

# EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Physicians Quad N

Asset 119

Inspected January 26, 2023





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# FACILITY CONDITION ASSESSMENT

## SECTION 1

### ASSET OVERVIEW



## ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

<b>ASSET CODE</b> 119	<b>CURRENT REPLACEMENT VALUE</b> \$2,515,000
<b>ASSET NAME</b> PHYSICIANS QUAD N	<b>FACILITY CONDITION NEEDS INDEX</b> 0.30
<b>ASSET USE</b> Office / Administrative	<b>FACILITY CONDITION INDEX</b> 0.21
<b>YEAR BUILT</b> 1974	<b>10-YEAR \$/SF</b> 210.08
<b>GSF</b> 3,636	
<b>INSPECTION DATE</b> 01/26/2023	

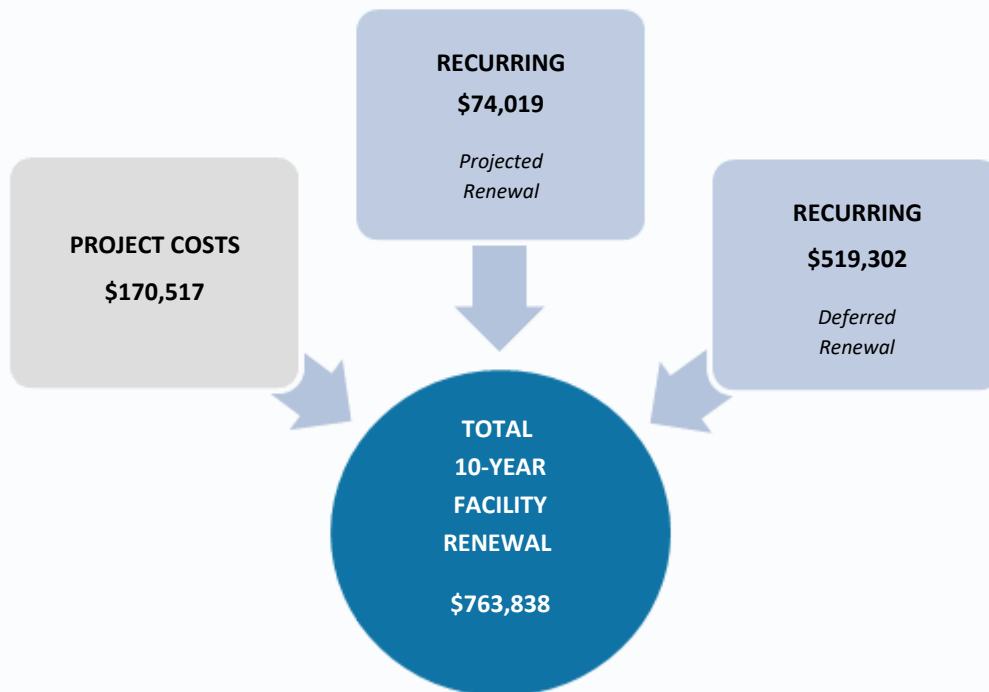
### FCNI Scale

The FCNI for this asset is **0.30**

- Excellent Condition (typically new construction)
- Below Average Condition (major renovation required)
- Good Condition (maintained within lifecycle)
- Poor Condition (total renovation required)
- Fair Condition (normal renovations required)
- Replacement Indicated (unless historic)



