023	$482,300

D20 PLUMBING

Item	Description
D2011 Water Closets	D2011 Commercial Grade Water Closet, 1.6 GPF Unit
Condition	Good
Qty / UOM	50 / EA
RUL (years)	27
Location	Throughout Facility
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

Manual floor-mounted flush valves were observed on the vast majority of plumbing fixtures. Automatic flush valves are recommended to improve hygiene, and possibly to save water.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D2011	D2013 Install automatic flush valves on toilets	36.0 - EA	604.0	OP - Energy	Priority 2	2017	21,744

Item	Description
D2012 Urinals	D2012 Urinal
Condition	Good
Qty / UOM	10 / EA
RUL (years)	27
Location	Throughout Facility
Low Flow Toilet	Yes
System Grade	Commercial Grade

OBSERVATIONS/COMMENTS:

Manual foot-pedal style flush valves were observed on the vast majority of urinal and toilet plumbing fixtures. Automatic flush valves are recommended to improve hygiene and possibly save water.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D2012	D2013 Install automatic flush valves on urinals	10.0 - EA	636.0	OP - Energy	Priority 2	2017	6,360

Item	Description
D2013 Lavatories	D2013 Counter Top Sink and Faucet
Condition	Good
Qty / UOM	30 / EA
RUL (years)	27
Location	Restrooms

OBSERVATIONS/COMMENTS:

Manual faucets were observed in the restrooms. Automatic faucets are recommended for all sinks, as an accessibility improvement, and to save water.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D2013	D2013 Install automatic faucets with motion sensors	30.0 - EA	604.0	OP - Energy	Priority 2	2017	18,120

Item	Description
D2023 Domestic Water Supply Equipment	D2023 Domestic Water Booster Pump Station
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	12
Location	First floor mechanical room

OBSERVATIONS/COMMENTS:

The boiler room has a domestic water booster pump station, with two pumps operating in parallel. The station was replaced in 2007 and is operating adequately.

COST SUMMARY:

Type	Year	Total Expenditures
D20 Plumbing	2017	$46,224

D30 HVAC

Energy Supply	
Item	**Description**
Fuel Oil Type	N/A
Fuel Gas Type	N/A
Solid Fuel Type	N/A
District Heat Type	District Hot Water
District Cooling Type	District Chilled Water
Solar Thermal	No
Fuel Tank Type	N/A
Fuel Tank Size (gallons)	N/A
Fuel Tank Location	N/A
Gas Meter Location	N/A
Electrical Meter Location	Basement
Water Meter Location	Basement

Item	Description
D3022.1 Circulating Pumps	D3022 HVAC Heating Water Circulation Pumps 5 HP
Condition	Fair - Good
Qty / UOM	4 / EA
RUL (years)	6
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The 5-hp heating water distribution pumps and associated motors appear to be original, and in functional condition. Replacement is recommended due to being beyond rated life

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3022	Replace D3022 HVAC Heating Water Circulation Pumps 5 HP	4.0 - EA	19837.2	IN - Beyond Rated Life	Priority 3	2021	79,349

Item	Description
D3022.1 Circulating Pumps	D3022 HVAC Chilled Water Circulation Pumps
Condition	Good
Qty / UOM	3 / EA
RUL (years)	12
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The 10-hp chilled water distribution pumps and associated motors appear to be in functional condition. Variable frequency drives (VFDs) are installed for increased performance, control, and efficiency.

Item	Description
D3023 Auxiliary Equipment	D3023 Condensate Return System
Condition	Fair - Good
Qty / UOM	2 / EA
RUL (years)	8
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The primary steam station is located on the penthouse floor of the building. The low pressure condensate return station is also original, and is reportedly functioning adequately. Lifecycle replacement is recommended. Steam, condensate, and chilled water are routed up the corner of the building, and laterally on the sixth floor roof, until entry into the penthouse mechanical room, to avoid passing through office space.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3023	Replace D3023 Condensate Return System	2.0 - EA	17336.2	IN - Beyond Rated Life	Priority 4	2023	34,672

Item	Description
D3041 Air Distribution Systems	D3041 Air Distribution Systems
Condition	Good
Qty / UOM	84400 / SF
RUL (years)	0
Location	Throughout Building

OBSERVATIONS/COMMENTS:

Replace ductwork in conjunction with ceiling tile replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	Replace D3041 Air Distribution Systems	84,400.0 - SF	7.5	IN - Beyond Rated Life	Priority 1	2015	636,308

Item	Description
D3041.1 Air Handling Units	D3041 Air Handling Units
Condition	Good
Qty / UOM	2 / EA
RUL (years)	0
Location	Mechanical Room Floor

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by two interior air handling units in the penthouse, which use dual duct feed VAV boxes. The AHUs are provided with chilled water and steam from the central system. Lifecycle replacement of the motors is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	Replace D3041 Air Handling Units	2.0 - EA	39385.9	IN - Beyond Rated Life	Priority 1	2015	78,772

Item	Description
D3041.2 Terminal Units VAV	D3041 VAV Boxes for Dual Duct Zones
Condition	Fair
Qty / UOM	36 / EA
RUL (years)	0
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

The facility is heated and cooled by a dual duct system with VAVs in five zones per floor. Zone thermostats operate a VAV damper in the mixing box or boxes, to regulate the temperature of the mixed air supplied through the diffusers. The return air fan which draws air back from all the zones, provides the return link in the air circulation. Based on the age of the units, lifecycle replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3041	Replace D3041 VAV Boxes for Dual Duct Zones	36.0 - EA	3460.5	IN - Beyond Rated Life	Priority 1	2015	124,578

Item	Description
D3042 Exhaust Ventilation Systems	D3042 Exhaust Fan
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	12
Location	Rooftop

OBSERVATIONS/COMMENTS:

Exhaust fans are functioning adequately.

Item	Description
D3043 Steam Distribution Systems	D3043 Domestic Water Heat Exchanger
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	2
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The steam-to-domestic water heat exchanger appears to be original and in functional condition, although nearing the end of its lifecycle. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3043	Replace D3043 Domestic Water Heat Exchanger	1.0 - EA	5818.1	IN - Beyond Rated Life	Priority 2	2017	5,818

Item	Description
D3043 Steam Distribution Systems	D3043 HVAC Heating Water Heat Exchanger
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	2
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The shell-and-tube heat exchanger used for HVAC heating water is original to 1954. The unit is reportedly functioning adequately, but is probably very close to the end of its lifecycle. Digital controls have been added. Replacement is recommended as part of complete HVAC renovations, or during the next few years if the HVAC system is not renovated.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3043	Replace D3043 HVAC Heating Water Heat Exchanger	1.0 - EA	31257.8	IN - Beyond Rated Life	Priority 2	2017	31,258

Item	Description
D3052 Package Units	D3052 Computer/Server Room AC Chilled Water
Condition	Fair
Qty / UOM	2 / EA
RUL (years)	0
Location	Computer Server Room

OBSERVATIONS/COMMENTS:

The main server room has one dedicated chilled water air conditioning unit original to 1954, and a second unit which is underutilized. Replacement of the units is highly recommended, to keep the equipment from overheating.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3052	Replace D3052 Computer/Server Room AC Chilled Water	2.0 - EA	18440.8	IN - Beyond Rated Life	Priority 1	2015	36,882

Item	Description
D3063 Heating/Cooling Air Handling Units	D3063 Variable Frequency Drive
Condition	Good
Qty / UOM	10 / EA
RUL (years)	0
Location	Throughout building

OBSERVATIONS/COMMENTS:

It is recommended to add VFDs to the motors for improved efficiency, performance, and control.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3063	Add VFD's to HVAC not already equipped	10.0 - EA	19730.9	OP - Energy	Priority 1	2015	197,309

Item	Description
D3068 Building Automation Systems	D3068 Pneumatic HVAC Controls
Condition	Poor
Qty / UOM	1 / EA
RUL (years)	0
Location	Boiler Room

OBSERVATIONS/COMMENTS:

A digital control system was installed throughout the building in 2007. The steam pressure reduction station was not replaced and is the original equipment. Replacement of the remaining pneumatic system with a digital control system is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3068	Replace D3068 Pneumatic HVAC Controls	1.0 - EA	14880.0	FN - Modernization	Priority 1	2015	14,880

Item	Description
D3068 Building Automation Systems	D3068 DDC Controls
Condition	Good
Qty / UOM	84400 / SF
RUL (years)	0
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

DDC is fully implemented and no issues exist.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D3068	Replace D3068 DDC Controls	84,400.0 - SF	8.2	IN - Beyond Rated Life	Priority 1	2015	694,916

COST SUMMARY:

Type	Year	Total Expenditures
D30 HVAC	2015	$1,783,644
D30 HVAC	2017	$37,076
D30 HVAC	2021	$79,349
D30 HVAC	2023	$34,672

D40 Fire Protection Systems

Fire and Life Safety System	
Item	**Description**
Fire Alarm System Components Present	
Smoke detectors	Yes
Pull stations	Yes
Audible alarms	Yes
Strobe lights	Yes
Central fire alarm panel	Yes
Annunciator panel	Yes
Smoke Detectors Power Supply	Hardwired Electric
Carbon Monoxide Detectors	Yes
Heat Detector	Yes
Central Fire Alarm Panel Location	Main Lobby Entrance
Annunciator Panel Location	First floor
Fire Extinguishers	Yes
Fire Extinguisher Inspection Date	N/A
Distance to Nearest Fire Hydrant (ft)	N/A
Illuminated Exit Signs	Yes
Kitchen Suppression Systems	No
Halon Gas Systems	No
Smoke Evacuation Systems	N/A
Fire-rated Stairwells	Yes
Fire-rated Stairwell Finish	Drywall
Stairwell Discharge	N/A
Stairwell Pressurized	No
Fire-Rated Doors Observed	Yes
Location of Fire-Rated Doors	N/A
Fire Alarm Service Company	N/A
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 Alarm Monitoring Company	N/A

Item	Description
D4011 Sprinkler Water Supply	D4011 Wet Pipe Sprinkler System - Install New
Condition	Poor
Qty / UOM	84400 / SF
RUL (years)	0
Location	Throughout Facility

OBSERVATIONS/COMMENTS:

This building is not equipped with a fire sprinkler system. Recommend installing wet pipe system.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D4011	D4011 Wet Pipe Sprinkler System - Install New	84,400.0 - SF	8.3	CC - Life Safety	Priority 1	2015	697,144

COST SUMMARY:

Type	Year	Total Expenditures
D40 Fire Protection Systems	2015	$697,144

D50 ELECTRICAL SYSTEMS

Item	Description
D5012 Low Tension Service & Dist.	D5012 Breaker Panel 225 Amps, 30 Circuits
Condition	Good
Qty / UOM	50 / EA
RUL (years)	6
Location	Utility Areas/Closets

OBSERVATIONS/COMMENTS:

The majority of the electrical panels are original 1954 Columbia Electric. Many panels were replaced to support specific upgrades in 2007. Due to the age of the components within the older panels, replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5012	Replace D5012 Breaker Panel 225 Amps, 30 Circuits	50.0 - EA	7864.3	IN - Beyond Rated Life	Priority 4	2021	393,216

Item	Description
D5012 Low Tension Service & Dist.	D5010 Switchgear, Mainframe, 3000 Amps
Condition	Fair
Qty / UOM	1 / EA
RUL (years)	2
Location	Main Electrical Room

OBSERVATIONS/COMMENTS:

The main switchgear is original 1954 Westinghouse equipment. The electrical service is reportedly adequate for the facility's needs, and the switchgear is in working condition. Due to the age of the components, replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5012	Replace D5010 Switchgear, Mainframe, 3000 Amps	1.0 - EA	45373.7	IN - Beyond Rated Life	Priority 1	2017	45,374

Item	Description
D5022 Lighting Equipment	D5022 Lighting Equipment
Condition	Good
Qty / UOM	1056 / EA
RUL (years)	0
Location	Throught building

OBSERVATIONS/COMMENTS:

Lighting to be replaced in conjunction with ceiling replacement.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5022	Replace D5022 Lighting Equipment	1,056.0 - EA	309.4	IN - Beyond Rated Life	Priority 1	2015	326,726

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm Panel
Condition	Good
Qty / UOM	1 / EA
RUL (years)	7
Location	First Floor Mechanical Office

OBSERVATIONS/COMMENTS:

The fire alarm panel was replaced in 2007, along with smoke, strobes and pull station upgrades to the alarm system. Based on expected useful life, replacement of the panel is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5037	Replace D5037 Fire Alarm Panel	1.0 - EA	16269.8	CC - Life Safety	Priority 3	2022	16,270

Item	Description
D5037 Fire Alarm Systems	D5037 Fire Alarm System
Condition	Good
Qty / UOM	84400 / SF
RUL (years)	17
Location	Throughout Building

OBSERVATIONS/COMMENTS:

The fire alarm system appears adequate and comprehensive with strobe alarms, smoke sensors, and an adequate number of modern devices placed throughout the spaces, Only routine maintenance is anticipated.

