

# THE UNIVERSITY OF RHODE ISLAND

## Solicitation Information

DATE: 11/2/23

**RFP# 101315**

**TITLE: ENERGY & CARBON REDUCTION MASTER PLAN**

**Submission Deadline: 12/1/23 1:00 PM (Eastern Time)**

**PRE-BID/ PROPOSAL CONFERENCE: NO**

**MANDATORY:**

If YES, any Vendor who intends to submit a bid proposal in response to this solicitation must have its designated representative attend the mandatory Pre-Bid/ Proposal Conference. The representative must register at the Pre-Bid/ Proposal Conference and disclose the identity of the vendor whom he/she represents.

**DATE:**

**LOCATION:**

Questions concerning this solicitation must be received by the URI Purchasing Department at [URIPurchasing@uri.edu](mailto:URIPurchasing@uri.edu) no later than **11/14/23 (EST)**. Questions should be submitted in a *Microsoft Word attachment*. Please reference the RFP# on all correspondence. Questions received, if any, will be posted on the Division of Purchases' website as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

**BID SURETY BOND REQUIRED: NO**

**PAYMENT AND PERFORMANCE BOND REQUIRED: NO**

ANDREA TURANO/rle PURCHASING AGENT

**Note to Applicants:**

- Applicants should register on-line at the URI Controller's Website at <https://web.uri.edu/controller/accounts-payable/suppliers/>
- Proposals received without a completed URI Bidder Certification Form may result in disqualification.

**Respondent Information:**

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Contact Name \_\_\_\_\_

Contact Email \_\_\_\_\_ :

Contact Phone \_\_\_\_\_

**University of Rhode Island Bidder Certification Form**  
**State of Rhode Island Procurement Regulations**

ALL OFFERS ARE SUBJECT TO THE REQUIREMENTS, PROVISIONS AND PROCEDURES CONTAINED IN THIS CERTIFICATION FORM. Offerors are expected to read, sign and comply with all requirements. Failure to do so may be grounds for disqualification of the offer contained herein.

Rules for Submitting Offers

This Certification Form must be attached in its entirety to the front of the offer and shall be considered an integral part of each offer made by a vendor to enter into a contract with the University of Rhode Island. As such, submittal of the entire Bidder Certification Form, signed by a duly authorized representative of the offeror attesting that he/she (1) has read and agrees to comply with the requirements set forth herein and (2) to the accuracy of the information provided and the offer extended, is a mandatory part of any contract award.

To assure that offers are considered on time, each offer must be submitted with the specific Bid/RFP/LOI number, date and time of opening marked in the upper left hand corner of the envelope. Each bid/offer must be submitted in separate sealed envelopes.

A complete signed (in ink) offer package must be delivered to the University of Rhode Island Purchasing Office by the time and date specified for the opening of responses in a sealed envelope.

Bid responses must be submitted on the URI bid solicitation forms provided, indicating brand and part numbers of items offered, as appropriate. Bidders must submit detailed cuts and specs on items offered as equivalent to brands requested WITH THE OFFER. Bidders must be able to submit samples if requested.

Documents misdirected to other State or University locations or which are not present in the University of Rhode Island Purchasing Office at the time of opening for whatever cause will be deemed to be late and will not be considered. For the purposes of this requirement, the official time and date shall be that of the time clock in the reception area of the University of Rhode Island Purchasing Office. Postmarks shall not be considered proof of timely submission.

RIVIP SOLICITATIONS. To assure maximum access opportunities for users, public bid solicitations shall be posted on the RIVIP for a minimum of seven days and no amendments shall be made within the last five days before the date an offer is due. Except when access to the Web Site has been severely curtailed and it is determined by the Purchasing Agent that special circumstances preclude extending a solicitation due date, requests to mail or fax hard copies of solicitations will not be honored.

PRICING. Offers are irrevocable for sixty (60) days from the opening date (or such other extended period set forth in the solicitation), and may not be withdrawn, except with the express permission of the University Purchasing Agent. All pricing will be considered to be firm and fixed unless otherwise indicated. The University of Rhode Island is exempt from Federal excise taxes and State Sales and Use Taxes. Such taxes shall not be included in the bid price.

ALL PRICES QUOTED ARE FOB DESTINATION.

DELIVERY and PRODUCT QUALITY. All offers must define delivery dates for all items; if no delivery date is specified, it is assumed that immediate delivery from stock will be made. The contractor will be responsible for delivery of materials in first class condition. Rejected materials will be at the vendor's expense.

PREVAILING WAGE, OSHA SAFETY TRAINING and APPRENTICESHIP REQUIREMENTS. Bidders must comply with the provisions of the Rhode Island labor laws, including R.I. Gen. Laws §§ 37-13-1 et seq. and occupational safety laws, including R.I. Gen. Laws §§ 28-20-1 et seq. These laws mandate for public works construction projects the payment of prevailing wage rates, the implementation and maintenance of occupational safety standards, and for projects with a minimum value of \$1 Million, the employment of apprentices. The successful Bidder must submit certifications of compliance with these laws from each of its subcontractors prior to their commencement of any work. Prevailing wage rates, apprenticeship requirements, and other workforce and safety regulations are accessible at [www.dlt.ri.gov](http://www.dlt.ri.gov).

PUBLIC RECORDS. Offerors are advised that all materials submitted to the University for consideration in response to this solicitation will be considered without exception to be Public Records pursuant to Title 38 Chapter 2 of the Rhode Island General Laws, and will be released for inspection immediately upon request once an award has been made. Offerors are encouraged to attend public bid/RFP openings to obtain information; however, bid/RFP response summaries may be reviewed after award(s) have been made by visiting the Rhode Island Vendor Information Program (RIVIP) at [www.purchasing.ri.gov](http://www.purchasing.ri.gov) > Solicitation Opportunities > Other Solicitation Opportunities. Telephone requests for results will not be honored. Written requests for results will only be honored if the information is not available on the RIVIP.

Award will be made to the responsive and responsible offeror quoting the lowest net price in accordance with specifications, for any individual item(s), for major groupings of items, or for all items listed, at the University's sole option.

BID SURETY. Where bid surety is required, bidder must furnish a bid bond or certified check for 5% of the bid total with the bid, or for such other amount as may be specified. Bids submitted without a required bid surety will not be considered.

SPECIFICATIONS. Unless specified “no substitute”, product offerings equivalent in quality and performance will be considered (at the sole option of the University) on the condition that the offer is accompanied by detailed product specifications. Offers which fail to include alternate specifications may be deemed nonresponsive.

VENDOR AUTHORIZATION TO PROCEED. When a purchase order, change order, contract/agreement or contract/agreement amendment is issued by the University of Rhode Island, no claim for payment for services rendered or goods delivered contrary to or in excess of the contract terms and scope shall be considered valid unless the vendor has obtained a written change order or contract amendment issued by the University of Rhode Island Purchasing Office PRIOR to delivery.

Any offer, whether in response to a solicitation for proposals or bids, or made without a solicitation, which is accepted in the form of an order OR pricing agreement made in writing by the University of Rhode Island Purchasing Office, shall be considered a binding contract.

REGULATIONS, GENERAL TERMS AND CONDITIONS GOVERNING STATE AND THE UNIVERSITY OF RHODE ISLAND CONTRACTS. This solicitation and any contract or purchase order arising from it are issued in accordance with the specific requirements described herein, and the State’s [Purchasing Laws](#) and the [RI Division of Purchases Procurement Regulations and General Conditions of Purchase](#).

EQUAL EMPLOYMENT OPPORTUNITY. Compliance certificate and agreement procedures will apply to all awards for supplies or services valued at \$10,000 or more. Minority Business Enterprise policies and procedures, including subcontracting opportunities as described in Title 37 Chapter 14.1 of the Rhode Island General Laws also apply.

PERFORMANCE BONDS. Where indicated, successful bidder must furnish a 100% performance bond and labor and payment bond for contracts subject to Title 37 Chapters 12 and 13 of the Rhode Island General Laws. All bonds must be furnished by a surety company authorized to conduct business in the State of Rhode Island. Performance bonds must be submitted within 21 calendar days of the issuance of a tentative notice of award.

DEFAULT and NON-COMPLIANCE Default and/or non-compliance with the requirements and any other aspects of the award may result in withholding of payment(s), contract termination, debarment, suspension, or any other remedy necessary that is in the best interest of the state/University of Rhode Island.

COMPLIANCE Vendor must comply with all applicable federal, state and local laws, regulations and ordinances.

SPRINKLER IMPAIRMENT AND HOT WORK. The Contractor agrees to comply with the practices of the State’s Insurance carrier for sprinkler impairment and hot work. Prior to performing any work, the Contractor shall obtain the necessary information for compliance from the Risk Management Office at the Department of Administration or the Risk Management Office at the University of Rhode Island.

Each bid proposal for a *public works project* must include a “public copy” to be available for public inspection upon the opening of bids. **Bid Proposals that do not include a copy for public inspection will be deemed nonresponsive.**

For further information on how to comply with this statutory requirement, see [R.I. Gen. Laws §§ 37-2-18\(b\) and \(j\)](#). Also see State of Rhode Island Procurement Regulation 5.11 at : <https://ridop.ri.gov/about-us/procurement-statutes-and-regulations>

## SECTION 2 – DISCLOSURES

### ALL CONTRACT AWARDS ARE SUBJECT TO THE FOLLOWING DISCLOSURES & CERTIFICATIONS

Offerors must respond to every disclosure statement. A person authorized to enter into contracts must sign the offer and attest to the accuracy of all statements.

#### Indicate Yes (Y) or No (N):

\_\_\_\_ 1 State whether your company, or any owner, stockholder, officer, director, member, partner, or principal thereof, or any subsidiary or affiliated company, has been subject to suspension or debarment by any federal, state, or municipal government agency, or the subject of criminal prosecution, or convicted of a criminal offense with the previous five (5) years. If Yes, then provide details below.

\_\_\_\_ 2 State whether your company, or any owner, stockholder, officer, director, member, partner, or principal thereof, or any subsidiary or affiliated company, has had any contracts with a federal, state or municipal government agency terminated for any reason within the previous five (5) years. If Yes, then provide details below.

\_\_\_\_ 3 State whether your company or any owner, stockholder, officer, director, member, partner, or principal thereof, or any subsidiary or affiliated company, has been fined more than \$5000 for violation(s) of Rhode Island environmental laws by the Rhode Island Department of Environmental Management within the previous five (5) years. If Yes, then provide details below.

\_\_\_\_ 4 State whether any officer, director, manager, stockholder, member, partner, or other owner or principal of the Bidder is serving or has served within the past two calendar years as either an appointed or elected official of any state governmental authority or quasi-public corporation, including without limitation, any entity created as a legislative body or public or state agency by the general assembly or constitution of this state. If Yes, then provide details below.

IF YOU HAVE ANSWERED “YES” TO QUESTIONS #1 – 4 PROVIDE DETAILS/EXPLANATION IN AN ATTACHED STATEMENT. INCOMPLETE CERTIFICATION FORMS SHALL BE GROUNDS FOR DISQUALIFICATION OF OFFER.

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## SECTION 3 - OWNERSHIP DISCLOSURE

**Vendors must provide all relevant information. Bid proposals submitted without a complete response may be deemed nonresponsive.**

If the vendor is privately held, the vendor shall provide ownership information below.

List each officer, director, manager, stockholder, member, partner, or other owner or principle of the Bidder, and each intermediate parent company and the ultimate parent company of the Bidder. For each individual, provide his or her name, business address, principal occupation, position with the Vendor, and the percentage of ownership, if any, he or she holds in the Vendor, and each intermediate parent company and the ultimate parent company of the Vendor.

If the company is publicly held, the vendor may provide owner information about only those stockholders, members, partners, or other owners that hold at least 10% of the record or beneficial equity interests of the vendor; otherwise, complete ownership disclosure is required.

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## SECTION 4 - CERTIFICATIONS

**Bidders must respond to every statement. Bid proposals submitted without a complete response may be deemed nonresponsive.**

Indicate "Y" (Yes) or "N" (No), and if "No," provide details below.

THE VENDOR CERTIFIES THAT:

\_\_\_\_ 1 I/we certify that I/we will immediately disclose, in writing, to the University Purchasing Agent any potential conflict of interest which may occur during the course of the engagement authorized pursuant to this contract.

\_\_\_\_ 2 I/we acknowledge that, in accordance with (1) Chapter §37-2-54(c) of the Rhode Island General Laws "no purchase or contract shall be binding on the state or any agency thereof unless approved by the Department [of Administration] or made under general regulations which the Chief Purchasing Officer may prescribe," and (2) RIGL section §37-2-7(16) which identifies the URI Board of Trustees as a public agency and gives binding contractual authority to the University Purchasing Agent, including change orders and other types of contracts and under State Purchasing Regulation 8.2.B any alleged oral agreement or arrangements made by a bidder or contractor with any agency or an employee of the University of Rhode Island may be disregarded and shall not be binding on the University of Rhode Island.

\_\_\_\_ 3 I/we certify that I or my/our firm possesses all licenses required by Federal and State laws and regulations as they pertain to the requirements of the solicitation and offer made herein and shall maintain such required license(s) during the entire course of the contract resulting from the offer contained herein and, should my/our license lapse or be suspended, I/we shall immediately inform the University of Rhode Island Purchasing Agent in writing of such circumstance.

\_\_\_\_ 4 I/we certify that I/we will maintain required insurance during the entire course of the contract resulting from the offer contained herein and, should my/our insurance lapse or be suspended, I/we shall immediately inform the University of Rhode Island Purchasing Agent in writing of such circumstance.

\_\_\_\_ 5 I/we certify that I/we understand that falsification of any information herein or failure to notify the University of Rhode Island Purchasing Agent as certified herein may be grounds for suspension, debarment and/or prosecution for fraud.

\_\_\_\_ 6 I/we acknowledge that the provisions and procedures set forth in this form apply to any contract arising from this offer.

\_\_\_\_ 7 I/we acknowledge that I/we understand the State's Purchasing Laws ([§37-2 of the General Laws of Rhode Island](#)) and the [RI Division of Purchases Regulations](#) apply as the governing conditions for any contract or purchase order I/we may receive from the University of Rhode Island, including the offer contained herein.

\_\_\_\_ 8 I/we certify that the bidder: (i) is not identified on the General Treasurer's list, created pursuant to R.I. Gen. Laws § 37-2.5-3, as a person or entity engaging in investment activities in Iran described in § 37-2.5-2(b); and (ii) is not engaging in any such investment activities in Iran.

\_\_\_\_ 9 If the product is subject to Department of Commerce Export Administration Regulations (EAR) or International Traffic in Arms Regulations (ITAR), please provide the Export Control Classification Number (ECCN) or the US Munitions List (USML)  
Category: \_\_\_\_\_

\_\_\_\_ 10 I/we certify that the above information is correct and complete.

IF YOU ARE UNABLE TO CERTIFY YES TO QUESTIONS #1 – 8 and 10 OF THE FOREGOING, PROVIDE DETAILS/EXPLANATION IN AN ATTACHED STATEMENT. INCOMPLETE CERTIFICATION FORMS SHALL BE GROUNDS FOR DISQUALIFICATION OF OFFER.

**Signature below commits vendor to the attached offer and certifies (1) that the offer has taken into account all solicitation amendments where applicable, (2) that the above statements and information are accurate and that vendor understands and has complied with the requirements set forth herein.**

Vendor/Company Name; \_\_\_\_\_

Vendor's Signature: \_\_\_\_\_ Bid Number: \_\_\_\_\_ Date: \_\_\_\_\_  
(Person Authorized to enter into contracts; signature must be in ink) (if applicable)

\_\_\_\_\_  
Print Name and Title of Company official signing offer

## **SECTION 1: INTRODUCTION**

The University of Rhode Island Board of Trustees /University of Rhode Island is soliciting proposals for Energy & Carbon Reduction Master Plan from qualified OFFERORS to provide Engineering Consulting Services to develop a comprehensive Energy and Carbon Reduction Master Plan for the institution's campuses in Kingston and Narragansett, Rhode Island in accordance with the terms of this Request for Proposal ("RFP") and General Terms and Conditions of Purchase indicated on the attached Bidder Certification Form.

The initial contract period will begin approximately February 1, 2024, for 1 year. Contracts may be extended to complete work based on vendor performance and the availability of funds.

This is a Request for Proposals, not a Request for Quotes. Responses will be evaluated on the basis of the relative merits of the proposal, in addition to cost; there will be no public opening and reading of responses received by the University of Rhode Island Purchasing Department pursuant to this solicitation, other than to name those offerors who have submitted proposals.

### **Instructions and Notifications to Offerors**

1. Potential offerors are advised to review all sections of this RFP carefully and to follow instructions completely, as failure to make a complete submission as described elsewhere herein may result in rejection of the proposal.
2. Alternative approaches and/or methodologies to accomplish the desired or intended results of this RFP are solicited. However, proposals which depart from or materially alter the terms, requirements, or scope of work defined by this RFP may be rejected as being non-responsive.
3. All costs associated with developing or submitting a proposal in response to this RFP or for providing oral or written clarification of its content shall be borne by the vendor. The University assumes no responsibility for these costs even if the RFP is cancelled or continued.
4. Proposals are considered to be irrevocable for a period of not less than 180 days following the opening date, and may not be withdrawn, except with the express written permission of the University of Rhode Island Purchasing Agent.
5. All pricing submitted will be considered to be firm and fixed unless otherwise indicated in the proposal.
6. It is intended that an award pursuant to this RFP will be made to a prime vendor, or prime vendors in the various categories, who will assume responsibility for all aspects of the work. Subcontracts are permitted, provided that their use is clearly indicated in the vendor's proposal, and the subcontractor(s) to be used is identified in the proposal.
7. The purchase of goods and/or services under an award made pursuant to this RFP will be contingent on the availability of appropriated funds.

8. Vendors are advised that all materials submitted to the University of Rhode Island Purchasing Department for consideration in response to this RFP may be considered to be public records, as defined in R. I. Gen. Laws § 38-2-1, *et seq.*, and may be released for inspection upon request, once an award has been made.

Any information submitted in response to this RFP that a vendor believes are trade secrets or commercial or financial information which is of a privileged or confidential nature should be clearly marked as such. The vendor should provide a brief explanation as to why each portion of information that is marked should be withheld from public disclosure. Vendors are advised that the University of Rhode Island Purchasing Department may release records marked confidential by a vendor upon a public records request if the University determines the marked information does not fall within the category of trade secrets or commercial or financial information which is of a privileged or confidential nature. Vendors are also advised that responses marked confidential in their entirety may be deemed non-responsive.

**Inclusion of a “confidentiality header/footer” on entire pages of submissions (or all pages) is NOT considered an acceptable way to flag confidential information (flags must be very specific and a specific justification explaining how the information meets the APRA exception must be provided with it) and will not be recognized by URI.**

9. Interested parties are instructed to peruse the Division of Purchases website on a regular basis, as additional information relating to this solicitation may be released in the form of an addendum to this RFP.
10. By submission of proposals in response to this RFP vendors agree to comply with R. I. General Laws § 28-5.1-10 which mandates that contractors/subcontractors doing business with the State of Rhode Island exercise the same commitment to equal opportunity as prevails under Federal contracts controlled by Federal Executive Orders 11246, 11625 and 11375.

Vendors are required to ensure that they, and any subcontractors awarded a subcontract under this RFP, undertake or continue programs to ensure that minority group members, women, and persons with disabilities are afforded equal employment opportunities without discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, age, national origin, or disability.

Vendors and subcontractors who do more than \$10,000 in government business in one year are prohibited from engaging in employment discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, age, national origin, or disability, and are required to submit an “Affirmative Action Policy Statement.”

Vendors with 50 or more employees and \$50,000 or more in government contracts must prepare a written “Affirmative Action Plan” prior to issuance of a purchase order.

- a. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation.

- b. Vendors further agree, where applicable, to complete the “Contract Compliance Report” (as well as the “Certificate of Compliance”) <https://dedi.ri.gov/divisions-units/equal-opportunity-office/contract-compliance-related-forms> and submit both documents, along with their Affirmative Action Plan or an Affirmative Action Policy Statement, prior to issuance of a purchase order. For public works projects vendors and all subcontractors must submit a “Monthly Utilization Report” to the ODEO/State Equal Opportunity Office, which identifies the workforce actually utilized on the project.

For further information, contact the Rhode Island Equal Employment Opportunity Office, at 222-3090 or via e-mail at <https://dedi.ri.gov/divisions-units/equal-opportunity-office> .

11. In accordance with R. I. Gen. Laws § 7-1.2-1401 no foreign corporation has the right to transact business in Rhode Island until it has procured a certificate of authority so to do from the Secretary of State. This is a requirement only of the successful vendor(s). For further information, contact the Secretary of State at (401-222-3040).
12. In accordance with R. I. Gen. Laws §§ 37-14.1-1 and 37-2.2-1 it is the policy of the State to support the fullest possible participation of firms owned and controlled by minorities (MBEs) and women (WBEs) and to support the fullest possible participation of small disadvantaged businesses owned and controlled by persons with disabilities (Disability Business Enterprises a/k/a “DisBE”)(collectively, MBEs, WBEs, and DisBEs are referred to herein as ISBEs) in the performance of State procurements and projects. As part of the evaluation process, vendors will be scored and receive points based upon their proposed ISBE utilization rate in accordance with 150-RICR-90-10-1, “Regulations Governing Participation by Small Business Enterprises in State Purchases of Goods and Services and Public Works Projects”. As a condition of contract award vendors shall agree to meet or exceed their proposed ISBE utilization rate and that the rate shall apply to the total contract price, inclusive of all modifications and amendments. Vendors shall submit their ISBE participation rate on the enclosed form entitled “MBE, WBE and/or DisBE Plan Form”, which shall be submitted in a separate, sealed envelope as part of the proposal. ISBE participation credit will only be granted for ISBEs that are duly certified as MBEs or WBEs by the State of Rhode Island, Department of Administration, Office of Diversity, Equity and Opportunity or firms certified as DisBEs by the Governor’s Commission on Disabilities. The current directory of firms certified as MBEs or WBEs may be accessed at <https://dedi.ri.gov/divisions-units/minority-business-enterprise-compliance-office> . Information regarding DisBEs may be accessed at [www.gcd.ri.gov](http://www.gcd.ri.gov).

For further information, visit the Office of Equity, Diversity and Inclusion’s website, at <https://dedi.ri.gov/> and see R.I. Gen. Laws Ch. 37-14.1, R.I. Gen. Laws Ch. 37-2.2, and 150-RICR-90-10-1.

13. N/A

14. N/A

15. Architectural and Engineering Services:

- a. Persons or firms practicing Architectural and/or Engineering Services in the State of Rhode Island must possess a proper registration and Certificate of Authorization in accordance with Rhode Island General Laws.
- b. A copy of the current RI Certificate of Authorization for the firm and current Rhode Island registrations(s) for the individual(s) who would perform the work must be included behind the front page of each copy of the proposal.
- c. The Board of Design Professionals can be contacted as follows:  
Division of Design Professionals  
1511 Pontiac Avenue  
Cranston RI 02857  
Phone: (401) 462-9530  
Fax: (401) 462-9532  
<http://www.bdp.state.ri.us/>
- d. The respondent's Proposal may be disqualified and removed from consideration if the proposal fails to include the required current Rhode Island Certificate of Authorization for the firm and current Rhode Island registration(s).

16. N/A

17. N/A

18. N/A

19. N/A

Restrictions on Communications – No Bidder-initiated contact, other than normal business activities not associated with this procurement, will be allowed after the issuance of this RFP between Bidders and University employees or their agents regarding this solicitation, except with express permission of the University Purchasing Department. Any such other contact may be considered improper and may disqualify a Bidder from further consideration. The appropriate channel to direct any communications, concerns or questions regarding the RFP is through the email address provided herein.

If a Bidder fails to notify the University of Rhode Island Purchasing Department contact person of an error in this RFP which was known or reasonably should have been known to the Bidder, the Bidder shall submit a response at the Bidder's own risk. If awarded the contract, the Bidder shall not be entitled to additional compensation or performance time by reason of the error or its later correction.

## **SECTION 2: BACKGROUND**

### **A. Project Overview**

The University of Rhode Island (URI), as a leader in climate science and research, seeks to develop a 25-year investment plan for campus energy infrastructure that reduces the University's Scope 1 and 2 greenhouse gas emissions and sets URI on a course to be able to meet carbon neutrality.

The University's objectives of this planning effort are twofold: (1) to summarize how state climate legislation such as the Rhode Island's 2021 Act on Climate and Lead by Example Executive Orders

will impact the University and (2) to understand the actions the University needs to take to comply with this legislation. The resulting Energy and Carbon Reduction Master Plan (ECRMP) should serve as a comprehensive roadmap that helps the University chart a course for energy investment and management over the next 25 years inclusive of a plan that allows for the University's planned capital growth and renovations in that period. A separate and concurrent effort is underway to develop the University's Physical Master Plan for the next 20 years. The selected vendor for the ECRMP will be required to work with the University's vendor for the Physical Master Plan to incorporate the planned growth of the campus into the ECRMP.

URI expects its selected engineering partner to perform the following primary tasks:

1. Convene a stakeholder group, with the assistance of the University, and present project goals, current conditions, findings, and recommendations to the group.
2. Prepare a summary of existing conditions and emissions. This should include a review of existing electrical and thermal energy demands, existing building HVAC and energy use, past conservation efforts, energy purchase agreements, and the impact of existing energy and climate laws on the university.
3. Identify alternative energy sources, systems, and/or energy savings opportunities to reduce greenhouse gas emissions related to campus energy usage over the next 25 years. Opportunities should be identified and prioritized based on cost effectiveness, with the goal of reducing fossil fuel reliance.
4. Specify the physical infrastructure, operating systems, and costs for URI to implement and maintain the recommended energy strategy to meet the campus' expansion, reliability, cost, and sustainability objectives.

The Energy and Carbon Reduction Master Plan is intended to focus on engineering and economic analysis of current and projected energy conditions on campus as they relate to state and University policies and goals. The Energy and Carbon Reduction Master Plan should identify and prioritize energy technology options that can reliably meet future energy needs at the University of Rhode Island while furthering the University's goals of economically reducing own-source greenhouse gas emissions. The report should also provide general recommendations that can be applied to the University's other campuses.

## B. [Campus Overview](#)

Founded in 1892, The University of Rhode Island is a public land-grant research university with a full-time enrollment of approximately 14,500 students for the fall 2022. The main campus in Kingston, Rhode Island is 1,200 acres and comprised of 226 buildings with a total of 5.2 million gross square feet. Other campuses include the 153-acre Narragansett Bay Campus with 41 buildings and 326,000 gross square feet on Narragansett Bay, the Providence Campus, and the rural W. Alton Jones Campus located in West Greenwich, Rhode Island. This study will focus on the main Kingston campus with the potential to implement proposed solutions at satellite campuses. Maps of the campuses are provided in Appendix C.

### Kingston Campus Overview

The Kingston Campus was constructed over 130 years ago and is supported by University-maintained utilities that include high voltage electrical distribution system, water system, steam, sewer, drainage, natural gas, propane, and fuel oil.

From 2004 to 2020 the University invested over \$42 million in conservation efforts through an energy savings performance partnership contract. This project included improvements to building envelopes and controls, repairs to the steam distribution system, conversion of all interior and exterior lighting to LED, and many other energy saving projects.

The University Office of Utilities has developed a substantial GIS system over the last decade. The locational utility information has a high degree of accuracy, and the utility layers include information on materials and age of components. In 2016, a building condition assessment was performed on all campus buildings. In 2023, this assessment was updated for all residence halls. The university is in the midst of updating the assessment for the remaining buildings and the findings will be shared with the selected service provider(s). Examples of these assessments are provided in Appendix D.

#### Electric Supply and Distribution

URI campuses consume approximately 75 million kilowatt-hours (“kWh”) per year, nearly all of which is imported from the local power grid. Rhode Island Energy is the local electric utility for all of the University’s campuses. A master meter utility account at the Kingston Campus makes up 85% of the University’s electricity consumption. Remaining electricity usage is spread across 92 small electricity accounts serving the satellite buildings on the Kingston Campus and other URI campuses.

Electricity is supplied to the Kingston Campus master meter from one dedicated overhead line from a local utility-owned substation at 35,000 volts. After the master meter, this voltage is distributed to five URI-owned substations through a high voltage loop. At the substations, voltage is reduced to 5,000 V and distributed to the campus via 22 underground feeders. A load report from Rhode Island Energy is provided in Appendix E. URI is currently conducting a monthly load report of the 22 feeders and this will be available to the selected vendor. Approximately 30 5KV switches provide redundancy to buildings. Approximately 156 transformers located near buildings reduce voltage to 480 volts. There are approximately 118 manholes, 112 utility poles, and approximately 11.5 miles of duct bank and conductor cable at the Kingston Campus. The University also owns electrical distribution systems at the Narragansett Bay campus. Electricity supply contracts are bid through the Rhode Island Department of Energy Resources.

Additionally, the university has Virtual Net Metering Agreements that currently utilize 85% of the billable consumption in order to monetize net metering credits applied to the university’s electric bill.

#### Central Steam Plant

The central steam plant (CSP) is owned by the University and its operation is contracted to a vendor. The plant houses four boilers and was substantially upgraded in 1998. The steam plant distributes thermal energy throughout campus via 5.4 miles of steam lines that serve 68 buildings (3.7 million square feet or approximately 70% of the campus’s total gross building footprint).

Annual fuel consumption for the CSP’s four boilers has averaged roughly 350,000 MMBtu in recent years. The primary fuel used in the CSP is natural gas. All boilers in the CSP have dual-fuel capabilities that leverage oil from storage tanks sited adjacent to the plant. A summary of the existing plant boiler equipment is provided in the table below. A routine condition assessment report is prepared and provided in Appendix F.

<b>Boiler Number</b>	<b>Manufacturer</b>	<b>Rated Fuel Input (BTU/hr)</b>	<b>Fuel Type</b>
1	Babcock & Wilcox	36,300,000	Gas/Oil
2	Babcock & Wilcox	72,400,000	Gas/Oil
3	Babcock & Wilcox	72,400,000	Gas/Oil
4	Babcock & Wilcox	96,500,000	Gas/Oil

The steam distribution system is owned and operated by the URI Office of Utilities and operates at 100 psi with an upper and lower campus steam distribution system. Steam lines consist of a combination of Thermacore HDPE Model 406 installed from 1998 to 2002 and a more robust pipe in pipe insulated conduit system which the University has standardized since 2012. A GIS generated map will be provided to the chosen vendor.

The condensate return system is a pressurized system with individual receivers and pumps located in each building that feed into a common return line to the steam plant. The return lines have the same specifications as the steam distribution conduits which it runs adjacent to. Condensate return volume is approximately 65 - 75%. Steam vaults are located throughout campus and include fixtures such as valves, Steam Guard Venturi Traps, etc.

Pressure regulating valves at each building reduce the steam pressure to 5-10 psi for use in each building. In most buildings, steam is used to generate hot water with a steam to hot water heat exchanger. The hot water is circulated throughout the building for space heating. Several buildings utilize steam directly in air handlers that provide warm air for space heating.

#### Natural Gas

The Kingston Campus has five natural gas master meters and 26 directly supplied natural gas accounts. The Narragansett Bay Campus has one master meter. The university owns and maintains the gas distribution piping, service piping and pressure regulators after all master meters. Rhode Island Energy is the local gas utility for both campuses and supply contracts are bid through the Rhode Island Department of Energy Resources.

#### Liquid Fuel Usage

The steam plant is the largest user of petroleum. The steam plant can use upwards of 300,000 gallons of Number 2 fuel oil during natural gas curtailments in a typical winter. There are fifteen other accounts on the Kingston campus that use No. 2 fuel oil for heating. Across these accounts, URI uses about 100,000 gallons of additional fuel oil. Among the Kingston, Bay and Alton Jones campuses, the University maintains 45 emergency diesel generators.

The Kingston campus has eleven active propane accounts primarily for heating. The Narragansett Bay Campus has five active propane accounts for a mixture of vehicles, heating, and generators. These propane accounts vary in consumption but use roughly 10,000 gallons annually.

### **C. Climate Action Plan & Sustainability Objectives**

The University's greenhouse gas reduction commitments are driven by Rhode Island Governor's Lead by Example Executive Orders (EO 15 -17 & EO 23-06) and the 2021 Act of Climate law (R.I. Gen. Laws § 42-6.2). Rhode Island's 2021 Act on Climate mandates net-zero emissions by 2050

with interim goals of a 45% reduction from 1990 levels by 2030 and an 80% reduction by 2040. Complementing this legislation are the two Lead by Example Executive Orders issued in 2015 and 2023 which set goals for procurement of renewable electricity and electric vehicles and reduction of onsite fossil fuel combustion. These and other utility related laws and regulatory requirements need to be reviewed, summarized, and incorporated in this master planning process. The recommendations of the final report shall consider compliance with state and federal laws and guidelines.

### **SECTION 3: SCOPE OF WORK AND REQUIREMENTS**

The following work outline provides bidders with URI's expectations for this Energy and Carbon Reduction Master Plan. **The anticipated schedule is to complete this project within one year of award.** It is not meant to be an exclusive list of elements of the project, but instead should be used by bidders as a guideline for the project components and phases that URI believes are important to include in proposals.

#### A. Stakeholder Involvement and Project Management

- The vendor shall convene a URI Energy and Carbon Reduction Master Plan stakeholder group with assistance from the Office of Utilities
  - The group should include at a minimum, individuals from the Rhode Island Department of Energy Resources and the following University offices: Division of Administration and Finance, Planning and Real Estate Development, Facilities Operations, Office of Utilities, Office of Capital Projects, and the Office of the Provost.
- The vendor shall prepare and present to the stakeholders a minimum of three presentations including (1) Project introduction and kick off meeting, (2) URI current baseline and regulatory requirements, and (3) presentation of findings and recommendations.
- The vendor should plan on holding virtual meetings with a smaller group of University representatives throughout the project. This cadence is expected to be weekly during the project's initial stages and bi-weekly as the project advances.

#### B. Climate and Energy Regulatory Requirements Impacting URI

The University and State of Rhode Island are on the forefront of climate change action. Through the 2021 Act on Climate and the Lead by Example executive order, Rhode Island has set some of the most aggressive greenhouse gas emission limits in the country. The vendor shall summarize these and other State utility-related laws or requirements and note the specific compliance implications for URI. Furthermore, this regulatory analysis should also consider compliance with federal laws and guidelines.

#### C. Baseline Analysis

Determine existing greenhouse gas emission inventories for the University and establish URI's current baseline for energy use and greenhouse gas emissions. Evaluate historical energy use and

greenhouse gas emissions and forecast future expectations based on current trends should no planning changes be implemented. Compare this trend with regulatory requirements and timeline.

- Calculate GHG emissions for the prior three years for the University. Use existing GHG reporting from prior years and develop a GHG emission profile.
- Summarize past energy conservation measures and impacts to the university's energy demand.
- Determine the University's current and future energy purchasing needs, capital investment, operating costs, and greenhouse gas emissions (Scope 1 and Scope 2) assuming URI maintains its existing heating and cooling systems and energy sourcing (i.e., natural gas, grid electricity, and ultra-low sulfur heating fuel) through 2050.
- Develop a lifecycle cost analysis including a schedule of capital and operating costs through 2050. All capital costs should be based on engineering and design detail required to achieve a +/- 25% degree of precision.
- Develop an 8760-hour thermal and electrical usage profile for the university.
- Provide capital and operating costs of district-level infrastructure and provide building-level infrastructure commentary on general conditions, existing systems, and expected replacement costs and schedule and maintenance costs.
- URI and its energy consultant will provide the selected bidder with available utility and submetering energy usage data for the campus in FY2022 and FY2023, a long-term rate forecast for grid electricity, and fuels to be incorporated in operating cost projections for the study period, and a long-term grid emission forecast to use to calculate Scope 2 emissions.

#### D. Decarbonization Analysis

- Forecast the campus's energy purchasing requirements, district-level and building-level capital investments, operating costs, and greenhouse gas emissions (Scope 1 and Scope 2) for the selected engineer's recommended heating and cooling solution(s). Recommended solutions will be determined through collaboration with stakeholders to balance greenhouse gas emissions reductions with upfront capital and ongoing operational costs. Solutions may include but are not limited to:
  - Conversion of the campus's steam production and distribution system to a low-temperature hot water network.
  - Installation of BTES and/or ATES system that can reliably meet a share of the campus's annual space heating needs.
  - Conversion of the central heating plant's assets and infrastructure to provide hot water production. Solutions may include but are not limited to gas-fired, biofuel-fired, electric boilers or air-source heat pumps.
  - Expansion of the campus's chilled water production and distribution systems to provide centralized air conditioning.
  - Expansion and/or reconfiguration of the campus's electrical distribution system to accommodate these heating and cooling solutions.

- Develop a detailed 25-year implementation timeline and costs for completing the proposed district-level and select building-level infrastructure conversions. Implementation timeline should include an investment schedule and proposed phasing of implementation, based on URI budgetary preferences and physical infrastructure requirements. The selected vendor will need to work with the University's Master Plan vendor to incorporate the new University Master Plan's expected build out over the next 20 years.
- Develop an 8760-hour thermal and electrical usage profile for the campus that reflects the recommended infrastructure solution(s) in service. Include recommended building standards for any new buildings or major renovations.
- Develop a lifecycle cost analysis including a schedule of capital and operating costs through 2050. All capital costs should be based on engineering and design detail required to achieve a +/- 25% degree of precision.
- Evaluate operating requirements including a comparison of maintenance obligations and costs, personnel requirements, and staffing levels to the needed beyond current levels.
- Forecast EV charging station needs and evaluate expected electrical demand from future EV charging stations and potential charging sites.

#### E. Final Report and Recommendations

- Develop a final report detailing the study purpose, methodology, regulatory requirements, baseline analysis, decarbonization analysis results, and recommendations. The recommendations and recommended systems must be commercially viable and technologically within the university's ability to maintain and operate.
- Compare lifecycle costs and greenhouse gas emissions (Scope 1 and Scope 2) outcomes between the Baseline Analysis and the Decarbonization Analysis through 2050.
- Detail any next steps and future studies, if needed, and the estimated cost needed to refine plan recommendations/timelines.
- Detail state and federal funding sources for climate focused infrastructure and building modifications and improvements.
- The University is open to and would review opportunities for performance-based contracts with a developer owning and operating proposed systems.

### **SECTION 4: PROPOSAL**

#### **A. Technical Proposal**

URI will establish a technical review committee (TRC) to evaluate submitted vendor proposals related to this RFP. The proposals will be evaluated by the TRC in two phases. In Phase 1, the TEC will evaluate the written proposals. Proposals that meet the minimum scoring threshold for Phase 1 (described further below) will advance to Phase 2. In Phase 2, URI will require selected vendors to provide a presentation/demonstration of their proposed system. Phase 2 will be evaluated accordingly.

Narrative and format: The proposal should address specifically each of the following elements:

1. **Staff Qualifications** – Provide resumes/CV of all staff that would work on this project including sub-consultants or other outside resources that will be relied upon by vendor. Provide principal business of each consultant and complete description of in-house services consultant will deliver to the project. Include both the total number of personnel in each discipline and the number of personnel holding professional registration for each consultant, as applicable.

Provide an organizational chart showing the structure of the proposed project team. Identify the Executive Sponsor, Project Manager, and other support personnel. For each required discipline, list the key persons that will be assigned to this project. Submit resumes of these key individuals identifying their education and recent experience relevant to the services required for this project. Submittals should also identify team members that will be present locally and be able to respond quickly during the project.

2. **Capability, Capacity, and Qualifications of the Offeror** – Please provide a detailed description of the Vendor's qualifications and experience preparing energy and carbon reduction master plans for colleges and universities. Provide a list and description of a minimum of three (3) relevant client references, to include project name, description of services, client names, addresses, contact names with emails and phone numbers, dates of service and type(s) of service(s) provided. Provide similar information for each sub-consultant, as applicable. Also provide three samples of final reports produced for other higher education clients with similar project objectives and focus as URI's requested Energy and Carbon Reduction Master Plan.
3. **Work Plan** – Please describe in detail, the framework within which requested consulting services will be performed. The following elements should be included: Project kick off and presentation, regulatory review, baseline analysis and various steps involved, decarbonization analysis and various steps involved, report finalization and final presentation. Describe resources expected from the University.
4. **Approach/Methodology** - This section shall describe the offeror's understanding of the University's requirements, including the result(s) intended and desired, the approach and/or methodology to be employed and a work plan for accomplishing the results proposed. The description of the approach shall discuss and justify the approach proposed to be taken for each task, and the technical issues that will or maybe confronted at each stage on the project.

## **B. Cost Proposal**

Provide a proposal cost proposal to include the following a breakdown of fees, hourly rates, and expected project labor requirements in substantive detail for each phase of the project: Project Startup, Regulatory Summary, Baseline Analysis, Decarbonization Analysis and Final Report.

The cost proposal should identify how many hours bidder and sub-consultants plan to be on campus for in-person assessment and building surveys, and/or or project updates and presentations. Onsite hours should be broken down by project phase.

For each scope, bidders' proposals should identify all anticipated reimbursable expenses and include sub-consultants that will be utilized for this project, the consultants' proposals, and the fees and hourly rates for each sub-consultant. Please see Appendix B for a cost proposal form.

### **C. ISBE Proposal**

See Appendix A for information and the MBE, WBE, and/or Disability Business Enterprise Participation Plan form(s). Bidders are required to complete, sign and submit these forms with their overall proposal in a sealed envelope. Please complete separate forms for each MBE, WBE and/or Disability Business Enterprise subcontractor/supplier to be utilized on the solicitation.

## **SECTION 5: EVALUATION AND SELECTION**

Proposals will be reviewed by a Technical Review Committee ("TRC") comprised of staff from URI/State Agencies. The TRC first shall consider technical proposals.

The evaluation of Technical Proposals will be split into two phases, the first phase will be the review and scoring of the Written Technical Proposal by the TRC, the second phase will be the scoring of the Presentation and Demonstration of the Product and/or Services offered.

In Phase 1, the TRC will score submitted written proposals. Proposals that meet or exceed a minimum threshold of 40 out of a maximum of 50 points to advance to the cost evaluation phase. Any technical proposals scoring less than 40 points shall be disqualified.

In Phase 2, URI will require selected vendors to schedule a presentation/demonstration with the TRC and score the product and/or services accordingly.

Following the scoring of Phase 2, points for Phase 1 and 2 will be combined. Technical proposals scoring 50 points or higher will have the cost proposals evaluated and assigned up to a maximum of 30 points in cost category bringing the total potential evaluation score to 100 points. After total possible evaluation points are determined ISBE proposals shall be evaluated and assigned up to 6 bonus points for ISBE participation.

The University of Rhode Island reserves the right to select the vendor(s) or firm(s) ("vendor") that it deems to be most qualified to provide the goods and/or services as specified herein; and, conversely, reserves the right to cancel the solicitation in its entirety in its sole discretion.

Proposals shall be reviewed and scored based upon the following criteria:

<b>Criteria</b>	<b>Possible Points</b>
<b>Phase 1: Evaluation of the Written Proposal</b>	
Staff Qualifications	15 Points
Capability, Capacity, and Qualifications of the Offeror	20 Points
Work Plan	10 Points
Approach/Methodology	5 Points
Total Possible points for Phase 1	<b>50 Points</b>
<b>Phase 2: Presentation and Demonstration</b>	
Demonstration of Vendor Capability, Qualifications and Approach	20 Points
<b>Total Possible Technical Points</b>	<b>70 Points</b>
Cost Proposal*	30 Points
<b>Total Possible Evaluation Points</b>	<b>100 Points</b>
ISBE Participation**	6 Bonus Points
<b>Total Possible Points</b>	<b>106 Points</b>

**\* Cost Proposal Evaluation:**

The vendor with the lowest cost proposal shall receive one hundred percent (100%) of the available points for cost. All other vendors shall be awarded cost points based upon the following formula:

$$(\text{lowest cost proposal} / \text{vendor's cost proposal}) \times \text{available points}$$

For example: If the vendor with the lowest cost proposal (Vendor A) bids \$65,000 and Vendor B bids \$100,000 for monthly costs and service fees and the total points available are thirty (30), Vendor B's cost points are calculated as follows:

$$\$65,000 / \$100,000 \times 30 = 19.5$$

**\*\*ISBE Participation Evaluation:**

**A. Calculation of ISBE Participation Rate**

1. ISBE Participation Rate for Non-ISBE Vendors. The ISBE participation rate for non-ISBE vendors shall be expressed as a percentage and shall be calculated by dividing the amount of non-ISBE vendor's total contract price that will be subcontracted to ISBEs by the non-ISBE vendor's total contract price. For example if the non-ISBE's total contract price is \$100,000.00 and it subcontracts a total of \$12,000.00 to ISBEs, the non-ISBE's ISBE participation rate would be 12%.
2. ISBE Participation Rate for ISBE Vendors. The ISBE participation rate for ISBE vendors shall be expressed as a percentage and shall be calculated by dividing the amount of the ISBE vendor's total contract price that will be subcontracted to ISBEs and the amount that will be self-performed by the ISBE vendor by the ISBE vendor's total contract price. For example if the ISBE vendor's total contract price is \$100,000.00 and it subcontracts a total of \$12,000.00 to ISBEs and will perform a total of \$8,000.00 of the work itself, the ISBE vendor's ISBE participation rate would be 20%.

B. Points for ISBE Participation Rate:

The vendor with the highest ISBE participation rate shall receive the maximum ISBE participation points. All other vendors shall receive ISBE participation points by applying the following formula:

$$\begin{aligned} & (\text{Vendor's ISBE participation rate} \div \text{Highest ISBE participation rate} \\ & \quad \times \text{Maximum ISBE participation points}) \end{aligned}$$

For example, assuming the weight given by the RFP to ISBE participation is 6 points, if Vendor A has the highest ISBE participation rate at 20% and Vendor B's ISBE participation rate is 12%, Vendor A will receive the maximum 6 points and Vendor B will receive  $(12\% \div 20\%) \times 6$  which equals 3.6 points.

**General Evaluation:**




Points shall be assigned based on the vendor's clear demonstration of the ability to provide the requested goods and/or services. Vendors may be required to submit additional written information or be asked to make an oral presentation before the Technical Review Committee to clarify statements made in the proposal.

**SECTION 6: QUESTIONS**

Questions concerning this solicitation may be e-mailed to the University of Rhode Island Purchasing Department at [URIPurchasing@uri.edu](mailto:URIPurchasing@uri.edu) no later than the time and date indicated on page 1 of this solicitation. Please reference the reference **RFP Number # indicated on the cover sheet** on all correspondence. Questions should be submitted in a Microsoft Word attachment in a narrative format with no tables. Answers to questions received, if any, shall be posted on the Division of Purchases' website as an addendum to this solicitation. It is the responsibility of all interested parties to monitor the Division of Purchases website for any procurement related postings such as addenda. If technical assistance is required, call the Help Desk at (401) 574-8100.

## **SECTION 7: PROPOSAL CONTENTS**

### A. Proposals shall include the following:

1. One completed and signed **URI Bidder Certification Cover Form** (include in the Technical Proposal Original copy only). *Do not include in the Technical Proposal copies or Cost proposals.*
2.  **Technical Proposal** - describing the qualifications and background of the applicant and experience with and for similar projects, and all information described earlier in this solicitation. The technical proposal should be limited to ten (10) pages (this excludes any appendices and as appropriate, resumes of key staff that will provide services covered by this request).
  - a. One (1) Electronic copy on a CD-R or USB, marked “Technical Proposal - Original”.
  - b. One (1) printed paper copy, marked “Technical Proposal -Original” and signed.
  - c. Four (4) printed paper copies.
3.  **Cost Proposal** - A *separate*, signed and sealed cost proposal reflecting the hourly rate, or other fee structure, proposed to complete all of the requirements of this project per Appendix B.
  - a. One (1) Electronic copy on a CD-R or USB, marked “Cost Proposal - Original”.
  - b. One (1) printed paper copy, marked “Cost Proposal -Original” and signed.
4.  **ISBE Proposal** – A *separate*, signed and sealed Appendix A MBE, WBE, and/or Disability Business Enterprise Participation Plan. Please complete separate forms for each MBE/WBE or Disability Business Enterprise subcontractor/supplier to be utilized on the solicitation. **Do not include any copies in the Technical proposals.**
5. **N/A**

### B. Formatting of proposal response contents should consist of the following:

1. Formatting of CD-Rs or USBs – Separate CD-Rs or USBs are required for the technical proposal and cost proposal. All CD-Rs and USBs submitted must be labeled with:
  - a. Vendor’s name
  - b. RFP #

- c. RFP Title
- d. Proposal type (e.g., technical proposal or cost proposal)
- e. If file sizes require more than one CD-R or USB, multiple CD-Rs or USBs are acceptable. Each CD-R or USB must include the above labeling and additional labeling of how many CD-Rs or USBs should be accounted for (e.g., 3 CD-Rs or USBs are submitted for a technical proposal and each CD-R or USB should have additional label of '1 of 3' on first CD-R or USB, '2 of 3' on second CD-R or USB '3 of 3' etc.).

Vendors are responsible for testing their CD-Rs or USBs before submission as the URI Purchasing Department's inability to open or read a CD-R or USB may be grounds for rejection of a Vendor's proposal. All files should be readable and readily accessible on the CD-Rs or USBs submitted with no instructions to download files from any external resource(s). If a file is partial, corrupt or unreadable, the URI Purchasing Department may consider it "non-responsive". Please note that CD-Rs and USBs submitted, shall not be returned.

**2. Formatting of written documents and printed copies:**

- a. For clarity, the technical proposal shall be typed. These documents shall be single-spaced with 1" margins on white 8.5"x 11" paper using a font of 12 point Calibri or 12 point Times New Roman.
- b. All pages on the technical proposal are to be sequentially numbered in the footer, starting with number 1 on the first page of the narrative (this does not include the cover page or table of contents) through to the end, including all forms and attachments. The Vendor's name should appear on every page, including attachments. Each attachment should be referenced appropriately within the proposal section and the attachment title should reference the proposal section it is applicable to.
- c. The cost proposal shall be typed using the formatting provided on the provided template.
- d. Printed copies are to be only bound with removable binder clips.

**SECTION 8: PROPOSAL SUBMISSION**

Interested vendors must submit proposals to provide the goods and/or services covered by this RFP on or before the date and time listed on the cover page of this solicitation. Responses received after this date and time, as registered by the official time clock in the reception area of the University of Rhode Island Purchasing Department, shall not be accepted.

Responses should be mailed or hand-delivered in a sealed envelope marked "RFP # (as indicated on the cover sheet) to

MAIL TO:

UNIVERSITY OF RHODE ISLAND  
PO BOX 1773  
PURCHASING DEPARTMENT  
KINGSTON, RI 02881

COURIER:

UNIVERSITY OF RHODE ISLAND  
PURCHASING DEPARTMENT  
10 TOOTELL RD.  
KINGSTON, RI 02881-2010

**NOTE:** Proposals received after the above-referenced due date and time will not be considered. Proposals misdirected to other University locations or which are otherwise not presented in the URI Purchasing Department by the scheduled due date and time will be determined to be late and will not be considered. Proposals faxed, or emailed, to the URI Purchasing Department will not be considered. The “official” time clock is located in the reception area of the URI Purchasing Department. **(Please be advised that FedEx/UPS do not always arrive by 10:30 am, you would be smart to send your submission to arrive at least one day early)**

**SECTION 9: CONCLUDING STATEMENTS**

Notwithstanding the above, the University of Rhode Island reserves the right to award on the basis of cost alone, to accept or reject any or all proposals, and to award it in its best interest.

Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further.

The University may, at its sole option, elect to require presentation(s) by offerors clearly in consideration for award.

If a Vendor is selected for an award, no work is to commence until a purchase order is issued by the University of Rhode Island Purchasing Department.

The General Conditions of Purchase contain the specific contract terms, stipulations and affirmations to be utilized for the contract awarded for this RFP and can be found in the attached Bidder Certification Form.

## **APPENDIX A. PROPOSER ISBE RESPONSIBILITIES AND MBE, WBE, AND/OR DISABILITY BUSINESS ENTERPRISE PARTICIPATION FORM**

### **A. Proposer's ISBE Responsibilities (from 150-RICR-90-10-1.7.E)**

1. Proposal of ISBE Participation Rate. Unless otherwise indicated in the RFP, a Proposer must submit its proposed ISBE Participation Rate in a sealed envelope or via sealed electronic submission at the time it submits its proposed total contract price. The Proposer shall be responsible for completing and submitting all standard forms adopted pursuant to 105-RICR-90-10-1.9 and submitting all substantiating documentation as reasonably requested by either the Using Agency's MBE/WBE Coordinator, Division, ODEO, or Governor's Commission on Disabilities including but not limited to the names and contact information of all proposed subcontractors and the dollar amounts that correspond with each proposed subcontract.
2. Failure to Submit ISBE Participation Rate. Any Proposer that fails to submit a proposed ISBE Participation Rate or any requested substantiating documentation in a timely manner shall receive zero (0) ISBE participation points.
3. Execution of Proposed ISBE Participation Rate. Proposers shall be evaluated and scored based on the amounts and rates submitted in their proposals. If awarded the contract, Proposers shall be required to achieve their proposed ISBE Participation Rates. During the life of the contract, the Proposer shall be responsible for submitting all substantiating documentation as reasonably requested by the Using Agency's MBE/WBE Coordinator, Division, ODEO, or Governor's Commission on Disabilities including but not limited to copies of purchase orders, subcontracts, and cancelled checks.
4. Change Orders. If during the life of the contract, a change order is issued by the Division, the Proposer shall notify the ODEO of the change as soon as reasonably possible. Proposers are required to achieve their proposed ISBE Participation Rates on any change order amounts.
5. Notice of Change to Proposed ISBE Participation Rate. If during the life of the contract, the Proposer becomes aware that it will be unable to achieve its proposed ISBE Participation Rate, it must notify the Division and ODEO as soon as reasonably possible. The Division, in consultation with ODEO and Governor's Commission on Disabilities, and the Proposer may agree to a modified ISBE Participation Rate provided that the change in circumstances was beyond the control of the Proposer or the direct result of an unanticipated reduction in the overall total project cost.

### **B. MBE, WBE, AND/OR Disability Business Enterprise Participation Plan Form:**

Attached is the MBE, WBE, and/or Disability Business Enterprise Participation Plan form. Bidders are required to complete, sign and submit with their overall proposal in a sealed envelope. Please complete separate forms for each MBE, WBE and/or Disability Business Enterprise subcontractor/supplier to be utilized on the solicitation.



**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS DEPARTMENT  
OF ADMINISTRATION  
ONE CAPITOL HILL PROVIDENCE, RHODE ISLAND 02908**

**MBE, WBE, and/or DISABILITY BUSINESS ENTERPRISE PARTICIPATION PLAN**

Bidder's Name:

Bidder's Address:

Point of Contact:

Telephone:

Email:

Solicitation No.:

Project Name:

This form is intended to capture commitments between the prime contractor/vendor and MBE/WBE and/or Disability Business Enterprise subcontractors and suppliers, including a description of the work to be performed and the percentage of the work as submitted to the prime contractor/vendor. Please note that all MBE/WBE subcontractors/suppliers must be certified by the Office of Diversity, Equity and Opportunity MBE Compliance Office and all Disability Business Enterprises must be certified by the Governor's Commission on Disabilities at time of bid, and that MBE/WBE and Disability Business Enterprise subcontractors must self-perform 100% of the work or subcontract to another RI certified MBE in order to receive participation credit. Vendors may count 60% of expenditures for materials and supplies obtained from an MBE certified as a regular dealer/supplier, and 100% of such expenditures obtained from an MBE certified as a manufacturer. This form must be completed in its entirety and submitted at time of bid. **Please complete separate forms for each MBE/WBE or Disability Business Enterprise subcontractor/supplier to be utilized on the solicitation.**

Name of Subcontractor/Supplier:

Type of RI Certification: ☐ MBE ☐ WBE ☐ Disability Business Enterprise

Address:

Point of Contact:

Telephone:

Email:

Detailed Description of Work To Be Performed by Subcontractor or Materials to be Supplied by Supplier:

Total Contract Value (\$):

Subcontract  
Value (\$):

ISBE Participation  
Rate (%):

Anticipated Date of Performance:

I certify under penalty of perjury that the forgoing statements are true and correct.

**Prime Contractor/Vendor Signature**

**Title**

**Date**

**Subcontractor/Supplier Signature**

**Title**

**Date**

## APPENDIX B – COST PROPOSAL

Note: Add rows as needed

### A. Stakeholder Involvement

	Sub (Y/N)	Hours	Rate	Total
Presentations				
Travel				
Materials				
Project Progress Meetings				

A. Sub Total \$ \_\_\_\_\_

### B. Climate and Energy Regulatory Review

	Sub (Y/N)	Hours	Rate	Total
Travel				
Materials				

B. Sub Total \$ \_\_\_\_\_

### C. Baseline Analysis

	Sub (Y/N)	Hours	Rate	Total
Travel				
Materials				

C. Sub Total \$ \_\_\_\_\_

D. Decarbonization Analysis

	Sub (Y/N)	Hours	Rate	Total
Travel				
Materials				

D. Sub Total \$ \_\_\_\_\_

E. Final Report and Recommendations

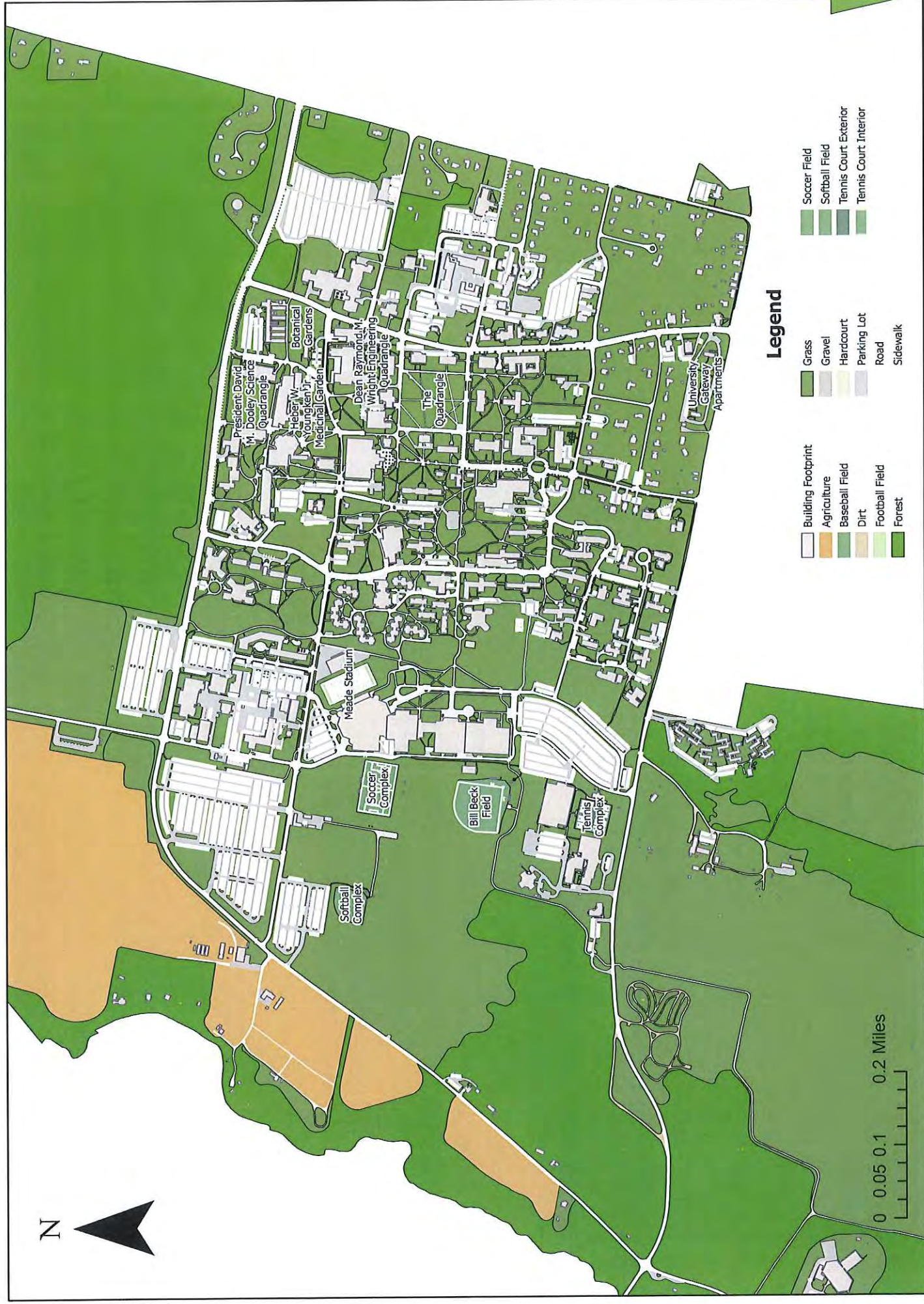
	Sub (Y/N)	Hours	Rate	Total
Travel				
Materials				

E. Sub Total \$ \_\_\_\_\_

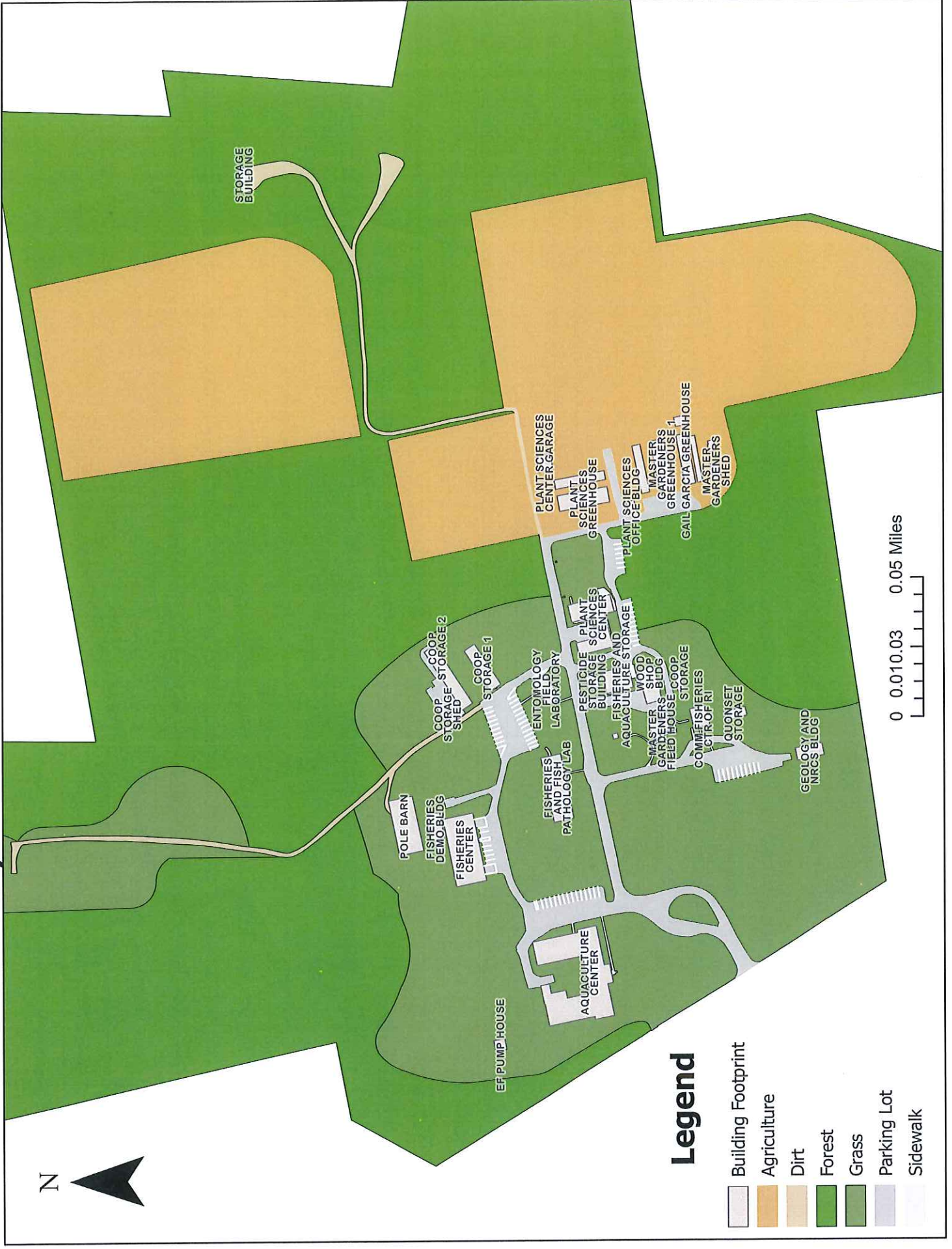
Service	Total
A. Stakeholder Involvement	\$
B. Climate and Energy Regulatory Review	\$
C. Baseline Analysis	\$
D. Decarbonization Analysis	\$
E. Final Report and Recommendations	\$
Contract Total	\$

## **APPENDIX C – CAMPUS MAPS**

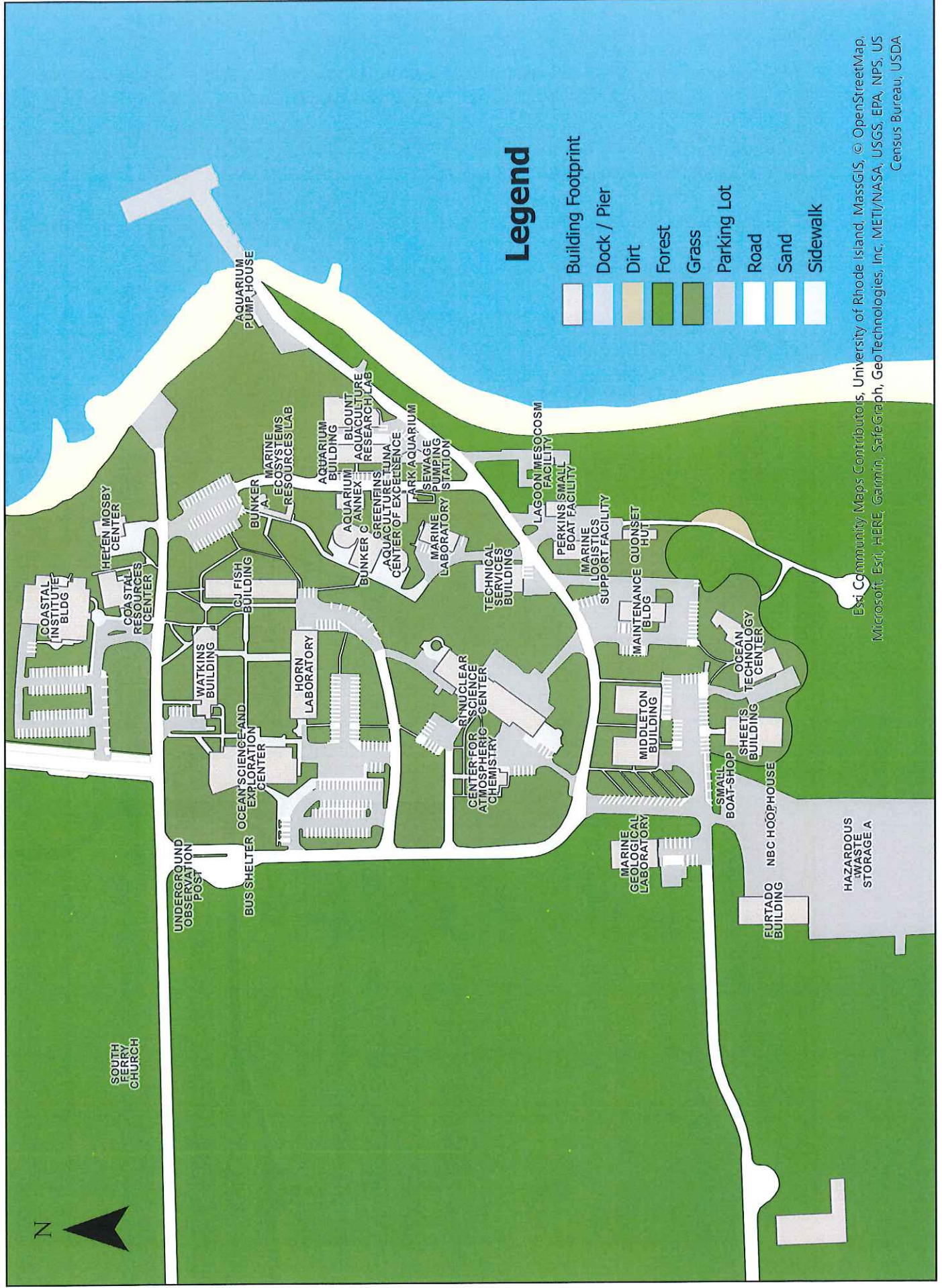
# University of Rhode Island Kingston Campus and Peckham Farm



# University of Rhode Island East Farm



# University of Rhode Island Narragansett Bay Campus



Map Community Maps Contributors, University of Rhode Island, MassGIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

## **APPENDIX D – EXAMPLE BUILDING ASSESSMENTS**

**Ballentine Hall 2016**

**Butterfield Hall 2016**

**Butterfield Hall 2023**

**Surge Building 2016**

# FACILITY CONDITION ASSESSMENT

## PREPARED FOR:

Rhode Island Department of Administration  
Division of Capital Asset Management and Maintenance  
One Capitol Hill  
Providence, RI 02908-5855



## PREPARED BY:

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## EMG PROJECT NUMBER:

117742.16R000-B79.305

## DATE OF REPORT:

November 30, 2016

## ON SITE DATE:

November 4, 2016

## FACILITY CONDITION ASSESSMENT

OF

BALLANTINE HALL / 32-058  
7 LIPPITT ROAD  
S. KINGSTOWN, RI 02881



engineering | environmental | capital planning | project management

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## 1 EXECUTIVE SUMMARY

### 1.1 PROJECT FACTS

#### Project Facts

Item	Description
Current Project Name / Building ID	Ballantine Hall / 32-058
Original Project Name / Building ID	Ballantine Hall / 32-058
Campus	South Kingston
Agency	University of Rhode Island
Property Type	Classroom Building
Year Built	1967
Year of Latest Major Renovation	2002
Number of Stories	3 (Does not Include Basements, Mezzanines, or MEP Penthouses)
Occupied	Yes
Land Area	Included in Campus Site PCA
Gross Building Area (GSF)	49,598 SF
Total Parking Count (Including ADA )	8 Parking Spaces
ADA Compliant (Total Count)	4 Total ADA Spaces
ADA Compliant for Vans	0 Van Parking Spaces

### 1.2 NARRATIVE SUMMARY

#### Executive Summary

Ballantine Hall is a fully occupied academic building situated on a primarily flat site. It has been identified as historic by the Rhode Island Historical Preservation Commission. Overall, the building appeared to be in good condition, as it underwent a major renovation completed in 2002. This granite block building is three stories tall, and includes a lobby atrium with a large aluminum-framed, fully-glazed, arched skylight that provides natural light to parts of each of the floors. Each story is above grade, with classrooms currently housed on the first floor and administrative offices on floors two and three. As the structure has been identified as historically significant, throughout the report, where costs are provided and indicated as "replacement", said costs may also be construed as costs to repair, or restore.

#### Architectural and Structural Systems Summary

The foundation system was not able to be directly observed. However, based on similar structures, it is assumed to be a continuous reinforced concrete spread footing system supporting concrete foundation walls. The first floor is concrete slab-on-grade. The building structural systems consist of a steel frame superstructure with concrete-topped metal floor decks supported by steel beams, and metal roof decks supported by steel beams. The roof is flat with a modified bituminous roofing system, with architectural accent roof areas consisting of standing seam metal. The exterior walls are stone with stone lintels and accent areas of storefront. Windows are double-glazed, aluminum-framed units in punched openings. There are no loading docks. The building interiors generally include painted gypsum board walls, ceramic tile, and exposed concrete. The floor finishes consist of carpet, carpet tile, vinyl composition tile (VCT), ceramic tile, and concrete. The interior ceiling is finished with acoustic ceiling tile and painted gypsum board. Three stair towers provide fire rated egress from each floor.

#### Conveyance, Plumbing, HVAC, Fire Protection and Electrical Systems Summary

Vertical conveyance in the building is provided by one hydraulic passenger elevator that serves the first through third floors. Domestic hot water is provided to the restrooms and break room areas by a semi-instantaneous steam-to-domestic water heater located in mechanical room 106. Heating and cooling is provided by rooftop package units, with a cooling tower and condenser water loop serving water-source heat pumps. Supplemental heating is provided to the mechanical room by a hydronic unit heater. Fire protection systems include a fire alarm system, fire sprinkler system throughout, smoke detectors,

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alarms with strobes, pull stations, extinguishers, standpipes, and appropriate egress signage. General interior lighting is provided by T-8 fluorescent fixtures with compact fluorescent (CFL) fixtures in accent locations. Electrical service to the building is provided by a single 1,200-amp switchboard served from a pad-mounted transformer. There is an emergency generator located at grade.

**Site Summary**

Site and site systems are included in the URI South Kingston Campus Site Report.

**Accessibility Summary**

The building generally appears to be handicap accessible.

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### 1.3 SUMMARY OF FINDINGS

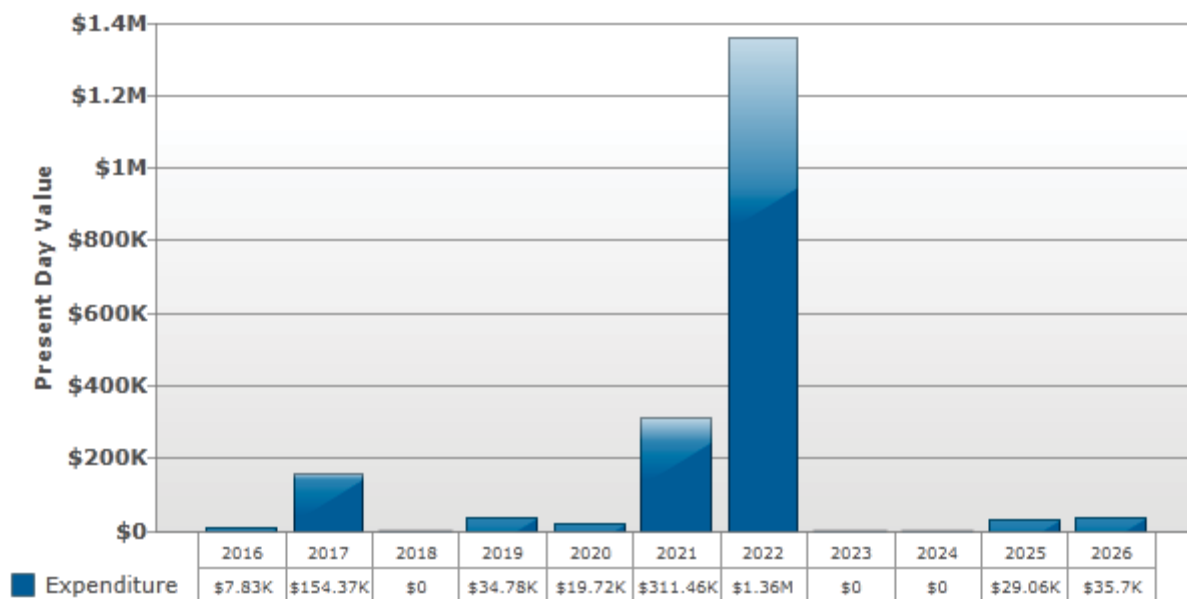
The below table represents summary-level findings for the Facility Condition Assessment (FCA). The Facility Condition Index (FCI) is the ratio of the Immediate Capital Needs (ICN) to the Current Replacement Value (CRV).  $FCI = ICN / CRV$ . The CRV of the building is calculated by EMG using industry standard reference sources in conjunction with facility type, building area, and geography. Key findings from the assessment include:

Key Finding	Metric
Facility Condition Index (FCI)	0.1%
FCI Rating: up to 5% = Good; 5% to 10% = Fair; 10+% to 60% = Poor; over 60% = Very Poor	
Current Replacement Value (CRV)	\$11,407,540
Current Replacement Value (CRV) per Square Foot	\$230.00/SF

Through <b>2016</b> - Immediate Capital Needs (ICN)	\$7,832
Years <b>2017 through 2021</b> - 5 Year Capital Plan	\$520,328
Years <b>2022 through 2026</b> - 10 Year Capital Plan	\$1,424,857
<b>TOTAL Capital Needs</b>	<b>\$1,953,016</b>

The chart below provides a summary of yearly-anticipated expenditures including cost related to Modernization/Adaptation over the study period for the subject building. Further detail on the specific costs that make up the summary can be found in Section 3 and the cost tables in the appendices.

#### Expenditure Forecast Over Study Period



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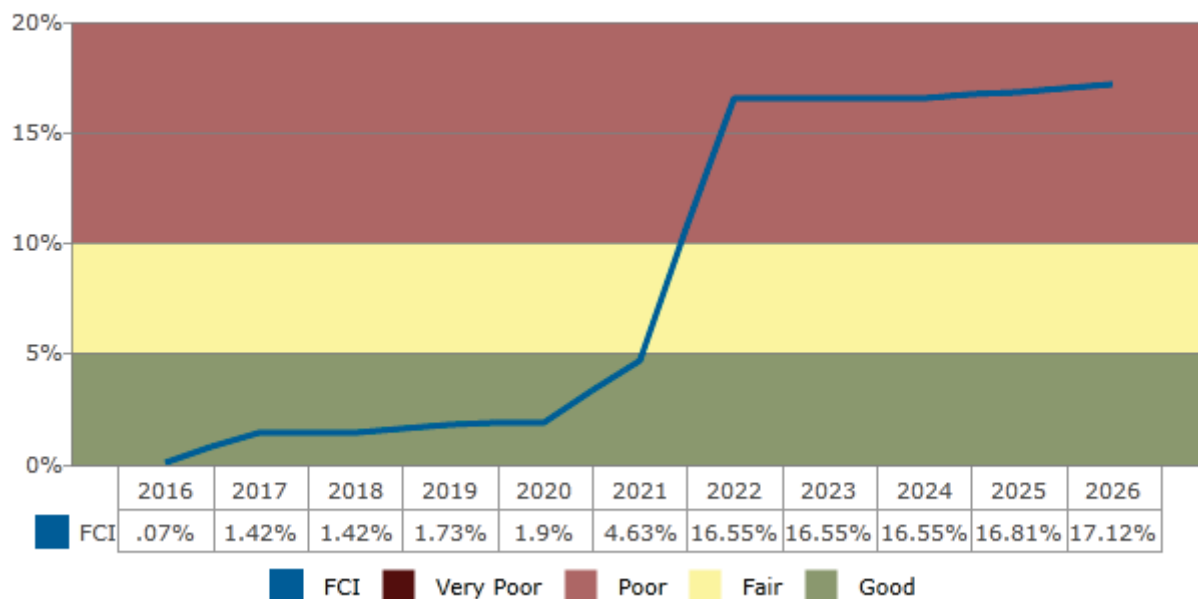
## 1.4 FACILITY CONDITION INDEX

The Facility Condition Index (FCI) gives an indication of a building or portfolio's overall condition. The value is based on a 0% to 100%+ scale and is derived by dividing the repair costs for a facility by a Current Replacement Value (CRV). The CRV is calculated by multiplying the existing building square footage by the Cost per Square Foot to construct a new, similar facility. Typically, the FCI is calculated using only the current condition values, not taking into account the future needs identified in the life cycle evaluation. Accounting principles indicate that an FCI value of 65% or greater be utilized as the threshold to identify a potential replacement candidate. If the current repair costs reach 65% of the CRV, it may not be prudent to continue to fund repairs. In cases where aggressive facilities planning is expected to be necessary, this threshold may be adjusted.

FCI Condition Rating	Definition	Percentage Value
<b>FCI Good</b>	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.	0% to 5%
<b>FCI Fair</b>	Subjected to wear and soiling but is still in a serviceable and functioning condition.	> than 5% to 10%
<b>FCI Poor</b>	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	> than 10% to 60%
<b>FCI Very Poor</b>	Has reached the end of its useful or serviceable life. Renewal is now necessary.	> than 60%

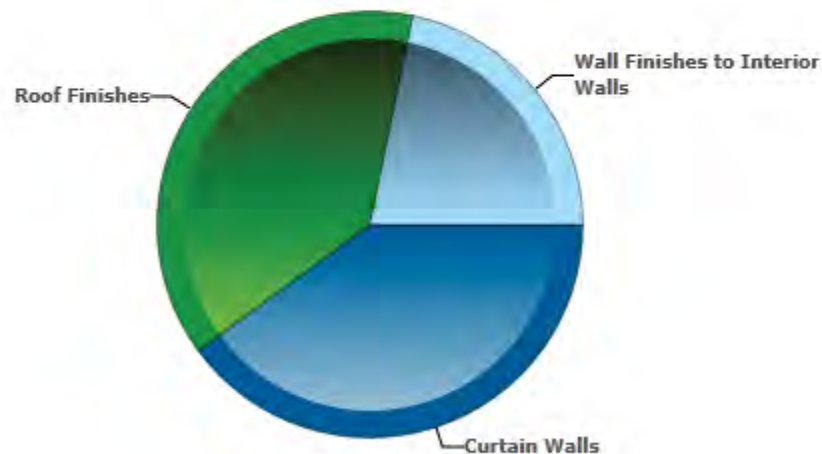
The Chart below indicates cumulative effects of the FCI ratio over the study period assuming the required funds and expenditures are **NOT** provided to address identified repairs and replacements for each year. The FCI calculation is not inclusive of cost related to Modernization/Adaptation.

**Cumulative Effects of FCI over the Study Period**



## 1.5 IMMEDIATE NEEDS BY BUILDING SYSTEM

**Distribution of Immediate Needs by Building System**



Uniformat	Building System	Expenditure
B2022	Curtain Walls	\$3,128
B3011	Roof Finishes	\$3,000
C3012	Wall Finishes to Interior Walls	\$1,704
	<b>Total</b>	<b>\$7,832</b>

## 1.6 TOTAL CAPITAL NEEDS BY PLAN TYPES

In the chart below, costs are sorted by Plan Types, which generally define the reason the cost exists. The chart and tables cover the study period. A cost may have more than one applicable Plan Type, however, only the dominant Plan Type will be selected based on the most heavily impacted building system and the Plan Type with the greatest significance. The following Plan Types are listed in general order of significance:

- **Safety (SFT)**

An observed or reported unsafe condition that if left unaddressed could result in an injury; a system or component that presents a potential liability risk.

- **Performance/Integrity (P/I)**

Component or system has failed, is failing, performs unreliably, does not perform as intended, and/or poses a risk to overall system stability.

- **Accessibility (ADA)**

Does not meet ADA, UFAS, and/or other handicap accessibility requirement.

- **Environmental (ENV)**

Improvements to air or water quality, including removal of hazardous materials from the building or site.

- **Modernization/Adaptation (MOD)**

Conditions, systems, or spaces that need to be upgraded in appearance or function to meet current standards, facility usage, or client/occupant needs. This plan type also includes, when deemed necessary, the removal of decommissioned assets. Modernization/Adaptation items are NOT included in the FCI calculation.

- **Exceedingly Aged (XA)**

Component or system has aged well beyond its industry-standard lifecycle, typically double its EUL or at least 15 years beyond its EUL, and for which repair or replacement is recommended.

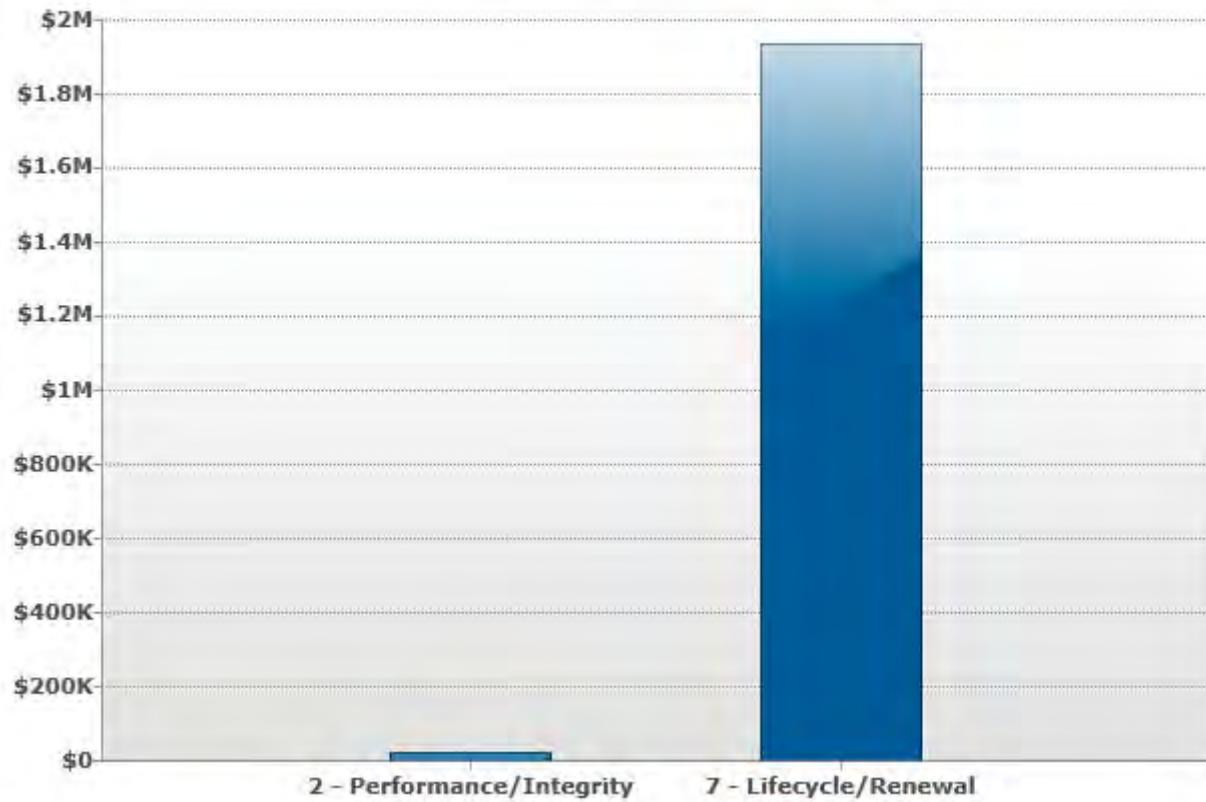
- **Lifecycle/Renewal (L/R)**

Any component or system that does not or did not appear problematic/deficient at the time of the assessment and for which future repair or replacement is anticipated.