### Total Facility Renewal Costs



## Project Costs

### *Project Cost by Priority*

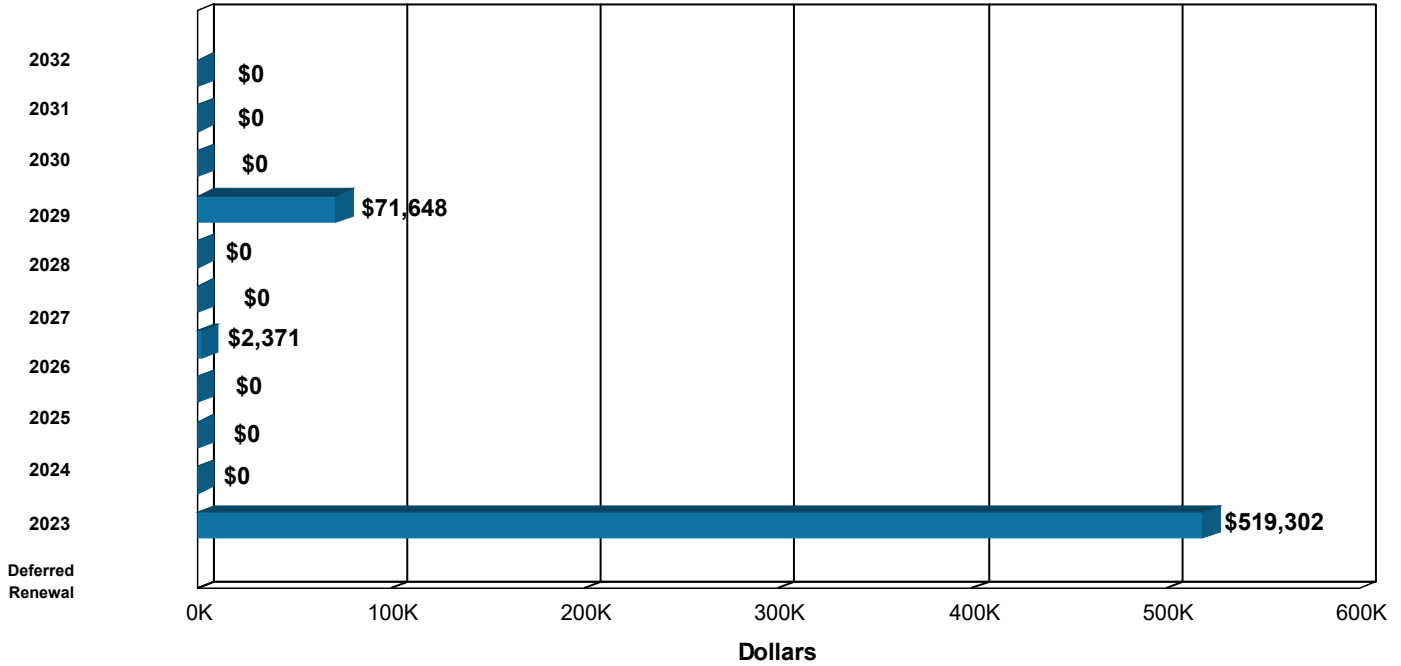
PLANT ADAPTION	
Priority 1	\$1,264
Priority 2	\$85,692
Priority 3	\$83,561
Priority 4	\$0
Priority 5	\$0

CORRECTIVE ACTION	
Priority 1	\$0
Priority 2	\$0
Priority 3	\$0
Priority 4	\$0
Priority 5	\$0

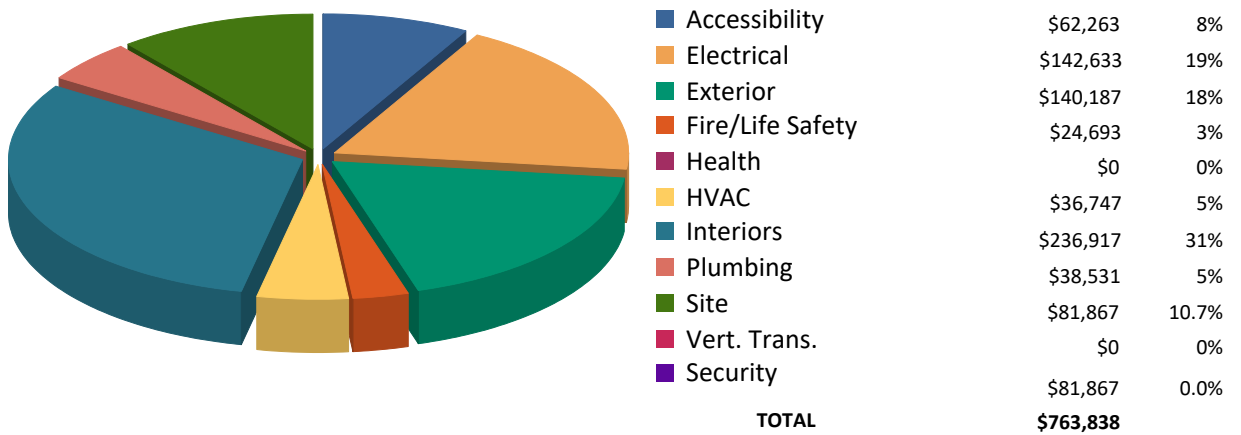


## Recurring Costs

Component Replacement Cost by Year



## Facilities Renewal Cost by System





## ASSET SUMMARY

Physicians Quadrangle N on the Health Sciences Campus of East Carolina University is a one-story building with an attic. Built in 1974, this medical office facility is 3,636 gross square feet. The last finish upgrades were in 2017.