Item	Description
D5092 Emergency Light & Power Systems	D5092 Emergency Generator 100 kW
Condition	Fair - Good
Qty / UOM	1 / EA
RUL (years)	8
Location	First floor mechanical room

OBSERVATIONS/COMMENTS:

The emergency generator is located on the first floor interior of the building and appears to be in functional condition. A lifecycle replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5092	D5092 Add/improve secondary containment for day tank	1.0 - EA	5285.0	EN - Air/ Water Quality	Priority 1	2015	5,285
D5092	Replace D5092 Emergency Generator 100 kW	1.0 - EA	102868.0	CC - Life Safety	Priority 4	2023	102,868

Item	Description
D5092 Emergency Light & Power Systems	D5092 Emergency Transfer Switch
Condition	Fair - Good
Qty / UOM	2 / EA
RUL (years)	4
Location	Boiler Room

OBSERVATIONS/COMMENTS:

The transfer switches associated with the emergency generator are reported to be functioning adequately. The transfer switches are original equipment, and replacement is recommended when the generator is replaced.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
D5092	Replace D5092 Emergency Transfer Switch	2.0 - EA	10613.1	CC - Life Safety	Priority 3	2019	21,226

COST SUMMARY:

Type	Year	Total Expenditures
D50 Electrical Systems	2015	$332,011
D50 Electrical Systems	2017	$45,374
D50 Electrical Systems	2019	$21,226
D50 Electrical Systems	2021	$393,216
D50 Electrical Systems	2022	$16,270
D50 Electrical Systems	2023	$102,868

F Special Construction And Demolition Systems

F20 SELECTIVE DEMOLITION

Item	Description
F2021 Removal of Hazardous Components	F2021 Lead Remediation
Condition	Poor
Qty / UOM	150 / SF
RUL (years)	0
Location	All Floors

OBSERVATIONS/COMMENTS:

Based on 2009 ADR hazardous materials report, removal of all lead paint is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
F2021	F2021 Lead Remediation	150.0 - SF	464.1	EN - Lead Visible Observance	Priority 2	2015	69,615

Item	Description
F2021 Removal of Hazardous Components	F2021 Removal of Hazardous Components
Condition	Good
Qty / UOM	71701 / SF
RUL (years)	0
Location	All Floors

OBSERVATIONS/COMMENTS:

Based on 2009 ADR hazardous materials report, the removal of all asbestos containing materials (ACMs) is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
F2021	Replace F2021 Removal of Hazardous Components	71,701.0 - SF	21.5	EN - Asbestos	Priority 2	2015	1,539,851

Item	Description
F2021 Removal of Hazardous Components	F2021 Asbestos Insultion Removal
Condition	Poor
Qty / UOM	3500 / LF
RUL (years)	0
Location	All floors

OBSERVATIONS/COMMENTS:

Based on 2009 ADR hazardous materials report, removal of all ACMs is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
F2021	F2021 Asbestos Insulation Removal	3,500.0 - LF	31.4	EN - Asbestos	Priority 2	2015	109,819

COST SUMMARY:

Type	Year	Total Expenditures
F20 Selective Demolition	2015	$1,719,284

G Building Sitework Systems

G20 Site Improvements

Site Information	
Item	**Description**
Main Ingress and Egress	N/A
Access from	SW
Additional Entrances	801 Capitol Mall
Access from	W
Parking Count: Open lot	0
Parking Count: Sheltered by carports	0
Parking Count: Private garages	0
Parking Count: Subterranean garage	0
Parking Count: Freestanding parking structure	0
Number of ADA Compliant Spaces	0
Number of ADA Compliant Spaces for Vans	0
Method of obtaining parking count	Physical count
Property Identification Sign-Primary	Monument Sign
Property Identification Sign- Secondary	N/A
Illuminated Identification Signage	N/A
Building Identification Sign	N/A
Illuminated Sign	N/A
Location of Property ID Sign	South side of the property
Trees Present	Yes
Shrubs Present	Yes
Grasses Present	Yes
Flower beds Present	N/A
Decorative Rocks Present	No
Lava Rocks Present	No
Ponds Present	No
Fountains Present	No
Topography	Flat

Item	Description
G2031 Paving & Surfacing	G2031 Concrete Pavement
Condition	Fair
Qty / UOM	250 / SF
RUL (years)	0
Location	Site

OBSERVATIONS/COMMENTS:

There are several cracks on sidewalks around the building, which could pose potential safety hazard as the cracks widen due to expansion, contraction, and load. Replacement is recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G2031	Replace G2031 Concrete Pavement	250.0 - SF	22.7	OP - Maintenance	Priority 2	2015	5,667

Item	Description
G2033 Exterior Steps	G2030 Accessible Ramp
Condition	Poor
Qty / UOM	25 / LF
RUL (years)	0
Location	West end entrance steps

OBSERVATIONS/COMMENTS:

Install concrete accessible ramp at the west end entrance/exit, with handrails on both sides. Modify existing concrete landing and steps.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G2033	Replace G2030 Accessible Ramp	25.0 - LF	1438.4	CC - Accessibility	Priority 1	2015	35,960
G2033	G2035 Modify concrete steps at entrance for accessible ramp	1.0 - EA	11829.0	CC - Accessibility	Priority 1	2015	11,829

Item	Description
G2053 Top Soil and Planting Beds	G2053 Landscaping
Condition	Fair
Qty / UOM	6808 / SF
RUL (years)	1
Location	Site

OBSERVATIONS/COMMENTS:

The landscaping at southwest side of the building requires renewal, due to several unsightly volunteer trees. Replacements are recommended.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G2053	Replace G2053 Landscaping	6,808.0 - SF	7.1	IN - Beyond Rated Life	Priority 2	2016	48,288

COST SUMMARY:

Type	Year	Total Expenditures
G20 Site Improvements	2015	$53,456
G20 Site Improvements	2016	$48,288

G40 SITE ELECTRICAL UTILITIES

Item	Description
G4024 Site Lighting Controls	G4020 Site Lighting
Condition	Poor - Fair
Qty / UOM	10 / Ea
RUL (years)	5
Location	Perimeter Walls

OBSERVATIONS/COMMENTS:

Replace inadequate site lighting at building perimeter.

COST RECOMMENDATIONS:

Type	Component Description	Qty / UOM	Unit Cost ($)	Plan Type	Priority	Year	Expenditures ($)
G4024	Replace G4020 Site Lighting	10.0 - Ea	2207.2	IN - Beyond Rated Life	Priority 3	2020	22,072

COST SUMMARY:

Type	Year	Total Expenditures
G40 Site Electrical Utilities	2020	$22,072

The weather at the time of the assessment was:

Item	Description
Approximate Outdoor Temperature (degrees F)	54
Weather Conditions	Clear
Snow Covering Ground	No
Wind Conditions	Little to no wind

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

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

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.

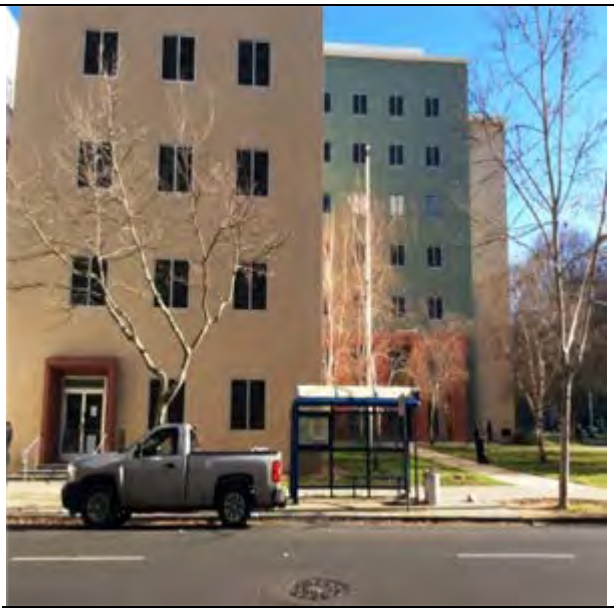
Prepared By: Djahan Nabili, Field Observer

Reviewed By: 