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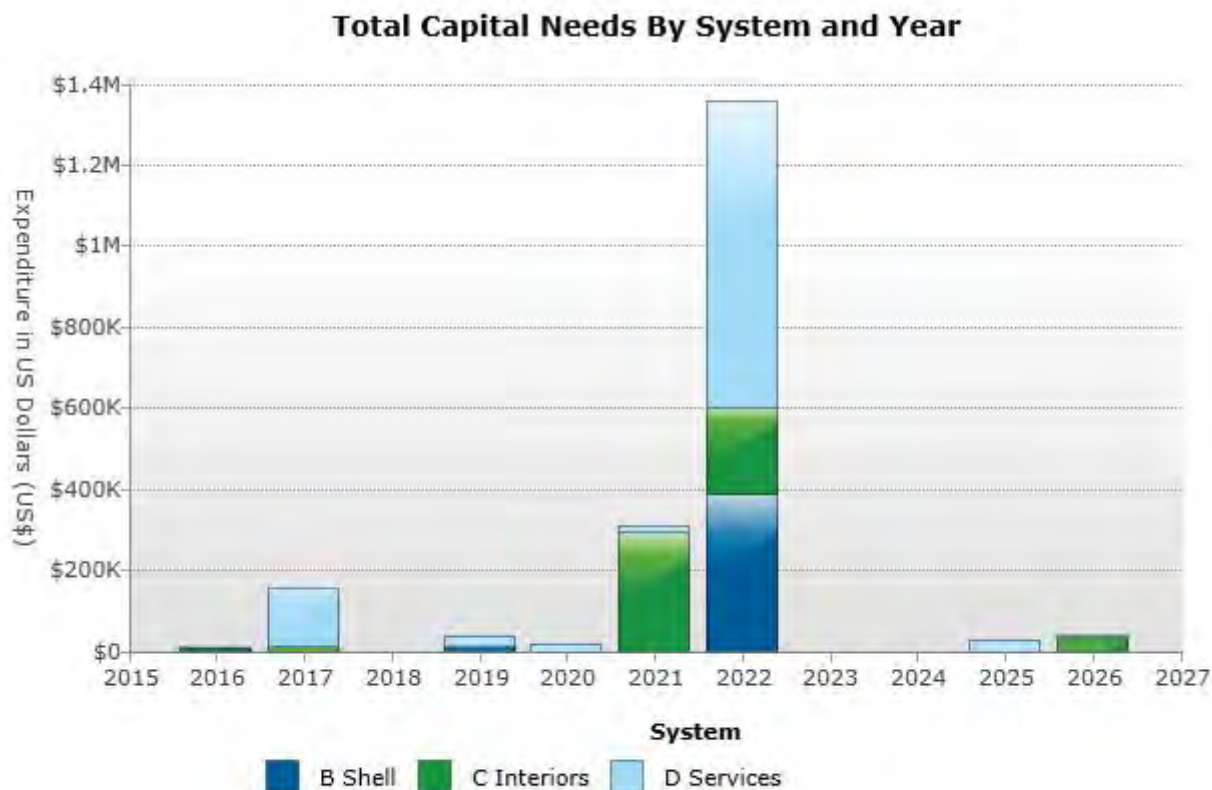
**Total Capital Needs by Plan Type**



Plan Type	Expenditure
2 - Performance/Integrity	\$19,386
7 - Lifecycle/Renewal	\$1,933,631
<b>Total</b>	<b>\$1,953,016</b>

## 1.7 TOTAL CAPITAL NEEDS BY SYSTEM AND YEAR

This also includes cost for immediate needs:



Year	Building System	Expenditure
2016	B Shell	\$6,128
2019	B Shell	\$10,404
2022	B Shell	\$386,828
2016	C Interiors	\$1,704
2017	C Interiors	\$13,442
2019	C Interiors	\$4,074
2021	C Interiors	\$294,570
2022	C Interiors	\$212,066
2026	C Interiors	\$35,431
2017	D Services	\$140,931
2019	D Services	\$20,298
2020	D Services	\$19,720

## FACILITY CONDITION ASSESSMENT

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2021	D Services	\$16,890
2022	D Services	\$761,204
2025	D Services	\$29,056
2026	D Services	\$272
	<b>Total</b>	<b>\$1,953,016</b>



## 1.8 TOTAL CAPITAL NEEDS BY PRIORITY

Another method to plan for replacement of building systems or components is by assigning a priority that is relative to the other systems and components in the building. The priority model used in the analysis takes into account the plan type, the location of the system within the property, the importance of the system, and the urgency of the repair, i.e., repairs to mission critical systems may have a higher priority than back of house finishes that are in worse condition. The identified repairs or replacements have been prioritized according to the ranking criteria identified in Section 2.2.6. with Priority 1 items being the most critical to address.

Based on the results of the ranking calculation derived from the analysis of the variables described above, the assets and associated actions are assigned to one of the following Priority categories. The scale is 1 to 4, with 1=highest and 4=lowest priority.

- **Priority 1 - Immediate/Critical Items**

Require immediate action to either (a) correct a safety hazard or (b) address the most important building performance or integrity issues or failures.

- **Priority 2 - Potentially Critical Items**

Include (a) those component performance or building integrity issues of slightly lesser weight and/or (b) issues that if left unchecked could escalate into Immediate/Critical items. Accessibility and environmental issues are also typically included in this subset.

- **Priority 3 - Necessary/Recommended Items**

Items of concern that generally either require attention or are suggested as improvements within the near term to: (a) improve usability, marketability, or efficiency; (b) reduce operational costs; (c) prevent or mitigate disruptions to normal operations; (d) modernize the facility; (e) adapt the facility to better meet occupant needs; and/or (f) should be addressed when the facility undergoes a significant renovation.

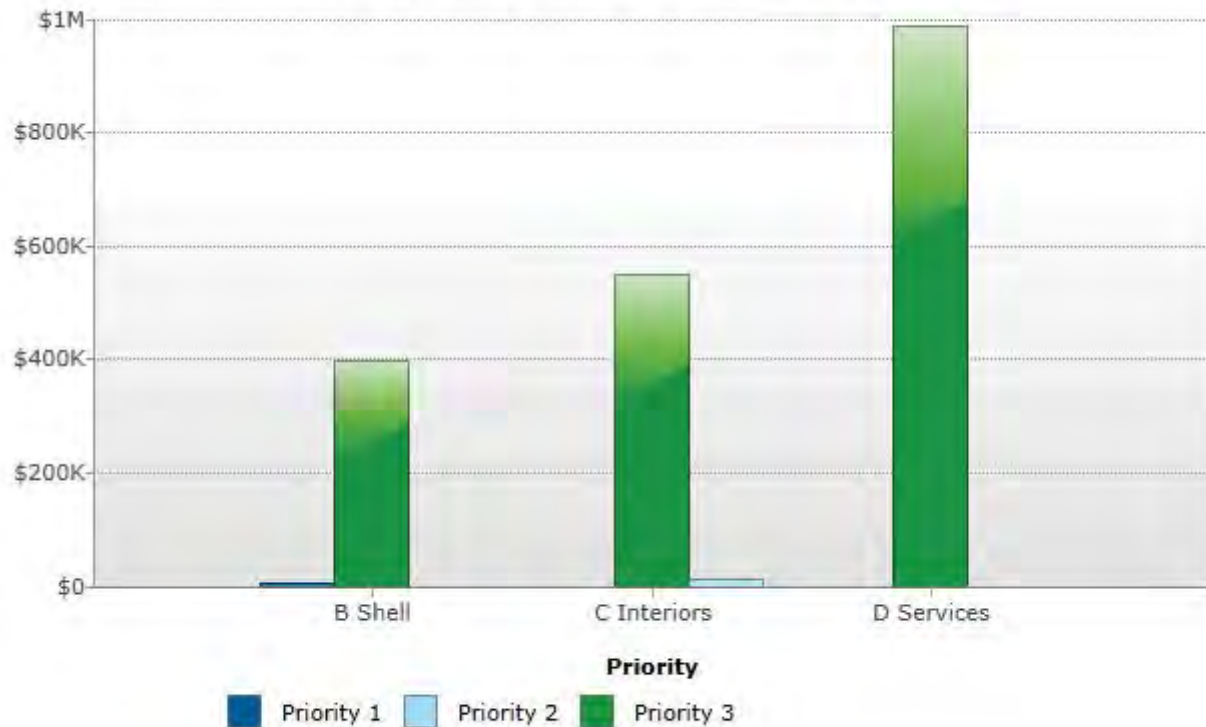
- **Priority 4 - Anticipated Lifecycle Replacements**

Renewal items which are generally associated with building components performing acceptably at the present time but will likely require replacement or other future attention within the timeframe under consideration.

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### Total Capital Needs by System and Priority



Building System	Priority				Total Expenditure
	1 Immediate/ Critical	2 Potentially Critical	3 Necessary/ Recommended	4 Anticipated Lifecycle Replacements	
B Shell	\$6,128	\$0	\$397,232	\$0	\$403,360
C Interiors	\$0	\$11,554	\$549,733	\$0	\$561,287
D Services	\$0	\$0	\$988,369	\$0	\$988,369
<b>Totals</b>	<b>\$6,128</b>	<b>\$11,554</b>	<b>\$1,935,335</b>	<b>\$0</b>	<b>\$1,953,016</b>

## 2 SCOPE AND PURPOSE

### 2.1 SCOPE

The evaluation team visited the subject property to evaluate the general condition of the building and site. They reviewed available construction documents, drawings, reports, and maintenance records as provided by the Client. The review comprehensively included all observable in-place construction, conveyance, plumbing, HVAC, fire protection, and electrical systems, within the general built environment. The evaluation team conducted a walk-through survey of the property in order to observe building systems and components, to identify physical deficiencies, to formulate recommendations to remedy the physical deficiencies, and to recommend planned capital replacements and repairs of building systems and components.

- As a part of the walk-through survey, the evaluation team surveyed a representative sample of the site and building's interior, the exterior building envelope, and the roof.
- The evaluation team interviewed the building maintenance staff to inquire about the subject property's historical repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements.
- The evaluation team developed opinions based on their site evaluation and interviews with building maintenance staff, discussions with the most relevant maintenance contractors, municipal authorities, and experience gained on similar properties previously evaluated. The evaluation team questioned others who are 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.

The Client contracted with EMG to conduct a Facility Condition Assessment (FCA) consisting of field observations, document review, and related due diligence tasks of the subject property. The Facility Assessment will:

- Determine the present condition and estimated remaining useful life (RUL) of various building systems and components.
- Provide a strategic plan for capital repairs, lifecycle component replacement, and building modernization.
- Establish anticipated renewal and replacement costs for the various systems and components.
- Identify and document present condition of physical assets with recommended corrections for deficiencies and provide cost estimates for corrections. Prioritize, categorize and classify deficient conditions, associated corrective actions and information concerning building systems and deficiency categories.
- The FCA will be a guide for future replacement, repairs and improvements and to assist the client in prioritizing their capital budget and expenditures across their real estate portfolio.
- Calculate the Facility Condition Index (FCI) for each facility and extend that calculation over the study period.

## 2.2 PURPOSE

The goal of the FCA is to gather the data necessary to understand the existing facility's condition, identify strategies to meet the facility's life cycle needs and create the foundation for an overall capital plan. The facility condition assessment includes the following:

- Current conditions analyses - existing facility requirements including deferred maintenance, recommended discretionary improvements, and potential safety and liability issues.
- Anticipated facility reserve analyses - projections of ongoing degradation of facilities' components and costs associated with the reserve or replacement of these components as they reach the end of their useful lives
- Funding needs analysis - summary report of deferred maintenance and systems reserves funding needs.

### 2.2.1 Condition Ratings

The physical condition of building systems and related components are defined as being in one of the following conditions:

- **Excellent (E)**  
New or very close to new; component or system typically has been installed within the past year, is sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
- **Good (G)**  
Satisfactory as-is. Component or system is sound and performing its function. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
- **Fair (F)**  
Showing signs of wear and use but still satisfactory as-is. Component or system is performing adequately at this time but may exhibit some moderate signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
- **Poor (P)**  
Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
- **Failed (X)**  
Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
- **Not Applicable (N/A)**  
Assigning a condition does not apply or make logical sense; most commonly due to the item in question not being present, possibly in tandem with a 'future install' recommendation.

EMG's calculation of probable capital needs methodology involves identification and quantification of those systems or components requiring immediate actions or capital funding reserves over the lifecycle horizon of the facility key components. The component is segregated into two categories "Immediate Repairs" and "Capital Expenditures" defined as follows:

### 2.2.2 Probable Capital Needs - Immediate Repairs

Immediate repairs are opinions of probable costs that require immediate action as a result of: (1) material existing or potential 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 the current year, or will most probably result in a significant escalation of its remedial cost. Immediate repair costs are items which require action in the current **year**.

### 2.2.3 Probable Capital Needs - Capital Expenditures

Capital Expenditures are for recurring probable expenditures that are not classified as operation or maintenance expenses. These line items should be budgeted for in advance on an annual basis. Capital expenditures are reasonably predictable both in terms of frequency and cost. However, the capital expenditures may also include components or systems that have an

indeterminate life but nonetheless have a potential liability for failure within the study period. The capital expenditures are further broken down into Short Term, Near Term and Long Term Capital Needs as defined in Section 1.3 of this Report.

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## 2.2.4 Remaining Useful Life Estimate (RUL) and Expected Useful Life (EUL)

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, EMG opines as to when a system or component will most probably necessitate replacement. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc. are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age.

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## 2.2.5 Opinions of Probable Cost

Estimates for individual repair and replacements are a key part of this engagement. These estimates are based on invoice or bid documents provided by the Owner/facility or construction cost estimates developed by construction resources such as R.S. Means, Whitestone, Marshall & Swift, and EMG's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions. Where quantities are not derived from an actual take-off, algorithms based on building gross square footage (GSF), lump sum costs, or allowances are utilized.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as 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, etc. ASTM E2018-15 recognizes that certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study are included where warranted in this Report.

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## 2.2.6 Priority Ranking

EMG records existing conditions, identifies problems and deficiencies, and documents corrective action and quantities of recommended repairs and/or replacements. During the assessment, the collected data is entered directly into the EMG assessment and capital planning database using tablet computers. Based on the analysis of the collected data, a Priority Ranking is calculated for each item observed. The Priority Ranking calculation is a function of the following key facility variables generally listed in order of importance:

- **Plan Type**

The cost associated with each asset or component evaluated is assigned a Plan Type. These Plan Type categories are described in Section 1.6.

- **Building Mission Ranking**

If the building is one of multiple buildings at the facility, each building is ranked on a scale of 1-10 based on conversations with the client. This rank defines the importance of each building to the overall mission of the facility. For example, the building containing the administrative offices for a subject property may carry a higher ranked importance than the parking garage. However, if the parking garage is used for Mission Critical or emergency services vehicles then it may have a higher priority than the office building. Both are required for the operation of the facility but ranking is adjusted based on the use of the buildings and the mission of the overall facility as defined by the client.

- **Uniformat II Code**

Each asset or component evaluated is coded as per the industry standard UNIFORMAT II, ASTM E1557 Standard Classification of Building Elements and Sitework. The Uniformat designation is then associated with a ranking based on the overall importance to the operation of a facility. An asset that is related to building envelope, e.g. roof or windows, is assigned a higher ranking than a component such as carpeting or interior paint.

- **Remaining Useful Life (RUL) as it Relates to the Expected Useful Life (EUL)**

The expected useful life (EUL) projection of the component is calibrated against the remaining useful life (RUL) as estimated by an EMG field assessor.

### 3 ASSETS OBSERVED

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Assets observed at the site are provided in this Section and sorted by the modified Uniformat II coding indexed as applicable. See the listing below for the sequence.

- **A SUBSTRUCTURE**
  - A10 Foundations
  - A20 Basement Construction
- **B SHELL**
  - B10 Super Structure
  - B20 Exterior Enclosure
  - B30 Roofing
- **C INTERIORS**
  - C10 Interior Construction
  - C20 Stairs
  - C30 Interior Finishes
- **D SERVICES**
  - D10 Conveying
  - D20 Plumbing
  - D30 HVAC
  - D40 Fire Protection
  - D50 Electrical
- **E EQUIPMENT and FURNISHINGS**
  - E10 Equipment
  - E20 Furnishings
- **F SPECIAL CONSTRUCTION and DEMOLITION**
  - F10 Special Construction
  - F20 Selective Building Demolition
- **G SITEWORK**
  - G10 Site Preparation
  - G20 Site Improvements
  - G30 Site Mechanical Utilities
  - G40 Site Electrical Utilities
  - G90 Other Site Construction
- **P FOLLOW-UP STUDIES (Professional Services)**
- **Z GENERAL CONDITIONS and OTHER**

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Coding / Field Name	Asset Description
A1031 - Standard Slab on Grade	Concrete Slab-On-Grade
Condition	Fair
Quantity	17,466 SF
Unit Cost	\$10.44
Year in Service	1967
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Structure
Basis of Costing	Concrete Slab-On-Grade

**Observations/Comments**

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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Coding / Field Name	Asset Description
<b>B100X - Super Structure</b>	Structural Frame, Steel Columns & Beams, 3-5 Stories
<b>Condition</b>	Good
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$42.06
<b>Year in Service</b>	1967
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Frame, Steel Columns & Beams, 3-5 Stories

**Observations/Comments**

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>B1012 - Upper Floors Construction</b>	Structural Flooring/Decking, Concrete
<b>Condition</b>	Good
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$29.24
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	36 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Flooring/Decking, Concrete



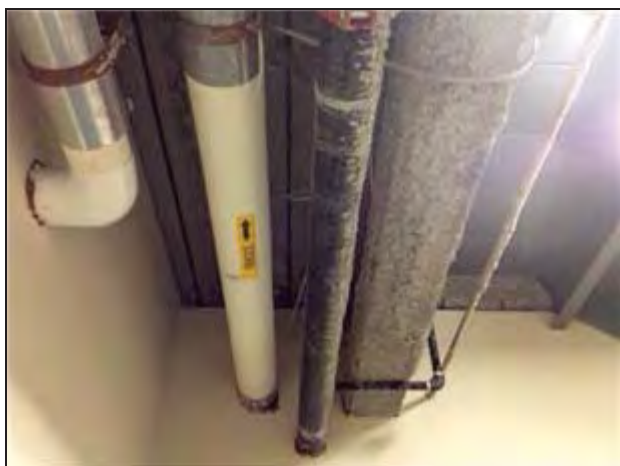
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Coding / Field Name	Asset Description
<b>B1021 - Flat Roof Construction</b>	Roof Structure, Flat, Metal Deck over Steel Beams
<b>Condition</b>	Good
<b>Quantity</b>	17,466 SF
<b>Unit Cost</b>	\$27.84
<b>Year in Service</b>	1967
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Roof Structure, Flat, Metal Deck over Steel Beams

**Observations/Comments**

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, Aluminum Siding
<b>Condition</b>	Good
<b>Quantity</b>	1,000 SF
<b>Unit Cost</b>	\$10.10
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	26 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Aluminum Siding, 3+ Stories
<b>Painted Trim</b>	Moderate

#### Observations/Comments

Exists on roof level.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Exterior Wall, Painted Surface	1,000 SF	\$2.87	L/R	3	2022	\$2,870

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Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, Stone, 3+ Stories
<b>Condition</b>	Good
<b>Quantity</b>	23,200 SF
<b>Cost Adjustment Factor/Reason</b>	0.9 / No Painted Trim
<b>Unit Cost (Adjusted)</b>	\$49.18
<b>Year in Service</b>	1967
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	30 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Field Stone, 3+ Stories
<b>Painted Trim</b>	Minimal (0.9)

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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Coding / Field Name	Asset Description
<b>B2022 - Curtain Walls</b>	Skylight, Aluminum-Framed System w/ Glazing
<b>Condition</b>	Fair
<b>Quantity</b>	1,400 SF
<b>Unit Cost</b>	\$101.42
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Curtain Wall, Aluminum-Framed System w/ Glazing
<b>Seals/Gaskets</b>	Fair Condition

#### Observations/Comments

Replacement of gaskets should be planned to ensure they remain weathertight. Isolated leaks have been reported, warranting repair in the short term.



Isolated Leaks

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Repair Roof Skylight, 20 SF	8 EA	\$390.99	P/I	1	2016	\$3,128
Remove & Replace Curtain Wall, Gaskets	1,700 LF	\$6.12	L/R	3	2019	\$10,404

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Coding / Field Name	Asset Description
<b>B2023 - Storefronts</b>	Interior Storefront, Metal-Framed Windows w/out Door(s)
<b>Condition</b>	Good
<b>Quantity</b>	3,600 SF
<b>Unit Cost</b>	\$48.00
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	21 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Storefront, Metal-Framed Windows w/out Door(s)
<b>Seals/Gaskets</b>	NA

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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Coding / Field Name	Asset Description
<b>B2023 - Storefronts</b>	Storefront, Metal-Framed w/ Glazing
<b>Condition</b>	Fair
<b>Quantity</b>	6,500 SF
<b>Unit Cost</b>	\$48.00
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Storefront, Metal-Framed Windows w/out Door(s)
<b>Seals/Gaskets</b>	Good Condition

#### Observations/Comments

Caulking should be replaced one time prior to projected replacement of storefront.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Remove & Replace Storefront Joint Caulking 0" to 1/2"	4,900 LF	\$2.82	L/R	3	2022	\$13,818

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Coding / Field Name	Asset Description
<b>B2031 - Glazed Doors &amp; Entrances</b>	Exterior Door, Fully-Glazed, Aluminum-Framed, Swinging
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$2,106.57
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Fully-Glazed Aluminum-Framed Swinging
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Service



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Coding / Field Name	Asset Description
<b>B2031 - Glazed Doors &amp; Entrances</b>	Exterior Door, Fully-Glazed, Aluminum-Framed, Swinging
<b>Condition</b>	Fair
<b>Quantity</b>	16 EA
<b>Cost Adjustment Factor/Reason</b>	1.1 / Entrance Door
<b>Unit Cost (Adjusted)</b>	\$11,213.80
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Fully-Glazed Aluminum-Framed Swinging Motor-Operated
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Entrance (1.1)

#### Observations/Comments

Includes exterior doors, and doors within vestibules.



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Coding / Field Name	Asset Description
<b>B2032 - Solid Exterior Doors</b>	Exterior Door, Steel Insulated
<b>Condition</b>	Fair
<b>Quantity</b>	3 EA
<b>Unit Cost</b>	\$1,577.53
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Steel Insulated
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Service



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>B3011 - Roof Finishes</b>	Roof, Metal, Standing Seam
<b>Condition</b>	Fair
<b>Quantity</b>	700 SF
<b>Cost Adjustment Factor/Reason</b>	1.1 / Premium Materials
<b>Unit Cost (Adjusted)</b>	\$24.65
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	26 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Roof, Metal
<b>Active Leaks Observed/Reported</b>	See Observations/Comments
<b>Roof Access</b>	Exterior Ladder
<b>Primary Drainage</b>	See Observations/Comments
<b>Drainage</b>	Appears adequate
<b>Eaves and Soffits</b>	NA
<b>Primary Roof Configuration</b>	See Observations/Comments
<b>Roof Debris</b>	Minimal debris observed

#### Observations/Comments

A section of roof on the southernmost part of the building is provided for a visual barrier and aesthetics only. This roof is a slightly arched standing seam metal system, with no attic.



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Coding / Field Name	Asset Description
<b>B3011 - Roof Finishes</b>	Roof, Modified Bitumen
<b>Condition</b>	Fair
<b>Quantity</b>	16,300 SF
<b>Cost Adjustment Factor/Reason</b>	1.4 / Complication Factors
<b>Unit Cost (Adjusted)</b>	\$22.71
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Roof, Modified Bituminous
<b>Active Leaks Observed/Reported</b>	Yes - See Observations/Comments
<b>Roof Access</b>	Stair Tower with Access Door
<b>Primary Drainage</b>	Interior Roof Drains (1.1)
<b>Drainage</b>	Evidence of ponding
<b>Eaves and Soffits</b>	NA
<b>Overflow Drainage</b>	No
<b>Complication Factor</b>	20% of the roof is affected by curbs/penetrations (1.2)
<b>Primary Edge Configuration</b>	Parapet (1.1)
<b>Primary Coping Material</b>	Metal
<b>Walking Pads</b>	No
<b>Ballasted</b>	No
<b>Roof Debris</b>	Minimal debris observed

#### Observations/Comments

Evidence of ponding was observed, particularly on the southern half of the roof near HVAC equipment. Isolated leaks have been reported.

# FACILITY CONDITION ASSESSMENT

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*Draft - For Discussion Purposes Only*

EMG PROJECT NO: 117742.16R000-B79.305



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Allowance to Repair Roof, Modified Bituminous	1 LS	\$3,000.00	P/I	1	2016	\$3,000
Replace Roof, Modified Bitumen	16,300 SF	\$22.71	L/R	3	2022	\$370,140

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Doors, Steel, Fire Rated
<b>Condition</b>	Good
<b>Quantity</b>	17 EA
<b>Unit Cost</b>	\$1,649.06
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Fire 90-Minutes and Over
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Service

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



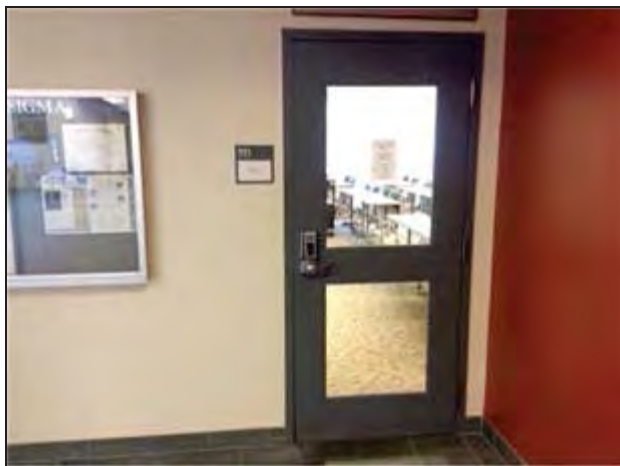
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Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Door, Fully-Glazed, Aluminum-Framed, Swinging
<b>Condition</b>	Fair
<b>Quantity</b>	27 EA
<b>Unit Cost</b>	\$2,106.57
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Fully-Glazed Aluminum-Framed Swinging
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Service

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life. However, paint finish is worn.



Paint finish worn

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Glazed Aluminum Door, Paint	27 EA	\$69.94	L/R	3	2017	\$1,888

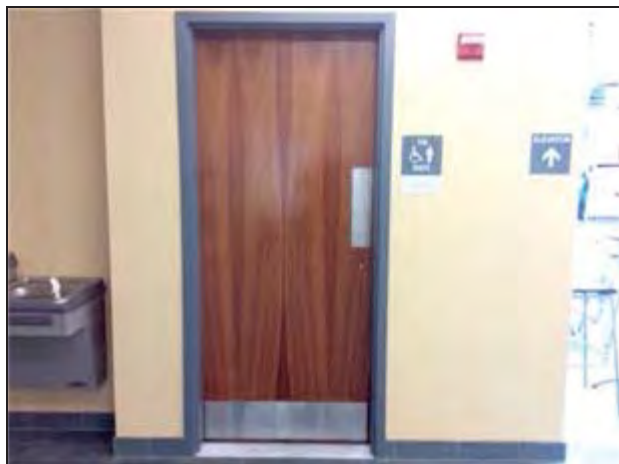
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Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Door, Wood Solid-Core
<b>Condition</b>	Good
<b>Quantity</b>	124 EA
<b>Unit Cost</b>	\$1,423.11
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Wood Solid-Core
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Service

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life. Includes wood doors and isolated metal doors.



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Coding / Field Name	Asset Description
<b>C1023 - Interior Door Hardware</b>	Door Hardware System, School (Per Door)
<b>Condition</b>	Fair
<b>Quantity</b>	168 EA
<b>Unit Cost</b>	\$375.00
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Door Hardware System, School (Per Door)

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Door Hardware System, School (Per Door)	168 EA	\$375.00	L/R	3	2021	\$63,000

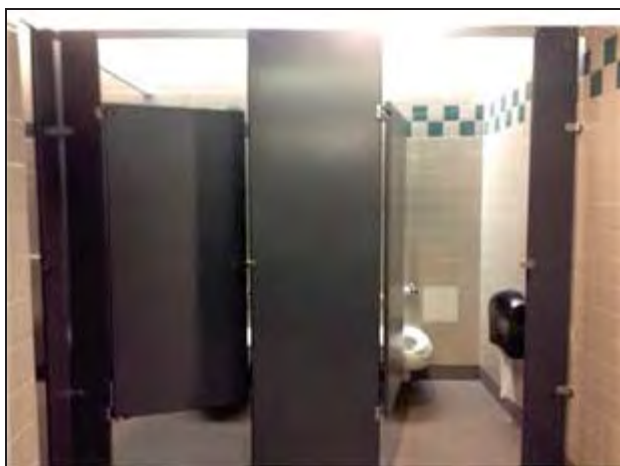
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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F1-Toilet Partitions, Metal Overhead-Braced
<b>Condition</b>	Fair
<b>Quantity</b>	5 EA
<b>Unit Cost</b>	\$2,097.52
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Toilet Partitions, Metal Overhead-Braced	5 EA	\$2,097.52	L/R	3	2026	\$10,488

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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F2-Toilet Partitions, Metal Overhead-Braced
<b>Condition</b>	Fair
<b>Quantity</b>	5 EA
<b>Unit Cost</b>	\$2,097.52
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Toilet Partitions, Metal Overhead-Braced	5 EA	\$2,097.52	L/R	3	2026	\$10,488

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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F3-Toilet Partitions, Metal Overhead-Braced
<b>Condition</b>	Fair
<b>Quantity</b>	5 EA
<b>Unit Cost</b>	\$2,097.52
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Toilet Partitions, Metal Overhead-Braced	5 EA	\$2,097.52	L/R	3	2026	\$10,488

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C1035 - Identifying Devices</b>	Interior Signage (Allowance)
<b>Condition</b>	Good
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$0.08
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Signage (allowance)

#### Observations/Comments

Signage appears complete and in good condition. RUL extended accordingly.

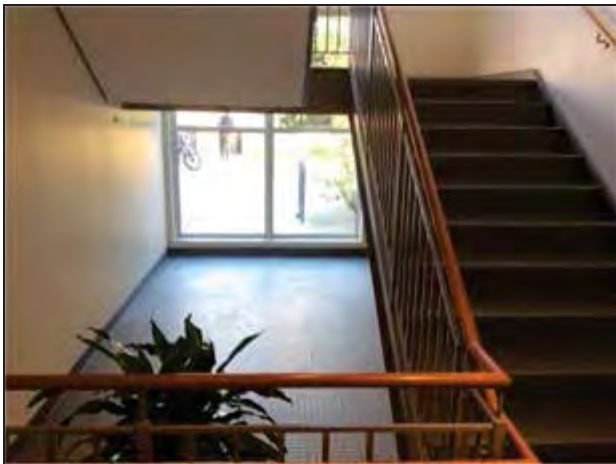


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Signage (Allowance)	49,598 SF	\$0.08	L/R	3	2026	\$3,968

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
C2011 - Regular Stairs	Interior Stairs, Metal
Condition	Good
Quantity	1,560 SF
Unit Cost	\$44.53
Year in Service	2002
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	36 Year(s), Estimated, Based on Date of Observation
Location	Stair Tower
Basis of Costing	Interior Stairs, Metal
Railing	Good Condition
Treads/Landings	Good Condition



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C300X - Interior Finishes</b>	Break Room Kitchenette, Small (allowance)
<b>Condition</b>	Fair
<b>Quantity</b>	4 EA
<b>Unit Cost</b>	\$3,000.00
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Break Room Kitchenette, Small (allowance)

#### Observations/Comments

Includes rm 108.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Break Room Kitchenette, Small (allowance)	4 EA	\$3,000.00	L/R	3	2022	\$12,000

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall Finish, Ceramic Tile
<b>Condition</b>	Good
<b>Quantity</b>	1,000 SF
<b>Unit Cost</b>	\$16.55
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Ceramic Tile

**Observations/Comments**

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F2-Interior Wall Finish, Ceramic Tile
<b>Condition</b>	Good
<b>Quantity</b>	1,000 SF
<b>Unit Cost</b>	\$16.55
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Wall Finish, Ceramic Tile



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F3-Interior-Interior Wall Finish, Ceramic Tile
<b>Condition</b>	Good
<b>Quantity</b>	100 SF
<b>Unit Cost</b>	\$16.55
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Wall Finish, Ceramic Tile



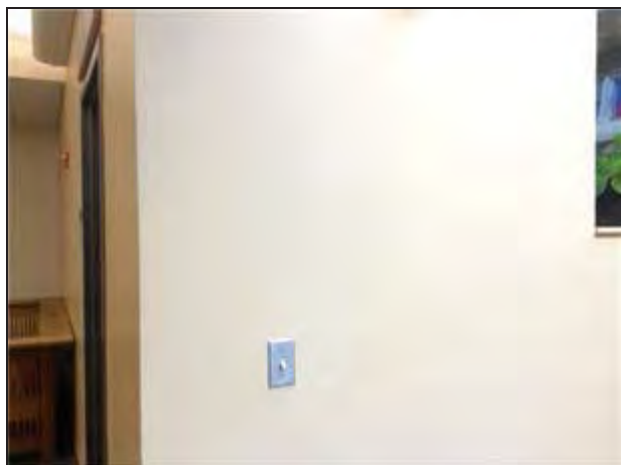
BALLANTINE HALL / 32-058  
7 LIPPITT ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	33,200 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	30 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life. Paint in the student lounge room 110 is worn.



Student Lounge Paint Worn

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Gypsum Board/Plaster, Student Lounge	1,200 SF	\$1.42	P/I	3	2016	\$1,704
Prep & Paint Interior Walls, Gypsum Board/Plaster	33,200 SF	\$1.42	L/R	3	2022	\$47,144

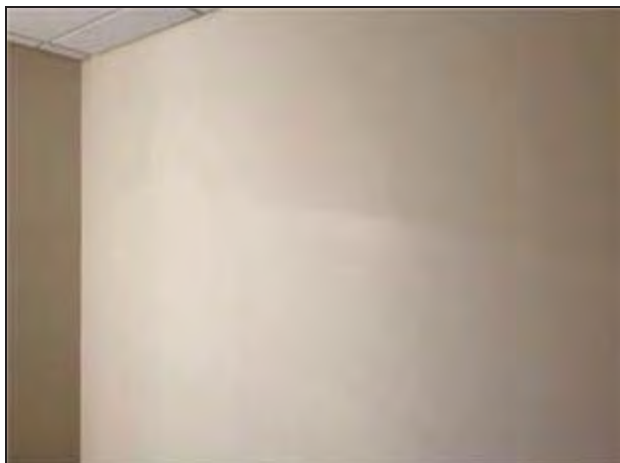
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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F2-Interior Wall, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	30,500 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	30 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Walls, Gypsum Board/Plaster	30,500 SF	\$1.42	L/R	3	2022	\$43,310

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F3-Interior Wall, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	28,900 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	30 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Walls, Gypsum Board/Plaster	28,900 SF	\$1.42	L/R	3	2022	\$41,038

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Good
<b>Quantity</b>	350 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	36 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
C3024 - Flooring	F1-Interior Floor Finish, Slate Tile
Condition	Good
Quantity	4,400 SF
Unit Cost	\$15.76
Year in Service	2002
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	36 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Interior Floor Finish, Ceramic Tile

**Observations/Comments**

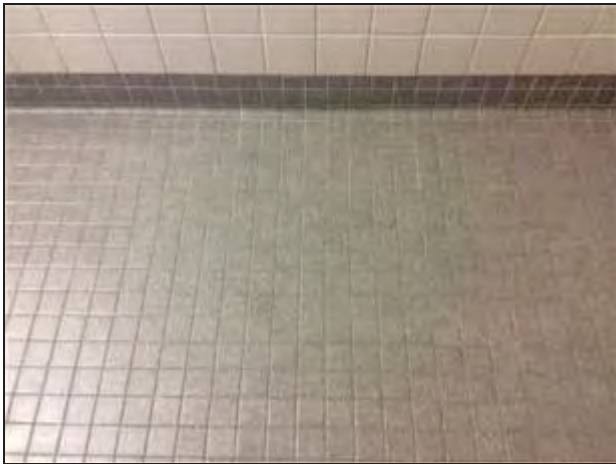
Exists in the lobby/atrium space.



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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Good
<b>Quantity</b>	350 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	36 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
C3024 - Flooring	F3-Interior Floor Finish, Ceramic Tile
Condition	Good
Quantity	350 SF
Unit Cost	\$15.76
Year in Service	2002
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	36 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Interior Floor Finish, Ceramic Tile



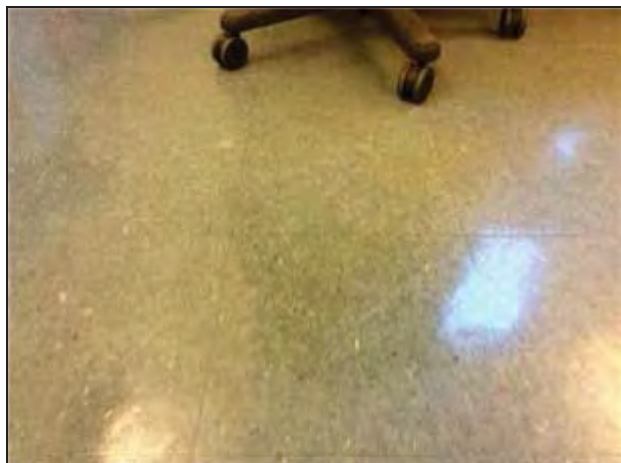
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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Fair
<b>Quantity</b>	1,400 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)
<b>Asbestos Containing Material (ACM)</b>	No

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Vinyl Tile (VCT)	1,400 SF	\$4.80	L/R	3	2022	\$6,720

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Fair
<b>Quantity</b>	250 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)
<b>Asbestos Containing Material (ACM)</b>	No

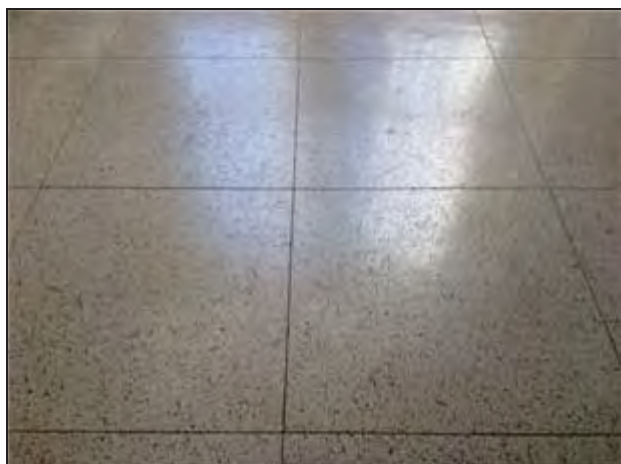


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Vinyl Tile (VCT)	250 SF	\$4.80	L/R	3	2021	\$1,200

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F3-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Fair
<b>Quantity</b>	350 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)
<b>Asbestos Containing Material (ACM)</b>	No



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Interior Floor Finish, Vinyl Tile (VCT)	350 SF	\$4.80	L/R	3	2021	\$1,680

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F1-Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic
<b>Condition</b>	Fair
<b>Quantity</b>	2,600 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic	2,600 SF	\$7.26	L/R	3	2021	\$18,876

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F2-Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic
<b>Condition</b>	Fair
<b>Quantity</b>	13,650 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic	13,650 SF	\$7.26	L/R	3	2021	\$99,099

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F3-Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic
<b>Condition</b>	Fair
<b>Quantity</b>	15,250 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic	15,250 SF	\$7.26	L/R	3	2021	\$110,715

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F1-Interior Floor Finish, Carpet Tile Commercial-Grade
<b>Condition</b>	Fair
<b>Quantity</b>	7,800 SF
<b>Unit Cost</b>	\$6.96
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Tile Commercial-Grade

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Carpet Tile Commercial-Grade	7,800 SF	\$6.96	L/R	3	2022	\$54,288

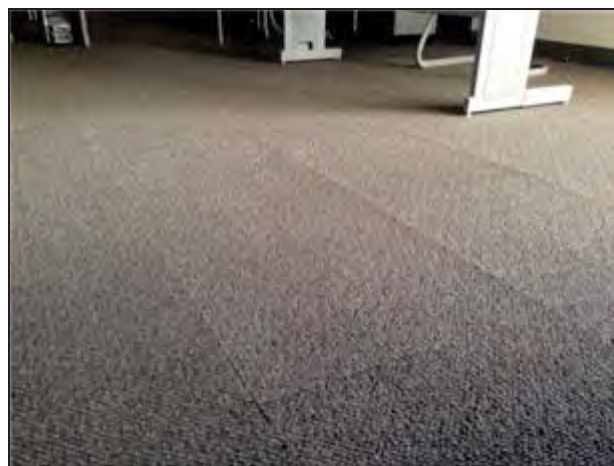
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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F2-Interior Floor Finish, Carpet Tile Commercial-Grade, Rm 240
<b>Condition</b>	Poor
<b>Quantity</b>	1,660 SF
<b>Unit Cost</b>	\$6.96
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	1 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Tile Commercial-Grade

#### Observations/Comments

Carpet tile is showing signs of lifting at the edges.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Carpet Tile Commercial-Grade, Rm 240	1,660 SF	\$6.96	P/I	2	2017	\$11,554

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F1-Interior Ceiling, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	1,800 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	36 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)

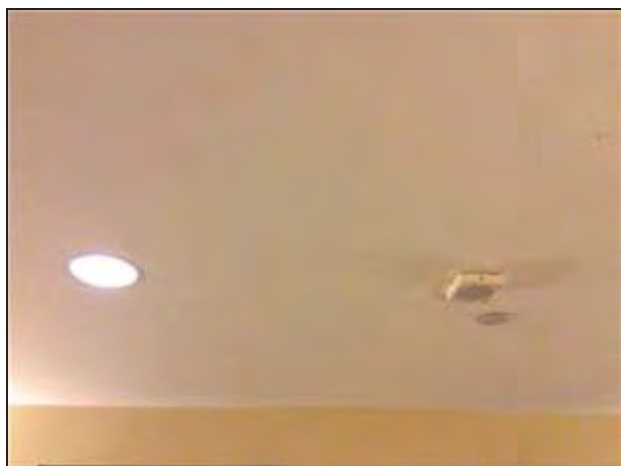


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling, Gypsum Board/Plaster	1,800 SF	\$1.94	L/R	3	2022	\$3,492

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F2-Interior Ceiling, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	2,100 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	36 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)

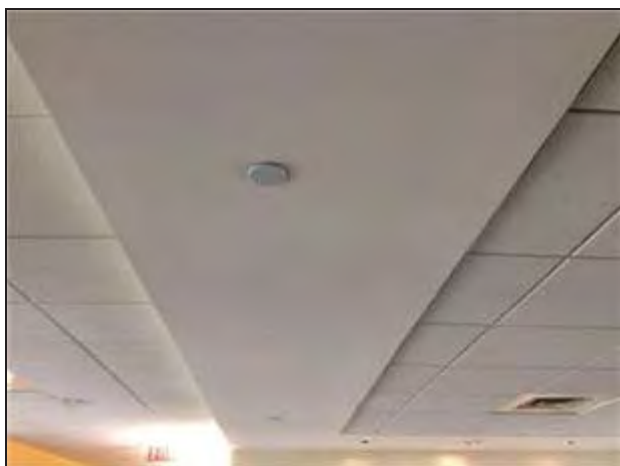


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling, Gypsum Board/Plaster	2,100 SF	\$1.94	L/R	3	2019	\$4,074

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F3-Interior Ceiling, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	2,100 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	36 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling, Gypsum Board/Plaster	2,100 SF	\$1.94	L/R	3	2022	\$4,074

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F1-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	13,100 SF
<b>Unit Cost</b>	\$3.11
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) w/ Grid
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No

**Observations/Comments**

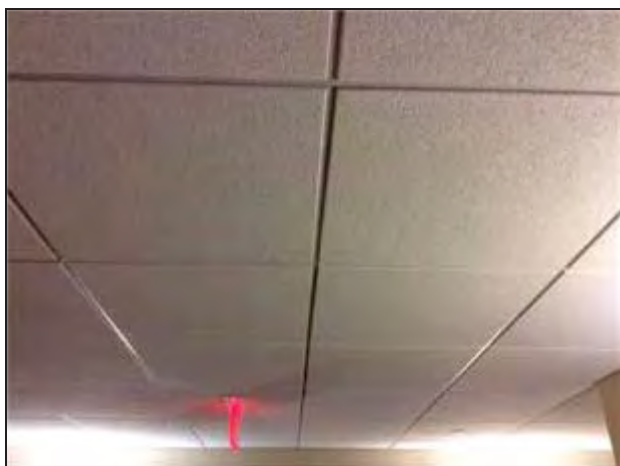
RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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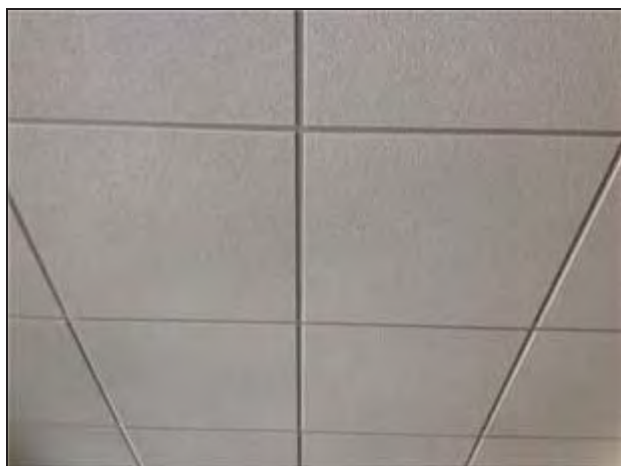
Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F2-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	13,650 SF
<b>Unit Cost</b>	\$3.11
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) w/ Grid
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No



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Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F3-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	13,650 SF
<b>Unit Cost</b>	\$3.11
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) w/ Grid
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D1011 - Passenger Elevators</b>	Elevator Controls, Automatic, Electronic
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$11,547.25
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	MEP Closet
<b>Basis of Costing</b>	Elevator Controls, Automatic, 1 or 2 Car Cluster
<b>Make (Manufacturer)</b>	Northern Elevator Limited
<b>Model Number</b>	TC-181
<b>Serial Number (Catalog Number)</b>	SL60489
<b>Capacity</b>	25
<b>Capacity UoM (Unit of Measure)</b>	HP
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity

#### Observations/Comments

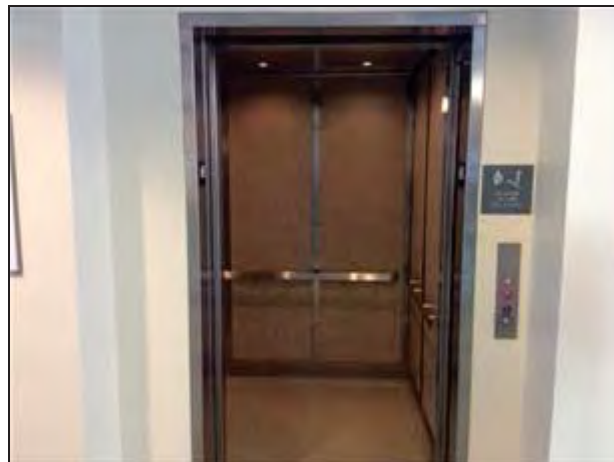
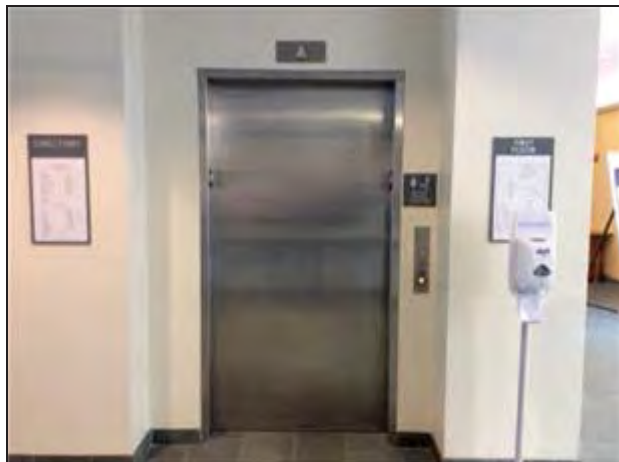
Relay board replaced 2016. RUL has been extended 3 years.

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Elevator Controls, Automatic, Electronic	1 EA	\$11,547.25	L/R	3	2025	\$11,547

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D1011 - Passenger Elevators</b>	Elevator, Hydraulic, 2500 LB, 3 Floors
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$144,487.20
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	MEP Closet
<b>Basis of Costing</b>	Elevator, Hydraulic, 1500 to 2500 LB, 3 Floors
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	No Dataplate
<b>Capacity</b>	2500
<b>Capacity UoM (Unit of Measure)</b>	LB
<b>Floors Served (Quantity)</b>	3
<b>Cab Finishes</b>	Good Condition
<b>Accessible</b>	Yes



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Coding / Field Name	Asset Description
D2011 - Water Closets	F1-Toilet, Tankless (Water Closet)
Condition	Fair
Quantity	5 EA
Unit Cost	\$842.97
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Toilet, Tankless (Water Closet)
Low Flow Fixtures (EPAAct 2005)	Toilet 1.6 GPF or less



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Coding / Field Name	Asset Description
D2011 - Water Closets	F2-Toilet, Tankless (Water Closet)
Condition	Fair
Quantity	5 EA
Unit Cost	\$842.97
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Toilet, Tankless (Water Closet)
Low Flow Fixtures (EPAAct 2005)	Toilet 1.6 GPF or less



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Coding / Field Name	Asset Description
D2011 - Water Closets	F3-Toilet, Tankless (Water Closet)
Condition	Fair
Quantity	5 EA
Unit Cost	\$842.97
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Toilet, Tankless (Water Closet)
Low Flow Fixtures (EPAAct 2005)	Toilet 1.6 GPF or less



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Coding / Field Name	Asset Description
D2012 - Urinals	F1-Urinal, Vitreous China
Condition	Fair
Quantity	1 EA
Unit Cost	\$1,193.44
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Urinal, Vitreous China
Low Flow Fixtures (EPAct 2005)	Urinal 1.0 GPF or less



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Coding / Field Name	Asset Description
D2012 - Urinals	F2-Urinal, Vitreous China
Condition	Fair
Quantity	1 EA
Unit Cost	\$1,193.44
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Urinal, Vitreous China
Low Flow Fixtures (EPAct 2005)	Urinal 1.0 GPF or less



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Coding / Field Name	Asset Description
D2012 - Urinals	F3-Urinal, Vitreous China
Condition	Fair
Quantity	1 EA
Unit Cost	\$1,193.44
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Urinal, Vitreous China
Low Flow Fixtures (EPAct 2005)	Urinal 1.0 GPF or less



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Coding / Field Name	Asset Description
D2013 - Lavatories	F1-Lavatory, Enameled Steel
Condition	Fair
Quantity	4 EA
Unit Cost	\$353.05
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Lavatory, Enameled Steel
Low Flow Fixtures (EPAct 2005)	Faucet 1.5 GPM or less



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
D2013 - Lavatories	F2-Lavatory, Enameled Steel
Condition	Fair
Quantity	4 EA
Unit Cost	\$353.05
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Lavatory, Enameled Steel
Low Flow Fixtures (EPAct 2005)	Faucet 1.5 GPM or less



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Coding / Field Name	Asset Description
D2013 - Lavatories	F3-Lavatory, Enameled Steel
Condition	Fair
Quantity	4 EA
Unit Cost	\$353.05
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Lavatory, Enameled Steel
Low Flow Fixtures (EPAAct 2005)	Faucet 1.5 GPM or less



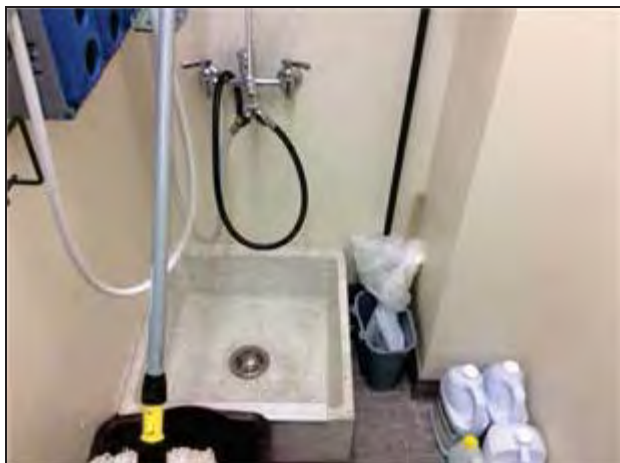
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Coding / Field Name	Asset Description
D2014 - Sinks	Service Sink, Floor
Condition	Fair
Quantity	2 EA
Unit Cost	\$1,599.51
Year in Service	2002
Expected Useful Life (EUL)	35 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	21 Year(s), Estimated, Based on Date of Observation
Location	MEP Closet
Basis of Costing	Service Sink, Floor
Low Flow Fixtures (EPAAct 2005)	Unknown

**Observations/Comments**

Located on floors 2 and 3.



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Coding / Field Name	Asset Description
<b>D2018 - Drinking Fountains and Coolers</b>	Drinking Fountains, Refrigerated
<b>Condition</b>	Fair
<b>Quantity</b>	6 EA
<b>Unit Cost</b>	\$1,257.51
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Drinking Fountain, Refrigerated

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Drinking Fountains, Refrigerated	6 EA	\$1,257.51	L/R	3	2021	\$7,545

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Coding / Field Name	Asset Description
<b>D2021 - Cold Water Service</b>	Backflow Preventer, Domestic, 2-1/2", RPZ
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$4,756.10
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Backflow Preventer, 3"
<b>Make (Manufacturer)</b>	Watts
<b>Model Number</b>	909
<b>Serial Number (Catalog Number)</b>	17754
<b>Capacity</b>	2.5
<b>Capacity UoM (Unit of Measure)</b>	- See Observation/Comments
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life, including no signs of leak. Size is 2-1/2".

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Backflow Preventer, Domestic, 2-1/2", RPZ	1 EA	\$4,756.10	L/R	3	2022	\$4,756

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Coding / Field Name	Asset Description
<b>D2023 - Domestic Water Supply Equipment</b>	Steam Converter, Domestic Hot Water, 10 GPM
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$2,932.85
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	35 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	21 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Steam Converter, Domestic Hot Water, 10 GPM
<b>Make (Manufacturer)</b>	Ajax Boiler
<b>Model Number</b>	SI-V-04-SW-SExxx-D-M
<b>Serial Number (Catalog Number)</b>	3684
<b>Capacity</b>	10
<b>Capacity UoM (Unit of Measure)</b>	- See Observation/Comments
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity

#### Observations/Comments

Capacity is estimated in units of GPM.

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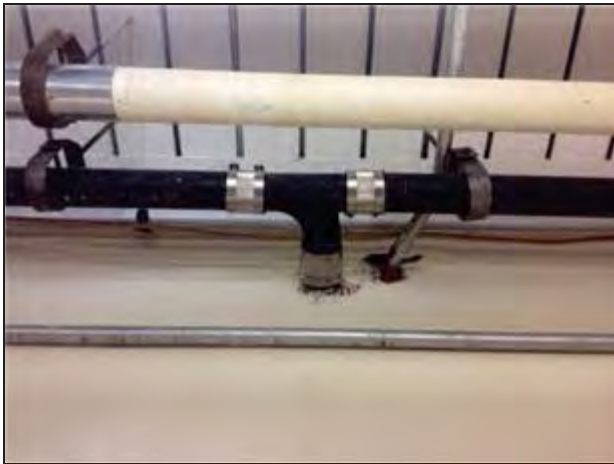
Coding / Field Name	Asset Description
<b>D2029 - Domestic Water Distribution - OTHER</b>	Plumbing System, Domestic Supply
<b>Condition</b>	Fair
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$5.84
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	26 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Plumbing System, Domestic Supply



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Coding / Field Name	Asset Description
D2039 - Sanitary Waste -OTHER	Plumbing System, Sanitary Waste
Condition	Good
Quantity	49,598 SF
Unit Cost	\$3.89
Year in Service	2002
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	26 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Plumbing System, Sanitary Waste



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Coding / Field Name	Asset Description
D2049 - Rain Water Drainage -OTHER	Plumbing System, Rain Water Drainage
Condition	Good
Quantity	49,598 SF
Unit Cost	\$2.92
Year in Service	2002
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	26 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Plumbing System, Rain Water Drainage



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Coding / Field Name	Asset Description
D3022 - Boiler Room Piping & Specialties	Condensate Receiver Station, 15 GAL
Condition	Fair
Quantity	1 EA
Unit Cost	\$7,732.67
Year in Service	2002
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	11 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary, Room 106)
Basis of Costing	Condensate Receiver Station, 15 GAL
Dataplate Information (Make, Model, SN) Not Completed Because	Limited Access to Dataplate
Capacity	1
Capacity UoM (Unit of Measure)	HP
Capacity Nominal/Estimated?	Estimated Capacity

**Observations/Comments**

Duplex 1 HP, estimated.

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Coding / Field Name	Asset Description
<b>D3023 - Auxiliary Equipment</b>	Heat Exchanger, Steam-to-Water, HEX-1
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$12,916.17
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	35 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	21 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Heat Exchanger, Steam-to-Water, 76 to 105 GPM
<b>Client Asset Tag</b>	HEX-1
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	No Dataplate
<b>Capacity</b>	100
<b>Capacity UoM (Unit of Measure)</b>	GPM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



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Coding / Field Name	Asset Description
<b>D3023 - Auxiliary Equipment</b>	Heat Exchanger, Steam-to-Water, HEX-2
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$15,777.86
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	35 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	21 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Heat Exchanger, Steam-to-Water, 106 to 130 GPM
<b>Client Asset Tag</b>	HEX-2
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	No Dataplate
<b>Capacity</b>	120
<b>Capacity UoM (Unit of Measure)</b>	GPM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



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Coding / Field Name	Asset Description
<b>D3031 - Chilled Water Systems</b>	Cooling Tower, Galvanized
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Cost Adjustment Factor/Reason</b>	1.1 / Crane Required
<b>Unit Cost (Adjusted)</b>	\$17,508.83
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Cooling Tower, 26 to 50 Ton
<b>Make (Manufacturer)</b>	Evapco
<b>Model Number</b>	LRW-29-2-2
<b>Serial Number (Catalog Number)</b>	T012021
<b>Capacity</b>	30
<b>Capacity UoM (Unit of Measure)</b>	TONS
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity
<b>Encasement Material</b>	Galvanized
<b>Fan Motor VFD</b>	No
<b>Fan Motor VFD - Condition</b>	NA
<b>Baffling/Air Louver and Screening System</b>	Fair Condition
<b>Demolition/Removal/New Installation Complexity</b>	Difficult Roof Location (1.1+),

#### Observations/Comments

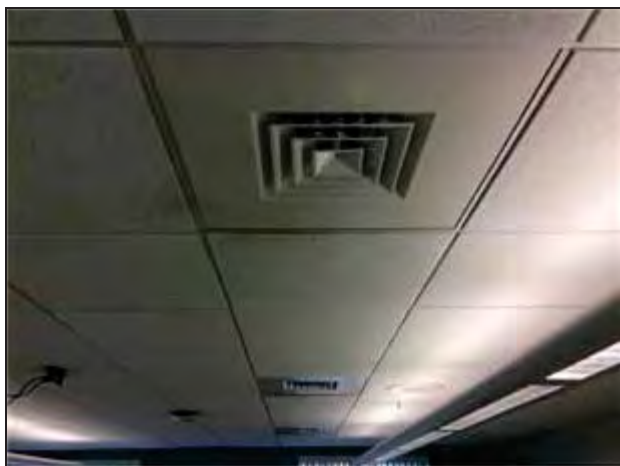
The Asset appears to have been maintained, and there were no reports or observed signs of failure. RUL has been extended accordingly. Replacement will require a crane, cost factored.

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Cooling Tower, Galvanized	1 EA	\$17,508.83	L/R	3	2025	\$17,509

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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	HVAC System Ductwork
<b>Condition</b>	Fair
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$15.00
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	HVAC System Ductwork, Sheet Metal



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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	Variable Air Volume (VAV) Unit
<b>Condition</b>	Good
<b>Quantity</b>	64 EA
<b>Unit Cost</b>	\$2,322.63
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	12 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Variable Air Volume (VAV) Unit, 801 to 1,300 CFM
<b>Client Asset Tag</b>	various
<b>Make (Manufacturer)</b>	various
<b>Model Number</b>	various
<b>Serial Number (Catalog Number)</b>	various
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	Limited Access to Dataplate
<b>Capacity</b>	1000
<b>Capacity UoM (Unit of Measure)</b>	CFM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life. Quantity approximated based on total cooling capacity of rooftop units (160 Tons) serving VAV boxes.



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Coding / Field Name	Asset Description
<b>D3042 - Exhaust Ventilation Systems</b>	Exhaust Fans, Roof-Mounted
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$2,762.86
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Exhaust Fan, Roof Mounted, 2,001 to 5,000 CFM
<b>Client Asset Tag</b>	REF-1
<b>Make (Manufacturer)</b>	Penn
<b>Model Number</b>	DX16B
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	Information not on Dataplate
<b>Capacity</b>	2500
<b>Capacity UoM (Unit of Measure)</b>	CFM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life. Minor vibration was observed.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Exhaust Fans, Roof-Mounted	1 EA	\$2,762.86	L/R	3	2020	\$2,763

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Coding / Field Name	Asset Description
D3044 - Hot Water Distribution	Circulation Pump, Hot Water, Pump 3
Condition	Good
Quantity	1 EA
Unit Cost	\$5,518.88
Year in Service	2002
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary, Room 106)
Basis of Costing	Circulation Pump, Heating Water, 5 HP
Client Asset Tag	Pump 3
Make (Manufacturer)	Bell & Gossett
Model Number	2X9.5B
Serial Number (Catalog Number)	CN6781-02 K20
Capacity	120
Capacity UoM (Unit of Measure)	GPM
Capacity Nominal/Estimated?	Nominal Capacity
Variable Frequency Drive (VFD)	Yes

#### Observations/Comments

Provides flow through heat exchanger HEX-2, serving the heating hot water loop. RUL extended based on no reports or observations of problems with this Asset indicating end of useful life, including no signs of leak.



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Coding / Field Name	Asset Description
<b>D3044 - Hot Water Distribution</b>	Circulation Pump, Hot Water, Pump 4
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$5,518.88
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Circulation Pump, Heating Water, 5 HP
<b>Client Asset Tag</b>	Pump 4
<b>Make (Manufacturer)</b>	Bell & Gossett
<b>Model Number</b>	2X9.5B
<b>Serial Number (Catalog Number)</b>	CN6781-01 K20
<b>Capacity</b>	120
<b>Capacity UoM (Unit of Measure)</b>	GPM
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity
<b>Variable Frequency Drive (VFD)</b>	Yes

#### Observations/Comments

Provides flow through heat exchanger HEX-2, serving the heating hot water loop. RUL extended based on no reports or observations of problems with this Asset indicating end of useful life, including no signs of leak. No nameplate was observed on this pump. However, since it operates as a lead/lag pump along with Pump-3, information listed as expected to be accurate.



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Coding / Field Name	Asset Description
<b>D3045 - Chilled Water Distribution</b>	Circulation Pump, Condenser Water, Pump 1
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$5,518.88
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Circulation Pump, Chiller & Condenser Water, 5 HP
<b>Client Asset Tag</b>	Pump 1
<b>Make (Manufacturer)</b>	Bell & Gossett
<b>Model Number</b>	2X9.5B
<b>Serial Number (Catalog Number)</b>	CN6782-02 K20
<b>Capacity</b>	100
<b>Capacity UoM (Unit of Measure)</b>	GPM
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity
<b>Variable Frequency Drive (VFD)</b>	No

#### Observations/Comments

Provides flow through heat exchanger HEX-1, serving the heat pump (condenser water) loop. RUL extended based on no reports or observations of problems with this Asset indicating end of useful life, including no signs of leak.



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D3045 - Chilled Water Distribution</b>	Circulation Pump, Condenser Water, Pump 2
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$5,518.88
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Circulation Pump, Chiller & Condenser Water, 5 HP
<b>Client Asset Tag</b>	Pump 2
<b>Make (Manufacturer)</b>	Bell & Gossett
<b>Model Number</b>	2X9.5B
<b>Serial Number (Catalog Number)</b>	CN6782-01 K20
<b>Capacity</b>	100
<b>Capacity UoM (Unit of Measure)</b>	GPM
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity
<b>Variable Frequency Drive (VFD)</b>	No

#### Observations/Comments

Provides flow through heat exchanger HEX-1, serving the heat pump (condenser water) loop. RUL extended based on no reports or observations of problems with this Asset indicating end of useful life, including no signs of leak.



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Coding / Field Name	Asset Description
<b>D3049 - Distribution Systems -OTHER</b>	HVAC System Piping, 2-Pipe, Hot Water
<b>Condition</b>	Fair
<b>Quantity</b>	30,000 SF
<b>Unit Cost</b>	\$6.50
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	HVAC System Piping, 2-Pipe

#### Observations/Comments

System exists primarily in interior spaces served by VAV terminal boxes with terminal reheat coils. Building perimeter spaces are typically not served by the hot water system, as they are served by heat pumps in most cases. Area of this Asset reduced accordingly.



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Coding / Field Name	Asset Description
<b>D3049 - Distribution Systems -OTHER</b>	HVAC System Piping, 2-Pipe, Steam & Condensate
<b>Condition</b>	Fair
<b>Quantity</b>	20,000 SF
<b>Unit Cost</b>	\$6.50
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	HVAC System Piping, 2-Pipe

#### Observations/Comments

Area used to approximate value. System exists primarily on the first floor.



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Coding / Field Name	Asset Description
<b>D3051 - Terminal Self-Contained Units</b>	Unit Heater, Hydronic, 101 to 160 MBH
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$2,469.66
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary, Room 106)
<b>Basis of Costing</b>	Unit Heater, Hydronic, 101 to 160 MBH
<b>Make (Manufacturer)</b>	Trane
<b>Model Number</b>	UHSA137S8EAA1T0000000
<b>Serial Number (Catalog Number)</b>	L02G41794
<b>Capacity</b>	102
<b>Capacity UoM (Unit of Measure)</b>	MBH
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
D3052 - Package Units	Heat Pump, Water Source
Condition	Fair
Quantity	45 EA
Cost Adjustment Factor/Reason	0.75 / Condenser loop, not package
Unit Cost (Adjusted)	\$3,131.80
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	1 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Heat Pump, 0.75 to 1 Ton
Make (Manufacturer)	Trane
Model Number	GE Series
Serial Number (Catalog Number)	Varies
Capacity	0.75
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is an estimated average of observed Assets

#### Observations/Comments

Includes console and ceiling-concealed type units. RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Heat Pump, Water Source	45 EA	\$3,131.80	L/R	3	2017	\$140,931

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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, Variable Volume, RTU-4
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.1 / Crane Required
Unit Cost (Adjusted)	\$57,899.84
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	6 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, Variable Volume, 21 to 30 Ton
Client Asset Tag	RTU-4
Make (Manufacturer)	Trane
Model Number	SXHFC3040237C39D7D11ABWE0G0KL00RT0Y8600
Serial Number (Catalog Number)	C02D02759
Capacity	30
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Nominal Capacity
Refrigerant Used	R-22 (2015 - Production Freeze, 2020 - Prohibited New Install, 2030 - Total Phase-out)

#### Observations/Comments

The Asset appears to have been maintained, and there were no reports or observed signs of failure. RUL has been extended accordingly. Replacement will require a crane, cost factored.



## FACILITY CONDITION ASSESSMENT

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EMG PROJECT NO: 117742.16R000-B79.305

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Package Unit, Variable Volume, RTU-4	1 EA	\$57,899.84	L/R	3	2022	\$57,900



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, Variable Volume, RTU-1
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.1 / Crane Required
Unit Cost (Adjusted)	\$72,765.31
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	6 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, Variable Volume, 31 to 40 Ton
Client Asset Tag	RTU-1
Make (Manufacturer)	Trane
Model Number	SXHFC4040245C48D7D11ABWE0G00L00RT0Y8600
Serial Number (Catalog Number)	C02D02756
Capacity	40
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Nominal Capacity
Refrigerant Used	R-22 (2015 - Production Freeze, 2020 - Prohibited New Install, 2030 - Total Phase-out)

#### Observations/Comments

The Asset appears to have been maintained, and there were no reports or observed signs of failure. RUL has been extended accordingly. Replacement will require a crane, cost factored.



# FACILITY CONDITION ASSESSMENT

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EMG PROJECT NO: 117742.16R000-B79.305

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Package Unit, Variable Volume, RTU-1	1 EA	\$72,765.31	L/R	3	2022	\$72,765



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, Variable Volume, RTU-3
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.1 / Crane Required
Unit Cost (Adjusted)	\$72,765.31
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	6 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, Variable Volume, 31 to 40 Ton
Client Asset Tag	RTU-3
Make (Manufacturer)	Trane
Model Number	SXHFC4040245C38D7D11ABWE0G0KL00RT0Y8600
Serial Number (Catalog Number)	C02D02758
Capacity	40
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Nominal Capacity
Refrigerant Used	R-22 (2015 - Production Freeze, 2020 - Prohibited New Install, 2030 - Total Phase-out)

#### Observations/Comments

The Asset appears to have been maintained, and there were no reports or observed signs of failure. RUL has been extended accordingly. Replacement will require a crane, cost factored.



## FACILITY CONDITION ASSESSMENT

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Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Package Unit, Variable Volume, RTU-3	1 EA	\$72,765.31	L/R	3	2022	\$72,765



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, Variable Volume, RTU-2
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.1 / Crane Required
Unit Cost (Adjusted)	\$104,155.07
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	6 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, Variable Volume, 41 to 60 Ton
Client Asset Tag	RTU-2
Make (Manufacturer)	Trane
Model Number	SXHFC5040256C59D7D11ABWE0G00L00RT0Y8600
Serial Number (Catalog Number)	C02D02757
Capacity	50
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Nominal Capacity
Refrigerant Used	R-22 (2015 - Production Freeze, 2020 - Prohibited New Install, 2030 - Total Phase-out)

#### Observations/Comments

The Asset appears to have been maintained, and there were no reports or observed signs of failure. RUL has been extended accordingly. Replacement will require a crane, cost factored.



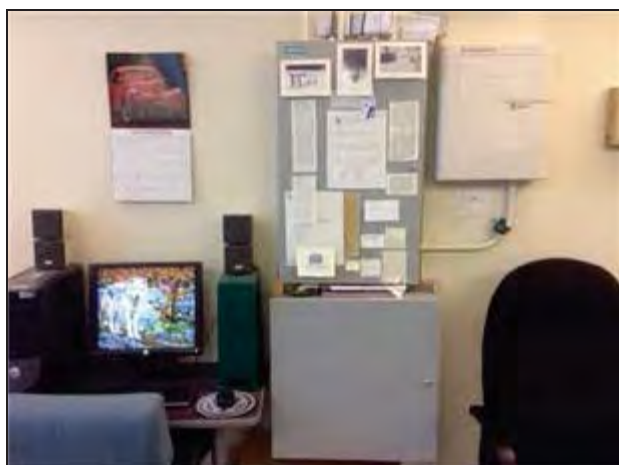
Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Package Unit, Variable Volume, RTU-2	1 EA	\$104,155.07	L/R	3	2022	\$104,155



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Coding / Field Name	Asset Description
<b>D3068 - Building Automation Systems</b>	HVAC Controls, Direct Digital (DDC)
<b>Condition</b>	Fair
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$5.36
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Building Automation System (HVAC Controls)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace HVAC Controls, Direct Digital (DDC)	49,598 SF	\$5.36	L/R	3	2022	\$265,845

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Coding / Field Name	Asset Description
D4011 - Sprinkler Water Supply	Backflow Preventer, Fire, 6", DCVA
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,344.53
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary, Room 106)
Basis of Costing	Backflow Preventer, 6"
Make (Manufacturer)	Watts
Model Number	709
Serial Number (Catalog Number)	255468
Capacity	6
Capacity UoM (Unit of Measure)	- See Observation/Comments
Capacity Nominal/Estimated?	Nominal Capacity

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life, including no signs of leak. Size is 6".



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Backflow Preventer, Fire, 6", DCVA	1 EA	\$9,344.53	L/R	3	2021	\$9,345

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D4019 - Sprinkler -OTHER</b>	Sprinkler Heads (Existing)
<b>Condition</b>	Fair
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$1.33
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	6 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Sprinkler Heads (per SF)
<b>Fire Extinguishers</b>	Observed/Reported in working condition
<b>Smoke Evacuation</b>	Yes - See Observations/Comments

#### Observations/Comments

Smoke evacuation of the atrium space appears to be provided via passive louvers with automated dampers and a smoke reservoir at the top of the atrium. Smoke exhaust fans were not observed or reported.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Sprinkler Heads (Existing)	49,598 SF	\$1.33	L/R	3	2022	\$65,965

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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Building/Main Switchgear, 480 Y, 277 V, 1,200 Amp
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.1 /
Unit Cost (Adjusted)	\$215,214.12
Year in Service	2002
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	26 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Building/Main Switchgear, 480 Y, 277 V, 1,000 Amp
Make (Manufacturer)	Cutler-Hammer
Model Number	Pow-R-Line C
Serial Number (Catalog Number)	HBS70034
Capacity	1200
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Nominal Capacity
Clearance around component	Adequate



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Distribution Panel, 208 Y, 120 V, 600 Amp, Panel L1L
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	0.9 /
Unit Cost (Adjusted)	\$12,081.43
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Distribution Panel, 208 Y, 120 V, 800 Amp
Client Asset Tag	Panel L1L
Make (Manufacturer)	Cutler-Hammer
Model Number	PRL4B
Serial Number (Catalog Number)	HBS70034 035
Capacity	600
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Nominal Capacity



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Secondary Transformer, Dry, 45 kVA
Condition	Fair
Quantity	1 EA
Unit Cost	\$6,857.93
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Secondary Transformer, Dry, 45 kVA
Make (Manufacturer)	Cutler-Hammer
Model Number	N48M28F45CU
Serial Number (Catalog Number)	J02G05651
Capacity	45
Capacity UoM (Unit of Measure)	kVA
Capacity Nominal/Estimated?	Nominal Capacity
PCB (PolyChlorinated Biphenyl)	No



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Secondary Transformer, Dry, 45 kVA
Condition	Fair
Quantity	1 EA
Unit Cost	\$6,857.93
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Secondary Transformer, Dry, 45 kVA
Make (Manufacturer)	PQI HarMitigator
Model Number	DV0/30-60-045-480:120/208-115-ES
Serial Number (Catalog Number)	B 70641
Capacity	45
Capacity UoM (Unit of Measure)	kVA
Capacity Nominal/Estimated?	Nominal Capacity
PCB (PolyChlorinated Biphenyl)	No



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Coding / Field Name	Asset Description
<b>D5012 - Low Tension Service &amp; Dist.</b>	Secondary Transformer, Dry, 150 kVA
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$15,803.27
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	16 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Electrical Room (Primary, Room 106A)
<b>Basis of Costing</b>	Secondary Transformer, Dry, 150 kVA
<b>Make (Manufacturer)</b>	PQI HarMitigator
<b>Model Number</b>	DV0/30-60-150-480:120/208-115-ES
<b>Serial Number (Catalog Number)</b>	B 70642
<b>Capacity</b>	150
<b>Capacity UoM (Unit of Measure)</b>	kVA
<b>Capacity Nominal/Estimated?</b>	Nominal Capacity
<b>PCB (PolyChlorinated Biphenyl)</b>	No



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Secondary Transformer, Dry, 225 kVA
Condition	Fair
Quantity	1 EA
Unit Cost	\$17,034.70
Year in Service	2002
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	16 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Secondary Transformer, Dry, 225 kVA
Make (Manufacturer)	Cutler-Hammer
Model Number	N48M28F22CU
Serial Number (Catalog Number)	J02C06433
Capacity	225
Capacity UoM (Unit of Measure)	kVA
Capacity Nominal/Estimated?	Nominal Capacity
PCB (PolyChlorinated Biphenyl)	No

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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Transfer Switch, Automatic (ATS), 600 V, 150 Amp, Left
Condition	Fair
Quantity	1 EA
Unit Cost	\$8,478.33
Year in Service	2002
Expected Useful Life (EUL)	18 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Transfer Switch, Automatic (ATS), 600 V, 150 Amp
Make (Manufacturer)	Generac
Model Number	2926680100
Serial Number (Catalog Number)	82456
Capacity	150
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Nominal Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Transfer Switch, Automatic (ATS), 600 V, 150 Amp, Left	1 EA	\$8,478.33	L/R	3	2020	\$8,478

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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Transfer Switch, Automatic (ATS), 600 V, 150 Amp, Right
Condition	Fair
Quantity	1 EA
Unit Cost	\$8,478.33
Year in Service	2002
Expected Useful Life (EUL)	18 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary, Room 106A)
Basis of Costing	Transfer Switch, Automatic (ATS), 600 V, 150 Amp
Make (Manufacturer)	Generac
Model Number	2926680100
Serial Number (Catalog Number)	82457
Capacity	150
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Nominal Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Transfer Switch, Automatic (ATS), 600 V, 150 Amp, Right	1 EA	\$8,478.33	L/R	3	2020	\$8,478

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D5019 - Electrical Service &amp; Distribution - OTHER</b>	Electrical System, School
<b>Condition</b>	Good
<b>Quantity</b>	49,598 SF
<b>Unit Cost</b>	\$49.78
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	26 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Electrical System, School



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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D5022 - Lighting Equipment</b>	Exterior Light Fixture, Low Pressure Sodium Lighting Fixture w/ Electronic Ballast, 250 W
<b>Condition</b>	Fair
<b>Quantity</b>	2 EA
<b>Unit Cost</b>	\$136.01
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Low Pressure Sodium Lighting Fixture w/ Electronic Ballast, 250 W



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Exterior Light Fixture, Low Pressure Sodium Lighting Fixture w/ Electronic Ballast, 250 W	2 EA	\$136.01	L/R	3	2026	\$272

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EMG PROJECT NO: 117742.16R000-B79.305

Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F1-Lighting System, Interior
<b>Condition</b>	Fair
<b>Quantity</b>	17,466 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent and LED
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No



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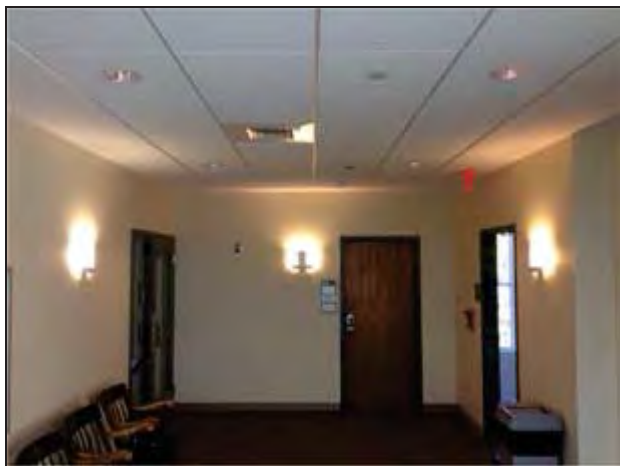
Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F2-Lighting System, Interior
<b>Condition</b>	Fair
<b>Quantity</b>	16,066 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2002
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No



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Coding / Field Name	Asset Description
D5029 - Lighting & Branch Wiring -OTHER	F3-Lighting System, Interior
Condition	Fair
Quantity	16,066 SF
Unit Cost	\$9.24
Year in Service	2002
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	11 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Lighting System, Interior, Office Building
General Lighting (Predominant)	T8 - Fluorescent
Accent Lighting	Fluorescent
T12 Fluorescent	No
Incandescent Fixtures	No



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Coding / Field Name	Asset Description
D5037 - Fire Alarm Systems	Fire Alarm Control Panel, Addressable
Condition	Fair
Quantity	1 EA
Unit Cost	\$20,297.59
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Fire Alarm Control Panel, Addressable
Make (Manufacturer)	Notifier
Dataplate Information (Make, Model, SN) Not Completed Because	Limited Access to Dataplate
Last Replacement	More than 14 Years Ago (HUD/FHA Replace every 15 Years)
Last Inspection	10/13/16

#### Observations/Comments

RUL extended based on no reports or observations of problems with this Asset indicating end of useful life.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fire Alarm Control Panel, Addressable	1 EA	\$20,297.59	L/R	3	2019	\$20,298

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Coding / Field Name	Asset Description
D5037 - Fire Alarm Systems	Fire Alarm System
Condition	Fair
Quantity	49,598 SF
Unit Cost	\$2.36
Year in Service	2002
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	6 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Fire Alarm System, Office Building, Upgrade/Install
Smoke Detectors	Observed/Reported in working condition
Pull Stations	Observed/Reported in working condition
Audible Alarms	Observed/Reported in working condition
Strobe Alarms	Observed/Reported in working condition
Exit Signage, Illuminated	Observed/Reported in working condition
Emergency Lighting Type	Standard Fixtures - Wired to Emergency Power



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fire Alarm System	49,598 SF	\$2.36	L/R	3	2022	\$117,051

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Coding / Field Name	Asset Description
D5092 - Emergency Light & Power Systems	Emergency Generator, Natural Gas
Condition	Fair
Quantity	1 EA
Unit Cost	\$71,929.70
Year in Service	2002
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	11 Year(s), Estimated, Based on Date of Observation
Location	Site
Basis of Costing	Generator, Gas or Gasoline, 65 kW to 125 kW
Make (Manufacturer)	Generac
Model Number	2926650300
Serial Number (Catalog Number)	2071040
Capacity	180
Capacity UoM (Unit of Measure)	kW
Capacity Nominal/Estimated?	Nominal Capacity
Exercised Frequency	Weekly
Fuel Tank	No Tank
Spill Containment	No
Demolition/Removal/New Installation Complexity	Simple



## 4 CERTIFICATION

EMG has completed a Facility Condition Assessment (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 generally conforming to *ASTM E2018-15, 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 PCA 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 an FCA in accordance with *ASTM E2018-15* 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 listed on the cover page of this report.

**Prepared By:** Ryan Peters, Field Observer/Project Manager



**Reviewed By:** Marge Bershtein, Program Manager

## 5 APPENDICES

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<b>APPENDIX A</b>	<b>Key Photographic Record</b>
<b>APPENDIX B</b>	<b>Location Plan</b>
<b>APPENDIX C</b>	<b>Capital Expenditure Table</b>
<b>APPENDIX D</b>	<b>Pre-Survey Questionnaire (PSQ)</b>
<b>APPENDIX E</b>	<b>Accessibility Checklist</b>
<b>APPENDIX F</b>	<b>Documents Reviewed</b>
<b>APPENDIX G</b>	<b>On-Site Date Weather Conditions</b>
<b>APPENDIX H</b>	<b>Areas Not Observed or Down Areas</b>
<b>APPENDIX I</b>	<b>Equipment List</b>

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## APPENDIX A      KEY PHOTOGRAPHIC RECORD

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Images provided here are general photographs of the building. Specific Asset photos are provided in Section 3 of this Report.