The information in this report was gathered during a site visit conducted on January 26, 2023.

### Site

This flat site has a mixture of pedestrian walkways, overgrown lawns, shrubbery, and mature trees. The walkways leading to the entrances and the vehicular paving are in poor condition. Replacement of these paving systems is recommended.

### Exterior Structure

The brick exterior is in fair condition and should be cleaned and repointed to preserve the integrity and aesthetics of the wall finish. Windows are original single-pane, wood frame units and are recommended for upgrade to energy-efficient dual-pane windows. Exterior doors are wood and appear to be original. They are due for replacement. The pitched asphalt shingle roof was replaced in 2021 and should outlast the report scope.

### Interior Finishes/Systems

Floor finishes are carpeting in corridors and offices, vinyl plank in the break room, and ceramic tile in the restrooms. Ceilings are attached acoustical tile, and walls are painted in most areas and ceramic tile in the restrooms. Interior doors are wood with knob hardware, and the break areas has a laminate counter and cabinetry. Except for the vinyl plank flooring, these finishes are at or near the end of their lifecycle and should be replaced within the next ten years.

### Accessibility

Several exterior accessibility upgrades are recommended. The knob hardware on all exterior doors should be replaced with ADA compliant lever hardware, and accessible parking spaces should be designated in the parking lot.

The restrooms are not fully ADA compliant. The installation of accessible fixtures and accessories is recommended. Also, the single-level drinking fountain should be replaced with a dual-level unit set in an alcove or with a tapered lower cabinet design.

Accessibility legislation requires that door hardware be designed for those with little or no ability to grasp objects with their hands. To comply with the intent of this legislation, it is recommended that lever handle hardware be installed on all doors that still have knobs.

Accessibility legislation requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. The stairs are deficient in handrail design relative to current standards. Future renovation efforts should include comprehensive stair railing upgrades.

## Health

No health issues were observed or reported during this inspection.

## Fire/Life Safety

The egress pathways are not clearly designated by exit signs. It is recommended that new LED battery backup exit signs be installed.

The security/fire alarm system is equipped with outdated opaque strobes and audible annunciators, and there are no manual input devices. Smoke detectors are lacking in egress corridors and unoccupied rooms, such as mechanical, electrical, and storage rooms, janitor closets, etc. This system is at the end of its useful service life and should be replaced with a programmable multi-input fire alarm system. Also, emergency exits are not properly identified, and emergency egress lighting is not available. To improve occupant safety, install battery backup LED exit signs and, as part of the recommended lighting upgrade, improve emergency lighting.

This facility is not protected by any form of automatic fire suppression, and none appears to be required. Manual, dry chemical fire extinguishers are available for immediate use.

## HVAC

Heating and cooling are provided by two split DX systems equipped with electric furnaces. Air-cooled condensers are located at the exterior, and indoor air handlers with furnaces are in the attic. The systems vary in age, and the older condenser and evaporator units will be due for replacement within the next ten years. The newer system should remain serviceable beyond the scope of this assessment. Forced air distribution is uninsulated or internally insulated flexible metal ductwork that appears to be original. The ductwork is deteriorated and should be replaced. The fractional horsepower exhaust fans in each bathroom are well beyond their useful lifecycle and should be replaced.

## Electrical

High voltage from the utility is reduced to 120/240 volt, 2-phase power via a service entrance transformer located on-site. The related 225 amp General Electric main electrical panel is original. The

electrical distribution network supplies 120/240 volt power throughout the building. Aging components, such as the circuit breakers, are potential fire hazards if they fail to open a circuit in an overload or short circuit condition. Remove aged electrical components and branch circuitry. Install new power panels, switches, raceways, conductors, and devices. Provide molded case thermal magnetic circuit breakers and HACR circuit breakers for HVAC equipment. Redistribute electrical loads to the appropriate areas to ensure safe and reliable power to building occupants. Provide ground fault circuit interrupter (GFCI) protection where required, and clearly label all panels for circuit identification.