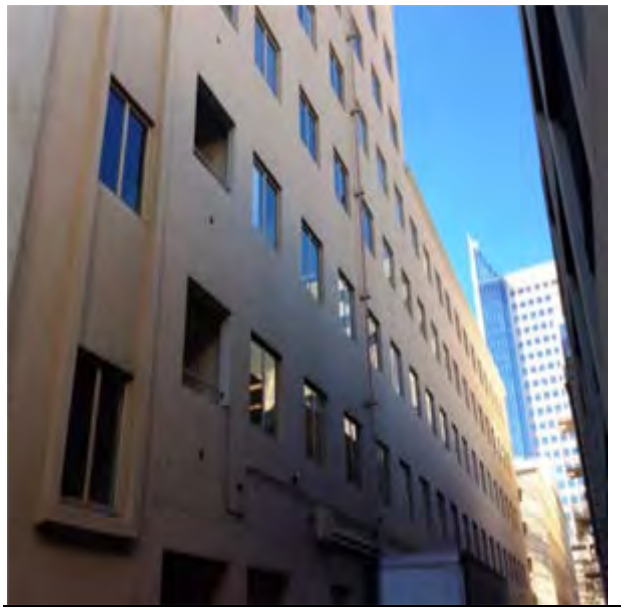
Matt Anderson, Program Manager

APPENDIX D: PHOTOS

:- Front elevation



:- West elevation



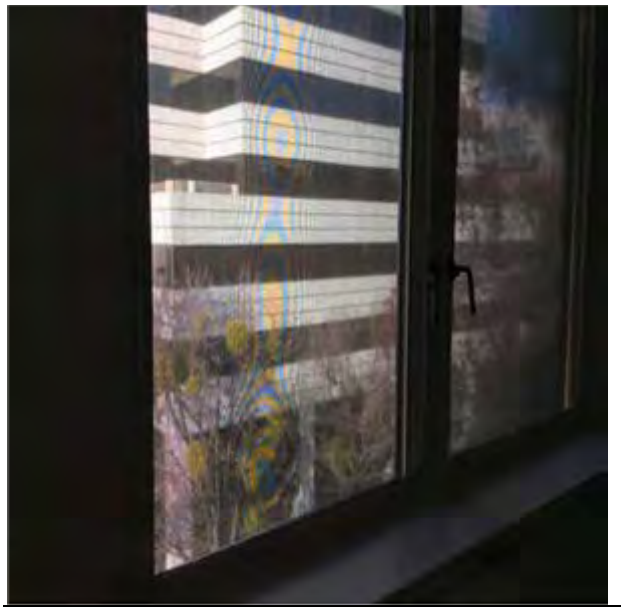
:- Rear elevation

:- Front entrance

B1021 Roof Concrete Parapet

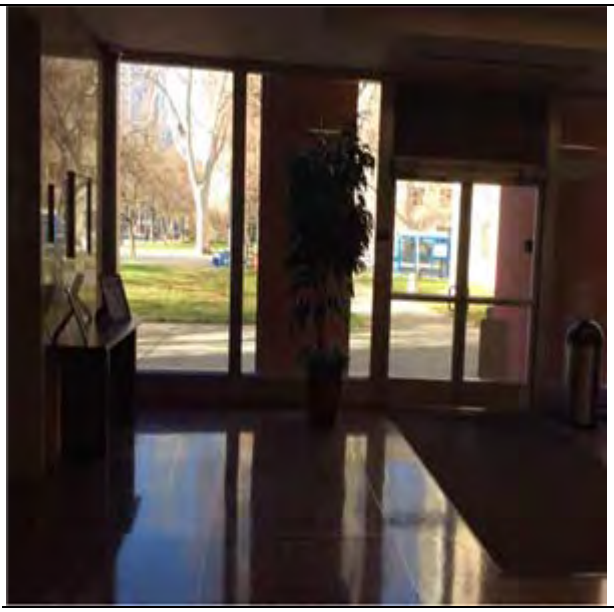
B1021 Roof Concrete Parapet

B2011 Exterior Concrete Walls :- Painted finishes

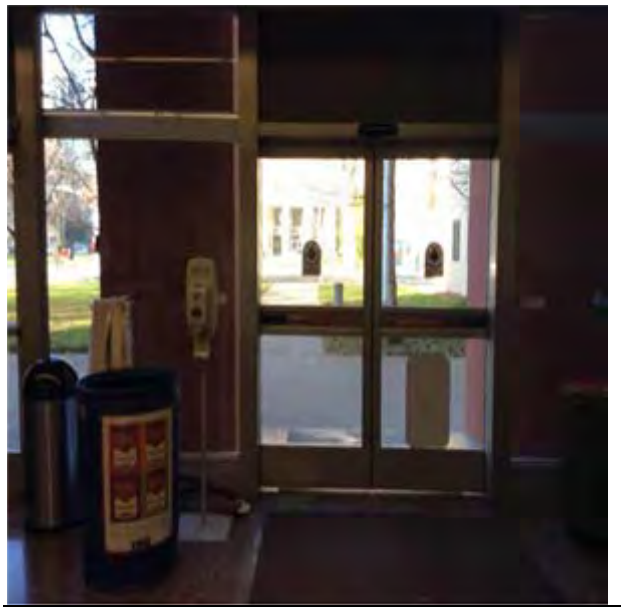


B2021 Windows, Single Pane Metal

B2021 Windows, Single Pane Metal



B2031 Entrance double doors to office area



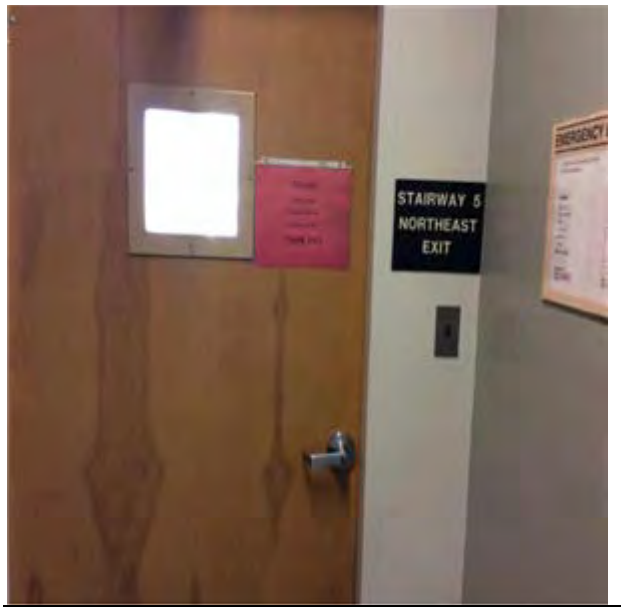
B2031 Entrance double doors to office area

B2031 Glazed Doors & Entrances 6' x 7':- West end

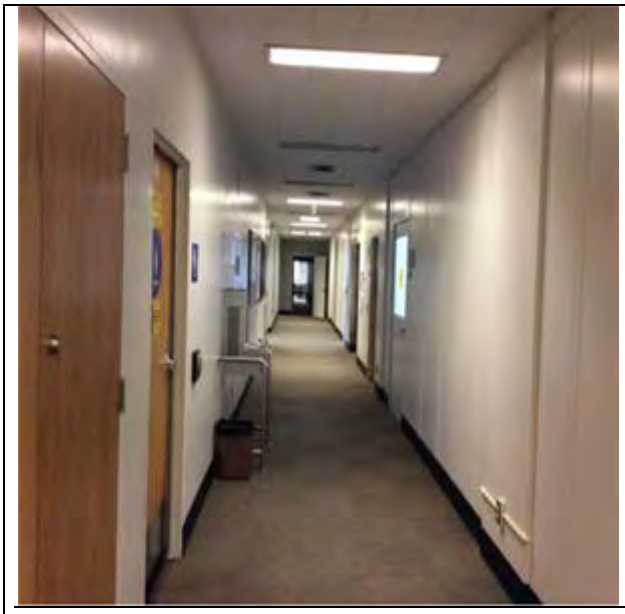
B2034 Steel Rolling Overhead Door, Manual - 8’ to 12’

B3011 Building Roof

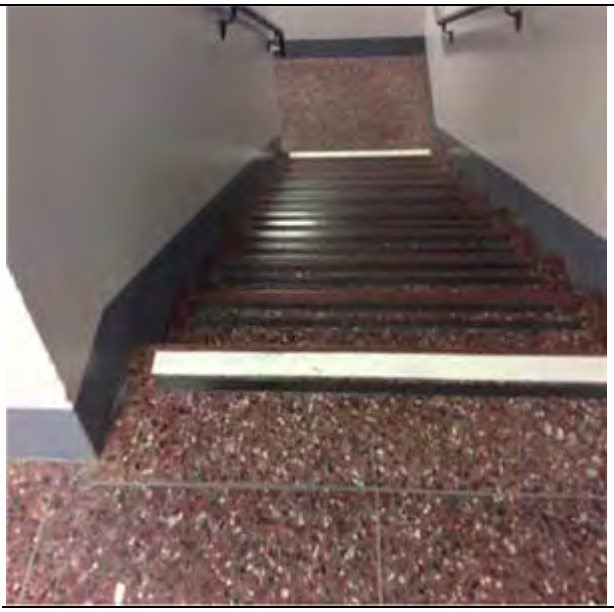
B3011 Building Roof



C1021 Interior Doors



C1035 Directional Signage

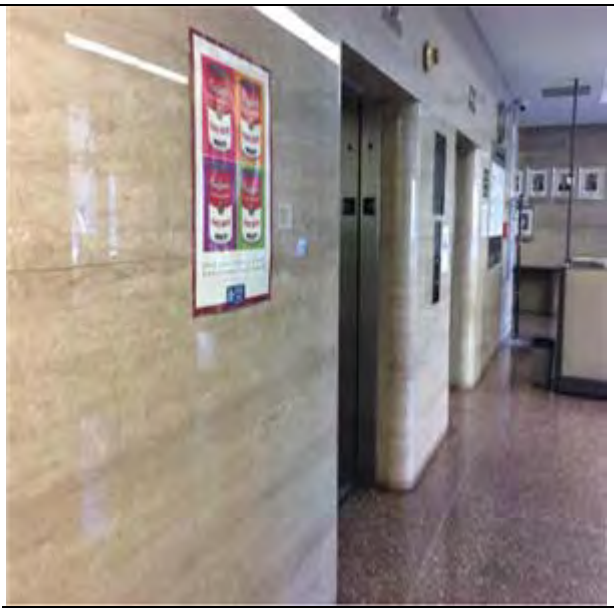


C2011 Fire exit stairs :- Stair next to Elevator

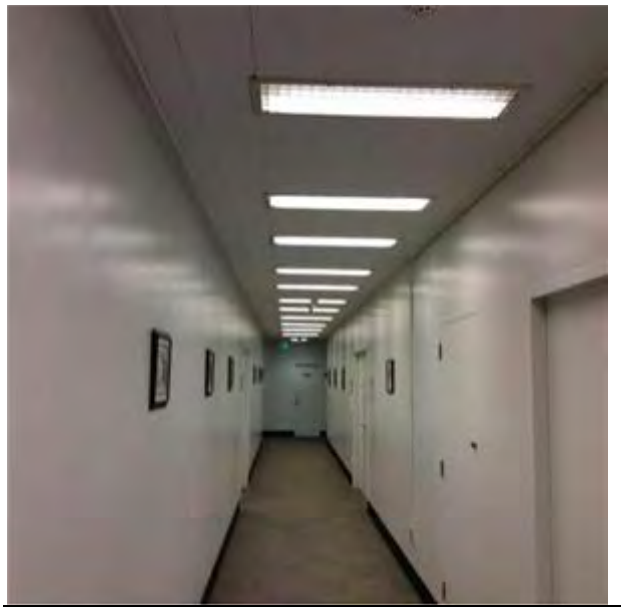
C2011 Fire exit stairs :- Fire exit Stair