## FACILITY CONDITION ASSESSMENT

BALLANTINE HALL / 32-058  
7 LIPPITT ROAD  
S. KINGSTOWN, RI 02881

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EMG PROJECT NO: 117742.16R000-B79.305



Front Elevation



Left Elevation



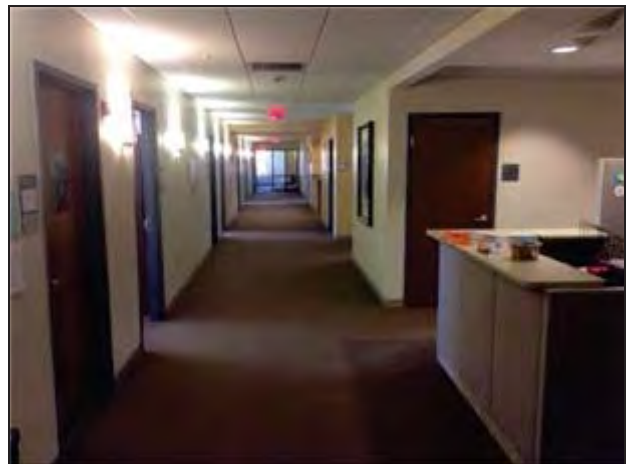
Right Elevation



Rear Elevation



Overall Site



Interiors (General)

## FACILITY CONDITION ASSESSMENT

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Atrium, View From Floor 3



Elevator Lobby, Floor 3



Front Entry



Lobby



Overall Roof

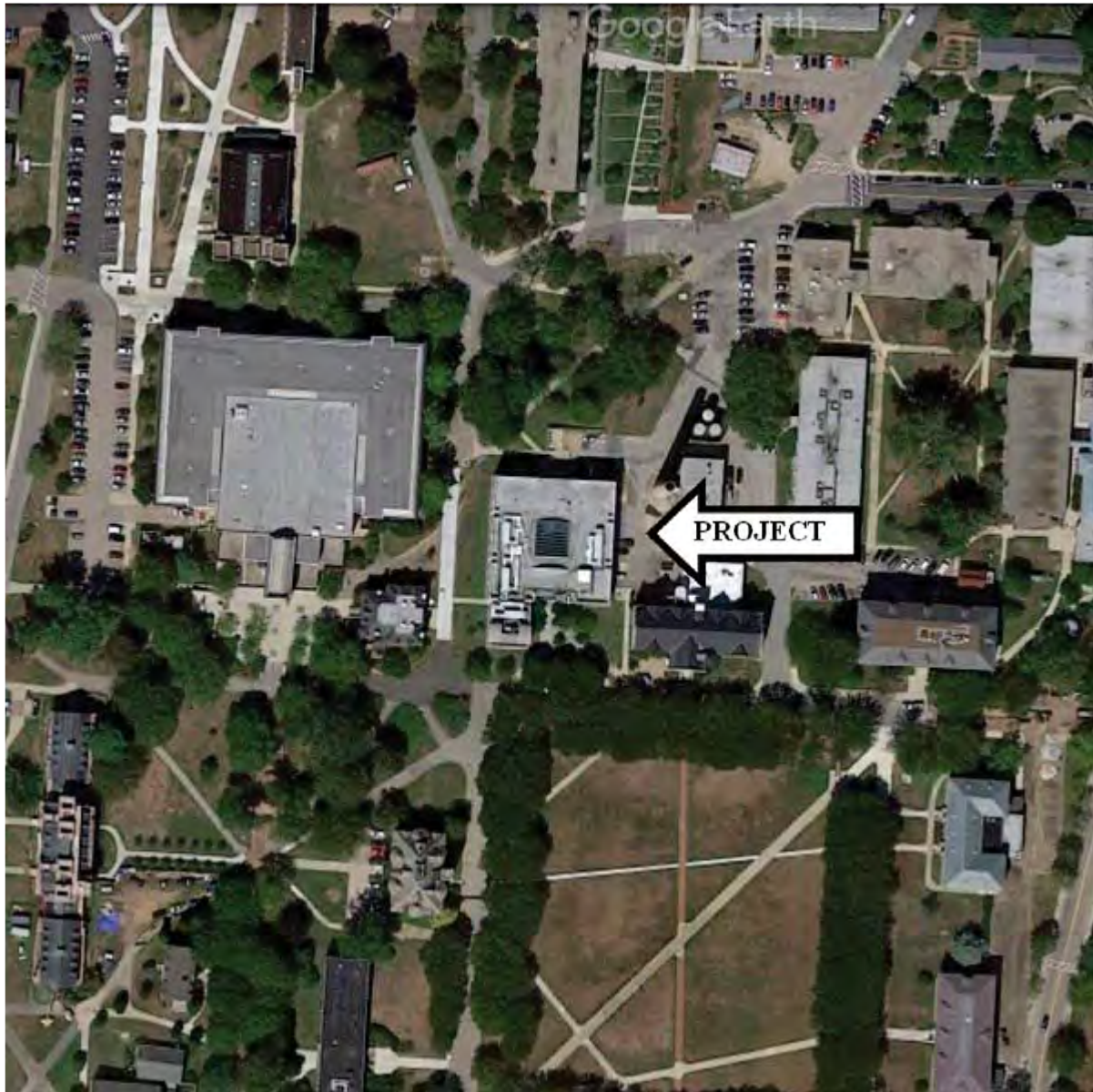


Thomson Boardroom, 347

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EMG PROJECT NO: 117742.16R000-B79.305

## APPENDIX B LOCATION PLAN

Source

The north arrow indicator approximates 0° North.

EMG Project Number  
**117742.16R000-B79.305**

Project Name  
**Ballantine Hall / 32-058**

On-Site Date  
**11/04/2016**

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## APPENDIX C      CAPITAL EXPENDITURE TABLE

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[illegible]



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EMG PROJECT NO: 117742.16R000-B79.305

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## APPENDIX D      PRE-SURVEY QUESTIONNAIRE (PSQ)

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The Pre-Survey Questionnaire (PSQ) is based on information provided directly by the Client or the Client's designated Point of Contact (POC). A version of this form is provided to the Client prior to EMG's on-site assessment with the instructions that it be filled out as completely as possible. If a completed form is provided, it is included here.

Point of Contact (POC): Daniel Cartier - Assistant Facilities Director - 401-207-7616 - Dcartier@uri.edu

Form was: Completed by the POC and provided to the EMG Project Manager while on-site. Scan Included here.

## FACILITY CONDITION ASSESSMENT: PRE-SURVEY QUESTIONNAIRE

This questionnaire must be completed by the property owner, the owner's designated representative, or someone knowledgeable about the subject property. *The completed form must 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 form:

Daniel Cartier

Title / Association with property:

Assistant Facilities Director

Length of time associated w/ property:

Phone Number:

Building / Facility Name:

Ballentine Hall (KC 58)

Campus Name:

Kingston Campus

**Directions:** Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any Yes responses.

DATA OVERVIEW		RESPONSE
1	Year constructed	1967 * Ren'd (full) 2002
2	Building size in SF	49598
3	Acreage	<del>2.1</del> 2.1 Acres
4	Number of parking spaces (provide accessible counts)	8 , 4 of which are Accessible
5	Age of roof (known or estimated); active warranty w/ expiration date?	<del>2000ish.</del> 2002
QUESTION		RESPONSE
6	List all major renovations or rehabilitations since construction (with estimated dates).	<del>2000</del> 2002
7	List other somewhat lesser but still significant capital improvements, focused within recent years (provide approximate year completed).	-
8	List any major capital expenditures planned/requested for the next few years. Have they been budgeted?	-
9	Describe any extremely problematic, historically chronic, or immediate facility needs.	Leaky sky lights Small Roof Leaks
10	Describe any shared building or site elements or unique arrangements with neighboring properties, entities, or tenants.	<del>None</del> Parking is campus parking, i.e., building has minimal dedicated parking immediately adjacent.

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")						
QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
11	Are there any unusable or "down" areas, units, or spaces within the facility?		✓			
12	Is the facility served by a private water well, septic system or other special waste treatment system?	✓				URI Water System
13	Are there any problems with the utilities, such as inadequate pressure or capacities?		✓			
14	Have there been any leaks or pressure problems with natural gas service?		✓			
15	Are there any problems with erosion or areas with storm water drainage issues?		✓			
16	Are there any problems with the landscape irrigation systems?	✓				No Irrigation (OK)
17	Are there any problems or inadequacies with exterior lighting?	✓				Need LED Lighting (OK)
18	Are there any problems with foundations or structures, like excessive settlement?		✓			
19	Are there any known issues with termites or other wood-boring pests?		✓			
20	Are there any wall, window, basement or roof leaks?	✓				window
21	Are there any plumbing leaks or water pressure problems?		✓			
22	Are any areas of the facility inadequately heated, cooled or ventilated?		✓			Leaky HVAC. (NOT IDENTIFIED)
23	Are there any poorly insulated areas?	✓				Needs Thermal Imaging (N/C)
24	Do any of the HVAC systems use older R-11, 12, or 22 refrigerants?		✓			
25	Has any part of the facility ever contained visible suspect mold growth?	✓				yes 3rd floor - NONE OBSERVED
26	Have there been indoor air quality or mold related complaints from building occupants?	✓				3rd floor (PPE-REMO?)

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")						
QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
27	Are there any known unresolved building, fire, or zoning code issues with the governing municipality?	✓				Need Fire Code Review (NOTHING SPECIFIC IDENTIFIED OR OBSERVED)
28	Is there any pending litigation concerning the property?			✓		
29	Are there outstanding accessibility issues at the facility? (Go over and fill out first 'History' subsection of separate ADA checklist.)	✓				Should get ADA Review (APPEARS COMPLIANT)
30	Are there any EMG 'red flag' issues at the facility? (Go over and fill out attached checklist below.)	✓				Asbestos Lead Paint
31	Are there any other unresolved construction defects or significant issues/hazards at the property that have not yet been identified?	✗				NONE OBSERVED/REPORTED

AGENCY OVERVIEW	RESPONSE
List the agency/agencies occupying the building	URI
Provide the number of occupants in the building by agency	URI
Provide the number of staff per shift, if applicable	
If there are multiple agencies, provide a floor plan depicting location of each agency and number of occupants per room.	URI
Average daily general public during normal operations	URI Student

David Gut  
Signature of person interviewed or completing form

11/3/16  
Date

## RED FLAG CHECKLIST

Mark the single column corresponding to the most appropriate situation. (PSQ only indicates POC acknowledged presence during interview but item was not observed on-site; OBS only indicates the item was observed but not identified as known to be present during interview process; PSQ & OBS indicates item was both verbally identified and physically observed; NOT EVID indicates the item was neither observed during limited visual assessment nor identified as present during discussions).

RED FLAG ISSUE		OBSERVED?				GUIDANCE
		PSQ only	OBS only	PSQ & OBS	NOT EVID	most prevalent time or potential use
1	Asbestos (ACM)	/				1970's and prior; ACM insulation or fire retardant materials such as boiler or pipe wrap, ceiling spray, 9" floor tile, mastic
2	Lead-Based Paint (LBP)	/				1978 and prior; primarily concerned with housing sites
3	Polychlorinated Biphenyls (PCB's)				/	1984 and prior; transformers, capacitors, or hydraulic equipment and sealant
4	Fire Retardant Plywood (FRT)				/	1955 to 1998; as roof sheathing; view attics; sometimes stamped; moisture absorbance leads to premature failure
5	Engineered / Hardboard Wood Siding				/	any time; Masonite, Louisiana Pacific; water damage and premature failure
6	Exterior Insulation and Finish System (EIFS)				/	any time; water penetration and premature failure (looks like stucco but feels "lighter")
7	Galvanized Water Piping				/	prior to early 1980's; common in 1970's; pinhole leaks and interior mineral build-up
8	Polybutylene Water Piping				/	1977-1995; mostly relevant to housing; grey/blue plastic commonly leaks at joint fittings
9	Cadet/Encore Wall Heater Recall				/	1982-1999; mostly relevant to housing; collect & cross-check model numbers; potential fire hazards
10	PTAC Recall (Goodman/Amana)				/	1996-2003; mostly relevant to housing; faulty thermal override switch; collect and cross-check model numbers
11	Aluminum Wiring (interior branch)				/	1964-1975; more concerns with interior and smaller gauge, branch wiring
12	Federal Pacific Stab-Lok Electrical Panels				/	prior to 1986; potential fire hazards
13	Fused Electrical Panels				/	prior to early 1960's; easily tampered with, as such potential fire hazard
14	Low Unit Amperage (< 60 amps)				/	any time; relevant to housing
15	Fire Sprinkler Head Recalls				/	1960-2001; more heavily 1990's; Central, Gem, Star, Globe, Omega can be suspect; collect & cross-check model numbers
16	Dishwasher Recalls				/	1983-1989: GE, Hotpoint; 1997-2001: GE, Hotpoint, Maytag, Jenn-Air, Kenmore; collect & cross-check model numbers; potential fire hazards
17	Swimming Pool Entrapment Protection (Virginia Baker Safety Act)				/	prior to 2008; beware strong suction in and around pool and spa drains; 3' spacing between drains, modern drain covers; safety vacuum release system

## APPENDIX E ACCESSIBILITY CHECKLIST

Question	Response
Has an ADA survey previously been completed for this property?	Unknown
Have any ADA improvements been made to the property?	Unknown
Does a Transition Plan / Barrier Removal Plan exist for the property?	Unknown
Has building ownership or management received any ADA related complaints that have not been resolved?	Unknown
Is any litigation pending related to ADA issues?	Unknown
<b>Parking</b>	
Are there sufficient accessible parking spaces with respect to the total number of reported spaces?	Unknown 4
Are there sufficient van-accessible parking spaces available?	Unknown 0
Are accessible spaces signed with the International Symbol of Accessibility (ISA)? Are there signs reading "Van Accessible" at van spaces?	No
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?	Yes
Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs?	Yes
Does signage indicate the accessible building entrance from accessible parking, where more than one pedestrian route is present, and not all routes or not all building entrances are accessible?	Yes
Parking Comments	Dedicated parking for this building is limited. Campus parking is available elsewhere.
<b>Ramps</b>	
Do all ramps along accessible path of travel appear to meet slope requirements? (1:12 or less) with maximum rise 30" for each ramp run?	
Do ramp runs that appear to rise more than 6" have railings on both sides?	
Does the width between railings appear at least 36 inches?	
Is there a level landing at the top and at the bottom of ramp runs and at ramp turns?	
Ramps Comments	No ramps
<b>Entrances and Exits</b>	
Are minimum 60% of the public entrances accessible?	Yes

# FACILITY CONDITION ASSESSMENT

*Draft - For Discussion Purposes Only*

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EMG PROJECT NO: 117742.16R000-B79.305

Question	Response
Do all required accessible entrance doorways appear to be: (a) at least 32 inches wide; (b) at least 80 inches high; (c) with hardware between 34" and 48" high, and (d) not a revolving door?	Yes
Is the door hardware easy to operate- lever/push type hardware, no twisting required, min. 36 inches to max. 48 inches above the floor?	Yes
Entrances & Exits Comments	
<b>Paths of Travel and Accessible Routes</b>	
Are all paths of travel free of obstruction and wide enough for a wheelchair (appear at least 36 inches wide)?	Yes
Do accessible routes coincide with the paths of travel for non-disabled (accessible routes cannot be in a totally different area than where everyone else walks)?	Yes
Is there a path of travel that does not require the use of stairs?	Yes
Is signage for restrooms, building means of egress exits, interior and exterior signs identifying permanent rooms/spaces compliant?	Yes
Path of Travel & Accessible Route Comments	
<b>Elevators</b>	
Do the call buttons have visual and audible signals to indicate when a call is registered and answered when car arrives?	Yes
Are there visual and audible signals inside cars indicating floor change?	Yes
Are there standard raised and Braille marking on both jambs of each hoist way entrance as well as all cab call buttons?	Yes
Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?	Yes
Do all elevator controls appear to be within reach ranges between 15 and 48 inches, including emergency communication controls?	Yes
If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?	Yes
Elevator Comments	
<b>Tables, Work Surfaces and Service Counters</b>	
Do at least 5% of dining tables and work surfaces have knee and toe clearance with surface heights appearing to be minimum 28" high and maximum 34" high?	
Do food service counters appear to be maximum 34" height?	



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Question	Response
Do check-out aisles, sales and service counters appear to be maximum 38" high?	
Tables, Work Surfaces, and Service Counters Comments	
<b>Assembly Areas</b>	
Are sufficient wheelchair spaces provided, with a companion seat for each wheelchair space?	
Where an audio system is present and integral to the use of the space, are assistive listening systems present or available?	
Assembly Area Comments	
<b>Restrooms and Locker Rooms</b>	
Are restrooms located on an accessible route?	Yes
Are pull handles push/pull or lever type?	Yes
If fire alarms are located in restrooms, are they both audible AND visual?	Yes
Are toilet room access doors wheelchair-accessible (appear to be at least 32 inches wide)?	Yes
Are public restrooms large enough to accommodate a wheelchair turnaround (appear to have 60" turning diameter)?	Yes
In unisex toilet rooms, are there safety alarms with pull cords?	No
Are toilet stall doors wheelchair accessible (appear to be at least 32" wide)?	Yes
Are sinks provided with clearance for a wheelchair to roll under (appear to have clearance of 8" depth min. at 27" ht.)?	Yes
Are sink handles operable with one hand without grasping, pinching, or twisting?	Yes
Are exposed pipes under sink sufficiently insulated against contact?	Yes
Restroom & Locker Room Comments	
<b>Guest Rooms or Student Sleeping Rooms</b>	
How many total accessible sleeping rooms does the property management report to have?	
Are there sufficient reported accessible sleeping rooms with respect to the total number of reported sleeping rooms?	
How many accessible sleeping rooms have roll-in showers, per property management?	
Are there sufficient reported accessible rooms with roll-in showers with respect to the total number of reported accessible guestrooms?	
How many assistive listening kits and/or rooms with communication features are available per property management?	

# FACILITY CONDITION ASSESSMENT

BALLANTINE HALL / 32-058  
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*Draft - For Discussion Purposes Only*

EMG PROJECT NO: 117742.16R000-B79.305

Question	Response
Are there sufficient reported assistive listening devices with respect to the total number of rooms?	
Where kitchens/kitchenettes are provided, is a wheelchair turning space present in the kitchen/kitchenette and accessible counters (appear to be maximum 34" high adjacent a built in stove or microwave)?	
How many total accessible units of graduate/faculty apartments and townhouses leased on an annual basis does the property management report to have?	
Are there sufficient reported accessible units with accessible kitchens with respect to the total number of reported units?	
Guest Room & Student Sleeping Room Comments	
<b>Pools and Spas</b>	
Are public access pools/spas/wading pools/wave action features provided? If the answer is no, please disregard this section.	
How many accessible access points are provided to each type of water activity?	
Is at least one fixed lift or sloped entry to each type provided (2 entries required for pools with 300 LF or more pool wall)?	
Pools & Spas Comments	
<b>Play and Exercise Areas</b>	
Has the play area been reviewed for accessibility? All public playgrounds are subject to ADA standards.	
Is an accessible route provided to each sport area, exercise area? To each press box where total of boxes in an assembly area is greater than 500 SF?	
Is there an accessible route outside of marked play lines within each sport court, providing access to all sides of the court?	
Does there appear to be adequate clear floor space (30" minimum by 48" minimum) around a minimum of one of each type of exercise machine/ equipment?	
Play & Exercise Area Comments	



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EMG PROJECT NO: 117742.16R000-B79.305

## APPENDIX F DOCUMENTS REVIEWED

The following information and documents were requested prior to the on-site assessment. The order of the documents requested below is generally based on the ASTM E2018-15 document. Items with an \* are discussed in the PSQ. Items that are EMG FCA specific are denoted with a †.

On the day of the on-site assessment, provide EMG's Project Manager with access to all of the available documents and information listed below. Please provide electronic copies if available.

The following documents were provided for review by the EMG Project Manager:

Primary Documentation - Provided for Review	
<b>Drawings &amp; Specifications</b> (Construction, Record Set, As-Built) for the construction of the building and for renovations, additions and any other improvement work. Specific Drawings should include: Floor Plans, Electrical One-Line Diagram, Mechanical Schedule, Lighting Schedule, Elevations.	Not provided or available
<b>Site Survey</b> indicating buildings, roads, hardscape, parking counts, property boundaries, building area, site acreage, utility information.	Not provided or available
<b>Capital Improvement Summary*</b> indicating recent (over the last 5 years) capital improvements or future planned capital improvements. Provide the year the work was completed (or proposed to be completed), a summary description of the scope of the work, and the estimated cost of the improvements.	Not provided or available
Pending Proposals or Executed Contracts for material repairs or improvements	Not provided or available
<b>Summary of SF &amp; Unit Types/Quantities</b> (for residential/hotel/nursing home properties), identifying residential room/unit types (e.g. 1BR, 2BR, 3BR, 3BR ADA, Double, King ADA, Quad, etc.), residential room/unit type quantities, and residential room/unit type floor area in square feet.	Received or reviewed in part
<b>Prior Property Condition Reports</b> or Studies pertaining to any aspect of the subject property's physical condition.	Not provided or available
<b>ADA Survey</b> or reports that indicate deficiencies and the status of any improvements implemented to effect physical compliance.	Not provided or available
<b>Historical Costs</b> incurred for repairs, improvements, and recurring replacements. For portfolio projects, the EMG Program Manager will work with the client to establish a list of Assets and costs that will be used to calibrate the Client's specific cost library.	Not provided or available
Primary Documentation - Additional Comments	

<b>Safety Inspection Records, Certificates, &amp; Permits</b>	Received or reviewed in part
Comments / Specifics	Elevator certificates of inspection viewed
<b>Building Square Footage Breakdown</b>	Not provided or available
<b>Vendor/Contractor Contact List</b>	Not provided or available
<b>Warranty Information</b>	Not provided or available
<b>Systems &amp; Equipment Records</b>	Not provided or available
<b>Tenant List / Rent Roll</b>	Not applicable
<b>Appraisal</b>	Not provided or available
<b>Certificate of Occupancy</b>	Not provided or available
<b>Other Documents</b>	Not provided or available
Additional Comments	

BALLANTINE HALL / 32-058  
7 LIPPITT ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B79.305

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## APPENDIX G ON-SITE DATE WEATHER CONDITIONS

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Item	Condition
Outdoor Temperature	60° F
Weather Conditions	Clear
Snow Covering Ground	No Snow Cover
Wind Conditions	Light Winds
Notes	

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## APPENDIX H AREAS NOT OBSERVED OR DOWN AREAS

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All areas of the property were available for observation during the site visit. There were no down areas.

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## APPENDIX I EQUIPMENT LIST

Equipment List provided is inclusive of all assets that are coded as Uniformat D - Services and generally include D10 Conveying, D20 Plumbing, D30 HVAC, D40 Fire Protection, and D50 Electrical. Additional attributes of each Asset are also recorded but are not reported in this table.

Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D1011	1 EA	Elevator Controls, Automatic, Electronic		MEP Closet	Northern Elevator Limited	TC-181	25.00 HP
D1011	1 EA	Elevator, Hydraulic, 2500 LB, 3 Floors		MEP Closet			2,500.00 LB
D2011	5 EA	F1-Toilet, Tankless (Water Closet)		Floor 1			
D2011	5 EA	F2-Toilet, Tankless (Water Closet)		Floor 2			
D2011	5 EA	F3-Toilet, Tankless (Water Closet)		Floor 3			
D2012	1 EA	F1-Urinal, Vitreous China		Floor 1			
D2012	1 EA	F2-Urinal, Vitreous China		Floor 2			
D2012	1 EA	F3-Urinal, Vitreous China		Floor 3			
D2013	4 EA	F1-Lavatory, Enameled Steel		Floor 1			
D2013	4 EA	F2-Lavatory, Enameled Steel		Floor 2			
D2013	4 EA	F3-Lavatory, Enameled Steel		Floor 3			
D2014	2 EA	Service Sink, Floor		MEP Closet			
D2018	6 EA	Drinking Fountains, Refrigerated		Building Interior (General)			
D2021	1 EA	Backflow Preventer, Domestic, 2-1/2", RPZ		Mechanical Room (Primary, Room 106)	Watts	909	2.50 - See Observation /Comments

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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D2023	1 EA	Steam Converter, Domestic Hot Water, 10 GPM		Mechanical Room (Primary, Room 106)	Ajax Boiler	SI-V-04-SW-SExxx-D-M	10.00 - See Observation /Comments
D2029	49,598 SF	Plumbing System, Domestic Supply		Building Interior (General)			
D2039	49,598 SF	Plumbing System, Sanitary Waste		Building Interior (General)			
D2049	49,598 SF	Plumbing System, Rain Water Drainage		Building Interior (General)			
D3022	1 EA	Condensate Receiver Station, 15 GAL		Mechanical Room (Primary, Room 106)			1.00 HP
D3023	1 EA	Heat Exchanger, Steam-to-Water, HEX-1	HEX-1	Mechanical Room (Primary, Room 106)			100.00 GPM
D3023	1 EA	Heat Exchanger, Steam-to-Water, HEX-2	HEX-2	Mechanical Room (Primary, Room 106)			120.00 GPM
D3031	1 EA	Cooling Tower, Galvanized		Roof	Evapco	LRW-29-2-2	30.00 TONS
D3041	49,598 SF	HVAC System Ductwork		Building Interior (General)			
D3041	64 EA	Variable Air Volume (VAV) Unit	various	Building Interior (General)	various	various	1,000.00 CFM
D3042	1 EA	Exhaust Fans, Roof-Mounted	REF-1	Roof	Penn	DX16B	2,500.00 CFM
D3044	1 EA	Circulation Pump, Hot Water, Pump 3	Pump 3	Mechanical Room (Primary, Room 106)	Bell & Gossett	2X9.5B	120.00 GPM
D3044	1 EA	Circulation Pump, Hot Water, Pump 4	Pump 4	Mechanical Room (Primary, Room 106)	Bell & Gossett	2X9.5B	120.00 GPM



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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D3045	1 EA	Circulation Pump, Condenser Water, Pump 1	Pump 1	Mechanical Room (Primary, Room 106)	Bell & Gossett	2X9.5B	100.00 GPM
D3045	1 EA	Circulation Pump, Condenser Water, Pump 2	Pump 2	Mechanical Room (Primary, Room 106)	Bell & Gossett	2X9.5B	100.00 GPM
D3049	30,000 SF	HVAC System Piping, 2-Pipe, Hot Water		Building Interior (General)			
D3049	20,000 SF	HVAC System Piping, 2-Pipe, Steam & Condensate		Building Interior (General)			
D3051	1 EA	Unit Heater, Hydronic, 101 to 160 MBH		Mechanical Room (Primary, Room 106)	Trane	UHSA137S8 EAA1T0000 000	102.00 MBH
D3052	45 EA	Heat Pump, Water Source		Building Interior (General)	Trane	GE Series	0.75 TONS
D3052	1 EA	Package Unit, Variable Volume, RTU-1	RTU-1	Roof	Trane	SXHFC4040 245C48D7D 11ABWE0G 00L00RT0Y 8600	40.00 TONS
D3052	1 EA	Package Unit, Variable Volume, RTU-2	RTU-2	Roof	Trane	SXHFC5040 256C59D7D 11ABWE0G 00L00RT0Y 8600	50.00 TONS
D3052	1 EA	Package Unit, Variable Volume, RTU-3	RTU-3	Roof	Trane	SXHFC4040 245C38D7D 11ABWE0G 0KL00RT0Y 8600	40.00 TONS
D3052	1 EA	Package Unit, Variable Volume, RTU-4	RTU-4	Roof	Trane	SXHFC3040 237C39D7D 11ABWE0G 0KL00RT0Y 8600	30.00 TONS
D3068	49,598 SF	HVAC Controls, Direct Digital (DDC)		Building Interior (General)			
D4011	1 EA	Backflow Preventer, Fire, 6", DCVA		Mechanical Room (Primary, Room 106)	Watts	709	6.00 - See Observation /Comments



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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D4019	49,598 SF	Sprinkler Heads (Existing)		Building Interior (General)			
D5012	1 EA	Building/Main Switchgear, 480 Y, 277 V, 1,200 Amp		Electrical Room (Primary, Room 106A)	Cutler-Hammer	Pow-R-Line C	1,200.00 AMP
D5012	1 EA	Distribution Panel, 208 Y, 120 V, 600 Amp, Panel L1L	Panel L1L	Electrical Room (Primary, Room 106A)	Cutler-Hammer	PRL4B	600.00 AMP
D5012	1 EA	Secondary Transformer, Dry, 150 kVA		Electrical Room (Primary, Room 106A)	PQI HarMitigator	DV0/30-60-150-480:120/208-115-ES	150.00 kVA
D5012	1 EA	Secondary Transformer, Dry, 225 kVA		Electrical Room (Primary, Room 106A)	Cutler-Hammer	N48M28F22 CU	225.00 kVA
D5012	1 EA	Secondary Transformer, Dry, 45 kVA		Electrical Room (Primary, Room 106A)	Cutler-Hammer	N48M28F45 CU	45.00 kVA
D5012	1 EA	Secondary Transformer, Dry, 45 kVA		Electrical Room (Primary, Room 106A)	PQI HarMitigator	DV0/30-60-045-480:120/208-115-ES	45.00 kVA
D5012	1 EA	Transfer Switch, Automatic (ATS), 600 V, 150 Amp, Left		Electrical Room (Primary, Room 106A)	Generac	2926680100	150.00 AMP
D5012	1 EA	Transfer Switch, Automatic (ATS), 600 V, 150 Amp, Right		Electrical Room (Primary, Room 106A)	Generac	2926680100	150.00 AMP
D5019	49,598 SF	Electrical System, School		Building Interior (General)			
D5022	2 EA	Exterior Light Fixture, Low Pressure Sodium Lighting Fixture w/ Electronic Ballast, 250 W		Exterior Walls			



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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D5029	17,466 SF	F1-Lighting System, Interior		Floor 1			
D5029	16,066 SF	F2-Lighting System, Interior		Floor 2			
D5029	16,066 SF	F3-Lighting System, Interior		Floor 3			
D5037	1 EA	Fire Alarm Control Panel, Addressable		Building Interior (General)	Notifier		
D5037	49,598 SF	Fire Alarm System		Building Interior (General)			
D5092	1 EA	Emergency Generator, Natural Gas		Site	Generac	2926650300	180.00 kW



# FACILITY CONDITION ASSESSMENT

## PREPARED FOR:

Rhode Island Department of Administration  
Division of Capital Asset Management and Maintenance  
One Capitol Hill  
Providence, RI 02908-5855



## PREPARED BY:

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## EMG PROJECT NUMBER:

117742.16R000-B23.305

## DATE OF REPORT:

December 23, 2016

## ON SITE DATE:

December 08, 2016

## FACILITY CONDITION ASSESSMENT

OF

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881



engineering | environmental | capital planning | project management

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## 1. EXECUTIVE SUMMARY

### 1.1 PROJECT FACTS

#### Project Facts

Item	Description
Current Project Name / Building ID	32-002
Original Project Name / Building ID	Butterfield Hall / 32-002
Campus	URI-Kingston
Agency	5510-10000
Property Type	Dormitory
Year Built	1950
Year of Latest Major Renovation	NA
Number of Stories	4 (Does not Include Basements, Mezzanines, or MEP Penthouses)
Occupied	Yes
Land Area	Included in Campus Site PCA
Gross Building Area (GSF)	39,963 SF
Total Parking Count (Including ADA )	0 Parking Spaces
ADA Compliant (Total Count)	0 Total ADA Spaces
ADA Compliant for Vans	0 Van Parking Spaces

### 1.2 NARRATIVE SUMMARY

#### Executive Summary

Butterfield Residence Hall is a fully occupied dormitory. It has a sister dormitory named Bressler Hall that was built the same year of similar size and construction. Butterfield Hall is a five-story structure including a partial lower level on the south side. The north side lower level is part of the Butterfield Dining Commons which is adjacent and has been assessed as a separate report. Overall, the building appeared to be in fair condition. There is a drainage issue with water infiltrating the lower level mechanical rooms.

#### Architectural and Structural Systems Summary

The foundation system was not able to be directly observed. However, based on similar structures, it is assumed to be a continuous reinforced concrete spread footing system supporting concrete foundation walls. There is a basement with concrete walls and a concrete floor slab. The foundation walls are assumed to be uninsulated. The building structural systems consist of masonry bearing walls with concrete plank floors and roof decks. The roof is flat with a built-up membrane with some standing seam metal roofing. The exterior walls are brick with stucco and aluminum panel accents. Windows are double-glazed, aluminum-framed units in punched openings. The building interiors generally include painted exposed masonry or concrete, painted gypsum board, glazed block at the bathrooms, and ceramic tile at the apartment bathroom walls. The floor finishes consist of carpet tile, rubber tile, ceramic tile, VCT, and painted concrete at the basement utility rooms. The interior ceiling is finished with acoustic ceiling tile, painted concrete and painted gypsum board at the corridors. Three stair towers provide fire rated egress from each floor. There is a fourth stair that is used as an egress from the adjacent Butterfield Dining Common at the lower level up to the first floor level of Butterfield Hall. This hallway/stair separates the two halves of the Butterfield Hall basement and is included in this report.

#### Conveyance, Plumbing, HVAC, Fire Protection and Electrical Systems Summary

Vertical conveyance in the building is provided by one hydraulic passenger elevator that serves the lower level through fourth floors. Domestic hot water is provided by three indirect-fired water heaters fed with campus steam in the winter and electricity during the summer months. Heating is provided to fan coil units throughout by a steam to water heat exchanger supplied by campus steam. Cooling is provided to the first floor apartment by two window air conditioning units. Fire protection systems

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include a fire alarm system, fire sprinkler system throughout, smoke detectors, alarms with strobes, pull stations, extinguishers, standpipes, and appropriate egress signage. General interior lighting is provided by T-8 fluorescent fixtures with compact fluorescent (CFL) fixtures in accent locations. Electrical service to the building is provided by a single 1600-amp switchboard served from a pad-mounted transformer. There is a diesel generator servicing both Butterfield and Bressler Hall.

#### **Site Summary**

Site and site systems not immediately adjacent to the building are included in the campus site report. Landscaping consists of trees, shrubs, and lawn areas. Cast-in-place and stone retaining walls are provided at grade changes. The pedestrian pavement throughout the property is constructed of cast-in-place concrete. Cast-in-place concrete steps with metal handrails are located at grade changes. Building perimeter lighting is provided by ceiling mounted fluorescent fixtures at the entrance door canopies.

#### **Accessibility Summary**

The building generally appeared to meet accessibility requirements for the quantity of residential units. Of 83 resident units, five are required to be accessible to the physically disabled. None is currently accessible to the hearing/visually impaired, but there is reportedly a campus-wide pool of portable accessibility equipment should it be needed.

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### 1.3 SUMMARY OF FINDINGS

The below table represents summary-level findings for the Facility Condition Assessment (FCA). The Facility Condition Index (FCI) is the ratio of the Immediate Capital Needs (ICN) to the Current Replacement Value (CRV).  $FCI = ICN / CRV$ . The CRV of the building is calculated by EMG using industry standard reference sources in conjunction with facility type, building area, and geography. Key findings from the assessment include:

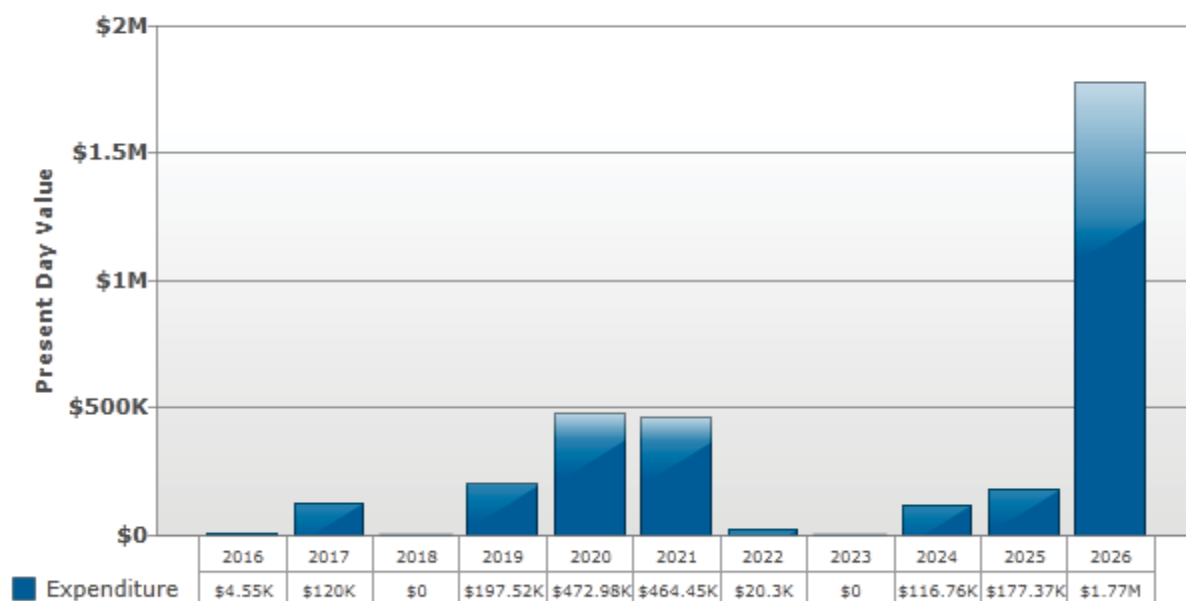
Key Finding	Metric
Facility Condition Index (FCI)	0.1%
FCI Rating: up to 5% = Good; 5% to 10% = Fair; 10+% to 60% = Poor; over 60% = Very Poor	
Current Replacement Value (CRV)	\$8,178,295
Current Replacement Value (CRV) per Square Foot	\$185.00/SF

Through <b>2016</b> - Immediate Capital Needs (ICN)	\$4,545
Years <b>2017 through 2021</b> - 5 Year Capital Plan	\$1,254,951
Years <b>2022 through 2026</b> - 10 Year Capital Plan	\$2,088,354
<b>TOTAL Capital Needs</b>	<b>\$3,347,849</b>

The chart below provides a summary of yearly-anticipated expenditures including cost related to Modernization/Adaptation over the study period for the subject building. Further detail on the specific costs that make up the summary can be found in Section 3 and the cost tables in the appendices.

#### Expenditure Forecast Over Study Period



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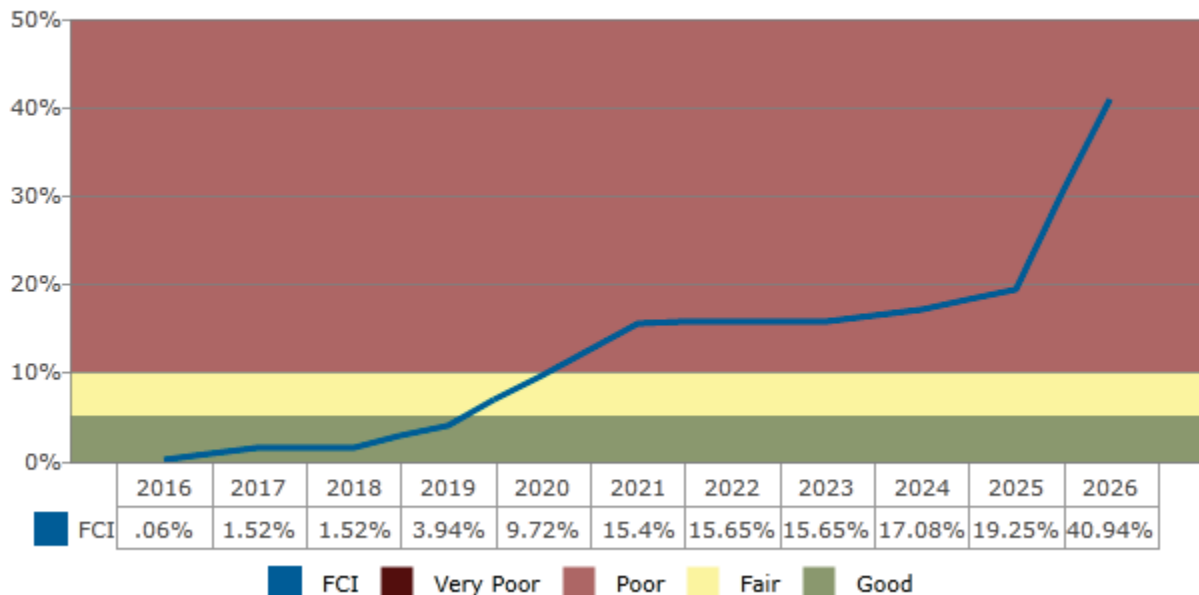
## 1.4 FACILITY CONDITION INDEX

The Facility Condition Index (FCI) gives an indication of a building or portfolio's overall condition. The value is based on a 0% to 100%+ scale and is derived by dividing the repair costs for a facility by a Current Replacement Value (CRV). The CRV is calculated by multiplying the existing building square footage by the Cost per Square Foot to construct a new, similar facility. Typically, the FCI is calculated using only the current condition values, not taking into account the future needs identified in the life cycle evaluation. Accounting principles indicate that an FCI value of 65% or greater be utilized as the threshold to identify a potential replacement candidate. If the current repair costs reach 65% of the CRV, it may not be prudent to continue to fund repairs. In cases where aggressive facilities planning is expected to be necessary, this threshold may be adjusted.

FCI Condition Rating	Definition	Percentage Value
<b>FCI Good</b>	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.	0% to 5%
<b>FCI Fair</b>	Subjected to wear and soiling but is still in a serviceable and functioning condition.	> than 5% to 10%
<b>FCI Poor</b>	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	> than 10% to 60%
<b>FCI Very Poor</b>	Has reached the end of its useful or serviceable life. Renewal is now necessary.	> than 60%

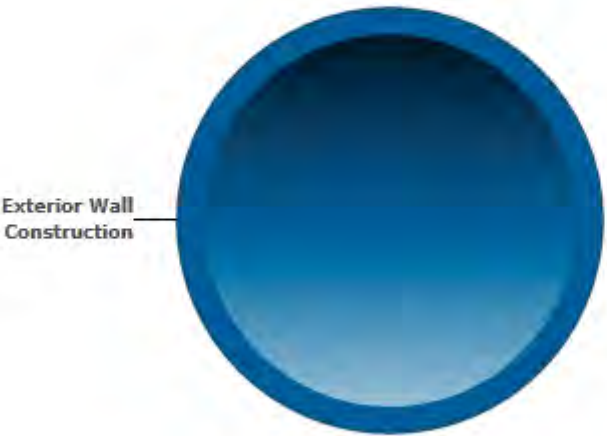
The Chart below indicates cumulative effects of the FCI ratio over the study period assuming the required funds and expenditures are **NOT** provided to address identified repairs and replacements for each year. The FCI calculation is not inclusive of cost related to Modernization/Adaptation.

**Cumulative Effects of FCI over the Study Period**



1.5 IMMEDIATE NEEDS BY BUILDING SYSTEM

Distribution of Immediate Needs by Building System



Unifomat	Building System	Expenditure
B2011	Exterior Wall Construction	\$4,545
	Total	\$4,545



## 1.6 TOTAL CAPITAL NEEDS BY PLAN TYPES

In the chart below, costs are sorted by Plan Types, which generally define the reason the cost exists. The chart and tables cover the study period. A cost may have more than one applicable Plan Type, however, only the dominant Plan Type will be selected based on the most heavily impacted building system and the Plan Type with the greatest significance. The following Plan Types are listed in general order of significance:

- **Safety (SFT)**

An observed or reported unsafe condition that if left unaddressed could result in an injury; a system or component that presents a potential liability risk.

- **Performance/Integrity (P/I)**

Component or system has failed, is failing, performs unreliably, does not perform as intended, and/or poses a risk to overall system stability.

- **Accessibility (ADA)**

Does not meet ADA, UFAS, and/or other handicap accessibility requirement.

- **Environmental (ENV)**

Improvements to air or water quality, including removal of hazardous materials from the building or site.

- **Modernization/Adaptation (MOD)**

Conditions, systems, or spaces that need to be upgraded in appearance or function to meet current standards, facility usage, or client/occupant needs. This plan type also includes, when deemed necessary, the removal of decommissioned assets. Modernization/Adaptation items are NOT included in the FCI calculation.

- **Exceedingly Aged (XA)**

Component or system has aged well beyond its industry-standard lifecycle, typically double its EUL or at least 15 years beyond its EUL, and for which repair or replacement is recommended.

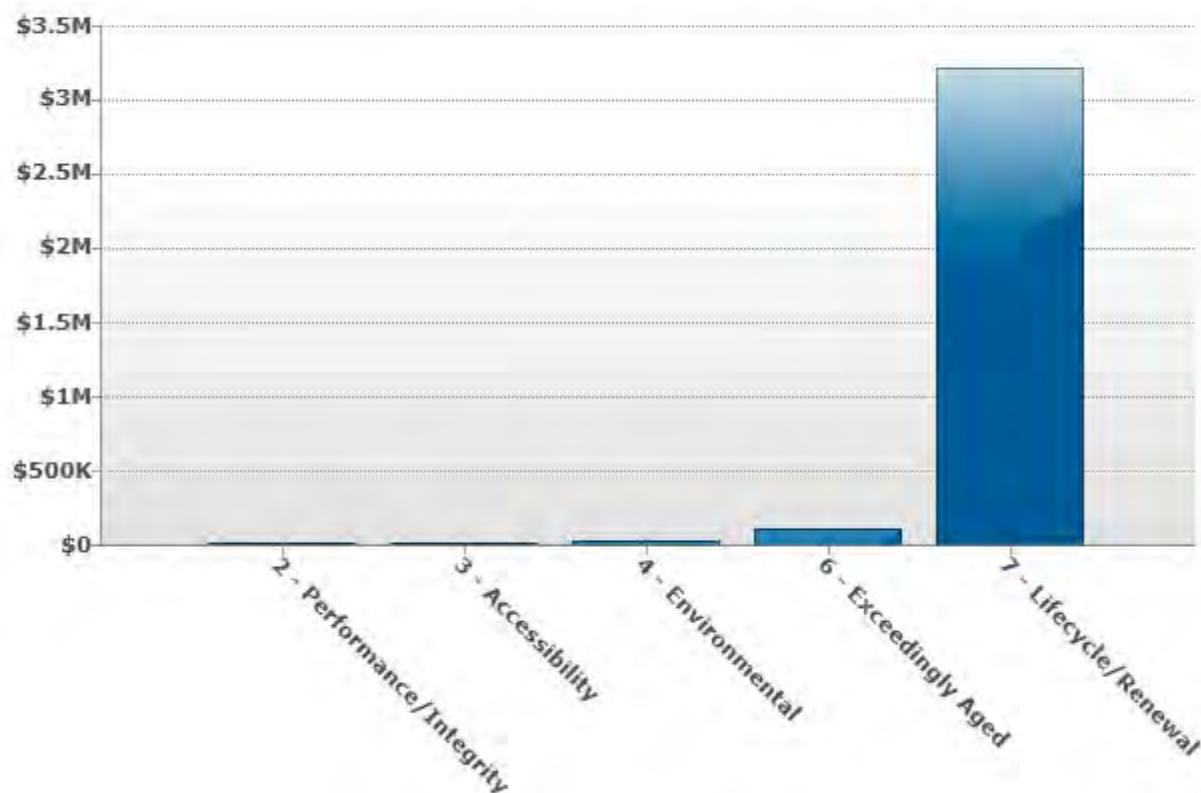
- **Lifecycle/Renewal (L/R)**

Any component or system that does not or did not appear problematic/deficient at the time of the assessment and for which future repair or replacement is anticipated.

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**Total Capital Needs by Plan Type**



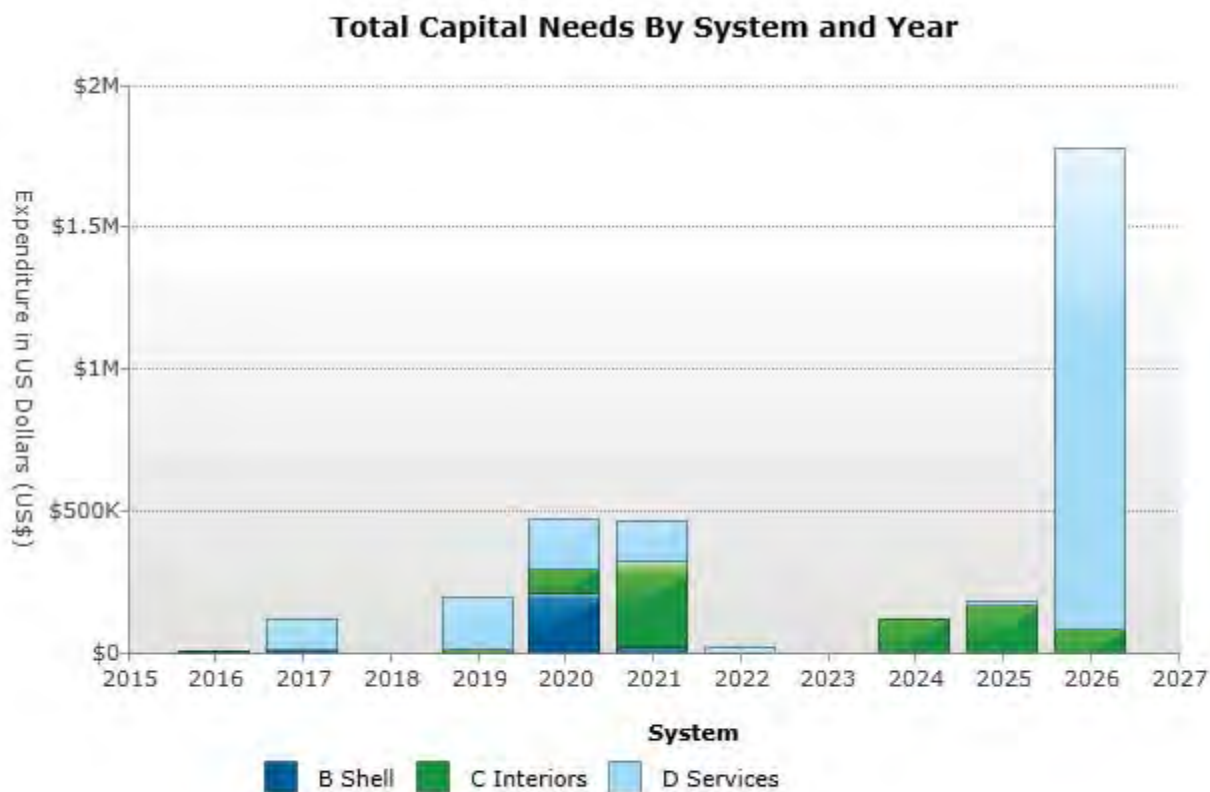
Plan Type	Expenditure
2 - Performance/Integrity	\$7,628
3 - Accessibility	\$8,964
4 - Environmental	\$14,334
6 - Exceedingly Aged	\$107,950
7 - Lifecycle/Renewal	\$3,208,974
<b>Total</b>	<b>\$3,347,849</b>

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## 1.7 TOTAL CAPITAL NEEDS BY SYSTEM AND YEAR

This also includes cost for immediate needs:



Year	Building System	Expenditure
2016	B Shell	\$4,545
2017	B Shell	\$8,964
2020	B Shell	\$206,352
2021	B Shell	\$15,344
2017	C Interiors	\$3,083
2019	C Interiors	\$8,589
2020	C Interiors	\$86,612
2021	C Interiors	\$303,538
2024	C Interiors	\$116,757
2025	C Interiors	\$167,913
2026	C Interiors	\$79,589
2017	D Services	\$107,950

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Year	Building System	Expenditure
2019	D Services	\$188,935
2020	D Services	\$180,017
2021	D Services	\$145,566
2022	D Services	\$20,298
2025	D Services	\$9,454
2026	D Services	\$1,694,342
	<b>Total</b>	<b>\$3,347,849</b>

## 1.8 TOTAL CAPITAL NEEDS BY PRIORITY

Another method to plan for replacement of building systems or components is by assigning a priority that is relative to the other systems and components in the building. The priority model used in the analysis takes into account the plan type, the location of the system within the property, the importance of the system, and the urgency of the repair, i.e., repairs to mission critical systems may have a higher priority than back of house finishes that are in worse condition. The identified repairs or replacements have been prioritized according to the ranking criteria identified in Section 2.2.6. with Priority 1 items being the most critical to address.

Based on the results of the ranking calculation derived from the analysis of the variables described above, the assets and associated actions are assigned to one of the following Priority categories. The scale is 1 to 4, with 1=highest and 4=lowest priority.

- **Priority 1 - Immediate/Critical Items**

Require immediate action to either (a) correct a safety hazard or (b) address the most important building performance or integrity issues or failures.

- **Priority 2 - Potentially Critical Items**

Include (a) those component performance or building integrity issues of slightly lesser weight and/or (b) issues that if left unchecked could escalate into Immediate/Critical items. Accessibility and environmental issues are also typically included in this subset.

- **Priority 3 - Necessary/Recommended Items**

Items of concern that generally either require attention or are suggested as improvements within the near term to: (a) improve usability, marketability, or efficiency; (b) reduce operational costs; (c) prevent or mitigate disruptions to normal operations; (d) modernize the facility; (e) adapt the facility to better meet occupant needs; and/or (f) should be addressed when the facility undergoes a significant renovation.

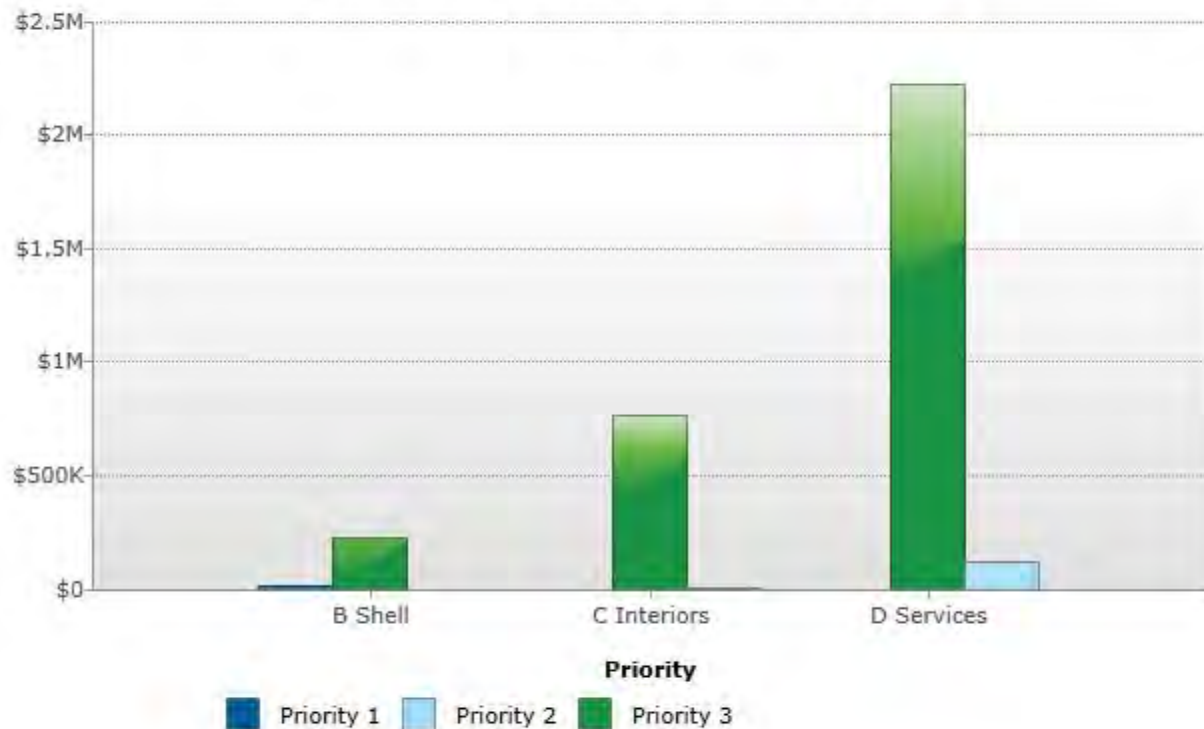
- **Priority 4 - Anticipated Lifecycle Replacements**

Renewal items which are generally associated with building components performing acceptably at the present time but will likely require replacement or other future attention within the timeframe under consideration.

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EMG PROJECT NO: 117742.16R000-B23.305

### Total Capital Needs by System and Priority



Building System	Priority				Total Expenditure
	1 Immediate/ Critical	2 Potentially Critical	3 Necessary/ Recommended	4 Anticipated Lifecycle Replacements	
B Shell	\$13,509	\$0	\$221,696	\$0	\$235,205
C Interiors	\$0	\$3,083	\$763,000	\$0	\$766,083
D Services	\$0	\$122,284	\$2,224,278	\$0	\$2,346,562
<b>Totals</b>	<b>\$13,509</b>	<b>\$125,367</b>	<b>\$3,208,974</b>	<b>\$0</b>	<b>\$3,347,849</b>

## 2. SCOPE AND PURPOSE

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### 2.1 SCOPE

The evaluation team visited the subject property to evaluate the general condition of the building and site. They reviewed available construction documents, drawings, reports, and maintenance records as provided by the Client. The review comprehensively included all observable in-place construction, conveyance, plumbing, HVAC, fire protection, and electrical systems, within the general built environment. The evaluation team conducted a walk-through survey of the property in order to observe building systems and components, to identify physical deficiencies, to formulate recommendations to remedy the physical deficiencies, and to recommend planned capital replacements and repairs of building systems and components.

- As a part of the walk-through survey, the evaluation team surveyed a representative sample of the site and building's interior, the exterior building envelope, and the roof.
- The evaluation team interviewed the building maintenance staff to inquire about the subject property's historical repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements.
- The evaluation team developed opinions based on their site evaluation and interviews with building maintenance staff, discussions with the most relevant maintenance contractors, municipal authorities, and experience gained on similar properties previously evaluated. The evaluation team questioned others who are 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.

The Client contracted with EMG to conduct a Facility Condition Assessment (FCA) consisting of field observations, document review, and related due diligence tasks of the subject property. The Facility Assessment will:

- Determine the present condition and estimated remaining useful life (RUL) of various building systems and components.
- Provide a strategic plan for capital repairs, lifecycle component replacement, and building modernization.
- Establish anticipated renewal and replacement costs for the various systems and components.
- Identify and document present condition of physical assets with recommended corrections for deficiencies and provide cost estimates for corrections. Prioritize, categorize and classify deficient conditions, associated corrective actions and information concerning building systems and deficiency categories.
- The FCA will be a guide for future replacement, repairs and improvements and to assist the client in prioritizing their capital budget and expenditures across their real estate portfolio.
- Calculate the Facility Condition Index (FCI) for each facility and extend that calculation over the study period.

## 2.2 PURPOSE

The goal of the FCA is to gather the data necessary to understand the existing facility's condition, identify strategies to meet the facility's life cycle needs and create the foundation for an overall capital plan. The facility condition assessment includes the following:

- Current conditions analyses - existing facility requirements including deferred maintenance, recommended discretionary improvements, and potential safety and liability issues.
- Anticipated facility reserve analyses - projections of ongoing degradation of facilities' components and costs associated with the reserve or replacement of these components as they reach the end of their useful lives
- Funding needs analysis - summary report of deferred maintenance and systems reserves funding needs.

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### 2.2.1 Condition Ratings

The physical condition of building systems and related components are defined as being in one of the following conditions:

- **Excellent (E)**  
New or very close to new; component or system typically has been installed within the past year, is sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
- **Good (G)**  
Satisfactory as-is. Component or system is sound and performing its function. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
- **Fair (F)**  
Showing signs of wear and use but still satisfactory as-is. Component or system is performing adequately at this time but may exhibit some moderate signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
- **Poor (P)**  
Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
- **Failed (X)**  
Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
- **Not Applicable (N/A)**  
Assigning a condition does not apply or make logical sense; most commonly due to the item in question not being present, possibly in tandem with a 'future install' recommendation.

EMG's calculation of probable capital needs methodology involves identification and quantification of those systems or components requiring immediate actions or capital funding reserves over the lifecycle horizon of the facility key components. The component is segregated into two categories "Immediate Repairs" and "Capital Expenditures" defined as follows:

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### 2.2.2 Probable Capital Needs - Immediate Repairs

Immediate repairs are opinions of probable costs that require immediate action as a result of: (1) material existing or potential 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 the current year, or will most probably result in a significant escalation of its remedial cost. Immediate repair costs are items which require action in the current **year**.

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### 2.2.3 Probable Capital Needs - Capital Expenditures

Capital Expenditures are for recurring probable expenditures that are not classified as operation or maintenance expenses. These line items should be budgeted for in advance on an annual basis. Capital expenditures are reasonably predictable both in terms of frequency and cost. However, the capital expenditures may also include components or systems that have an

indeterminate life but nonetheless have a potential liability for failure within the study period. The capital expenditures are further broken down into Short Term, Near Term and Long Term Capital Needs as defined in Section 1.3 of this Report.

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## 2.2.4 Remaining Useful Life Estimate (RUL) and Expected Useful Life (EUL)

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, EMG opines as to when a system or component will most probably necessitate replacement. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc. are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age.

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## 2.2.5 Opinions of Probable Cost

Estimates for individual repair and replacements are a key part of this engagement. These estimates are based on invoice or bid documents provided by the Owner/facility or construction cost estimates developed by construction resources such as R.S. Means, Whitestone, Marshall & Swift, and EMG's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions. Where quantities are not derived from an actual take-off, algorithms based on building gross square footage (GSF), lump sum costs, or allowances are utilized.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as 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, etc. ASTM E2018-15 recognizes that certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study are included where warranted in this Report.

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## 2.2.6 Priority Ranking

EMG records existing conditions, identifies problems and deficiencies, and documents corrective action and quantities of recommended repairs and/or replacements. During the assessment, the collected data is entered directly into the EMG assessment and capital planning database using tablet computers. Based on the analysis of the collected data, a Priority Ranking is calculated for each item observed. The Priority Ranking calculation is a function of the following key facility variables generally listed in order of importance:

- **Plan Type**

The cost associated with each asset or component evaluated is assigned a Plan Type. These Plan Type categories are described in Section 1.6.

- **Building Mission Ranking**

If the building is one of multiple buildings at the facility, each building is ranked on a scale of 1-10 based on conversations with the client. This rank defines the importance of each building to the overall mission of the facility. For example, the building containing the administrative offices for a subject property may carry a higher ranked importance than the parking garage. However, if the parking garage is used for Mission Critical or emergency services vehicles then it may have a higher priority than the office building. Both are required for the operation of the facility but ranking is adjusted based on the use of the buildings and the mission of the overall facility as defined by the client.

- **Uniformat II Code**

Each asset or component evaluated is coded as per the industry standard UNIFORMAT II, ASTM E1557 Standard Classification of Building Elements and Sitework. The Uniformat designation is then associated with a ranking based on the overall importance to the operation of a facility. An asset that is related to building envelope, e.g. roof or windows, is assigned a higher ranking than a component such as carpeting or interior paint.

- **Remaining Useful Life (RUL) as it Relates to the Expected Useful Life (EUL)**

The expected useful life (EUL) projection of the component is calibrated against the remaining useful life (RUL) as estimated by an EMG field assessor.

### 3. ASSETS OBSERVED

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Assets observed at the site are provided in this Section and sorted by the modified Uniformat II coding indexed as applicable. See the listing below for the sequence.

- **A SUBSTRUCTURE**
  - A10 Foundations
  - A20 Basement Construction
- **B SHELL**
  - B10 Super Structure
  - B20 Exterior Enclosure
  - B30 Roofing
- **C INTERIORS**
  - C10 Interior Construction
  - C20 Stairs
  - C30 Interior Finishes
- **D SERVICES**
  - D10 Conveying
  - D20 Plumbing
  - D30 HVAC
  - D40 Fire Protection
  - D50 Electrical
- **E EQUIPMENT and FURNISHINGS**
  - E10 Equipment
  - E20 Furnishings
- **F SPECIAL CONSTRUCTION and DEMOLITION**
  - F10 Special Construction
  - F20 Selective Building Demolition
- **G SITEWORK**
  - G10 Site Preparation
  - G20 Site Improvements
  - G30 Site Mechanical Utilities
  - G40 Site Electrical Utilities
  - G90 Other Site Construction
- **P FOLLOW-UP STUDIES (Professional Services)**
- **Z GENERAL CONDITIONS and OTHER**

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Coding / Field Name	Asset Description
A1011 - Wall Foundations	Foundations, Concrete
Condition	Good
Quantity	643 LF
Unit Cost	\$105.56
Year in Service	1950
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Structure
Basis of Costing	Foundation Wall, Concrete or CMU w/ Continuous Footings, 1-2 Stories
Cracking Reported/Observed	No
Moisture Infiltration Reported/Observed	No

**Observations/Comments**

The foundations were not visually accessible.



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Coding / Field Name	Asset Description
<b>A2021 - Basement Wall Construction</b>	Basement Wall, Concrete
<b>Condition</b>	Good
<b>Quantity</b>	4,500 SF
<b>Unit Cost</b>	\$29.58
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Basement Wall, Concrete



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Coding / Field Name	Asset Description
<b>B100X - Super Structure</b>	Superstructure, Masonry
<b>Condition</b>	Good
<b>Quantity</b>	39,963 SF
<b>Unit Cost</b>	\$29.58
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Frame, Masonry (CMU) Bearing Walls, 3+ Stories



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Coding / Field Name	Asset Description
<b>B1012 - Upper Floors Construction</b>	Roof Structure, Concrete
<b>Condition</b>	Good
<b>Quantity</b>	9,085 SF
<b>Unit Cost</b>	\$29.24
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Flooring/Decking, Concrete



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Coding / Field Name	Asset Description
<b>B1012 - Upper Floors Construction</b>	Structural Flooring/Decking, Concrete
<b>Condition</b>	Good
<b>Quantity</b>	36,340 SF
<b>Unit Cost</b>	\$29.24
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Flooring/Decking, Concrete



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Coding / Field Name	Asset Description
<b>B1013 - Balcony Floors Construction</b>	Balcony Floor Structure, Steel
<b>Condition</b>	Good
<b>Quantity</b>	680 SF
<b>Unit Cost</b>	\$60.32
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Balcony Floor Structure, Concrete
<b>Guard/Handrails and Walls</b>	NA



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Coding / Field Name	Asset Description
<b>B1015 - Exterior Stairs and Fire Escapes</b>	Exterior Stair/Ramp Rails, Metal
<b>Condition</b>	Not Applicable
<b>Quantity</b>	180 LF
<b>Unit Cost</b>	\$49.80
<b>Year in Service</b>	2017
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	1 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Exterior Stair/Ramp Rails, Metal
<b>Railing</b>	NA
<b>Treads/Landings</b>	NA

#### Observations/Comments

Ramp should have handrails on both sides to meet ADA requirements.



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Exterior Stair/Ramp Rails, Metal	180 LF	\$49.80	ADA	1	2017	\$8,964

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Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, Aluminum Siding
<b>Condition</b>	Good
<b>Quantity</b>	300 SF
<b>Unit Cost</b>	\$10.10
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Aluminum Siding, 3+ Stories
<b>Painted Trim</b>	Minimal (0.9)



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Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, Brick
<b>Condition</b>	Fair
<b>Quantity</b>	28,292 SF
<b>Unit Cost</b>	\$53.38
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Brick or Brick Veneer, 3+ Stories
<b>Painted Trim</b>	Minimal (0.9)

#### Observations/Comments

Cracks observed



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Repoint Exterior Brick Wall at crack locations.	100 SF	\$45.45	P/I	1	2016	\$4,545

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Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, Glass Block
<b>Condition</b>	Fair
<b>Quantity</b>	70 SF
<b>Unit Cost</b>	\$44.36
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Glass Block
<b>Painted Trim</b>	Moderate



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Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, Stucco, 3+ Stories
<b>Condition</b>	Fair
<b>Quantity</b>	700 SF
<b>Unit Cost</b>	\$21.92
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Stucco, 3+ Stories
<b>Painted Trim</b>	Minimal (0.9)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Exterior Wall, Stucco, 3+ Stories	700 SF	\$21.92	L/R	3	2021	\$15,344

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Coding / Field Name	Asset Description
<b>B2021 - Windows</b>	Windows, Aluminum, Slider, Small
<b>Condition</b>	Good
<b>Quantity</b>	35 EA
<b>Unit Cost</b>	\$1,067.63
<b>Year in Service</b>	1990
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Window, Aluminum Double-Glazed Gas-Filled 12 SF, 3+ Stories
<b>Window</b>	Fixed (0.9)
<b>Estimated/Averaged Size (SF)</b>	9
<b>Sealant</b>	Good Condition
<b>Screens (Housing Only)</b>	Fair Condition



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Windows, Aluminum, Slider, Small	35 EA	\$1,067.63	L/R	3	2020	\$37,367

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Coding / Field Name	Asset Description
<b>B2021 - Windows</b>	Windows, Aluminum, Fixed, Large
<b>Condition</b>	Good
<b>Quantity</b>	19 EA
<b>Unit Cost</b>	\$1,689.85
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Window, Aluminum Double-Glazed Gas-Filled 24 SF, 3+ Stories
<b>Window</b>	Fixed (0.9)
<b>Estimated/Averaged Size (SF)</b>	24
<b>Sealant</b>	Good Condition



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Coding / Field Name	Asset Description
<b>B2021 - Windows</b>	Windows, Aluminum, Fixed, Small
<b>Condition</b>	Good
<b>Quantity</b>	10 EA
<b>Unit Cost</b>	\$1,689.85
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Window, Aluminum Double-Glazed Gas-Filled 24 SF, 3+ Stories
<b>Window</b>	Fixed (0.9)
<b>Estimated/Averaged Size (SF)</b>	24
<b>Sealant</b>	Good Condition



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Coding / Field Name	Asset Description
<b>B2021 - Windows</b>	Windows, Aluminum, Slider, Large
<b>Condition</b>	Good
<b>Quantity</b>	100 EA
<b>Unit Cost</b>	\$1,689.85
<b>Year in Service</b>	1990
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Window, Aluminum Double-Glazed Gas-Filled 24 SF, 3+ Stories
<b>Window</b>	Fixed (0.9)
<b>Estimated/Averaged Size (SF)</b>	28
<b>Sealant</b>	Good Condition
<b>Screens (Housing Only)</b>	Fair Condition



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Windows, Aluminum, Slider, Large	100 EA	\$1,689.85	L/R	3	2020	\$168,985

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Coding / Field Name	Asset Description
<b>B2031 - Glazed Doors &amp; Entrances</b>	Exterior Doors, Aluminum, Glazed
<b>Condition</b>	Good
<b>Quantity</b>	13 EA
<b>Unit Cost</b>	\$2,106.57
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	24 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Fully-Glazed Aluminum-Framed Swinging
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Entrance (1.1)



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Coding / Field Name	Asset Description
<b>B3011 - Roof Finishes</b>	Roof, Built-Up
<b>Condition</b>	Good
<b>Quantity</b>	9,085 SF
<b>Unit Cost</b>	\$23.77
<b>Year in Service</b>	2015
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Roof, Built-Up
<b>Active Leaks Observed/Reported</b>	No
<b>Roof Access</b>	Interior Roof Ladder with Access Hatch
<b>Primary Drainage</b>	Interior Roof Drains (1.1)
<b>Drainage</b>	Appears adequate
<b>Eaves and Soffits</b>	NA
<b>Overflow Drainage</b>	Provided by scuppers
<b>Complication Factor</b>	20% of the roof is affected by curbs/penetrations (1.2)
<b>Primary Edge Configuration</b>	Gravel Stop / Drip Edge
<b>Primary Coping Material</b>	Metal
<b>Walking Pads</b>	Yes
<b>Ballasted</b>	No
<b>Roof Debris</b>	Minimal debris observed



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Coding / Field Name	Asset Description
<b>B3011 - Roof Finishes</b>	Roof Finish, Metal
<b>Condition</b>	Good
<b>Quantity</b>	1,680 SF
<b>Unit Cost</b>	\$22.41
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Roof, Metal
<b>Active Leaks Observed/Reported</b>	No
<b>Roof Access</b>	Exterior Ladder
<b>Primary Drainage</b>	Gutters to Downspouts
<b>Drainage</b>	Appears adequate
<b>Eaves and Soffits</b>	Good Condition
<b>Primary Roof Configuration</b>	Hip (1.1)
<b>Primary Roof Pitch</b>	Moderate slope: 5/12-8/12
<b>Roof Debris</b>	Minimal debris observed
<b>Attic Access</b>	Not Available
<b>Attic Insulation</b>	Unknown



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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>C1017 - Interior Windows &amp; Storefronts</b>	Interior Window, 12 SF
<b>Condition</b>	Fair
<b>Quantity</b>	7 EA
<b>Unit Cost</b>	\$224.01
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Window, 12 SF



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Window, 12 SF	7 EA	\$224.01	L/R	3	2026	\$1,568

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Doors, Steel, Fire Rated
<b>Condition</b>	Fair
<b>Quantity</b>	29 EA
<b>Unit Cost</b>	\$1,649.06
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Fire 90-Minutes and Over



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Doors, Steel, Fire Rated	29 EA	\$1,649.06	L/R	3	2021	\$47,823

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Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Doors, Steel
<b>Condition</b>	Fair
<b>Quantity</b>	38 EA
<b>Unit Cost</b>	\$950.12
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Steel



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Doors, Steel	38 EA	\$950.12	L/R	3	2026	\$36,105

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Coding / Field Name	Asset Description
C1021 - Interior Doors	Interior Door, Wood Solid-Core
Condition	Fair
Quantity	131 EA
Unit Cost	\$1,423.11
Year in Service	2001
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Interior Door, Wood Solid-Core
Hardware Style	Lever Sets



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Door, Wood Solid-Core	131 EA	\$1,423.11	L/R	3	2021	\$186,427

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Coding / Field Name	Asset Description
C1023 - Interior Door Hardware	Interior Door Hardware
Condition	Fair
Quantity	104 EA
Unit Cost	\$300.00
Year in Service	2010
Expected Useful Life (EUL)	10 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Door Hardware System, Multi-Family (Per Door)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Door Hardware	104 EA	\$300.00	L/R	3	2020	\$31,200

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Coding / Field Name	Asset Description
<b>C1023 - Interior Door Hardware</b>	Interior Door Hardware, Card Reader
<b>Condition</b>	Fair
<b>Quantity</b>	90 EA
<b>Unit Cost</b>	\$300.00
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Door Hardware System, Multi-Family (Per Door)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Door Hardware, Card Reader	90 EA	\$300.00	L/R	3	2020	\$27,000

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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F1-Toilet Partitions, Metal
<b>Condition</b>	Fair
<b>Quantity</b>	14 EA
<b>Unit Cost</b>	\$850.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Toilet Partitions, Metal	14 EA	\$850.00	L/R	3	2021	\$11,900

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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F2-Toilet Partitions, Metal
<b>Condition</b>	Fair
<b>Quantity</b>	14 EA
<b>Unit Cost</b>	\$850.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Toilet Partitions, Metal	14 EA	\$850.00	L/R	3	2021	\$11,900

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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F3-Toilet Partitions, Metal
<b>Condition</b>	Fair
<b>Quantity</b>	14 EA
<b>Unit Cost</b>	\$850.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Toilet Partitions, Metal	14 EA	\$850.00	L/R	3	2021	\$11,900

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Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F4-Toilet Partitions, Metal
<b>Condition</b>	Fair
<b>Quantity</b>	14 EA
<b>Unit Cost</b>	\$850.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Toilet Partitions, Metal	14 EA	\$850.00	L/R	3	2021	\$11,900

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Coding / Field Name	Asset Description
<b>C1035 - Identifying Devices</b>	Interior Signage (Allowance)
<b>Condition</b>	Good
<b>Quantity</b>	39,963 SF
<b>Unit Cost</b>	\$0.08
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Signage (allowance)

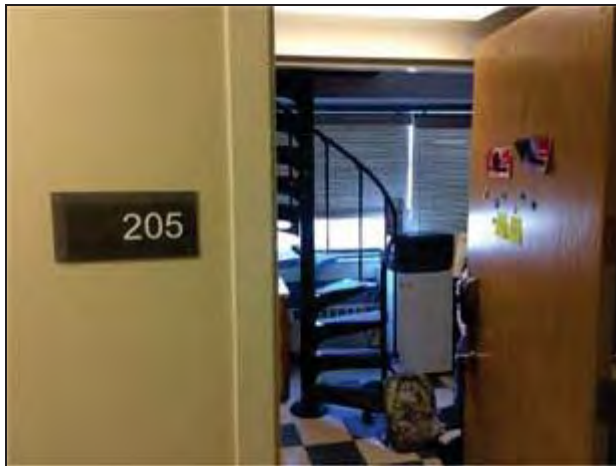


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Signage (Allowance)	39,963 SF	\$0.08	L/R	3	2025	\$3,197

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Coding / Field Name	Asset Description
<b>C2011 - Regular Stairs</b>	Interior Stairs, Metal, Spiral
<b>Condition</b>	Good
<b>Quantity</b>	200 SF
<b>Unit Cost</b>	\$44.53
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Stairs, Metal
<b>Railing</b>	Fair Condition
<b>Treads/Landings</b>	Fair Condition



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Coding / Field Name	Asset Description
<b>C2011 - Regular Stairs</b>	Interior Stairs, Steel
<b>Condition</b>	Fair
<b>Quantity</b>	975 SF
<b>Unit Cost</b>	\$44.53
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Stair Tower
<b>Basis of Costing</b>	Interior Stairs, Metal
<b>Railing</b>	Good Condition
<b>Treads/Landings</b>	Fair Condition



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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall Finish, Ceramic Tile
<b>Condition</b>	Fair
<b>Quantity</b>	182 SF
<b>Unit Cost</b>	\$16.55
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Ceramic Tile

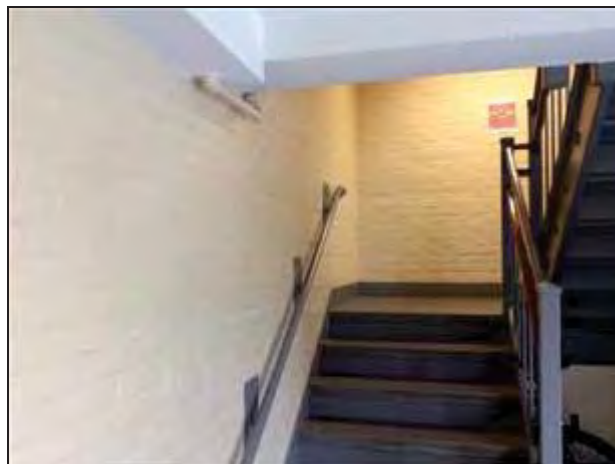


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Wall Finish, Ceramic Tile	182 SF	\$16.55	L/R	3	2026	\$3,012

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall, Painted Masonry
<b>Condition</b>	Fair
<b>Quantity</b>	13,446 SF
<b>Unit Cost</b>	\$30.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Concrete
<b>Lead Based Paint (LBP)</b>	Likely based on age



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Concrete/Masonry	13,446 SF	\$1.45	L/R	3	2024	\$19,497

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F2-Interior Wall, Painted Block
<b>Condition</b>	Fair
<b>Quantity</b>	13,446 SF
<b>Unit Cost</b>	\$30.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Wall Finish, Concrete
<b>Lead Based Paint (LBP)</b>	Likely based on age

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Concrete/Masonry	13,446 SF	\$1.45	L/R	3	2024	\$19,497

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F3-Interior Wall, Painted Block
<b>Condition</b>	Fair
<b>Quantity</b>	13,446 SF
<b>Unit Cost</b>	\$30.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Wall Finish, Concrete
<b>Lead Based Paint (LBP)</b>	Likely based on age

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Concrete/Masonry	13,446 SF	\$1.45	L/R	3	2024	\$19,497

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F4-Interior Wall, Painted Block
<b>Condition</b>	Fair
<b>Quantity</b>	13,446 SF
<b>Unit Cost</b>	\$30.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Wall Finish, Concrete
<b>Lead Based Paint (LBP)</b>	Likely based on age

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Concrete/Masonry	13,446 SF	\$1.45	L/R	3	2024	\$19,497

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	LL-Interior Wall, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	3,822 SF
<b>Unit Cost</b>	\$30.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Concrete
<b>Lead Based Paint (LBP)</b>	Likely based on age



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Concrete	3,822 SF	\$1.45	L/R	3	2024	\$5,542

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall, Gypsum Board
<b>Condition</b>	Fair
<b>Quantity</b>	3,634 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Gypsum Board	3,634 SF	\$1.42	L/R	3	2024	\$5,160

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	LL-Interior Wall, Gypsum Board
<b>Condition</b>	Fair
<b>Quantity</b>	956 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Walls, Gypsum Board	956 SF	\$1.42	L/R	3	2024	\$1,358

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall, Glazed Block
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$24.30
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Quarry Tile



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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F2-Interior Wall, Glazed Block
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$24.30
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	24 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Wall Finish, Quarry Tile

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F3-Interior Wall, Glazed Block
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$24.30
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	24 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Wall Finish, Quarry Tile

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F4-Interior Wall, Glazed Block
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$24.30
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Wall Finish, Quarry Tile

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Coding / Field Name	Asset Description
C3024 - Flooring	F1-Interior Floor Finish, Ceramic Tile
Condition	Fair
Quantity	545 SF
Unit Cost	\$15.76
Year in Service	2001
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Interior Floor Finish, Ceramic Tile



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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Fair
<b>Quantity</b>	545 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F3-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Fair
<b>Quantity</b>	545 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F4-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Fair
<b>Quantity</b>	545 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	1969
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	3 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Interior Floor Finish, Ceramic Tile	545 SF	\$15.76	L/R	3	2019	\$8,589

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	LL-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Fair
<b>Quantity</b>	621 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	39 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile



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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	LL-Interior Floor Finish, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	334 SF
<b>Unit Cost</b>	\$3.33
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Interior Floor Finish, Linoleum

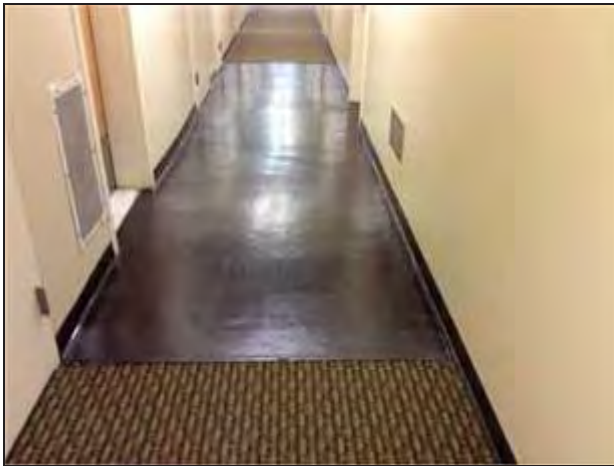


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Floor Finish, Concrete	334 SF	\$9.23	P/I	2	2017	\$3,083
Replace LL-Interior Floor Finish, Painted Concrete	334 SF	\$3.33	L/R	3	2026	\$1,112

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Good
<b>Quantity</b>	363 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Rubber Tile	363 SF	\$8.43	L/R	3	2025	\$3,060

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Good
<b>Quantity</b>	363 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Rubber Tile	363 SF	\$8.43	L/R	3	2025	\$3,060

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F3-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Good
<b>Quantity</b>	363 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Interior Floor Finish, Rubber Tile	363 SF	\$8.43	L/R	3	2025	\$3,060

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F4-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Good
<b>Quantity</b>	363 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Interior Floor Finish, Rubber Tile	363 SF	\$8.43	L/R	3	2025	\$3,060

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	LL-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Good
<b>Quantity</b>	239 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile

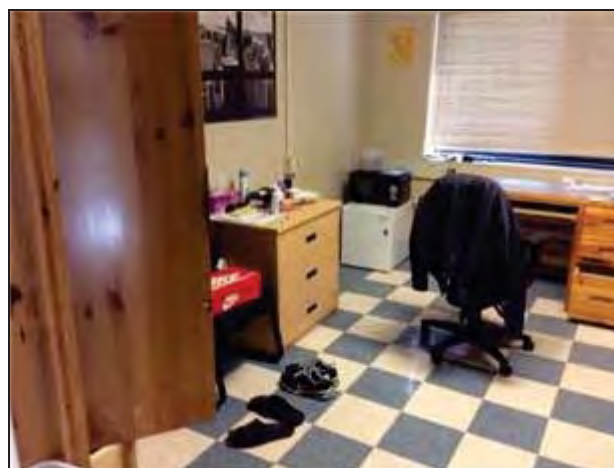


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace LL-Interior Floor Finish, Rubber Tile	239 SF	\$8.43	L/R	3	2020	\$2,015

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Fair
<b>Quantity</b>	7,268 SF
<b>Unit Cost</b>	\$6.29
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Vinyl Tile (VCT)	7,268 SF	\$6.29	L/R	3	2025	\$45,716

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Good
<b>Quantity</b>	7,268 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Vinyl Tile (VCT)	7,268 SF	\$4.80	L/R	3	2025	\$34,886

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F3-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Good
<b>Quantity</b>	7,268 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Interior Floor Finish, Vinyl Tile (VCT)	7,268 SF	\$4.80	L/R	3	2025	\$34,886

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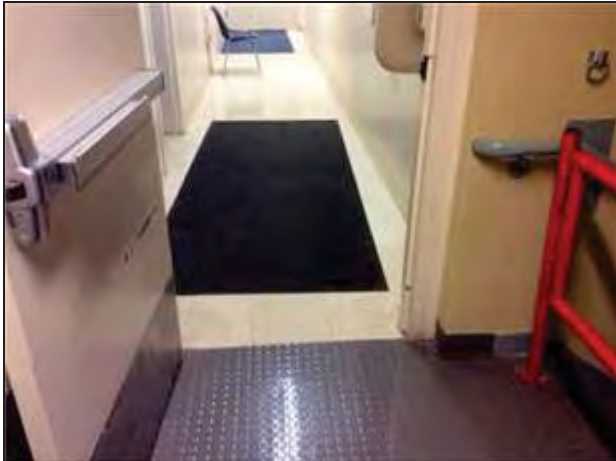
Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F4-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Good
<b>Quantity</b>	7,268 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Interior Floor Finish, Vinyl Tile (VCT)	7,268 SF	\$4.80	L/R	3	2025	\$34,886