C3005 - ADA Restroom Renovations

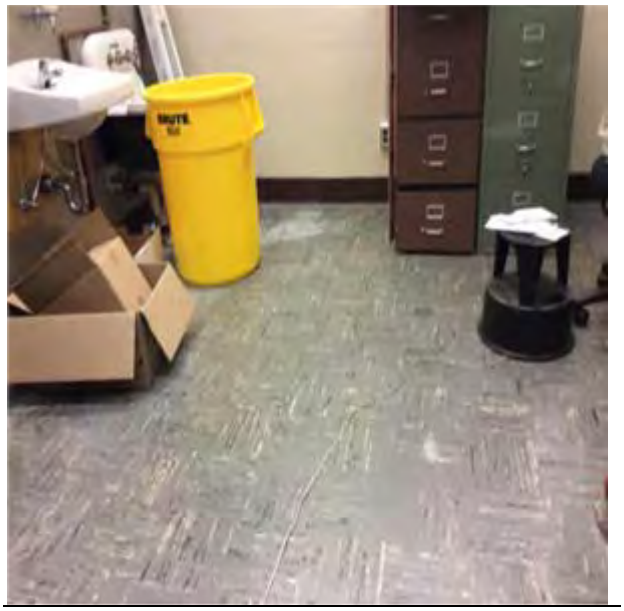
C3005 - ADA Restroom Renovations



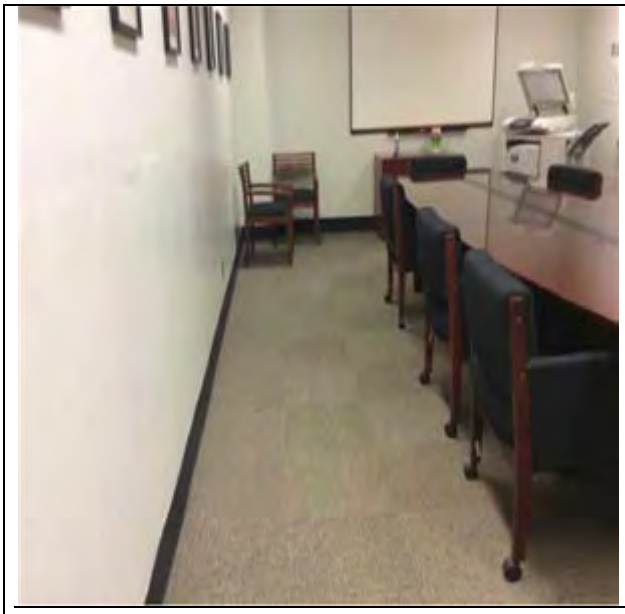
C3012 Marble Interior Wall Finish



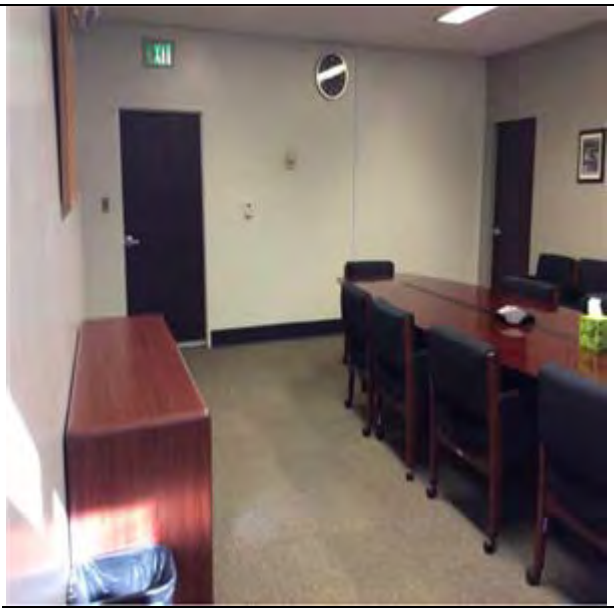
C3012 Paint Interior Walls, Drywall



C3024 Vinyl Tile



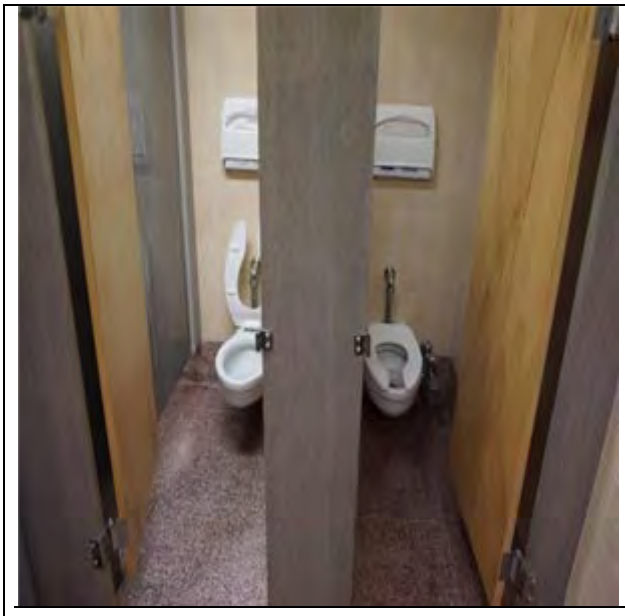
C3025 Carpet Tiles



C3025 Carpet flooring

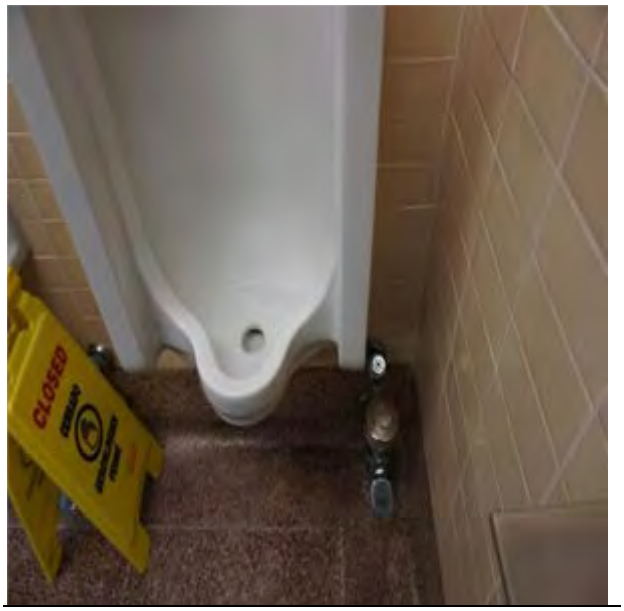
D1011 Traction Elevator Machinery and Controls

D1011 Traction Elevator Machinery and Controls

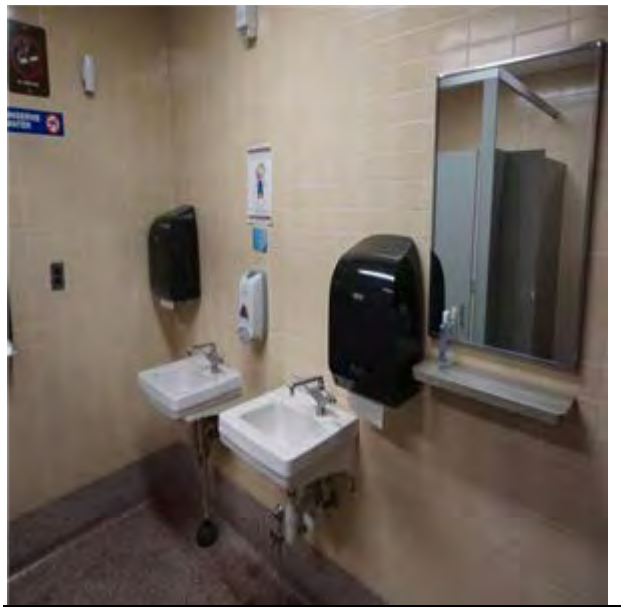


D2011 Commercial Grade Water Closet, 1.6 GPF Unit

D2012 Urinal



D2012 Urinal



D2013 Counter Top Sink and Faucet

D2023 Domestic Water Booster Pump Station

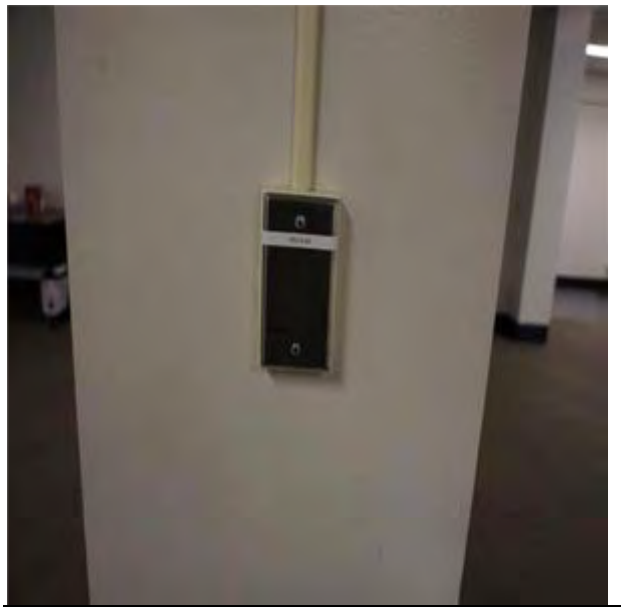
D3022 HVAC Chilled Water Circulation Pumps