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	LL-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Good
<b>Quantity</b>	334 SF
<b>Unit Cost</b>	\$6.29
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)
<b>Asbestos Containing Material (ACM)</b>	No



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace LL-Interior Floor Finish, Vinyl Tile (VCT)	334 SF	\$6.29	L/R	3	2025	\$2,101

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F1-Interior Floor Finish, Carpet
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Carpet	909 SF	\$7.26	L/R	3	2020	\$6,599

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F2-Interior Floor Finish, Carpet
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Carpet	909 SF	\$7.26	L/R	3	2020	\$6,599

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F3-Interior Floor Finish, Carpet
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Interior Floor Finish, Carpet	909 SF	\$7.26	L/R	3	2020	\$6,599

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F4-Interior Floor Finish, Carpet
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Interior Floor Finish, Carpet	909 SF	\$7.26	L/R	3	2020	\$6,599

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F1-Interior Ceiling, Gypsum Board
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish,Gypsum Board	909 SF	\$1.94	L/R	3	2026	\$1,763

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F2-Interior Ceiling, Gypsum Board
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Gypsum Board	909 SF	\$1.94	L/R	3	2026	\$1,763

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F3-Interior Ceiling, Gypsum Board
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Gypsum Board	909 SF	\$1.94	L/R	3	2026	\$1,763

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F4-Interior Ceiling, Gypsum Board
<b>Condition</b>	Fair
<b>Quantity</b>	909 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Gypsum Board	909 SF	\$1.94	L/R	3	2026	\$1,763

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F1-Interior Ceiling, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	6,814 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Ceiling Finish, Textured Spray Coating
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Concrete	6,814 SF	\$1.96	L/R	3	2026	\$13,355

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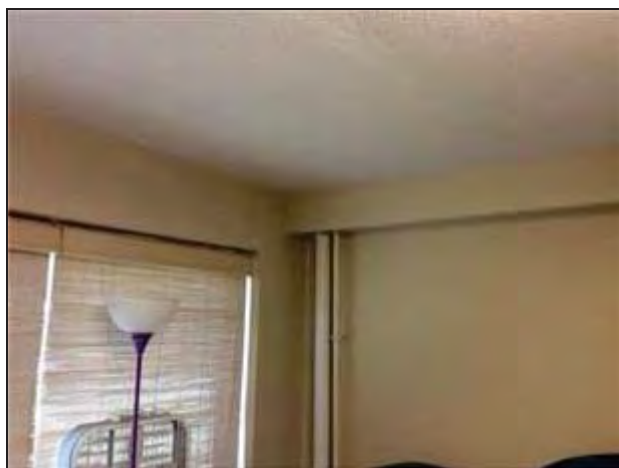
Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F2-Interior Ceiling, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	6,814 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Textured Spray Coating
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Concrete	6,814 SF	\$1.96	L/R	3	2024	\$13,355

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F3-Interior Ceiling, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	6,814 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Ceiling Finish, Textured Spray Coating
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Concrete	6,814 SF	\$1.96	L/R	3	2024	\$13,355

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F4-Interior Ceiling, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	6,814 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Ceiling Finish, Textured Spray Coating
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Concrete	6,814 SF	\$1.96	L/R	3	2026	\$13,355

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	LL-Interior Ceiling, Painted Concrete
<b>Condition</b>	Fair
<b>Quantity</b>	2,055 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Interior Ceiling Finish, Textured Spray Coating
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No

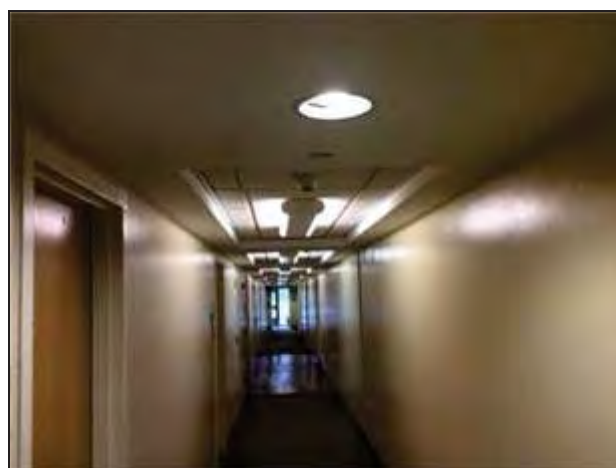
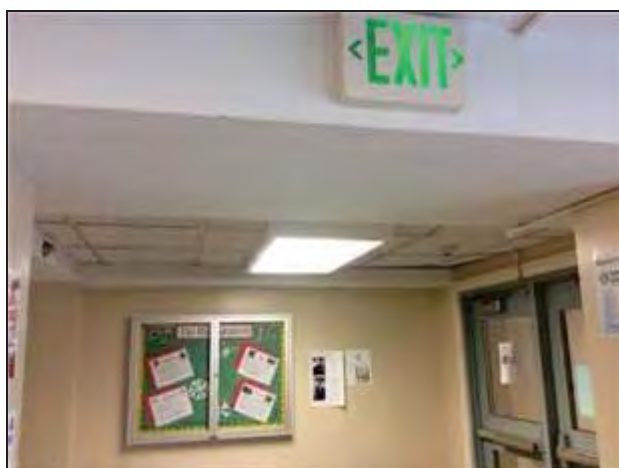


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling Finish, Concrete	2,055 SF	\$1.96	L/R	3	2026	\$4,028

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1 BUTTERFIELD ROAD  
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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F1-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	1,363 SF
<b>Unit Cost</b>	\$5.05
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Ceiling Finish, Acoustical Tile (ACT)	1,363 SF	\$5.05	L/R	3	2021	\$6,883

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Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F2-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	1,363 SF
<b>Unit Cost</b>	\$5.05
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Ceiling Finish, Acoustical Tile (ACT)	1,363 SF	\$5.05	L/R	3	2021	\$6,883

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Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F3-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	1,363 SF
<b>Unit Cost</b>	\$5.05
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Interior Ceiling Finish, Acoustical Tile (ACT)	1,363 SF	\$5.05	L/R	3	2021	\$6,883

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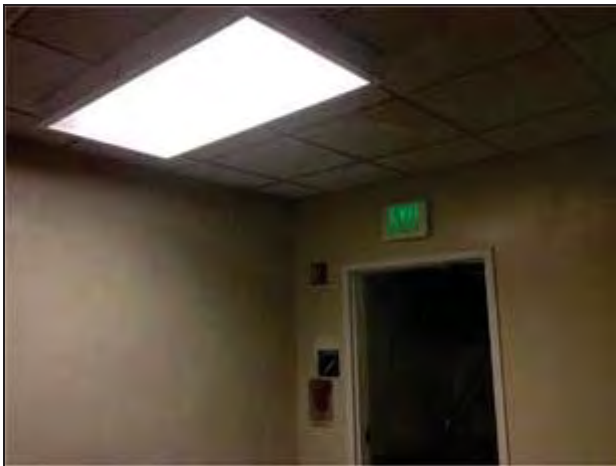
EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F4-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	1,363 SF
<b>Unit Cost</b>	\$5.05
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	14 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) Dropped Fiberglass
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No

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Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	LL-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	334 SF
<b>Unit Cost</b>	\$3.11
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) w/ Grid
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace LL-Interior Ceiling Finish, Acoustical Tile (ACT)	334 SF	\$3.11	L/R	3	2021	\$1,039

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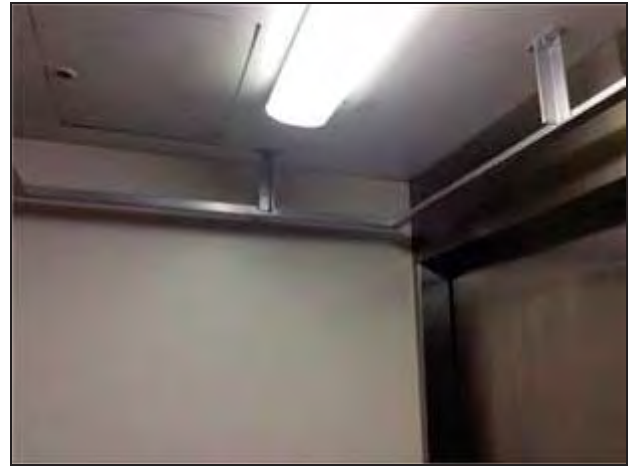
Coding / Field Name	Asset Description
D1011 - Passenger Elevators	Elevator Controls
Condition	Fair
Quantity	1 EA
Unit Cost	\$207,807.59
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Elevator, Hydraulic, 1500 to 2500 LB, 4 Floors
Floors Served (Quantity)	9



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Coding / Field Name	Asset Description
D1011 - Passenger Elevators	Elevator, Hydraulic
Condition	Fair
Quantity	1 EA
Unit Cost	\$207,807.59
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Elevator, Hydraulic, 1500 to 2500 LB, 4 Floors
Make (Manufacturer)	MEI
Capacity	2500
Capacity UoM (Unit of Measure)	LB
Floors Served (Quantity)	9



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Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Refinish Elevator Cabs	1 EA	\$2,000.00	L/R	3	2020	\$2,000



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Coding / Field Name	Asset Description
D2011 - Water Closets	F1-Toilets
Condition	Good
Quantity	8 EA
Unit Cost	\$842.97
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Toilet, Tankless (Water Closet)



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Coding / Field Name	Asset Description
D2011 - Water Closets	F2-Toilets
Condition	Good
Quantity	8 EA
Unit Cost	\$842.97
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Toilet, Tankless (Water Closet)

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Coding / Field Name	Asset Description
D2011 - Water Closets	F3-Toilets
Condition	Good
Quantity	8 EA
Unit Cost	\$842.97
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Toilet, Tankless (Water Closet)

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Coding / Field Name	Asset Description
D2011 - Water Closets	F4-Toilets
Condition	Good
Quantity	8 EA
Unit Cost	\$842.97
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 4
Basis of Costing	Toilet, Tankless (Water Closet)

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Coding / Field Name	Asset Description
D2013 - Lavatories	F1-Lavatories, Composite
Condition	Good
Quantity	8 EA
Unit Cost	\$1,891.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Lavatory, Cultured Marble
Low Flow Fixtures (EPAAct 2005)	Unknown



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Coding / Field Name	Asset Description
D2013 - Lavatories	F2-Lavatories, Composite
Condition	Good
Quantity	8 EA
Unit Cost	\$1,891.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Lavatory, Cultured Marble
Low Flow Fixtures (EPA 2005)	Unknown

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
D2013 - Lavatories	F3-Lavatories, Composite
Condition	Good
Quantity	8 EA
Unit Cost	\$1,891.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Lavatory, Cultured Marble

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Coding / Field Name	Asset Description
D2013 - Lavatories	F4-Lavatories, Composite
Condition	Good
Quantity	8 EA
Unit Cost	\$1,891.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 4
Basis of Costing	Lavatory, Cultured Marble

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
D2014 - Sinks	F1-Sink, Enameled Steel
Condition	Fair
Quantity	2 EA
Unit Cost	\$616.03
Year in Service	1950
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Sink, Enameled Steel
Low Flow Fixtures (EPA Act 2005)	Unknown



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Sink, Enameled Steel	2 EA	\$616.03	L/R	3	2026	\$1,232

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Coding / Field Name	Asset Description
D2014 - Sinks	F2-Sink, Enameled Steel
Condition	Fair
Quantity	2 EA
Unit Cost	\$616.03
Year in Service	1950
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Sink, Enameled Steel
Low Flow Fixtures (EPA 2005)	Unknown

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Sink, Enameled Steel	2 EA	\$616.03	L/R	3	2026	\$1,232

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Coding / Field Name	Asset Description
<b>D2014 - Sinks</b>	F3-Sink, Enameled Steel
<b>Condition</b>	Fair
<b>Quantity</b>	2 EA
<b>Unit Cost</b>	\$616.03
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Sink, Enameled Steel

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Sink, Enameled Steel	2 EA	\$616.03	L/R	3	2026	\$1,232

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Coding / Field Name	Asset Description
D2014 - Sinks	F4-Sink, Enameled Steel
Condition	Fair
Quantity	2 EA
Unit Cost	\$616.03
Year in Service	1950
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	Floor 4
Basis of Costing	Sink, Enameled Steel

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Sink, Enameled Steel	2 EA	\$616.03	L/R	3	2026	\$1,232

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Coding / Field Name	Asset Description
D2015 - Bathtubs	Bathtub & Shower Enclosure, Fiberglass
Condition	Fair
Quantity	1 EA
Unit Cost	\$1,785.27
Year in Service	2001
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Bathtub & Shower Enclosure, Fiberglass
Low Flow Fixtures (EPA Act 2005)	Unknown



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Bathtub & Shower Enclosure, Fiberglass	1 EA	\$1,785.27	L/R	3	2021	\$1,785

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Coding / Field Name	Asset Description
D2017 - Showers	F1-Shower, Ceramic Tile
Condition	Good
Quantity	6 EA
Unit Cost	\$1,983.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Shower, Ceramic Tile
Low Flow Fixtures (EPAAct 2005)	Unknown



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Coding / Field Name	Asset Description
D2017 - Showers	F2-Shower, Ceramic Tile
Condition	Good
Quantity	6 EA
Unit Cost	\$1,983.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Shower, Ceramic Tile
Low Flow Fixtures (EPAAct 2005)	Unknown

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Coding / Field Name	Asset Description
D2017 - Showers	F3-Shower, Ceramic Tile
Condition	Good
Quantity	6 EA
Unit Cost	\$1,983.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 3
Basis of Costing	Shower, Ceramic Tile
Low Flow Fixtures (EPAAct 2005)	Unknown

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Coding / Field Name	Asset Description
D2017 - Showers	F4-Shower, Ceramic Tile
Condition	Good
Quantity	6 EA
Unit Cost	\$1,983.78
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 4
Basis of Costing	Shower, Ceramic Tile
Low Flow Fixtures (EPAAct 2005)	Unknown

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Coding / Field Name	Asset Description
D2021 - Cold Water Service	Backflow Preventer, Domestic, DCV
Condition	Excellent
Quantity	2 EA
Unit Cost	\$2,603.17
Year in Service	2016
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Site
Basis of Costing	Backflow Preventer, 2"
Make (Manufacturer)	Zurn
Serial Number (Catalog Number)	4252346



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Coding / Field Name	Asset Description
D2023 - Domestic Water Supply Equipment	Domestic Water Heater 1
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.25 / Steam coils
Unit Cost (Adjusted)	\$52,167.55
Year in Service	2004
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Water Heater, Electric, Commercial, 121 to 300 GAL
Make (Manufacturer)	PVI
Model Number	2000-180N225AQSDE
Serial Number (Catalog Number)	0401103802
Capacity	225
Capacity UoM (Unit of Measure)	GAL
Capacity Nominal/Estimated?	Reported Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Domestic Water Heater 1	1 EA	\$52,167.55	L/R	3	2019	\$52,168

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Coding / Field Name	Asset Description
D2023 - Domestic Water Supply Equipment	Domestic Water Heater 2
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.25 / Steam coils
Unit Cost (Adjusted)	\$52,167.55
Year in Service	2004
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Water Heater, Electric, Commercial, 121 to 300 GAL
Make (Manufacturer)	PVI
Model Number	2000-180N225AQSDE
Serial Number (Catalog Number)	0401103800
Capacity	225
Capacity UoM (Unit of Measure)	GAL
Capacity Nominal/Estimated?	Capacity is based off of Drawings



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Domestic Water Heater 2	1 EA	\$52,167.55	L/R	3	2019	\$52,168

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Coding / Field Name	Asset Description
D2023 - Domestic Water Supply Equipment	Domestic Water Heater 3
Condition	Fair
Quantity	1 EA
Cost Adjustment Factor/Reason	1.25 / Steam coils
Unit Cost (Adjusted)	\$52,167.55
Year in Service	2004
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Water Heater, Electric, Commercial, 121 to 300 GAL
Make (Manufacturer)	PVI
Model Number	2000-180N225AQSDE
Serial Number (Catalog Number)	0401103801
Capacity	225
Capacity UoM (Unit of Measure)	GAL
Capacity Nominal/Estimated?	Capacity is based off of Drawings



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Domestic Water Heater 3	1 EA	\$52,167.55	L/R	3	2019	\$52,168

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Coding / Field Name	Asset Description
D2023 - Domestic Water Supply Equipment	Water Softener, 1,000 GAL
Condition	Fair
Quantity	1 EA
Unit Cost	\$18,800.71
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Water Softener, 1,000 GAL
Make (Manufacturer)	Culligan
Serial Number (Catalog Number)	5962
Capacity Nominal/Estimated?	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Water Softener, 1,000 GAL	1 EA	\$18,800.71	L/R	3	2020	\$18,801

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
D2029 - Domestic Water Distribution - OTHER	Plumbing System, Domestic Supply
Condition	Fair
Quantity	39,963 SF
Unit Cost	\$5.84
Year in Service	2001
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	25 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Plumbing System, Domestic Supply



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Coding / Field Name	Asset Description
D2039 - Sanitary Waste -OTHER	Plumbing System, Sanitary Waste
Condition	Fair
Quantity	39,963 SF
Unit Cost	\$3.89
Year in Service	2001
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	25 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Plumbing System, Sanitary Waste



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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
D2043 - Rainwater Drainage Equipment	Sump Pump, 3 HP
Condition	Fair
Quantity	2 EA
Unit Cost	\$2,062.81
Year in Service	2010
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	9 Year(s), Estimated, Based on Date of Observation
Location	Lower Level
Basis of Costing	Sump Pump, 3 HP



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Sump Pump, 3 HP	2 EA	\$2,062.81	L/R	3	2025	\$4,126

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Coding / Field Name	Asset Description
D3022 - Boiler Room Piping & Specialties	Condensate Receiver Station, 15 GAL
Condition	Fair
Quantity	1 EA
Unit Cost	\$7,732.67
Year in Service	2001
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	
Basis of Costing	Condensate Receiver Station, 15 GAL
Make (Manufacturer)	Alyan
Model Number	CVC-1530-3/4-2
Serial Number (Catalog Number)	32022A



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Condensate Receiver Station, 15 GAL	1 EA	\$7,732.67	L/R	3	2026	\$7,733

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Coding / Field Name	Asset Description
D3022 - Boiler Room Piping & Specialties	Expansion Tank, Small
Condition	Fair
Quantity	1 EA
Unit Cost	\$1,999.43
Year in Service	2001
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Expansion Tank, 11 to 30 GAL
Make (Manufacturer)	Amtrol



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Expansion Tank, Small	1 EA	\$1,999.43	L/R	3	2026	\$1,999

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Coding / Field Name	Asset Description
D3022 - Boiler Room Piping & Specialties	Expansion Tank, Large
Condition	Good
Quantity	1 EA
Unit Cost	\$2,483.48
Year in Service	2001
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Expansion Tank, 31 to 60 GAL
Make (Manufacturer)	John Wood
Capacity	60
Capacity UoM (Unit of Measure)	GAL
Capacity Nominal/Estimated?	Reported Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Expansion Tank, Large	1 EA	\$2,483.48	L/R	3	2026	\$2,483

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Coding / Field Name	Asset Description
D3023 - Auxiliary Equipment	Heat Exchanger, Steam-to-Water
Condition	Fair
Quantity	4 EA
Unit Cost	\$12,916.17
Year in Service	2000
Expected Useful Life (EUL)	35 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	19 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Heat Exchanger, Steam-to-Water, 76 to 105 GPM
Dataplate Information (Make, Model, SN) Not Completed Because	No Dataplate
Capacity Nominal/Estimated?	Estimated Capacity



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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	Fan Coil Unit, Hydronic, Cabinet, Small
<b>Condition</b>	Fair
<b>Quantity</b>	12 EA
<b>Unit Cost</b>	\$4,986.01
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fan Coil Unit, Hydronic, Cabinet, Small	12 EA	\$4,986.01	L/R	3	2020	\$59,832

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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	Fan Coil Unit, Hydronic, Ceiling
<b>Condition</b>	Fair
<b>Quantity</b>	16 EA
<b>Unit Cost</b>	\$4,986.01
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Fan Coil Unit, Hydronic, 1,201 to 1,800 CFM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fan Coil Unit, Hydronic, Ceiling	16 EA	\$4,986.01	L/R	3	2020	\$79,776

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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	Fan Coil Unit, Hydronic, Cabinet, Medium
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$5,268.44
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Fan Coil Unit, Hydronic, 1,801 to 2,400 CFM
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fan Coil Unit, Hydronic, Cabinet, Medium	1 EA	\$5,268.44	L/R	3	2020	\$5,268

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Coding / Field Name	Asset Description
D3041 - Air Distribution Systems	HVAC System Ductwork
Condition	Fair
Quantity	9,085 SF
Unit Cost	\$15.00
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	HVAC System Ductwork, Sheet Metal



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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	Make-Up Air Unit, MUA 1
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$44,658.41
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Make-Up Air Unit, 6,001 to 12,000 CFM
<b>Make (Manufacturer)</b>	Dunham Bush
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	No Dataplate
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Make-Up Air Unit, MUA 1	1 EA	\$44,658.41	L/R	3	2021	\$44,658

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Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	Make-Up Air Unit, MUA 2
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$44,658.41
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Make-Up Air Unit, 6,001 to 12,000 CFM
<b>Make (Manufacturer)</b>	Dunham Bush
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	No Dataplate
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Make-Up Air Unit, MUA 2	1 EA	\$44,658.41	L/R	3	2021	\$44,658

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Coding / Field Name	Asset Description
D3042 - Exhaust Ventilation Systems	Exhaust Fans, Roof
Condition	Good
Quantity	2 EA
Unit Cost	\$2,664.18
Year in Service	2010
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	9 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Exhaust Fan, Centrifugal, 801 to 2,000 CFM
Client Asset Tag	REF1
Make (Manufacturer)	Penn
Model Number	FX18B
Serial Number (Catalog Number)	various
Capacity	1075
Capacity UoM (Unit of Measure)	CFM
Capacity Nominal/Estimated?	Capacity is based off of Drawings



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Exhaust Fans, Roof	2 EA	\$2,664.18	L/R	3	2025	\$5,328

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Coding / Field Name	Asset Description
<b>D3042 - Exhaust Ventilation Systems</b>	Exhaust System, Basement
<b>Condition</b>	Fair
<b>Quantity</b>	4,778 SF
<b>Unit Cost</b>	\$3.00
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Exhaust System, Basement (allowance)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Provide Exhaust System, Basement	4,778 SF	\$3.00	ENV	2	2020	\$14,334

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Coding / Field Name	Asset Description
<b>D3044 - Hot Water Distribution</b>	Circulation Pump, Heating Water, 1
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$4,652.29
<b>Year in Service</b>	2007
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary)
<b>Basis of Costing</b>	Circulation Pump, Heating Water, 3 HP
<b>Make (Manufacturer)</b>	Armstrong
<b>Model Number</b>	4x3x8
<b>Serial Number (Catalog Number)</b>	440716



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Coding / Field Name	Asset Description
D3044 - Hot Water Distribution	Circulation Pump, Heating Water, 2
Condition	Fair
Quantity	1 EA
Unit Cost	\$4,652.29
Year in Service	2007
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	11 Year(s), Estimated, Based on Date of Observation
Location	Mechanical Room (Primary)
Basis of Costing	Circulation Pump, Heating Water, 3 HP
Make (Manufacturer)	Armstrong
Model Number	4x3x8
Serial Number (Catalog Number)	440715



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Coding / Field Name	Asset Description
D3049 - Distribution Systems -OTHER	HVAC System Piping, 2-Pipe
Condition	Fair
Quantity	39,963 SF
Unit Cost	\$6.50
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	HVAC System Piping, 2-Pipe



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Coding / Field Name	Asset Description
D3051 - Terminal Self-Contained Units	Air Conditioner, Through-Wall
Condition	Fair
Quantity	2 EA
Unit Cost	\$1,997.82
Year in Service	2010
Expected Useful Life (EUL)	10 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Exterior Walls
Basis of Costing	Air Conditioner, Window/Thru-Wall, 1 Ton



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Coding / Field Name	Asset Description
D3051 - Terminal Self-Contained Units	Radiator, Hydronic Baseboard (per LF)
Condition	Fair
Quantity	430 LF
Unit Cost	\$132.77
Year in Service	2001
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Radiator, Hydronic Baseboard (per LF)



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Coding / Field Name	Asset Description
D3068 - Building Automation Systems	HVAC Controls, Direct Digital (DDC)
Condition	Fair
Quantity	1 SF
Unit Cost	\$5.36
Year in Service	2000
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Building Automation System (HVAC Controls)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace HVAC Controls, Direct Digital (DDC)	1 SF	\$5.36	L/R	3	2020	\$5

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Coding / Field Name	Asset Description
D4011 - Sprinkler Water Supply	Backflow Preventer, Fire, DCV
Condition	Fair
Quantity	1 EA
Unit Cost	\$13,054.75
Year in Service	2002
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Lower Level
Basis of Costing	Backflow Preventer, 8"
Make (Manufacturer)	Colt
Model Number	200
Serial Number (Catalog Number)	OF-0225



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Backflow Preventer, Fire, DCV	1 EA	\$13,054.75	L/R	3	2019	\$13,055

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Coding / Field Name	Asset Description
D4019 - Sprinkler -OTHER	Sprinkler Heads
Condition	Fair
Quantity	39,963 SF
Unit Cost	\$1.33
Year in Service	2001
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Sprinkler Heads (per SF)
Fire Extinguishers	Observed/Reported in working condition



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Sprinkler Heads	39,963 SF	\$1.33	L/R	3	2021	\$53,151

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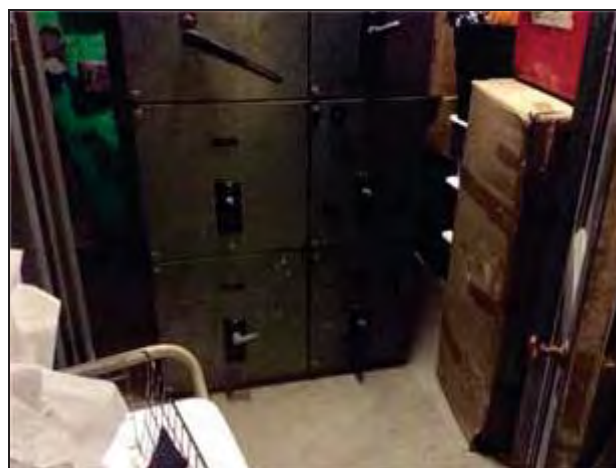
Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Building/Main Switchgear 1
Condition	Good
Quantity	1 EA
Unit Cost	\$99,999.00
Year in Service	2000
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	24 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary)
Basis of Costing	Building/Main Switchgear, 208 Y, 120 V, 1,400 Amp
Make (Manufacturer)	Cutler Hammer
Model Number	HBS78247
Capacity	1600
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Reported Capacity
Clearance around component	Adequate



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Building/Main Switchgear 2
Condition	Fair
Quantity	1 EA
Unit Cost	\$99,999.00
Year in Service	1950
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	1 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary)
Basis of Costing	Building/Main Switchgear, 208 Y, 120 V, 1,400 Amp
Make (Manufacturer)	Northeastern
Capacity	500
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Estimated Capacity
Clearance around component	Adequate



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Building/Main Switchgear 2	1 EA	\$99,999.00	XA	2	2017	\$99,999

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Coding / Field Name	Asset Description
<b>D5012 - Low Tension Service &amp; Dist.</b>	Disconnect Switch, 200 Amp
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$1,974.80
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Disconnect Switch, 200 Amp
<b>Make (Manufacturer)</b>	Cutler Hammer
<b>Capacity</b>	200
<b>Capacity UoM (Unit of Measure)</b>	AMP
<b>Capacity Nominal/Estimated?</b>	Reported Capacity



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Distribution Panel
Condition	Fair
Quantity	5 EA
Unit Cost	\$7,951.00
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	MEP Closet
Basis of Costing	Distribution Panel, 208 Y, 120 V, 225 Amp
Make (Manufacturer)	Square D
Capacity	225
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Reported Capacity



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Distribution Panel, Old
Condition	Fair
Quantity	1 EA
Unit Cost	\$7,951.00
Year in Service	1950
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	1 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary)
Basis of Costing	Distribution Panel, 208 Y, 120 V, 225 Amp
Make (Manufacturer)	Frank Adams
Capacity	225
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Distribution Panel, Old	1 EA	\$7,951.00	XA	2	2017	\$7,951

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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Main Distribution Panel
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,487.85
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary)
Basis of Costing	Distribution Panel, 208 Y, 120 V, 400 Amp
Make (Manufacturer)	Cutler Hammer
Model Number	8805C34G01
Capacity	400
Capacity UoM (Unit of Measure)	AMP
Capacity Nominal/Estimated?	Reported Capacity



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Coding / Field Name	Asset Description
D5012 - Low Tension Service & Dist.	Transfer Switch, Automatic (ATS), 600 V, 225 Amp
Condition	Good
Quantity	2 EA
Unit Cost	\$9,688.87
Year in Service	2001
Expected Useful Life (EUL)	18 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary)
Basis of Costing	Transfer Switch, Automatic (ATS), 600 V, 225 Amp



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Transfer Switch, Automatic (ATS), 600 V, 225 Amp	2 EA	\$9,688.87	L/R	3	2019	\$19,378

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>D5019 - Electrical Service &amp; Distribution - OTHER</b>	Electrical Distribution System
<b>Condition</b>	Fair
<b>Quantity</b>	39,963 SF
<b>Unit Cost</b>	\$28.96
<b>Year in Service</b>	1950
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Electrical System, Multi-Family



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Electrical Distribution System	39,963 SF	\$28.96	L/R	3	2026	\$1,157,328

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Coding / Field Name	Asset Description
D5022 - Lighting Equipment	Light Fixture, Exterior
Condition	Fair
Quantity	5 EA
Unit Cost	\$262.68
Year in Service	2001
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Exterior Walls
Basis of Costing	Fluorescent Lighting Fixture, 160 W



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Light Fixture, Exterior	5 EA	\$262.68	L/R	3	2021	\$1,313

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F1-Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	9,085 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent and Incandescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Lighting System, Interior	9,085 SF	\$9.24	L/R	3	2026	\$83,945

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F2-Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	9,085 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent and Incandescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Lighting System, Interior	9,085 SF	\$9.24	L/R	3	2026	\$83,945

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F3-Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	9,085 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 3
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent and Incandescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F3-Lighting System, Interior	9,085 SF	\$9.24	L/R	3	2026	\$83,945

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

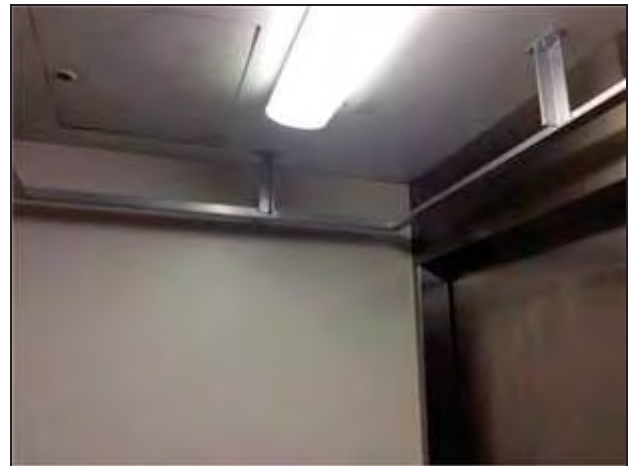
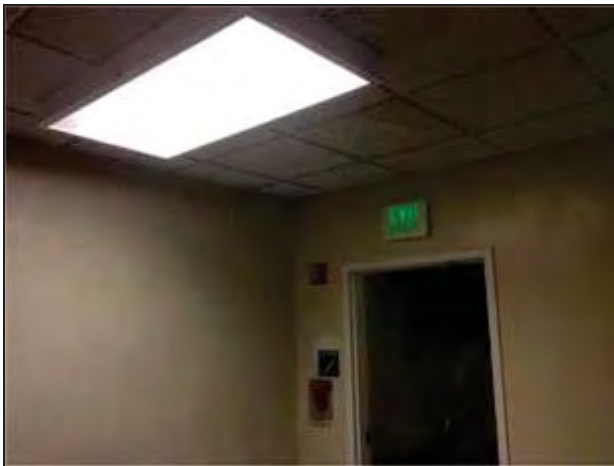
Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F4-Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	9,085 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 4
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent and Incandescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No

Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F4-Lighting System, Interior	9,085 SF	\$9.24	L/R	3	2026	\$83,945

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Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	LL-Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	4,778 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Lower Level
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent and Incandescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace LL-Lighting System, Interior	4,778 SF	\$9.24	L/R	3	2026	\$44,149

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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
D5037 - Fire Alarm Systems	Fire Alarm Control Panel
Condition	Good
Quantity	1 EA
Unit Cost	\$20,297.59
Year in Service	2007
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	6 Year(s), Estimated, Based on Date of Observation
Location	MEP Closet
Basis of Costing	Fire Alarm Control Panel, Addressable
Make (Manufacturer)	EST3
Last Inspection	11/23/16



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fire Alarm Control Panel	1 EA	\$20,297.59	L/R	3	2022	\$20,298

BUTTERFIELD HALL / 32-002  
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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>D5037 - Fire Alarm Systems</b>	Fire Alarm System
<b>Condition</b>	Good
<b>Quantity</b>	39,963 SF
<b>Unit Cost</b>	\$2.36
<b>Year in Service</b>	2007
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	11 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Fire Alarm System, Office Building, Upgrade/Install
<b>Smoke Detectors</b>	Observed/Reported in working condition
<b>Pull Stations</b>	Observed/Reported in working condition
<b>Audible Alarms</b>	Observed/Reported in working condition
<b>Strobe Alarms</b>	Observed/Reported in working condition
<b>Exit Signage, Illuminated</b>	Observed/Reported in working condition
<b>Emergency Lighting Type</b>	Wall Mounted - Wired to Emergency Power



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Coding / Field Name	Asset Description
D5092 - Emergency Light & Power Systems	Emergency Generator, Diesel
Condition	Fair
Quantity	1 EA
Unit Cost	\$139,939.52
Year in Service	2001
Expected Useful Life (EUL)	25 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	10 Year(s), Estimated, Based on Date of Observation
Location	Electrical Room (Primary)
Basis of Costing	Generator, Diesel, 130 to 300 kW
Make (Manufacturer)	Caterpillar
Model Number	3306
Serial Number (Catalog Number)	7YR02396
Capacity	250
Capacity UoM (Unit of Measure)	kW
Capacity Nominal/Estimated?	Reported Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Emergency Generator, Diesel	1 EA	\$139,939.52	L/R	3	2026	\$139,940

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Coding / Field Name	Asset Description
<b>G2031 - Paving &amp; Surfacing</b>	Concrete Sidewalk
<b>Condition</b>	Good
<b>Quantity</b>	2,645 SF
<b>Unit Cost</b>	\$19.82
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	24 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Concrete Sidewalk



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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
<b>G2042 - Retaining Walls</b>	Retaining Walls
<b>Condition</b>	Good
<b>Quantity</b>	140 SF
<b>Unit Cost</b>	\$130.61
<b>Year in Service</b>	2015
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	39 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Retaining Wall, Brick/Stone (per SF Face)



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Coding / Field Name	Asset Description
<b>G2045 - Site Furnishings</b>	Bench, Park, Metal
<b>Condition</b>	Good
<b>Quantity</b>	3 EA
<b>Unit Cost</b>	\$487.03
<b>Year in Service</b>	2015
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Bench, Park, Metal/Wood/Plastic, With or Without Back



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Coding / Field Name	Asset Description
<b>G2045 - Site Furnishings</b>	Bike Rack
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$1,082.56
<b>Year in Service</b>	2015
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	24 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Bike Rack



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EMG PROJECT NO: 117742.16R000-B23.305

Coding / Field Name	Asset Description
G3021 - Piping	Site Drainage
Condition	Fair
Quantity	643 LF
Unit Cost	\$58.72
Year in Service	2001
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Site
Basis of Costing	Pipe, Drain & Sewage, Vitrified Clay, 18"



## 4. CERTIFICATION

EMG has completed a Facility Condition Assessment (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 generally conforming to *ASTM E2018-15, 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 PCA 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 an FCA in accordance with *ASTM E2018-15* 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 listed on the cover page of this report.

**Prepared By:** John Landry , Field Observer/Project Manager



**Reviewed By:** Marge Bershtein, Program Manager

## 5. APPENDICES

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<b>APPENDIX A</b>	<b>Key Photographic Record</b>
<b>APPENDIX B</b>	<b>Location Plan</b>
<b>APPENDIX C</b>	<b>Capital Expenditure Table</b>
<b>APPENDIX D</b>	<b>Pre-Survey Questionnaire (PSQ)</b>
<b>APPENDIX E</b>	<b>Accessibility Checklist</b>
<b>APPENDIX F</b>	<b>Documents Reviewed</b>
<b>APPENDIX G</b>	<b>On-Site Date Weather Conditions</b>
<b>APPENDIX H</b>	<b>Areas Not Observed or Down Areas</b>
<b>APPENDIX I</b>	<b>Equipment List</b>
<b>APPENDIX J</b>	<b>Space Utilization</b>

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## APPENDIX A      KEY PHOTOGRAPHIC RECORD

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Images provided here are general photographs of the building. Specific Asset photos are provided in Section 3 of this Report.

## FACILITY CONDITION ASSESSMENT

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

*Draft - For Discussion Purposes Only*

EMG PROJECT NO: 117742.16R000-B23.305



Front Elevation



Left Elevation



Right Elevation



Rear Elevation



Interiors (General)



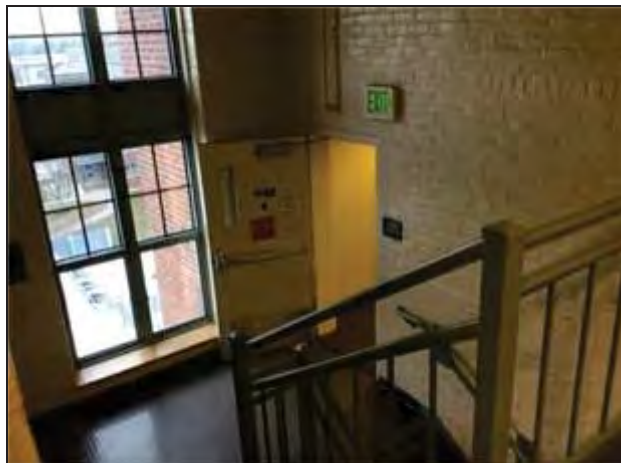
Apartment

## FACILITY CONDITION ASSESSMENT

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

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EMG PROJECT NO: 117742.16R000-B23.305



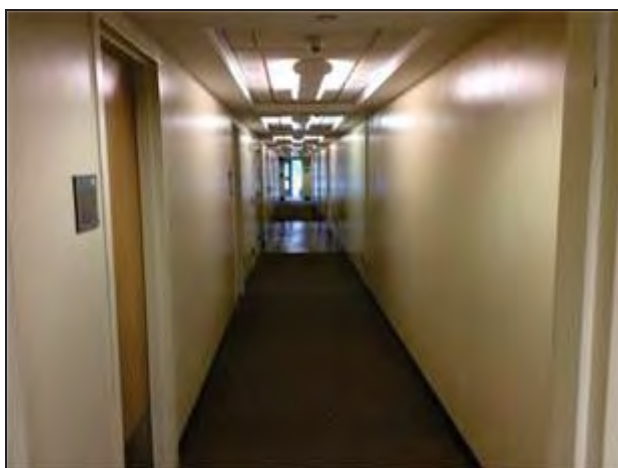
Center Stairs



Dorm Room



Dorm Room

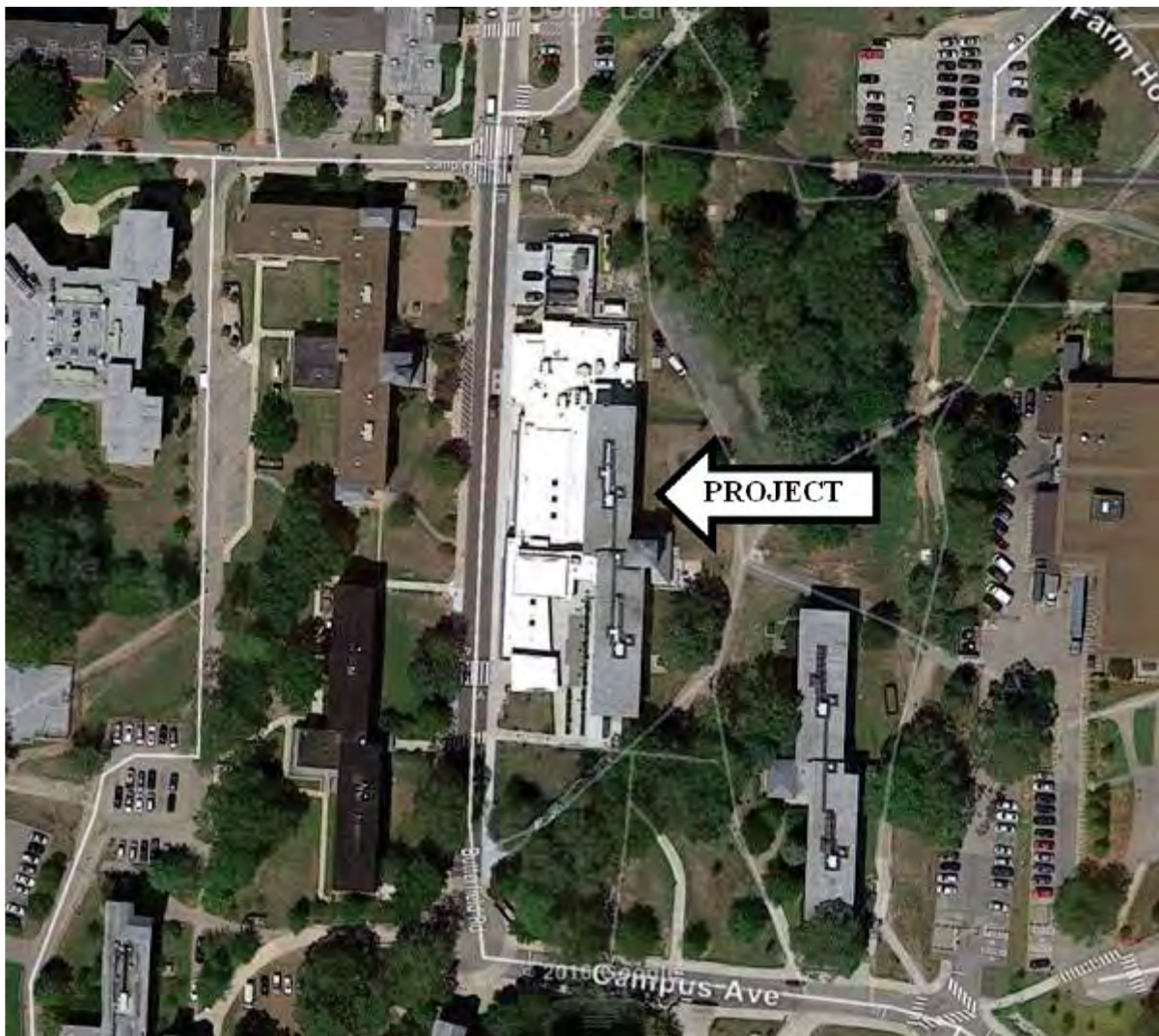


Hallway



Laundry

## APPENDIX B LOCATION PLAN



### Source

The north arrow indicator approximates 0° North.

EMG Project Number  
**117742.16R000-B23.305**

Project Name  
**32-002**

On-Site Date  
**12/08/2016**

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APPENDIX C      CAPITAL EXPENDITURE TABLE

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Butterfield Hall  
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Current	
Replacement Value	\$8,178,295

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

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## APPENDIX D      PRE-SURVEY QUESTIONNAIRE (PSQ)

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The Pre-Survey Questionnaire (PSQ) is based on information provided directly by the Client or the Client's designated Point of Contact (POC). A version of this form is provided to the Client prior to EMG's on-site assessment with the instructions that it be filled out as completely as possible. If a completed form is provided, it is included here.

Point of Contact (POC): Dan Cartier - Assistant Director of Facilities - 401-207-7616 - [Dcartier@uri.edu](mailto:Dcartier@uri.edu)

Form was: Completed by the POC and provided to the EMG Project Manager while on-site. Scan Included here.

## FACILITY CONDITION ASSESSMENT: PRE-SURVEY QUESTIONNAIRE

This questionnaire must be completed by the property owner, the owner's designated representative, or someone knowledgeable about the subject property. The completed form must 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 form: Dan Cartier Sarah Warburton

Title / Association with property: \_\_\_\_\_

Length of time associated w/ property: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Building / Facility Name: Butterfield Dining Hall (KC 02A)

Campus Name: Kingston Campus

Directions: Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any Yes responses.

DATA OVERVIEW		RESPONSES
1	Year constructed	1950
2	Building size in SF	
3	Acreage	
4	Number of parking spaces (provide accessible counts)	
5	Age of roof (known or estimated); active warranty w/ expiration date?	<del>Estimated</del> <del>1970s</del> <del>2012</del> <del>2013</del> 2015
QUESTIONS		RESPONSES
6	List all major renovations or rehabilitations since construction (with estimated dates).	<del>Windows</del> <del>2000</del> ish. Rehab 2014-2015
7	List other somewhat lesser but still significant capital improvements, focused within recent years (provide approximate year completed).	Plumbing <del>year</del>
8	List any major capital expenditures planned/requested for the next few years. Have they been budgeted?	
9	Describe any extremely problematic, historically chronic, or immediate facility needs.	H
10	Describe any shared building or site elements or unique arrangements with neighboring properties, entities, or tenants.	

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")						
QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
11	Are there any unusable or "down" areas, units, or spaces within the facility?		✓			
12	Is the facility served by a private water well, septic system or other special waste treatment system?	✓				URI water system
13	Are there any problems with the utilities, such as inadequate pressure or capacities?	✓	✓			
14	Have there been any leaks or pressure problems with natural gas service?		✓			
15	Are there any problems with erosion or areas with storm water drainage issues?	✓				site Need Drainage work
16	Are there any problems with the landscape irrigation systems?	✓				No Irrigation.
17	Are there any problems or inadequacies with exterior lighting?	✓				Needs LED Lighting
18	Are there any problems with foundations or structures, like excessive settlement?		✓			
19	Are there any known issues with termites or other wood-boring pests?		✓			
20	Are there any wall, window, basement or roof leaks?	✓				Basement wall leaks.
21	Are there any plumbing leaks or water pressure problems?		✓			
22	Are any areas of the facility inadequately heated, cooled or ventilated?		✓			
23	Are there any poorly insulated areas?	✓				should Thermall.
24	Do any of the HVAC systems use older R-11, 12, or 22 refrigerants?			✓		
25	Has any part of the facility ever contained visible suspect mold growth?		✓			
26	Have there been indoor air quality or mold related complaints from building occupants?		✓			

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")						
QUESTION		RESPONSE				COMMENTS
		Yes	No	UNK	NA	
27	Are there any known unresolved building, fire, or zoning code issues with the governing municipality?	✓				Needs Fire Code Review
28	Is there any pending litigation concerning the property?			✓		
29	Are there outstanding accessibility issues at the facility? (Go over and fill out first 'History' subsection of separate ADA checklist.)	✓				Needs ADA Review
30	Are there any EMG 'red flag' issues at the facility? (Go over and fill out attached checklist below.)	✓				Asbestos Lead Paint
31	Are there any other unresolved construction defects or significant issues/hazards at the property that have not yet been identified?	✓				Asbestos Lead Paint

AGENCY OVERVIEW	RESPONSE
List the agency/agencies occupying the building	URI
Provide the number of occupants in the building by agency	URI
Provide the number of staff per shift, if applicable	URI staff
If there are multiple agencies, provide a floor plan depicting location of each agency and number of occupants per room.	URI staff
Average daily general public during normal operations	URI students

Daniel Cartier  
Signature of person interviewed or completing form

12/5/16  
Date

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

## APPENDIX E ACCESSIBILITY CHECKLIST

Question	Response
Has an ADA survey previously been completed for this property?	Unknown
Have any ADA improvements been made to the property?	Yes
Does a Transition Plan / Barrier Removal Plan exist for the property?	Unknown
Has building ownership or management received any ADA related complaints that have not been resolved?	Unknown
Is any litigation pending related to ADA issues?	Unknown
<b>Parking</b>	
Are there sufficient accessible parking spaces with respect to the total number of reported spaces?	Unknown
Are there sufficient van-accessible parking spaces available?	Unknown
Are accessible spaces signed with the International Symbol of Accessibility (ISA)? Are there signs reading "Van Accessible" at van spaces?	Unknown
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?	Yes
Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs?	Yes
Does signage indicate the accessible building entrance from accessible parking, where more than one pedestrian route is present, and not all routes or not all building entrances are accessible?	No
Parking Comments	
<b>Ramps</b>	
Do all ramps along accessible path of travel appear to meet slope requirements? (1:12 or less) with maximum rise 30" for each ramp run?	Yes
Do ramp runs that appear to rise more than 6" have railings on both sides?	No
Does the width between railings appear at least 36 inches?	Yes
Is there a level landing at the top and at the bottom of ramp runs and at ramp turns?	Yes
Ramps Comments	
<b>Entrances and Exits</b>	
Are minimum 60% of the public entrances accessible?	Yes

## FACILITY CONDITION ASSESSMENT

Draft - For Discussion Purposes Only

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

Question	Response
Do all required accessible entrance doorways appear to be: (a) at least 32 inches wide; (b) at least 80 inches high; (c) with hardware between 34" and 48" high, and (d) not a revolving door?	Yes
Is the door hardware easy to operate- lever/push type hardware, no twisting required, min. 36 inches to max. 48 inches above the floor?	Yes
Entrances & Exits Comments	
<b>Paths of Travel and Accessible Routes</b>	
Are all paths of travel free of obstruction and wide enough for a wheelchair (appear at least 36 inches wide)?	Yes
Do accessible routes coincide with the paths of travel for non-disabled (accessible routes cannot be in a totally different area than where everyone else walks)?	Yes
Is there a path of travel that does not require the use of stairs?	Yes
Is signage for restrooms, building means of egress exits, interior and exterior signs identifying permanent rooms/spaces compliant?	Yes
Path of Travel & Accessible Route Comments	
<b>Elevators</b>	
Do the call buttons have visual and audible signals to indicate when a call is registered and answered when car arrives?	Yes
Are there visual and audible signals inside cars indicating floor change?	Yes
Are there standard raised and Braille marking on both jambs of each hoist way entrance as well as all cab call buttons?	Yes
Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?	Yes
Do all elevator controls appear to be within reach ranges between 15 and 48 inches, including emergency communication controls?	Yes
If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?	Yes
Elevator Comments	
<b>Tables, Work Surfaces and Service Counters</b>	
Do at least 5% of dining tables and work surfaces have knee and toe clearance with surface heights appearing to be minimum 28" high and maximum 34" high?	NA
Do food service counters appear to be maximum 34" height?	NA



## FACILITY CONDITION ASSESSMENT

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BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

Question	Response
Do check-out aisles, sales and service counters appear to be maximum 38" high?	NA
Tables, Work Surfaces, and Service Counters Comments	
<b>Assembly Areas</b>	
Are sufficient wheelchair spaces provided, with a companion seat for each wheelchair space?	NA
Where an audio system is present and integral to the use of the space, are assistive listening systems present or available?	NA
Assembly Area Comments	
<b>Restrooms and Locker Rooms</b>	
Are restrooms located on an accessible route?	Yes
Are pull handles push/pull or lever type?	Yes
If fire alarms are located in restrooms, are they both audible AND visual?	Yes
Are toilet room access doors wheelchair-accessible (appear to be at least 32 inches wide)?	Yes
Are public restrooms large enough to accommodate a wheelchair turnaround (appear to have 60" turning diameter)?	Yes
In unisex toilet rooms, are there safety alarms with pull cords?	NA
Are toilet stall doors wheelchair accessible (appear to be at least 32" wide)?	Yes
Are sinks provided with clearance for a wheelchair to roll under (appear to have clearance of 8" depth min. at 27" ht.)?	Yes
Are sink handles operable with one hand without grasping, pinching, or twisting?	Yes
Are exposed pipes under sink sufficiently insulated against contact?	Yes
Restroom & Locker Room Comments	
<b>Guest Rooms or Student Sleeping Rooms</b>	
How many total accessible sleeping rooms does the property management report to have?	
Are there sufficient reported accessible sleeping rooms with respect to the total number of reported sleeping rooms?	Yes
How many accessible sleeping rooms have roll-in showers, per property management?	
Are there sufficient reported accessible rooms with roll-in showers with respect to the total number of reported accessible guestrooms?	Yes
How many assistive listening kits and/or rooms with communication features are available per property management?	



# FACILITY CONDITION ASSESSMENT

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BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

Question	Response
Are there sufficient reported assistive listening devices with respect to the total number of rooms?	No
Where kitchens/kitchenettes are provided, is a wheelchair turning space present in the kitchen/kitchenette and accessible counters (appear to be maximum 34" high adjacent a built in stove or microwave)?	Yes
How many total accessible units of graduate/faculty apartments and townhouses leased on an annual basis does the property management report to have?	
Are there sufficient reported accessible units with accessible kitchens with respect to the total number of reported units?	Yes
Guest Room & Student Sleeping Room Comments	
<b>Pools and Spas</b>	
Are public access pools/spas/wading pools/wave action features provided? If the answer is no, please disregard this section.	NA
How many accessible access points are provided to each type of water activity?	
Is at least one fixed lift or sloped entry to each type provided (2 entries required for pools with 300 LF or more pool wall)?	NA
Pools & Spas Comments	
<b>Play and Exercise Areas</b>	
Has the play area been reviewed for accessibility? All public playgrounds are subject to ADA standards.	NA
Is an accessible route provided to each sport area, exercise area? To each press box where total of boxes in an assembly area is greater than 500 SF?	NA
Is there an accessible route outside of marked play lines within each sport court, providing access to all sides of the court?	NA
Does there appear to be adequate clear floor space (30" minimum by 48" minimum) around a minimum of one of each type of exercise machine/ equipment?	NA
Play & Exercise Area Comments	



BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

## APPENDIX F DOCUMENTS REVIEWED

The following information and documents were requested prior to the on-site assessment. The order of the documents requested below is generally based on the ASTM E2018-15 document. Items with an \* are discussed in the PSQ. Items that are EMG FCA specific are denoted with a †.

On the day of the on-site assessment, provide EMG's Project Manager with access to all of the available documents and information listed below. Please provide electronic copies if available.

The following documents were provided for review by the EMG Project Manager:

Primary Documentation - Provided for Review	
<b>Drawings &amp; Specifications</b> (Construction, Record Set, As-Built) for the construction of the building and for renovations, additions and any other improvement work. Specific Drawings should include: Floor Plans, Electrical One-Line Diagram, Mechanical Schedule, Lighting Schedule, Elevations.	Received or reviewed in part
<b>Site Survey</b> indicating buildings, roads, hardscape, parking counts, property boundaries, building area, site acreage, utility information.	Not provided or available
<b>Capital Improvement Summary*</b> indicating recent (over the last 5 years) capital improvements or future planned capital improvements. Provide the year the work was completed (or proposed to be completed), a summary description of the scope of the work, and the estimated cost of the improvements.	Not provided or available
Pending Proposals or Executed Contracts for material repairs or improvements	Not provided or available
<b>Summary of SF &amp; Unit Types/Quantities</b> (for residential/hotel/nursing home properties), identifying residential room/unit types (e.g. 1BR, 2BR, 3BR, 3BR ADA, Double, King ADA, Quad, etc.), residential room/unit type quantities, and residential room/unit type floor area in square feet.	Received or reviewed in part
<b>Prior Property Condition Reports</b> or Studies pertaining to any aspect of the subject property's physical condition.	Not provided or available
<b>ADA Survey</b> or reports that indicate deficiencies and the status of any improvements implemented to effect physical compliance.	Not provided or available
<b>Historical Costs</b> incurred for repairs, improvements, and recurring replacements. For portfolio projects, the EMG Program Manager will work with the client to establish a list of Assets and costs that will be used to calibrate the Client's specific cost library.	Not provided or available
Primary Documentation - Additional Comments	
<b>Safety Inspection Records, Certificates, &amp; Permits</b>	Not provided or available
Comments / Specifics	
<b>Building Square Footage Breakdown</b>	Received or reviewed in part
<b>Vendor/Contractor Contact List</b>	Not provided or available
<b>Warranty Information</b>	Not provided or available
<b>Systems &amp; Equipment Records</b>	Not provided or available
<b>Tenant List / Rent Roll</b>	Not provided or available
<b>Appraisal</b>	Not provided or available
<b>Certificate of Occupancy</b>	Not provided or available
<b>Other Documents</b>	Not provided or available
Additional Comments	

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

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## APPENDIX G      ON-SITE DATE WEATHER CONDITIONS

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Item	Condition
Outdoor Temperature	40° F
Weather Conditions	Clear
Snow Covering Ground	No Snow Cover
Wind Conditions	No Wind
Notes	

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## APPENDIX H AREAS NOT OBSERVED OR DOWN AREAS

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All areas of the property were available for observation during the site visit. There were no down areas.

BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

## APPENDIX I EQUIPMENT LIST

Equipment List provided is inclusive of all assets that are coded as Uniformat D - Services and generally include D10 Conveying, D20 Plumbing, D30 HVAC, D40 Fire Protection, and D50 Electrical. Additional attributes of each Asset are also recorded but are not reported in this table.

Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D1011	1 EA	Elevator Controls		Building Interior (General)			
D1011	1 EA	Elevator, Hydraulic		Building Interior (General)	MEI		2,500.00 LB
D2011	8 EA	F1-Toilets		Floor 1			
D2011	8 EA	F2-Toilets		Floor 2			
D2011	8 EA	F3-Toilets		Floor 3			
D2011	8 EA	F4-Toilets		Floor 4			
D2013	8 EA	F1-Lavatories, Composite		Floor 1			
D2013	8 EA	F2-Lavatories, Composite		Floor 2			
D2013	8 EA	F3-Lavatories, Composite		Floor 3			
D2013	8 EA	F4-Lavatories, Composite		Floor 4			
D2014	2 EA	F1-Sink, Enameled Steel		Floor 1			
D2014	2 EA	F2-Sink, Enameled Steel		Floor 2			
D2014	2 EA	F3-Sink, Enameled Steel		Floor 3			
D2014	2 EA	F4-Sink, Enameled Steel		Floor 4			
D2015	1 EA	Bathtub & Shower Enclosure, Fiberglass		Floor 1			

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BUTTERFIELD HALL / 32-002  
1 BUTTERFIELD ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B23.305

Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D2017	6 EA	F1-Shower, Ceramic Tile		Floor 1			
D2017	6 EA	F2-Shower, Ceramic Tile		Floor 2			
D2017	6 EA	F3-Shower, Ceramic Tile		Floor 3			
D2017	6 EA	F4-Shower, Ceramic Tile		Floor 4			
D2021	2 EA	Backflow Preventer, Domestic, DCV		Site	Zurn		
D2023	1 EA	Domestic Water Heater 1		Mechanical Room (Primary)	PVI	2000-180N225AQ SDE	225.00 GAL
D2023	1 EA	Domestic Water Heater 2		Mechanical Room (Primary)	PVI	2000-180N225AQ SDE	225.00 GAL
D2023	1 EA	Domestic Water Heater 3		Mechanical Room (Primary)	PVI	2000-180N225AQ SDE	225.00 GAL
D2023	1 EA	Water Softener, 1,000 GAL		Mechanical Room (Primary)	Culligan		
D2029	39,963 SF	Plumbing System, Domestic Supply		Building Interior (General)			
D2039	39,963 SF	Plumbing System, Sanitary Waste		Building Interior (General)			
D2043	2 EA	Sump Pump, 3 HP		Lower Level			
D3022	1 EA	Condensate Receiver Station, 15 GAL			Alyan	CVC-1530-3/4-2	
D3022	1 EA	Expansion Tank, Small		Mechanical Room (Primary)	Amtrol		
D3022	1 EA	Expansion Tank, Large		Mechanical Room (Primary)	John Wood		60.00 GAL
D3023	4 EA	Heat Exchanger, Steam-to-Water		Mechanical Room (Primary)			



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BUTTERFIELD HALL / 32-002  
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EMG PROJECT NO: 117742.16R000-B23.305

Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D3041	1 EA	Fan Coil Unit, Hydronic, Cabinet, Medium		Building Interior (General)			
D3041	12 EA	Fan Coil Unit, Hydronic, Cabinet, Small		Building Interior (General)			
D3041	16 EA	Fan Coil Unit, Hydronic, Ceiling		Building Interior (General)			
D3041	9,085 SF	HVAC System Ductwork		Building Interior (General)			
D3041	1 EA	Make-Up Air Unit, MUA 1		Roof	Dunham Bush		
D3041	1 EA	Make-Up Air Unit, MUA 2		Roof	Dunham Bush		
D3042	2 EA	Exhaust Fans, Roof	REF1	Roof	Penn	FX18B	1,075.00 CFM
D3042	4,778 SF	Exhaust System, Basement		Building Interior (General)			
D3044	1 EA	Circulation Pump, Heating Water, 1		Mechanical Room (Primary)	Armstrong	4x3x8	
D3044	1 EA	Circulation Pump, Heating Water, 2		Mechanical Room (Primary)	Armstrong	4x3x8	
D3049	39,963 SF	HVAC System Piping, 2-Pipe		Building Interior (General)			
D3051	2 EA	Air Conditioner, Through-Wall		Exterior Walls			
D3051	430 LF	Radiator, Hydronic Baseboard (per LF)		Building Interior (General)			
D3068	1 SF	HVAC Controls, Direct Digital (DDC)		Building Interior (General)			
D4011	1 EA	Backflow Preventer, Fire, DCV		Lower Level	Colt	200	
D4019	39,963 SF	Sprinkler Heads		Building Interior (General)			



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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D5012	1 EA	Building/Main Switchgear 1		Electrical Room (Primary)	Cutler Hammer	HBS78247	1,600.00 AMP
D5012	1 EA	Building/Main Switchgear 2		Electrical Room (Primary)	Northeastern		500.00 AMP
D5012	1 EA	Disconnect Switch, 200 Amp		Lower Level	Cutler Hammer		200.00 AMP
D5012	5 EA	Distribution Panel		MEP Closet	Square D		225.00 AMP
D5012	1 EA	Distribution Panel, Old		Electrical Room (Primary)	Frank Adams		225.00 AMP
D5012	1 EA	Main Distribution Panel		Electrical Room (Primary)	Cutler Hammer	8805C34G01	400.00 AMP
D5012	2 EA	Transfer Switch, Automatic (ATS), 600 V, 225 Amp		Electrical Room (Primary)			
D5019	39,963 SF	Electrical Distribution System		Building Interior (General)			
D5022	5 EA	Light Fixture, Exterior		Exterior Walls			
D5029	9,085 SF	F1-Lighting System, Interior		Floor 1			
D5029	9,085 SF	F2-Lighting System, Interior		Floor 2			
D5029	9,085 SF	F3-Lighting System, Interior		Floor 3			
D5029	9,085 SF	F4-Lighting System, Interior		Floor 4			
D5029	4,778 SF	LL-Lighting System, Interior		Lower Level			
D5037	1 EA	Fire Alarm Control Panel		MEP Closet	EST3		
D5037	39,963 SF	Fire Alarm System		Building Interior (General)			
D5092	1 EA	Emergency Generator, Diesel		Electrical Room (Primary)	Caterpillar	3306	250.00 kW



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## APPENDIX J      SPACE UTILIZATION

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Building Number	Building Name	Historic (Y/N)	Floor	Agency / Tenant	Number of Occupants	Number of Staff per Shift	Room #	Room Use Type	Room Utilization (Utilized?) Vacant?	Owner Nomenclature for Room	Measured SF	Comments	Locked Areas	Room # Source	Room Use Source
KC02 - 1002	Butterfield Hall	N	B	Dorm Building			001	Corridor	Utilized		160	Vestibule			
KC02 - 1002	Butterfield Hall	N	B	Dorm Building			003	Mechanical Room	Utilized		375				
KC02 - 1002	Butterfield Hall	N	B	Dorm Building			004	Valve Control	Utilized		145				
KC02 - 1002	Butterfield Hall	N	B	Dorm Building			005	Sprinkler Control	Utilized		138				
KC02 - 1002	Butterfield Hall	N	B	Dorm Building			003A	Mechanical Room	Utilized		572				
										Total Measured SF	1,390				
										Floor NSF	32,847				
										Net Tenant Space	31,457				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			146	Lobby	Utilized		92	Vestibule			
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			112	Main Lobby	Utilized		337				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			143	Lobby	Utilized		85				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			140	Corridor	Utilized		456				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			106C	Electrical	Utilized		15				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			106	Men's Toilet	Utilized		294				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			106B	Janitor	Utilized		11				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			Stair #1	Stairs	Utilized		160				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			Stair #2	Stairs	Utilized		183				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			149	Corridor	Utilized		135				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			151	Lobby	Utilized		366				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			152	Unisex Toilet	Utilized		61				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			153	Corridor	Utilized		85	Vestibule			
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			141	Corridor	Utilized		633				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			126A	Utility	Utilized		5				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			126B	Janitor	Utilized		12				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			126C	Electrical	Utilized		16				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			126	Women's Toilet	Utilized		290				
KC02 - 1002	Butterfield Hall	N	1	Dorm Building			Stair #3	Stairs	Utilized		159				
										Total Measured SF	3,395				
										Floor NSF	32,847				
										Net Tenant Space	29,452				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			244	Lobby	Utilized		205				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			243	Lobby	Utilized		85				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			240	Corridor	Utilized		524				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			208C	Electrical	Utilized		15				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			206	Men's Toilet	Utilized		294				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			208B	Janitor	Utilized		11				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			Stair #1	Stairs	Utilized		160				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			Stair #2	Stairs	Utilized		198				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			241	Corridor	Utilized		633				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			226A	Utility	Utilized		5				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			228B	Janitor	Utilized		12				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			228C	Electrical	Utilized		16				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			226	Women's Toilet	Utilized		290				
KC02 - 1002	Butterfield Hall	N	2	Dorm Building			Stair #3	Stairs	Utilized		160				
										Total Measured SF	2,608				
										Floor NSF	32,847				
										Net Tenant Space	30,239				
KC02 - 1002	Butterfield Hall	N	3	Dorm Building			344	Lobby	Utilized		205				
KC02 - 1002	Butterfield Hall	N	3	Dorm Building			343	Lobby	Utilized		85				





# FACILITY CONDITION ASSESSMENT

UNIVERSITY OF RHODE ISLAND  
Facility Condition Assessment  
KINGSTON CAMPUS - RESIDENTIAL LIFE  
BUTTERFIELD HALL - KC02

Final Report

7/17/2023

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THE  
UNIVERSITY  
OF RHODE ISLAND





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Butterfield Hall is a five story student dormitory consisting of one partial basement floor level and four above ground floor levels. The basement contains a lobby, mechanical rooms, a laundry room, and storage. The first floor level contains the lobby, offices, a lounge, and double dormitory rooms, hallway bathrooms. The second through fourth floor level consists of double dormitory rooms, hallway bathrooms, and lounge spaces. The third floor level contains a kitchen.



## 1. EXECUTIVE SUMMARY

### Summary Statement:

The purpose of the executive summary is to answer the four fundamental questions underlying an objective assessment: what is owned (Current Replacement Value); what is the current-state of condition (Facility Condition Index); what are the estimated direct and project costs\* to maintain (Funding Needs); and how to strategically plan for the future needs (Priority Planning).

This summary and report are based on our field assessments, interviews with client staff, our professional opinions, and comparative analysis of assessment items within our expansive facility condition assessment database. The following is a summary of our findings and recommendations.

### Facility Condition Index Ranking Scale Summary:

The FCI Scale is an industry standard scale used to communicate condition. It assigns the numeric value of the FCI Equation to five general condition rankings: Good, Fair, Poor, Critical, and Divest.



### Current Replacement Value (CRV) and Facility Condition Index (FCI):

An FCI value can be understood as the ratio of the cost to correct all deferred maintenance deficiencies within an asset divided by its CRV. For example, an asset scoring a "Good" FCI of 0.05 means that only 5% of the CRV is recommended for repairs or replacement. The overall asset condition is determined by the 5-year FCI ranking and score. Please see the following page for an expanded description of CRV and FCI.

### Results

		Direct (CRV)	45% Project (CRV)
<b>BUTTERFIELD HALL - KC02 - CRV</b>		<b>\$19,697,671</b>	<b>\$28,561,623</b>
	Ranking FCI		
<b>FCI Scoring - 5-YEAR FCI</b>	<b>FAIR 0.07</b>	<b>\$1,313,842</b>	<b>\$1,905,071</b>
<b>FCI Scoring - 10-YEAR FCI</b>	<b>POOR 0.11</b>	<b>\$2,190,228</b>	<b>\$3,175,831</b>
<b>FCI Scoring - 15-YEAR FCI</b>	<b>POOR 0.14</b>	<b>\$2,685,696</b>	<b>\$3,894,259</b>

### Rolling Clock:

The 10-year total Deferred Maintenance Deficiencies (DMD) include the 5-year total DMD (cumulative value(s)). The 10-year DMD total may be revised if 5-year needs are cured within the assessment 5-year window. As each year passes, remaining deficiencies generally have action timeframes reduced by one year, which may impact the priority. The industry-standard recommendation is to perform a re-assessment in 5-years to capture new 10-year needs.

### Funding Needs - By Priority, Year, and Term

PRIORITY 1 Year 1	PRIORITY 2 Year 2	PRIORITY 3 Years 3 - 5	PRIORITY 4 Years 6 - 10	PRIORITY 5 Years 11 - 15	TOTAL (Years 1 - 15)
Direct Cost:					
\$25,102	\$524,160	\$764,581	\$836,263	\$535,591	\$2,685,696
45% (DMD) Project Value:					
\$36,397	\$760,032	\$1,108,642	\$1,212,581	\$776,607	\$3,894,259
Immediate	Short-Term	Long-Term			

Each priority group includes the assessed DMD that falls into each respective term regardless of the discipline. Detailed descriptions of observed issues, recommendations, and associated costs are included within the building report.

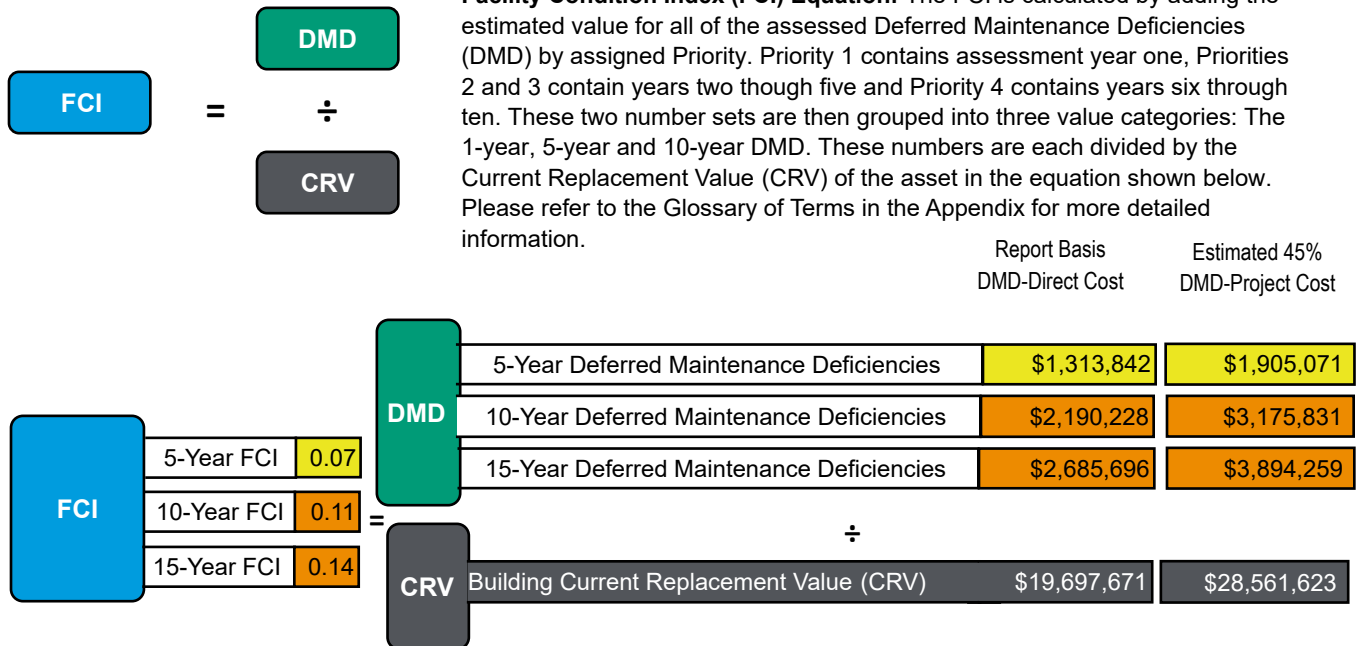
**\*This report is based on funding needs by year. Costs are inclusive of Direct Costs, i.e. labor and materials only.** For convenience we have provided a projected Project Value that includes a 45% increase for non-inclusive project costs. Please refer to the Results Section - "Understanding the Facility Condition Index Costing Methodology" for an expanded description, definitions, and the applied methodology regarding Direct Costs vs. Project Costs.

## RANKING METRICS

**Current Replacement Value (CRV)** is the cost of labor, material and equipment, including demolition, at the present time which would be required to replace a building or asset. The CRV is based on direct cost methodology and does not include project costs such as design, general conditions, a contractor's overhead and profit or land acquisition.

**Facility Condition Index (FCI) Equation:** The FCI is calculated by adding the estimated value for all of the assessed Deferred Maintenance Deficiencies (DMD) by assigned Priority. Priority 1 contains assessment year one, Priorities 2 and 3 contain years two through five and Priority 4 contains years six through ten. These two number sets are then grouped into three value categories: The 1-year, 5-year and 10-year DMD. These numbers are each divided by the Current Replacement Value (CRV) of the asset in the equation shown below. Please refer to the Glossary of Terms in the Appendix for more detailed information.

Report Basis  
DMD-Direct Cost      Estimated 45%  
DMD-Project Cost



**Discipline Condition Index (DCI) and System Condition Index (SCI) Ranking Scales:** A similar scale to the Facility Condition Index scale is used in describing SCI and DCI. The two major differences between the FCI scale and the DCI / SCI scale shown below are that the "Divest" ranking has been omitted, and the "Critical" score has been expanded to 1.00. The reason for these changes is to illustrate that an asset's systems or disciplines cannot be divested. They usually require full replacement to enable the asset to function as originally designed and intended.

## Discipline Condition Index



Disciplines	CRV	CRV/SF	5 YR Needs	10 YR Needs	15 YR Needs	5 YR DCI	10 YR DCI	15 YR DCI
Structural	\$3,817,645	\$96	\$9,358	\$9,358	\$9,358	0.00	0.00	0.00
Architectural	\$8,532,155	\$214	\$944,332	\$1,424,165	\$1,763,597	0.11	0.17	0.21
Plumbing	\$954,412	\$24	\$59,566	\$59,566	\$59,566	0.06	0.06	0.06
Mechanical	\$2,651,142	\$67	\$182,000	\$242,854	\$242,854	0.07	0.09	0.09
Fire Protection	\$349,951	\$9	\$0	\$0	\$0	0.00	0.00	0.00
Electrical	\$1,959,361	\$49	\$118,587	\$407,476	\$554,595	0.06	0.21	0.28
Communications	\$445,816	\$11	\$0	\$0	\$0	0.00	0.00	0.00
Safety and Security	\$456,961	\$11	\$0	\$46,811	\$55,727	0.00	0.10	0.12
Civil	\$530,228	\$13	\$0	\$0	\$0	0.00	0.00	0.00
ADA-Additional Study	\$0	\$0	\$0	\$0	\$0	0.00	0.00	0.00
<b>Direct Cost Total</b>	<b>\$19,697,671</b>	<b>\$495</b>	<b>\$1,313,842</b>	<b>\$2,190,228</b>	<b>\$2,685,696</b>	<b>FCI</b>	<b>FCI</b>	<b>FCI</b>
<b>Estimated Project Cost Total (Includes 45%)</b>	<b>\$28,561,623</b>	<b>\$718</b>	<b>\$1,905,071</b>	<b>\$3,175,831</b>	<b>\$3,894,259</b>	<b>0.07</b>	<b>0.11</b>	<b>0.14</b>

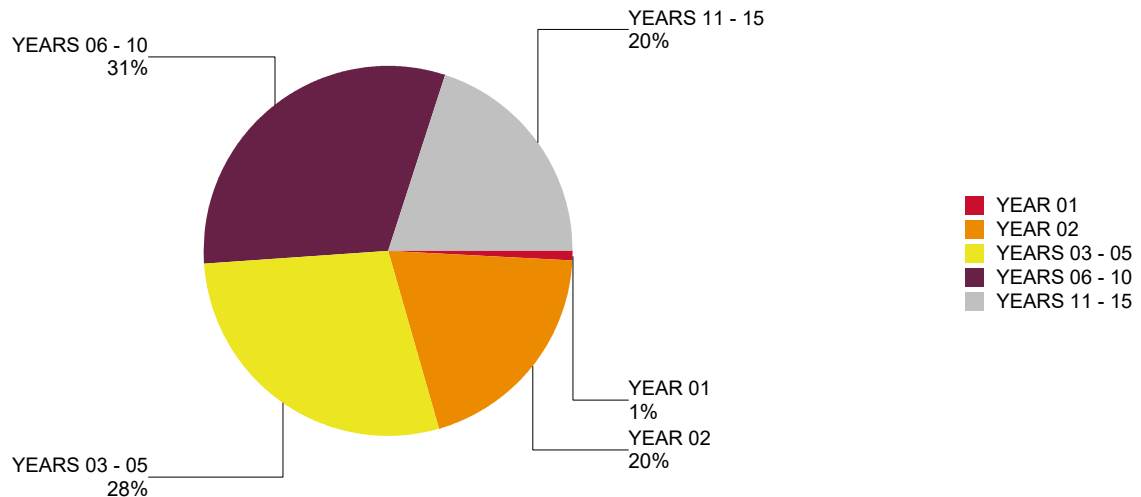
## PRIORITY PLANNING DASHBOARDS - (Report Basis Direct Cost)

### Capital Planning and Funding Needs:

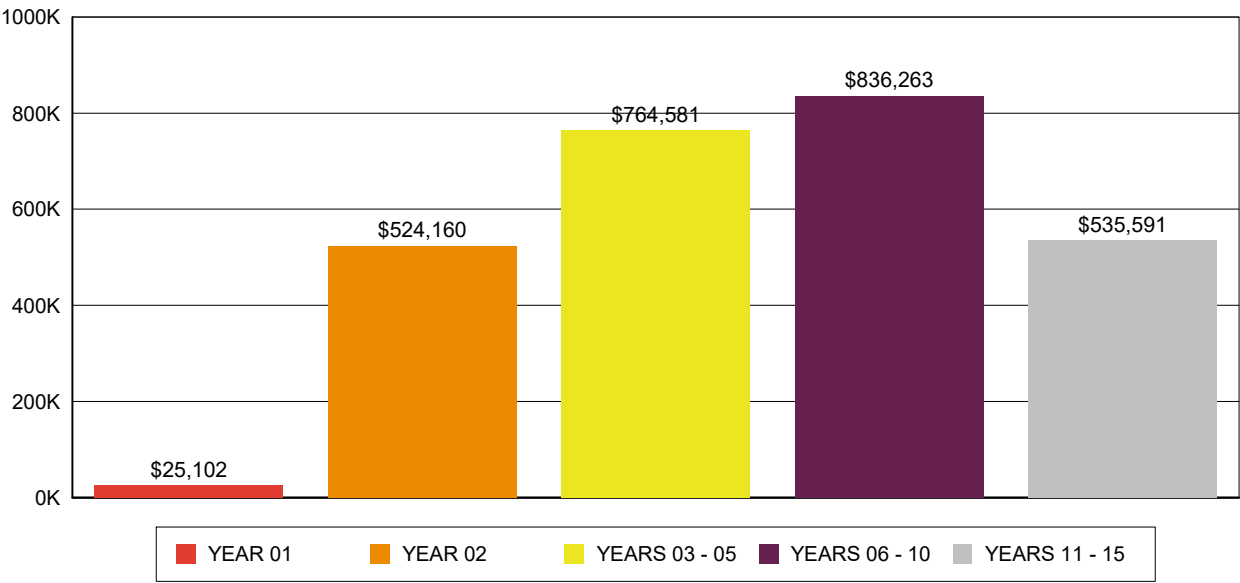
The Funding Needs for the asset are shown below by Priority and Percentage and Year .

FUNDING NEEDS ALLOCATION					
PRIORITY 1 Year 1	PRIORITY 2 Year 2	PRIORITY 3 Years 3 - 5	PRIORITY 4 Years 6 -10	PRIORITY 5 Years 11 -15	TOTAL
\$25,102	\$524,160	\$764,581	\$836,263	\$535,591	\$2,685,696

## TOTAL FUNDING NEEDS BY PRIORITY AND PERCENT



PRIORITIZATION OF TOTAL NEEDS BY YEAR



**Funding Needs Allocation by Priority:**

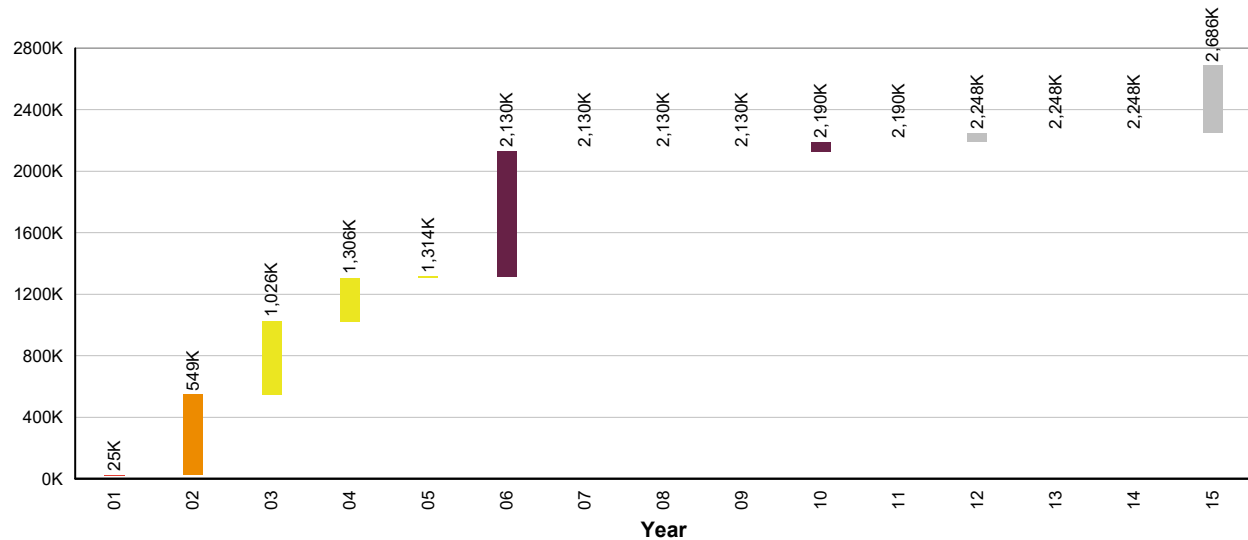
The Direct Costs for the asset are shown below by Discipline, by Priority and Value.

FUNDING NEEDS ALLOCATION BY PRIORITY						
Disciplines	PRIORITY 1 Year 1	PRIORITY 2 Year 2	PRIORITY 3 Years 3 - 5	PRIORITY 4 Years 6 -10	PRIORITY 5 Years 11 -15	TOTAL
Architectural	\$5,040	\$514,080	\$425,212	\$479,833	\$339,432	\$1,424,165
Civil	\$0	\$0	\$0	\$0	\$0	\$0
Communications	\$0	\$0	\$0	\$0	\$0	\$0
Electrical	\$20,062	\$0	\$98,525	\$288,889	\$147,119	\$407,476
Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0
Mechanical	\$0	\$0	\$182,000	\$20,730	\$40,123	\$202,730
Plumbing	\$0	\$10,080	\$49,486	\$0	\$0	\$59,566
Structural	\$0	\$0	\$9,358	\$0	\$0	\$9,358
ADA-Additional Study	\$0	\$0	\$0	\$0	\$0	\$0
Safety and Security	\$0	\$0	\$0	\$46,811	\$8,916	\$46,811
<b>Total</b>	<b>\$25,102</b>	<b>\$524,160</b>	<b>\$764,581</b>	<b>\$836,263</b>	<b>\$535,591</b>	<b>\$2,150,105</b>

### PRIORITY NEEDS BY ACTION TIMEFRAME:

The Priority Funding Needs for the asset are further expanded to break out each estimated annual cost. This is helpful to understand years with lulls or spikes in funding needs and helps proactively plan year over year. Chart shows progressive cumulative sums through the individual years.

### PRIORITY NEEDS BY ACTION TIMEFRAME



### AVERAGE FUNDING:

The below graph shows the current asset FCI Trend line when the 5-year needs are averaged and spread over 5-years. Years 6 through 10 and 11 through 15 needs are handled in the same manner. This approach may be useful if funding is limited, or there are spikes in a single year cost.

Blue Line - Averaged costs years 1-5, 6-10 and 11-15

Green Line - FCI trend without funding

### AVERAGE DIRECT COSTS

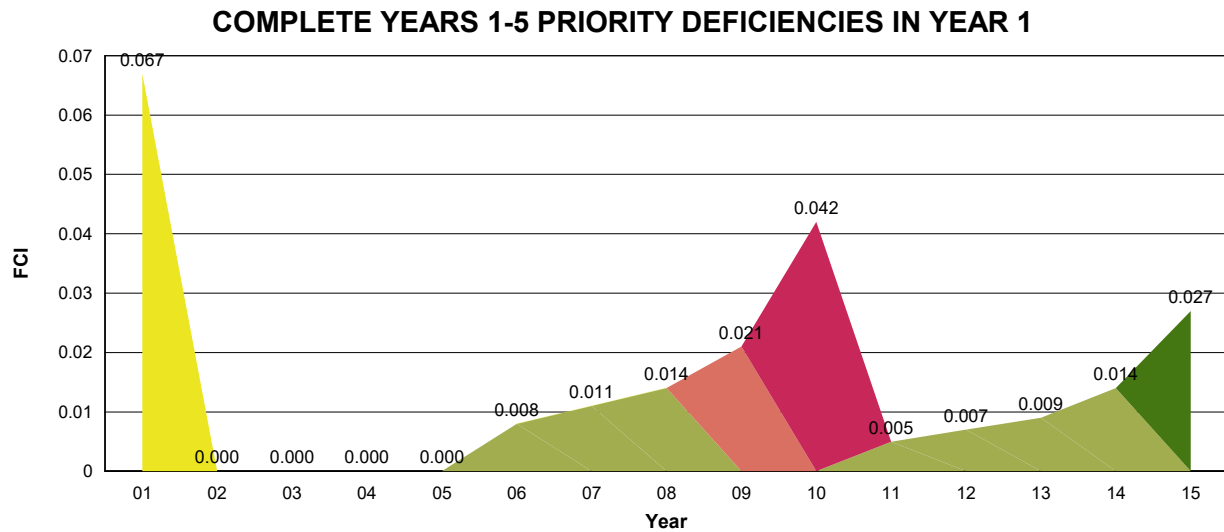
PRIORITY 1-3 (YEARS 1-5 = )

PRIORITY 4 (YEARS 6-10 = )

PRIORITY 5 (YEARS 11-15 = )

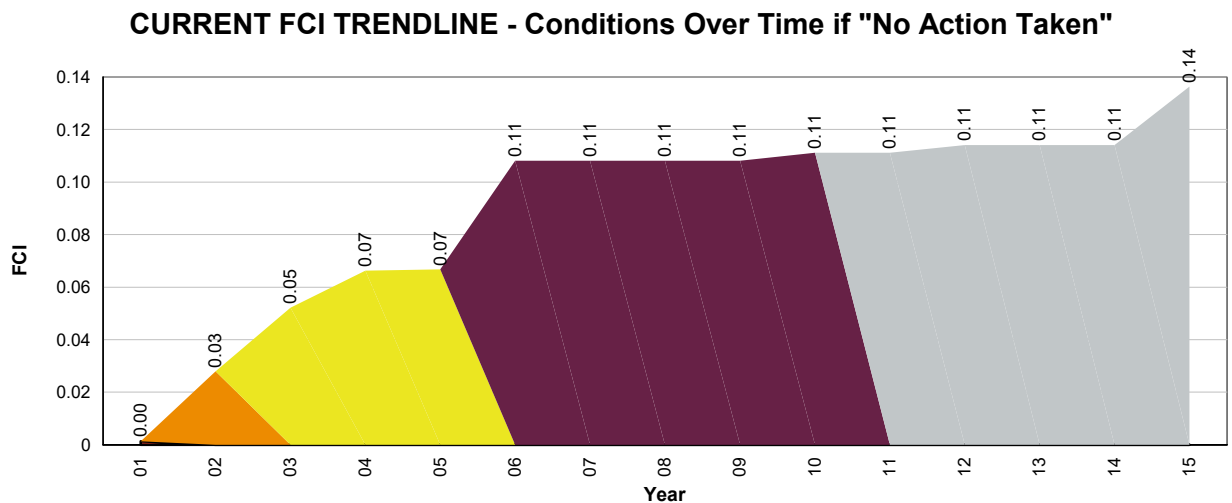
### PROACTIVE STATE - RAPID IMPROVEMENT:

Summary: The below graph shows the current asset FCI Trend line after the entire 5-year needs are met in Year 1. This substantially reduces (improves) the 10-Year FCI score if funding is available.



### FUTURE STATE - DO NOTHING:

Summary: The below graph shows the current asset FCI Trend line projecting out to year 10. This shows the minimum potential of new 15-year needs awaiting the asset, and the subsequent increases in FCI.



Projected Growth Of Funding Needs Over Time

## BUTTERFIELD HALL - KC02

## ADA / Accessibility Observations:

## ADA Accessibility Ranking Scale:

Summary: The CannonDesign FOS team developed an ADA / Accessibility Ranking system to assist our clients to better understand how their portfolio of buildings ranks toward achieving ADA and applicable state accessibility requirements. A ranking for each building was assigned based on our general observations\* to one of three general accessibility rankings: Essentially Accessible, Moderately Accessible, and Insufficiently Accessible.



\* General observations of: Site Accessibility, Building Accessibility, Access to Building Services, Restrooms, and Communication Features were observed during the FCA survey. Specifics of our methodology are described in the Methodology section of this report.

This **is not** a full ADA / Accessibility assessment, nor documentation of compliance with the ADA or with state building codes. Further analysis may be warranted based on the building's level of accessibility, age and use.

BUTTERFIELD HALL - KC02

Moderately Accessible (4)

\* Overall accessibility rankings of 3 out of 5 or lower have been noted as requiring further, comprehensive, detailed accessibility study (including full spatial analysis) within the recommendations of this report \*

## ADA Compliance:

The Americans with Disabilities Act (ADA) is federal civil rights legislation, as opposed to a standard building code, and is enforced by the Department of Justice (DOJ). All public, commercial, and state / local government facilities have been subject to the ADA since 1990. Compliance with the ADA is an ongoing obligation. No public facility is exempt or grandfathered, and strict adherence to applicable standards is required in order to achieve compliance. Many organizations which have not upgraded their facilities or prepared a written transition plan toward achieving full compliance are at risk. Cost associated with proactive facility planning is far less than the cost to settle a complaint.

Description		Essentially Accessible (5 of 5)	Moderately Accessible (3 or 4 of 5)	Insufficiently Accessible (Less than 3 of 5)
1	Exterior Accessible Routes		4	
2	Interior Accessible Routes	5		
3	Access to Service		4	
4	Restroom Access		4	
5	Communication Features	5		
SUB TOTAL			22	
AVERAGE TOTAL			4	

## 2. PURPOSE

### Introduction:

University of Rhode Island has requested a comprehensive Facilities Condition Assessment encompassing approximately 1,598,262 square feet of floor area located at University of Rhode Island. A diverse portfolio of assets as part of this FCA included 39 structures constructed between 1935 and 2019. These buildings and assets include:

### List of Assets

<b>Kingston Campus - Residential Life</b>	<b>Building Square Footage</b>
22 UPPER COLLEGE ROAD BLDG - KC05C	10,859
ADAMS HALL - KC23	44,816
ALDRICH HALL - KC52	33,766
BARLOW HALL - KC46	52,806
BRESSLER HALL - KC03	39,768
BROOKSIDE APARTMENTS - KC65	201,245
BROWNING HALL - KC44	66,995
BURNSIDE HALL - KC53	54,335
BUTTERFIELD HALL - KC02	39,805
CHILLER BUILDING - KC32B	802
CODDINGTON HALL - KC54	54,372
DORR HALL - KC55	43,829
EDDY HALL - KC47A	97,102
ELLERY HALL - KC56	33,031
FAYERWEATHER HALL - KC68	55,431
GARRAHY HALL - KC45B	89,376
GORHAM HALL - KC68A	53,933
HEATHMAN HALL - KC60A	76,836
HILLSIDE HALL - KC76A	122,320
HOPKINS HALL - KC57	33,659
HUTCHINSON HALL - KC25	25,677
MERROW HALL - KC42	28,289
PECK HALL - KC24	26,315

**BUTTERFIELD HALL - KC02**

SERVICES BLDG - UNIV GATEWAY - KC35	1,513
TUCKER HALL - KC43	27,961
UNIVERSITY GATEWAY BLDG 2 - KC29.2	4,504
UNIVERSITY GATEWAY BLDG 4 - KC27.4	5,384
UNIVERSITY GATEWAY BLDG 6 - KC28.6	7,430
UNIVERSITY GATEWAY BLDG 8 - KC32.8	4,503
UV APARTMENT BLDG 1 - KC70A	15,008
UV APARTMENT BLDG 2 - KC70B	15,008
UV APARTMENT BLDG 3 - KC70C	15,008
UV APARTMENT BLDG 4 - KC70D	17,192
UV APARTMENT BLDG 5 - KC70E	15,012
UV APARTMENT BLDG 6 - KC70F	14,994
UV APARTMENT BLDG 7 - KC70G	15,013
UV COMMUNITY CENTER - KC70	1,903
WELDIN HALL - KC45	53,058
WILEY HALL - KC46A	99,404

**Kingston Campus - Residential Life**

**1,598,262**

**Objective:**

The objective(s) of the assessment and report is to:

Highlight current physical conditions at the subject facilities; identify necessary Deferred Maintenance Deficiencies (DMD;) and system replacements; quantify and budget estimated improvement costs; provide recommended action dates. The content of the report is based on our field assessments, interviews with staff engineers, our professional opinions, and comparative analysis of assessment items within our expansive facility assessment database. The following is a summary of our findings and recommendations:

**Project Team Partners:****Client:**

The University of Rhode Island (URI) is a public land-grant research university with its main campus in Kingston, Rhode Island, United States. It is the flagship public research as well as the land-grant university of the state of Rhode Island. The University has an enrollment of about 18,000 students, making it the largest university in the state. Its main campus is located in the village of Kingston in southern Rhode Island. Satellite campuses include the Feinstein Campus in Downtown Providence, the Rhode Island Nursing Education Center in Providence's Jewelry District, the Narragansett Bay Campus in Narragansett, and the W. Alton Jones Campus in West Greenwich. The Department of Housing and Residential Life (HRL) oversees about 5,500 students in 24 undergraduate residence halls, three undergraduate apartment complexes, and one graduate apartment complex.

**Project Leader:**

CannonDesign, founded in 1915 is one of the world's leading design firms, with over 900 professionals in 15 offices worldwide. We integrate all the skills needed to deliver complex projects, and we are guided by common vision and purpose: **Together, we create design solutions to the greatest challenges facing our clients and society.** We think our clients are our most important partners. CannonDesign's Facility Optimization Solutions (FOS) team is a consultancy dedicated to enhancing our clients' capabilities in managing their existing facilities and operations more efficiently and effectively.

**Acknowledgements:**

The CannonDesign Facility Optimization Solutions (FOS) team appreciates the effort and commitment that University of Rhode Island put forth in assisting us in completing the assessment phase of the 2023 comprehensive Facilities Condition Assessment. Our team is committed to empowering University of Rhode Island with accurate and valuable facility systems data that will support future success.

We are all better when we work together, and our team is proud to be working with University of Rhode Island. We appreciate the time, energy, and input of everyone who played a role in this important effort.

The University of Rhode Island

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BUTTERFIELD HALL - KC02

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## Facility Condition Assessment



### BUTTERFIELD HALL - KC02

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**Project Overview:**

This document summarizes the results and recommendations of the Facility Condition Assessment for the BUTTERFIELD HALL - KC02 at University of Rhode Island. This report is a professional opinion prepared by CannonDesign's Facility Optimization Solutions (FOS) group in collaboration with University of Rhode Island, based on the areas of the asset that could be accessed.

Following the initial project scoping meetings, an orientation and project commencement meeting was held at URI/ Kingston Campus, 210 Flagg Road, Suite 208 on 2/13/23. The assessment team evaluated physical conditions at the site during visits conducted between 2/13/23 through 3/17/23.

**Scope of Services:**

The scope of the FCA includes the visual inspection of components, assemblies and systems, based on an industry-standard system-level approach. This assessment is based on a Level 2/3 scope with major and minor building systems. The scope includes the visual assessment of: Exterior and Interior Architecture, Structural, Roof, Fire Protection, Plumbing, Mechanical, Electrical, Communications and Civil systems. The services summarized in the report include:

- Executive summary & detailed report for each asset assessed
- Description of methodology
- Identification and documentation of the present conditions and risks at each asset
- Recommendations for corrective actions
- Budget level cost estimates for corrective actions
- Forecast of 5, 10 and 15-year facility needs

The assessment team conducted the Facility Conditions Assessment and wherever possible, the team visually reviewed the material conditions, accessibility outside and within the facility, function of operating equipment, performance, and estimated remaining functional life. Estimated costs for repairs or replacement, and other aspects of the facility, as required in the contract scope of work are based on these efforts.

Extensive inspection methods requiring scaffolding, high-reach equipment, using ladders, removal of ceiling tile, access doors, opening equipment and service panels, performing equipment shut-downs, entering confined spaces, and/or destructive testing were not employed unless specifically noted as included in the original Scope of Services. Street, roof level, and room by room (when accessible) area observations were made to determine the current conditions. Additionally, any equipment with missing identification output, or load and capacity ratings has been assessed and cost estimated based on the

BUTTERFIELD HALL - KC02

observed size of the systems served.

The assessment scope is limited to a visual inspection and is not intended to provide a design analysis or cost estimate in the detail needed to prepare construction documents. Inferences and assumptions are often required when information is unavailable, limited, cannot be confirmed by direct observation, or validated by the Owner.

**Disclaimer:**

The preceding document, dated 7/17/2023 was created by CannonDesign FOS, in close collaboration with University of Rhode Island. Other than to University of Rhode Island, CannonDesign FOS disclaims any obligation to any third party with respect to any material presented in this document, and no third party may rely upon this document without advance and express written consent from CannonDesign FOS and University of Rhode Island. In this event, any third party will be bound by the limitations, qualifications, terms, conditions, and indemnities to CannonDesign FOS set forth in the agreement. Additionally, no destructive testing is performed during the visual assessment. Consequently, no guarantee or warranty can be offered or implied based on the content of this report. All materials presented in the preceding document are, to the knowledge of CannonDesign FOS, reasonable based on the qualifications, limitations, and assumptions identified above.

### 3. METHODOLOGY

#### Direct Cost Methodology

##### Direct Cost and Project Cost

CannonDesign maintains an extensive current and historic cost estimating database containing contractor pricing, manufacturer quotations, bidding results and estimating resources for use in the determination of unit pricing. It is critical to note that all costs within this document are Direct Costs. Direct Costs are the industry standard measure to apply the FCI, DCI, or SCI values consistently across the deficiencies that are identified, understood and defined by CannonDesign as “replacement” costs based upon the sum of units, and not based upon Project Costs to accomplish the replacement of those components. **Project costs should be anticipated to be between 40% and 60% higher than direct costs depending on the project specific delivery methods.**

##### Direct Cost:

Direct costs includes labor and material required for the component, assembly or system replacement. A direct cost typically excludes incidental work or materials not specifically identified such as demolition, piping and ductwork connections, controls, HVAC balancing and electrical connections. Direct cost items do not include work required elsewhere within the building or site such as the partial cutting and patching of a ceiling assembly accessing a component scheduled for replacement. Clear delineation is necessary to avoid double-counting for multiple system replacements. Additional project costs including coordination costs, escalation and any premiums for working conditions are also not considered as part of direct costs.

##### Project Cost:

Project costs are customized to match the delivery method and typically include general conditions and other soft costs including contingencies, design costs, permitting costs, bid phase costs and contractor's overhead and profit. Project Costs are not the basis for Facility Condition Assessments.

##### How to Develop Budgets Based on Project Costs?

Capital improvement and Project Planning budgets can be developed post-assessment by assembling project models within the FOScore™ software's project planning module. Subscribers can assign a number of project specific factors (such as a preferred project delivery method excluded in Direct Cost methodology). Users can also define multiple client driven parameters or project driven related costs

(such as a remodel to an adjacent area), to generate accurate Project Costs or develop multiple budgeting scenarios for a single project. An example of a FOScore™ project plan is provided at the end of this section.

### How are Direct Costs Determined?

$$\text{Unit Cost} \times \text{Quantity} \times \text{Repair Factor} = \text{Direct Cost (Action Cost)}$$

**Unit Costs** - assigned to each UniFormat catalog item and adjusted to suit the observed condition.

**Quantity** - determined by count and field estimating

**Repair Factor** - determined by the assessor during the on-site assessment. An assigned repair factor of 100% illustrates specifying full replacement of the assessed component or system.

**Direct Cost** - Unit Cost multiplied by the quantity and the Repair Factor.

**Regional Factor** - The unit cost assigned to each component, assembly and system includes cost adjustments for the specific geographical location of the building or facility. Known as the Regional Factor. This metric is determined by national databases and the CannonDesign cost estimation and bid results database.

**Adjustment Factor** - Utilized to allow for customized estimating or atypical applications.

### Questions and Answers Regarding Costs in this Report:

1. Is the Direct Cost approach really required?

A. Yes, because each situation is unique, and information that will ultimately be utilized to develop a project is currently undefined or unknown. Accurately planning a deficiency repair usually require owner-based decisions, considerations, and knowledge from facilities staff to make certain that the scope considers all of the potential issues, and aligns with the objective.

2. Why does it seem as though the report deficiency costs are low and do not accurately represent the costs I have historically seen for the same kinds of work on campus?

A. CannonDesign utilizes an industry standard systems based approach to our costing methodology that are applied to deficiencies noted within the report. Our software system and subsequent report utilizes this industry standard methodology in applying “Direct Costs” in lieu of “Project Costs” to deficiencies. **All costs should be escalated 40 - 60% based on descriptions of the below questions 3 and 4.**

3. What is the difference between “**Direct Costs**” and “**Project Costs**”?

A. **Direct Costs** are based on the known facts at a snapshot in time and include:

Labor and material required for the replacement of the system or component. A direct cost typically excludes incidental work or materials not specifically identified: demolition, piping and ductwork connections, controls, balancing, and electrical connections. Direct cost items do not include work that is not immediately identified and quantifiable such as cutting and patching of partial ceiling or wall removals for access to a component to be replaced. Clear delineation is necessary to avoid double-counting for multiple system replacements. Each direct cost is comprised of a combination of anticipated items required for the replacement of an item or system.

**Direct Costs Exclude:**

General Contractor / Construction Manager (GC/CM) markups, soft costs, inflation, and any overtime or off-hours work, along with additional project costs, coordination costs, design fees, legal fees, escalation, any premiums for working conditions, providing access through adjacencies, or removal and or replacement of componentry to expose or permit safe access to the area to receive work. Examples of excluded costs are:

- Equipment mobilization to “hard to access” locations
- Architectural or structural remodel work required to accommodate MEP equipment replacement
- Overtime work rates (although we acknowledge this is often required within healthcare, and other mission-critical facilities)
- Timing of work or escalation impact
- Commissioning
- Design
- ADA compliance assessments or ADA upgrades triggered by permitting project work with Authorities Having Jurisdiction (AHJ)
- Life Safety / Code compliance assessments or Life Safety / Code compliance upgrades triggered by permitting project work with Authorities Having Jurisdiction (AHJ)

**Other Comments on Costs:**

4. Projects and their related Project Costs can be assembled and assigned with a client's desired delivery conditions and other client controlled factors and difficulty parameters within

CannonDesign's FOScore™ software project planning module. The planning module can select one or any number of individual deficiencies and bundle them together to model cost savings or economy of scale bidding scenarios in a dynamic environment.

5. CannonDesign offers a 45-day free trial period for our clients to access the FOScore™ software and utilize the database. Annual software subscription agreements can be negotiated during the trial period for one or many users. CannonDesign offers free training to staff that would interface the system during the trial period, and can also customize reporting or other software functionality at reasonable rates during a subscription period.

6. The assessment data that has been collected by CannonDesign and resident in the secure FOScore™ software system is available for dynamic use within the system. This data is also available outside the FOScore™ software system to our client's in multiple common static outputs such as excel, word, pdf, and tiff, that can in turn be exported to other market software.

**Example of a Project Plan from FOScore™ Software**

Project Reports can be generated on-demand through the use of the FOScore™ software system. A sample report is provided here for your review.

Projects can be comprised of groups containing like or interdependent systems that exist throughout one or many assets. These projects can be stand-alone or combined to achieve efficiency through an economy of scale in both design and construction. Potential projects should consider also including any adjacent or related system, especially one nearing the end of its service life. This allows systems replacement projects to be grouped by area and limit future occurrences of proposed work impacting recently completed work.

Project detail tables are provided for each project group. These are a first step in beginning the necessary maintenance improvements. The project detail tables provide the specific project information:

Project Name: 2017 Parking Garage Re-Vitalization  
 Project Description: Garage architectural, mechanical, electrical and plumbing repairs (Structural is by others)  
 Project Length (Years): 2  
 Priority: High  
 Status: Open  
 Escalation Percent: 3  
 Funding Source: Multiple / Public

Item Name	Priority	Building	Direct Cost
Shell	1 - Currently Critical	Parking Ramp	1,473,000.00
Exterior Walls	1 - Currently Critical	Parking Ramp	24,948.00
Aluminum Windows (fixed)	1 - Currently Critical	Parking Ramp	124,396.00
Aluminum Windows (fixed)	1 - Currently Critical	Parking Ramp	52,640.00
Steel Windows (fixed)	1 - Currently Critical	Parking Ramp	50,400.00
Roofing - Unprotected Membrane	1 - Currently Critical	Parking Ramp	641,898.56
Horizontal Waterproofing Membrane	1 - Currently Critical	Parking Ramp	231,480.00
Slip-Resistant Flooring Treatment	1 - Currently Critical	Parking Ramp	19,320.00
Sanitary Drainage System	4 - Recommended	Parking Ramp	36,700.00
Building Support Plumbing Systems	3 - Necessary - Not Yet Critical	Parking Ramp	116,253.52
Unit Ventilators	4 - Recommended	Parking Ramp	19,700.00
Unit Ventilators	4 - Recommended	Parking Ramp	19,700.00
Ductwork and Accessories- Ducted Return	2 - Potentially Critical	Parking Ramp	24,000.00
Fire Protection Specialties	1 - Currently Critical	Parking Ramp	15,000.00
Electrical Service And Distribution	3 - Necessary - Not Yet Critical	Parking Ramp	48,664.00
Light Fixtures	4 - Recommended	Parking Ramp	625,680.00
Nurse Call System	3 - Necessary - Not Yet Critical	Parking Ramp	9,000.00
Parking Lot Pavement Repairs	1 - Currently Critical	Parking Ramp	54,036.00
ADA Assessments	2 - Potentially Critical	Parking Ramp	125,000.00
ADA Assessments	2 - Potentially Critical	Parking Ramp	196,000.00
Other Items	1 - Currently Critical	Parking Ramp	69,552.00

	Percent	Fixed Amount	Total
Direct Cost Subtotal			\$3,963,563.93
Additional Above The Line Costs:	0.00%	+	\$0.00
Escalation Cost			\$242,599.04
Soft Costs	10.0%	+	\$398,356.39
Contingency Costs	10.0%	+	\$398,356.39
Architectural Engineering Costs	10.0%	+	\$398,356.39
Permit Costs	3.0%	+	\$119,506.92
Bidding & Advertising Costs	0.0%	+	\$0.00
Overhead & Profit Costs	10.0%	+	\$398,356.39
Project Cost Subtotal			\$5,939,095.46
Additional Below The Line Costs:	0.00%	+	\$0.00
Total Cost:			\$5,939,095.46

## Priority Definitions and Action Timeframes

CannonDesign's Facility Optimization Solution's team has developed a standard priority scale primarily to define the level of criticality of each component, assembly or system that is assessed. The priority scale includes action timeframes allowing high-priority, critical deficiencies requiring immediate action to be identified, along with deferred maintenance deficiencies. This scale provides a framework for short and long-term capital planning. Customized priority scales can be crafted to capture additional prioritization, or align priorities and timeframes with other definitions already in use.

<b>PRIORITY 1 - Currently Critical</b> <b>Year 1</b> <b>(0-12 months)</b> Requires immediate attention	<ul style="list-style-type: none"> <li>• General Life-safety non-compliance observations</li> <li>• Return a necessary building system assembly or service system to useful operation</li> </ul>
<b>PRIORITY 2 - Potentially Critical</b> <b>Year 2</b> <b>(13-24 months)</b> Will become critical	<ul style="list-style-type: none"> <li>• Rapid deterioration of building system assembly or service system will potentially lead to loss of facility operation</li> <li>• General ADA non-accessible observations</li> </ul>
<b>PRIORITY 3 - Necessary, But Not Yet Critical</b> <b>Years 3 - 5</b> <b>(25-60 months)</b> Should be addressed	<ul style="list-style-type: none"> <li>• Repairs that would provide a rapid return on investment, including energy-efficiency</li> <li>• Necessary building or site improvements</li> <li>• Repairs that preclude predictable deterioration, potential downtime, and/or higher short-term maintenance costs</li> <li>• Replacement of building assembly or service system components that have exceeded their useful lifespan</li> </ul>
<b>PRIORITY 4 - Recommended</b> <b>Years 6 - 10</b> <b>(61-120 months)</b> Should be considered	<ul style="list-style-type: none"> <li>• Sensible improvements to existing conditions</li> <li>• Not required for the facility to generally function</li> <li>• Improvement of overall usability and / or reduce long-term maintenance costs</li> </ul>
<b>PRIORITY 0 - No Action</b> <b>Years 11 - 99</b> <b>(Beyond 120 months)</b> Good condition	<ul style="list-style-type: none"> <li>• No capital improvements to existing conditions anticipated as being necessary within 10 years</li> <li>• Only minor deferred maintenance deficiency projected with a repair valuation at five percent or less of total system value</li> </ul>

**ADA Accessibility Ranking System:**

The CannonDesign FOS team developed an ADA Accessibility Ranking system to help our clients to better understand how their portfolio quantitatively measures toward achieving ADA accessibility. A ranking for each asset was assigned one of the following:



	<b>INSUFFICIENTLY ACCESSIBLE</b> (Higher Priority Issues Noted)	<ul style="list-style-type: none"> <li>• Buildings that are not accessible OR</li> <li>• Accessible from the exterior to the first level only</li> </ul>
	<b>MODERATELY ACCESSIBLE</b> (Moderate Priority Issues Noted)	<ul style="list-style-type: none"> <li>• Building accessible to the first level</li> <li>• Buildings that include accessible vertical accessibility</li> <li>• Accessible rooms, spaces and restrooms</li> </ul>
	<b>ESSENTIALLY ACCESSIBLE</b> (Lower Priority Issues Noted)	<ul style="list-style-type: none"> <li>• Building accessible to the first level</li> <li>• Buildings that include accessible vertical accessibility to all levels</li> <li>• Accessible rooms, spaces and restrooms</li> <li>• Accessible Drinking Fountains</li> <li>• Accessible communication features, i.e. A/V fire alarm notification devices, and accessible signage with braille</li> </ul>

**ADA Compliance Ranking - Enhanced Scope of Services for Assets and Asset Groups:**

An overall accessibility ranking for the asset(s) including scoring metrics can be provided for a full ADA Compliance Study (usually performed under specified enhanced scopes or separate stand-alone contract), and are derived from the majority of buildings in the campus or portfolio that are quantified in the categories above. One of the rankings below will be determined for the group.

Overall ADA Compliance Ranking:      Generally Compliant  
    Semi-Compliant  
    Generally Non-Compliant

### Data Analysis, Recommendations and Life Cycle

Each building system, assembly, or service has a life cycle established by the Building Owners and Managers Association (BOMA) International, and the American National Standards Institute (ANSI).



This is an accepted industry standard for the universal benchmarking of building component life cycles. The published BOMA life cycle durations in this report are intended to provide a reference point only. Priorities and action timeframes are determined by accessible visual observation\* during on-site surveys and interviews with facilities staff when possible.

As an example, the BOMA life cycle for a gas fired boiler is 20 years. However, our past experience has demonstrated that if a manufacturers recommended maintenance program is implemented at pre-determined intervals the system often exceeds its life cycle and effectively remains in service well beyond 20 years. This method of analysis provides a more accurate estimation of the expected remaining life, rather than exclusive dependency on recommend system replacement based on BOMA standards.

BOMA standards and FOS applied action timeframes may not directly correspond in this report.





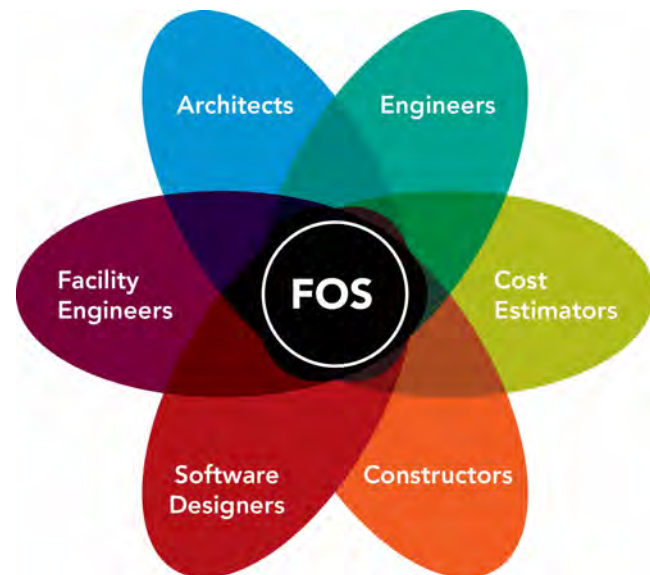
## 4. PROCESS

Each building system, assembly, or service has a life cycle established by the Building Owners and Managers Association (BOMA) International, and the American National Standards Institute (ANSI).

### Facility Optimization Solutions

Facility Optimization Solutions (FOS) is a division of CannonDesign and is comprised of:

- Architects
- Engineers
- Constructors
- Cost Estimators
- Facility Engineers
- Software Designers




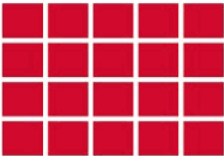

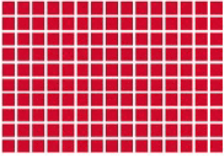
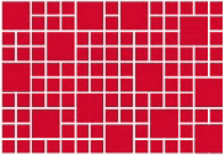
FOS is a dedicated Facility Condition Assessment (FCA) practice that develops intuitive facility management tools that empower building managers and owners to perform data-driven and analytically based strategic facility planning.



### Assessment Phase Approach



Assessments are conducted utilizing industry standard UniFormat, as published by ASTM, CSI; and CSC which is integrated with MasterFormat. The chart below illustrates five assessment levels and the related complexity of each based upon the number of divisions required to be assessed.

	UNIFORMAT LEVEL	DESCRIPTION	# OF DIVISIONS
	1	Construction Categories	8*
	2	Major Systems	20
	3	Major and Minor Systems	109
	5	System Components	700+
	3/5 HYBRID	Major and Minor Systems plus System Components	+/- 360

*\*Level 1 is the most basic assessment level, and is not recommended.*

This assessment was conducted utilizing UniFormat Level 2/3 major and minor building systems approach with system deficiencies identified for a specific set of Uniformat items as described above, throughout the facility(ies). The UniFormat level of this assessment was determined prior to commencement, and was the basis for the contract scope of work.

## Field Analysis

FOS assessment teams performed the field analysis and documentation of existing major categories including physical condition, life cycle, and the last known date of remodel, replacement, or repair.

The assessment team's focus typically includes the following architectural and service based (engineering) Uniformat system disciplines, (If applicable to scope of work and/or present at Site)

### GENERAL

- General Life Safety concerns
- General ADA Accessibility concerns

### STRUCTURE

- Visible Structural Elements

### SHELL

- Envelope / Vertical Enclosures
- Roof / Horizontal Enclosures

### INTERIORS

- Architectural Interiors
- Architectural Vertical Conveyance

### SERVICES

- HVAC
- Plumbing
- Fire Protection
- Electrical
- Communications
- Safety and Security

### SITE

- Site / Civil Improvements (0'-10' beyond building perimeter unless noted otherwise)

### \*EQUIPMENT AND FURNISHINGS

### \*DEMOLITION

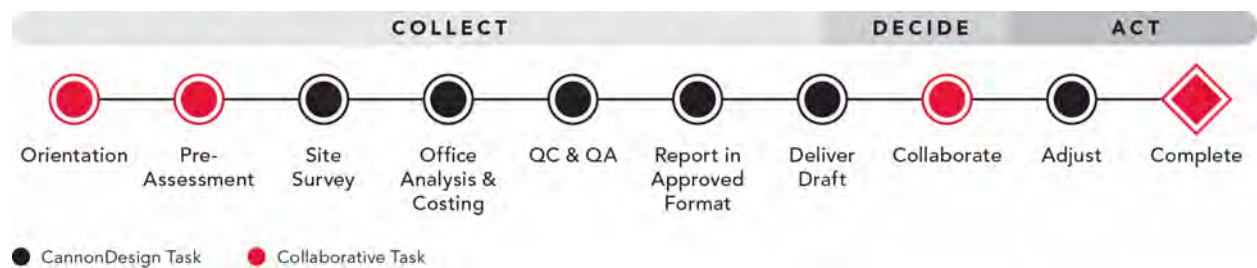
\* Not typically apart of an FCA unless noted otherwise in contract or scope of work



## Report Process

The primary purpose of this report is to document field identified deficiencies, indicate priority ranking of each, assign a timeframe for action, estimate remediation costs, and facilitate the development of short and long-term Deferred Maintenance Deficiencies (DMD) and Capital Improvement Planning (CIP). Cost estimates in this report are intended to provide a basis for capital budgeting and a framework for evaluating capital improvement projects.

Collaboration with our client partners is particularly important to the CannonDesign FOS team. Our process, which we refer to as “Collect, Decide, Act” is performed as a collaborative group effort which leads to the most accurate data useful and results. The FCA is conducted using these three phases and their sub-tasks shown below with collaboration points in red



## Draft Report

The draft report allows our client team partners an opportunity to review and comment on the results of the FCA during the “Decide” phase of the process. It is the opportunity to collaborate on the report data prioritization, and recommendations to best suit the facility needs.

## Final Report

The final FCA report provides a comprehensive assessment of the current conditions at the facility. This report contains the necessary data, results, budget costs and recommendations to inform the planning process for the future of this facility.

## Field Survey, Data Collection, and Software

CannonDesign utilized a dedicated assessment team of professionals to conduct a comprehensive on-site survey. The team's primary focus in the field was to identify deficient, obsolete or at-risk building components, assemblies and/or systems. Deficiencies were collected that require repair and or replacement, and include building system assemblies and service system components that are considered unsafe, defective/damaged or that no longer perform their intended function.

Each deficiency was individually classified by applicable UniFormat number, assigned an installation date (if known to be different from the original construction date), and given an anticipated remaining service life based on the observed condition. The assessment team describes each system visually observed and the relative physical condition, along with estimating remaining useful life, replacement value, priority timeframe (necessary repair/replacement time in years), risk of failure classification, and provides a description of current issues and system improvement recommendations. The assessment team interviewed available facilities staff, reviews available base plan drawings, and collects digital photo documentation to assist in performing these tasks.

Data was collected and cataloged utilizing mobile electronic devices that transmit real-time information into our proprietary FOScore™ software.



FOScore™ is an industry-leading web-based facility condition assessment and management tool developed and maintained by CannonDesign's Facility Optimization Solutions group.



## 5. RESULTS

### Asset Summary Report

This summary provides an overview of this asset in both high-level and specific deficiency values. This report provides the asset's Facility Condition Index for a 5-year, 10-year and 15-year planning period, the overall Current Replacement Value of the asset, and basic record information, followed by a Building Summary. The Building Summary includes descriptions of the: structure, envelope, architectural interiors, HVAC, plumbing, electrical, communications, safety and security, and civil / site improvements. Additionally, the Current Replacement Value is shown by system alongside the 5-year and 10-year deficiencies. One Asset Summary Report is provided for each facility.

### BUILDING DATA

Portfolio: University of Rhode Island

Building: BUTTERFIELD HALL - KC02

Site: Kingston Campus - Residential Life

Building Type: Higher Education

Building #: KC02

Floors: 5

Gross S.F. Size: 39,805

Year Constructed: 1950

Major Renovations Years: 2001

### LOCATION

Address: 1 BUTTERFIELD RD

City: KINGSTON

State: RI



BUTTERFIELD HALL - KC02

**CRV DATA:**

CRV: \$19,697,671

**FCI DATA:**

5/ 10 / 15 Yr. FCI: 0.07 / 0.11 / 0.14

(0.00 - 0.05 Good) (0.06 - 0.10 Fair) (0.11 - 0.30 Poor) (0.31 - 0.50 Critical) (0.51 - 1.00 Divest)

\$ 5 / 10 / 15 Yr. Deficiencies: \$1,313,842/ \$2,190,228 / \$2,685,696

**ASSESSMENT DATE:**

3/15/2023

**BUILDING SUMMARY:**

General Description:

Butterfield Hall is a five story student dormitory consisting of one partial basement floor level and four above ground floor levels. The basement contains a lobby, mechanical rooms, a laundry room, and storage. The first floor level contains the lobby, offices, a lounge, and double dormitory rooms, hallway bathrooms. The second through fourth floor level consists of double dormitory rooms, hallway bathrooms, and lounge spaces. The third floor level contains a kitchen.

B10 - Structure:

The substructure consists of reinforced cast-in-place concrete footers, foundation walls, and slab-on-grade. The superstructure consists of reinforced cast-in-place concrete framing, floor slabs, and roof slabs. The exterior canopies are supported by painted steel columns. The stairs are steel with rubber safety covers and rubber tile on the landing. The spiral staircase is painted steel. The railings and guardrails are painted metal.

B20 - Exterior Vertical Enclosures (Exterior Walls, Windows, and Doors):

The exterior wall types are concrete masonry cavity walls with brick veneer, brick belt coursing, painted concrete, spandrel panels, and stucco. Windows are aluminum with dual pane glazing. Entry doors are painted metal with integral glazing and the framing is metal with paint finishes. Ceilings over entry doors are plastic vinyl soffits.

B30 - Exterior Horizontal Enclosures (Roofing):

Modified bituminous low-slope roofing with modified bituminous vertical transitions. The hip roofs are standing seam metal panels.

C20 - Interior Finishes (Architectural) and E20 - Fixed Furnishings (Cabinetry):

Floor finishes include sheet carpeting, tile carpeting, vinyl composition tile (VCT), ceramic tile, rubber tiles, and concrete. Wall finishes include painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall bases. Ceiling finishes include painted concrete, gypsum wallboard ceilings, and acoustical ceiling tile (ACT) in a suspended metal T-grid. Doors are solid core slab type with stain-grade veneer and painted hollow metal. The door frames are painted hollow metal frames. The cabinets are plastic laminate. The countertops are plastic laminate and solid surfaces. Toilet partitions are high-density polyethylene (HDPE). Dorm showers consist of solid surface shower bases and wall paneling.

BUTTERFIELD HALL - KC02

D10 - Conveying:

There is one 2500 lbs. capacity five-stop passenger elevator with dual openings.

D20- Plumbing:

The domestic water system consists of a municipal water service with copper cold water piping, a two-pipe hot water loop. The hot water is generated with two steam hot water heaters with an electric back up water heater. The fixtures include virtuuous china toilets, sinks, as well as stainless steel drinking shower heads and fountains/bottle fillers. The fixtures are sensed and manually operated. The sanitary waste and vent consist of cast iron & screwed steel piping. The roof drains are piped with cast iron to the municipal system.

D30 - Heating, Ventilation, and Air Conditioning (HVAC):

The building's HVAC systems consist of two make up air units. The building's exhaust is maintained with two rooftop, upblast exhaust fans that service the bathrooms. Heat is provided through baseboard hot water heaters and cabinet unit heaters.

D40 - Fire Protection:

The building is protected with wet system sprinklers consisting of a double-check backflow preventer, grooved and screwed piping, sprinkler heads, standpipes, and FD connections.

D50 – Electrical:

Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer Switchboard, a 1600A rated Siemens Switchboard, and secondary Square D, Cutler-Hammer, Eaton, and Siemens Panels and equipment. Emergency power is provided by 208Y/120V, 3-phase, 4-wire Asco Automatic Transfer Switches ATS-E, ATS-EA, and ATS-MDP connected to a remote emergency generator. General-purpose receptacles are located throughout the building. Interior lighting consists of surface and recessed-mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background. There is a lightning protection system on the roof.

D60 – Communications:

The building has a voice and data network consisting of equipment boards, cable racks, WIFI, WAPS, outlets, and wiring systems that are maintained by an internal IT department

D70 - Electronic Safety and Security:

Access Control and Intrusion Detection consists of Residence Phones, proximity card readers, and door release contacts at select exterior and/or interior doors. Security surveillance cameras are located interior and exterior of the building routed to a central system. Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.

G20 - Site Improvements (Civil):

Pedestrian walkways are cast-in-place concrete and asphalt paving. The retaining walls are natural stone with mortar joints and cast-in-place concrete.

BUTTERFIELD HALL - KC02

System Summary List - By Discipline

Structural

Item ID	Unifomat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036674	A1010 Foundation Wall - Concrete	Reinforced cast in place concrete foundation wall	The concrete wall in the lobby is spalled.	Remove the spalled concrete and patch the concrete to restore the original geometry of the wall. Repaint the wall.	3	3	100	\$1,658
1036017	B1020 Canopy - Metal	Entrance canopy with hollow metal structural posts and beams	The paint finish of the metal structural posts and beams is deteriorating with rust/corrosion in multiple locations throughout.	Remove the rust and deteriorated paint then apply a primer and paint finish.	3	5	75	\$7,700
Structural Total:								\$9,358

BUTTERFIELD HALL - KC02

Architectural

Item ID	Unifomat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036560	B3060 Roof Hatch Fall Protection	Roof hatch fall protection	There is no fall protection surrounding the roof hatch to prevent people on the roof from accidentally falling into the hatchway while the hatch is open.	Install fall protection railings around the roof hatch.	1	1	75	\$5,040
1036555	B3010 Roofing	Modified bituminous low-slope roofing with modified bituminous vertical transitions. The hip roofs are standing seam metal panels.	The roofing is showing wear, blistering, previous repair work, and ponding. The bituminous flood coat is becoming fluid and cracking. The elastomeric sealant on the center flashing has deteriorated.	Replace the bituminous roofing.	2	2	20	\$446,880
1036598	C1090 Interior Metal Railings & Handrails	Metal hand and guard railings (8)	The spiral staircase hand and guard railings do not meet current accessibility or safety standards. The handrails lack upper and lower extensions and returns. The guardrails appear to be less than 42 inches tall, lack toe boards, and have balusters spaced more than 4 inches apart on center.	Replace the spiral staircase handrails and guardrails to meet current safety and accessibility standards.	2	2	50	\$67,200
1032678	B2010 Exterior Walls	Concrete masonry cavity walls with brick veneer, brick belt coursing, painted concrete, spandrel panels, and stucco	There are some broken bricks, cracked mortar joints, and missing bricks in various locations throughout the building's exterior. The exterior wall has signs of previous repairs. The elastomeric sealant at the perimeter of window frames and other wall elements has deteriorated throughout. The brick surface has some organic growth on the east elevation. The paint on the concrete overhang has deteriorated. The wood trim at the south entry ceiling is damaged.	Replace damaged brick. Repoint cracked and eroded mortar joints. Replace deteriorated elastomeric sealants at movement joints throughout the walls. Remove the organic growth. Remove loose and deteriorated paint then apply a primer and paint finish at the east elevation. Replace the damaged wood trim.	3	3	50	\$133,000
1032693	B2020 Exterior Windows	Aluminum frame with dual pane glazing and metal screens and glass block	A number of the insulated glazing units (IGU) have failed with moisture infiltration observed. Some of the glass block windows are broken. Windows were replaced in 2001 and will soon surpass their useful life.	Replace the windows and broken block windows.	3	3	30	\$258,720
1036599	C1090 Framed Mirrors	Stainless steel framed bathroom mirrors	The reflective metal coating on the mirrors in the bathrooms has deteriorated.	Replace the deteriorated bathroom mirrors.	3	3	15	\$19,264
1036601	C1090 Interior Specialties	Solid surface countertops sealants, and plastic paneling	The countertop sealants have deteriorated. There is a missing piece of plastic paneling in bathroom 306 and a damaged panel under the sink in bathroom 326.	Replace the deteriorated sealants throughout the bathrooms. Install the missing piece of paneling and replace the damaged panel under the sink.	3	3	10	\$10,588
1036587	E2010 Fixed Furnishings	Plastic laminate cabinets with plastic laminate countertops and solid surfaces	The countertop in the kitchen and laundry areas are damaged with laminate delamination and chipped corners.	Replace the damaged countertops in these areas.	3	3	15	\$3,640
1036666	C1030 Interior Doors and Frames	Solid-core fire-rated wood doors finished with stain-grade veneer, painted hollow metal doors, and painted hollow metal frames	The doors and frames have minor surface damage with scratches and chipped paint observed.	Refinish the moderately worn doors. Repaint door frames.	4	10	50	\$39,232
1036669	C2010 Wall Finishes	Painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall base	The paint finishes on the structural glazed tiles are deteriorated with peeling in the bathrooms observed. The vinyl wall bases are damaged in multiple locations. Some of the paint finishes are mismatched with other imperfections. The sisal wall coverings are damaged in room 231.	Remove loose and deteriorated paint then apply a primer and paint finish. Replace the damaged vinyl wall bases. Restore/Repaint the painted finishes. Replace the damaged sisal wall coverings.	4	6	10	\$32,032

## BUTTERFIELD HALL - KC02

## Architectural

Item ID	Unifomat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036594	C2030 Flooring	Sheet carpeting, tile carpeting, vinyl composition tile (VCT), ceramic tile, rubber tiles, and concrete	Flooring was replaced with renovations in 2001, but all has deteriorated. The tile and sheet carpeting in the entries and corridors are moderately to heavily worn and stained with clear traffic pattern registration. The VCT is damaged with stains and surface scratches in multiple locations. Some of the ceramic tiles in the lobby are cracked and broken, with some overall grout deterioration.	Replaced the sheet and tile carpeting in entries and corridors. Replace VCT flooring in all dorm rooms, and repair/replace in other damaged areas. Replace the damaged ceramic tiles in the lobby and plan to replace grout. Consider replacing ceramic tile.	4	6	20	\$250,772
1036584	C2040 Stair Finishes	Raised disc rubber tread coverings and raised disc rubber tile at the landings	The rubber tread coverings and landing tiles have deteriorated.	Replace the tread and landing finishes.	4	6	50	\$22,176
1036568	C2050 Ceiling Finishes	Painted concrete, gypsum wallboard ceilings, and acoustical ceiling tile (ACT) in a suspended metal T-grid	The painted ceiling surfaces are damaged with peeling and flaking observed. The majority of the ACT ceilings in the corridors and bathrooms are damaged with stains, discoloration, and damaged tiles.	Remove loose and deteriorated paint then apply a primer and paint finish. Replace the ACT ceilings.	4	6	20	\$93,621
1036563	D1010 Elevator No. 1 (Passenger)	2500 Lbs. Capacity five-stop passenger elevator	The metal diamond plate sheet flooring is damaged with stains. The plastic laminate wall paneling is damaged with mismatched panels and surface scratches. The ACT ceiling is missing.	Replace all elevator cab finishes. Budget for repairs to elevator equipment over the term.	4	6	30	\$42,000
1046551	C2010 Wall Finishes	Painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall base	Bedroom wall finishes were recently repainted in 2018 and remain in good condition overall. Painted wallboard and concrete will continue to deteriorate with scratches, chips, and other surface imperfections throughout the term.	Repair surface imperfections and restore applied interior wall finishes throughout the full building by the end of the term. Consider wall tile replacement. Monitor for characteristics inconsistent with normal operation, aesthetics, recurring and/or increasing maintenance repair needs, and material changes in condition.	5	15	10	\$53,292
1046556	E2010 Fixed Furnishings	Plastic laminate cabinets with plastic laminate countertops and solid surfaces and side panels in laundry and kitchen. Solid surface countertops with integral sink in restrooms	Fixed furnishings throughout the building were replaced with 2001 renovation. All furnishings are showing normal deterioration with minor surface damage. They will continue to deteriorate with heavy use throughout the term and surpass their recommended useful life near the end of the term.	Budget to replace all fixed furnishings near the end of the term.	5	15	15	\$286,140
Architectural Total:								\$1,763,597

BUTTERFIELD HALL - KC02

Plumbing

Item ID	Unifomat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036567	D2080 Drinking Fountains	Single height drinking fountain with bottle filler	Drinking fountains are only provided at one height level on the first floor level. Where drinking fountains are provided, access is required for both people who use wheelchairs and for standing persons.	Replace the single height drinking fountains with dual height drinking fountains to accommodate both sitting and standing persons.	2	2	20	\$10,080
1036865	D2010 Domestic Water System	The domestic water system consists of metered backflow-protected service with a water softener system. (2) steam hot water heaters with an electric backup water heater provide domestic hot water.	The water softener is beyond its rated useful life. The mixing valve has some leaking and needs to be repaired.	Replace the water softener and repair the mixing valve.	3	3	20	\$49,486
Plumbing Total:								\$59,566

## BUTTERFIELD HALL - KC02

**Mechanical**

Item ID	Unifomat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036866	D3060 Ventilation Systems - All Air Heating with Plenum Return	Air heating and/or cooling system with plenum return consists of (2) make up units and (2) rooftop upblast exhaust fans	The make up units and the exhaust fans will be approaching the end of their rated useful life	Replace the make up units and the exhaust fans within the action timeframe	3	4	25	\$182,000
1047380	D3050 HVAC Piping Distribution Systems - Heating OR Cooling Piping to AHUs & Terminal Units	Heating hot water piping from the heat exchangers to air handling units, hot water piping to the terminal units. Piping consists of larger-diameter welded steel and smaller-diameter soldered copper insulated pipe and fittings including all pumps and accessories.	The hot water pump #1 is 20 years old, has developed a leak, and will need to be replaced eventually. Pump #2 is new.	Replace the hot water pump and any associated accessories within the recommended time frame.	4	10	30	\$20,730
1047481	D8010 HVAC Instrumentation and Controls	HVAC Instrumentation and Controls consists of an older DDC control system with analog controllers in each dormitory room and a temperature sensor.	Older DDC software can affect performance over time causing less energy efficiency	Update DDC control system software.	5	6	20	\$40,123
<b>Mechanical Total:</b>								<b>\$242,854</b>

## BUTTERFIELD HALL - KC02

## Electrical

Item ID	Uniformat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036186	D5020 Arc Flash Hazard Analysis and Short Circuit Coordination - Study	Electrical arc flash hazard analysis and short circuit coordination.	No evidence of a short circuit coordination study or arc flash hazard assessment. Electrical equipment was observed to not have the required safety information posted.	Perform a short circuit coordination study and an arc flash hazard analysis. Make the required changes to the electrical system to ensure proper circuit coordination and minimize electrical flash hazards. Once completed, appropriate PPE should be purchased for qualified personnel. All electrical equipment must be labeled with the necessary safety information specific to each piece of equipment. (Price reflects the cost of engineering for short circuit coordination and arc flash assessment only.)	1	0	30	\$20,062
1036187	D5020 Electrical Service And Distribution	Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer two-section Switchboard dated 2000, a 1600A rated Siemens Switchboard dated 2014, secondary Square D Panels dated 1997, Cutler-Hammer Panels dated 2001, and Eaton and Siemens Panels dated 2014.	The Square D Panels dated 1997 are nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.	Replace the Square D secondary Panels, all associated components, and the associated feeders. Inspect all branch circuit wiring and replace any that is damaged or fatigued.	3	4	30	\$98,080
1036192	G4050 Site Lighting	Site Lighting consists of building mounted exterior light fixtures with LED and HID lamps.	HID lamps are not the most energy-efficient light source.	Replace the HID fixtures/lamps with new energy-efficient LED fixtures/lamps as the fixture ballasts and/or lamps fail and need replacement.	3	3	20	\$446
1036188	D5010 Facility Power Generation	Facility Power Generation consists of Asco 208Y/120V, 3-phase, 4-wire 260A Automatic Transfer Switch E, 200A Automatic Transfer Switch EA, and 1600A Automatic Transfer Switch MDP.	Although no deficiencies or negative impact issues were observed, the Automatic Transfer Switches may be nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.	Inspect, service, and test the Automatic Transfer Switches and associated components. Upgrade, replace, or repair the equipment, components, and wiring as needed. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.	4	6	20	\$160,494

BUTTERFIELD HALL - KC02

Electrical

Item ID	Uniformat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036189	D5030 General Purpose Electrical Power	General-purpose devices and associated branch circuit wiring.	Some receptacles show signs of damage or wear. Receptacle contacts and wiring terminations can become loose with use, which could cause overheating resulting in damage to wiring and devices.	Inspect, test, and replace fatigued receptacles and associated wiring as required. Replace receptacles and wiring in conjunction with renovations and upgrades.	4	6	30	\$66,872
1036190	D5040 Interior Lighting	Interior lighting consists of surface and recessed mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background.	Some wall switches observed appear to have reached the end of their rated service life. Wiring ages with equipment.	Replace all fatigued wall switches and associated wiring with new switches and wiring. Wiring ages with equipment and should be replaced as equipment is replaced. Utilize new occupancy sensors wherever practical.	4	6	20	\$49,040
1036191	D5080 Miscellaneous Electrical Systems (Mech Connections)	Miscellaneous electrical systems (mechanical connections) consists of electrical wiring and components that support mechanical systems.	Some of the electrical equipment for mechanical equipment appears to have reached the end of its rated service life. Wiring ages with equipment.	Replace the fatigued electrical equipment and associated wiring for mechanical equipment. Wiring ages with equipment and should be replaced as equipment is replaced.	4	6	20	\$12,483
1047488	D5020 Electrical Service And Distribution	Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer two-section Switchboard dated 2000, a 1600A rated Siemens Switchboard dated 2014, secondary Square D Panels dated 1997, Cutler-Hammer Panels dated 2001, and Eaton and Siemens Panels dated 2014.	The Square D Panels dated 1997 are nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.	Replace the Square D secondary Panels, all associated components, and the associated feeders. Inspect all branch circuit wiring and replace any that is damaged or fatigued.	5	15	30	\$98,080
1047491	D5040 Interior Lighting	Interior lighting consists of surface and recessed mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background.	Some wall switches observed appear to have reached the end of their rated service life. Wiring ages with equipment.	Replace all fatigued wall switches and associated wiring with new switches and wiring. Wiring ages with equipment and should be replaced as equipment is replaced. Utilize new occupancy sensors wherever practical.	5	12	20	\$49,040
Electrical Total:								\$554,595

BUTTERFIELD HALL - KC02


Safety and Security

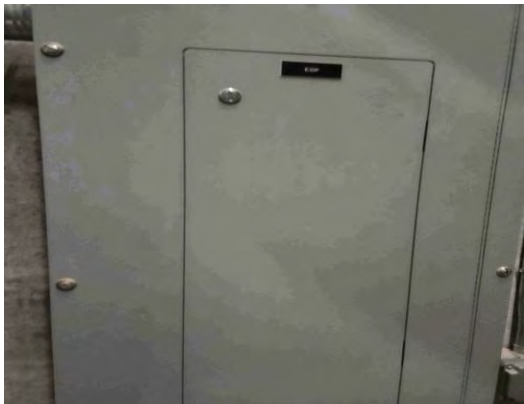
Item ID	Uniformat	Description	Critical Issue(s)	Recommendation(s)	Pri	Act Time	Life Cycle	Estimated Cost
1036183	D7010 Access Control and Intrusion Detection	Access Control and Intrusion Detection consists of Residence Phones, proximity card readers, and door release contacts at select exterior and/or interior doors.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Access Control and Intrusion Detection system, equipment, and wiring will be required.	Upgrade the Access Control and Intrusion Detection system, cabling, and devices throughout the building per the needs of the facility and as the equipment demands, and as remodeling and upgrades are accomplished.	4	6	10	\$20,062
1036184	D7030 Electronic Surveillance	Electronic Surveillance system consists of security cameras located interior and/or exterior of the building routed to a central system.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Electronic Surveillance system, equipment, and wiring will be required.	Upgrade the Electronic Surveillance system, devices, and wiring throughout the building per the needs of the facility and equipment demands, and as remodeling and upgrades are accomplished.	4	6	10	\$17,833
1036185	D7050 Fire Detection and Alarm	Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Fire Detection and Alarm system, equipment, and wiring will be required.	Upgrade and/or replace the system components and wiring as necessary to ensure early detection of a fire and to allow maximum evacuation time and limited damage. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.	4	6	10	\$8,916
1047472	D7050 Fire Detection and Alarm	Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Fire Detection and Alarm system, equipment, and wiring will be required.	Upgrade and/or replace the system components and wiring as necessary to ensure early detection of a fire and to allow maximum evacuation time and limited damage. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.	5	12	10	\$8,916
Safety and Security Total:								\$55,727



## 6. RECOMMENDATIONS

## Action Item List - By Priority

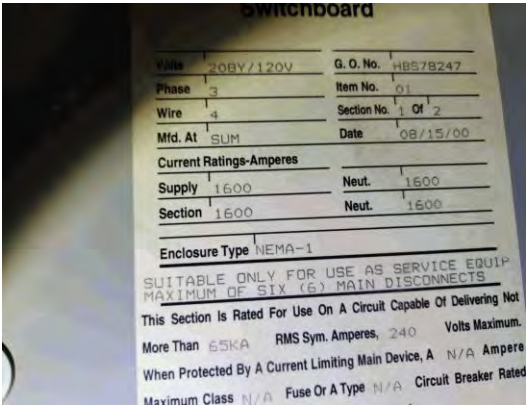
P R I O R I T Y  1		<p>FOScore #: 1036186</p> <p>Uniformat Name: D5020 - Arc Flash Hazard Analysis and Short Circuit Coordination - Study</p> <p>Category: Life Safety - Life Safety</p> <p>Location: Entire Building</p> <p>Area Served: Entire Building</p> <p>Observed Remaining Life: 0 year(s)</p> <p>Act By: 2023</p> <p>Action Timeframe: 0 year(s)</p> <p>Reference Life (BOMA): 30 year(s)</p>
		<p><u>Description:</u> Electrical arc flash hazard analysis and short circuit coordination.</p>
		<p><u>Critical Issue(s):</u> No evidence of a short circuit coordination study or arc flash hazard assessment. Electrical equipment was observed to not have the required safety information posted.</p>
		<p><u>Recommendation(s):</u> Perform a short circuit coordination study and an arc flash hazard analysis. Make the required changes to the electrical system to ensure proper circuit coordination and minimize electrical flash hazards. Once completed, appropriate PPE should be purchased for qualified personnel. All electrical equipment must be labeled with the necessary safety information specific to each piece of equipment. (Price reflects the cost of engineering for short circuit coordination and arc flash assessment only.)</p>
		<p><u>Repair Factor:</u> 100%</p> <p style="text-align: right;"><b>Pricing Unit: 39,805 BGSF Cost: \$20,062</b></p>



Item #: 1,036,186  
Uniformat Number:D5020  
Desc: Typical Panel with no arc flash hazard warning label



Item #: 1,036,186  
Uniformat Number:D5020  
Desc: Typical Panel with no arc flash hazard warning label



Item #: 1,036,186  
Uniformat Number:D5020  
Desc: Main Switchboard nameplate

BUTTERFIELD HALL - KC02

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FOScore #: 1036560  
Uniformat Name: B3060 - Roof Hatch Fall Protection  
Category: Potential Life Safety Hazard -  
Location: Partial Building  
Area Served: Roof  
Observed Remaining Life: 1 year(s)  
Act By: 2024  
Action Timeframe: 1 year(s)  
Reference Life (BOMA): 75 year(s)

Description: Roof hatch fall protection

Critical Issue(s): There is no fall protection surrounding the roof hatch to prevent people on the roof from accidentally falling into the hatchway while the hatch is open.

Recommendation(s): Install fall protection railings around the roof hatch.

Repair Factor: 100%

**Pricing Unit: 1 EA Cost: \$5,040**

BUTTERFIELD HALL - KC02

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FOScore #: 1036555  
Uniformat Name: B3010 - Roofing  
Category: Building Integrity - Reliability  
Location: Roof  
Area Served: Roof  
Observed Remaining Life: 2 year(s)  
Act By: 2025  
Action Timeframe: 2 year(s)  
Reference Life (BOMA): 20 year(s)

Description: Modified bituminous low-slope roofing with modified bituminous vertical transitions. The hip roofs are standing seam metal panels.

Critical Issue(s): The roofing is showing wear, blistering, previous repair work, and ponding. The bituminous flood coat is becoming fluid and cracking. The elastomeric sealant on the center flashing has deteriorated.

Recommendation(s): Replace the bituminous roofing.

Repair Factor: 100%

**Pricing Unit: 10,500 RSF Cost: \$446,880**



Item #: 1,036,555  
 Uniformat Number: B3010  
 Desc: Roof overview



Item #: 1,036,555  
 Uniformat Number: B3010  
 Desc: Metal roof overview



Item #: 1,036,555  
 Uniformat Number: B3010  
 Desc: Roof overview



Item #: 1,036,555  
 Uniformat Number: B3010  
 Desc: Blister

BUTTERFIELD HALL - KC02



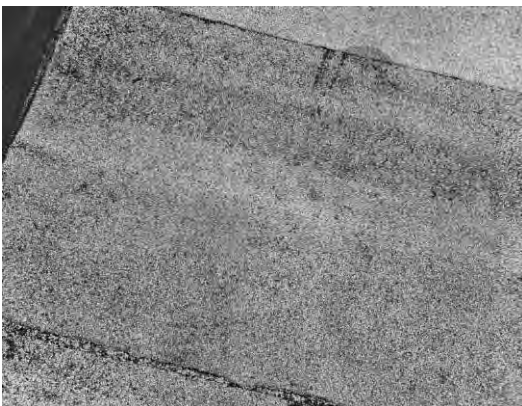
Item #: 1,036,555  
Uniformat Number:B3010  
Desc: Ponding



Item #: 1,036,555  
Uniformat Number:B3010  
Desc: Ponding



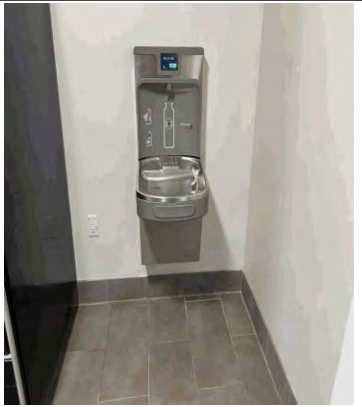
Item #: 1,036,555  
Uniformat Number:B3010  
Desc: Previous repairs



Item #: 1,036,555  
Uniformat Number:B3010  
Desc: Blsiter

BUTTERFIELD HALL - KC02

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FOScore #: 1036567  
Uniformat Name: D2080 - Drinking Fountains  
Category: Accessibility Standards -  
Location: Partial Building  
Area Served: First Floor Level  
Observed Remaining Life: 2 year(s)  
Act By: 2025  
Action Timeframe: 2 year(s)  
Reference Life (BOMA): 20 year(s)

Description: Single height drinking fountain with bottle filler

Critical Issue(s): Drinking fountains are only provided at one height level on the first floor level. Where drinking fountains are provided, access is required for both people who use wheelchairs and for standing persons.

Recommendation(s): Replace the single height drinking fountains with dual height drinking fountains to accommodate both sitting and standing persons.

Repair Factor: 100%

**Pricing Unit: 1 EA Cost: \$10,080**

BUTTERFIELD HALL - KC02

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**FOScore #:** 1036598  
**Uniformat Name:** C1090 - Interior Metal Railings & Handrails  
**Category:** Potential Life Safety Hazard -  
**Location:** Partial Building  
**Area Served:** Rooms 304, 305, 308, 309, 324, 325, 328, 329  
**Observed Remaining Life:** 2 year(s)  
**Act By:** 2025  
**Action Timeframe:** 2 year(s)  
**Reference Life (BOMA):** 50 year(s)

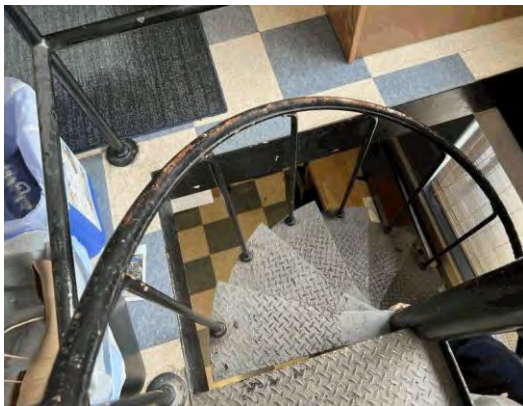
**Description:** Metal hand and guard railings (8)

**Critical Issue(s):** The spiral staircase hand and guard railings do not meet current accessibility or safety standards. The handrails lack upper and lower extensions and returns. The guardrails appear to be less than 42 inches tall, lack toe boards, and have balusters spaced more than 4 inches apart on center.

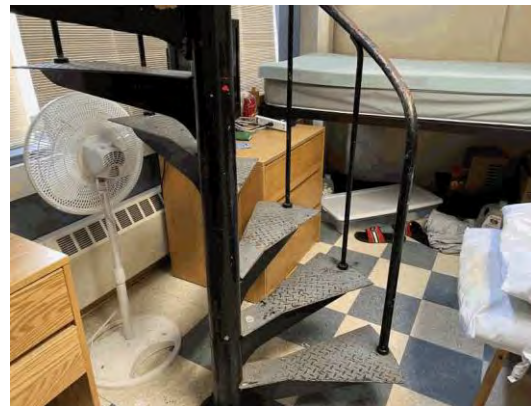
**Recommendation(s):** Replace the spiral staircase handrails and guardrails to meet current safety and accessibility standards.

**Repair Factor:** 100%

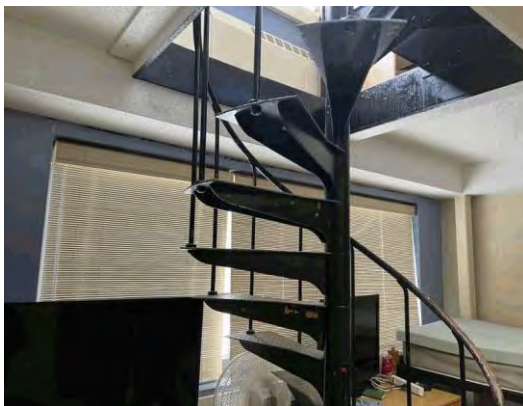
**Pricing Unit:** 240 LF **Cost:** \$67,200



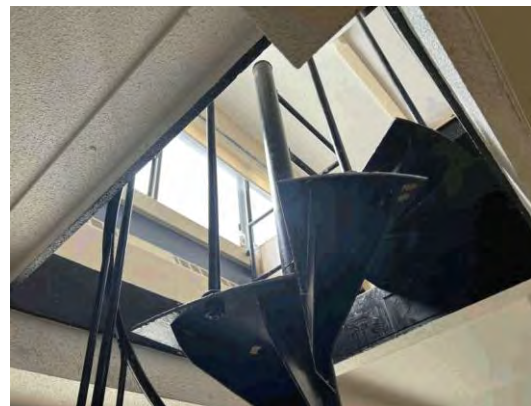
Item #: 1,036,598  
 Uniformat Number:C1090  
 Desc: Railing & guardrail - Typical



Item #: 1,036,598  
 Uniformat Number:C1090  
 Desc: Railing & guardrail - Typical



Item #: 1,036,598  
 Uniformat Number:C1090  
 Desc: Railing & guardrail - Typical



Item #: 1,036,598  
 Uniformat Number:C1090  
 Desc: Railing & guardrail - Typical



Item #: 1,036,598

Uniformat Number:C1090

Desc: Railing & guardrail - Typical

BUTTERFIELD HALL - KC02

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FOScore #: 1032678  
Uniformat Name: B2010 - Exterior Walls  
Category: Building Integrity - Reliability  
Location: Building Exterior  
Area Served: Various Locations  
Observed Remaining Life: 20 year(s)  
Act By: 2026  
Action Timeframe: 3 year(s)  
Reference Life (BOMA): 50 year(s)

Description: Concrete masonry cavity walls with brick veneer, brick belt coursing, painted concrete, spandrel panels, and stucco

Critical Issue(s): There are some broken bricks, cracked mortar joints, and missing bricks in various locations throughout the building's exterior. The exterior wall has signs of previous repairs. The elastomeric sealant at the perimeter of window frames and other wall elements has deteriorated throughout. The brick surface has some organic growth on the east elevation. The paint on the concrete overhang has deteriorated. The wood trim at the south entry ceiling is damaged.

Recommendation(s): Replace damaged brick. Repoint cracked and eroded mortar joints. Replace deteriorated elastomeric sealants at movement joints throughout the walls. Remove the organic growth. Remove loose and deteriorated paint then apply a primer and paint finish at the east elevation. Replace the damaged wood trim.

Repair Factor: 5%

**Pricing Unit: 25,000 WSF Cost: \$133,000**



Item #: 1,032,678  
 Uniformat Number: B2010  
 Desc: Missing brick - West elevation



Item #: 1,032,678  
 Uniformat Number: B2010  
 Desc: Deteriorated sealant - West elevation

BUTTERFIELD HALL - KC02



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Deteriorated sealant - West elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Damaged mortar - West elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Deteriorated sealant - West elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Missing brick - Southwest elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Damaged brick - West elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Missing wood trim - South elevation

BUTTERFIELD HALL - KC02



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Missing wood trim - South elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Damaged brick - East elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Damaged mortar - East elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Damaged brick - East elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Deteriorated sealant - East elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Damaged brick - East elevation

BUTTERFIELD HALL - KC02



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Deteriorated paint - East elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Previous repairs - East elevation



Item #: 1,032,678  
Uniformat Number:B2010  
Desc: Broken brick - East elevation

BUTTERFIELD HALL - KC02

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**FOScore #:** 1032693  
**Uniformat Name:** B2020 - Exterior Windows  
**Category:** Building Integrity - Reliability  
**Location:** Building Exterior  
**Area Served:** Various Locations  
**Observed Remaining Life:** 8 year(s)  
**Act By:** 2026  
**Action Timeframe:** 3 year(s)  
**Reference Life (BOMA):** 30 year(s)

**Description:** Aluminum frame with dual pane glazing and metal screens and glass block

**Critical Issue(s):** A number of the insulated glazing units (IGU) have failed with moisture infiltration observed. Some of the glass block windows are broken.  
 Windows were replaced in 2001 and will soon surpass their useful life.

**Recommendation(s):** Replace the windows and broken block windows.

**Repair Factor:** 80%

**Pricing Unit: 2,750 WSF Cost: \$258,720**



Item #: 1,032,693  
 Uniformat Number: B2020  
 Desc: Failed IGU - West elevation



Item #: 1,032,693  
 Uniformat Number: B2020  
 Desc: Failed IGU - East elevation



Item #: 1,032,693  
 Uniformat Number: B2020  
 Desc: Failed IGU - South elevation



Item #: 1,032,693  
 Uniformat Number: B2020  
 Desc: Broken glass block - East elevation

BUTTERFIELD HALL - KC02



Item #: 1,032,693  
Uniformat Number:B2020  
Desc: Failed IGU - East elevation



Item #: 1,032,693  
Uniformat Number:B2020  
Desc: Broken glass block - East elevation



Item #: 1,032,693  
Uniformat Number:B2020  
Desc: Failed IGU - Room 325

BUTTERFIELD HALL - KC02

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FOScore #: 1036017  
Uniformat Name: B1020 - Canopy - Metal  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: East Elevation  
Observed Remaining Life: 55 year(s)  
Act By: 2028  
Action Timeframe: 5 year(s)  
Reference Life (BOMA): 75 year(s)

Description: Entrance canopy with hollow metal structural posts and beams

Critical Issue(s): The paint finish of the metal structural posts and beams is deteriorating with rust/corrosion in multiple locations throughout.

Recommendation(s): Remove the rust and deteriorated paint then apply a primer and paint finish.

Repair Factor: 10%

**Pricing Unit: 250 SF Cost: \$7,700**



Item #: 1,036,017  
 Uniformat Number: B1020  
 Desc: Deteriorated paint



Item #: 1,036,017  
 Uniformat Number: B1020  
 Desc: Deteriorated paint



Item #: 1,036,017  
 Uniformat Number: B1020  
 Desc: Deteriorated paint



Item #: 1,036,017  
 Uniformat Number: B1020  
 Desc: Deteriorated paint

BUTTERFIELD HALL - KC02



Item #: 1,036,017  
Unifomat Number:B1020  
Desc: Deteriorated paint

## BUTTERFIELD HALL - KC02

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FOScore #: 1036187  
 Uniformat Name: D5020 - Electrical Service And Distribution  
 Category: Building Integrity - Reliability  
 Location: Entire Building  
 Area Served: Entire Building  
 Observed Remaining Life: 15 year(s)  
 Act By: 2027  
 Action Timeframe: 4 year(s)  
 Reference Life (BOMA): 30 year(s)

**Description:** Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer two-section Switchboard dated 2000, a 1600A rated Siemens Switchboard dated 2014, secondary Square D Panels dated 1997, Cutler-Hammer Panels dated 2001, and Eaton and Siemens Panels dated 2014.

**Critical Issue(s):** The Square D Panels dated 1997 are nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.

**Recommendation(s):** Replace the Square D secondary Panels, all associated components, and the associated feeders. Inspect all branch circuit wiring and replace any that is damaged or fatigued.

**Repair Factor:** 40%

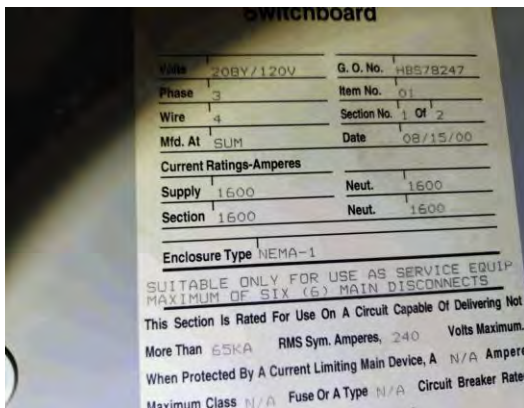
**Pricing Unit: 39,805 BGSF Cost: \$98,080**



Item #: 1,036,187  
 Uniformat Number:D5020  
 Desc: Cutler-Hammer Panel dated 2001



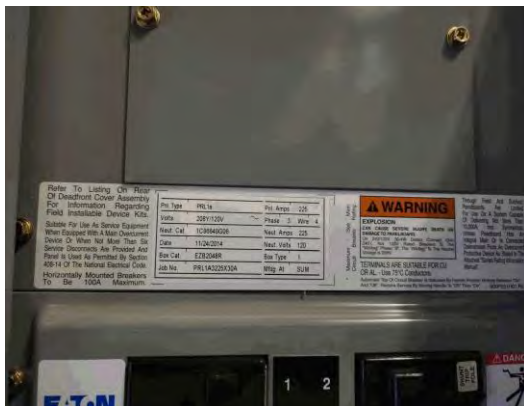
Item #: 1,036,187  
 Uniformat Number:D5020  
 Desc: Cutler-Hammer Switchboard



Item #: 1,036,187

Uniformat Number:D5020

Desc: Cutler-Hammer Switchboard nameplate dated 2000



Item #: 1,036,187

Uniformat Number:D5020

Desc: Eaton Panel nameplate dated 2014




Item #: 1,036,187


Uniformat Number:D5020

Desc: Siemens Switchboard nameplate dated 2014

BUTTERFIELD HALL - KC02

P R I O R I T Y  3		<p><u>FOScore #:</u> 1036192 <u>Uniformat Name:</u> G4050 - Site Lighting <u>Category:</u> Operations - Energy <u>Location:</u> Entire Building <u>Area Served:</u> Exterior <u>Observed Remaining Life:</u> 3 year(s) <u>Act By:</u> 2026 <u>Action Timeframe:</u> 3 year(s) <u>Reference Life (BOMA):</u> 20 year(s)</p>	
	<p><u>Description:</u> Site Lighting consists of building mounted exterior light fixtures with LED and HID lamps.</p>		
	<p><u>Critical Issue(s):</u> HID lamps are not the most energy-efficient light source.</p>		
	<p><u>Recommendation(s):</u> Replace the HID fixtures/lamps with new energy-efficient LED fixtures/lamps as the fixture ballasts and/or lamps fail and need replacement.</p>		
	<p><u>Repair Factor:</u> 10%</p>		
	<p><b>Pricing Unit: 39,805 BGSF Cost: \$446</b></p>		

BUTTERFIELD HALL - KC02

P R I O R I T Y  3		<p>FOScore #: 1036587</p> <p>Uniformat Name: E2010 - Fixed Furnishings</p> <p>Category: Building Integrity - Appearance</p> <p>Location: Partial Building</p> <p>Area Served: Kitchen, Laundry</p> <p>Observed Remaining Life: 3 year(s)</p> <p>Act By: 2026</p> <p>Action Timeframe: 3 year(s)</p> <p>Reference Life (BOMA): 15 year(s)</p>
	<u>Description:</u> Plastic laminate cabinets with plastic laminate countertops and solid surfaces	
	<u>Critical Issue(s):</u> The countertop in the kitchen and laundry areas are damaged with laminate delamination and chipped corners.	
	<u>Recommendation(s):</u> Replace the damaged countertops in these areas.	
	<u>Repair Factor:</u> 100%	
		Pricing Unit: 500 BGSF Cost: \$3,640



Item #: 1,036,587  
Uniformat Number:E2010  
Desc: Damaged countertop - Kitchen 320

BUTTERFIELD HALL - KC02

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FOScore #: 1036599  
Uniformat Name: C1090 - Framed Mirrors  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: Bathrooms  
Observed Remaining Life: 3 year(s)  
Act By: 2026  
Action Timeframe: 3 year(s)  
Reference Life (BOMA): 15 year(s)

Description: Stainless steel framed bathroom mirrors

Critical Issue(s): The reflective metal coating on the mirrors in the bathrooms has deteriorated.

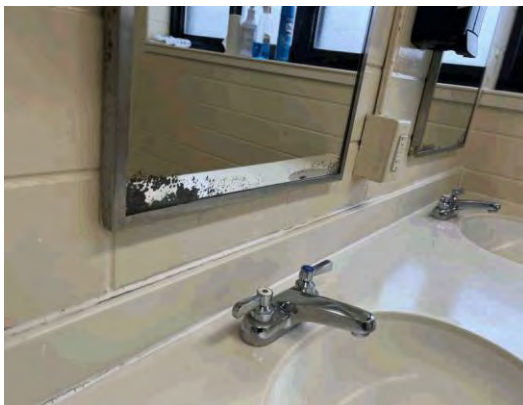
Recommendation(s): Replace the deteriorated bathroom mirrors.

Repair Factor: 100%

**Pricing Unit: 400 SF Cost: \$19,264**

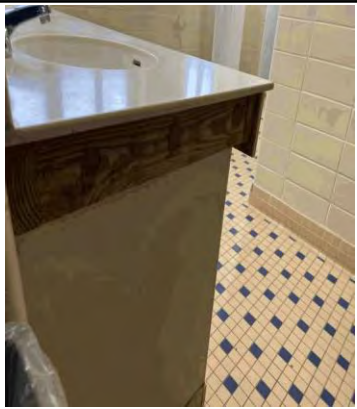


Item #: 1,036,599  
 Uniformat Number:C1090  
 Desc: Deteriorating mirrors - Typical



Item #: 1,036,599  
 Uniformat Number:C1090  
 Desc: Deteriorating mirrors - Typical

BUTTERFIELD HALL - KC02

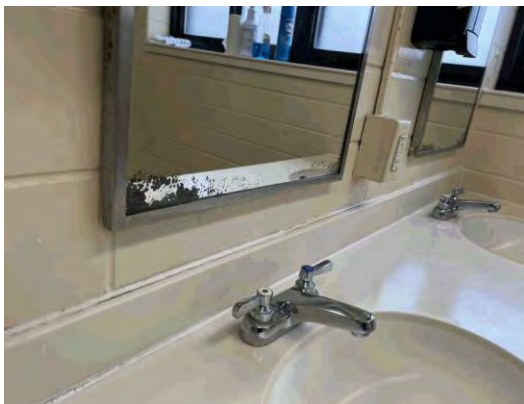
P R I O R I T Y  3		<p>FOScore #: 1036601</p> <p>Uniformat Name: C1090 - Interior Specialties</p> <p>Category: Building Integrity - Appearance</p> <p>Location: Partial Building</p> <p>Area Served: Bathrooms</p> <p>Observed Remaining Life: 6 year(s)</p> <p>Act By: 2026</p> <p>Action Timeframe: 3 year(s)</p> <p>Reference Life (BOMA): 10 year(s)</p>
	<u>Description:</u> Solid surface countertops sealants, and plastic paneling	
	<u>Critical Issue(s):</u> The countertop sealants have deteriorated. There is a missing piece of plastic paneling in bathroom 306 and a damaged panel under the sink in bathroom 326.	
	<u>Recommendation(s):</u> Replace the deteriorated sealants throughout the bathrooms. Install the missing piece of paneling and replace the damaged panel under the sink.	
	<u>Repair Factor:</u> 5%	
		<b>Pricing Unit: 39,805 BGSF Cost: \$10,588</b>



Item #: 1,036,601  
Uniformat Number:C1090  
Desc: Deteriorated sealant - Bathroom 406




Item #: 1,036,601  
Uniformat Number:C1090  
Desc: Damaged paneling - Bathroom 326



Item #: 1,036,601  
Uniformat Number:C1090  
Desc: Deteriorated sealant - Bathroom 326

BUTTERFIELD HALL - KC02

P R I O R I T Y  3		<p>FOScore #: 1036674</p> <p>Uniformat Name: A1010 - Foundation Wall - Concrete</p> <p>Category: Building Integrity - Reliability</p> <p>Location: Partial Building</p> <p>Area Served: First Floor Lobby</p> <p>Observed Remaining Life: 80 year(s)</p> <p>Act By: 2026</p> <p>Action Timeframe: 3 year(s)</p> <p>Reference Life (BOMA): 100 year(s)</p>
	<p>Description: Reinforced cast in place concrete foundation wall</p>	
	<p>Critical Issue(s): The concrete wall in the lobby is spalled.</p>	
	<p>Recommendation(s): Remove the spalled concrete and patch the concrete to restore the original geometry of the wall. Repaint the wall.</p>	
	<p>Repair Factor: 100%</p>	
	<p>Pricing Unit: 8 LF Cost: \$1,658</p>	



Item #: 1,036,674  
Uniformat Number:A1010  
Desc: Spalled concrete



Item #: 1,036,674  
Uniformat Number:A1010  
Desc: Spalled concrete

BUTTERFIELD HALL - KC02

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FOScore #: 1036865  
Uniformat Name: D2010 - Domestic Water System  
Category: Replace -  
Location: Entire Building  
Area Served: Entire Building  
Observed Remaining Life: 15 year(s)  
Act By: 2026  
Action Timeframe: 3 year(s)  
Reference Life (BOMA): 20 year(s)

Description: The domestic water system consists of metered backflow-protected service with a water softener system. (2) steam hot water heaters with an electric backup water heater provide domestic hot water.

Critical Issue(s): The water softener is beyond its rated useful life. The mixing valve has some leaking and needs to be repaired.

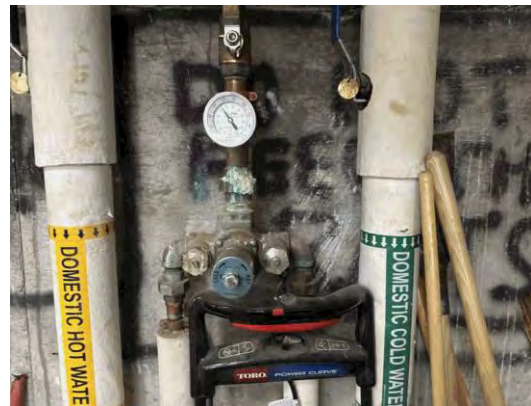
Recommendation(s): Replace the water softener and repair the mixing valve.