D3022 HVAC Heating Water Circulation Pumps 5 HP

D3022 HVAC Heating Water Circulation Pumps 5 HP

D3023 Condensate Return System

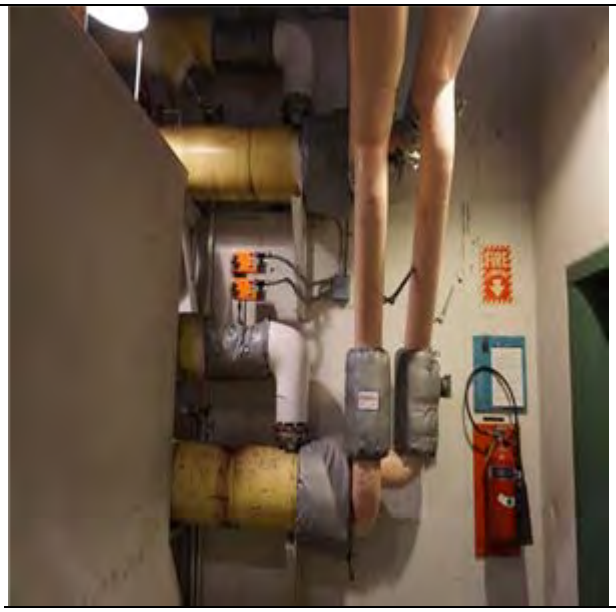
D3041 Air Handling Units



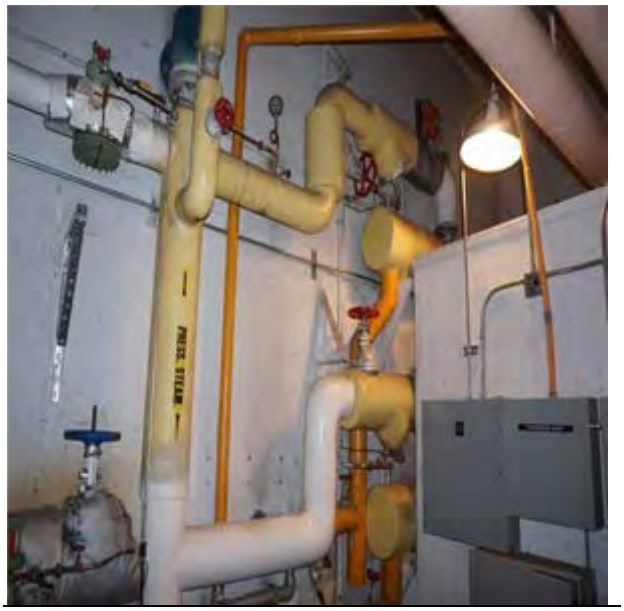
D3041 VAV Boxes for Dual Duct Zones

D3041 VAV Boxes for Dual Duct Zones

D3042 Exhaust Fan



D3043 HVAC Heating Water Heat Exchanger



D3043 HVAC Heating Water Heat Exchanger

D3043 Domestic Water Heat Exchanger

D3052 Computer/Server Room AC Chilled Water

D3063 Variable Frequency Drive

D3068 Pneumatic HVAC Controls

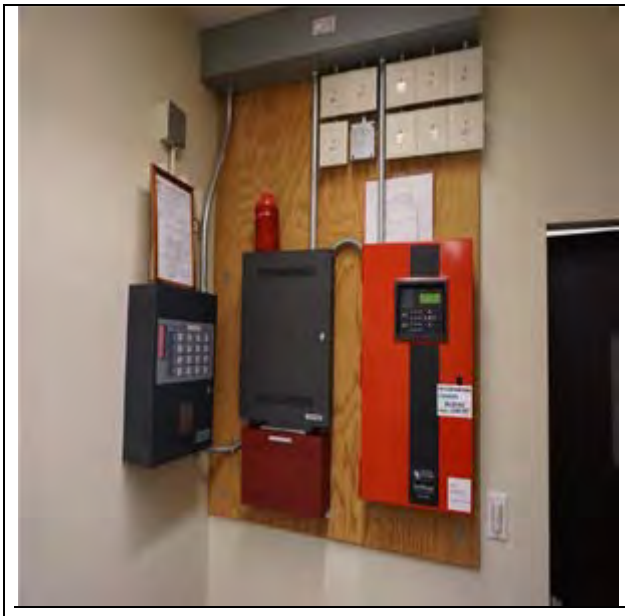
D3068 DDC Controls

D3068 DDC Controls

D5010 Switchgear, Mainframe, 3000 Amps

D5010 Switchgear, Mainframe, 3000 Amps

D5012 Breaker Panel 225 Amps, 30 Circuits



D5037 Fire Alarm Panel

D5037 Fire Alarm Panel

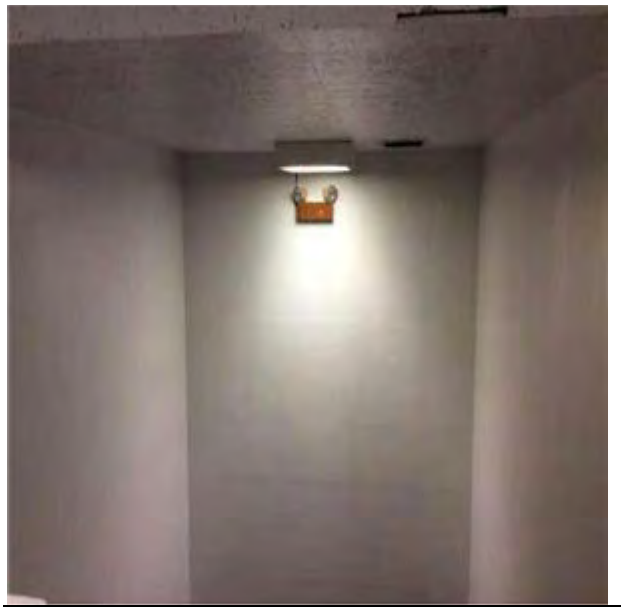
D5037 Fire Alarm System

D5092 Emergency Transfer Switch

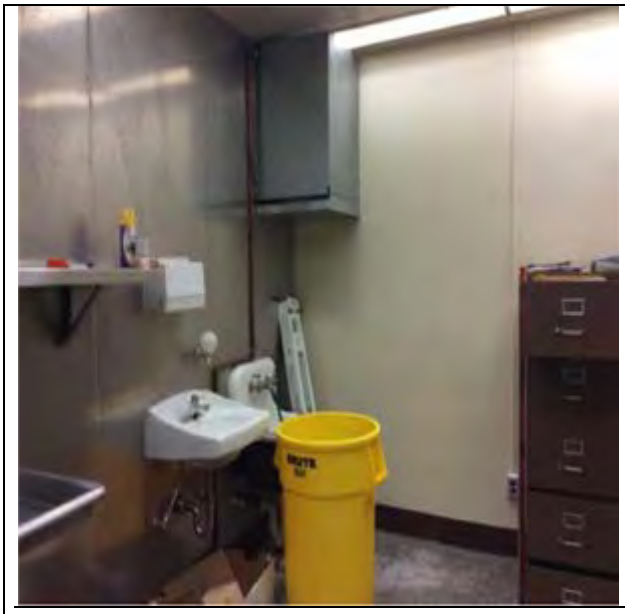
D5092 Emergency Transfer Switch

D5092 Emergency Generator 100 kW

D5092 Emergency Generator 100 kW



F2021 Lead Remediation



F2021 Lead Remediation

F2021 Asbestos Insultion Removal

G2031 Concrete Pavement

G2053 Landscaping

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)	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. 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.
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 *Means* and *Dodge*, 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 employee 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

PERSONNEL BUILDING FACT SHEET

801 Capitol Mall
Sacramento
Sacramento County
Category 1 - High Priority - Facilities/Infrastructure Modernization

BUILDING INFORMATION

- Age: 60 years (completed in 1954)
- Size:* 6-story
  84,400 GSF 58,828 NUSF 58,828 Assigned SF
  0.50 Acre Parcel
  No Parking Available - Mass Transit Available at Street
  Capacity - 232 occupants
- Financial: No Encumbrances
  BRA Rate - $1.64/month per SF, FY 2013-14 (DGS Price Book)
  $1.69/month per SF, FY 2014-15 (Proposed DGS Price Book)
  Central Plant rate an additional $0.60/month per SF

SPI Structure #: 2301
Real Property #: 684
BPM #: 021

- LEED Status: Registered for LEED-EB Certification as part of DGS blanket registration in 2008.
- Tenants: State Personnel Board (single-tenant)

COMPLETED STUDIES AND SIGNIFICANT FINDINGS

A. 2009 Infrastructure Study (Updated May 2012)

Findings of the study indicate deficiencies in fire and life safety, security, and seismic protection, as well as functional obsolescence. A decision has not yet been made whether to complete a full or partial renovation, raze/replace the building, or continue use of the building as-is for the immediate future.

B. 2010 American Disability Act Accessibility Compliance Survey

Findings of the study indicate areas of inaccessibility including restrooms (signage, doors, toilet facilities), drinking fountains, tactile exit indicators, and stair handrail extensions.

C. 2012 Access Compliance Conceptual Budget/Evaluation

In follow up to the 2010 American Disability Act Accessibility Compliance Survey, this report provides the Conceptual Cost and Path of Travel Plans. Because a renovation is planned, this building is not included as part of DGS's ten year ADA Compliance Upgrades and Deferred Special Repairs Program.

ADDITIONAL BUILDING ISSUES

A portion of the SPB staff located at the building has consolidated with the Department of Personnel Administration to become the California Department of Human Resources. Relocation was completed in 2012. Currently, the 3rd, 4th, and 6th floors are vacant. The Asset Management Branch is in process of identifying potential backfill tenants.

CURRENT UTILIZATION PROJECTS

The Department of Health Care Services is interested in relocating from leased space into the vacant floors of this building. The project is currently in planning. Anticipated move-in date is September 2014.

RECENTLY COMPLETED PROJECTS	Cost
TBD	

ACTIVE PROJECTS	Cost
TBD	

PLANNED SPECIAL REPAIRS BY FISCAL YEAR	Estimated Cost
TBD	

DGS STRATEGY: A COBCP is included in this Five Year Plan, with a year of first-funding to be 2015-16. Evaluating whether it would be reasonable to complete fire/life/safety renovations only.

* Source: Statewide Property Inventory

10 YEAR EXPENDITURE FORECAST

Personnel Building
801 Capitol Mall
Sacramento

Useful Life[1]: Estimated Useful Life / Remaining Useful Life

Plan Type[1]: **OP:** Operations; **CC:** Code Compliance; **EN:** Environmental; **FN:** Functionality; **IN:** Integrity