Repair Factor: 15%

**Pricing Unit: 39,805 BGSF Cost: \$49,486**



Item #: 1,036,865  
 Uniformat Number:D2010  
 Desc: Electric back up



Item #: 1,036,865  
 Uniformat Number:D2010  
 Desc: Mixing valve



Item #: 1,036,865  
 Uniformat Number:D2010  
 Desc: Steam water heaters

## BUTTERFIELD HALL - KC02

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FOScore #: 1036866  
Uniformat Name: D3060 - Ventilation Systems - All Air Heating with Plenum Return  
Category: Replace -  
Location: Entire Building  
Area Served: Entire Building  
Observed Remaining Life: 6 year(s)  
Act By: 2027  
Action Timeframe: 4 year(s)  
Reference Life (BOMA): 25 year(s)

Description: Air heating and/or cooling system with plenum return consists of (2) make up units and (2) rooftop upblast exhaust fans

Critical Issue(s): The make up units and the exhaust fans will be approaching the end of their rated useful life

Recommendation(s): Replace the make up units and the exhaust fans within the action timeframe

Repair Factor: 50%

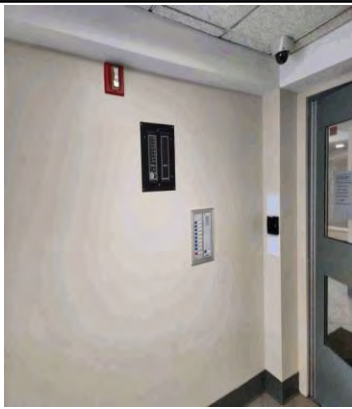
**Pricing Unit: 12,500 CFM Cost: \$182,000**



Item #: 1,036,866  
 Uniformat Number: D3060  
 Desc: MAU and exhaust fan

BUTTERFIELD HALL - KC02

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**FOScore #:** 1036183  
**Uniformat Name:** D7010 - Access Control and Intrusion Detection  
**Category:** Building Integrity - Reliability  
**Location:** Entire Building  
**Area Served:** Entire Building  
**Observed Remaining Life:** 8 year(s)  
**Act By:** 2029  
**Action Timeframe:** 6 year(s)  
**Reference Life (BOMA):** 10 year(s)

**Description:** Access Control and Intrusion Detection consists of Residence Phones, proximity card readers, and door release contacts at select exterior and/or interior doors.

**Critical Issue(s):** Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Access Control and Intrusion Detection system , equipment, and wiring will be required.

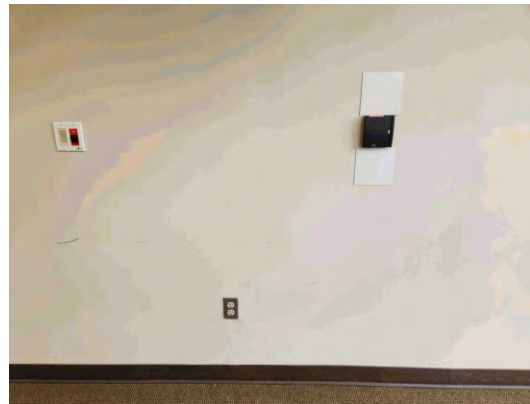
**Recommendation(s):** Upgrade the Access Control and Intrusion Detection system , cabling, and devices throughout the building per the needs of the facility and as the equipment demands, and as remodeling and upgrades are accomplished.

**Repair Factor:** 20%

**Pricing Unit: 39,805 BGSF Cost: \$20,062**



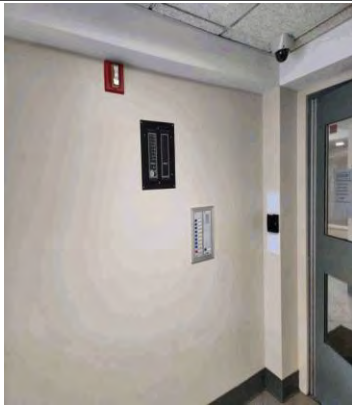
Item #: 1,036,183  
 Uniformat Number:D7010  
 Desc: Residence Phone



Item #: 1,036,183  
 Uniformat Number:D7010  
 Desc: Proximity card reader

BUTTERFIELD HALL - KC02

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FOScore #: 1036184  
Uniformat Name: D7030 - Electronic Surveillance  
Category: Building Integrity - Reliability  
Location: Entire Building  
Area Served: Entire Building  
Observed Remaining Life: 6 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 10 year(s)

Description: Electronic Surveillance system consists of security cameras located interior and/or exterior of the building routed to a central system.

Critical Issue(s): Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Electronic Surveillance system, equipment, and wiring will be required.

Recommendation(s): Upgrade the Electronic Surveillance system, devices, and wiring throughout the building per the needs of the facility and equipment demands, and as remodeling and upgrades are accomplished.

Repair Factor: 20%

**Pricing Unit: 39,805 BGSF Cost: \$17,833**



Item #: 1,036,184  
 Uniformat Number:D7030  
 Desc: Surveillance camera

BUTTERFIELD HALL - KC02

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**FOScore #:** 1036185  
**Uniformat Name:** D7050 - Fire Detection and Alarm  
**Category:** Life Safety - Life Safety  
**Location:** Entire Building  
**Area Served:** Entire Building  
**Observed Remaining Life:** 12 year(s)  
**Act By:** 2029  
**Action Timeframe:** 6 year(s)  
**Reference Life (BOMA):** 10 year(s)

**Description:** Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.

**Critical Issue(s):** Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Fire Detection and Alarm system, equipment, and wiring will be required.

**Recommendation(s):** Upgrade and/or replace the system components and wiring as necessary to ensure early detection of a fire and to allow maximum evacuation time and limited damage. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.

**Repair Factor:** 10%

**Pricing Unit:** 39,805 BGSF **Cost:** \$8,916



Item #: 1,036,185  
 Uniformat Number:D7050  
 Desc: A/V Alarm Notification Device



Item #: 1,036,185  
 Uniformat Number:D7050  
 Desc: Gamewell Knox Box

BUTTERFIELD HALL - KC02

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**FOScore #:** 1036188  
**Uniformat Name:** D5010 - Facility Power Generation  
**Category:** Building Integrity - Reliability  
**Location:** Entire Building  
**Area Served:** Entire Building  
**Observed Remaining Life:** 6 year(s)  
**Act By:** 2029  
**Action Timeframe:** 6 year(s)  
**Reference Life (BOMA):** 20 year(s)

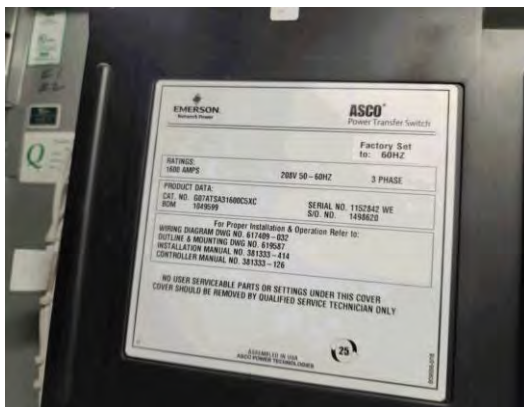
**Description:** Facility Power Generation consists of Asco 208Y/120V, 3-phase, 4-wire 260A Automatic Transfer Switch E, 200A Automatic Transfer Switch EA, and 1600A Automatic Transfer Switch MDP.

**Critical Issue(s):** Although no deficiencies or negative impact issues were observed, the Automatic Transfer Switches may be nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.

**Recommendation(s):** Inspect, service, and test the Automatic Transfer Switches and associated components. Upgrade, replace, or repair the equipment, components, and wiring as needed. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.

**Repair Factor:** 100%

**Pricing Unit: 39,805 BGSF Cost: \$160,494**



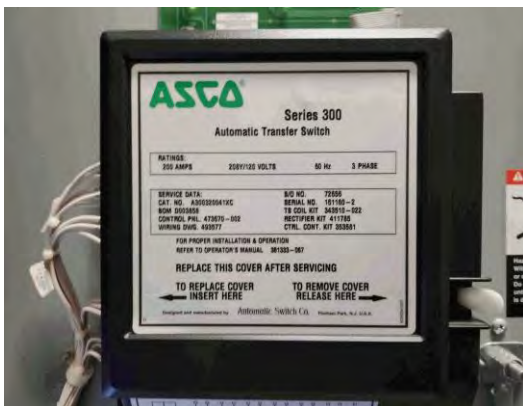
Item #: 1,036,188  
 Uniformat Number:D5010  
 Desc: ATS- MDP nameplate



Item #: 1,036,188  
 Uniformat Number:D5010  
 Desc: ATS- E nameplate



Item #: 1,036,188  
Uniformat Number:D5010  
Desc: ATS-EA

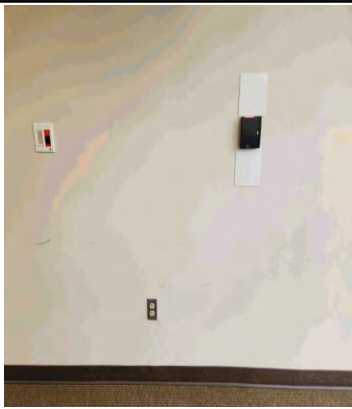


Item #: 1,036,188  
Uniformat Number:D5010  
Desc: ATS- EA nameplate



Item #: 1,036,188  
Uniformat Number:D5010  
Desc: ATS-MDP

## BUTTERFIELD HALL - KC02

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FOScore #: 1036189  
Uniformat Name: D5030 - General Purpose Electrical Power  
Category: Building Integrity - Reliability  
Location: Entire Building  
Area Served: Entire Building  
Observed Remaining Life: 6 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 30 year(s)

Description: General-purpose devices and associated branch circuit wiring.

Critical Issue(s): Some receptacles show signs of damage or wear. Receptacle contacts and wiring terminations can become loose with use, which could cause overheating resulting in damage to wiring and devices.

Recommendation(s): Inspect, test, and replace fatigued receptacles and associated wiring as required. Replace receptacles and wiring in conjunction with renovations and upgrades.

Repair Factor: 30%

**Pricing Unit: 39,805 BGSF Cost: \$66,872**



Item #: 1,036,189  
 Uniformat Number:D5030  
 Desc: Typical receptacle

BUTTERFIELD HALL - KC02

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FOScore #: 1036190  
Uniformat Name: D5040 - Interior Lighting  
Category: Building Integrity - Reliability  
Location: Entire Building  
Area Served: Entire Building  
Observed Remaining Life: 12 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 20 year(s)

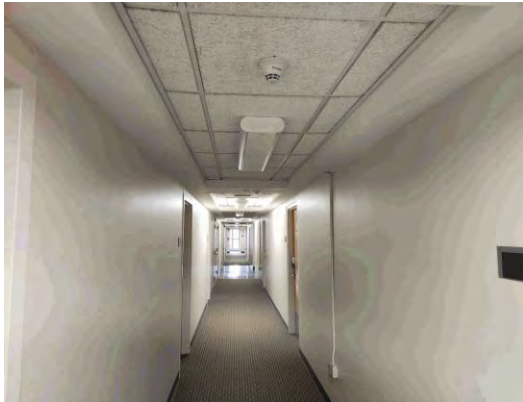
Description: Interior lighting consists of surface and recessed mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background.

Critical Issue(s): Some wall switches observed appear to have reached the end of their rated service life. Wiring ages with equipment.

Recommendation(s): Replace all fatigued wall switches and associated wiring with new switches and wiring. Wiring ages with equipment and should be replaced as equipment is replaced. Utilize new occupancy sensors wherever practical.

Repair Factor: 20%

**Pricing Unit: 39,805 SF Cost: \$49,040**

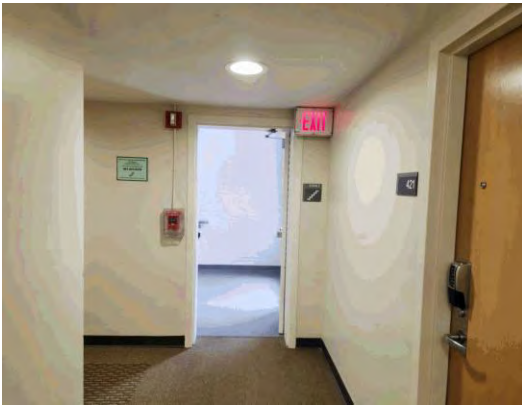


Item #: 1,036,190  
 Uniformat Number:D5040  
 Desc: Typical lighting

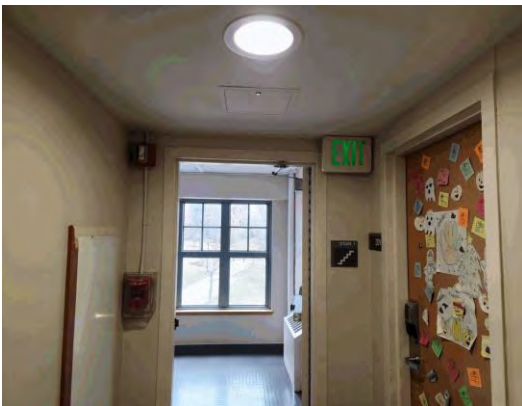


Item #: 1,036,190  
 Uniformat Number:D5040  
 Desc: Typical wall switch and occupancy sensor

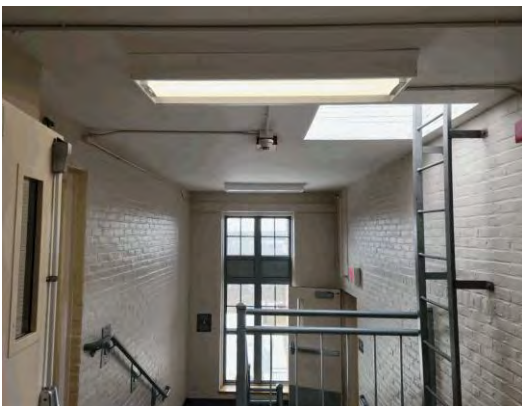
BUTTERFIELD HALL - KC02



Item #: 1,036,190  
Uniformat Number:D5040  
Desc: Typical red exit light



Item #: 1,036,190  
Uniformat Number:D5040  
Desc: Typical green exit light



Item #: 1,036,190  
Uniformat Number:D5040  
Desc: Surface Mounted 2X4

## BUTTERFIELD HALL - KC02

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FOScore #: 1036191  
Uniformat Name: D5080 - Miscellaneous Electrical Systems (Mech Connections)  
Category: Building Integrity - Reliability  
Location: Entire Building  
Area Served: Mechanical Equipment  
Observed Remaining Life: 6 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 20 year(s)

Description: Miscellaneous electrical systems (mechanical connections) consists of electrical wiring and components that support mechanical systems.

Critical Issue(s): Some of the electrical equipment for mechanical equipment appears to have reached the end of its rated service life. Wiring ages with equipment.

Recommendation(s): Replace the fatigued electrical equipment and associated wiring for mechanical equipment. Wiring ages with equipment and should be replaced as equipment is replaced.

Repair Factor: 10%

**Pricing Unit: 39,805 BGSF Cost: \$12,483**



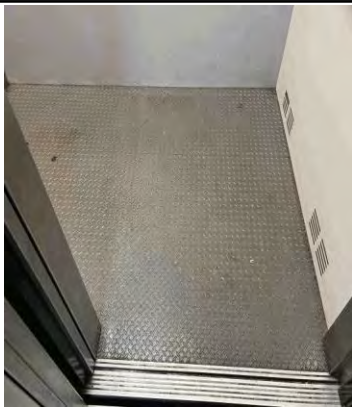
Item #: 1,036,191  
 Uniformat Number:D5080  
 Desc: Electrical equipment for mechanical equipment



Item #: 1,036,191  
 Uniformat Number:D5080  
 Desc: Electrical equipment for mechanical equipment

BUTTERFIELD HALL - KC02

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**FOScore #:** 1036563  
**Uniformat Name:** D1010 - Elevator No. 1 (Passenger)  
**Category:** Building Integrity - Appearance  
**Location:** Partial Building  
**Area Served:** Basement - Level 4  
**Observed Remaining Life:** 15 year(s)  
**Act By:** 2029  
**Action Timeframe:** 6 year(s)  
**Reference Life (BOMA):** 30 year(s)

**Description:** 2500 Lbs. Capacity five-stop passenger elevator

**Critical Issue(s):** The metal diamond plate sheet flooring is damaged with stains. The plastic laminate wall paneling is damaged with mismatched panels and surface scratches. The ACT ceiling is missing.

**Recommendation(s):** Replace all elevator cab finishes. Budget for repairs to elevator equipment over the term.

**Repair Factor:** 10%

**Pricing Unit: 5 STOP Cost: \$42,000**



Item #: 1,036,563  
 Uniformat Number:D1010  
 Desc: Cab doors



Item #: 1,036,563  
 Uniformat Number:D1010  
 Desc: Missing ceiling



Item #: 1,036,563  
 Uniformat Number:D1010  
 Desc: Mismatched paneling



Item #: 1,036,563  
 Uniformat Number:D1010  
 Desc: Cab controls

BUTTERFIELD HALL - KC02

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FOScore #: 1036568  
Uniformat Name: C2050 - Ceiling Finishes  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: Various Locations  
Observed Remaining Life: 10 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 20 year(s)

Description: Painted concrete, gypsum wallboard ceilings, and acoustical ceiling tile (ACT) in a suspended metal T-grid

Critical Issue(s): The painted ceiling surfaces are damaged with peeling and flaking observed. The majority of the ACT ceilings in the corridors and bathrooms are damaged with stains, discoloration, and damaged tiles.

Recommendation(s): Remove loose and deteriorated paint then apply a primer and paint finish. Replace the ACT ceilings.

Repair Factor: 30%

**Pricing Unit: 39,805 BGSF Cost: \$93,621**



Item #: 1,036,568  
 Uniformat Number:C2050  
 Desc: Mismatched ACT - Fourth floor corridor



Item #: 1,036,568  
 Uniformat Number:C2050  
 Desc: Flaking paint - Room 408



Item #: 1,036,568  
 Uniformat Number:C2050  
 Desc: Missing tile - Fourth floor lobby



Item #: 1,036,568  
 Uniformat Number:C2050  
 Desc: Peeling paint - Stair 1

BUTTERFIELD HALL - KC02



Item #: 1,036,568  
Uniformat Number:C2050  
Desc: Stained ACT - Third floor corridor



Item #: 1,036,568  
Uniformat Number:C2050  
Desc: Damaged ACT system - Bathroom 406



Item #: 1,036,568  
Uniformat Number:C2050  
Desc: Stained ACT - Kitchen 320



Item #: 1,036,568  
Uniformat Number:C2050  
Desc: Damaged ACT system - Laundry 220

BUTTERFIELD HALL - KC02

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FOScore #: 1036584  
Uniformat Name: C2040 - Stair Finishes  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: Stairways  
Observed Remaining Life: 10 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 50 year(s)

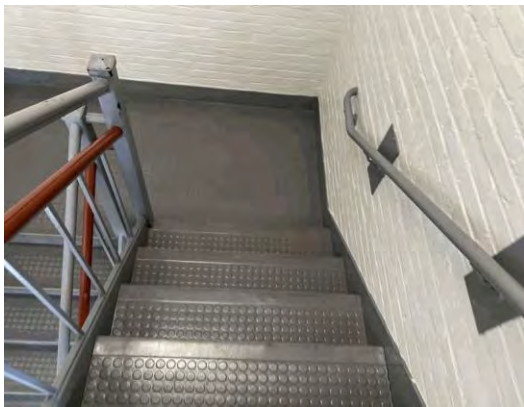
Description: Raised disc rubber tread coverings and raised disc rubber tile at the landings

Critical Issue(s): The rubber tread coverings and landing tiles have deteriorated.

Recommendation(s): Replace the tread and landing finishes.

Repair Factor: 60%

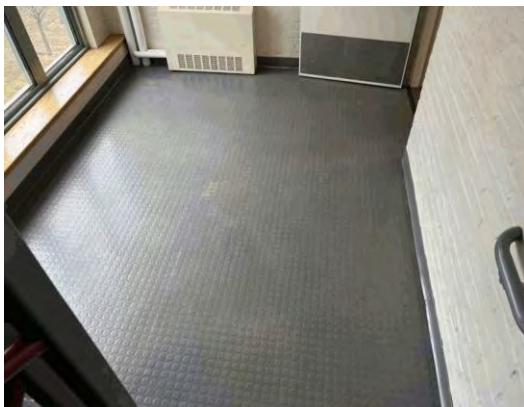
**Pricing Unit: 15 FLIGHT Cost: \$22,176**



Item #: 1,036,584

Uniformat Number:C2040

Desc: Deteriorated rubber tread cover - Typical



Item #: 1,036,584

Uniformat Number:C2040

Desc: Deteriorated rubber tiles - Typical

BUTTERFIELD HALL - KC02

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FOScore #: 1036594  
Uniformat Name: C2030 - Flooring  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: Various Locations  
Observed Remaining Life: 10 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 20 year(s)

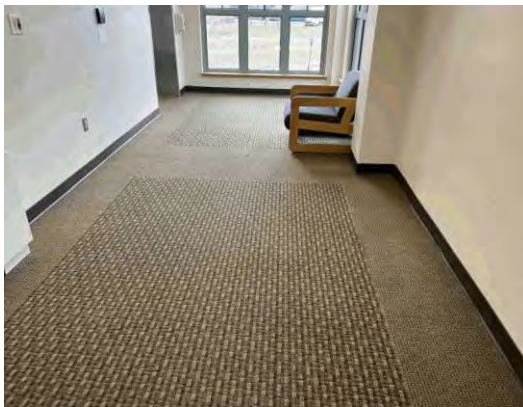
Description: Sheet carpeting, tile carpeting, vinyl composition tile (VCT), ceramic tile, rubber tiles, and concrete

Critical Issue(s): Flooring was replaced with renovations in 2001, but all has deteriorated. The tile and sheet carpeting in the entries and corridors are moderately to heavily worn and stained with clear traffic pattern registration. The VCT is damaged with stains and surface scratches in multiple locations. Some of the ceramic tiles in the lobby are cracked and broken, with some overall grout deterioration.

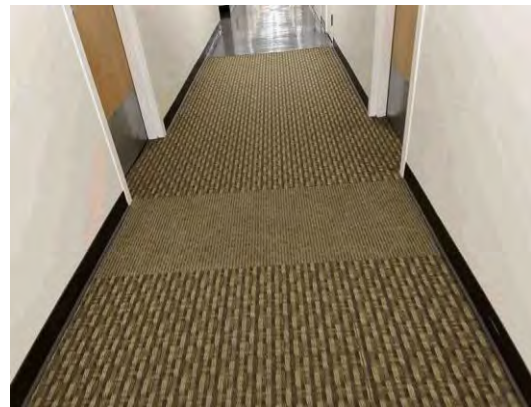
Recommendation(s): Replaced the sheet and tile carpeting in entries and corridors. Replace VCT flooring in all dorm rooms, and repair/replace in other damaged areas.  
 Replace the damaged ceramic tiles in the lobby and plan to replace grout. Consider replacing ceramic tile.

Repair Factor: 75%

**Pricing Unit: 39,805 BGSF Cost: \$250,772**



Item #: 1,036,594  
 Uniformat Number:C2030  
 Desc: Damaged carpeting - Fourth floor lobby



Item #: 1,036,594  
 Uniformat Number:C2030  
 Desc: Stained carpeting - Third floor corridor

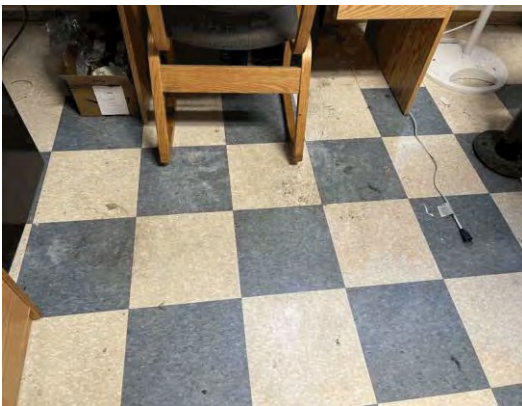
BUTTERFIELD HALL - KC02



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Stained VCT - Kitchen 320



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Cracked tile - Second floor lobby



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Damaged VCT - Room 325



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Cracked tile - Second floor lobby



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Stained carpeting - Second floor corridor



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Stained carpeting - Entry

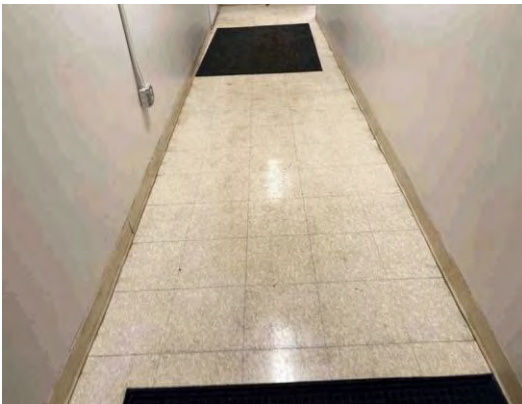
BUTTERFIELD HALL - KC02



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Stained carpeting - Lounge



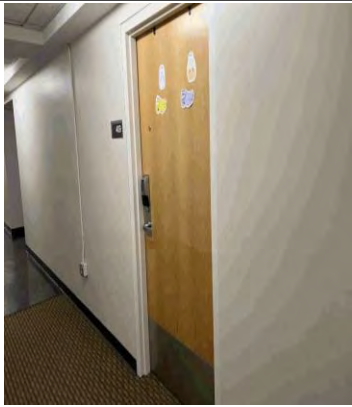
Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Stained VCT - Laundry 004



Item #: 1,036,594  
Uniformat Number:C2030  
Desc: Stained VCT - Basement corridor

BUTTERFIELD HALL - KC02

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FOScore #: 1036666  
Uniformat Name: C1030 - Interior Doors and Frames  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: Various Locations  
Observed Remaining Life: 20 year(s)  
Act By: 2033  
Action Timeframe: 10 year(s)  
Reference Life (BOMA): 50 year(s)

Description: Solid-core fire-rated wood doors finished with stain-grade veneer, painted hollow metal doors, and painted hollow metal frames

Critical Issue(s): The doors and frames have minor surface damage with scratches and chipped paint observed.

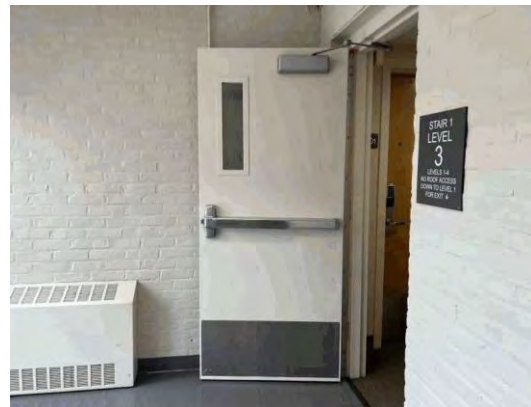
Recommendation(s): Refinish the moderately worn doors. Repaint door frames.

Repair Factor: 16%

**Pricing Unit: 39,805 BGSF Cost: \$39,232**



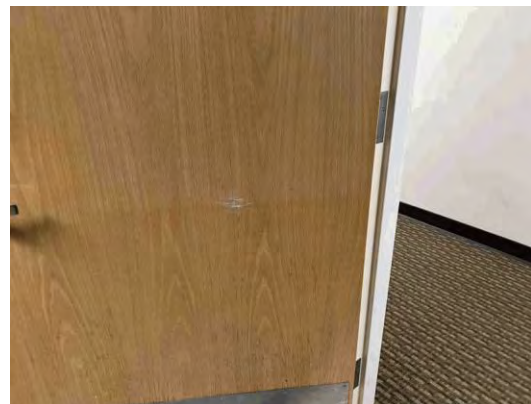
Item #: 1,036,666  
 Uniformat Number:C1030  
 Desc: Frame paint damage - Room 408



Item #: 1,036,666  
 Uniformat Number:C1030  
 Desc: Painted metal door - Typical



Item #: 1,036,666  
 Uniformat Number:C1030  
 Desc: Frame paint damage - Room 408



Item #: 1,036,666  
 Uniformat Number:C1030  
 Desc: Door damage - Room 302

BUTTERFIELD HALL - KC02



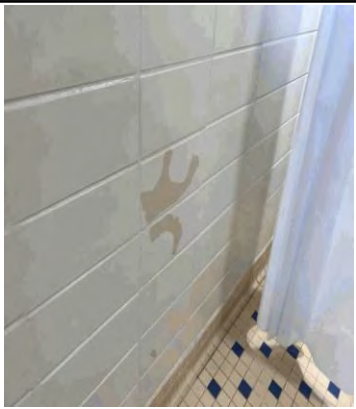
Item #: 1,036,666

Uniformat Number:C1030

Desc: Damaged painted frame - Room 111

BUTTERFIELD HALL - KC02

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FOScore #: 1036669  
Uniformat Name: C2010 - Wall Finishes  
Category: Building Integrity - Appearance  
Location: Partial Building  
Area Served: Various Locations  
Observed Remaining Life: 6 year(s)  
Act By: 2029  
Action Timeframe: 6 year(s)  
Reference Life (BOMA): 10 year(s)

Description: Painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall base

Critical Issue(s): The paint finishes on the structural glazed tiles are deteriorated with peeling in the bathrooms observed. The vinyl wall bases are damaged in multiple locations. Some of the paint finishes are mismatched with other imperfections. The sisal wall coverings are damaged in room 231.

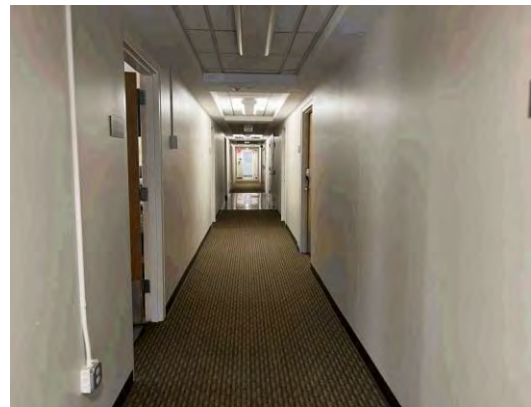
Recommendation(s): Remove loose and deteriorated paint then apply a primer and paint finish. Replace the damaged vinyl wall bases. Restore/Repaint the painted finishes. Replace the damaged sisal wall coverings.

Repair Factor: 100%

**Pricing Unit: 5,200 BGSF Cost: \$32,032**



Item #: 1,036,669  
 Uniformat Number:C2010  
 Desc: Peeling paint - Bathroom 406



Item #: 1,036,669  
 Uniformat Number:C2010  
 Desc: Third floor corridor walls - Typical

BUTTERFIELD HALL - KC02



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Damaged wall base - Third floor corridor



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Peeling paint - Bathroom 326



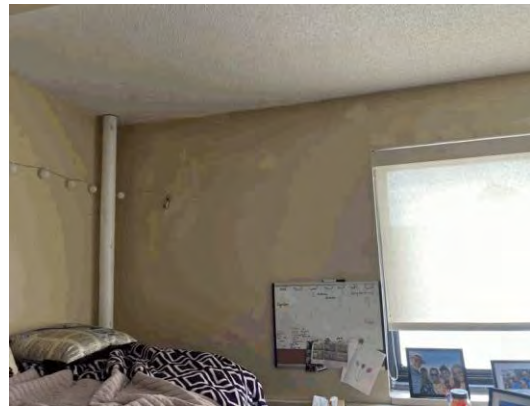
Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Peeling paint - Bathroom 306



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Peeling paint - Bathroom 326



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Peeling paint - Bathroom 306



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Mismatched paint - Room 231

BUTTERFIELD HALL - KC02



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Damaged sisal - Room 231



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Damaged wall base - Basement stair



Item #: 1,036,669  
Uniformat Number:C2010  
Desc: Damaged wall base - Basement corridor

BUTTERFIELD HALL - KC02

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FOScore #: 1047380  
Uniformat Name: D3050 - HVAC Piping Distribution Systems - Heating OR Cooling Piping to AHUs & Terminal Units  
Category: Deferred Maintenance - Repairs Required  
Location: Entire Building  
Area Served: Entire Building  
Observed Remaining Life: 10 year(s)  
Act By: 2033  
Action Timeframe: 10 year(s)  
Reference Life (BOMA): 30 year(s)

Description: Heating hot water piping from the heat exchangers to air handling units, hot water piping to the terminal units. Piping consists of larger-diameter welded steel and smaller-diameter soldered copper insulated pipe and fittings including all pumps and accessories.

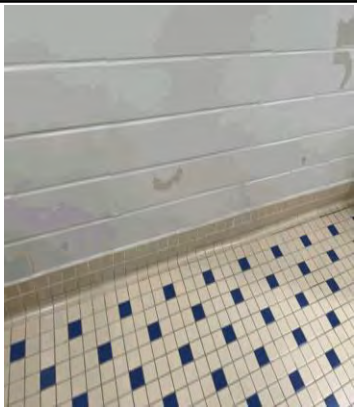
Critical Issue(s): The hot water pump #1 is 20 years old, has developed a leak, and will need to be replaced eventually. Pump #2 is new.

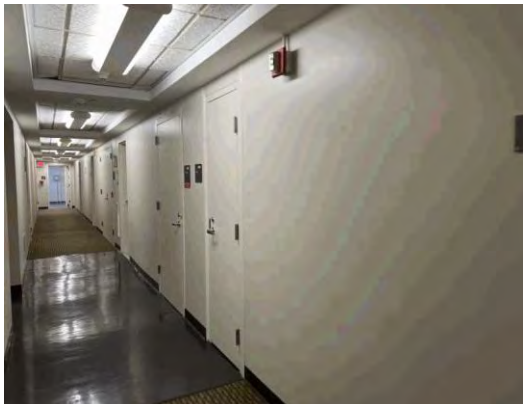
Recommendation(s): Replace the hot water pump and any associated accessories within the recommended time frame.

Repair Factor: 10%

**Pricing Unit: 39,805 BGSF Cost: \$20,730**

BUTTERFIELD HALL - KC02

P R I O R I T Y  5		<p>FOScore #: 1046551</p> <p>Uniformat Name: C2010 - Wall Finishes</p> <p>Category: Building Integrity - Appearance</p> <p>Location: Entire Building</p> <p>Area Served: Walls throughout building</p> <p>Observed Remaining Life: 20 year(s)</p> <p>Act By: 2038</p> <p>Action Timeframe: 15 year(s)</p> <p>Reference Life (BOMA): 10 year(s)</p>
	<p><b>Description:</b> Painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall base</p>	
	<p><b>Critical Issue(s):</b> Bedroom wall finishes were recently repainted in 2018 and remain in good condition overall. Painted wallboard and concrete will continue to deteriorate with scratches, chips, and other surface imperfections throughout the term.</p>	
	<p><b>Recommendation(s):</b> Repair surface imperfections and restore applied interior wall finishes throughout the full building by the end of the term. Consider wall tile replacement.</p> <p>Monitor for characteristics inconsistent with normal operation, aesthetics, recurring and/or increasing maintenance repair needs, and material changes in condition.</p>	
	<p><b>Repair Factor:</b> 25%</p> <p style="text-align: right;"><b>Pricing Unit: 34,605 BGSF Cost: \$53,292</b></p>	



Item #: 1,046,551  
Uniformat Number:C2010  
Desc: Hard wall finishes (corridors - typical)



Item #: 1,046,551  
Uniformat Number:C2010  
Desc: Stairwell painted concrete (typical)

BUTTERFIELD HALL - KC02

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**FOSScore #:** 1046556  
**Uniformat Name:** E2010 - Fixed Furnishings  
**Category:** Building Integrity - Reliability  
**Location:** Entire Building  
**Area Served:** Restrooms, Kitchen, Laundry, Lounge  
**Observed Remaining Life:** 15 year(s)  
**Act By:** 2038  
**Action Timeframe:** 15 year(s)  
**Reference Life (BOMA):** 15 year(s)

**Description:** Plastic laminate cabinets with plastic laminate countertops and solid surfaces and side panels in laundry and kitchen  
Solid surface countertops with integral sink in restrooms

**Critical Issue(s):** Fixed furnishings throughout the building were replaced with 2001 renovation. All furnishings are showing normal deterioration with minor surface damage. They will continue to deteriorate will heavy use throughout the term and surpass their recommended useful life near the end of the term.

**Recommendation(s):** Budget to replace all fixed furnishings near the end of the term.

**Repair Factor:** 100%

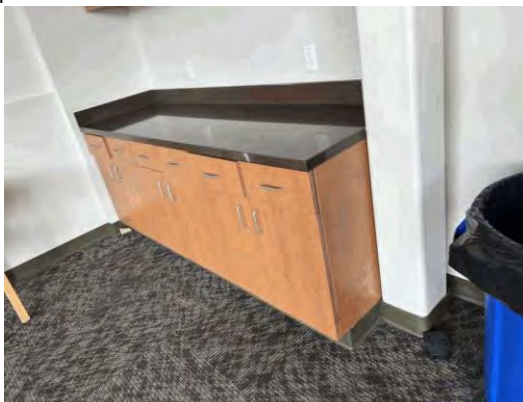
**Pricing Unit: 39,305 BGSF Cost: \$286,140**



Item #: 1,046,556  
Uniformat Number:E2010  
Desc: Solid surface countertops with integral sink and panel - shared restrooms




Item #: 1,046,556  
Uniformat Number:E2010  
Desc: Plastic laminate cabinet & solid surface countertop - kitchen



Item #: 1,046,556  
Uniformat Number:E2010  
Desc: Plastic laminate cabinet & solid surface countertop - lounge

BUTTERFIELD HALL - KC02

P R I O R I T Y	5		<p>FOScore #: 1047472</p> <p>Uniformat Name: D7050 - Fire Detection and Alarm</p> <p>Category: Life Safety - Life Safety</p> <p>Location: Entire Building</p> <p>Area Served: Entire Building</p> <p>Observed Remaining Life: 12 year(s)</p> <p>Act By: 2035</p> <p>Action Timeframe: 12 year(s)</p> <p>Reference Life (BOMA): 10 year(s)</p>
		<p><b>Description:</b> Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.</p>	
		<p><b>Critical Issue(s):</b> Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Fire Detection and Alarm system, equipment, and wiring will be required.</p>	
		<p><b>Recommendation(s):</b> Upgrade and/or replace the system components and wiring as necessary to ensure early detection of a fire and to allow maximum evacuation time and limited damage. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.</p>	
		<p><b>Repair Factor:</b> 10%</p> <p style="text-align: right;"><b>Pricing Unit: 39,805 BGSF Cost: \$8,916</b></p>	




Item #: 1,047,472  
Uniformat Number:D7050  
Desc: Horn/Strobe



Item #: 1,047,472  
Uniformat Number:D7050  
Desc: Knox Box

BUTTERFIELD HALL - KC02

P R I O R I T Y  5		<p><u>FOScore #:</u> 1047481</p> <p><u>Uniformat Name:</u> D8010 - HVAC Instrumentation and Controls</p> <p><u>Category:</u> Replace -</p> <p><u>Location:</u> Entire Building</p> <p><u>Area Served:</u> Entire Building</p> <p><u>Observed Remaining Life:</u> 12 year(s)</p> <p><u>Act By:</u> 2029</p> <p><u>Action Timeframe:</u> 6 year(s)</p> <p><u>Reference Life (BOMA):</u> 20 year(s)</p>
	<p><u>Description:</u> HVAC Instrumentation and Controls consists of an older DDC control system with analog controllers in each dormitory room and a temperature sensor.</p>	
	<p><u>Critical Issue(s):</u> Older DDC software can affect performance over time causing less energy efficiency</p>	
	<p><u>Recommendation(s):</u> Update DDC control system software.</p>	
	<p><u>Repair Factor:</u> 15%</p>	
	<p><b>Pricing Unit: 39,805 BGSF Cost: \$40,123</b></p>	

## BUTTERFIELD HALL - KC02

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FOScore #: 1047488  
 Uniformat Name: D5020 - Electrical Service And Distribution  
 Category: Building Integrity - Reliability  
 Location: Entire Building  
 Area Served: Entire Building  
 Observed Remaining Life: 15 year(s)  
 Act By: 2038  
 Action Timeframe: 15 year(s)  
 Reference Life (BOMA): 30 year(s)

**Description:** Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer two-section Switchboard dated 2000, a 1600A rated Siemens Switchboard dated 2014, secondary Square D Panels dated 1997, Cutler-Hammer Panels dated 2001, and Eaton and Siemens Panels dated 2014.

**Critical Issue(s):** The Square D Panels dated 1997 are nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.

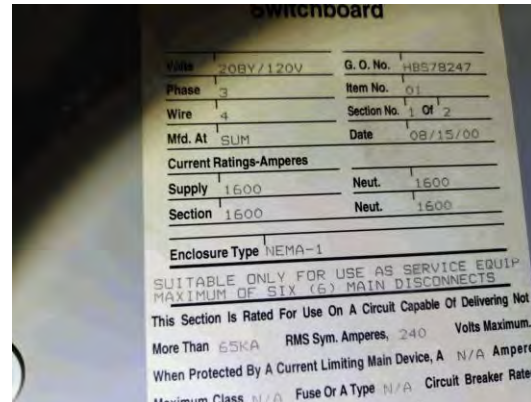
**Recommendation(s):** Replace the Square D secondary Panels, all associated components, and the associated feeders. Inspect all branch circuit wiring and replace any that is damaged or fatigued.

**Repair Factor:** 40%

**Pricing Unit: 39,805 BGSF Cost: \$98,080**

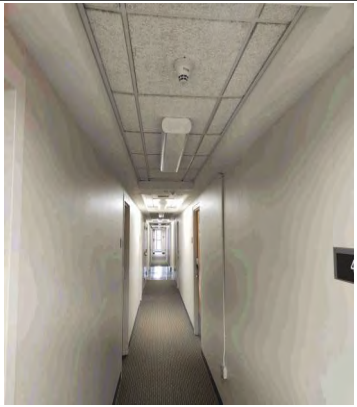


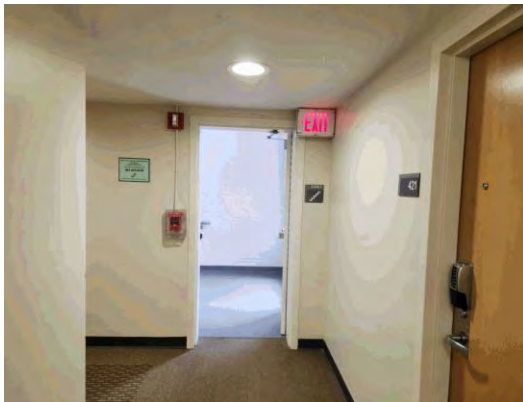
Item #: 1,047,488  
 Uniformat Number: D5020  
 Desc: Panel



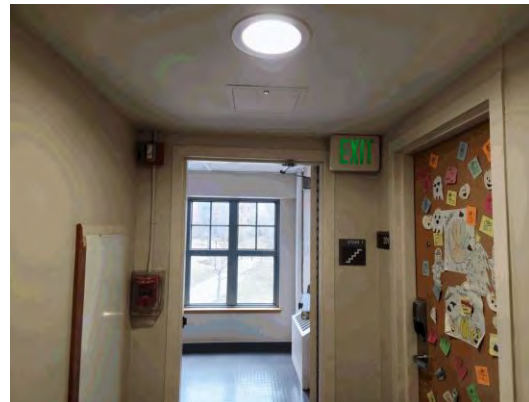
Item #: 1,047,488  
 Uniformat Number: D5020  
 Desc: Switchboard Nameplate

BUTTERFIELD HALL - KC02

P R I O R I T Y  5		<p>FOScore #: 1047491</p> <p>Uniformat Name: D5040 - Interior Lighting</p> <p>Category: Building Integrity - Reliability</p> <p>Location: Entire Building</p> <p>Area Served: Entire Building</p> <p>Observed Remaining Life: 12 year(s)</p> <p>Act By: 2035</p> <p>Action Timeframe: 12 year(s)</p> <p>Reference Life (BOMA): 20 year(s)</p>
	<p><b>Description:</b> Interior lighting consists of surface and recessed mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background.</p>	
	<p><b>Critical Issue(s):</b> Some wall switches observed appear to have reached the end of their rated service life. Wiring ages with equipment.</p>	
	<p><b>Recommendation(s):</b> Replace all fatigued wall switches and associated wiring with new switches and wiring. Wiring ages with equipment and should be replaced as equipment is replaced. Utilize new occupancy sensors wherever practical.</p>	
	<p><b>Repair Factor:</b> 20%</p> <p style="text-align: right;"><b>Pricing Unit: 39,805 SF Cost: \$49,040</b></p>	



Item #: 1,047,491  
Uniformat Number:D5040  
Desc: LED Can



Item #: 1,047,491  
Uniformat Number:D5040  
Desc: LED Can

BUTTERFIELD HALL - KC02



Item #: 1,047,491

Unifomat Number:D5040

Desc: Surface Mounted 2X4

## 7. PLANNING

## System Summary List - By Priority

Item ID	Uniformat	Description	Critical Issues	Recommendation	Pri	Act Time	Life Cycle	Estimated Cost
1036560	B3060 Roof Hatch Fall Protection	Roof hatch fall protection	There is no fall protection surrounding the roof hatch to prevent people on the roof from accidentally falling into the hatchway while the hatch is open.	Install fall protection railings around the roof hatch.	1	1	75	\$5,040
1036186	D5020 Arc Flash Hazard Analysis and Short Circuit Coordination - Study	Electrical arc flash hazard analysis and short circuit coordination.	No evidence of a short circuit coordination study or arc flash hazard assessment. Electrical equipment was observed to not have the required safety information posted.	Perform a short circuit coordination study and an arc flash hazard analysis. Make the required changes to the electrical system to ensure proper circuit coordination and minimize electrical flash hazards. Once completed, appropriate PPE should be purchased for qualified personnel. All electrical equipment must be labeled with the necessary safety information specific to each piece of equipment. (Price reflects the cost of engineering for short circuit coordination and arc flash assessment only.)	1	0	30	\$20,062
1036555	B3010 Roofing	Modified bituminous low-slope roofing with modified bituminous vertical transitions. The hip roofs are standing seam metal panels.	The roofing is showing wear, blistering, previous repair work, and ponding. The bituminous flood coat is becoming fluid and cracking. The elastomeric sealant on the center flashing has deteriorated.	Replace the bituminous roofing.	2	2	20	\$446,880
1036598	C1090 Interior Metal Railings & Handrails	Metal hand and guard railings (8)	The spiral staircase hand and guard railings do not meet current accessibility or safety standards. The handrails lack upper and lower extensions and returns. The guardrails appear to be less than 42 inches tall, lack toe boards, and have balusters spaced more than 4 inches apart on center.	Replace the spiral staircase handrails and guardrails to meet current safety and accessibility standards.	2	2	50	\$67,200
1036567	D2080 Drinking Fountains	Single height drinking fountain with bottle filler	Drinking fountains are only provided at one height level on the first floor level. Where drinking fountains are provided, access is required for both people who use wheelchairs and for standing persons.	Replace the single height drinking fountains with dual height drinking fountains to accommodate both sitting and standing persons.	2	2	20	\$10,080
1036674	A1010 Foundation Wall - Concrete	Reinforced cast in place concrete foundation wall	The concrete wall in the lobby is spalled.	Remove the spalled concrete and patch the concrete to restore the original geometry of the wall. Repaint the wall.	3	3	100	\$1,658

BUTTERFIELD HALL - KC02

Item ID	Uniformat	Description	Critical Issues	Recommendation	Pri	Act Time	Life Cycle	Estimated Cost
1036017	B1020 Canopy - Metal	Entrance canopy with hollow metal structural posts and beams	The paint finish of the metal structural posts and beams is deteriorating with rust/corrosion in multiple locations throughout.	Remove the rust and deteriorated paint then apply a primer and paint finish.	3	5	75	\$7,700
1032678	B2010 Exterior Walls	Concrete masonry cavity walls with brick veneer, brick belt coursing, painted concrete, spandrel panels, and stucco	There are some broken bricks, cracked mortar joints, and missing bricks in various locations throughout the building's exterior. The exterior wall has signs of previous repairs. The elastomeric sealant at the perimeter of window frames and other wall elements has deteriorated throughout. The brick surface has some organic growth on the east elevation. The paint on the concrete overhang has deteriorated. The wood trim at the south entry ceiling is damaged.	Replace damaged brick. Repoint cracked and eroded mortar joints. Replace deteriorated elastomeric sealants at movement joints throughout the walls. Remove the organic growth. Remove loose and deteriorated paint then apply a primer and paint finish at the east elevation. Replace the damaged wood trim.	3	3	50	\$133,000
1032693	B2020 Exterior Windows	Aluminum frame with dual pane glazing and metal screens and glass block	A number of the insulated glazing units (IGU) have failed with moisture infiltration observed. Some of the glass block windows are broken. Windows were replaced in 2001 and will soon surpass their useful life.	Replace the windows and broken block windows.	3	3	30	\$258,720
1036599	C1090 Framed Mirrors	Stainless steel framed bathroom mirrors	The reflective metal coating on the mirrors in the bathrooms has deteriorated.	Replace the deteriorated bathroom mirrors.	3	3	15	\$19,264
1036601	C1090 Interior Specialties	Solid surface countertops sealants, and plastic paneling	The countertop sealants have deteriorated. There is a missing piece of plastic paneling in bathroom 306 and a damaged panel under the sink in bathroom 326.	Replace the deteriorated sealants throughout the bathrooms. Install the missing piece of paneling and replace the damaged panel under the sink.	3	3	10	\$10,588
1036865	D2010 Domestic Water System	The domestic water system consists of metered backflow-protected service with a water softener system. (2) steam hot water heaters with an electric backup water heater provide domestic hot water.	The water softener is beyond its rated useful life. The mixing valve has some leaking and needs to be repaired.	Replace the water softener and repair the mixing valve.	3	3	20	\$49,486
1036866	D3060 Ventilation Systems - All Air Heating with Plenum Return	Air heating and/or cooling system with plenum return consists of (2) make up units and (2) rooftop upblast exhaust fans	The make up units and the exhaust fans will be approaching the end of their rated useful life	Replace the make up units and the exhaust fans within the action timeframe	3	4	25	\$182,000
1036187	D5020 Electrical Service And Distribution	Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer two-section Switchboard dated 2000, a 1600A rated Siemens Switchboard dated 2014, secondary Square D Panels dated 1997, Cutler-Hammer Panels dated 2001, and Eaton and Siemens Panels dated 2014.	The Square D Panels dated 1997 are nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.	Replace the Square D secondary Panels, all associated components, and the associated feeders. Inspect all branch circuit wiring and replace any that is damaged or fatigued.	3	4	30	\$98,080

BUTTERFIELD HALL - KC02

Item ID	Uniformat	Description	Critical Issues	Recommendation	Pri	Act Time	Life Cycle	Estimated Cost
1036587	E2010 Fixed Furnishings	Plastic laminate cabinets with plastic laminate countertops and solid surfaces	The countertop in the kitchen and laundry areas are damaged with laminate delamination and chipped corners.	Replace the damaged countertops in these areas.	3	3	15	\$3,640
1036192	G4050 Site Lighting	Site Lighting consists of building mounted exterior light fixtures with LED and HID lamps.	HID lamps are not the most energy-efficient light source.	Replace the HID fixtures/lamps with new energy-efficient LED fixtures/lamps as the fixture ballasts and/or lamps fail and need replacement.	3	3	20	\$446
1036666	C1030 Interior Doors and Frames	Solid-core fire-rated wood doors finished with stain-grade veneer, painted hollow metal doors, and painted hollow metal frames	The doors and frames have minor surface damage with scratches and chipped paint observed.	Refinish the moderately worn doors. Repair door frames.	4	10	50	\$39,232
1036669	C2010 Wall Finishes	Painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall base	The paint finishes on the structural glazed tiles are deteriorated with peeling in the bathrooms observed. The vinyl wall bases are damaged in multiple locations. Some of the paint finishes are mismatched with other imperfections. The sisal wall coverings are damaged in room 231.	Remove loose and deteriorated paint then apply a primer and paint finish. Replace the damaged vinyl wall bases. Restore/Repaint the painted finishes. Replace the damaged sisal wall coverings.	4	6	10	\$32,032
1036594	C2030 Flooring	Sheet carpeting, tile carpeting, vinyl composition tile (VCT), ceramic tile, rubber tiles, and concrete	Flooring was replaced with renovations in 2001, but all has deteriorated. The tile and sheet carpeting in the entries and corridors are moderately to heavily worn and stained with clear traffic pattern registration. The VCT is damaged with stains and surface scratches in multiple locations. Some of the ceramic tiles in the lobby are cracked and broken, with some overall grout deterioration.	Replaced the sheet and tile carpeting in entries and corridors. Replace VCT flooring in all dorm rooms, and repair/replace in other damaged areas. Replace the damaged ceramic tiles in the lobby and plan to replace grout. Consider replacing ceramic tile.	4	6	20	\$250,772
1036584	C2040 Stair Finishes	Raised disc rubber tread coverings and raised disc rubber tile at the landings	The rubber tread coverings and landing tiles have deteriorated.	Replace the tread and landing finishes.	4	6	50	\$22,176
1036568	C2050 Ceiling Finishes	Painted concrete, gypsum wallboard ceilings, and acoustical ceiling tile (ACT) in a suspended metal T-grid	The painted ceiling surfaces are damaged with peeling and flaking observed. The majority of the ACT ceilings in the corridors and bathrooms are damaged with stains, discoloration, and damaged tiles.	Remove loose and deteriorated paint then apply a primer and paint finish. Replace the ACT ceilings.	4	6	20	\$93,621
1036563	D1010 Elevator No. 1 (Passenger)	2500 Lbs. Capacity five-stop passenger elevator	The metal diamond plate sheet flooring is damaged with stains. The plastic laminate wall paneling is damaged with mismatched panels and surface scratches. The ACT ceiling is missing.	Replace all elevator cab finishes. Budget for repairs to elevator equipment over the term.	4	6	30	\$42,000
1047380	D3050 HVAC Piping Distribution Systems - Heating OR Cooling Piping to AHUs & Terminal Units	Heating hot water piping from the heat exchangers to air handling units, hot water piping to the terminal units. Piping consists of larger-diameter welded steel and smaller-diameter soldered copper insulated pipe and fittings including all pumps and accessories.	The hot water pump #1 is 20 years old, has developed a leak, and will need to be replaced eventually. Pump #2 is new.	Replace the hot water pump and any associated accessories within the recommended time frame.	4	10	30	\$20,730

BUTTERFIELD HALL - KC02

Item ID	Uniformat	Description	Critical Issues	Recommendation	Pri	Act Time	Life Cycle	Estimated Cost
1036188	D5010 Facility Power Generation	Facility Power Generation consists of Asco 208Y/120V, 3-phase, 4-wire 260A Automatic Transfer Switch E, 200A Automatic Transfer Switch EA, and 1600A Automatic Transfer Switch MDP.	Although no deficiencies or negative impact issues were observed, the Automatic Transfer Switches may be nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.	Inspect, service, and test the Automatic Transfer Switches and associated components. Upgrade, replace, or repair the equipment, components, and wiring as needed. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.	4	6	20	\$160,494
1036189	D5030 General Purpose Electrical Power	General-purpose devices and associated branch circuit wiring.	Some receptacles show signs of damage or wear. Receptacle contacts and wiring terminations can become loose with use, which could cause overheating resulting in damage to wiring and devices.	Inspect, test, and replace fatigued receptacles and associated wiring as required. Replace receptacles and wiring in conjunction with renovations and upgrades.	4	6	30	\$66,872
1036190	D5040 Interior Lighting	Interior lighting consists of surface and recessed mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background.	Some wall switches observed appear to have reached the end of their rated service life. Wiring ages with equipment.	Replace all fatigued wall switches and associated wiring with new switches and wiring. Wiring ages with equipment and should be replaced as equipment is replaced. Utilize new occupancy sensors wherever practical.	4	6	20	\$49,040
1036191	D5080 Miscellaneous Electrical Systems (Mech Connections)	Miscellaneous electrical systems (mechanical connections) consists of electrical wiring and components that support mechanical systems.	Some of the electrical equipment for mechanical equipment appears to have reached the end of its rated service life. Wiring ages with equipment.	Replace the fatigued electrical equipment and associated wiring for mechanical equipment. Wiring ages with equipment and should be replaced as equipment is replaced.	4	6	20	\$12,483
1036183	D7010 Access Control and Intrusion Detection	Access Control and Intrusion Detection consists of Residence Phones, proximity card readers, and door release contacts at select exterior and/or interior doors.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Access Control and Intrusion Detection system, equipment, and wiring will be required.	Upgrade the Access Control and Intrusion Detection system, cabling, and devices throughout the building per the needs of the facility and as the equipment demands, and as remodeling and upgrades are accomplished.	4	6	10	\$20,062

## BUTTERFIELD HALL - KC02

Item ID	Uniformat	Description	Critical Issues	Recommendation	Pri	Act Time	Life Cycle	Estimated Cost
1036184	D7030 Electronic Surveillance	Electronic Surveillance system consists of security cameras located interior and/or exterior of the building routed to a central system.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Electronic Surveillance system, equipment, and wiring will be required.	Upgrade the Electronic Surveillance system, devices, and wiring throughout the building per the needs of the facility and equipment demands, and as remodeling and upgrades are accomplished.	4	6	10	\$17,833
1036185	D7050 Fire Detection and Alarm	Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Fire Detection and Alarm system, equipment, and wiring will be required.	Upgrade and/or replace the system components and wiring as necessary to ensure early detection of a fire and to allow maximum evacuation time and limited damage. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.	4	6	10	\$8,916
1046551	C2010 Wall Finishes	Painted gypsum (or plaster) wall finishes, ceramic tiles, painted concrete and concrete masonry, painted metal framed storefronts, sisal wall coverings, painted structural glazed tile, and vinyl wall base	Bedroom wall finishes were recently repainted in 2018 and remain in good condition overall. Painted wallboard and concrete will continue to deteriorate with scratches, chips, and other surface imperfections throughout the term.	Repair surface imperfections and restore applied interior wall finishes throughout the full building by the end of the term. Consider wall tile replacement. Monitor for characteristics inconsistent with normal operation, aesthetics, recurring and/or increasing maintenance repair needs, and material changes in condition.	5	15	10	\$53,292
1047488	D5020 Electrical Service And Distribution	Electrical Service And Distribution is provided underground at 208Y/120V, 3-phase, 4-wire to a 1600A rated Cutler-Hammer two-section Switchboard dated 2000, a 1600A rated Siemens Switchboard dated 2014, secondary Square D Panels dated 1997, Cutler-Hammer Panels dated 2001, and Eaton and Siemens Panels dated 2014.	The Square D Panels dated 1997 are nearing the end of their rated service life. Replacement parts may not be readily available and hard to obtain. Wiring ages with equipment.	Replace the Square D secondary Panels, all associated components, and the associated feeders. Inspect all branch circuit wiring and replace any that is damaged or fatigued.	5	15	30	\$98,080

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Item ID	Uniformat	Description	Critical Issues	Recommendation	Pri	Act Time	Life Cycle	Estimated Cost
1047491	D5040 Interior Lighting	Interior lighting consists of surface and recessed mounted LED light fixtures controlled by wall switches, occupancy sensors, and a Creston Green Light System control panel. Exit lights are red or green letters on a white background.	Some wall switches observed appear to have reached the end of their rated service life. Wiring ages with equipment.	Replace all fatigued wall switches and associated wiring with new switches and wiring. Wiring ages with equipment and should be replaced as equipment is replaced. Utilize new occupancy sensors wherever practical.	5	12	20	\$49,040
1047472	D7050 Fire Detection and Alarm	Fire Detection and Alarm consists of smoke/heat detectors, A/V alarm notification devices, and manual alarm stations that are connected to an Edwards Systems Technology EST3 Fire Alarm Control Panel and a Gamewell Master Box.	Although no deficiencies or negative impact issues were observed, as technology advances and equipment ages upgrades to the Fire Detection and Alarm system, equipment, and wiring will be required.	Upgrade and/or replace the system components and wiring as necessary to ensure early detection of a fire and to allow maximum evacuation time and limited damage. Perform periodic maintenance, cleaning, and inspections per industry standards and manufacturer's recommendations to maintain function, operation, and equipment longevity. Monitor for characteristics inconsistent with normal operation, recurring or increasing maintenance repair needs, and material changes in condition. Instituting a thorough PM program could extend the life of the equipment beyond the anticipated BOMA Lifecycle Expectancy.	5	12	10	\$8,916
1047481	D8010 HVAC Instrumentation and Controls	HVAC Instrumentation and Controls consists of an older DDC control system with analog controllers in each dormitory room and a temperature sensor.	Older DDC software can affect performance over time causing less energy efficiency	Update DDC control system software.	5	6	20	\$40,123
1046556	E2010 Fixed Furnishings	Plastic laminate cabinets with plastic laminate countertops and solid surfaces and side panels in laundry and kitchen. Solid surface countertops with integral sink in restrooms	Fixed furnishings throughout the building were replaced with 2001 renovation. All furnishings are showing normal deterioration with minor surface damage. They will continue to deteriorate with heavy use throughout the term and surpass their recommended useful life near the end of the term.	Budget to replace all fixed furnishings near the end of the term.	5	15	15	\$286,140

## 8. APPENDICES

### Glossary

#### Report Terminology

**Action Cost** is the total price of a specified quantity of a component, assembly or system to be repaired or replaced multiplied by the unit cost. (See Unit Cost)

**Action Timeframe** is the recommended window of time in which to make a repair or replacement.

**Americans with Disabilities Act (ADA) of 1990 (ADA)** is a federal civil rights legislation that prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, State and local government services, public accommodations, commercial facilities, and transportation.

**Assembly** is a group of parts or components that fit together to form a self- contained unit or system.

**Asset** is a building or structure, a portion of a structure, or any part of facility infrastructure that is distinguishable from its surroundings by use, date of construction, construction type, specific systems or other factors that make it an identifiable portion of the owner's property .

**Beyond Useful Life** is the period past which a building component, assembly, or system in a building or facility is expected to be useable for the purpose for which it was intended. Some building components, assemblies or systems may continue to function indefinitely but may be at greater risk of failure, and may be operating at a reduced efficiency.

**British Thermal Unit (BTU)** is the amount of energy needed to raise the temperature of one pound of water by one degree Fahrenheit. BTU is most often used as a measure of power in steam generation, heating, and air conditioning. The unit MBTU is defined as one thousand BTU's, and should not be confused with MBH which is the number of thousands of BTU's produced in one hour.

**Building Gross Square Footage** is the total space in square feet calculated from the exterior perimeter of the building per level. In a one story building this is also referred to as the building footprint. This is always greater than the net square footage as it includes the thickness of exterior walls.

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**Building Owners and Managers Association, International (BOMA)** is an industry association founded in 1907, BOMA represents the owners and managers of all commercial property types.

**Calculated Current Replacement Value (CRV)** is the sum of all deficiency records plus the modeled aggregate. When a report includes project costs, the direct cost CRV will be escalated by the percentage selected for project costs.

**Capital Improvement (or Capital Renewal)** is the addition of a permanent structural improvement, addition, restoration or replacement of a component, assembly or system of a property that will either enhance the property's overall value or increases its useful life.

**Cubic Feet per Minute (CFM)** is a unit of volumetric capacity. It is commonly used by manufacturers of blowers and compressors. CFM typically relates to air flow through, in or out of a given system or unit.

**Component** is a distinguishable element within a building, assembly or service system.

**Current Replacement Value (CRV)** is the cost of labor, material, and equipment, including demolition, at the present time, which would be required to replace a building or asset. The CRV does not include design, general conditions, a contractor's overhead and profit or land acquisition.

**Deferred Maintenance** is upkeep to a building or asset that has been postponed. The cost of deferred maintenance is an amount needed but not yet expended for repairs, restoration, or rehabilitation of an asset. Deferred maintenance is included in the numerator of the FCI calculation.

**Deferred Maintenance Deficiencies (DMD)** are components, assemblies and systems in a building or asset that are at risk of failing, have failed, or are beyond their useful life, and in need of maintenance, repair or replacement. DMD's are typically seen in greater frequency in older facilities requiring corrections to maintain infrastructure, systems and components and do not necessarily reflect the level of effort of maintenance initiatives.

**Deferred Maintenance and Capital Renewal (DM+CR) / Current Replacement Value (CRV)** is a measure of the percentage of a building that has reached the end of its useful life and needs to be replaced, or in a condition that must be remediated (Numerator ÷ Denominator).

**Deficiency** is an inadequacy in a building component, assembly or system that is in need of repair, renewal or replacement.

**Discipline** refers to knowledge areas in architecture and engineering that are applied to buildings and

## BUTTERFIELD HALL - KC02

facilities. UniFormat disciplines are categorized as: ADA Assessment (when applicable,) Architectural, Civil, Communications, Electrical, Fire Protection, Mechanical, Other Items, Plumbing, Safety and Security, and Structural.

**Discipline Condition Index (DCI)** is an industry-standard index that objectively measures the current condition of all building components, assemblies, or service systems within an asset. SCI utilizes the UniFormat classification system, and is derived from the equation  $SCI = \text{Repair or Replacement Cost} \div \text{Replacement Value (of component, assembly or system)}$

**Facility** is a structure, building and/or infrastructure system that supports activities and or operations of its owner(s).

**Facility Condition Index (FCI)** is an industry-standard index that objectively measures the current condition of a facility, allowing comparison both within and among other facilities. To determine FCI for any given asset, the total cost of remediating deferred maintenance deficiencies (DMD) is divided by the current replacement value (CRV,) expressed mathematically as:  $DMD \div CRV = FCI$ . Lower FCI values represent an asset in better condition; and conversely higher FCI values represent an asset in worse condition.

**Facility Optimization Solutions** is a service of CannonDesign comprised of architects, engineers, building scientists, construction cost estimators and software specialists dedicated to developing highly accurate facility management tools to empower building users, managers and owners to execute data-driven and empirically based strategic facility planning.

**Gallons per Minute** is a measurement unit of flow, that equals a flow rate of one gallon in one minute of water or another liquid through a given system or unit.

**Grandfathered** is a provision in a statute or building code that exempts conditions, components and/or systems in a building from new regulations that would otherwise prevent continued use of those items. Typically, building codes allow for some individual in-kind replacements of components, but most renovation activities of assemblies and systems, including additions and new construction, trigger replacements with current code compliant components, assemblies and systems.

**Horsepower** is a unit of measurement of power, or the rate at which work is done. The most common use of horsepower is the power or size of a motor.

**Kilowatt** is equal to one thousand watts. This unit is typically used to express the output power of

engines and the power of electric motors, tools, machines, and heaters.

**Impact of Failure** is effect a component, assembly or system's malfunction or ceased operation has on the building or facility to which it serves.

**Life Safety** refers to basic standards of building safety regarding construction, egress, fire protection and occupancy of a building or facility. Life Safety requirements are regulated by State and Local building codes, and national standards.

**Maintenance / Routine Maintenance / Preventative Maintenance** is the effort required to keep a component, assembly or system in a building or facility in good working condition and functioning to the proper level for which it was intended to perform.

**MasterFormat** is sometimes referred to as the "Dewey Decimal System" of building construction, MasterFormat is a product of the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC).

**Modeled Aggregate** is a method used to capture the value of items that are not included in the deficiency records.

**Priority** is an assignment of a funding amount needed in a given calendar year, or group of years and is further defined by a recommended term need i.e. immediate, short-term, or long-term need.

**Pounds per Square Inch** is a unit of pressure or of stress based. It is the pressure resulting from a force of one pound-force applied to an area of one square inch.

**Recommended Action Date or Time Frame** is the action date by when a specific deficiency should be scheduled for correction.

**Renovation** is the general description of activities intended to extend the service life of a facility or portion of a building, system, or component. Renovation may include repair, replacement, or modernization to more current requirements, standards, codes, regulations, efficiencies or other enhancements.

**Replacement** is the process of removal of an existing building component, assembly or system and the installation of new component, assembly or system.

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**Repair** refers to restoring a component, assembly or system in a facility to its original condition.

**Risk of Failure** is the current potential of a component, assembly or system to malfunction or cease operation as intended.

**Roof Square Footage** is the total space in square feet calculated from the exterior perimeter of the roof edge.

**System** is a group of components, assemblies and/or equipment that form an operational portion of a building or facility. An example is a mechanical system, made up of many components including diffusers, assemblies that include ductwork and dampers, and equipment including air handlers, chillers and boilers.

**System Condition Index (SCI)** is an industry-standard index that objectively measures the current condition of a building component, assembly, or service system within an asset. SCI utilizes the UniFormat classification system, and is derived from the equation  $SCI = \text{Repair or Replacement Cost} \div \text{Replacement Value (of component, assembly or system)}$

**TON** is a unit of measure used in the refrigeration and air conditioning industry to measure the rate of heat absorption. A standard ton of refrigeration is 12,000 BTU per hour. Prior to the introduction of mechanical refrigeration, cooling was accomplished by delivering ice. Installing mechanical refrigeration with a one ton capacity replaced the daily delivery of one ton of ice.

**UniFormat** is a standard for classifying building specifications, cost estimating, and cost analysis in the U.S. and Canada. The elements are major components common to most buildings and facilities. The primary categories are: (A) Substructure, (B) Shell or envelope, (C) interiors, (D) Services, (E) Equipment, (F) Special Construction & Demolition, (G) Building Site work. The system is used to provide economic evaluation of facility improvement projects. It was developed through an industry and government consensus and have been widely accepted as an American Society for Testing and Materials (ASTM) standard.

**Unit Cost** is the price per individual component, assembly or system in a building or facility, and measured by count (each,) linear footage (LF,) square footage (SF,) building gross square footage (BGSF,) roof square footage (RSF,) stair flight (FLIGHT,) stair riser (RISER,) or elevator floor level (STOP.)

**Useful Life or Expected Useful Life** is the period during which a building component, assembly, or

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system in a building or facility is expected to be useable for the purpose for which it was intended. It may not necessarily correspond to the item's actual physical or economic life . Some building systems can continue to function well beyond their intended useful life, but may be less efficient, see "Beyond Useful Life."

**Wall Square Footage** is the surface area of an interior or exterior wall.

**Watt** is a unit of measure in electricity equal to the power in a circuit in which a current of one ampere flows across a potential difference of one volt. Watts are commonly used to describe the size of lights and some equipment.

## ABBREVIATIONS AND UNITS OF MEASURE

**ADA** - Americans with Disabilities Act

**ANSI** - American National Standards Institute

**ASTM** - American Society for Testing and Materials

**BGSF** - Building Gross Square Footage

**BOMA** - Building Owners and Managers Association

**BTU / MBTU / MMBTU** - One British Thermal Unit / One-Thousand BTUs / One-Million BTUs

**CFL** - Compressed Fluorescent Lights

**CFM** - Cubic Feet per Minute

**CRV** - Current Replacement Value

**CSC** - Construction Specifications Canada

**CSI** - Construction Specifications Institute

**DCI** - Discipline Condition Index

**FCA** - Facility Conditions Assessment

**FCI** - Facility Condition Index

**FDC** - Fire Department Connection

**FOS** - Facility Optimization Solutions

**GAL** - Gallon

**GPM** - Gallons per Minute

**HID** - High Intensity Discharge

**HP** - Horsepower

**IN** - Inch

**KW** - Kilowatt

**LED** - Light Emitting Diode

**MBH or MBH/H** - One-Thousand BTUs/hr.

**PPE** - Personal Protective Equipment

**PSI** - Pounds per Square Inch

**RFID** - Radio-Frequency Identification



CANNONDESIGN

# FACILITY CONDITION ASSESSMENT

## PREPARED FOR:

Rhode Island Department of Administration  
Division of Capital Asset Management and Maintenance  
One Capitol Hill  
Providence, RI 02908-5855



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## EMG PROJECT NUMBER:

117742.16R000-B87.305

## DATE OF REPORT:

December 23, 2016

## ON SITE DATE:

December 07, 2016

## FACILITY CONDITION ASSESSMENT

OF

BUILDING #1070 SURGE BUILDING / 32-070  
210 FLAGG ROAD  
S. KINGSTOWN, RI 02881



engineering | environmental | capital planning | project management

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## 1. EXECUTIVE SUMMARY

### 1.1 PROJECT FACTS

#### Project Facts

Item	Description
Current Project Name / Building ID	Building #1070 Surge Building / 32-070
Original Project Name / Building ID	Building #1070 Surge Building / 32-070
Campus	South Kingston
Agency	5510-10000
Property Type	Shed - concrete/brick
Year Built	2001
Year of Latest Major Renovation	NA
Number of Stories	2 (Does not Include Basements, Mezzanines, or MEP Penthouses)
Occupied	Yes
Land Area	Included in Campus Site PCA
Gross Building Area (GSF)	30,819 SF
Total Parking Count (Including ADA )	0 Parking Spaces
ADA Compliant (Total Count)	0 Total ADA Spaces
ADA Compliant for Vans	0 Van Parking Spaces

### 1.2 NARRATIVE SUMMARY

#### Executive Summary

The Surge Building is a fully occupied office building. It is a two-story masonry block structure. Overall, the building appeared to be in good condition. There were aged finishes and mechanical equipment with questionable reliability. The heating and cooling has been reported to be an issue and should be evaluated when the rooftop units are replaced.

#### Architectural and Structural Systems Summary

The foundation system was not able to be directly observed. However, based on similar structures it is assumed to be a continuous reinforced concrete spread footing system supporting concrete foundation walls. The first floor is concrete slab-on-grade. The foundation and slab on grade are assumed to be uninsulated. The building structural systems consist of a masonry bearing superstructure supporting steel joists and metal roof decks. The roof is flat and finished with modified bitumen. A flat canopy at the rear entrance is finished with a built-up roof system. The exterior walls are CMU with precast concrete window sills. Windows are aged double-glazed, aluminum-framed units in punched openings. The building interiors generally include painted gypsum board and painted masonry at the stair towers. The floor finishes consist of carpet, vinyl composition tile (VCT), rubber tile, and ceramic tile at the restrooms. The interior ceiling is finished with acoustic ceiling tile and painted gypsum board.

#### Conveyance, Plumbing, HVAC, Fire Protection and Electrical Systems Summary

Domestic hot water is provided to the restrooms and break room areas by a gas-fired water heater located in the mechanical room. Heating and cooling is provided by roof-mounted package units. Supplemental heating is provided by plug in electric heaters at the first floor offices. Fire protection systems include a fire alarm system, smoke detectors, alarms with strobes, pull stations, extinguishers, appropriate egress signage, and a sprinkler system. General interior lighting is provided by T-8 fluorescent fixtures with compact fluorescent (CFL) fixtures in accent locations. Electrical service to the building is provided by a 400-amp panel served from a site-mounted transformer. There is no emergency generator.

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**Site Summary**

Site and site systems not immediately adjacent to the building are included in the campus site report. There are planting beds around the building containing grass, shrubs, and some small trees. There is an asphalt parking lot at the front of the building and an asphalt driveway against the left side of the building. There are sidewalks accessing the three stair towers as well as the front entrance of the building constructed of cast-in-place concrete. Building perimeter lighting is provided by wall-mounted LED fixtures.

**Accessibility Summary**

The building generally appears to be handicap accessible.

### 1.3 SUMMARY OF FINDINGS

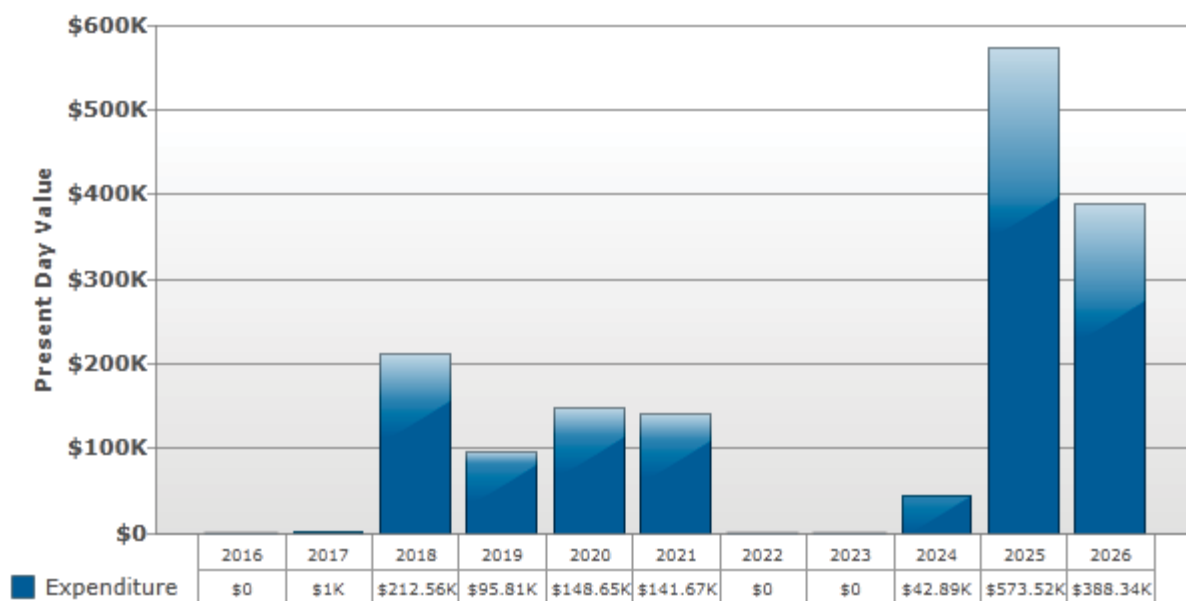
The below table represents summary-level findings for the Facility Condition Assessment (FCA). The Facility Condition Index (FCI) is the ratio of the Immediate Capital Needs (ICN) to the Current Replacement Value (CRV).  $FCI = ICN / CRV$ . The CRV of the building is calculated by EMG using industry standard reference sources in conjunction with facility type, building area, and geography. Key findings from the assessment include:

Key Finding	Metric
<b>Facility Condition Index (FCI)</b>	%
FCI Rating: up to 5% = Good; 5% to 10% = Fair; 10+% to 60% = Poor; over 60% = Very Poor	
<b>Current Replacement Value (CRV)</b>	\$1,750,160
<b>Current Replacement Value (CRV) per Square Foot</b>	\$80.00/SF

Through <b>2016</b> - Immediate Capital Needs (ICN)	\$0
Years <b>2017 through 2021</b> - 5 Year Capital Plan	\$599,688
Years <b>2022 through 2026</b> - 10 Year Capital Plan	\$1,004,758
<b>TOTAL Capital Needs</b>	<b>\$1,604,446</b>

The chart below provides a summary of yearly-anticipated expenditures including cost related to Modernization/Adaptation over the study period for the subject building. Further detail on the specific costs that make up the summary can be found in Section 3 and the cost tables in the appendices.

#### Expenditure Forecast Over Study Period



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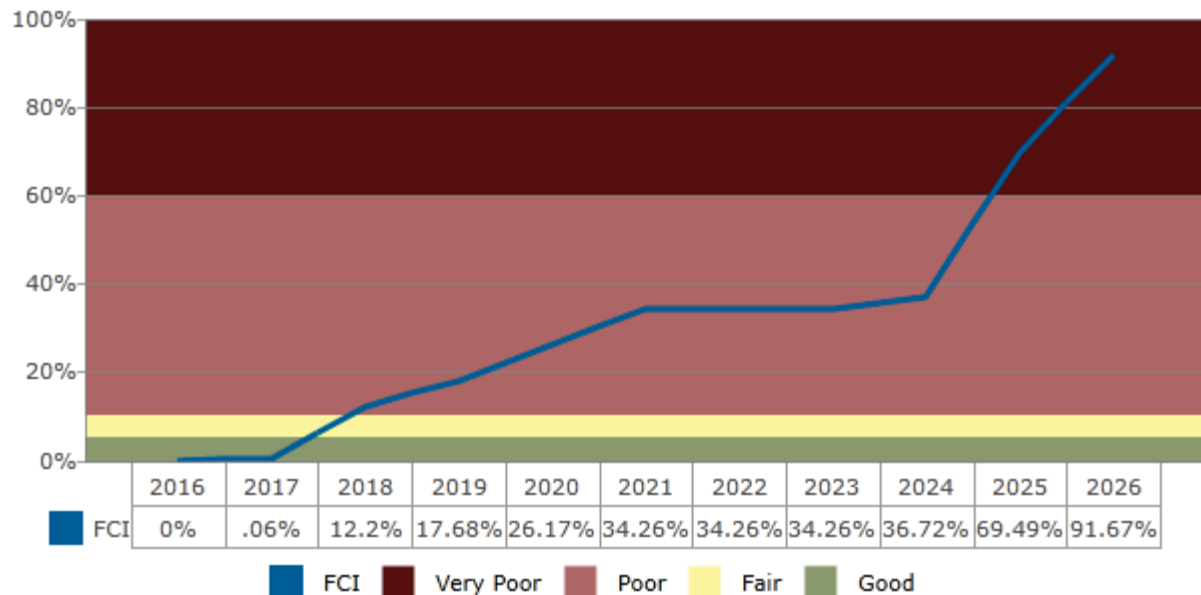
## 1.4 FACILITY CONDITION INDEX

The Facility Condition Index (FCI) gives an indication of a building or portfolio's overall condition. The value is based on a 0% to 100%+ scale and is derived by dividing the repair costs for a facility by a Current Replacement Value (CRV). The CRV is calculated by multiplying the existing building square footage by the Cost per Square Foot to construct a new, similar facility. Typically, the FCI is calculated using only the current condition values, not taking into account the future needs identified in the life cycle evaluation. Accounting principles indicate that an FCI value of 65% or greater be utilized as the threshold to identify a potential replacement candidate. If the current repair costs reach 65% of the CRV, it may not be prudent to continue to fund repairs. In cases where aggressive facilities planning is expected to be necessary, this threshold may be adjusted.

FCI Condition Rating	Definition	Percentage Value
<b>FCI Good</b>	In new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.	0% to 5%
<b>FCI Fair</b>	Subjected to wear and soiling but is still in a serviceable and functioning condition.	> than 5% to 10%
<b>FCI Poor</b>	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	> than 10% to 60%
<b>FCI Very Poor</b>	Has reached the end of its useful or serviceable life. Renewal is now necessary.	> than 60%

The Chart below indicates cumulative effects of the FCI ratio over the study period assuming the required funds and expenditures are **NOT** provided to address identified repairs and replacements for each year. The FCI calculation is not inclusive of cost related to Modernization/Adaptation.

**Cumulative Effects of FCI over the Study Period**



## 1.5 IMMEDIATE NEEDS BY BUILDING SYSTEM

No immediate needs were reported or observed.

## 1.6 TOTAL CAPITAL NEEDS BY PLAN TYPES

In the chart below, costs are sorted by Plan Types, which generally define the reason the cost exists. The chart and tables cover the study period. A cost may have more than one applicable Plan Type, however, only the dominant Plan Type will be selected based on the most heavily impacted building system and the Plan Type with the greatest significance. The following Plan Types are listed in general order of significance:

- **Safety (SFT)**

An observed or reported unsafe condition that if left unaddressed could result in an injury; a system or component that presents a potential liability risk.

- **Performance/Integrity (P/I)**

Component or system has failed, is failing, performs unreliably, does not perform as intended, and/or poses a risk to overall system stability.

- **Accessibility (ADA)**

Does not meet ADA, UFAS, and/or other handicap accessibility requirement.

- **Environmental (ENV)**

Improvements to air or water quality, including removal of hazardous materials from the building or site.

- **Modernization/Adaptation (MOD)**

Conditions, systems, or spaces that need to be upgraded in appearance or function to meet current standards, facility usage, or client/occupant needs. This plan type also includes, when deemed necessary, the removal of decommissioned assets. Modernization/Adaptation items are NOT included in the FCI calculation.

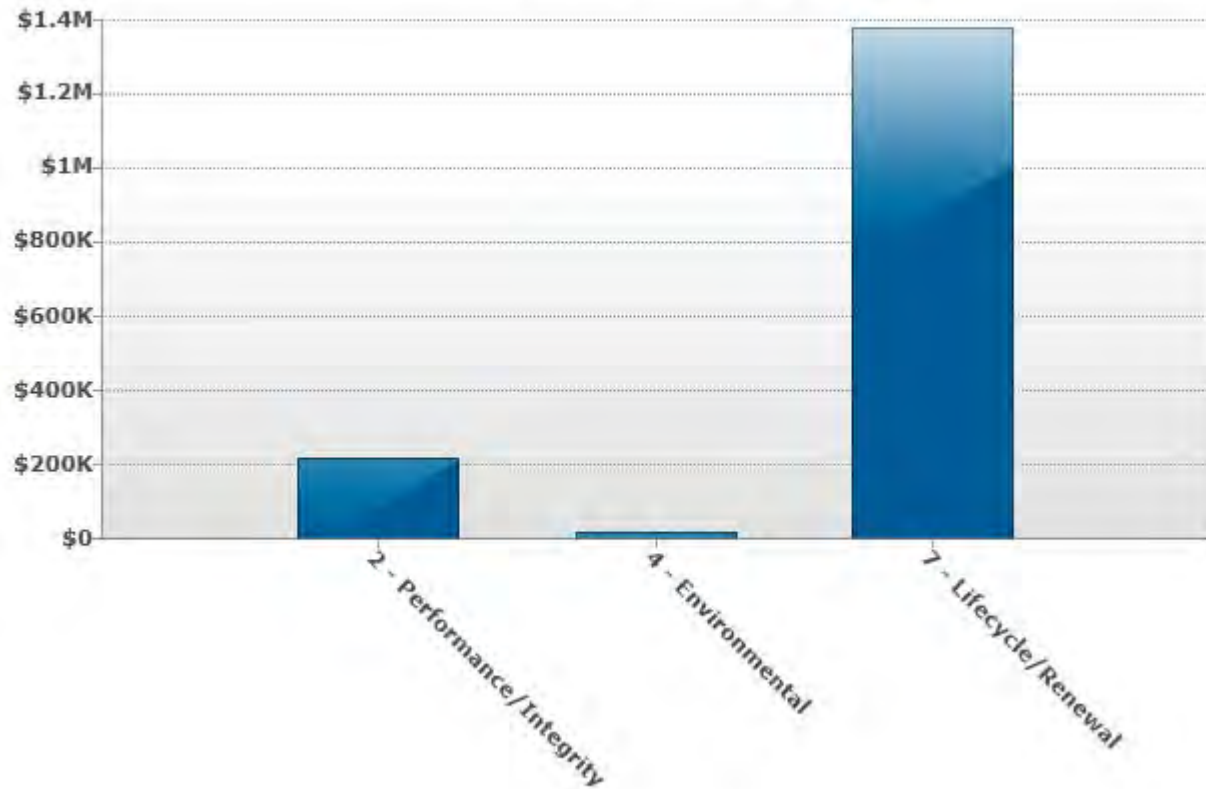
- **Exceedingly Aged (XA)**

Component or system has aged well beyond its industry-standard lifecycle, typically double its EUL or at least 15 years beyond its EUL, and for which repair or replacement is recommended.