Legend: Deferred; Scheduled

Element #	Component Description	Asset	Location	Action	EUL (Yrs)	RUL (Yrs)	Qty.	Unit of Meas.	Unit Cost	Plan Type	Priority[2]	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total - Deferred	Total - Scheduled
												Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9		
A. SUBSTRUCTURE																							
A10	**FOUNDATIONS**																						
A1011	A1011 Wall Foundations	A1011 Wall Foundations	All floors	Replace A1011 Wall Foundations	50	0	1.00	EA	$942,000.00	IN - Beyond Rated Life	Priority 1	$942,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$942,000	$0
Substructure Subtotal												**$942,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$942,000**	**$0**
B. SHELL																							
B10	**SUPERSTRUCTURE**																						
B1021	Cast-in-Place Reinforced Concrete Roof Deck	B1021 Roof Concrete Parapet	Roof	Repair	70	0	150.00	LF	$138.33	CC - Life Safety	Priority 1	$20,750	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20,750	$0
B20	**EXTERIOR ENCLOSURE**																						
B2011	Finished Concrete	B2011 Exterior Concrete Walls	Exterior walls	B2011 Paint exterior walls	10	1	38,520.00	SF	$4.04	OP - Maintenance	Priority 2	$0	$155,621	$0	$0	$0	$0	$0	$0	$0	$0	$0	$155,621
	Finished Concrete	B2011 Exterior Concrete Walls	Exterior walls	B2011 Pressure wash exterior walls	10	1	38,520.00	SF	$2.15	OP - Maintenance	Priority 2	$0	$82,818	$0	$0	$0	$0	$0	$0	$0	$0	$0	$82,818
B2021	2' X 3' Steel Frame Window	B2021 Windows, Single Pane Metal	Exterior elevations	Replace Windows	30	0	207.00	EA	$1,987.35	IN - Beyond Rated Life	Priority 1	$411,381	$0	$0	$0	$0	$0	$0	$0	$0	$0	$411,381	$0
B2031	B2031 Glazed Doors & Entrances	B2031 Glazed Doors & Entrances 6' x 7'	West end	Replace B2031 Glazed Doors & Entrances 6' x 7'	30	5	1.00	EA	$12,400.00	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$12,400	$0	$0	$0	$0	$0	$12,400
B2034	Steel Rolling Overhead Door, Manual - 8' to 12'	B2034 Steel Rolling Overhead Door, Manual - 8' to 12'	Rear loading dock	Replace B2034 Steel Rolling Overhead Door, Manual - 8' to 12'	30	0	1.00	EA	$4,966.47	IN - Beyond Rated Life	Priority 1	$4,966	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,966	$0
Shell Subtotal												**$437,098**	**$238,439**	**$0**	**$0**	**$0**	**$12,400**	**$0**	**$0**	**$0**	**$0**	**$437,098**	**$250,839**
C. INTERIORS																							
C10	**INTERIOR CONSTRUCTION**																						
C1021	Fire Door, Wood, Flush, 60 Minute, Incl. Demo, with Hardware	C1021 Interior Doors	Throughout facility	Replace C1021 Interior Doors	30	1	53.00	EA	$2,403.12	IN - Beyond Rated Life	Priority 2	$0	$127,365	$0	$0	$0	$0	$0	$0	$0	$0	$0	$127,365
C1035	Directional Signage	C1035 Directional Signage	All floors	Replace C1035 Directional Signage	10	0	12.00	EA	$316.20	CC - Life Safety	Priority 1	$3,794	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,794	$0
C20	**STAIRS**																						
C2011	Concrete Stairs	C2011 Fire exit stairs	Stairs	C2011 Paint stair parts	7	2	9,360.00	SF	$2.48	IN - Appearance	Priority 3	$0	$0	$23,213	$0	$0	$0	$0	$0	$0	$23,213	$0	$46,426
C30	**INTERIOR FINISHES**																						
C3005	C3005 ADA Renovations	C3005 - ADA Restroom Renovations	All Floors	Replace C3005 - ADA Restroom Renovations	20	0	6.00	EA	$29,760.00	CC - Accessibility	Priority 1	$178,560	$0	$0	$0	$0	$0	$0	$0	$0	$0	$178,560	$0
C3012	Paint Interior Walls, Drywall	C3012 Paint Interior Walls, Drywall	All Floor	Replace C3012 Paint Interior Walls, Drywall	10	3	80,686.00	SF	$2.13	IN - Appearance	Priority 3	$0	$0	$0	$172,087	$0	$0	$0	$0	$0	$0	$0	$172,087
C3024	Vinyl Tile	C3024 Vinyl Tile	All Floors	Replace C3024 Vinyl Tile	18	0	125.00	SY	$125.78	IN - Appearance	Priority 2	$15,723	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15,723	$0
C3025	Carpet Tiles - Deluxe	C3025 Carpet Tiles	Auditorium	Replace C3025 Carpet Tiles	10	8	295.00	SY	$96.61	IN - Appearance	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$28,499	$0	$0	$28,499
C3025	Carpet, Standard Commercial, Medium Traffic	C3025 Carpet flooring	All Floor	Replace C3025 Carpet flooring	10	0	8,350.00	SY	$96.61	IN - Appearance	Priority 2	$806,657	$0	$0	$0	$0	$0	$0	$0	$0	$0	$806,657	$0
C3032	Acoustical Ceiling Tile System, Fire Rated,Including Demo	C3030 Suspended and Glued Ceilings	Throughout interior	Replace C3030 Suspended and Glued Ceilings	20	0	810.00	CSF	$1,235.04	IN - Beyond Rated Life	Priority 2	$1,000,382	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,000,382	$0
Interiors Subtotal												**$2,005,116**	**$127,365**	**$23,213**	**$172,087**	**$0**	**$0**	**$0**	**$0**	**$28,499**	**$23,213**	**$2,005,116**	**$374,377**
D. SERVICES																							
D10	**CONVEYING SYSTEMS**																						
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Throughout Facility	D1011 Clean machine rooms, pits, and car tops.	10	0	2.00	EA	$1,500.00	OP - Maintenance	Priority 2	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,000	$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Throughout Facility	D1011 Install door restrictors or all three elevators	20	0	2.00	EA	$3,000.00	FN - Modernization	Priority 2	$6,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,000	$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Throughout Facility	D1011 Perform 5-year load tests	20	0	2.00	EA	$3,000.00	CC - Building Code	Priority 1	$6,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,000	$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Throughout Facility	Replace D1011 Traction Elevator Machinery and Controls	30	6	2.00	EA	$418,600.00	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$0	$837,200	$0	$0	$0	$0	$837,200
D1011	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevator	D1011 Clean machine rooms, pits, car tops. Adjust Doors	10	0	1.00	EA	$1,500.00	OP - Maintenance	Priority 2	$1,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,500	$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevator	D1011 Install door restrictors	20	0	1.00	EA	$3,000.00	FN - Modernization	Priority 2	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,000	$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevator	D1011 perform 5-year load tests	10	0	1.00	EA	$3,000.00	CC - Building Code	Priority 1	$3,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,000	$0
	Traction Elevator Machinery and Controls	D1011 Traction Elevator Machinery and Controls	Elevator	Replace D1011 Traction Elevator Machinery and Controls	30	8	1.00	EA	$482,300.00	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$482,300	$0	$0	$482,300
D20	**PLUMBING**																						
D2011	Commercial Grade Water Closet With 1.6 Gpf Unit	D2011 Commercial Grade Water Closet, 1.6 GPF Unit	Throughout Facility	D2013 Install automatic flush valves on toilets	15	2	36.00	EA	$604.00	OP - Energy	Priority 2	$0	$0	$21,744	$0	$0	$0	$0	$0	$0	$0	$0	$21,744
D2012	Urinal	D2012 Urinal	Throughout Facility	D2013 Install automatic flush valves on urinals	15	2	10.00	EA	$636.00	OP - Energy	Priority 2	$0	$0	$6,360	$0	$0	$0	$0	$0	$0	$0	$0	$6,360
D2013	Counter Top Sink and Faucet	D2013 Counter Top Sink and Faucet	Restrooms	D2013 Install automatic faucets with motion sensors	15	2	30.00	EA	$604.00	OP - Energy	Priority 2	$0	$0	$18,120	$0	$0	$0	$0	$0	$0	$0	$0	$18,120
D30	**HVAC**																						
D3022.1	Circulation Pump, 7 to 10 HP	D3022 HVAC Heating Water Circulation Pumps 5 HP	Boiler Room	Replace D3022 HVAC Heating Water Circulation Pumps 5 HP	20	6	4.00	EA	$19,837.20	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$0	$79,349	$0	$0	$0	$0	$79,349
D3023	Condensate return system (SIMPLEX PUMP, FLOAT SWITCH, 3/4 HP, 15 GPM)	D3023 Condensate Return System	Boiler Room	Replace D3023 Condensate Return System	20	8	2.00	EA	$17,336.19	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$34,672	$0	$0	$34,672
D3041	D3041 Air Distribution Systems	D3041 Air Distribution Systems	Throughout Building	Replace D3041 Air Distribution Systems	20	0	84,400.00	SF	$7.54	IN - Beyond Rated Life	Priority 1	$636,308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$636,308	$0
D3041.1	Air Handler 20,000-22,000 CFM	D3041 Air Handling Units	Mechanical Room Floor	Replace D3041 Air Handling Units	15	0	2.00	EA	$39,385.87	IN - Beyond Rated Life	Priority 1	$78,772	$0	$0	$0	$0	$0	$0	$0	$0	$0	$78,772	$0
D3041.2	Vav Box , 1500-2500 CFM	D3041 VAV Boxes for Dual Duct Zones	Throughout Facility	Replace D3041 VAV Boxes for Dual Duct Zones	30	0	36.00	EA	$3,460.49	IN - Beyond Rated Life	Priority 1	$124,578	$0	$0	$0	$0	$0	$0	$0	$0	$0	$124,578	$0
D3043	Heat Exchanger	D3043 Domestic Water Heat Exchanger	Boiler Room	Replace D3043 Domestic Water Heat Exchanger	20	2	1.00	EA	$5,818.08	IN - Beyond Rated Life	Priority 2	$0	$0	$5,818	$0	$0	$0	$0	$0	$0	$0	$0	$5,818
D3043	Multi-pass shell and tube (Cast iron heads, 40 to 180 deg., steam 10 psi, 96 GPM)	D3043 HVAC Heating Water Heat Exchanger	Boiler Room	Replace D3043 HVAC Heating Water Heat Exchanger	30	2	1.00	EA	$31,257.80	IN - Beyond Rated Life	Priority 2	$0	$0	$31,258	$0	$0	$0	$0	$0	$0	$0	$0	$31,258
D3052	Air Conditioner, Dx Package (Liebert) 5-Ton	D3052 Computer/Server Room AC Chilled Water	Computer Server Room	Replace D3052 Computer/Server Room AC Chilled Water	20	0	2.00	EA	$18,440.78	IN - Beyond Rated Life	Priority 1	$36,882	$0	$0	$0	$0	$0	$0	$0	$0	$0	$36,882	$0
D3063	Variable Frequency Drive, 20 HP Motor	D3063 Variable Frequency Drive	Throughout building	Add VFD's to HVAC not already equipped	15	0	10.00	EA	$19,730.88	OP - Energy	Priority 1	$197,309	$0	$0	$0	$0	$0	$0	$0	$0	$0	$197,309	$0
D3068	Direct Digital Controls (DDC) Extensive	D3068 DDC Controls	Throughout Facility	Replace D3068 DDC Controls	20	0	84,400.00	SF	$8.23	IN - Beyond Rated Life	Priority 1	$694,916	$0	$0	$0	$0	$0	$0	$0	$0	$0	$694,916	$0
D3068	Direct Digital Controls (DDC) Extensive	D3068 Pneumatic HVAC Controls	Boiler Room	Replace D3068 Pneumatic HVAC Controls	20	0	1.00	EA	$14,880.00	FN - Modernization	Priority 1	$14,880	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,880	$0
D40	**FIRE PROTECTION SYSTEMS**																						
D4011	D4011 Sprinkler Water Supply	D4011 Wet Pipe Sprinkler System - Install New	Throughout Facility	D4011 Wet Pipe Sprinkler System - Install New	35	0	84,400.00	SF	$8.26	CC - Life Safety	Priority 1	$697,144	$0	$0	$0	$0	$0	$0	$0	$0	$0	$697,144	$0
D50	**ELECTRICAL SYSTEMS**																						
D5012	Switchgear, Mainframe, 1600 Amps	D5010 Switchgear, Mainframe, 3000 Amps	Main Electrical Room	Replace D5010 Switchgear, Mainframe, 3000 Amps	40	2	1.00	EA	$45,373.68	IN - Beyond Rated Life	Priority 1	$0	$0	$45,374	$0	$0	$0	$0	$0	$0	$0	$0	$45,374
D5012	Breaker Panel 225 Amps, 30 Circuits	D5012 Breaker Panel 225 Amps, 30 Circuits	Utility Areas/Closets	Replace D5012 Breaker Panel 225 Amps, 30 Circuits	40	6	50.00	EA	$7,864.32	IN - Beyond Rated Life	Priority 4	$0	$0	$0	$0	$0	$0	$393,216	$0	$0	$0	$0	$393,216
D5022	D5022 Lighting Equipment	D5022 Lighting Equipment	Throught building	Replace D5022 Lighting Equipment	20	0	1,056.00	EA	$309.40	IN - Beyond Rated Life	Priority 1	$326,726	$0	$0	$0	$0	$0	$0	$0	$0	$0	$326,726	$0
D5037	Fire Alarm Panel	D5037 Fire Alarm Panel	First Floor Mechanical Office	Replace D5037 Fire Alarm Panel	15	7	1.00	EA	$16,269.84	CC - Life Safety	Priority 3	$0	$0	$0	$0	$0	$0	$0	$16,270	$0	$0	$0	$16,270

D5092	Emergency Generator, 265 to 300 kW, Diesel	D5092 Emergency Generator 100 kW	First floor mechanical room	D5092 Add/improve secondary containment for day tank	15	0	1.00	EA	$5,285.00	EN - Air/ Water Quality	Priority 1	$5,285	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,285	$0
	Emergency Generator, 265 to 300 kW, Diesel	D5092 Emergency Generator 100 kW	First floor mechanical room	Replace D5092 Emergency Generator 100 kW	25	8	1.00	EA	$102,867.96	CC - Life Safety	Priority 4	$0	$0	$0	$0	$0	$0	$0	$0	$102,868	$0	$0	$102,868
D5092	Transfer Switch	D5092 Emergency Transfer Switch	Boiler Room	Replace D5092 Emergency Transfer Switch	25	4	2.00	EA	$10,613.06	CC - Life Safety	Priority 3	$0	$0	$0	$0	$21,226	$0	$0	$0	$0	$0	$0	$21,226
Services Subtotal												**$2,835,300**	**$0**	**$128,674**	**$0**	**$21,226**	**$0**	**$1,309,765**	**$16,270**	**$619,840**	**$0**	**$2,835,300**	**$2,095,775**
E. EQUIPMENT & FURNISHING																							
Equipment & Furnishing Subtotal												**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
F. SPECIAL CONSTRUCTION AND DEMOLITION																							
F20	**SELECTIVE DEMOLITION**																						
F2021	F2021 Removal of Hazardous Components	F2021 Lead Remediation	All Floors	F2021 Lead Remediation	25	0	150.00	SF	$464.10	EN - Lead Visible Observance	Priority 2	$69,615	$0	$0	$0	$0	$0	$0	$0	$0	$0	$69,615	$0
F2021	Asbestos Insultion Removal From Pipe 5 to 8-Inch Dia	F2021 Asbestos Insultion Removal	All floors	F2021 Asbestos Insulation Removal	25	0	3,500.00	LF	$31.38	EN - Asbestos	Priority 2	$109,819	$0	$0	$0	$0	$0	$0	$0	$0	$0	$109,819	$0
F2021	F2021 Removal of Hazardous Components	F2021 Removal of Hazardous Components	All Floors	Replace F2021 Removal of Hazardous Components	15	0	71,701.00	SF	$21.48	EN - Asbestos	Priority 2	$1,539,851	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,539,851	$0
Special Construction And Demolition Subtotal												**$1,719,284**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,719,284**	**$0**
G. BUILDING SITEWORK																							
G20	**SITE IMPROVEMENTS**																						
G2031	Concrete Sidewalk	G2031 Concrete Pavement	Site	Replace G2031 Concrete Pavement	25	0	250.00	SF	$22.67	OP - Maintenance	Priority 2	$5,667	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,667	$0
G2053	Landscaping Allowance, Large Area	G2053 Landscaping	Site	Replace G2053 Landscaping	25	1	6,808.00	SF	$7.09	IN - Beyond Rated Life	Priority 2	$0	$48,288	$0	$0	$0	$0	$0	$0	$0	$0	$0	$48,288
G40	**SITE ELECTRICAL UTILITIES**																						
G4024	G4024 Site Lighting Controls	G4020 Site Lighting	Perimeter Walls	Replace G4020 Site Lighting	20	5	10.00	Ea	$2,207.20	IN - Beyond Rated Life	Priority 3	$0	$0	$0	$0	$0	$22,072	$0	$0	$0	$0	$0	$22,072
G50	**EXTERIOR STEPS & RAMPS**																						
G2033	G2033 Exterior Steps	G2030 Accessible Ramp	West end entrance steps	G2035 Modify concrete steps at entrance for accessible ramp	25	0	1.00	EA	$11,829.00	CC - Accessibility	Priority 1	$11,829	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,829	$0
	G2033 Exterior Steps	G2030 Accessible Ramp	West end entrance steps	Replace G2030 Accessible Ramp	25	0	25.00	LF	$1,438.40	CC - Accessibility	Priority 1	$35,960	$0	$0	$0	$0	$0	$0	$0	$0	$0	$35,960	$0
Building Sitework Subtotal												**$53,456**	**$48,288**	**$0**	**$0**	**$0**	**$22,072**	**$0**	**$0**	**$0**	**$0**	**$53,456**	**$70,360**
Z. GENERAL																							
General Subtotal												**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Expenditure Totals per Year	**$7,992,254**	**$414,092**	**$151,886**	**$172,087**	**$21,226**	**$34,472**	**$1,309,765**	**$16,270**	**$648,339**	**$23,213**	**$7,992,254**	**$2,791,350**
Total Cost (Inflated @ 5% per Yr.)	**$7,992,254**	**$434,797**	**$167,455**	**$199,212**	**$25,800**	**$43,996**	**$1,755,210**	**$22,893**	**$957,892**	**$36,011**	**Total ***	**$10,783,604**

*** - Present Value Currency**

Footnotes

1 Detailed descriptions for Useful Life and Plan Type can be found in the Appendices of the Facility Condition

2 Detailed Descriptions of the Priorities can be found in the Appendices of the Facility Condition Assessment

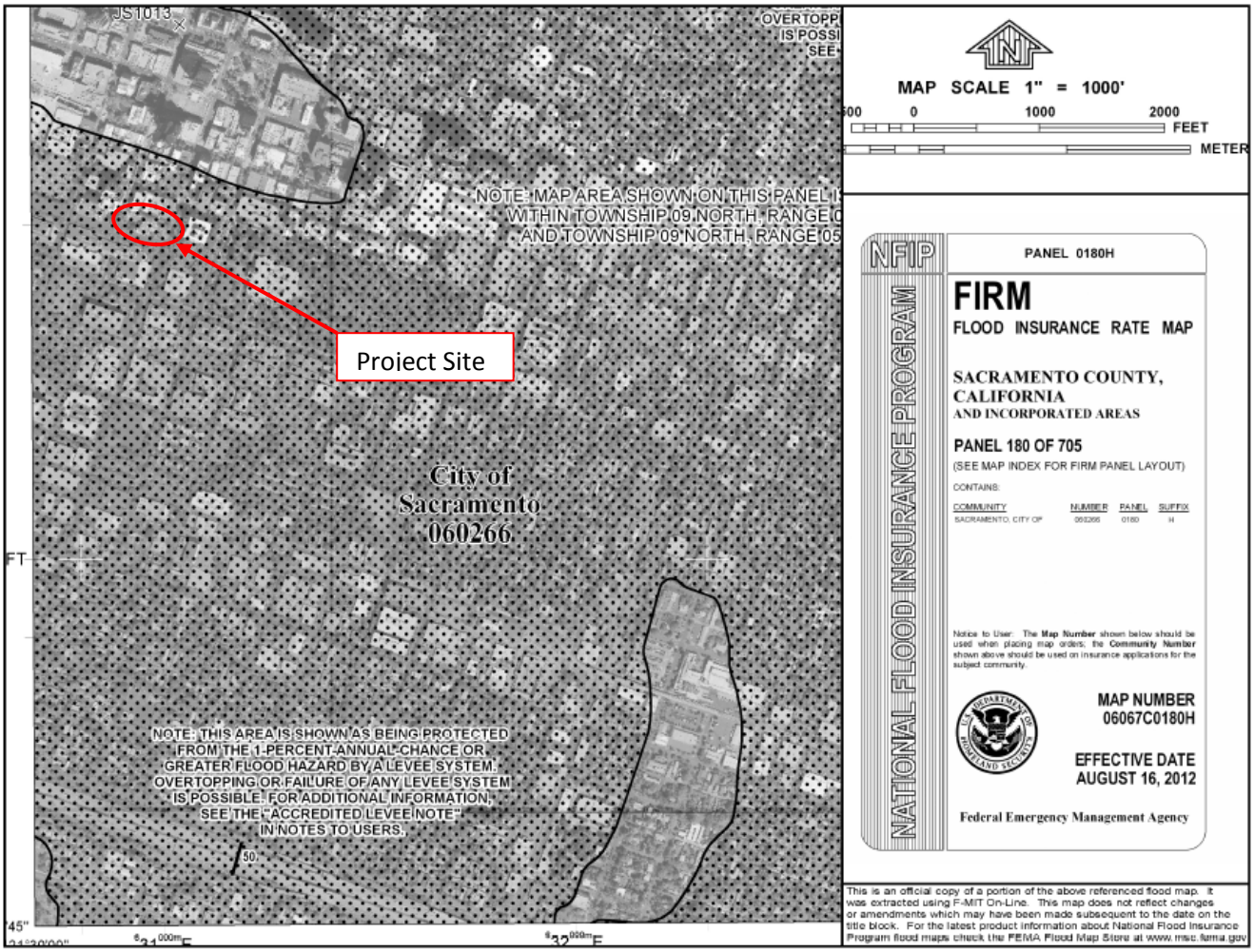
Current Repl.Value **$32,568,919**

APPENDIX G: COST TABLES

APPENDIX H: SUPPORTING DOCUMENTATION

EMG	**Source:** **The north arrow indicator is an approximation of 0° North.**	**Project Number:** 111326.14R.008.305 **Project Name:** Personnel Building
N		**On-Site Date:** January 7 & 8, 2015

Flood Map



EMG	**SOURCE:** **FEMA**	**Project Number:** **111326.14R-008.305**
N		**Project Name:** **State Personnel Board**
	Not drawn to scale. The north arrow indicator is an approximation of 0° North.	**On-Site Date:** **January 8, 2014**

Estimate of Structures Cost Using Marshall Cost Systems

Personnel Building (021)

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	$308.71	84,400	$26,055,135
	$0.00	0	$0
	$0.00	0	$0
	$0.00	0	$0
	$0.00	0	$0
	Total	84,400	$26,055,135

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	$26,055,135	25.00%	$32,568,919
	$0	25.00%	$0
	$0	25.00%	$0
	$0	25.00%	$0
	$0	25.00%	$0
Cost Per SF	**$385.89**	**Total Estimate**	**$32,568,919**

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: Personnel Building
Date: 01/07/2015
Project Number: 111326.14R-008.305

EMG Abbreviated Accessibility Checklist					
	Building History	**Yes**	**No**	**N/A**	**Comments**
1.	Has the management previously completed an ADA review?		✓		
2.	Have any ADA improvements been made to the property?		✓		
3.	Does a Barrier Removal Plan exist for the property?		✓		
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.?	✓			In follow up to the 2009 ADA accessibility Compliance Survey, ADA upgrades have been proposed as part of DGS ten year ADA Compliance with total of $9,506,700. Construction is proposed for 2018/19
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?			✓	
	Parking	**Yes**	**No**	**N/A**	**Comments**
1.	Are there sufficient parking spaces with respect to the total number of reported spaces?		✓		
2.	Are there sufficient van-accessible parking spaces available (96” wide/ 96” aisle for van)?			✓	
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?			✓	

EMG Abbreviated Accessibility Checklist					
6.	Does signage exist directing you to accessible parking and an accessible building entrance?			✓	
	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)			✓	
2.	Are ramps longer than 6 ft complete with railings on both sides?		✓		
3.	Is the width between railings at least 36 inches?			✓	
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?			✓	
	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?			✓	
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?	✓			
	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?		✓		
3.	Are floor surfaces firm, stable, and slip resistant (carpets wheelchair friendly)?	✓			
4.	Is at least one wheelchair-accessible public telephone available?			✓	
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					
	Paths of Travel	**Yes**	**No**	**N/A**	**Comments**
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?	✓			
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?		✓		
7.	Are stall doors wheelchair accessible (at least 32” wide)?	✓			
8.	Are grab bars provided in toilet stalls?	✓			

EMG Abbreviated Accessibility Checklist					
	Restrooms	**Yes**	**No**	**N/A**	**Comments**
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)?	✓			
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: Kevin Mayugba

Building name: Personnel Building (021)

What is your association with this property? Property Manger

What is the length of your association with this property? 1 year and half

Phone number: 916-653-9964

Please provide information about inspections relating to the following items

Inspections	Date Last Inspected	List Name & Contact for Maintenance Contractor, if any.
1. Elevators	Feb 2015	Mark Sharp, ThyssenKrupp, 916-376-8700.
2. HVAC, Mechanical, Electric, Plumbing	Feb 2015	
3. Life-Safety/Fire	Jan 2015	Sandra Louie, Battalion One, 510-725-5956
4. Roofs	Feb 2015	

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?

No

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

15 years

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

no

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**			
11. Are there any problems with erosion, storm-water drainage or areas of paving that do not drain?		**x**			

Question	Y	N	N/A	Unk	Comments
12. Is the property served by a private water well?		x			
13. Is the property served by a private septic system or other waste treatment systems?		x			
14. Are there any problems with foundations or structures?		x			
15. Is there any water infiltration in basements or crawl spaces?		x			
16. Are there any wall, or window leaks?				x	
17. Are there any roof leaks?		x			
18. Is the roofing covered by a warranty or bond?		x			
19. Are there any poorly insulated areas?		x			
20. Is Fire Retardant Treated (FRT) plywood used?		x			
21. Is exterior insulation and finish system (EIFS) or a synthetic stucco finish used?		x			
22. Are there any problems with the utilities, such as inadequate capacities?		x			
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			
26. Has any part of the property ever contained visible suspect mold growth?		x			
27. Is there a mold Operations and Maintenance Plan?			x		
28. Have there been indoor air quality or mold related complaints from tenants?		x			

Question	Y	N	N/A	Unk	Comments
29. Is polybutylene piping used?		x			
30. Are there any plumbing leaks or water pressure problems?		x			
31. Are there any leaks or pressure problems with natural gas service?		x			
32. Does any part of the electrical system use aluminum wiring?		x			
33. Are there transformers inside the building?	x				
34. Do any Commercial units have less than 200-Amp service?				x	
35. Are there any recalled fire sprinkler heads (Star, GEM, Central, Omega)?		x			
36. Is there any pending litigation concerning the property?		x			
37. Has the State previously completed an ADA or 'Title 24 review?	x				
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

State Personnel Board
801 Capitol Mall
Sacramento, CA

Due Diligence
Elevator Report

February 16, 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

ARCHITECTURAL ELEVATOR CONSULTING, LLC

TABLE OF CONTENTS

Section I: Executive Summary

A. Introduction

On February 3, 2015 Bob Nicholson of Architectural Elevator Consulting, LLC (AEC) surveyed all the vertical transportation systems at the State Personnel Board, 801 Capitol Mall, Sacramento, CA. There are three (3) gearless traction elevators. The elevators provide vertical transportation to the office floors on levels 1-6. In addition, Car 3 provides service to the penthouse level on the 7th floor and also has a rear entrance at the ground floor lobby and several other floors. 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 Westinghouse Elevator Company during the original building construction in 1955. The elevators were fully modernized by Dover Elevator in 1997. Dover modernized the elevators with Dover T-IV controllers, motor generators, GAL door operators and all new signal fixtures.

During our survey we noted that the elevators were being maintained in average to below average condition by ThyssenKrupp Elevator. Housekeeping in the machine rooms, car tops and pits was below average. Door performance is below average and should be improved. The performance needs to be adjusted to achieve the designed times and speeds. It appears none of the elevators have been tested for an annual or a five year full load test since they were installed in 1955. Because they were installed under Group II they are exempt from having the tests performed, however, all the cars should have been tested when they were modernized in 1997 as the code in effect at that time required them to be tested. We recommend further research to determine when the last tests were performed.

B. Elevator Layout

The building has two passenger elevators located at the front entrance and one dedicated service car that serves all the landings and goes to the penthouse. Passenger elevators, Cars 1-2, provide service from floors 1-6, while the service elevator, Car 3, provides access to all office floors, the penthouse and some rear entrances. The passenger elevators have fast and efficient center opening doors and the service car 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	400 FPM	1-6	3,500 lbs.	Center
Car 3	400 FPM	1, 1R,-7	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 but they use antiquated motor generator sets to convert the incoming power from AC to DC. The machines, car equipment and door operators are in fair condition. The elevators do not need modernized for another 4 to 6 years. In ***Section II*** of

this report we provide an in-depth review of each of the major components of the elevators with photographs.