- **Lifecycle/Renewal (L/R)**

Any component or system that does not or did not appear problematic/deficient at the time of the assessment and for which future repair or replacement is anticipated.

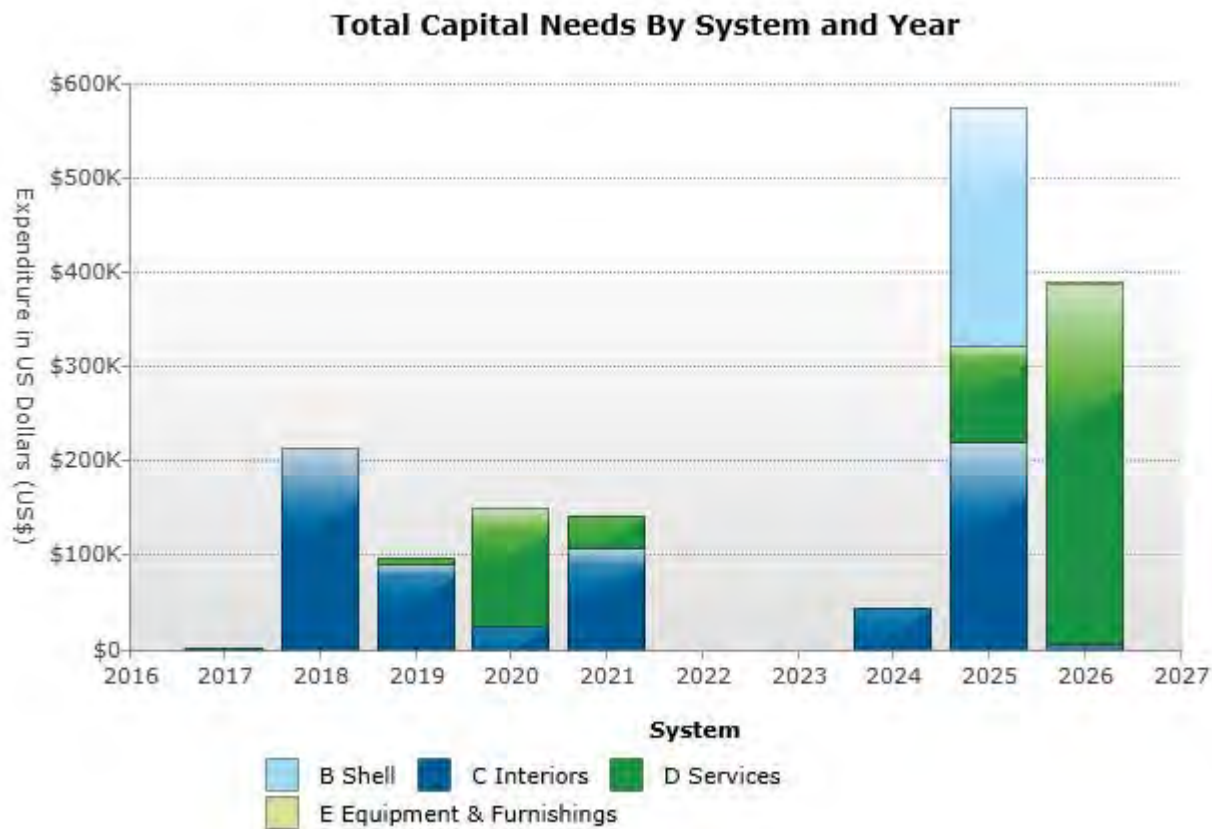
Total Capital Needs by Plan Type



Plan Type	Expenditure
2 - Performance/Integrity	\$213,558
4 - Environmental	\$15,985
7 - Lifecycle/Renewal	\$1,374,903
Total	\$1,604,446

## 1.7 TOTAL CAPITAL NEEDS BY SYSTEM AND YEAR

This also includes cost for immediate needs:



Year	Building System	Expenditure
2025	B Shell	\$252,545
2017	C Interiors	\$1,000
2018	C Interiors	\$212,558
2019	C Interiors	\$90,776
2020	C Interiors	\$23,577
2021	C Interiors	\$108,070
2024	C Interiors	\$42,893
2025	C Interiors	\$219,588
2026	C Interiors	\$5,677
2019	D Services	\$5,030
2020	D Services	\$125,076
2021	D Services	\$33,600

## FACILITY CONDITION ASSESSMENT

*Draft - For Discussion Purposes Only*

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210 FLAGG ROAD  
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EMG PROJECT NO: 117742.16R000-B87.305

Year	Building System	Expenditure
2025	D Services	\$101,388
2026	D Services	\$381,789
2026	E Equipment & Furnishings	\$878
	<b>Total</b>	<b>\$1,604,446</b>



## 1.8 TOTAL CAPITAL NEEDS BY PRIORITY

Another method to plan for replacement of building systems or components is by assigning a priority that is relative to the other systems and components in the building. The priority model used in the analysis takes into account the plan type, the location of the system within the property, the importance of the system, and the urgency of the repair, i.e., repairs to mission critical systems may have a higher priority than back of house finishes that are in worse condition. The identified repairs or replacements have been prioritized according to the ranking criteria identified in Section 2.2.6. with Priority 1 items being the most critical to address.

Based on the results of the ranking calculation derived from the analysis of the variables described above, the assets and associated actions are assigned to one of the following Priority categories. The scale is 1 to 4, with 1=highest and 4=lowest priority.

- **Priority 1 - Immediate/Critical Items**

Require immediate action to either (a) correct a safety hazard or (b) address the most important building performance or integrity issues or failures.

- **Priority 2 - Potentially Critical Items**

Include (a) those component performance or building integrity issues of slightly lesser weight and/or (b) issues that if left unchecked could escalate into Immediate/Critical items. Accessibility and environmental issues are also typically included in this subset.

- **Priority 3 - Necessary/Recommended Items**

Items of concern that generally either require attention or are suggested as improvements within the near term to: (a) improve usability, marketability, or efficiency; (b) reduce operational costs; (c) prevent or mitigate disruptions to normal operations; (d) modernize the facility; (e) adapt the facility to better meet occupant needs; and/or (f) should be addressed when the facility undergoes a significant renovation.

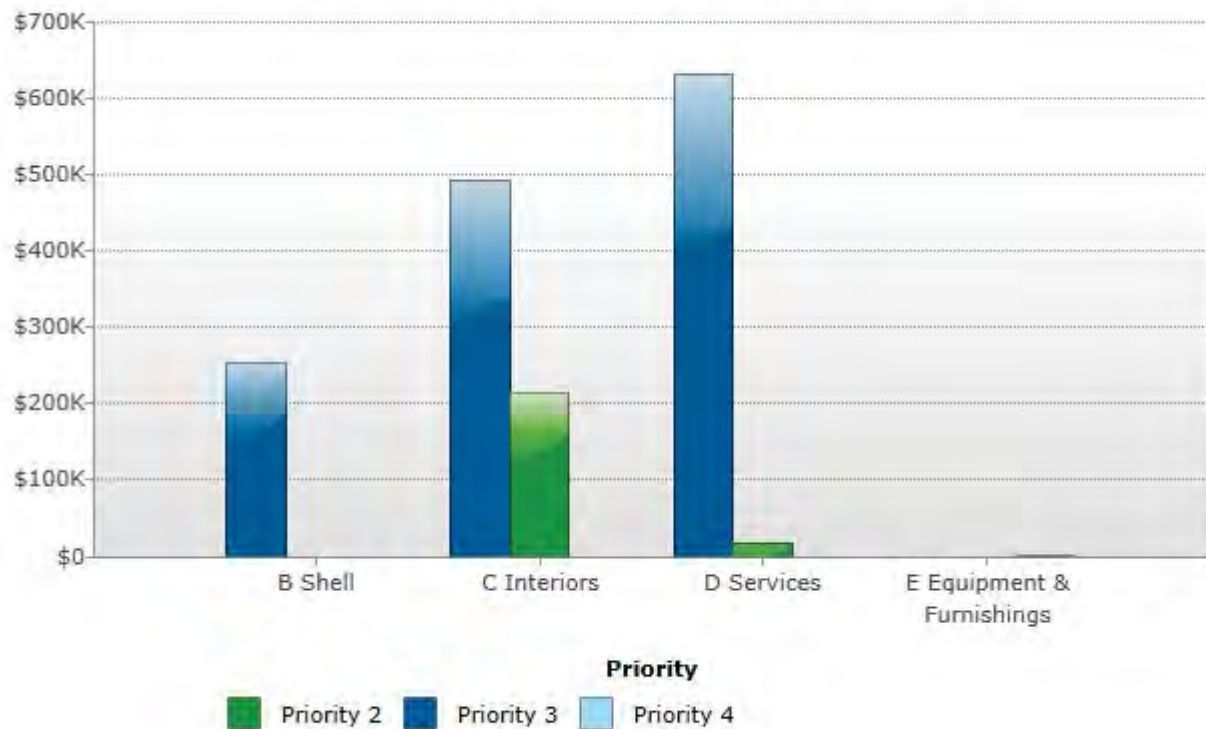
- **Priority 4 - Anticipated Lifecycle Replacements**

Renewal items which are generally associated with building components performing acceptably at the present time but will likely require replacement or other future attention within the timeframe under consideration.

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### Total Capital Needs by System and Priority



Building System	Priority				Total Expenditure
	1 Immediate/ Critical	2 Potentially Critical	3 Necessary/ Recommended	4 Anticipated Lifecycle Replacements	
B Shell	\$0	\$0	\$252,545	\$0	\$252,545
C Interiors	\$0	\$213,558	\$490,582	\$0	\$704,140
D Services	\$0	\$15,985	\$630,898	\$0	\$646,883
E Equipment & Furnishings	\$0	\$0	\$0	\$878	\$878
<b>Totals</b>	<b>\$0</b>	<b>\$229,543</b>	<b>\$1,374,025</b>	<b>\$878</b>	<b>\$1,604,446</b>

## 2. SCOPE AND PURPOSE

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### 2.1 SCOPE

The evaluation team visited the subject property to evaluate the general condition of the building and site. They reviewed available construction documents, drawings, reports, and maintenance records as provided by the Client. The review comprehensively included all observable in-place construction, conveyance, plumbing, HVAC, fire protection, and electrical systems, within the general built environment. The evaluation team conducted a walk-through survey of the property in order to observe building systems and components, to identify physical deficiencies, to formulate recommendations to remedy the physical deficiencies, and to recommend planned capital replacements and repairs of building systems and components.

- As a part of the walk-through survey, the evaluation team surveyed a representative sample of the site and building's interior, the exterior building envelope, and the roof.
- The evaluation team interviewed the building maintenance staff to inquire about the subject property's historical repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements.
- The evaluation team developed opinions based on their site evaluation and interviews with building maintenance staff, discussions with the most relevant maintenance contractors, municipal authorities, and experience gained on similar properties previously evaluated. The evaluation team questioned others who are 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.

The Client contracted with EMG to conduct a Facility Condition Assessment (FCA) consisting of field observations, document review, and related due diligence tasks of the subject property. The Facility Assessment will:

- Determine the present condition and estimated remaining useful life (RUL) of various building systems and components.
- Provide a strategic plan for capital repairs, lifecycle component replacement, and building modernization.
- Establish anticipated renewal and replacement costs for the various systems and components.
- Identify and document present condition of physical assets with recommended corrections for deficiencies and provide cost estimates for corrections. Prioritize, categorize and classify deficient conditions, associated corrective actions and information concerning building systems and deficiency categories.
- The FCA will be a guide for future replacement, repairs and improvements and to assist the client in prioritizing their capital budget and expenditures across their real estate portfolio.
- Calculate the Facility Condition Index (FCI) for each facility and extend that calculation over the study period.

## 2.2 PURPOSE

The goal of the FCA is to gather the data necessary to understand the existing facility's condition, identify strategies to meet the facility's life cycle needs and create the foundation for an overall capital plan. The facility condition assessment includes the following:

- Current conditions analyses - existing facility requirements including deferred maintenance, recommended discretionary improvements, and potential safety and liability issues.
- Anticipated facility reserve analyses - projections of ongoing degradation of facilities' components and costs associated with the reserve or replacement of these components as they reach the end of their useful lives
- Funding needs analysis - summary report of deferred maintenance and systems reserves funding needs.

### 2.2.1 Condition Ratings

The physical condition of building systems and related components are defined as being in one of the following conditions:

- **Excellent (E)**  
New or very close to new; component or system typically has been installed within the past year, is sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
- **Good (G)**  
Satisfactory as-is. Component or system is sound and performing its function. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
- **Fair (F)**  
Showing signs of wear and use but still satisfactory as-is. Component or system is performing adequately at this time but may exhibit some moderate signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
- **Poor (P)**  
Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
- **Failed (X)**  
Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
- **Not Applicable (N/A)**  
Assigning a condition does not apply or make logical sense; most commonly due to the item in question not being present, possibly in tandem with a 'future install' recommendation.

EMG's calculation of probable capital needs methodology involves identification and quantification of those systems or components requiring immediate actions or capital funding reserves over the lifecycle horizon of the facility key components. The component is segregated into two categories "Immediate Repairs" and "Capital Expenditures" defined as follows:

### 2.2.2 Probable Capital Needs - Immediate Repairs

Immediate repairs are opinions of probable costs that require immediate action as a result of: (1) material existing or potential 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 the current year, or will most probably result in a significant escalation of its remedial cost. Immediate repair costs are items which require action in the current **year**.

### 2.2.3 Probable Capital Needs - Capital Expenditures

Capital Expenditures are for recurring probable expenditures that are not classified as operation or maintenance expenses. These line items should be budgeted for in advance on an annual basis. Capital expenditures are reasonably predictable both in terms of frequency and cost. However, the capital expenditures may also include components or systems that have an

indeterminate life but nonetheless have a potential liability for failure within the study period. The capital expenditures are further broken down into Short Term, Near Term and Long Term Capital Needs as defined in Section 1.3 of this Report.

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## 2.2.4 Remaining Useful Life Estimate (RUL) and Expected Useful Life (EUL)

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, EMG opines as to when a system or component will most probably necessitate replacement. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc. are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age.

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## 2.2.5 Opinions of Probable Cost

Estimates for individual repair and replacements are a key part of this engagement. These estimates are based on invoice or bid documents provided by the Owner/facility or construction cost estimates developed by construction resources such as R.S. Means, Whitestone, Marshall & Swift, and EMG's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions. Where quantities are not derived from an actual take-off, algorithms based on building gross square footage (GSF), lump sum costs, or allowances are utilized.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as 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, etc. ASTM E2018-15 recognizes that certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study are included where warranted in this Report.

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## 2.2.6 Priority Ranking

EMG records existing conditions, identifies problems and deficiencies, and documents corrective action and quantities of recommended repairs and/or replacements. During the assessment, the collected data is entered directly into the EMG assessment and capital planning database using tablet computers. Based on the analysis of the collected data, a Priority Ranking is calculated for each item observed. The Priority Ranking calculation is a function of the following key facility variables generally listed in order of importance:

- **Plan Type**

The cost associated with each asset or component evaluated is assigned a Plan Type. These Plan Type categories are described in Section 1.6.

- **Building Mission Ranking**

If the building is one of multiple buildings at the facility, each building is ranked on a scale of 1-10 based on conversations with the client. This rank defines the importance of each building to the overall mission of the facility. For example, the building containing the administrative offices for a subject property may carry a higher ranked importance than the parking garage. However, if the parking garage is used for Mission Critical or emergency services vehicles then it may have a higher priority than the office building. Both are required for the operation of the facility but ranking is adjusted based on the use of the buildings and the mission of the overall facility as defined by the client.

- **Uniformat II Code**

Each asset or component evaluated is coded as per the industry standard UNIFORMAT II, ASTM E1557 Standard Classification of Building Elements and Sitework. The Uniformat designation is then associated with a ranking based on the overall importance to the operation of a facility. An asset that is related to building envelope, e.g. roof or windows, is assigned a higher ranking than a component such as carpeting or interior paint.

- **Remaining Useful Life (RUL) as it Relates to the Expected Useful Life (EUL)**

The expected useful life (EUL) projection of the component is calibrated against the remaining useful life (RUL) as estimated by an EMG field assessor.

### 3. ASSETS OBSERVED

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Assets observed at the site are provided in this Section and sorted by the modified Uniformat II coding indexed as applicable. See the listing below for the sequence.

- **A SUBSTRUCTURE**
  - A10 Foundations
  - A20 Basement Construction
- **B SHELL**
  - B10 Super Structure
  - B20 Exterior Enclosure
  - B30 Roofing
- **C INTERIORS**
  - C10 Interior Construction
  - C20 Stairs
  - C30 Interior Finishes
- **D SERVICES**
  - D10 Conveying
  - D20 Plumbing
  - D30 HVAC
  - D40 Fire Protection
  - D50 Electrical
- **E EQUIPMENT and FURNISHINGS**
  - E10 Equipment
  - E20 Furnishings
- **F SPECIAL CONSTRUCTION and DEMOLITION**
  - F10 Special Construction
  - F20 Selective Building Demolition
- **G SITEWORK**
  - G10 Site Preparation
  - G20 Site Improvements
  - G30 Site Mechanical Utilities
  - G40 Site Electrical Utilities
  - G90 Other Site Construction
- **P FOLLOW-UP STUDIES (Professional Services)**
- **Z GENERAL CONDITIONS and OTHER**

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Coding / Field Name	Asset Description
A1011 - Wall Foundations	Foundations, Concrete
Condition	Good
Quantity	15,570 LF
Unit Cost	\$105.56
Year in Service	2001
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Structure
Basis of Costing	Foundation Wall, Concrete or CMU w/ Continuous Footings, 1-2 Stories
Cracking Reported/Observed	No
Moisture Infiltration Reported/Observed	No

**Observations/Comments**

The foundations were not visually accessible.



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Coding / Field Name	Asset Description
<b>B100X - Super Structure</b>	Superstructure, Steel
<b>Condition</b>	Good
<b>Quantity</b>	30,819 SF
<b>Unit Cost</b>	\$32.16
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Frame, Steel Columns & Beams, 1-2 Stories



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Coding / Field Name	Asset Description
<b>B1012 - Upper Floors Construction</b>	Structural Flooring/Decking, Steel
<b>Condition</b>	Good
<b>Quantity</b>	15,570 SF
<b>Unit Cost</b>	\$26.03
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Structural Flooring/Decking, Metal



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Coding / Field Name	Asset Description
<b>B1013 - Balcony Floors Construction</b>	Balcony Floor Structure, Steel
<b>Condition</b>	Good
<b>Quantity</b>	70 SF
<b>Unit Cost</b>	\$58.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Balcony Floor Structure, Steel
<b>Guard/Handrails and Walls</b>	NA



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Coding / Field Name	Asset Description
<b>B1021 - Flat Roof Construction</b>	Roof Structure, Steel
<b>Condition</b>	Good
<b>Quantity</b>	15,570 SF
<b>Unit Cost</b>	\$25.52
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	39 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Structure
<b>Basis of Costing</b>	Roof Structure, Flat, Metal Deck over Bar Joists



# FACILITY CONDITION ASSESSMENT

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Coding / Field Name	Asset Description
<b>B2011 - Exterior Wall Construction</b>	Exterior Wall, CMU
<b>Condition</b>	Good
<b>Quantity</b>	13,320 SF
<b>Cost Adjustment Factor/Reason</b>	0.9 /
<b>Unit Cost (Adjusted)</b>	\$15.44
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	29 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Wall, Concrete Block (CMU), 1-2 Stories
<b>Painted Trim</b>	Minimal (0.9)



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Coding / Field Name	Asset Description
<b>B2021 - Windows</b>	Windows, Aluminum, Large
<b>Condition</b>	Good
<b>Quantity</b>	5 EA
<b>Unit Cost</b>	\$1,479.77
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Window, Aluminum Double-Glazed 24 SF, 1-2 Stories
<b>Window</b>	Fixed (0.9)
<b>Estimated/Averaged Size (SF)</b>	18
<b>Sealant</b>	Fair Condition
<b>Screens (Housing Only)</b>	Fair Condition



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Coding / Field Name	Asset Description
<b>B2021 - Windows</b>	Windows, Aluminum, Small
<b>Condition</b>	Good
<b>Quantity</b>	74 EA
<b>Unit Cost</b>	\$1,479.77
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Window, Aluminum Double-Glazed 24 SF, 1-2 Stories
<b>Window</b>	Fixed (0.9)
<b>Estimated/Averaged Size (SF)</b>	18
<b>Sealant</b>	Fair Condition
<b>Screens (Housing Only)</b>	Fair Condition



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Coding / Field Name	Asset Description
<b>B2031 - Glazed Doors &amp; Entrances</b>	Exterior Doors, Glazed
<b>Condition</b>	Good
<b>Quantity</b>	4 EA
<b>Unit Cost</b>	\$10,194.36
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Fully-Glazed Aluminum-Framed Swinging Motor-Operated
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Entrance (1.1)



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Coding / Field Name	Asset Description
<b>B2031 - Glazed Doors &amp; Entrances</b>	Exterior Doors, Glazed, Motor Operated
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$10,194.36
<b>Year in Service</b>	2000
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	14 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Fully-Glazed Aluminum-Framed Swinging Motor-Operated
<b>Hardware Style</b>	Lever Sets
<b>Use</b>	Entrance (1.1)



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Coding / Field Name	Asset Description
<b>B2032 - Solid Exterior Doors</b>	Exterior Doors, Steel
<b>Condition</b>	Fair
<b>Quantity</b>	7 EA
<b>Unit Cost</b>	\$1,577.53
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	14 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Exterior Walls
<b>Basis of Costing</b>	Exterior Door, Steel Insulated



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Coding / Field Name	Asset Description
<b>B3011 - Roof Finishes</b>	Roof Finish, Modified Bitumen
<b>Condition</b>	Fair
<b>Quantity</b>	15,570 SF
<b>Unit Cost</b>	\$16.22
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Roof, Modified Bituminous
<b>Active Leaks Observed/Reported</b>	No
<b>Roof Access</b>	Interior Roof Ladder with Access Hatch
<b>Primary Drainage</b>	Interior Roof Drains (1.1)
<b>Drainage</b>	Appears adequate
<b>Eaves and Soffits</b>	NA
<b>Overflow Drainage</b>	Provided by scuppers
<b>Complication Factor</b>	30% of the roof is affected by curbs/penetrations (1.3)
<b>Primary Edge Configuration</b>	Parapet (1.1)
<b>Primary Coping Material</b>	Metal
<b>Walking Pads</b>	No
<b>Ballasted</b>	No
<b>Roof Debris</b>	Minimal debris observed



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Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Roof Finish, Modified Bitumen	15,570 SF	\$16.22	L/R	3	2025	\$252,545



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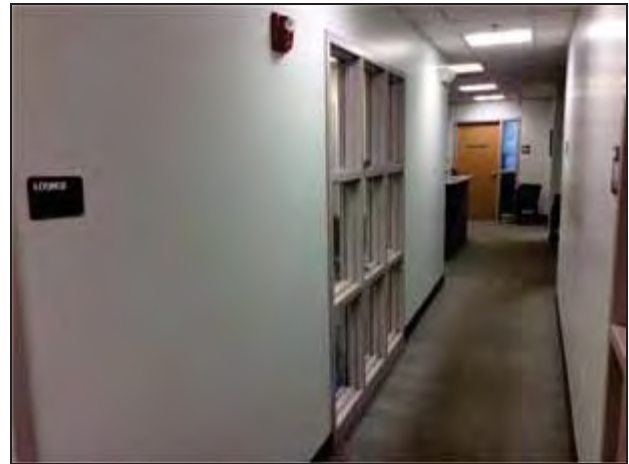
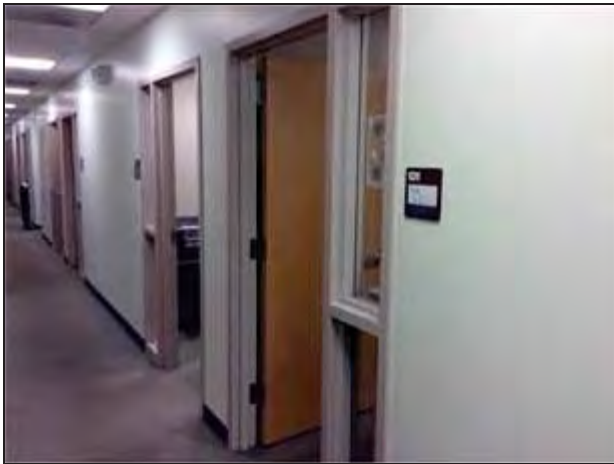
Coding / Field Name	Asset Description
<b>B3021 - Glazed Roof Openings</b>	Roof Skylight, Plexiglass Dome Fixed 9-20 SF
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Cost Adjustment Factor/Reason</b>	10 / Size
<b>Unit Cost (Adjusted)</b>	\$12,072.00
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Roof Skylight, Plexiglass Dome Fixed 9-20 SF



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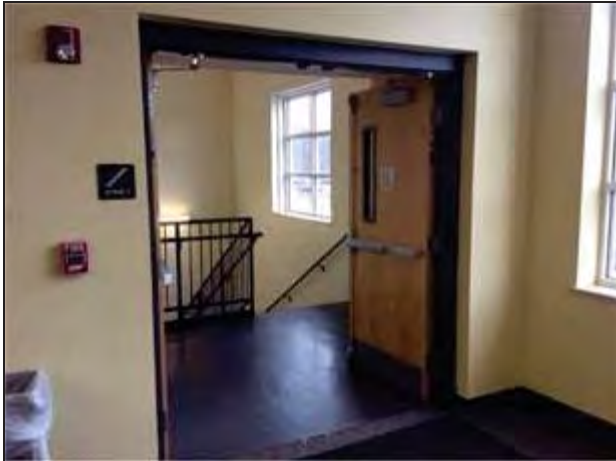
Coding / Field Name	Asset Description
<b>C1017 - Interior Windows &amp; Storefronts</b>	Interior Window, 6 SF
<b>Condition</b>	Fair
<b>Quantity</b>	79 EA
<b>Unit Cost</b>	\$462.02
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Window, 6 SF



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Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Doors, Wood, Fire Rated
<b>Condition</b>	Good
<b>Quantity</b>	8 EA
<b>Unit Cost</b>	\$1,649.06
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Fire 90-Minutes and Over
<b>Hardware Style</b>	Lever Sets



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Doors, Wood, Fire Rated	8 EA	\$1,649.06	L/R	3	2025	\$13,192

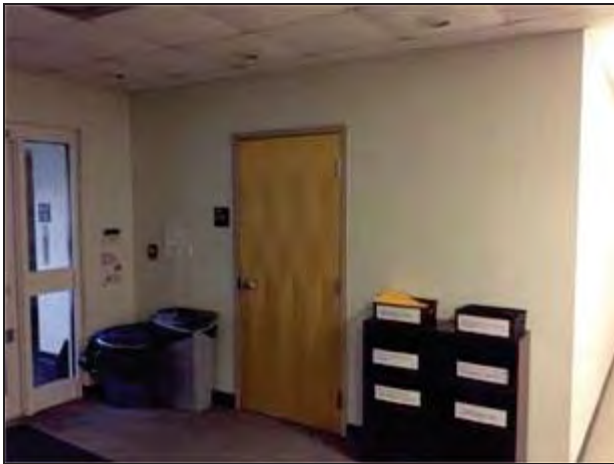
## FACILITY CONDITION ASSESSMENT

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Coding / Field Name	Asset Description
<b>C1021 - Interior Doors</b>	Interior Doors, Wood
<b>Condition</b>	Good
<b>Quantity</b>	105 EA
<b>Unit Cost</b>	\$1,423.11
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Door, Wood Solid-Core



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Doors, Wood	105 EA	\$1,423.11	L/R	3	2025	\$149,427

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Coding / Field Name	Asset Description
<b>C1023 - Interior Door Hardware</b>	Interior Door Hardware
<b>Condition</b>	Good
<b>Quantity</b>	13 EA
<b>Unit Cost</b>	\$350.00
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Door Hardware System, Office (Per Door)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Door Hardware	13 EA	\$350.00	L/R	3	2020	\$4,550

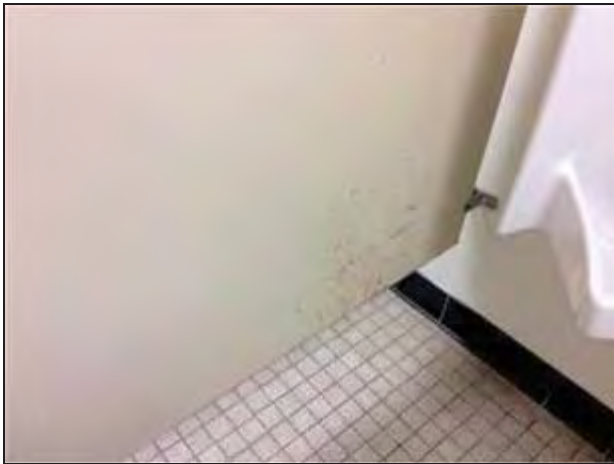
## FACILITY CONDITION ASSESSMENT

*Draft - For Discussion Purposes Only*

BUILDING #1070 SURGE BUILDING / 32-070  
 210 FLAGG ROAD  
 S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F1-Toilet Partitions, Metal
<b>Condition</b>	Fair
<b>Quantity</b>	6 EA
<b>Unit Cost</b>	\$850.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Toilet Partitions, Metal	6 EA	\$850.00	L/R	3	2021	\$5,100

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C1031 - Fabricated Toilet Partitions</b>	F2-Toilet Partitions, Metal
<b>Condition</b>	Good
<b>Quantity</b>	10 EA
<b>Unit Cost</b>	\$850.00
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Toilet Partitions, Metal Overhead-Braced



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Toilet Partitions, Metal	10 EA	\$850.00	L/R	3	2025	\$8,500

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Coding / Field Name	Asset Description
<b>C1035 - Identifying Devices</b>	Interior Signage (Allowance)
<b>Condition</b>	Good
<b>Quantity</b>	30,819 SF
<b>Unit Cost</b>	\$0.08
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Signage (allowance)

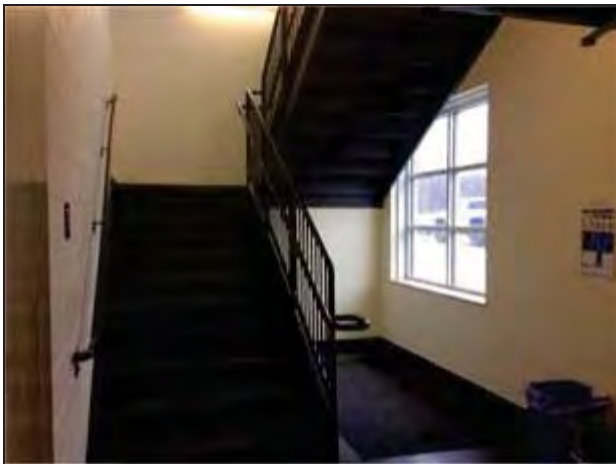


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Signage (Allowance)	30,819 SF	\$0.08	L/R	3	2025	\$2,466

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Coding / Field Name	Asset Description
<b>C2011 - Regular Stairs</b>	Interior Stairs, Metal
<b>Condition</b>	Good
<b>Quantity</b>	600 SF
<b>Unit Cost</b>	\$44.53
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	39 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Stair Tower
<b>Basis of Costing</b>	Interior Stairs, Metal
<b>Railing</b>	Good Condition
<b>Treads/Landings</b>	Good Condition



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C300X - Interior Finishes</b>	Break Room Kitchenette
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$10,000.00
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Break Room Kitchenette, Large (allowance)

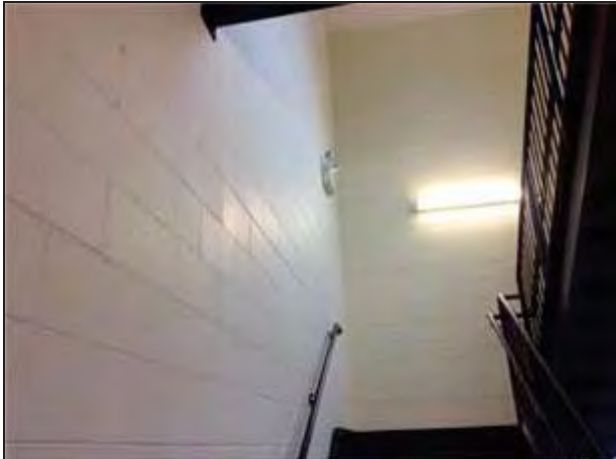


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Break Room Kitchenette	1 EA	\$10,000.00	L/R	3	2021	\$10,000

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall Finish, CMU, Painted
<b>Condition</b>	Good
<b>Quantity</b>	1,557 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	29 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior CMU Wall	1,557 SF	\$2.87	L/R	3	2026	\$4,469

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Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F1-Interior Wall, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	29,583 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Walls, Gypsum Board	29,583 SF	\$1.42	L/R	3	2024	\$42,008

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3012 - Wall Finishes to Interior Walls</b>	F2-Interior Wall, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	623 SF
<b>Unit Cost</b>	\$3.38
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	29 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Wall Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Wall Finish, Gypsum Board	623 SF	\$1.42	L/R	3	2024	\$885

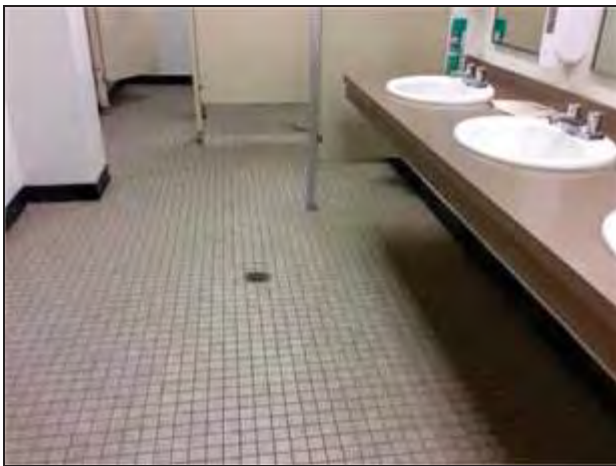
## FACILITY CONDITION ASSESSMENT

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Fair
<b>Quantity</b>	616 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Repair or replace tiles in Men's restroom	1 SF	\$1,000.00	P/I	2	2017	\$1,000

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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Ceramic Tile
<b>Condition</b>	Good
<b>Quantity</b>	623 SF
<b>Unit Cost</b>	\$15.76
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	39 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Ceramic Tile



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Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Fair
<b>Quantity</b>	616 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Rubber Tile	616 SF	\$8.43	L/R	3	2020	\$5,193

## FACILITY CONDITION ASSESSMENT

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Rubber Tile
<b>Condition</b>	Good
<b>Quantity</b>	311 SF
<b>Unit Cost</b>	\$8.43
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Rubber Tile



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Rubber Tile	311 SF	\$8.43	L/R	3	2020	\$2,622

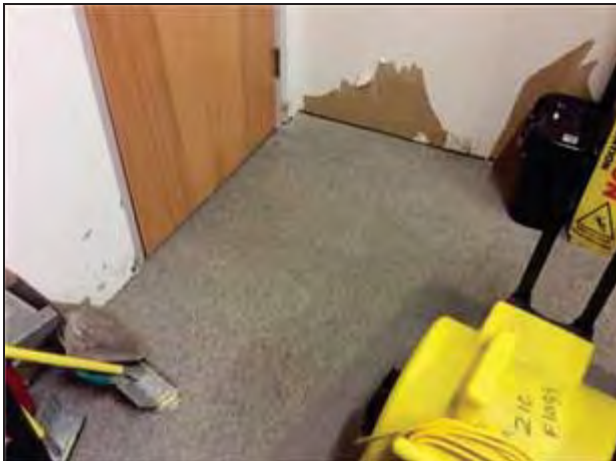
## FACILITY CONDITION ASSESSMENT

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F1-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Fair
<b>Quantity</b>	308 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	3 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Vinyl Tile (VCT)	308 SF	\$4.80	L/R	3	2019	\$1,478

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3024 - Flooring</b>	F2-Interior Floor Finish, Vinyl Tile (VCT)
<b>Condition</b>	Fair
<b>Quantity</b>	2,336 SF
<b>Unit Cost</b>	\$4.80
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Vinyl Tile (VCT)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Vinyl Tile (VCT)	2,336 SF	\$4.80	L/R	3	2020	\$11,213

## FACILITY CONDITION ASSESSMENT

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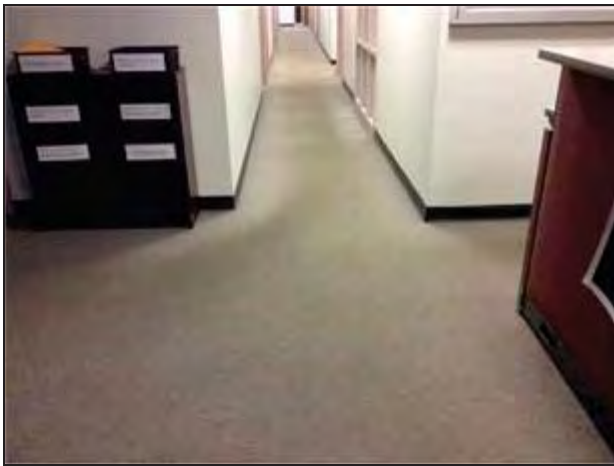
BUILDING #1070 SURGE BUILDING / 32-070  
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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F1-Interior Floor Finish, Carpet
<b>Condition</b>	Poor
<b>Quantity</b>	29,278 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	2 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic

**Observations/Comments**

Stains and wear observed



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Floor Finish, Carpet	29,278 SF	\$7.26	P/I	2	2018	\$212,558

## FACILITY CONDITION ASSESSMENT

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Coding / Field Name	Asset Description
<b>C3025 - Carpeting</b>	F2-Interior Floor Finish, Carpet
<b>Condition</b>	Good
<b>Quantity</b>	12,300 SF
<b>Unit Cost</b>	\$7.26
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	3 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Floor Finish, Carpet Standard-Commercial Medium-Traffic



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Floor Finish, Carpet	12,300 SF	\$7.26	L/R	3	2019	\$89,298

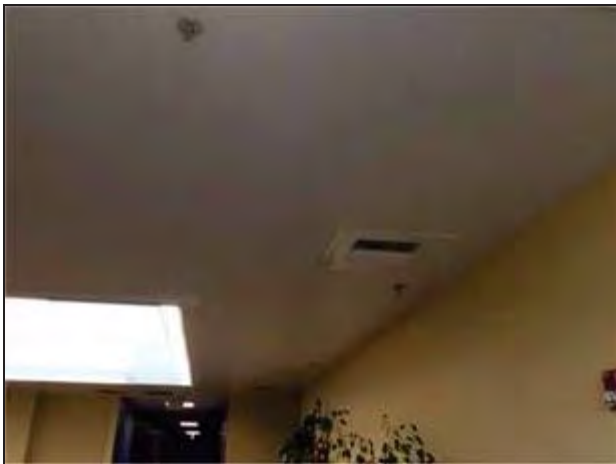
## FACILITY CONDITION ASSESSMENT

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Coding / Field Name	Asset Description
<b>C3031 - Ceiling Finishes</b>	F2-Interior Ceiling, Gypsum Board
<b>Condition</b>	Good
<b>Quantity</b>	623 SF
<b>Unit Cost</b>	\$7.13
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	39 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Gypsum Board/Plaster
<b>Lead Based Paint (LBP)</b>	No
<b>Asbestos Containing Material (ACM)</b>	No

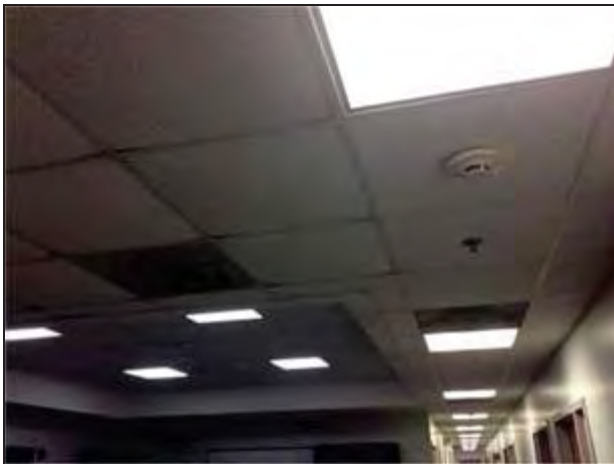


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Prep & Paint Interior Ceiling, Gypsum Board	623 SF	\$1.94	L/R	3	2026	\$1,209

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F1-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	29,894 SF
<b>Unit Cost</b>	\$3.11
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) w/ Grid
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Interior Ceiling Finish, Acoustical Tile (ACT)	29,894 SF	\$3.11	L/R	3	2021	\$92,970

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Coding / Field Name	Asset Description
<b>C3032 - Suspended Ceilings</b>	F2-Interior Ceiling Finish, Acoustical Tile (ACT)
<b>Condition</b>	Fair
<b>Quantity</b>	14,792 SF
<b>Unit Cost</b>	\$3.11
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	9 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Interior Ceiling Finish, Acoustical Tile (ACT) w/ Grid
<b>Lead Based Paint (LBP)</b>	No, None Observed/Reported (No Testing Done)
<b>Asbestos Containing Material (ACM)</b>	No, None Observed/Reported (No Testing Done)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Interior Ceiling Finish, Acoustical Tile (ACT)	14,792 SF	\$3.11	L/R	3	2025	\$46,003

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Coding / Field Name	Asset Description
<b>D1011 - Passenger Elevators</b>	Elevator Controls
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$108,794.40
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Elevator, Hydraulic, 1500 to 2500 LB, 2 Floors
<b>Floors Served (Quantity)</b>	2



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Coding / Field Name	Asset Description
D1011 - Passenger Elevators	Elevator, Hydraulic
Condition	Good
Quantity	1 EA
Unit Cost	\$108,794.40
Year in Service	2005
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	19 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Elevator, Hydraulic, 1500 to 2500 LB, 2 Floors
Make (Manufacturer)	ThyssenKrupp
Model Number	EP07020
Capacity	2500
Capacity UoM (Unit of Measure)	LB
Floors Served (Quantity)	2
Cab Finishes	Good Condition
Accessible	Yes



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Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Refinish Elevator Cabs	1 EA	\$2,000.00	L/R	3	2020	\$2,000
Refurbish Elevator, Hydraulic, 1500 to 2500 LB, 2 Floors	1 EA	\$54,397.20	L/R	3	2025	\$54,397

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D2011 - Water Closets	F1-Toilets
Condition	Good
Quantity	6 EA
Unit Cost	\$842.97
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Toilet, Tankless (Water Closet)



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Coding / Field Name	Asset Description
D2011 - Water Closets	F2-Toilets
Condition	Good
Quantity	9 EA
Unit Cost	\$842.97
Year in Service	2005
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	19 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Toilet, Tankless (Water Closet)
Low Flow Fixtures (EPAct 2005)	Unknown



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Coding / Field Name	Asset Description
D2012 - Urinals	F1-Urinals
Condition	Good
Quantity	2 EA
Unit Cost	\$1,193.44
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Floor 1
Basis of Costing	Urinal, Vitreous China



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210 FLAGG ROAD  
S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D2012 - Urinals	F2-Urinals
Condition	Good
Quantity	3 EA
Unit Cost	\$1,193.44
Year in Service	2005
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	19 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Urinal, Vitreous China



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>D2013 - Lavatories</b>	F1-Lavatories, China
<b>Condition</b>	Good
<b>Quantity</b>	6 EA
<b>Unit Cost</b>	\$572.66
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Lavatory, Vitreous China
<b>Low Flow Fixtures (EPAAct 2005)</b>	Unknown



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Coding / Field Name	Asset Description
D2013 - Lavatories	F2-Lavatories, China
Condition	Good
Quantity	9 EA
Unit Cost	\$572.66
Year in Service	2005
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	19 Year(s), Estimated, Based on Date of Observation
Location	Floor 2
Basis of Costing	Lavatory, Vitreous China
Low Flow Fixtures (EPAct 2005)	Unknown



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Coding / Field Name	Asset Description
D2014 - Sinks	Sink, Stainless Steel
Condition	Good
Quantity	1 EA
Unit Cost	\$1,054.05
Year in Service	2001
Expected Useful Life (EUL)	30 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	15 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Sink, Stainless Steel
Low Flow Fixtures (EPAAct 2005)	Unknown



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Coding / Field Name	Asset Description
<b>D2018 - Drinking Fountains and Coolers</b>	F1-Drinking Fountains, Refrigerated
<b>Condition</b>	Fair
<b>Quantity</b>	2 EA
<b>Unit Cost</b>	\$1,257.51
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	3 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Drinking Fountain, Refrigerated

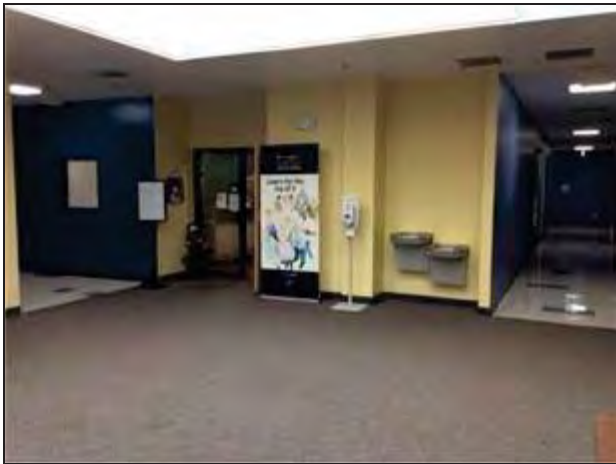


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1-Drinking Fountains, Refrigerated	2 EA	\$1,257.51	L/R	3	2019	\$2,515

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Coding / Field Name	Asset Description
<b>D2018 - Drinking Fountains and Coolers</b>	F2-Drinking Fountains, Refrigerated
<b>Condition</b>	Fair
<b>Quantity</b>	2 EA
<b>Unit Cost</b>	\$1,257.51
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	3 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 2
<b>Basis of Costing</b>	Drinking Fountain, Refrigerated



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F2-Drinking Fountains, Refrigerated	2 EA	\$1,257.51	L/R	3	2019	\$2,515

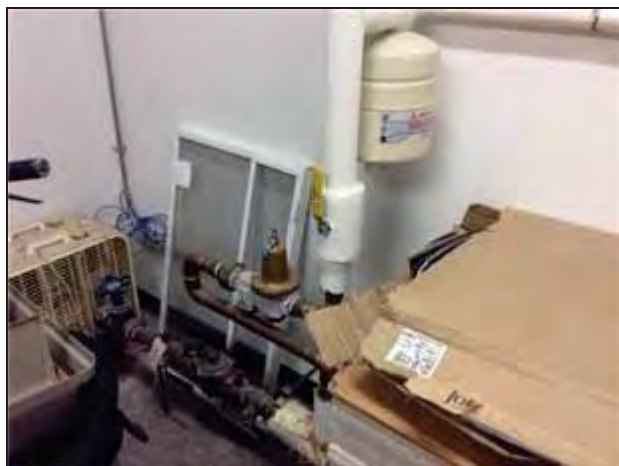
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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D2021 - Cold Water Service	Backflow Preventer, Domestic, RPZ
Condition	Fair
Quantity	1 EA
Unit Cost	\$2,603.17
Year in Service	2006
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Site
Basis of Costing	Backflow Preventer, 2"
Make (Manufacturer)	Watts
Model Number	009M2
Serial Number (Catalog Number)	60119
Capacity	1.5
Capacity UoM (Unit of Measure)	- See Observation/Comments
Capacity Nominal/Estimated?	Reported Capacity

#### Observations/Comments

Inch



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Backflow Preventer, Domestic, RPZ	1 EA	\$2,603.17	L/R	3	2021	\$2,603

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Coding / Field Name	Asset Description
<b>D2023 - Domestic Water Supply Equipment</b>	Domestic Water Heater, Gas
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$10,698.82
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	5 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Mechanical Room (Primary)
<b>Basis of Costing</b>	Water Heater, Gas, Commercial, 60 to 120 GAL
<b>Make (Manufacturer)</b>	AO Smith
<b>Model Number</b>	FSGL 40 242
<b>Serial Number (Catalog Number)</b>	MG00-0069356-242
<b>Capacity</b>	40
<b>Capacity UoM (Unit of Measure)</b>	GAL
<b>Capacity Nominal/Estimated?</b>	Reported Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Domestic Water Heater, Gas	1 EA	\$10,698.82	L/R	3	2021	\$10,699

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Coding / Field Name	Asset Description
<b>D2029 - Domestic Water Distribution - OTHER</b>	Plumbing System, Domestic Supply
<b>Condition</b>	Good
<b>Quantity</b>	30,819 SF
<b>Unit Cost</b>	\$5.84
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	30 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Plumbing System, Domestic Supply



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Coding / Field Name	Asset Description
D2039 - Sanitary Waste -OTHER	Plumbing System, Sanitary Waste
Condition	Good
Quantity	30,819 SF
Unit Cost	\$3.89
Year in Service	2001
Expected Useful Life (EUL)	40 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	25 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Plumbing System, Sanitary Waste



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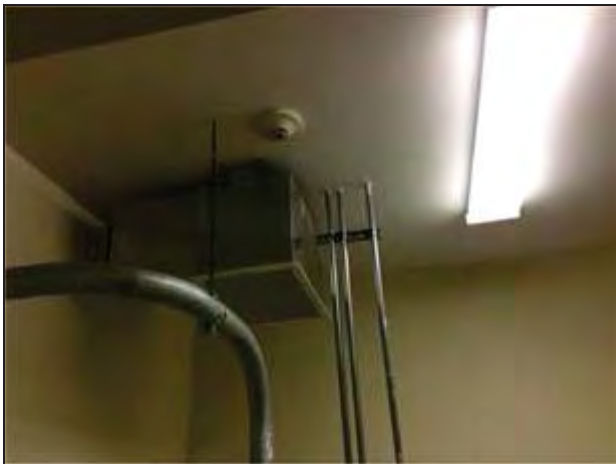
Coding / Field Name	Asset Description
<b>D3041 - Air Distribution Systems</b>	HVAC System Ductwork
<b>Condition</b>	Good
<b>Quantity</b>	15,570 SF
<b>Unit Cost</b>	\$15.00
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	HVAC System Ductwork, Sheet Metal



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Coding / Field Name	Asset Description
<b>D3042 - Exhaust Ventilation Systems</b>	Exhaust Fans, Elevator
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$2,021.87
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	MEP Closet
<b>Basis of Costing</b>	Exhaust Fan, Centrifugal, 251 to 800 CFM
<b>Client Asset Tag</b>	various
<b>Serial Number (Catalog Number)</b>	various



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Exhaust Fans, Elevator	1 EA	\$2,021.87	L/R	3	2020	\$2,022

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Coding / Field Name	Asset Description
<b>D3042 - Exhaust Ventilation Systems</b>	Exhaust System, Roof
<b>Condition</b>	Fair
<b>Quantity</b>	6 EA
<b>Unit Cost</b>	\$2,664.18
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Exhaust Fan, Centrifugal, 801 to 2,000 CFM
<b>Dataplate Information (Make, Model, SN) Not Completed Because</b>	No Dataplate
<b>Capacity Nominal/Estimated?</b>	Estimated Capacity



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Provide Exhaust System, Basement	6 EA	\$2,664.18	ENV	2	2020	\$15,985

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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 1
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU 1
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 10
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU 10
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 11
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU 11
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 12
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU 12
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 2
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU 2
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	No Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 3
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU3
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 5
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU5
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 6
Condition	Fair
Quantity	1 EA
Unit Cost	\$9,871.90
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 3 Ton
Client Asset Tag	RTU 6
Make (Manufacturer)	Trane
Model Number	YHC-036
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	3
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 4
Condition	Fair
Quantity	1 EA
Unit Cost	\$10,581.39
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 4 Ton
Client Asset Tag	RTU4
Make (Manufacturer)	Trane
Model Number	YHC-048
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	4
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 7
Condition	Fair
Quantity	1 EA
Unit Cost	\$10,581.39
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 4 Ton
Client Asset Tag	RTU 7
Make (Manufacturer)	Trane
Model Number	YHC-048
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	4
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 8
Condition	Fair
Quantity	1 EA
Unit Cost	\$10,581.39
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 4 Ton
Client Asset Tag	RTU 8
Make (Manufacturer)	Trane
Model Number	YHC-048
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	4
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 9
Condition	Fair
Quantity	1 EA
Unit Cost	\$10,581.39
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 4 Ton
Client Asset Tag	RTU 9
Make (Manufacturer)	Trane
Model Number	YHC-048
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	4
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit 1
Condition	Fair
Quantity	1 EA
Unit Cost	\$11,239.29
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 5 Ton
Client Asset Tag	1
Make (Manufacturer)	York
Model Number	D7CG060N09946A
Serial Number (Catalog Number)	NLJM133874
Capacity	5
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit 5
Condition	Fair
Quantity	1 EA
Unit Cost	\$11,239.29
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 5 Ton
Client Asset Tag	5
Make (Manufacturer)	York
Model Number	D7CG060N09946A
Serial Number (Catalog Number)	NLJM136493
Capacity	5
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit 2
Condition	Fair
Quantity	1 EA
Unit Cost	\$14,395.83
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 6 to 7.5 Ton
Client Asset Tag	2
Make (Manufacturer)	York
Model Number	DM090N15A4AAA1A
Serial Number (Catalog Number)	NLJM132842
Capacity	7.5
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit 3
Condition	Fair
Quantity	1 EA
Unit Cost	\$14,395.83
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 6 to 7.5 Ton
Client Asset Tag	3
Make (Manufacturer)	York
Model Number	DM078N15A4AAA1A
Serial Number (Catalog Number)	NLJM136122
Capacity	6.5
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity
Refrigerant Used	Unknown



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Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit 4
Condition	Fair
Quantity	1 EA
Unit Cost	\$14,395.83
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 6 to 7.5 Ton
Client Asset Tag	4
Make (Manufacturer)	York
Model Number	DM090N15A4AAA1A
Serial Number (Catalog Number)	NLJM132851
Capacity	7.5
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity
Refrigerant Used	Unknown



BUILDING #1070 SURGE BUILDING / 32-070  
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 S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit 6
Condition	Fair
Quantity	1 EA
Unit Cost	\$14,395.83
Year in Service	2001
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	3 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 6 to 7.5 Ton
Client Asset Tag	6
Make (Manufacturer)	York
Model Number	DM090N15A4AAA1A
Serial Number (Catalog Number)	NLJM128352
Capacity	7.5
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Reported Capacity
Refrigerant Used	Unknown



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D3052 - Package Units	Package Unit, RTU 13
Condition	Fair
Quantity	1 EA
Unit Cost	\$18,554.44
Year in Service	2005
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	4 Year(s), Estimated, Based on Date of Observation
Location	Roof
Basis of Costing	Package Unit, 8 to 10 Ton
Client Asset Tag	RTU -13
Make (Manufacturer)	Trane
Model Number	YHC-120
Dataplate Information (Make, Model, SN) Not Completed Because	Illegible Dataplate
Capacity	10
Capacity UoM (Unit of Measure)	TONS
Capacity Nominal/Estimated?	Capacity is based off of Drawings
Refrigerant Used	Unknown



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>D3068 - Building Automation Systems</b>	HVAC Controls, Direct Digital (DDC)
<b>Condition</b>	Fair
<b>Quantity</b>	30,819 SF
<b>Unit Cost</b>	\$5.36
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Building Automation System (HVAC Controls)



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace HVAC Controls, Direct Digital (DDC)	30,819 SF	\$5.36	L/R	3	2026	\$165,190

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D4011 - Sprinkler Water Supply	Backflow Preventer, Fire, DCV
Condition	Good
Quantity	1 EA
Unit Cost	\$6,001.42
Year in Service	2010
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	9 Year(s), Estimated, Based on Date of Observation
Location	Site
Basis of Costing	Backflow Preventer, 4"
Make (Manufacturer)	Ames
Model Number	SS3000
Serial Number (Catalog Number)	105586
Capacity	4
Capacity UoM (Unit of Measure)	- See Observation/Comments
Capacity Nominal/Estimated?	Reported Capacity

#### Observations/Comments

Inch



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Backflow Preventer, Fire, DCV	1 EA	\$6,001.42	L/R	3	2025	\$6,001

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D4019 - Sprinkler -OTHER	Sprinkler Heads
Condition	Good
Quantity	30,819 SF
Unit Cost	\$1.33
Year in Service	2005
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	9 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Sprinkler Heads (per SF)
Fire Extinguishers	Observed/Reported in working condition



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Sprinkler Heads	30,819 SF	\$1.33	L/R	3	2025	\$40,989

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Coding / Field Name	Asset Description
<b>D5012 - Low Tension Service &amp; Dist.</b>	Disconnect Switch, 200 Amp
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$1,974.80
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	50 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	35 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Electrical Room (Primary)
<b>Basis of Costing</b>	Disconnect Switch, 200 Amp
<b>Make (Manufacturer)</b>	Square D
<b>Capacity</b>	300
<b>Capacity UoM (Unit of Measure)</b>	AMP
<b>Capacity Nominal/Estimated?</b>	Reported Capacity



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>D5012 - Low Tension Service &amp; Dist.</b>	Main Distribution Panel
<b>Condition</b>	Good
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$9,487.85
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Electrical Room (Primary)
<b>Basis of Costing</b>	Distribution Panel, 208 Y, 120 V, 400 Amp
<b>Make (Manufacturer)</b>	Siemens
<b>Model Number</b>	S2E42JX400ABS
<b>Capacity</b>	400
<b>Capacity UoM (Unit of Measure)</b>	AMP
<b>Capacity Nominal/Estimated?</b>	Reported Capacity



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>D5012 - Low Tension Service &amp; Dist.</b>	Secondary (Step-Down) Transformer
<b>Condition</b>	Good
<b>Quantity</b>	2 EA
<b>Unit Cost</b>	\$6,857.93
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	20 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Electrical Room (Primary)
<b>Basis of Costing</b>	Secondary Transformer, Dry, 45 kVA
<b>Make (Manufacturer)</b>	GE
<b>Model Number</b>	9T23B3873



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Coding / Field Name	Asset Description
<b>D5019 - Electrical Service &amp; Distribution - OTHER</b>	Electrical Distribution System
<b>Condition</b>	Good
<b>Quantity</b>	30,819 SF
<b>Unit Cost</b>	\$27.25
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Electrical System, Office Building



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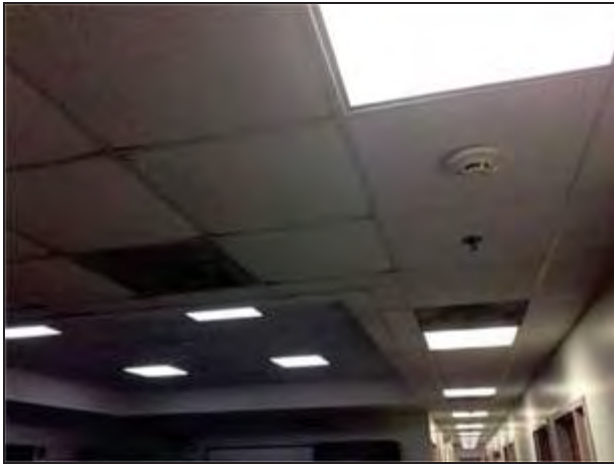
Coding / Field Name	Asset Description
D5022 - Lighting Equipment	Light Fixture, Exterior, LED
Condition	Good
Quantity	6 EA
Unit Cost	\$180.19
Year in Service	2014
Expected Useful Life (EUL)	20 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	18 Year(s), Estimated, Based on Date of Observation
Location	Exterior Walls
Basis of Costing	LED Lighting Fixture, Basic, 20 W



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Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F1--Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	15,570 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Floor 1
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No

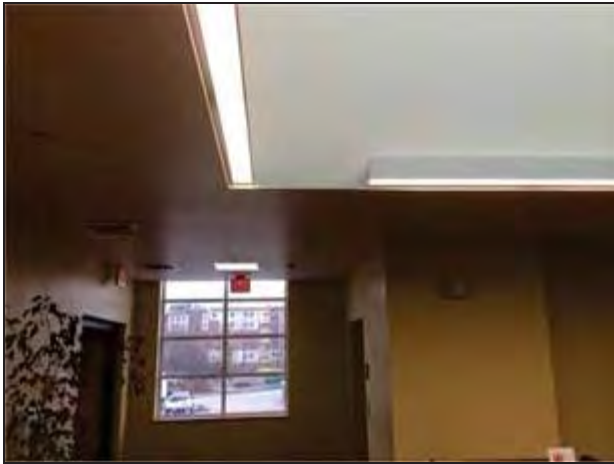


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace F1--Lighting System, Interior	15,570 SF	\$9.24	L/R	3	2026	\$143,867

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Coding / Field Name	Asset Description
<b>D5029 - Lighting &amp; Branch Wiring -OTHER</b>	F2-Lighting System, Interior
<b>Condition</b>	Good
<b>Quantity</b>	15,570 SF
<b>Unit Cost</b>	\$9.24
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	25 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	14 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Lighting System, Interior, Office Building
<b>General Lighting (Predominant)</b>	T8 - Fluorescent
<b>Accent Lighting</b>	Fluorescent
<b>T12 Fluorescent</b>	No
<b>Incandescent Fixtures</b>	No



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
D5037 - Fire Alarm Systems	Fire Alarm Control Panel
Condition	Fair
Quantity	1 EA
Unit Cost	\$20,297.59
Year in Service	2006
Expected Useful Life (EUL)	15 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	5 Year(s), Estimated, Based on Date of Observation
Location	Building Interior (General)
Basis of Costing	Fire Alarm Control Panel, Addressable
Make (Manufacturer)	FCI
Model Number	7200

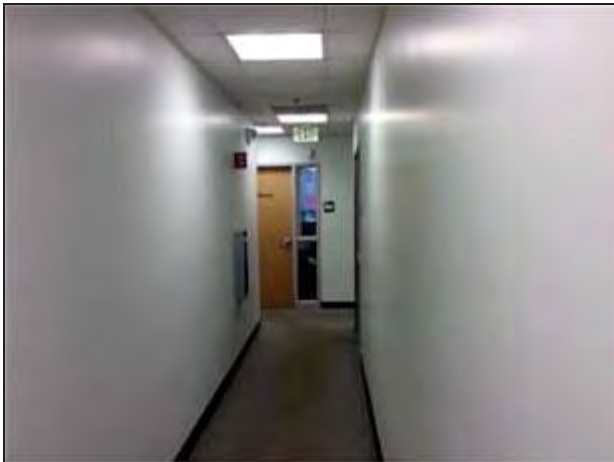


Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fire Alarm Control Panel	1 EA	\$20,297.59	L/R	3	2021	\$20,298

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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>D5037 - Fire Alarm Systems</b>	Fire Alarm System
<b>Condition</b>	Fair
<b>Quantity</b>	30,819 SF
<b>Unit Cost</b>	\$2.36
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	20 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Fire Alarm System, Office Building, Upgrade/Install
<b>Smoke Detectors</b>	Observed/Reported in working condition
<b>Pull Stations</b>	Observed/Reported in working condition
<b>Audible Alarms</b>	Observed/Reported in working condition
<b>Strobe Alarms</b>	Observed/Reported in working condition
<b>Emergency Lighting Type</b>	Wall Packs - Battery Powered



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fire Alarm System	30,819 SF	\$2.36	L/R	3	2026	\$72,733

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Coding / Field Name	Asset Description
<b>D5038 - Security and Detection Systems</b>	Interior Door Hardware, Card Reader
<b>Condition</b>	Good
<b>Quantity</b>	100 EA
<b>Unit Cost</b>	\$1,050.69
<b>Year in Service</b>	2010
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	4 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Card Reader



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Interior Door Hardware, Card Reader	100 EA	\$1,050.69	L/R	3	2020	\$105,069

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Coding / Field Name	Asset Description
<b>E1094 - Residential Equipment</b>	Residential Appliances, Refrigerator
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$956.04
<b>Year in Service</b>	2014
<b>Expected Useful Life (EUL)</b>	15 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	13 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Residential Appliances, Refrigerator, 14-18 CF
<b>Make (Manufacturer)</b>	Hot point



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Coding / Field Name	Asset Description
<b>E2012 - Fixed Casework</b>	Fixed Casework
<b>Condition</b>	Fair
<b>Quantity</b>	20 LF
<b>Unit Cost</b>	\$43.90
<b>Year in Service</b>	2006
<b>Expected Useful Life (EUL)</b>	10 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	10 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Building Interior (General)
<b>Basis of Costing</b>	Kitchen Counter, Plastic Laminate, Postformed



Recommended Action	Quantity	Unit Cost	Plan Type	Priority	Year	Expenditure
Replace Fixed Casework	20 LF	\$43.90	L/R	4	2026	\$878

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Coding / Field Name	Asset Description
<b>G2031 - Paving &amp; Surfacing</b>	Concrete Sidewalk
<b>Condition</b>	Good
<b>Quantity</b>	1,650 SF
<b>Unit Cost</b>	\$19.82
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	15 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Concrete Sidewalk



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EMG PROJECT NO: 117742.16R000-B87.305

Coding / Field Name	Asset Description
<b>G2041 - Fences &amp; Gates</b>	Metal Tube Fence, 4' High
<b>Condition</b>	Good
<b>Quantity</b>	364 LF
<b>Unit Cost</b>	\$55.20
<b>Year in Service</b>	2005
<b>Expected Useful Life (EUL)</b>	30 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	19 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Roof
<b>Basis of Costing</b>	Metal Tube Fence, 4' High



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Coding / Field Name	Asset Description
<b>G3011 - Potable Water Distribution and Storage</b>	Post Indicator Valve
<b>Condition</b>	Fair
<b>Quantity</b>	1 EA
<b>Unit Cost</b>	\$3,543.56
<b>Year in Service</b>	2001
<b>Expected Useful Life (EUL)</b>	40 Year(s), Based on Industry Averages
<b>Remaining Useful Life (RUL)</b>	25 Year(s), Estimated, Based on Date of Observation
<b>Location</b>	Site
<b>Basis of Costing</b>	Post Indicator Valve



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Coding / Field Name	Asset Description
G3021 - Piping	Site Drainage
Condition	Fair
Quantity	555 LF
Unit Cost	\$58.72
Year in Service	2001
Expected Useful Life (EUL)	50 Year(s), Based on Industry Averages
Remaining Useful Life (RUL)	35 Year(s), Estimated, Based on Date of Observation
Location	Site
Basis of Costing	Pipe, Drain & Sewage, Vitrified Clay, 18"



## 4. CERTIFICATION

EMG has completed a Facility Condition Assessment (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 generally conforming to *ASTM E2018-15, 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 PCA 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 an FCA in accordance with *ASTM E2018-15* 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 listed on the cover page of this report.

**Prepared By:** John Landry , Field Observer/Project Manager



**Reviewed By:** Marge Bershtein, Program Manager

## 5. APPENDICES

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<b>APPENDIX A</b>	<b>Key Photographic Record</b>
<b>APPENDIX B</b>	<b>Location Plan</b>
<b>APPENDIX C</b>	<b>Capital Expenditure Table</b>
<b>APPENDIX D</b>	<b>Pre-Survey Questionnaire (PSQ)</b>
<b>APPENDIX E</b>	<b>Accessibility Checklist</b>
<b>APPENDIX F</b>	<b>Documents Reviewed</b>
<b>APPENDIX G</b>	<b>On-Site Date Weather Conditions</b>
<b>APPENDIX H</b>	<b>Areas Not Observed or Down Areas</b>
<b>APPENDIX I</b>	<b>Equipment List</b>
<b>APPENDIX J</b>	<b>Space Utilization</b>

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## APPENDIX A      KEY PHOTOGRAPHIC RECORD

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Images provided here are general photographs of the building. Specific Asset photos are provided in Section 3 of this Report.

## FACILITY CONDITION ASSESSMENT

BUILDING #1070 SURGE BUILDING / 32-070  
210 FLAGG ROAD  
S. KINGSTOWN, RI 02881

*Draft - For Discussion Purposes Only*

EMG PROJECT NO: 117742.16R000-B87.305



Front Elevation



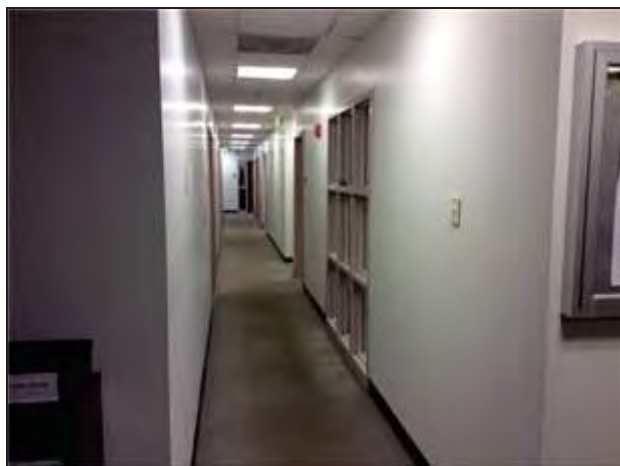
Left Elevation



Right Elevation



Rear Elevation



Interiors (General)



Break Room

## FACILITY CONDITION ASSESSMENT

BUILDING #1070 SURGE BUILDING / 32-070  
210 FLAGG ROAD  
S. KINGSTOWN, RI 02881

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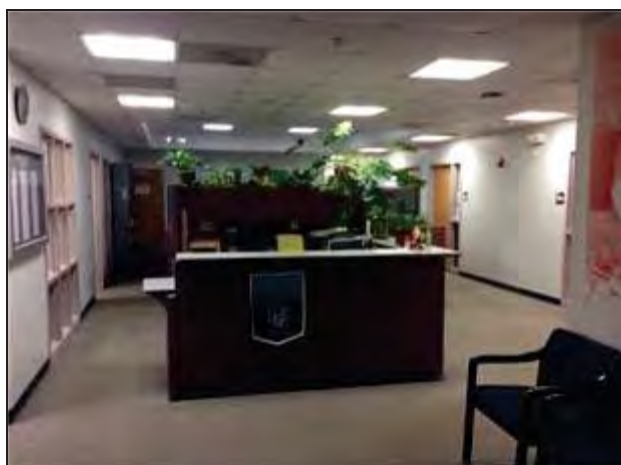
EMG PROJECT NO: 117742.16R000-B87.305



Conference Room



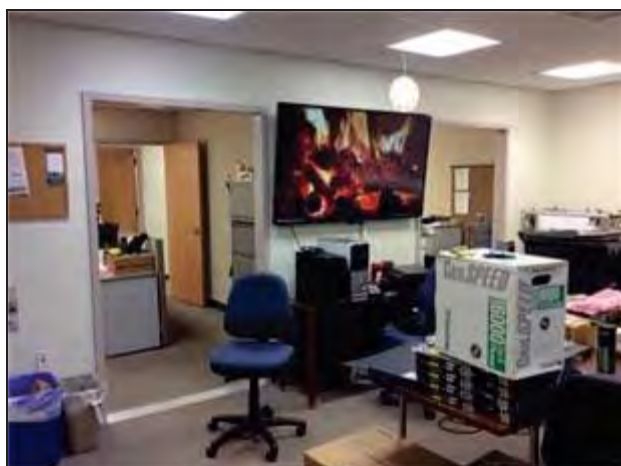
Mail Room



Reception



Skylight



Staff Office

## APPENDIX B LOCATION PLAN



### Source

The north arrow indicator approximates 0° North.

EMG Project Number  
**117742.16R000-B87.305**

Project Name  
**Building #1070 Surge Building /  
32-070**

On-Site Date  
**12/07/2016**

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APPENDIX C      CAPITAL EXPENDITURE TABLE

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Element No.	Component Description	Asset	Location	Action	Estimated Useful Life (Yrs)	Remaining Useful Life (Yrs)	Quantity	Unit of Measurement	Unit Cost	Plan Type	Priority	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total	Total	
												Revised Needs	Revised Needs	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled	Revised Needs	Revised Needs	
												1	2	3	4	5	6	7	8	9	10	11	12		
												1	2	3	4	5	6	7	8	9	10	11	12		
												1	2	3	4	5	6	7	8	9	10	11	12		
												1	2	3	4	5	6	7	8	9	10	11	12		
												1	2	3	4	5	6	7	8	9	10	11	12		
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## APPENDIX D      PRE-SURVEY QUESTIONNAIRE (PSQ)

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The Pre-Survey Questionnaire (PSQ) is based on information provided directly by the Client or the Client's designated Point of Contact (POC). A version of this form is provided to the Client prior to EMG's on-site assessment with the instructions that it be filled out as completely as possible. If a completed form is provided, it is included here.

Point of Contact (POC): Dan Cartier - Assistant Director of Facilities - 401-207-7616 - Dcartier@uri.edu

Form was: Completed by the POC and provided to the EMG Project Manager while on-site. Scan Included here.

## FACILITY CONDITION ASSESSMENT: PRE-SURVEY QUESTIONNAIRE

This questionnaire must be completed by the property owner, the owner's designated representative, or someone knowledgeable about the subject property. The completed form must 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 form: Don Cartier Sarah Warburton

Title / Association with property: \_\_\_\_\_

Length of time associated w/ property: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Building / Facility Name: 210 Flagg Road (Surge) (KC 29A)

Campus Name: Kingston Campus

Directions: Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any Yes responses.

DATA OVERVIEW		RESPONSE
1	Year constructed	1936
2	Building size in SF	
3	Acreage	
4	Number of parking spaces (provide accessible counts)	
5	Age of roof (known or estimated); active warranty w/ expiration date?	2003
QUESTION		RESPONSE
6	List all major renovations or rehabilitations since construction (with estimated dates).	
7	List other somewhat lesser but still significant capital improvements, focused within recent years (provide approximate year completed).	Painting.
8	List any major capital expenditures planned/requested for the next few years. Have they been budgeted?	
9	Describe any extremely problematic, historically chronic, or immediate facility needs.	HVAC System Need Review and change to meet Building user Needs
10	Describe any shared building or site elements or unique arrangements with neighboring properties, entities, or tenants.	

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")						
QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
11	Are there any unusable or "down" areas, units, or spaces within the facility?		✓			
12	Is the facility served by a private water well, septic system or other special waste treatment system?	✓				URI water system
13	Are there any problems with the utilities, such as inadequate pressure or capacities?		✓			
14	Have there been any leaks or pressure problems with natural gas service?		✓			
15	Are there any problems with erosion or areas with storm water drainage issues?		✓			
16	Are there any problems with the landscape irrigation systems?	✓				No Irrigation
17	Are there any problems or inadequacies with exterior lighting?	✓				Needs LED Lighting
18	Are there any problems with foundations or structures, like excessive settlement?		✓			
19	Are there any known issues with termites or other wood-boring pests?		✓			
20	Are there any wall, window, basement or roof leaks?	✓				some wall window leaks
21	Are there any plumbing leaks or water pressure problems?		✓			
22	Are any areas of the facility inadequately heated, cooled or ventilated?	✓				Building Needs Full HVAC Review Cold
23	Are there any poorly insulated areas?	✓				Need To Thermal Image Build
24	Do any of the HVAC systems use older R-11, 12, or 22 refrigerants?		✓			1
25	Has any part of the facility ever contained visible suspect mold growth?		✓			
26	Have there been indoor air quality or mold related complaints from building occupants?		✓			

✱ Computer Server Room Needs to be AC

✱ Build Needs Better HVAC control and Distribution

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")

QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
27	Are there any known unresolved building, fire, or zoning code issues with the governing municipality?	✓				Needs Fire Code Review
28	Is there any pending litigation concerning the property?					
29	Are there outstanding accessibility issues at the facility? (Go over and fill out first 'History' subsection of separate ADA checklist.)	✓				Needs ADA Review
30	Are there any EMG 'red flag' issues at the facility? (Go over and fill out attached checklist below.)	✓				Lead Paint Asbestos
31	Are there any other unresolved construction defects or significant issues/hazards at the property that have not yet been identified?	✓				Lead Paint Asbestos

AGENCY OVERVIEW	RESPONSE
List the agency/agencies occupying the building	URI
Provide the number of occupants in the building by agency	URI
Provide the number of staff per shift, if applicable	URI staff
If there are multiple agencies, provide a floor plan depicting location of each agency and number of occupants per room.	URI staff
Average daily general public during normal operations	URI student

Don Cartier  
Signature of person interviewed or completing form

12/5/16  
Date

## APPENDIX E ACCESSIBILITY CHECKLIST

Question	Response
Has an ADA survey previously been completed for this property?	Unknown
Have any ADA improvements been made to the property?	Unknown
Does a Transition Plan / Barrier Removal Plan exist for the property?	Unknown
Has building ownership or management received any ADA related complaints that have not been resolved?	Unknown
Is any litigation pending related to ADA issues?	Unknown
<b>Parking</b>	
Are there sufficient accessible parking spaces with respect to the total number of reported spaces?	Unknown
Are there sufficient van-accessible parking spaces available?	Unknown
Are accessible spaces signed with the International Symbol of Accessibility (ISA)? Are there signs reading "Van Accessible" at van spaces?	Unknown
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?	Yes
Do curbs on the accessible route have depressed, ramped curb cuts at drives, paths, and drop-offs?	Yes
Does signage indicate the accessible building entrance from accessible parking, where more than one pedestrian route is present, and not all routes or not all building entrances are accessible?	No
Parking Comments	
<b>Ramps</b>	
Do all ramps along accessible path of travel appear to meet slope requirements? (1:12 or less) with maximum rise 30" for each ramp run?	NA
Do ramp runs that appear to rise more than 6" have railings on both sides?	NA
Does the width between railings appear at least 36 inches?	NA
Is there a level landing at the top and at the bottom of ramp runs and at ramp turns?	NA
Ramps Comments	
<b>Entrances and Exits</b>	
Are minimum 60% of the public entrances accessible?	Yes

# FACILITY CONDITION ASSESSMENT

*Draft - For Discussion Purposes Only*

BUILDING #1070 SURGE BUILDING / 32-070  
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S. KINGSTOWN, RI 02881

EMG PROJECT NO: 117742.16R000-B87.305

Question	Response
Do all required accessible entrance doorways appear to be: (a) at least 32 inches wide; (b) at least 80 inches high; (c) with hardware between 34" and 48" high, and (d) not a revolving door?	Yes
Is the door hardware easy to operate- lever/push type hardware, no twisting required, min. 36 inches to max. 48 inches above the floor?	Yes
Entrances & Exits Comments	
<b>Paths of Travel and Accessible Routes</b>	
Are all paths of travel free of obstruction and wide enough for a wheelchair (appear at least 36 inches wide)?	Yes
Do accessible routes coincide with the paths of travel for non-disabled (accessible routes cannot be in a totally different area than where everyone else walks)?	Yes
Is there a path of travel that does not require the use of stairs?	Yes
Is signage for restrooms, building means of egress exits, interior and exterior signs identifying permanent rooms/spaces compliant?	Yes
Path of Travel & Accessible Route Comments	
<b>Elevators</b>	
Do the call buttons have visual and audible signals to indicate when a call is registered and answered when car arrives?	Yes
Are there visual and audible signals inside cars indicating floor change?	Yes
Are there standard raised and Braille marking on both jambs of each hoist way entrance as well as all cab call buttons?	No
Do elevator doors have a reopening device that will stop and reopen a car door if an object or a person obstructs the door?	Yes
Do all elevator controls appear to be within reach ranges between 15 and 48 inches, including emergency communication controls?	Yes
If a two-way emergency communication system is provided within the elevator cab, is it usable without voice communication?	No
Elevator Comments	
<b>Tables, Work Surfaces and Service Counters</b>	
Do at least 5% of dining tables and work surfaces have knee and toe clearance with surface heights appearing to be minimum 28" high and maximum 34" high?	NA
Do food service counters appear to be maximum 34" height?	NA



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Question	Response
Do check-out aisles, sales and service counters appear to be maximum 38" high?	NA
Tables, Work Surfaces, and Service Counters Comments	
<b>Assembly Areas</b>	
Are sufficient wheelchair spaces provided, with a companion seat for each wheelchair space?	NA
Where an audio system is present and integral to the use of the space, are assistive listening systems present or available?	NA
Assembly Area Comments	
<b>Restrooms and Locker Rooms</b>	
Are restrooms located on an accessible route?	Yes
Are pull handles push/pull or lever type?	Yes
If fire alarms are located in restrooms, are they both audible AND visual?	Yes
Are toilet room access doors wheelchair-accessible (appear to be at least 32 inches wide)?	Yes
Are public restrooms large enough to accommodate a wheelchair turnaround (appear to have 60" turning diameter)?	Yes
In unisex toilet rooms, are there safety alarms with pull cords?	NA
Are toilet stall doors wheelchair accessible (appear to be at least 32" wide)?	Yes
Are sinks provided with clearance for a wheelchair to roll under (appear to have clearance of 8" depth min. at 27" ht.)?	Yes
Are sink handles operable with one hand without grasping, pinching, or twisting?	Yes
Are exposed pipes under sink sufficiently insulated against contact?	Yes
Restroom & Locker Room Comments	
<b>Guest Rooms or Student Sleeping Rooms</b>	
How many total accessible sleeping rooms does the property management report to have?	
Are there sufficient reported accessible sleeping rooms with respect to the total number of reported sleeping rooms?	NA
How many accessible sleeping rooms have roll-in showers, per property management?	
Are there sufficient reported accessible rooms with roll-in showers with respect to the total number of reported accessible guestrooms?	NA
How many assistive listening kits and/or rooms with communication features are available per property management?	



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Question	Response
Are there sufficient reported assistive listening devices with respect to the total number of rooms?	NA
Where kitchens/kitchenettes are provided, is a wheelchair turning space present in the kitchen/kitchenette and accessible counters (appear to be maximum 34" high adjacent a built in stove or microwave)?	Yes
How many total accessible units of graduate/faculty apartments and townhouses leased on an annual basis does the property management report to have?	
Are there sufficient reported accessible units with accessible kitchens with respect to the total number of reported units?	NA
Guest Room & Student Sleeping Room Comments	
<b>Pools and Spas</b>	
Are public access pools/spas/wading pools/wave action features provided? If the answer is no, please disregard this section.	NA
How many accessible access points are provided to each type of water activity?	
Is at least one fixed lift or sloped entry to each type provided (2 entries required for pools with 300 LF or more pool wall)?	NA
Pools & Spas Comments	
<b>Play and Exercise Areas</b>	
Has the play area been reviewed for accessibility? All public playgrounds are subject to ADA standards.	NA
Is an accessible route provided to each sport area, exercise area? To each press box where total of boxes in an assembly area is greater than 500 SF?	NA
Is there an accessible route outside of marked play lines within each sport court, providing access to all sides of the court?	NA
Does there appear to be adequate clear floor space (30" minimum by 48" minimum) around a minimum of one of each type of exercise machine/ equipment?	NA
Play & Exercise Area Comments	



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## APPENDIX F DOCUMENTS REVIEWED

The following information and documents were requested prior to the on-site assessment. The order of the documents requested below is generally based on the ASTM E2018-15 document. Items with an \* are discussed in the PSQ. Items that are EMG FCA specific are denoted with a †.

On the day of the on-site assessment, provide EMG's Project Manager with access to all of the available documents and information listed below. Please provide electronic copies if available.

The following documents were provided for review by the EMG Project Manager:

Primary Documentation - Provided for Review	
<b>Drawings &amp; Specifications</b> (Construction, Record Set, As-Built) for the construction of the building and for renovations, additions and any other improvement work. Specific Drawings should include: Floor Plans, Electrical One-Line Diagram, Mechanical Schedule, Lighting Schedule, Elevations.	Received or reviewed in part
<b>Site Survey</b> indicating buildings, roads, hardscape, parking counts, property boundaries, building area, site acreage, utility information.	Not provided or available
<b>Capital Improvement Summary*</b> indicating recent (over the last 5 years) capital improvements or future planned capital improvements. Provide the year the work was completed (or proposed to be completed), a summary description of the scope of the work, and the estimated cost of the improvements.	Not provided or available
Pending Proposals or Executed Contracts for material repairs or improvements	Not provided or available
<b>Summary of SF &amp; Unit Types/Quantities</b> (for residential/hotel/nursing home properties), identifying residential room/unit types (e.g. 1BR, 2BR, 3BR, 3BR ADA, Double, King ADA, Quad, etc.), residential room/unit type quantities, and residential room/unit type floor area in square feet.	Not provided or available
<b>Prior Property Condition Reports</b> or Studies pertaining to any aspect of the subject property's physical condition.	Not provided or available
<b>ADA Survey</b> or reports that indicate deficiencies and the status of any improvements implemented to effect physical compliance.	Not provided or available
<b>Historical Costs</b> incurred for repairs, improvements, and recurring replacements. For portfolio projects, the EMG Program Manager will work with the client to establish a list of Assets and costs that will be used to calibrate the Client's specific cost library.	Not provided or available
Primary Documentation - Additional Comments	
<b>Safety Inspection Records, Certificates, &amp; Permits</b>	Not provided or available
Comments / Specifics	
<b>Building Square Footage Breakdown</b>	Received or reviewed in part
<b>Vendor/Contractor Contact List</b>	Not provided or available
<b>Warranty Information</b>	Not provided or available
<b>Systems &amp; Equipment Records</b>	Not provided or available
<b>Tenant List / Rent Roll</b>	Not provided or available
<b>Appraisal</b>	Not provided or available
<b>Certificate of Occupancy</b>	Not provided or available
<b>Other Documents</b>	Not provided or available
Additional Comments	

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**APPENDIX G      ON-SITE DATE WEATHER CONDITIONS**

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Item	Condition
Outdoor Temperature	45° F
Weather Conditions	Clear
Snow Covering Ground	No Snow Cover
Wind Conditions	No Wind
Notes	

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## APPENDIX H AREAS NOT OBSERVED OR DOWN AREAS

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All areas of the property were available for observation during the site visit. There were no down areas.

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## APPENDIX I EQUIPMENT LIST

Equipment List provided is inclusive of all assets that are coded as Uniformat D - Services and generally include D10 Conveying, D20 Plumbing, D30 HVAC, D40 Fire Protection, and D50 Electrical. Additional attributes of each Asset are also recorded but are not reported in this table.

Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D1011	1 EA	Elevator Controls		Building Interior (General)			
D1011	1 EA	Elevator, Hydraulic		Building Interior (General)	ThyssenKrupp	EP07020	2,500.00 LB
D2011	6 EA	F1-Toilets		Floor 1			
D2011	9 EA	F2-Toilets		Floor 2			
D2012	2 EA	F1-Urinals		Floor 1			
D2012	3 EA	F2-Urinals		Floor 2			
D2013	6 EA	F1-Lavatories, China		Floor 1			
D2013	9 EA	F2-Lavatories, China		Floor 2			
D2014	1 EA	Sink, Stainless Steel		Building Interior (General)			
D2018	2 EA	F1-Drinking Fountains, Refrigerated		Floor 1			
D2018	2 EA	F2-Drinking Fountains, Refrigerated		Floor 2			
D2021	1 EA	Backflow Preventer, Domestic, RPZ		Site	Watts	009M2	1.50 - See Observation /Comments
D2023	1 EA	Domestic Water Heater, Gas		Mechanical Room (Primary)	AO Smith	FSGL 40 242	40.00 GAL

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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D2029	30,819 SF	Plumbing System, Domestic Supply		Building Interior (General)			
D2039	30,819 SF	Plumbing System, Sanitary Waste		Building Interior (General)			
D3041	15,570 SF	HVAC System Ductwork		Building Interior (General)			
D3042	1 EA	Exhaust Fans, Elevator	various	MEP Closet			
D3042	6 EA	Exhaust System, Roof		Building Interior (General)			
D3052	1 EA	Package Unit 1	1	Roof	York	D7CG060N0 9946A	5.00 TONS
D3052	1 EA	Package Unit 2	2	Roof	York	DM090N15A 4AAA1A	7.50 TONS
D3052	1 EA	Package Unit 3	3	Roof	York	DM078N15A 4AAA1A	6.50 TONS
D3052	1 EA	Package Unit 4	4	Roof	York	DM090N15A 4AAA1A	7.50 TONS
D3052	1 EA	Package Unit 5	5	Roof	York	D7CG060N0 9946A	5.00 TONS
D3052	1 EA	Package Unit 6	6	Roof	York	DM090N15A 4AAA1A	7.50 TONS
D3052	1 EA	Package Unit, RTU 1	RTU 1	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 10	RTU 10	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 11	RTU 11	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 12	RTU 12	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 13	RTU -13	Roof	Trane	YHC-120	10.00 TONS
D3052	1 EA	Package Unit, RTU 2	RTU 2	Roof	Trane	YHC-036	3.00 TONS



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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D3052	1 EA	Package Unit, RTU 3	RTU3	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 4	RTU4	Roof	Trane	YHC-048	4.00 TONS
D3052	1 EA	Package Unit, RTU 5	RTU5	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 6	RTU 6	Roof	Trane	YHC-036	3.00 TONS
D3052	1 EA	Package Unit, RTU 7	RTU 7	Roof	Trane	YHC-048	4.00 TONS
D3052	1 EA	Package Unit, RTU 8	RTU 8	Roof	Trane	YHC-048	4.00 TONS
D3052	1 EA	Package Unit, RTU 9	RTU 9	Roof	Trane	YHC-048	4.00 TONS
D3068	30,819 SF	HVAC Controls, Direct Digital (DDC)		Building Interior (General)			
D4011	1 EA	Backflow Preventer, Fire, DCV		Site	Ames	SS3000	4.00 - See Observation /Comments
D4019	30,819 SF	Sprinkler Heads		Building Interior (General)			
D5012	1 EA	Disconnect Switch, 200 Amp		Electrical Room (Primary)	Square D		300.00 AMP
D5012	1 EA	Main Distribution Panel		Electrical Room (Primary)	Siemens	S2E42JX400 ABS	400.00 AMP
D5012	2 EA	Secondary (Step-Down) Transformer		Electrical Room (Primary)	GE	9T23B3873	
D5019	30,819 SF	Electrical Distribution System		Building Interior (General)			
D5022	6 EA	Light Fixture, Exterior, LED		Exterior Walls			
D5029	15,570 SF	F1--Lighting System, Interior		Floor 1			



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Uniformat Code	Quantity	Asset Label	Asset Tag	Location	Make	Model Number	Capacity
D5029	15,570 SF	F2-Lighting System, Interior		Building Interior (General)			
D5037	1 EA	Fire Alarm Control Panel		Building Interior (General)	FCI	7200	
D5037	30,819 SF	Fire Alarm System		Building Interior (General)			
D5038	100 EA	Interior Door Hardware, Card Reader		Building Interior (General)			



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## APPENDIX J      SPACE UTILIZATION

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Building Number	Building Name	Historic (Y/N)	Floor	Agency / Tenant	Number of Occupants	Number of Staff per Shift	Room #	Room Use Type	Room Utilization (Utilized?) Vacant?	Owner Nomenclature for Room	Measured SF	Comments	Locked Areas	Room # Source	Room Use Source
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			183	Stairway	Utilized		200				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			101	Lobby	Utilized		106				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			102	Lobby	Utilized		148				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			158	Mechanical	Utilized		113				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		117				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		364				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		56				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		120				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		372				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		364				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		160				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		340				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		356				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		56				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		56				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		339				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			180	Circulation	Utilized		162				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			184	Stairway	Utilized		262				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			185	Stairway	Utilized		205				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			178	Communications	Utilized		73				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			177	Electrical	Utilized		78				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			179	Mechanical	Utilized		161				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			176	Janitor	Utilized		34				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			175	Men's	Utilized		189				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			174	Women's	Utilized		189				
KC29A - 1529	210 Flagg Road (Surge)	N	1	Classrooms/Administration			169	Janitor	Utilized		115				
										Total Measured SF	4,735				
										Floor NSF	27741				
										Net Tenant Space	23,006				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			223	Stairway	Utilized		200				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			222	Lobby	Utilized		1,041				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			226	Circulation	Utilized		230				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			226	Circulation	Utilized		416				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			226	Circulation	Utilized		406				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			226	Circulation	Utilized		280				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			226	Circulation	Utilized		552				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			226	Circulation	Utilized		158				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			224	Stairway	Utilized		262				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			225	Stairway	Utilized		205				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			216	Men's	Utilized		287				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			215	Women's	Utilized		287				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			217	Janitor	Utilized		30				
KC29A - 1529	210 Flagg Road (Surge)	N	2	Classrooms/Administration			218	Electrical	Utilized		70				
										Total Measured SF	4,424				
										Floor NSF	27741				
										Net Tenant Space	23,317				



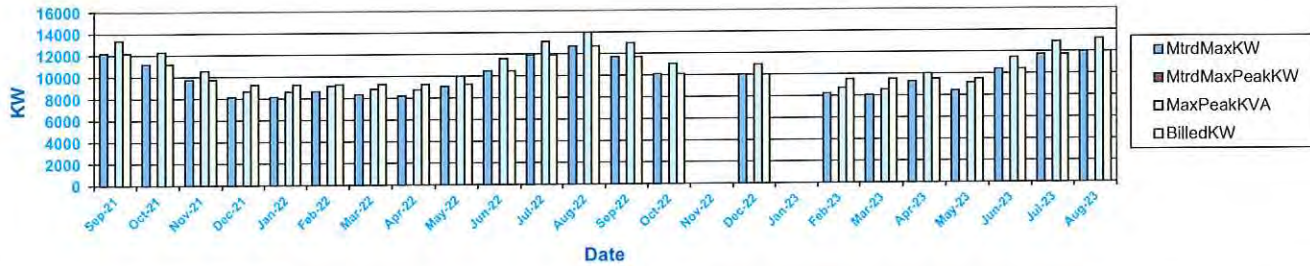
## APPENDIX E – ELECTRIC LOAD REPORT

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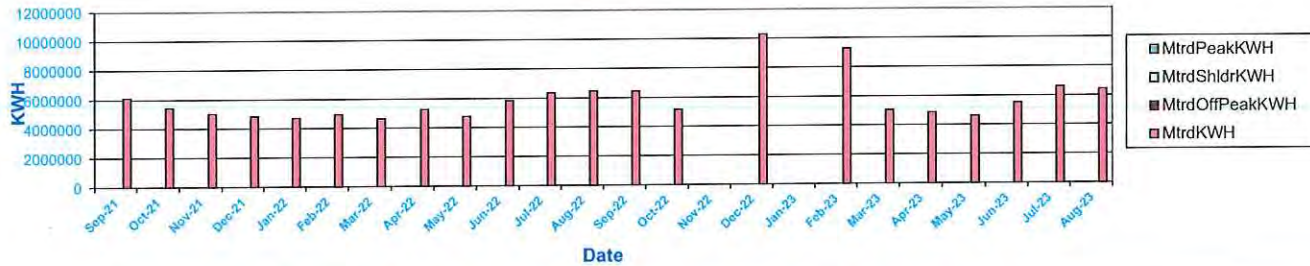
387395002

Mall:  
60 TOOTELL RD  
KINGSTON, RIService:  
338 PLAINS RD POLE 9048.5  
KINGSTON, RIRateCode: 711  
RateDesc: Elec G-32 T&D 200 kW Den  
G3F-G% OnPeak: 0.0%  
Load Factor: 74.6%  
PowerFac: 92.1%

## Electric Demand



## Electric Usage



Bill Date	Days	Metered Max kW	Metered Max Peak kW	Max Peak kVA	Billed kW	Billed kWh	Metered Peak kWh	Metered Shoulder kWh	Metered Off-Pk kWh	Metered kWh	Hrs Use	Pwr Fctr	Load Factor	TOTAL Hrs	kWh/Day
Aug-2023	32	12,012	0	13,188	12,012	6,430,113	0	0	0	6,430,113	535	91.1%	69.7%	768	200,941
Jul-2023	30	11,772	0	12,936	11,772	6,601,401	0	0	0	6,601,401	561	91.0%	77.9%	720	220,047
Jun-2023	32	10,440	0	11,508	10,440	5,532,966	0	0	0	5,532,966	530	90.7%	69.0%	768	172,905
May-2023	29	8,436	0	9,180	9,558	4,620,066	0	0	0	4,620,066	548	91.9%	78.7%	696	159,313
Apr-2023	30	9,312	0	10,056	9,558	4,868,718	0	0	0	4,868,718	523	92.6%	72.6%	720	162,291
Mar-2023	32	8,076	0	8,568	9,558	5,035,854	0	0	0	5,035,854	624	94.3%	81.2%	768	157,370
Feb-2023	59	8,232	0	8,724	9,558	9,257,778	0	0	0	9,257,778	1,125	94.4%	79.4%	1,416	156,911
Dec-2022	62	10,032	0	10,956	10,032	10,275,126	0	0	0	10,275,126	1,024	91.6%	68.8%	1,488	165,728
Oct-2022	30	10,152	0	11,064	10,152	5,179,053	0	0	0	5,179,053	510	91.8%	70.9%	720	172,635
Sep-2022	31	11,736	0	12,984	11,736	6,443,715	0	0	0	6,443,715	549	90.4%	73.8%	744	207,862
Aug-2022	30	12,744	0	14,016	12,744	6,480,177	0	0	0	6,480,177	508	90.9%	70.6%	720	216,006
Jul-2022	30	11,916	0	13,176	11,916	6,363,555	0	0	0	6,363,555	534	90.4%	74.2%	720	212,119
Jun-2022	32	10,476	0	11,616	10,476	5,834,607	0	0	0	5,834,607	557	90.2%	72.5%	768	182,331
May-2022	29	9,072	0	9,996	9,266	4,782,234	0	0	0	4,782,234	527	90.8%	75.7%	696	164,905
Apr-2022	33	8,208	0	8,772	9,266	5,255,055	0	0	0	5,255,055	640	93.6%	80.8%	792	159,244
Mar-2022	29	8,364	0	8,880	9,266	4,634,253	0	0	0	4,634,253	554	94.2%	79.6%	696	159,802
Feb-2022	29	8,664	0	9,156	9,266	4,950,819	0	0	0	4,950,819	571	94.6%	82.1%	696	170,718
Jan-2022	34	8,136	0	8,628	9,266	4,712,025	0	0	0	4,712,025	579	94.3%	71.0%	816	138,589
Dec-2021	30	8,132	0	8,705	9,266	4,841,762	0	0	0	4,841,762	595	93.4%	82.7%	720	161,392
Nov-2021	31	9,742	0	10,584	9,742	5,007,782	0	0	0	5,007,782	514	92.0%	69.1%	744	161,541
Oct-2021	29	11,210	0	12,301	11,210	5,430,240	0	0	0	5,430,240	484	91.1%	69.6%	696	187,250
Sep-2021	29	12,204	0	13,392	12,204	6,129,254	0	0	0	6,129,254	502	91.1%	72.2%	696	211,354

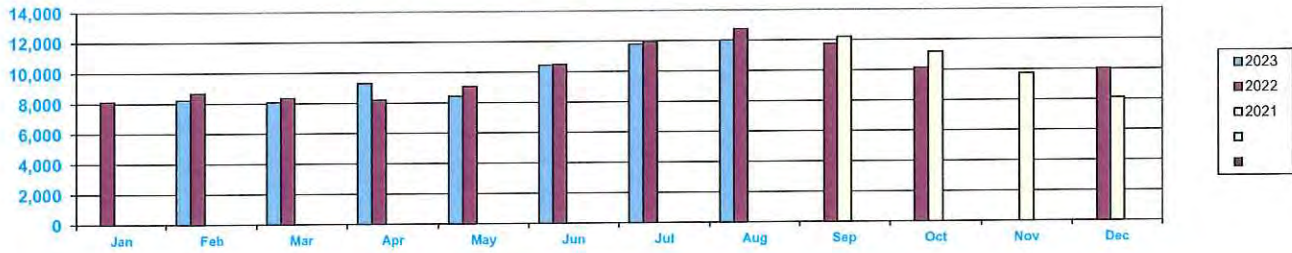
387395002

Mail:  
60 TOOTELL RD  
KINGSTON, RI

Service:  
338 PLAINS RD POLE 9048.5  
KINGSTON, RI

RateCode: 711  
RateDesc: Elec G-32 T&D 200 kW Dem PK/OP

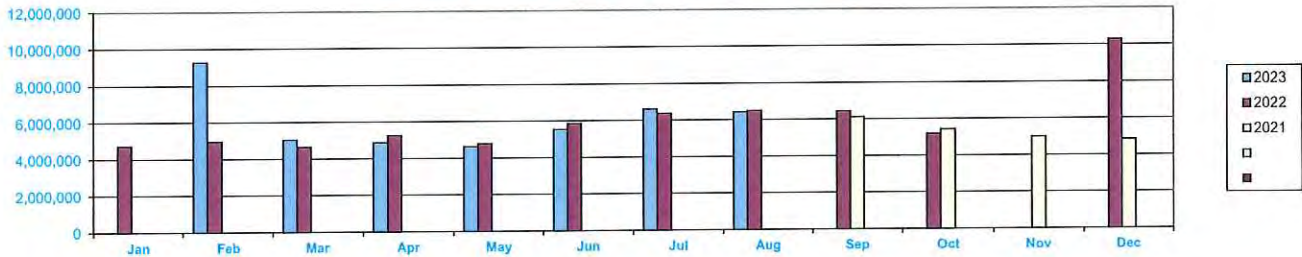
### Electric Demand Comparison (Metered Max KW)



#### Electric Demand Comparison

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg
2023		8,232	8,076	9,312	8,436	10,440	11,772	12,012					68,280	9,754
2022	8,136	8,664	8,364	8,208	9,072	10,476	11,916	12,744	11,736	10,152		10,032	109,500	9,955
2021									12,204	11,210	9,742	8,132	41,288	10,322

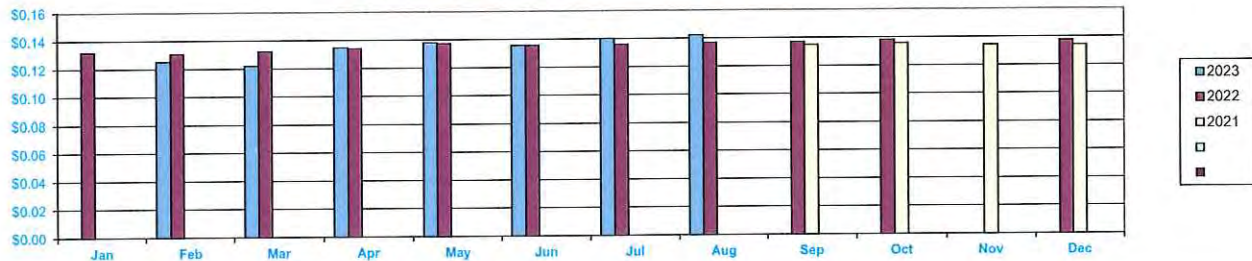
### Electric Usage Comparison (Metered KWH)



#### Electric Usage Comparison

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg
2023		9,257,778	5,035,854	4,868,718	4,620,066	5,532,966	6,601,401	6,430,113					42,346,896	6,049,557
2022	4,712,025	4,950,819	4,634,253	5,255,055	4,782,234	5,834,607	6,363,555	6,480,177	6,443,715	5,179,053		10,275,126	64,910,619	5,900,965
2021									6,129,254	5,430,240	5,007,782	4,841,762	21,409,038	5,352,260

### Dollars Per KWH Comparison (\$/KWH)



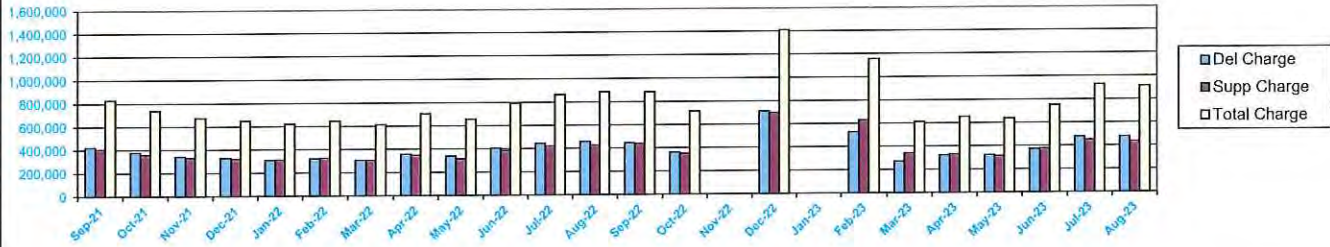
#### Dollars Per KWH Comparison

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg
2023		\$0.13	\$0.12	\$0.13	\$0.14	\$0.14	\$0.14	\$0.14					\$0.94	\$0.13
2022	\$0.13	\$0.13	\$0.13	\$0.13	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.14	\$0.13	\$0.14	\$1.49	\$0.14
2021									\$0.13	\$0.14	\$0.13	\$0.13	\$0.54	\$0.13

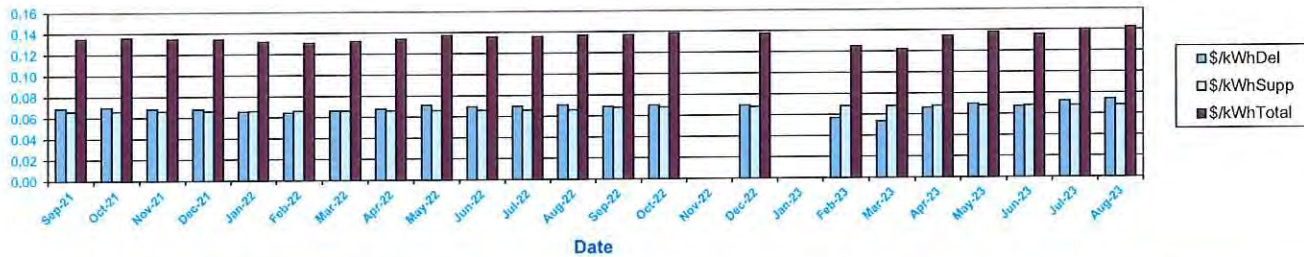
387395002

Mail:  
60 TOOTELL RD  
KINGSTON, RIService:  
338 PLAINS RD POLE 9048.5  
KINGSTON, RIRateCode: 711  
RateDesc: Elec G-32 T&D 200 kW Den  
G3F-GAvg Cost:  
0.13 \$/kWh

## Electric Bill (\$)



## Electric Bill (\$/KWH)



Bill Date	Days	Num Bills	Ele Del Charge	Ele Supp Charge	Ele Total Charge	\$/kWh Del	\$/kWh Supp	\$/kWh Total	Metered kWh	Hrs Use	Total Hrs	kWh/Day	\$/Day
Aug-2023	32	1	\$476,765	\$438,051	\$914,817	\$0.07	\$0.07	\$0.14	6,430,113	535	768	200,941	\$28,588.02
Jul-2023	30	1	\$476,564	\$449,720	\$926,284	\$0.07	\$0.07	\$0.14	6,601,401	561	720	220,047	\$30,876.14
Jun-2023	32	1	\$373,675	\$376,933	\$750,608	\$0.07	\$0.07	\$0.14	5,532,966	530	768	172,905	\$23,456.50
May-2023	29	1	\$322,336	\$314,742	\$637,078	\$0.07	\$0.07	\$0.14	4,620,066	548	696	159,313	\$21,968.19
Apr-2023	30	1	\$324,337	\$331,681	\$656,018	\$0.07	\$0.07	\$0.13	4,868,718	523	720	162,291	\$21,867.28
Mar-2023	32	1	\$270,816	\$343,068	\$613,884	\$0.05	\$0.07	\$0.12	5,035,854	624	768	157,370	\$19,183.87
Feb-2023	59	2	\$528,089	\$630,686	\$1,158,775	\$0.06	\$0.07	\$0.13	9,257,778	1,125	1,416	156,911	\$19,640.25
Dec-2022	62	2	\$712,052	\$699,993	\$1,412,045	\$0.07	\$0.07	\$0.14	10,275,126	1,024	1,488	165,728	\$22,774.92
Oct-2022	30	1	\$362,806	\$352,823	\$715,629	\$0.07	\$0.07	\$0.14	5,179,053	510	720	172,635	\$23,854.30
Sep-2022	31	1	\$444,092	\$438,978	\$883,070	\$0.07	\$0.07	\$0.14	6,443,715	549	744	207,862	\$28,486.14
Aug-2022	30	1	\$457,992	\$428,637	\$886,629	\$0.07	\$0.07	\$0.14	6,480,177	508	720	216,006	\$29,554.29
Jul-2022	30	1	\$443,289	\$420,923	\$864,211	\$0.07	\$0.07	\$0.14	6,363,555	534	720	212,119	\$28,807.05
Jun-2022	32	1	\$405,648	\$385,935	\$791,583	\$0.07	\$0.07	\$0.14	5,834,607	557	768	182,331	\$24,736.97
May-2022	29	1	\$340,708	\$316,325	\$657,032	\$0.07	\$0.07	\$0.14	4,782,234	527	696	164,905	\$22,656.29
Apr-2022	33	1	\$356,890	\$347,600	\$704,490	\$0.07	\$0.07	\$0.13	5,255,055	640	792	159,244	\$21,348.17
Mar-2022	29	1	\$306,262	\$306,537	\$612,798	\$0.07	\$0.07	\$0.13	4,634,253	554	696	159,802	\$21,130.98
Feb-2022	29	1	\$318,763	\$327,476	\$646,239	\$0.06	\$0.07	\$0.13	4,950,819	571	696	170,718	\$22,284.10
Jan-2022	34	1	\$309,336	\$311,681	\$621,017	\$0.07	\$0.07	\$0.13	4,712,025	579	816	138,589	\$18,265.20
Dec-2021	30	1	\$329,242	\$320,262	\$649,504	\$0.07	\$0.07	\$0.13	4,841,762	595	720	161,392	\$21,650.14
Nov-2021	31	1	\$342,335	\$331,244	\$673,579	\$0.07	\$0.07	\$0.13	5,007,782	514	744	161,541	\$21,728.36
Oct-2021	29	1	\$378,511	\$359,188	\$737,699	\$0.07	\$0.07	\$0.14	5,430,240	484	696	187,250	\$25,437.89
Sep-2021	29	1	\$421,594	\$405,425	\$827,018	\$0.07	\$0.07	\$0.13	6,129,254	502	696	211,354	\$28,517.87

## **APPENDIX F – STEAM PLANT CONDITION ASSESSMENT**



**FIVE-YEAR LONGEVITY AUDIT REPORT  
OF  
UNIVERSITY OF RHODE ISLAND  
CENTRAL STEAM HEATING PLANT  
5 LIPPITT ROAD  
KINGSTON, RHODE ISLAND 02881**



**PREPARED BY  
JOSEPH GRYNBAUM, P.E.  
PRINCIPAL  
MEDIATION RESOLUTION INT'L, LLC  
D/B/A POWER GENERATION CONSULTANTS  
28 BANBURY LANE  
WEST HARTFORD, CONNECTICUT 06107**

**SEPTEMBER 30, 2019**

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## EXECUTIVE SUMMARY

The University Of Rhode Island Central Steam Plant Facility in its current configuration began to deliver steam to the University in November of 1999. *Energy Infrastructure, LLC*, (EI) operates and maintains the Facility under the terms of its operating contract (Steam Service Agreement with the State of Rhode Island) dated May 21, 1998. In addition, every five-years of operation, EI is required to obtain the opinion of an independent professional engineer as to the condition and capability of the Facility to continue to meet the acceptable steam needs of the University.

This report describes an operational and condition audit performed by *Mediation Resolution Int'l, LLC*, (MRI) to cover the 5-year period beginning in 2014 - when the prior audit was completed, as described in MRI's report dated September 30, 2014 - as well as an assessment of the Facility's remaining life based on personal observations, a review of operating and maintenance records and informal interviews with operating personnel and control system and water treatment specialized service providers, as well as the stack emissions testing company.

Based on this in-depth review our opinion is that the Facility is being operated and maintained in accordance with best and prudent industry practices. In our judgment, the Facility is currently capable of meeting the University steam needs, including its Maximum Steam Load, well beyond the 2019 contractual date, without replacement of the existing steam generating equipment, assuming that a targeted capital improvement life-extension program is implemented and current practices are maintained, normal wear and tear excepted.

We note that two major Facility betterments were implemented by EI previous to the last audit, namely; replacement of original condensate polisher with upgraded stainless steel vessels, and a major external and internal renovation of the chimney. Both these improvements continue to benefit the Facility's longer term operational objectives.

A recent cursory inspection of the chimney during a scheduled outage this year confirmed that further deterioration has not occurred.

In addition, during 2018 a lighting upgrade was completed throughout the building with retrofit of LED long life fixtures and selective motion sensors to conserve in-house energy consumption.

At this time we recommend that the following plant operational improvements be implemented in a timely fashion to ensure that the current operational reliability of steam supply to the University is not negatively impacted.

- Replacement of seven (7) outdated electric valve actuators on four (4) feedwater control valves, one (1) DA steam and one (1) condensate valve and one (1) makeup water valve, with present-day technology actuators

In addition, we recommend that the University undertake the following capital improvement program to extend the operational life of the Facility to achieve the long term objectives as outlined in Article 14 of the EI contractual Steam Service Agreement. These major upgrades are not covered under the “normal operation, maintenance and repair” considerations stated in the Steam Service Agreement.

- An upgrade of the Burner Management System (BMS) and combustion controls
- An upgrade of the control room workstations

Furthermore we note that appropriate non-destructive testing (NDT) was undertaken during the preceding 5-year period, as recommended in the previous report, to determine if the deaerator tank and oil tanks were experiencing wear or potential weld failure conditions. The test results reported confirm that no measurable wear is present and therefore this equipment should continue to operate safely into the future.

The following specialized test programs were performed and our review of the test reports confirms that the results are satisfactory.

- Oil tank (3) weld integrity NDT
- DA tank shell weld integrity NDT
- Thermography survey of steam traps and electrical cabinets
- Vibration survey of rotating equipment including fans and pumps

## 1.0 STATEMENT OF PURPOSE

Mediation Resolution International, LLC (MRI) d/b/a *Power Generation Consultants* was retained by EI, the operator of the University of Rhode Island Central Steam Plant Facility, to undertake a 5-year longevity study to confirm the Facility's capability to continue to meet the acceptable steam needs of the University.

The basis for this audit requirement is defined in Article 14 of the EI contractual Steam Service Agreement, which was entered into in May 1998 with the State of Rhode Island for Guarantee of Facility Performance and reads as follows:

*"Every 5 years from Authorization to Proceed Date, Seller shall provide to the University an opinion of an independent professional engineering firm selected by Seller experienced in the operation of steam generation facilities and reasonably acceptable to the University (which acceptance shall be obtained from the University prior to issuance of the opinion hereunder) that in that engineer's judgment the Facility is currently capable, normal wear and tear excepted, of meeting the Acceptable Steam needs of the University (up to the Maximum Steam Load) for the period from the date of the opinion until a date 26 years from the date of this agreement, without replacement of the steam generating equipment, assuming normal operation, maintenance and repair. In the event that the engineer is not able to give this opinion, Seller shall undertake, and complete within one year of the date of the opinion, repairs or improvements as are required in order for the engineer to render the opinion pursuant to this Article. In the event that the Seller is unable to*

*bring the Facility into compliance with this Article and the University undertakes such repairs, Seller shall pay the University the reasonably incurred cost of required repairs.”*

The purpose and intent of this audit is to provide an objective review of the operating and maintenance practices at the URI Steam Plant Facility in the context of the most current and best practices, based on MRI's industry experience with similar institutional central steam operating facilities.

## 2.0 SCOPE OF WORK AND METHODOLOGY

The URI Central Steam Plant Facility audit was performed by Joseph Grynbaum, P.E., Principal of Mediation Resolution Int'l, LLC, d/b/a Power Generation Consultants. Mr. Grynbaum is an independent licensed professional engineer with over 35 years of experience in technical management, engineering and operation of multi-fuel facilities that deliver steam for heating and cooling as well as electric power generation.

Two on-site visitations were conducted on June 11, 2019 and July 26, 2019 to coincide with 1.) The annual scheduled open-boiler inspection by a Jurisdictional Specialist inspector from FM Global and 2.) The scheduled control system tuning and adjustment/calibration of the four boilers and associated controls by “*East Coast Combustion and Controls*” a specialized control system service provider.

Both visitations were hosted by Mr. Ken Ferrebee, Interim O&M Manager at the steam plant.

The Facility audit addressed the following areas:

- ◆ Plant physical condition and performance
- ◆ Staffing qualifications and experience
- ◆ Operations and maintenance practices
- ◆ Overall management

- ◆ Specialized services for boiler water treatment, control system tuning and calibration and stack emission testing
- ◆ Facility reports, records, procedures, fuel usage
- ◆ Facility improvements/betterments

In addition to informal interviews with Mr. Ken Ferrebee, and two different day-shift control room operators, the following contracted services providers were contacted to review what services they were providing, and whether they recommended any additional operational improvements or practices to ensure the continued life expectancy of the Facility; this outreach also included contacting the FM Global Jurisdictional Specialist and the State of Rhode Island Chief Boiler and Pressure Vessel Inspector.

Service providers and personnel contacted included:

- ◆ *East Coast Combustion & Controls* – Mr. Robert Youmans (Stanfordville, NY)
- ◆ *Gammie Air Monitoring, LLC* – Mr. Leigh Gammie (West Simsbury, CT)
- ◆ *Aquafax Industrial Water Treatment Consultants* – Mr. Robert Gagnon, Jr. (Durham, NC)
- ◆ *FM Global Co.* – Mr. Scott Bateson (Norwood, MA)
- ◆ *State of Rhode Island, Division of Occupational Safety/Boiler Unit* – Mr. Jose Taveras (Cranston, RI)

In addition to the service providers listed above, the Assistant Director of Facilities Services at the University (URI), Mr. David Lamb, was interviewed to ascertain his assessment of the performance of the facility.

Mr. Lamb represents the steam customer for the steam services produced and is the primary contact between the plant and the University. He also oversees the volume and quality of condensate returned to the plant from the campus steam distribution system and associated steam heat exchangers throughout the campus.

During the audit activities the following documents were requested and reviewed on a whole or sample basis:

- ◆ Technical service reports issued by Aquafax water treatment consultants
- ◆ Boiler and pressure parts inspection reports
- ◆ Stack emissions testing reports issued by Gammie Air Monitoring
- ◆ Revised RIDEM Operating Permit dated June 30, 2017
- ◆ Fuel oil quality test reports
- ◆ Spare parts inventory and usage
- ◆ Preventive maintenance procedures
- ◆ Annual summary of natural gas and fuel oil usage
- ◆ Description of facility improvements performed during past 5-years
- ◆ Description of any major system upsets that may have occurred over past 5-years
- ◆ All monthly management reports issued by Plant Manager for the 5-Year period
- ◆ Facility operations and maintenance manuals including recently produced new operator orientation materials
- ◆ Facility schematics
- ◆ NDT Test Reports

Additional requests for reports, data and response to questions developed during the on-site audit and in preparation of this report were promptly provided by Mr. Ken Ferrebee.

An extensive top-to-bottom walk-down of the Facility concluded our two-day on-site visit activities for the audit. The walk-down focused on all facility systems both inside and outside the boiler house building proper.

Mr. Ferrebee's forthright responses and prompt follow-up to questions and data requests was particularly noteworthy throughout all audit activities, and through

finalization of this audit report. This positive open-book “nothing to hide” attitude was also reflected in candid responses to questions asked of the control room operating personnel interviewed.

### 3.0 ADMINISTRATION & ORGANIZATION

The URI Central Steam Plant Facility is currently managed by Mr. Ken Ferrebee, the resident interim Plant Manager. Mr. Ferrebee is an employee of NORESCO, LLC (NORESCO) which is based in Westborough, Massachusetts. NORESCO owns 100% of *Energy Infrastructure, LLC*. The NORESCO corporate office houses additional staff including, engineering, safety, regulatory operations management, accounting and human resources. These resources can be mobilized, as needed, to support the operational and management requirements at the Facility.

Mr. Ferrebee reports directly to Mr. Jeffrey Zuba, Operations Manager of EI at NORESCO, and also maintains regular, often day-to-day communications with Mr. Dave G. Lamb, Assistant Facilities Services Director, at the University of Rhode Island.

Mr. Lamb confirmed that he is kept well informed by Mr. Ferrebee, both directly and indirectly by receipt of a monthly management report which summarizes how the facility is performing.

Mr. Lamb also stated that he is generally satisfied with the ongoing responsiveness of EI to provide the varied steam supply requirements at the University, especially during the current major campus facilities expansion that is underway.

Since the previous audit there have been several recent personnel changes in the management of the steam plant, without any apparent disruption to the effective operation of the facility.

The longtime manager Mr. Ken Hirt has retired, and was replaced by Mr. Bruce Patrick initially, and more recently by Mr. Ken Ferrebee who was named interim O&M Manager on April 26, 2019.

Mr. Hirt was responsible for the start-up and commissioning of the newly constructed Facility during the 1998 -1999 time frame, during which time he was also responsible for continuing operation and maintenance of the prior "old" boilers facility, which was replaced with the existing four-boiler steam generating system in 1999.

Mr. Ken Ferrebee is an experienced power plant shift supervisor with extensive navy and power plant operations and maintenance background. Mr. Ferrebee had been employed at the steam plant as a shift operator and is familiar with the overall plant, its control and monitoring systems and all safety and operating procedures.

I have reviewed Mr. Ferrebee's experience and based on my conversations with him, prior to and during the site visitations, I consider his promotion to assume plant manager responsibility an appropriate action by EI.

The Facility is manned 24/7 by four NORESKO control room operators, who each work 12-hour shifts, and report to the Plant Manager. It is noteworthy to mention that up until 2018 all the operational personnel had many years of service at the Facility, which in our opinion is a strong indicator of both good management practices, and best industry operational practices employing competent and long-term dedicated personnel.

However, as is becoming more prevalent throughout the industry, several control room personnel had aged-out and it became necessary to recruit new plant operators. In anticipation of this development EI updated the plant's O & M procedures to provide more information for the transition to new incoming employees.

A detailed new employee orientation power point presentation has also been produced to educate new employees on the plant specifics, as well as their relationship with EI and NORESKO their effective employer.

Based on our review of the above materials we consider the enhanced approach to train new employees is being well managed, and should ease the transition from old timer to more recent hires who will continue to operate and maintain the steam plant going forward.

During the year specialized maintenance, repairs, calibration, testing and inspection services, tailored to the specific equipment design capabilities, is contracted out to a number of experienced firms, to ensure that the Facility and equipment operates reliably in accordance with best industry practices.

#### 4.0 OPERATIONS & MAINTENANCE

The URI Central Steam Plant is operated on a 24/7 basis employing four shift control room operators working 12-hour shifts; a 12-hour day shift and a 12-hour night shift. All operators report to the plant manager who works the day shift, 5-days per week, and is on-call during his non-working hours.

In addition to monitoring and controlling the steam plant from a centralized control room, the operators are responsible for all safety considerations and procedures, as well as maintaining optimum water boiler chemistry for protection of the boiler internals and steam quality. The operators also perform preventive maintenance and other equipment adjustments in accordance with written procedures and a computerized in-house maintenance scheduling program.

Whenever repairs or maintenance activities require special skills or additional manpower and specialized tools or materials to complete the work it is contracted out to companies with that capability.

An annual shutdown of the Facility to perform inspections or planned maintenance, which cannot be done while the steam system is operating, is typically scheduled during summer periods when the University steam demand is at its lowest.

#### 4.1 Record Keeping

A well managed Facility is often best determined by the quality of record keeping that is being maintained on a regular basis. These permanent records provide the most important operational parameters to be used to objectively assess the performance of the Facility as well as assign a best practices benchmark to compare for future operations.

Our review of the following records and logs leads us to conclude that the Facility is maintaining an excellent program of record keeping and dissemination of information, essential for good communication between management and the University Of Rhode Island Campus host.

##### 4.1.1 Operator Logs

Shift operators maintain hourly operator logs which record Facility operating parameters and events that require notation over the course of the 24 hour day. These logs provide a summary of hourly walk downs noting significant operational and maintenance events which must be conveyed to the next shift operator during shift turnover. Events noted include any operational excursions, personnel on-site and the nature of their business, maintenance and safety considerations, including a formal equipment lock-out / tag out procedure which is in place at the Facility.

In addition to the abovementioned logs, the operators' record results of water quality testing they perform daily, and they can also obtain computer printouts from the Plant Master Display monitor in the control room. (See Exhibit 04)

The water quality testing program and procedures were designed by the industrial water treatment consultant to control the chemistry for protection of the boiler water side internals, and has been implemented diligently since the Facility went into service. These water chemistry logs are reviewed by the consultant during routine monthly visits to the Facility.

During our site visitation it was noted that the analog equipment used to record daily chemistry for the boiler water, including condensate and steam, had been in place since the plant was commissioned in 1999. These parameters are crucial to the long life expectancy of the boiler tubes and maintenance of the water treatment regime at the plant.

Although the manual testing procedure being followed is satisfactory, as evidenced by the excellent condition of the boiler tubes and drum internals, current advances in digital hand-held analytical meters should be evaluated, because they are more robust, simpler to use and less prone to operator error.

This alternate measurement instrument should be considered going forward because as older operators are retiring new employee replacements will need to be trained to record and report water chemistry in a consistent and repeatable manner. Another advantage of the digital meters is that they retain a memory of the daily readings which can be accessed to produce a historical record for transfer to the plant's record keeping software for later printout.

#### 4.1.2 Monthly Management Report

Each month the Facility produces a detailed management report and energy delivery invoice which is sent to the URI Assistant Facilities Director, Mr. David Lamb.

The management report summarizes the monthly consumables such as natural gas and fuel oil, and also gallons of condensate returned from the Campus and gallons of make-up water usage by the plant. It also records the electric usage at the Facility.

Steam production is broken down by individual boiler as well as deaerator steam usage, to arrive at the monthly steam quantity delivered to the Campus.

In addition to the above production parameters, we recommend that burner run-time hours broken down for each boiler also be included in the management report. This information is already being recorded within the burner Fire-Eye control system, which activates when a burner is placed into service.

Other important activities that occur during the month are also presented in the report under the following subheadings:

- ◆ Host Issues
- ◆ Safety Issues
- ◆ Summary of Outage Activities – Scheduled / Unscheduled
- ◆ Summary of Plant Activities

#### 4.1.3 Water Treatment / Quality Technical Report

Each month the Industrial Water Treatment Consultant (Aquafax Inc.) visits the Facility and issues a technical report which summarizes their determination of the adherence of the Facility to the water chemistry program they have recommended.

This is based on a discrete sampling of the water samples they collect which are analyzed at their laboratory, as well as a review of the daily water quality logs prepared by the plant operators.

The Aquafax report quantifies each water quality parameter recorded against its acceptable range according to industry boiler water quality standards, and also

provides recommendations for future improvements. Any observations of tube or drum condition made during open boiler inspections, are also reported.

In a separate technical report which is sent directly to the University Facility Director, the water treatment consultant records the quality of condensate returned from the Campus. In this way any negative condensate quality changes, which may indicate heat exchanger leakages or iron contamination of the condensate, can be quickly corrected by the University so as to not negatively impact the ongoing boiler operation.

## 5.0 STEAM PLANT EVALUATION

### 5.1 Steam Boilers

The URI Central Steam Plant Facility consists primarily of four Babcock & Wilcox saturated steam boilers, designated No. 1, No. 2 and No. 3, all manufactured in 1998, and No. 4 manufactured in 1999. All the boilers are equipped with economizers for feedwater heating and flue gas recirculation for optimum NO<sub>x</sub> control. The boilers are each fitted with dual-fuel low NO<sub>x</sub> burners manufactured by Todd Combustion Co.

Design steaming capacity of the boilers, according to boiler nameplate ratings is as follows: (see Exhibit 01)

Boiler 1	30,000 pounds per hour
Boiler 2	60,000 pounds per hour
Boiler 3	60,000 pound per hour
Boiler 4	80,000 pounds per hour

The boilers are primarily fueled with natural gas, and are also capable of fuel oil firing whenever the natural gas is curtailed during extreme winter conditions under the current terms of an interruptible gas supply contract.

Since the last 5-year longevity audit (2014), the amount of fuel oil usage and number of days when natural gas was curtailed at the Facility has been recorded as follows:

Year	Days Curtailed	Fuel Oil Used
2015	31	644,274 gals
2016	15	226,802 gals
2017	14	356,012 gals
2018	12	206,324 gals
2019 Partial	10	243,121 gals

Fuel oil is delivered to the facility by tanker truck and stored in three outdoor 30,000 gallon uninsulated storage tanks located within a walled spill-containment area.

As of July 30, 2014 and August 5, 2019, since the beginning of Facility operations, each of the boilers has operated (burner runtime) for the following hours;

Boiler No.	July 30, 2014	August 5, 2019
Boiler 1	53,727 hours	73,091 hours
Boiler 2	36,933 hours	42,017 hours
Boiler 3	33,692 hours	47,048 hours
Boiler 4	27,360 hours	40,615 hours

The increased accumulated hours for the smallest capacity boiler No. 1 (30,000 pounds per hour) indicates that it is kept running during the summer months when load demand is low, to ensure that the University continues to receive steam.

#### 5.1.1 Condition of Boilers

A cursory internal visual inspection of the steam drum and mud drum of the two largest boilers, No. 3 and No. 4 during our initial visit on June 11, 2019, confirms that the boiler steam drum and mud drum are in excellent condition.

The observed condition of both boiler drum internals was consistent with that reported in the previous 5-year longevity audit report.

Given the fact that each boiler has been operating for almost 20-years, this excellent maintained condition is a tribute to the good industry practice water treatment program that EI has diligently applied at the plant.

In addition to maintaining boiler water chemistry each boiler drum in operation is continuously blown down to maintain optimum water/steam chemistry, and the operators also manually blowdown the mud drum once per day. In combination, this good industry practice has resulted in preservation of boiler internals in excellent condition.

This positive assessment was confirmed by the FM Global Jurisdictional Boiler Inspector who had been on-site to carry out a State of Rhode Island mandated annual inspection. After successfully passing the annual inspection each boiler is issued a Certificate of Boiler Inspection which is required to be posted in the office at the plant. (See Exhibit 03)

Based on the above, we are of the opinion that there is no operational reason why the existing boilers will not continue to provide reliable low-maintenance service for the next 15 to 20 years, given the high quality of the Babcock & Wilcox waterwall tube boilers, the fact that they are primarily natural gas fueled and their observed excellent condition after 20-years of service.

#### 5.1.2 Boiler Non-Destructive-Testing Recommendations

To establish a benchmark of remaining boiler tube life expectancy we recommend that prior to the next 5-year longevity audit, ultrasonic thickness measurements are recorded in the same sections of tubing on Boiler No. 4, as was tested in 2004. This should provide a comparative indication of condition of the tubes after 20-years of operating life, and a predictor of remaining tube life.

In addition, ultrasonic tubing thickness measurements of the 30,000 pph Boiler No. 1, which has the longest runtime of the four boilers, should also be recorded to provide a second benchmark of overall boiler condition going forward. If the results are positive, then the tube thickness testing schedule can be extended for a further 10-year period.

A paper audit of on-site water treatment records and water treatment consultant reports for the past five years indicate no extraordinary boiler maintenance, nor operational or physical concerns that are likely to impact boilers' reliability and longevity going forward.

### 5.1.3 Boiler Burners and Controls

All four boilers are fitted with Todd Combustion dual-fuel low NOx burners and associated relay-based burner management controls. Because of the similarity between boilers, burner spare parts inventory have been maintained at minimal levels, thereby avoiding excessive spare parts carrying costs.

However since the previous longevity audit in 2014 it has become apparent to us that the original equipment burner controls are reaching the end of their effective life expectancy.

Plant operators have reported that the 20-year old controls and associated hardware have become unreliable, often prone to sticking and difficult to calibrate. This

condition also results in problems maintaining optimum boiler operation especially on fuel oil.

The ready availability of relay-based spare parts is also becoming problematic.

In order to avoid further wear and tear and negative impacts on overall boiler performance reliability and efficiency of combustion, which is a critical issue during winter operation, we recommend that consideration be given to replacing the existing burner and combustion controls with a digital state-of-the-art PLC based system.

This capital investment in plant life-extension and burner control reliability will also necessitate an upgrade of the control room operator workstations, which have now become problematic because Microsoft no longer supports Windows XP based software.

The boiler low NOx burners are designed for natural gas as the primary fuel and No. 2 fuel oil as the secondary fuel. To switch from natural gas to fuel oil necessitates the shutdown of the natural gas burner and manual insertion of the appropriate oil burner lance with associated steam connection for steam atomizing. The individual oil burner gun lances are maintained and stored on a wall rack within close proximity to each boiler.

After extended usage of the fuel oil burner guns, the lances are examined, tested and re-tipped if required for future use.

The preferred Control System Contractor, *East Coast Combustion & Controls*, performs annual calibration of the burner controls, transmitters and meters, as well as other instruments and actuators throughout the plant.

Mr. Robert Youmans, President of *East Coast*, has provided expert technical services to the Facility on an as-needed basis for most of its operating life. He is also qualified

to update the control room operator computer stations which the operators use for monitoring the steam plant process and equipment operation. His familiarity with the original burner management control system and associated hardware ensures that the boilers operate efficiently to satisfy the State NOx emissions requirements.

However it is becoming apparent, due to the age of the plant, that the plant is overly reliant on Mr. Youmans being available when an unscheduled event necessitates his support on site. It is not good operating practice to not have a second alternative service supplier as backup should the primary service supplier be unavailable. Especially in light of the age of the burner combustion controls which are rapidly approaching their life expectancy and showing signs of wear and tear, and the general unavailability of spare parts.

We therefore recommend that EI plant management undertake a search for alternate service suppliers who are qualified to service the existing burner management and controls equipment, as well as any future upgrades that may be implemented. In the event the primary service provider is unavailable, this alternate service provider can respond promptly to correct any burner control problem that may arise which impacts on steam production and permitted emissions levels.

#### 5.1.4 Boiler Fans and Flue Gas Recirculation

Due to the summer low steam demand at the University which coincided with our scheduled onsite visits during June and July, only the smaller No. 1 boiler was in service. Based on this small operating sample no discernable fan vibration was present and the overall plant operating noise level was low.

We note that a plant wide vibration survey of rotating equipment was performed in April 2019 by LP Larson Corporation. A review of the vibration report indicates that the FD Fan on Boiler 1 was found to be out-of-balance. Corrective action was taken to dynamically balance the fan and it was returned to service.

## 5.2 Deaerator

The single deaerator which is located on an elevated mezzanine was visually inspected externally, and found to be in good working condition. It is designed to reheat a combination of return condensate and softened city water makeup, while operating at 5 psig, to supply the necessary feedwater to the boilers to satisfy the University steam demand.

Records indicate that during August 2008 an internal ultrasonic inspection of the deaerator tank wall thickness and weld integrity was conducted, and the results were all well within the manufacturers specification for the original unit.

During July 2018 a second weld and wall thickness NDT inspection was undertaken by TEAM Industrial Services, approximately 10-years after the one mentioned above, and all results were again found to be satisfactory.

Given the high quality of the water treatment program which is currently in place at the Facility, we consider it reasonable that the next internal wall thickness testing program of the deaerator tank be scheduled prior to the next 5-year audit, to coincide with the boiler tube wall thickness testing recommended previously.

## 5.3 Condensate Polisher

EI replaced the originally installed condensate polisher equipment with new stainless steel vessels, upgraded controls and new interconnecting piping and valves in October 2013. This system continues to operate satisfactorily.

The condensate polisher provides an essential function by assuring that the quality of condensate, especially its iron (Fe) content, returning from the University and introduced to the boilers is minimized. Iron in the feedwater if not controlled may cause damage to the boiler tubing and will reduce the life expectancy of the boilers.

Given the operational and maintenance importance to the Facility of this equipment, the polisher replacement was considered a plant betterment. A review of current plant water chemistry technical reports validates the continuing effectiveness of the return condensate purification process.

#### 5.4 Feedwater Treatment and Feedwater Pumps

Visual inspection of the chemical dosing and chemical tote storage systems found it to be in good condition and well maintained. A twice daily water quality testing program is performed by the plant operator and recorded in a water quality log.

The water quality testing procedure was designed and is being administered by the Water Treatment Consultant – Aquafax – with detailed instructions and appropriate reagents provided for performing the individual tests. The control room operators are well versed in performing the daily water quality testing and do so diligently.

As was reported in the previous audit report two (2) vertical Grundfos variable speed feedwater pumps were added to the originally supplied feedwater pumping configuration, replacing two of the original centrifugal five-pump arrangement. The VSD pumps continue to operate efficiently and reliably and require low maintenance.

#### 5.5 Condensate Return Tank and Condensate Pumps

The Facility's Condensate Return Tank is an approximately 11,000 gallon underground concrete tank which serviced the previous steam plant prior to 1999.

All returning condensate is routed from the University Campus into the condensate return tank. It was not possible to inspect the condition of the internals of the tank during our onsite visits, because the tank was not empty or accessible. However a visual inspection was performed in July 2015 by plant personnel, and no apparent damage was reported at that time.

We are not aware if further inspections have been undertaken since that date. It would benefit the Plant to place this activity on a to-do list to perform an inspection when it becomes possible to access the underground tank.

Four electric motor driven condensate return pumps and one steam turbine driven pump, which is out-of-service, take condensate from the tank. The pumps are located in a lower basement area for positive pump suction from the underground condensate return tank. The area is well lit and accessible for maintenance and operator rounds.

Visual inspection of the general basement area and the pumps confirmed that the associated piping, valving and pump seals are in generally good condition. The multiple pump arrangement is beneficial from both a reliability perspective for maintenance and adjustment, and appropriate pump size selection by the operator to best match the University steam needs.

The originally installed steam driven pump is valved-off and appears to have been abandoned. As it has not been operated for almost 20 years, it should be removed to free up space in the basement which will provide more laydown space for future maintenance work in the area.

## 5.6 Boiler Fuel Supply

### 5.6.1 Natural Gas

Natural gas is supplied by *National Grid* via a metering station located outside the boiler house. Gas supply piping and associated valving appeared in good condition. The main gas meter station is maintained by the gas company, but usage can also be monitored by the Facility. The gas is supplied under an interruptible contract in order to minimize the cost.

A smaller volume uninterruptible gas supply is also available for burner ignition use during a curtailment period when steam boiler operation must be maintained while fuel oil burner guns are inserted and lighted off.

The uninterruptible gas supply also services the space heating system for the control room and office areas.

#### 5.6.2 Fuel Oil Storage and Pumps

Fuel oil (No. 2 ultra-low sulfur grade) is stored in three 30,000 gallon capacity uninsulated outdoor storage tanks in a containment area outside the main boiler house. The oil is delivered by tanker truck and stored in the tanks when the boilers are operated on fuel oil, during natural gas curtailment periods.

Three fuel oil forwarding pumps located inside the boiler house recirculate oil from the tanks and deliver it to the boiler burners according to steam demand.

A cursory inspection of the outside of the tanks, visible above the containment wall, found them to be in good condition with no visible signs of corrosion or paint degradation. Wall and weld thickness testing was performed in August 2008 at the request of the Rhode Island Department of environmental Management. Test results confirmed that all thicknesses are within specifications for the steel tank walls.

A more recent NDT inspection of the three oil storage tank welds was performed by TEAM Industrial Services in July 2018. A review of their report confirms that all welds tested for integrity were reported to be satisfactory.

The storage tank containment wall is in good condition, and no signs of oil leakage or staining were visible. All penetrations are sealed in accordance with good practices, and oil spillage containment supplies are stored in close proximity to the tanker unloading pad area.

All drainage from this area passes through an oil-water separator before being discharged into drains in accordance with good environmental practices. The Operating Permit issued by the Rhode Island Department of Environmental Management (RIDEM) on June 30, 2017 lays out the Spill Prevention Plan (SPCC) for the facility.

### 5.6.3 Fuel Oil quality

For quality assurance purposes certificates of [fuel] analysis at the oil supply terminal are provided to confirm that the fuel oil product being delivered is in accordance with the specification for ultra-low sulfur content distillate as defined in the renewed Operating Permit, namely *all distillate fuel oil burned on or after July 1, 2018 shall contain no more than 15 ppm sulfur by weight.*

A certificate of fuel oil delivery dated January 16, 2019 which is attached to this report for information purposes (See Exhibit 02) indicates a sulfur content of 7.2 ppm, and a biodiesel content of 5.2% by volume.

Although the Operating Permit is silent on biodiesel content, EI is committed to minimizing the air emissions from the boilers and being a good environmental steward. This policy is consistent with that of the University campus itself.

## 5.7 Main Chimney

The importance of the single chimney, which serves all four boilers, cannot be underestimated. The all-brick construction of the chimney was original to the “old” boiler steam plant and is utilized by the Facility. Any operational or environmental wear and tear to the chimney can potentially result in structural damage or partial restriction of the internal flue which can jeopardize the ability of the Facility to continue to provide steam to the Campus.

In May 2010, the chimney was inspected internally and externally by *International Chimney Corp.* and extensive repairs were authorized by EI. While these repairs were being carried out in August 2010, several additional items were discovered internal to the stack and further repairs were authorized and completed during the annual shutdown in August of 2011.

The above described extensive repairs and improvements to the chimney are Facility betterments that should ensure the future reliability and operating life extension of the Facility, generally in accordance with the requirements delineated in the Steam Supply Agreement.

A cursory inspection of the chimney was performed during the most recent outage in July 2019 and no refractory or broken bricks were observed. We recommend that a more extensive internal stack investigation be carried out prior to the next 5-year longevity audit in 2024.

## 6.0 MAINTENANCE

As reported in the prior audit report many of the equipment maintenance and adjustment requirements are determined by the plant operator during regular hourly walk-down rounds. The fact that each operator is trained to become very familiar with the systems and equipment within the Facility assists greatly with this important function.

According to the severity of maintenance need will determine what level of resources will be called upon to make the appropriate repair or adjustment. No major maintenance or repair activity is permitted to be initiated by a lone operator on a swing-shift; i.e. night or weekend shift.

The participation of the plant manager in all major maintenance decision activities is paramount in keeping with the safety culture that is in place. A safety program for lock-out / tag-out procedure to allow safe isolation of a system, be it mechanical

and/or electrical, must be completed and recorded before any work can take place. All operators undergo regular scheduled training in the implementation of this program, and the tags, locks and log book are centrally located in the control room.

Plant operators and contractors also are required to participate in annual training for confined space access and egress.

Plant operating and maintenance procedures are in place, and known to each operator, with appropriate linkage to personnel and equipment safety requirements, including MSDS information where chemicals, fuel oils and lubricants are involved.

To assist with preventive maintenance practices at the Facility a commercially available computerized maintenance management system is used. The system, designated *MainSaver PM Program*, is used to initiate and track designated and necessary maintenance work on a daily, weekly and monthly basis. It is also applied to track work orders, track spare parts usage / inventory, control costs and purchase spare parts / services.

The Facility is fortunate in that the overall design of equipment and piping systems incorporates adequate redundancy which allows for a smaller inventory of spare parts to be maintained. For example, the four boilers incorporate similar if not identical boiler fronts and burner assemblies, with essentially the same hardware items used throughout.

All of the above actions and programs are indicators of the excellent maintenance practices that were established early in the life of the plant and continue to be followed at the Facility, to make certain that the life of the Facility is extended well beyond the contracted operating period.

## 6.1 Control Valve Actuators

The age-related degradation of electric control valve actuators, which were installed 20-years ago, and the unavailability of spare replacement parts has become a recurrent operational concern at the Facility.

It would therefore be prudent to replace this aging equipment with current technology electric actuators in a timely fashion.

Seven (7) control valves that are critical to the operation of the Facility are affected, namely:

- Four (4) feedwater control valves
- One (1) DA steam valve
- One (1) condensate valve
- One (1) makeup water valve

## 7.0 TECHNICAL SERVICES

### 7.1 Water Treatment

Because the quality of feedwater entering the boiler economizer is possibly the most important contributor to boiler tube life expectancy, maintaining optimum water chemistry is a critical operational requirement.

Ever since the Facility began operation in 1999, *Aquafax Inc.*, an industrial water treatment consultant based in Durham, New Hampshire, has provided guidance and direction to test for and control water chemistry at the plant. *Aquafax* performs monthly routine visits to oversee the program being applied by the operational staff, and they are also available on an as-needed basis to respond to requests for assistance.

Monthly technical reports issued by this consultant are distributed to Facility plant management, and also to the University Facilities Director who in addition to steam supply, is concerned with the quality and quantity of return condensate from the Campus to the facility.

*Aquafax* has designed their water treatment program to utilize generic chemicals, which are readily available for use on high pressure steam systems. In this way they extract savings for the Facility bypassing the necessity to use more expensive proprietary blended chemicals wherever possible.

The Facility water treatment program pays special attention to the quality of the return condensate to prevent iron (Fe) from entering the boiler. Iron contamination in condensate is a leading cause of boiler tube buildup leading to tube failure. The program also tests for and controls the quality of system makeup town water which must be softened prior to being introduced to the steam cycle.

Appropriate chemicals are also introduced to the deaerator for oxygen scavenging, and the boiler drum to prevent corrosion and foaming, etc.

Overall we consider the water treatment program in effect at the Facility to conform with good industry practices, especially the manner in which it is being implemented, and the observed excellent condition of the boilers and deaerator attest to its continued success.

## 7.2 Air Emission Testing

In the past the Facility was tested annually for NO<sub>x</sub> emissions of each boiler on both natural gas and fuel oil. NO<sub>x</sub> stack emissions standards are different for each fuel, with natural gas rated at the lowest limits. This was a requirement of the initial operating air permit issued by the State of Rhode Island Department of Environmental Management.

However the original air permit was renewed on June 30, 2017 and now only requires emission testing to be performed every 5-years.

Based on the above change in the permit, the next test period year will be December of 2021 because the most recent air emission testing was successfully completed in 2016

A review of the current Operating Permit, which expires on June 30, 2022, confirms that the NOx limits for each boiler have not changed from the original operating permit when the plant was placed into service.

For the record the permitted limits for NOx are as follows:

Boiler No.	Fuel	NOx (lb/MMBtu)	NOx (pph)
1	NG	0.034	1.23
	FO	0.076	2.65
2	NG	0.034	2.46
	FO	0.076	5.31
3	NG	0.034	2.46
	FO	0.076	5.31
4	NG	0.034	3.28
	FO	0.076	7.05

A review of the most recent air emission tests completed in December 2016, confirms that all boilers are operating within approximately 75% of the operating limits listed above.

An exception to the 5-year air emission testing interval rule change by the State of Rhode Island DEM is that calibration testing of the opacity meter in the stack will continue to be done on an annual basis.

For the past ten-years or so, this testing has been performed by *Gammie Air Monitoring*, based in Simsbury, Connecticut.

The testing protocol requires that each boiler be operated at a minimum of 90 percent load on both natural gas and fuel oil, with sampling of flue gas at the breeching test ports. Three one-hour tests are required on each fuel. Twenty-four individual tests are conducted overall, and a report is prepared and submitted to the State air agency.

*Gammie Air* has confirmed that in all the time they have tested at the Facility they have never had an issue with air emissions. This is another solid indicator that the boilers are being well maintained and continue to be correctly operated.

### 7.3 Combustion Controls and Instrument Calibration

The burner combustion controls can only be calibrated and tuned when the boiler is shutdown which requires a scheduled outage. The Facility uses a specialized control system consultant who has a lengthy history of providing this type of specialized burner adjustment service as well as instrument calibration.

Mr. Robert Youmans of *East Coast Combustion and Controls*, based in Stanfordville, New York, was previously a technical service representative for Todd Combustion, Inc., the boiler burner manufacturer. He was personally involved in the installation of the burners when the Facility was built.

Since that time he has provided control system tuning and calibration services typically twice-yearly to coincide with scheduled boiler shutdowns. During our second

visit on July 26, 2019 we were able to talk extensively with Mr. Youmans when he was at the Facility to conduct burner control adjustments.

He was tasked with several control valve actuator calibrations and miscellaneous instrument calibrations, and confirmed that he has in the past reprogrammed the control room computer display and monitoring system to respond to operator requests for improvements.

In addition to the boiler shutdown work, Mr. Youmans is also on-hand during annual air emission testing to ensure that the boiler combustion controls are optimized for best NO<sub>x</sub> and O<sub>2</sub> emissions on either fuel.

All of the above services are consistent with best practices for boiler and combustion control system optimization for boiler tuning and extending the life of the boilers and associated burners.

## 8.0 SAFETY

Safety is often thought of in terms of personnel safety alone. However, safety in practice extends to safety of personnel, systems and equipment, which in reality in a Facility such as this continually interact.

Based on our site visits on two separate occasions we are satisfied that the safety program currently in place is consistent with good industry practice. We also believe from experience, that safety and good housekeeping go hand-in-hand; they are two faces of the same coin.

We found the Facility to be well lit and orderly in its layout with reserved areas clearly set aside for chemical storage and maintenance materials, including a workbench, all marked visibly on the floor with yellow boundary lines. All areas were clean with no debris visible and appropriate outside containers set aside for collection and disposal.

Walkways and access ways are kept clear with adequate signage warning of potential danger areas.

Drip trays are employed wherever leakage may occur, and a safety eye-wash station is located adjacent to the water sampling station where chemical reagents are used for testing water quality.

The lockbox containing the equipment lock-out tags and locks is situated in the control room, where it is directly accessible to the shift operator who is responsible for the Tag Out / Log Out program and its implementation. This proximity to the shift operator also ensures that contractors must interact with the plant responsible person while doing work at the facility.

An operator qualification training program agenda highlights the importance of the safety requirements at the Facility by introducing this segment as the first lesson under General Knowledge category. The safety program extends to critical systems such as Compressed Air, Natural Gas, Fuel Oil, Electrical and the Haz Mat program.

In addition we noted that an annual work boot allowance is available for plant employees, as well as noise reduction ear plugs and safety glasses. These safety aids are provided for plant employees and visitors also.

All of the above indicators demonstrate that personnel safety is a management priority for all operational and maintenance functions carried out at the Facility.

## 8.1 Cyber Security

Safety of operation of the equipment is also an important consideration and commercial and institutional steam plants are rapidly responding to any security threats posed by the spread of cybercrime and hacking of critical control systems by nation states.

Federal agencies such as Homeland Security, NERC and others have issued guidelines and directives addressing the need to define vulnerabilities and implement strategies to detect any intrusions.

The URI central steam plant has the advantage that its control systems are completely isolated from any external network including the internet. This literal “air gap” makes it much less vulnerable to attack from external hackers, etc.

Only the trained operators manning the plant and control room are authorized to operate the plant controls and monitor the process conditions. All boiler controls are in close proximity to the control room and the plant operator has good visibility to these controls.

An office computer has access to the internet which is password protected. The computer and printer setup combination does not interface with any system control function at the facility.

## 8.2 Plant Access

There are two ways for personnel to enter or exit the facility via ground level doors. One door, closest to the oil tanks area, is usually kept locked, and only opened when contractors require an additional way to enter the plant for their equipment or personnel.

The main access door to enter the facility offices and control room is kept unlocked and is overseen by the control room operator who logs visitors into a log book.

As the plant is fully manned on a 24/7 basis this arrangement has served the facility well in the past, even though the operator cannot actually see who is at the door until they enter the control room area.

Although this practice has worked in the past it may be wise for management to evaluate installing a CCTV camera at each access door, with a single monitor in the control room, so that the operator can see who is at each door. The camera at the door nearest the oil tanks can also serve a double function to observe the oil tanker unloading operation during fuel oil deliveries.

In addition to the video cameras, the installation of a remote door opener and an intercom at the main entrance door will keep both doors locked and give the control room operator the added option to decide who may gain access to the plant, day or night.

## 9.0 TRAINING

Knowledge of systems, equipment and safety requirements at the Facility appear to be excellent. Part of this finding is probably due to the many years that the majority of operators have been employed at the Facility, however in our experience we have also found that Facility management has a major influence on how well informed and qualified the operating personnel are.

Based on this factor, we consider the original plant manager, Mr. Hirt, who by example and leadership has created a positive operating culture and enhanced operators' steam system knowledge, to be the foremost influence in this regard.

As new employees are now being added more frequently, the Facility has put in place a two-week formal training program to educate and familiarize the new hire with the most important knowledge requirements to qualify as a shift plant operator.

In addition to direct participation in the above training, we encourage management to continue to schedule any future operator personnel changes in a way to allow for direct oversight by each experienced operator, over multiple shifts, so that the rookie operator acquires the required hands-on experience necessary.

In addition to general knowledge of safety and associated equipment and systems tagout programs, the training syllabus also includes plant systems, both mechanical and electrical, and water chemistry as well. Facility specific emergency procedures are also included in the training.

On the job training is a continuing process at all such Facilities, especially as environmental regulations are changing and must be integrated into an operator's knowledge base.

We have seen a concerted effort at other similar facilities to produce in-house videos using experienced operators to illustrate start-up and shut-down procedures to transfer their knowledge to new personnel. These videos can be viewed at any time by new employees as an adjunct to existing written procedures and step-by-step checklists.

The central steam operations at the University of Rhode Island is supported by additional engineering, safety and management resources located at NORESO's Westborough, Massachusetts office, where corporate staff keep abreast of local, State and Federal regulations for such Facility operations.

## EXHIBITS

- 01 Babcock & Wilcox Boiler Nameplates
- 02 Sample Certificate of Analysis for Fuel Oil
- 03 Certificates of Boiler Inspection posted on wall
- 04 Printout of Plant Master Display from Control Room
- 05 Operator Qualification Requirements – Training Syllabus

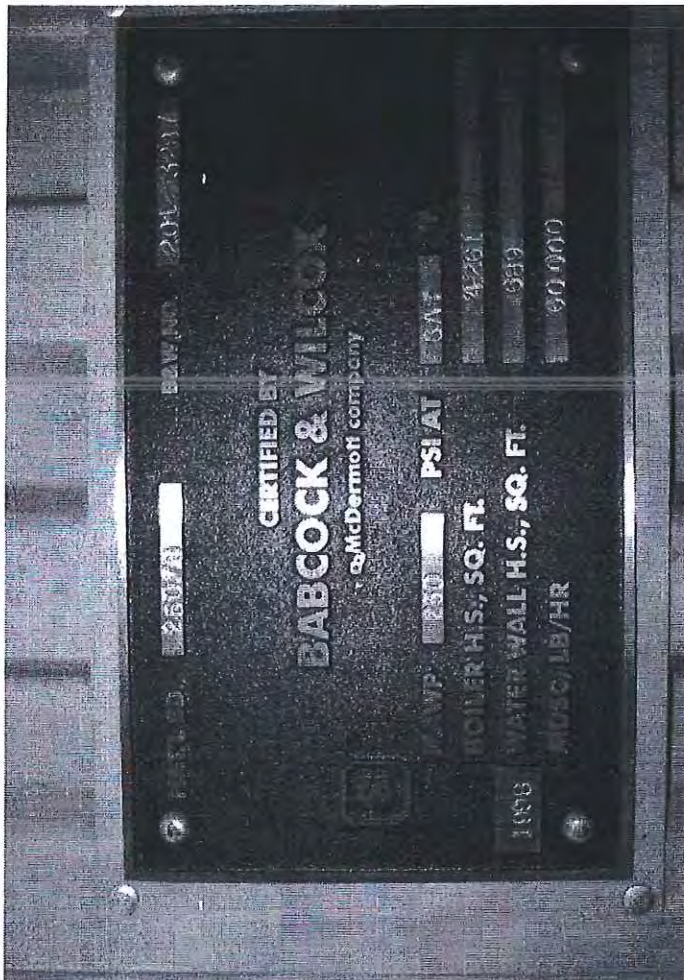
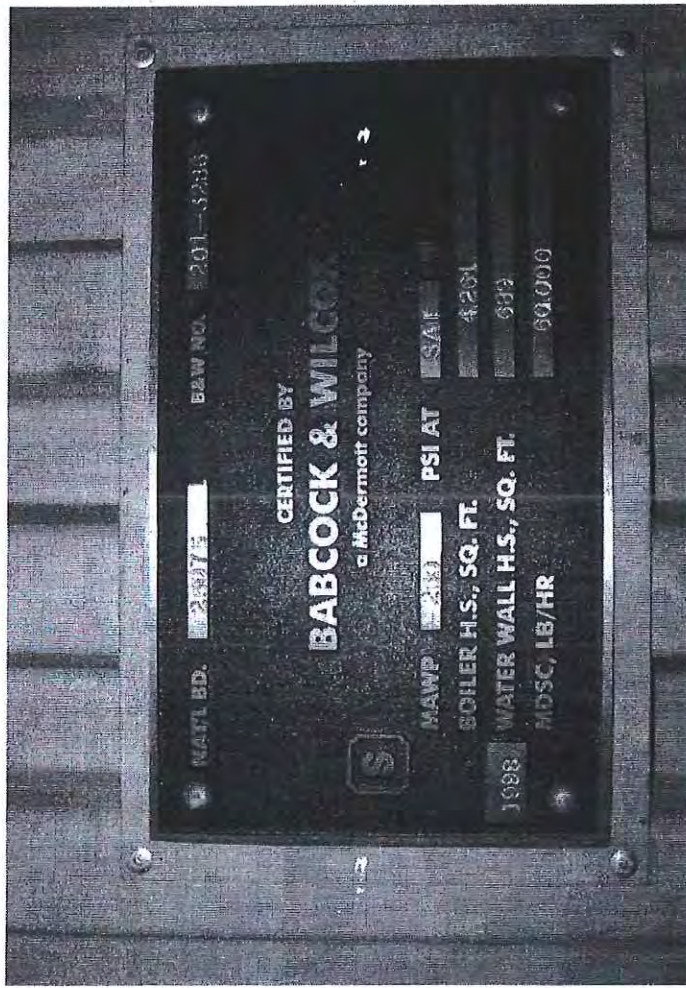


EXHIBIT 01



## CERTIFICATE OF ANALYSIS N° NHA-97930

VESSEL : RTC - 106  
 LOCATION : Global - Providence, RI  
 PRODUCT : ULS HEATING OIL  
 GRADE : COL G67

MOVEMENT : Discharge  
 REF. NO. : 4195  
 JOB DATE : 01/16/2019

TK :	1	Running	After Discharge	~	Sample N° : 1	01/16/19 16:40
D 4052-11	API Gravity @ 60°F		36.9 °API			
D 4176 (1)	Appearance		C&B			
D 93A	Flash Point		144 °F			
D 2500	Cloud Point		14 °F			
D 2500	Cloud Point		-10 °C			
D 97	Pour Point		<-6 °F			
D 97	Pour Point		<-21 °C			
D 445	Viscosity @ 104 °F		2.586 cSt			
D 445-2161	Viscosity @ 104 °F		34.6 SUS			
D 86-12	Distillation					
	IBP		334.0 °F			
	10%		398.9 °F			
	50%		513.1 °F			
	90%		625.7 °F			
	EP		666.9 °F			
	Recovery		99.1 Vol. %			
	Residue		0.5 Vol. %			
	Loss		0.4 Vol. %			
D 976	Cetane Index		50.5			
D 4737A	Cetane Index		49.9			
D 5453-12	Sulfur		7.2 ppm			
D 2709	Sediment & Water		<0.010 Vol. %			
D 2624	Electrical Conductivity		105 pS/m			
D 2624	Electrical Conductivity Temp.		70 °F			
D 6756	Dye Content		11.1 ppm			
D 7371	Biodiesel Content		5.2 Vol. %			

Samples taken as per Standard Practice for Manual Sampling of Petroleum and Petroleum Products (ASTM D4057 / API MPMS Chapter 8.1) via a Closed System Sampler. Customer is advised that, due to its limitations, the samples may not fully represent the entire cargo.  
 All testing performed by Camin Cargo Control.

All gauges, temperatures and volumes were obtained in accordance to the latest API and ASTM procedures.  
 Data contained in this report is Confidential to the addressee and should not be disclosed to any other party without approval of client(s).

Daniel Overkin / Branch Manager

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 12/27/2019

Cert. No. 8102756  
Date Inspected 08/27/2019

Owner: CRI Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Central Heating Plant (B)  
11 Light Rd  
Kingston, RI 02881-2011

MAWP: 250 PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
S.V. SET: 10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

NOTIFY THIS DEPARTMENT OR YOUR INSURANCE COMPANY AT ONCE OF ANY DEFECT  
POST UNDER GLASS IN A CONSPICUOUS PLACE - GL-28-25

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 08/27/2019

Cert. No. 8102757  
Date Inspected 08/27/2019

Owner: CRI Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Central Heating Plant (B)  
11 Light Rd  
Kingston, RI 02881-2011

PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

NOTIFY THIS DEPARTMENT OR YOUR INSURANCE COMPANY AT ONCE OF ANY DEFECT  
POST UNDER GLASS IN A CONSPICUOUS PLACE - GL-28-25

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 06/19/2020

Cert. No. 8102771  
Date Inspected 06/19/2019

Owner: CRI Central Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Central Heating Plant (B)  
11 Light Rd  
Kingston, RI 02881-2011

MAWP: 250 PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
S.V. SET: 10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

NOTIFY THIS DEPARTMENT OR YOUR INSURANCE COMPANY AT ONCE OF ANY DEFECT  
POST UNDER GLASS IN A CONSPICUOUS PLACE - GL-28-25

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 06/19/2020

Cert. No. 8102752  
Date Inspected 06/19/2019

Owner: CRI Central Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Central Heating Plant (B)  
11 Light Rd  
Kingston, RI 02881-2011

PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

NOTIFY THIS DEPARTMENT OR YOUR INSURANCE COMPANY AT ONCE OF ANY DEFECT

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 08/01/2020

Cert. No. 8102758  
Date Inspected 08/01/2019

Owner: CRI Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Plant Feedwater  
11 Light Rd  
Kingston, RI 02881-2011

MAWP: 250 PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
S.V. SET: 10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

NOTIFY THIS DEPARTMENT OR YOUR INSURANCE COMPANY AT ONCE OF ANY DEFECT  
POST UNDER GLASS IN A CONSPICUOUS PLACE - GL-28-25

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 11/07/2020

Cert. No. 8102760  
Date Inspected 11/07/2019

Owner: CRI Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Plant Feedwater  
11 Light Rd  
Kingston, RI 02881-2011

PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

State of Rhode Island and Providence Plantations  
DEPARTMENT OF LABOR AND TRAINING  
DIVISION OF WORKFORCE REGULATION AND SAFETY  
OCCUPATIONAL SAFETY UNIT  
CERTIFICATE OF BOILER INSPECTION  
This Certificate Expires on 06/24/2020

Cert. No. 8102759  
Date Inspected 06/27/2019

Owner: CRI Central Heating Plant  
Location: 11 Light Rd  
Kingston, RI 02881-2011

OBJECT LOCATION  
Plant Feedwater  
11 Light Rd  
Kingston, RI 02881-2011

MAWP: 250 PSI Built by: Bostwick & Wilson NB: 2007 Owner: CRI Heating Plant  
S.V. SET: 10000 PSI Date Built: 1994 Serial/Other: 201205-051

This is to certify that boiler described below has been inspected and approved for use.

INSPECTOR Scott Brown PSM (Photo) Doug Connors, Chief Boiler Inspector

NOTIFY THIS DEPARTMENT OR YOUR INSURANCE COMPANY AT ONCE OF ANY DEFECT  
POST UNDER GLASS IN A CONSPICUOUS PLACE - GL-28-25

User: Ken

ProcessSuite™ Vision

7/20/2014 12:12:03 PM

Date	Time	Site	Class	Type	Pl...	Name	Group	Value	Limit	Operator	Comment	Acknowledge
20 Jul	13:00	ACK	VALUE	HI	1	DA_LEVEL_PROCESS_2	ALARM_GROUP_07	2401...	2.5	MOORE/ken	DA Tank Level	
20 Jul	00:47	ACK	VALUE	HI	1	DA_LEVEL_PROCESS_1	ALARM_GROUP_07	8010...	80	MOORE/ken	Condensate Tank Level	
28 Jul	11:50	ACK	VALUE	LOLO	1	Feedwater_Supply_Press	ALARM_GROUP_05	9.2487	120	MOORE/ken	Feedwater Supply Press	
28 Jul	06:37	ACK	VALUE	LOLO	1	PAID_L1PI	System	78.67...	80	MOORE/ken		
30 Jun	07:03	ACK	DSC	DSC	1	DLS_Yeast_Feawt_Total_Flow	DEAD	DEAD	DEAD	MOORE/ken		
01 Jun	14:24	ACK	VALUE	LO	1	Fuel_Oil_Header_Press	ALARM_GROUP_05	0	140	MOORE/ken	Fuel Oil Header Press	

Go To

Filter

Alarm

Print Screen

Back

Point

Trend

Group

Graphic

Overview

Csv Data

Reprint

Backup Hist

## Boiler 1 Man

BOILER PRESS 51.4  
 FURNACE PRESS -0.2  
 DRUM LEVEL -0.8  
 STEAM FLOW 0.0  
 FIRING RATE 0.0  
 FEEDWATER FLOW 0.0  
 BOILER OUT 200.2  
 ECONOMIZER OUT 160.7  
 OXYGEN % 20.0  
 FGR Damper 75  
 FGR Flow 5

## Plant Master

## Boiler 2 Man

BOILER PRESS 57.4  
 FURNACE PRESS -0.2  
 DRUM LEVEL -0.8  
 STEAM FLOW 0.0  
 FIRING RATE 0.0  
 FEEDWATER FLOW 0.0  
 BOILER OUT 242.3  
 ECONOMIZER OUT 176.6  
 OXYGEN % 19.4  
 FGR Damper 75  
 FGR Flow 5

DEMAND RATE 0.0  
 OUTSIDE TEMP 65.3  
 MASTER STEAM PRESS 0.0  
 UPPER CAMPUS STEAM PRESS 0.1  
 UPPER CAMPUS STEAM TEMP 94.4  
 LOWER CAMPUS STEAM TEMP 83.1  
 LOWER CAMPUS STEAM PRESS 0.0  
 IN PLANT STEAM FLOW 0  
 TOTAL STEAM PRODUCTION 0.0  
 STACK OPACITY % 0.0  
 FUEL OIL HEADER PRESS 0.0

## Boiler 4 man

BOILER PRESS 62.9  
 FURNACE PRESS 0.0  
 DRUM LEVEL -0.3  
 STEAM FLOW 0.0  
 FIRING RATE 0.0  
 FEEDWATER FLOW 0.1  
 BOILER OUT 253.3  
 ECONOMIZER OUT 199.9  
 OXYGEN % 18.6  
 FGR Damper 75  
 FGR Flow 5

## Deaerator Level

CONDENSATE TANK LEVEL 71.1  
 DEAERATOR TANK LEVEL 5.3  
 CITY WATER FLOW 0.0  
 FEEDWATER HEADER PRESS 9.3  
 FEEDWATER HEADER TEMP 104.9  
 CITY WATER TEMP 74.1

## Deaerator Pressure

DEAERATOR PRESS 0.1  
 CONDENSATE RETURN FLOW 0.0  
 CONDENSATE RETURN TEMP 134.0

Graphic 001119A

## EI OPERATOR

QUALIFICATION REQUIREMENTS NAME: \_\_\_\_\_

### I. GENERAL KNOWLEDGE

Operator shall demonstrate a satisfactory level of knowledge on each of the following topics by answering oral questions during a check out given by the plant manager or qualified operator.

#### A. Safety

Signature/Date

1. Compressed air
2. Natural gas
3. Fuel oil/SPCC
4. Electrical
5. HazMat program/Right-To-Know

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#### B. Tagout system

1. Tagout Log
2. Danger tags
3. Caution tags

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### II. SYSTEMS KNOWLEDGE

Operator shall demonstrate a satisfactory level of knowledge on each of the following topics by answering oral questions during a checkout given by the plant manager or qualified operator.

#### A. Mechanical

Signature/Date

1. Compressed air
2. City water
3. Water treatment
4. Gas fuel
5. Liquid fuel
6. Steam distribution
7. Boiler control
8. Condensate return
9. Feedwater

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#### B. Electrical

1. MCC's
2. Emergency shutdown buttons
3. 120 VAC distribution
4. 480/208 VAC distribution
5. Emergency diesel operation

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#### C. Chemistry

1. Chemical injection
2. Chemical sampling

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#### D. Emergency Procedures

1. URI notification
2. Loss of plant power
3. Loss of City Water

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## REFERENCES

1. URI Fire/Safety Inspection Reports – various dates
2. Certificates of Boiler Inspection issued by State of Rhode Island
3. Pamphlet from *Myron L. Company* for Ultrameter II digital Water Chemistry analytical instrument
4. Certificate of Fuel Oil Analysis dated January 16, 2019
5. State of Rhode Island Department of Environmental Management (RIDEM) Operating Permit for URI – Permit No. RI-13-17 dated June 30, 2017 (Expires June 30, 2022)
6. Previous 5-Year Longevity Audit Report for URI Central Steam Heating Plant dated September 30, 2014.
7. Emission Testing Report issued by *Gammie Air* in December 2016
8. Fuel Oil Tank(s) and DA UT Reports 2018
9. Fuel Oil Tank(s) and DA NDE Reports 2018
10. Monthly Water Chemistry Reports issued by *Aquafax*
11. Boiler Safety Valve and Multiport Valve Reports
12. Annual Inspection Reports for Emergency Diesel Generator
13. New Operator Orientation and Qualifications Requirements
14. URI Procedures including Corporate Orientation Power Point Presentation
15. Water Treatment Training Procedure issued by *Aquafax*
16. Opacity Monitor Calibration Record
17. Vibration UT Survey and Thermography of Steam Traps Reports – March 2019
18. Monthly Management Reports for 5-Year period from 2015 to 2019
19. Notes of conversations with control room operators and representatives of service providers, as well as Boiler Inspector and David Lamb, Assistant Facilities Services Director at URI