D. Maintenance/Performance

The elevators are currently being maintained by ThyssenKrupp Elevator. The level of maintenance was noted to be average to below average in most areas, and has room for significant improvement. 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. 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 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 and/or car lanterns and gongs. ***Appendix A*** provides a complete listing of the ADA/T24 requirements. The elevators are in full compliance with ADA and T24.

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. The following is a list of items that are not in compliance:

    a. **Door Restrictors:** None of the elevators have door restrictors. These should be installed as soon as possible.
    b. **In-Car stop switch:** All of the cars have manual push/pull stop switches. We recommend these be replaced with keyed type.
    c. **Fire Service:** Phase II fire service does not have the “hold” feature thus does not comply with A17.3. We recommend this be completed when the elevators are modernized.

3. **Seismic:** The elevators were installed in 1955 prior to adoption of seismic code. Seismic features were added when the elevators were modernized by Dover Elevator in 1997. All the elevators have a seismic switch, ring and string derailment, and seismic retainers on the counterweights. The fishplates on the car and counterweight rails are non-seismic, but do not need to be updated unless meeting the most stringent code is desired.

F. Recommendation:

We recommend further research to determine when the last five year full load tests were performed. If they have not been tested since the modernization or since installed, then the five year full load tests should be scheduled as soon as possible. None of the governors have safety tags on them so it is possible the safeties have not been tested since the elevators were installed in 1955. The State of California exempts older elevators from being tested, but we believe this is a major oversight by the State. In addition, when the governors were replaced during the modernization in 1997 the elevators were required by A17.1 code to have a full five year load test.

Section II : Component Review

A. MACHINE ROOM:

Controllers:

The controllers were manufactured and installed by Dover when the elevators were modernized in 1997. The controllers utilize motor generator sets. These controllers can last another 4 to 6 years.

Gearless Machines:

Both the passenger and service cars have Westinghouse gearless machines that were installed in 1955 when the elevators were new. They appeared to be in good condition and operating at full speed.

Motor Generator Sets:

All the elevators had motor generators installed when last modernized in 1997. These are worn out, noisy and not very energy efficient. We recommend these be removed as part of the modernization.

B. HOISTWAY:

Hoistway Construction:

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

Car Guide Rails:

The car rails are in good condition but do not have seismic fish plates. Upgrading the guide rails to current seismic standards is voluntary.

Pits:

The pits for are poured concrete with sump areas and metal grating. The pits were found to be dry and but dirty.

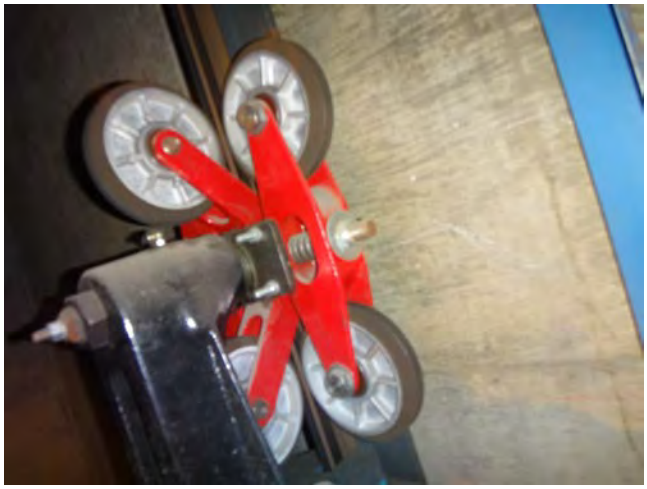
C. CAR TOP:

Door Operator:

The door operators are Dover's HD-91 model which is known to be reliable and dependable. Door open times were noted to be a little slow and the operators were covered in dirt.

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 existing ride quality was noted to be good on all the cars. High quality ELSCO rollers were installed on the cars when last modernized.



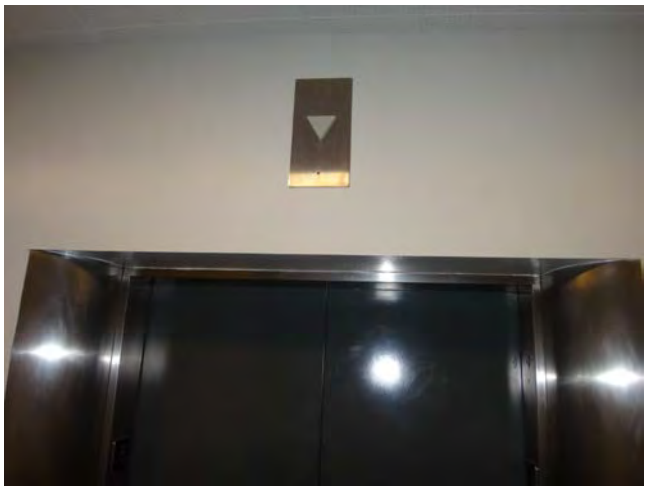
D. SIGNAL FIXTURES:

Car Operating Panels:

All the elevators have newer Car Operating Panels (COP's) that were installed during the elevator modernization. The panels are in good condition and meet ADA and T24. The panels are made of stainless steel with polished finish and are in good condition but have a few scratches.

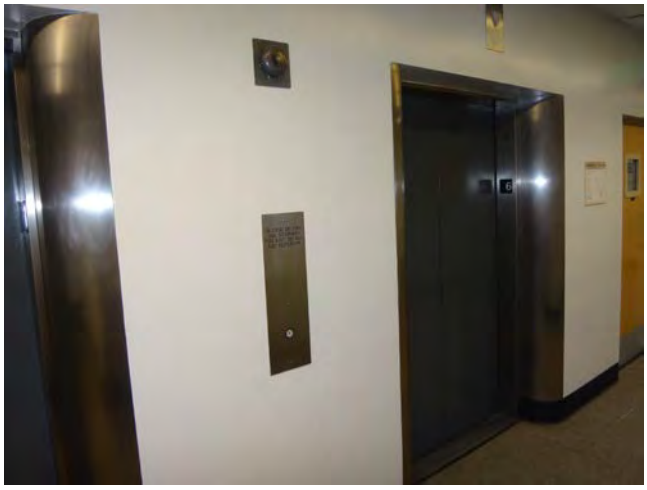
Hall Lanterns:

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. The service car has a car riding lantern.



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. These were all noted to be in good condition.



E. CAB INTERIOR:

Wall Finish:

The existing cab interiors were updated with carpet walls in 1997 and now look dated. The back wall has the code required handrail. The railing heights are in compliance with Title 24 California code. We recommend new cab interiors when they are modernized.

Ceilings:

The passenger elevators have islands with perimeter lighting 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

State Peresonnel - 801 Capitol Mall

Item No.	Recommendation	Rating	Quantity	Unit	Unit Cost	Immediate Code Items	Immediate - Repair	Years 1-3	Years 4-6	Years 7-10	Totals
1	Install door restrictors on all three elevators including rear entrance for Car 3. (Four total)	1	4	EA	$3,000.00	$12,000					$12,000
2	Perform five year full load tests. Elevators are not required to have tests and it appears they have not since 1968 when installed.	1	3	EA	$3,000.00	$9,000					$9,000
3	Modernize Passenger Cars 1-2 with new controllers SCR Drives, closed loop door operators and new signal fixtures.	4	2	EA	$230,000.00				$460,000		$460,000
4	Modernize Service Car 3 with new controllers SCR Drives, closed loop door operators and new signal fixtures. It would be best to modernize this car with Cars 1-2 in years 4-6 if budget allows, but is not as urgent as Cars 1-2.	4	1	EA	$265,000.00					$265,000	$265,000
5	Clean machine rooms, car tops and pits. Adjust doors for optimal operation.	2	3	EA	$1,500.00		$4,500				$4,500
6											$0
7											$0
8											$0
9											$0
10											$0
11											
12											
	Subtotal					$21,000	$4,500	$0	$460,000	$265,000	$750,500

1	$21,000	Code and Safety
2	$4,500	Deferred Maintenance & Repair
3		Capital Expenditure
4	$725,000	Modernization / Improvements
5	$750,500	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 1-3
	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 & Car
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 1-3
	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 1-3
4.10.12	Floor buttons must be no higher then 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: 1-3
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
2.7.4	Restricted Opening of Hoistway Doors and/or Car Doors on Passenger Elevators	**No - None**

A17.3	Code Item	Cars: 1-3
	(Cannot open more then 4" outside unlocking zone +-18" max.)	
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 then 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 then 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 then 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" for frt.)	Yes
3.7.5	Signs on Freight Elevators (NOT A PASS ELEV…etc. ½" high letters)	N/A

Appendix "B"

A17.3 Code for Existing Traction Elevators

A17.3	Code Item	Cars: 1-3
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)	**No – Not Keyed**
	(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
3.11	**EMERGENCY OPERATION AND SIGNALING DEVICES**	
3.11.1	Car Emergency Signaling Devices	Yes

A17.3	Code Item	Cars: 1-3
	(Audible signal, two-way communication, on emerg. power)	
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)	No – Does not have hold
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 ¾ open for center opening doors, and ½ 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

	801 Capitol Mall							
	PERFORMANCE TIMES	**Design Cars 1-2**	**Car 1**	**Car 2**	**Design Car 3**	**Car 3**		
7.1	Door Open Time	**1.7**	**2.1**	**2.3**	**2.8**	3.5		
7.2	Door Close Time	**2.5**	**3.2**	**3.2**	**6.1**	6.0		
7.3	Floor to Floor Up	**9.2**	10.6	**10.7**	**11.3**	**14.3**		
9.6	Floor to Floor Down	**9.2**	10.5	**10.9**	**11.3**	**14.3**		
7.5	Full Speed Up	**400 FPM**	397	397	**400 FPM**	399		
7.6	Full Speed Down	**400 FPM**	400	397	**400 FPM**	400		
7.7	Jerk Rate Up	**< 7.0**	**11.6**	**8.4**	**< 7.0**	6.3		
7.8	Jerk Rate Down	**<7.0**	**14.3**	**12.0**	**<7.0**	**11.1**		
7.9	Power Closing of Door (Pressure Gauge)	**<30lbs**	>30 lbs	22 lbs	**<30lbs**	19 lbs.		
7.10	Interrupted Ray	**.5sec**	1.9	3.1	**.5sec**	2.3		
7.11	Car Dwell Time	**3.0**	4.2	5.1	**3.0**	4.3		
7.12	Hall Call Dwell Time	**5.0**	6.5	5.2	**5.0**	5.5		
7.13	Hall/Car Lantern Time	**8.0**	10.1	7.7	**8.0**	8.1		
	Nudging	**20.0**	>20	>20	**20.0**	>20		
	Test Emergency Phone	**Yes**			**Yes**			

Items in Red do not comply and should be adjusted.

Car #	**GENERAL MAINTENANCE DEFICIENCIES**
	Car 1
1.1	Car has large jerk rate to start.
1.2	Car top is dirty.
1.3	Pit is dirty.
1.4	Door pressure is over 30 lbs.
	Car 2
2.1	Phone operator identifies as Car 1, should say Car 2.
2.2	Clean up brushes lying on the machine room floor.
2.3	Pit is dirty.
2.4	Car top is dirty.

Appendix "C"

Performance Review and Maintenance Deficiency List

	Car 3
3.1	Car 3 controller is labeled Car 1. Left over from the modernization.
3.2	Parts storage is very messy.
3.3	Car doors are scratched.
3.4	Rear hatch door at 1st floor has bad spirator.
3.5	Pit is dirty.
3.6	Car top is dirty.
3.7	

Prepared by

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