The lighting configuration consists of lay-in and surface-mounted T8 fluorescent fixtures and aging incandescent fixtures. All have depleted their lifecycle and are recommended for replacement. Also install occupancy sensors in select areas for additional energy conservation.

Nighttime illumination is provided by incandescent lights and a surface-mounted LED fixture. While the LED fixture should outlast the report scope, the older incandescent lights are due for replacement. The illumination level was not easily verified during this daytime inspection, but it appears additional lighting is needed. Install additional exterior light fixtures to ensure a safe environment for building users, and place all new lighting on photocell activation.

## Plumbing

Potable water is distributed through galvanized steel piping. Sanitary waste and stormwater piping is bell-and-spigot cast-iron. The supply and drain piping networks are aged and should be replaced. Failure to undertake such upgrades will likely lead to leaks, drainage issues, and other problems that will require costly maintenance. Domestic hot water is provided by an electric residential water heater. It is in good condition and should outlast the report scope. Restroom plumbing fixtures include wall-hung lavatories and tank-type water closets. All of these fixtures, as well as the kitchen sink, are in satisfactory condition and should outlast the report scope.

Note: The renewal needs outlined in this report were identified from the visual inspection and staff interviews. Our professional architectural and engineering inspectors examined the accessible equipment and various building components to determine what repairs or modifications may be necessary to restore the systems and asset to an acceptable condition, or to a level defined by the Client. The estimated costs represent correction of existing deficiencies and anticipated lifecycle failures within a ten-year period. These recommendations are to bring the facility to modern standards without any anticipation of change to facility space layout or function. The total costs include variable project delivery costs as determined by the Owner. The costs developed do not represent the cost of a complete facility renovation. Soft costs not represented in this report include telecommunications, security, furniture, window treatment, space change, program issues, relocation, swing space, contingency, or costs that could not be identified or determined from the visual inspection and available building information.

## INSPECTION TEAM DATA

### Report Development

ISES Corporation  
3100 Breckinridge Boulevard, Suite 400  
Duluth, GA 30096

### Project Manager

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### Date of Inspection

January 26, 2023

### Inspection Team Personnel

NAME	POSITION	SPECIALTY
Michelle Thompson	Facility Assessor	Interior Finishes, Exterior Structure, ADA Compliance, Site, Fire/Life Safety, Health
Jerry Watkins	Senior Project Manager	Mechanical, Electrical, Plumbing, Energy, Fire/Life Safety, Health

### Client Contact

NAME	POSITION
Griffin L. Avin, CEFP	Director of Facilities Services, Health Sciences Campus Chief Sustainability Officer

## DEFINITIONS

The following information is a clarification of the Facility Condition Assessment report using example definitions.

### Overview

#### Recurring and Nonrecurring Facility Renewal Costs

Facility renewal costs are divided into two main categories – recurring and nonrecurring. Recurring costs are cyclical and consist primarily of major repairs to or replacement/rebuilding of facility systems and components (e.g., roof or HVAC system replacement at or past the end of its normal useful life). The tool for projecting the recurring renewal costs is the Renewable Component Inventory, which is explained in detail below. Nonrecurring costs typically consist of modifications or repairs necessary to comply with fire/life safety or accessibility code requirements or to address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within. For these nonrecurring costs, projects have been developed and include estimated material and labor costs.

#### Facility Condition Needs Index (FCNI)

The FCNI provides a lifecycle cost comparison. It is a ratio of the sum of the recurring and nonrecurring renewal costs over ten years to the current replacement value of the asset. The current replacement value is based on replacement with current construction standards for the facility use type, and not original design parameters. This index gives the university a comparison within all buildings for identifying worst case/best case building conditions.

$$\text{FCNI} = \frac{\text{Nonrecurring Projects} + \text{10-Year Recurring Component Renewal}}{\text{Current Replacement Value}}$$

#### Facility Condition Index (FCI)

The FCI is a ratio of the Deferred Renewal costs to the current replacement value.

$$\text{FCI} = \frac{\text{Deferred Renewal}}{\text{Current Replacement Value}}$$

## Material and Labor Cost Factors and Additional Markups

The project costs are adjusted from the national averages to reflect conditions in Greenville using the R. S. Means City Cost Index for material and labor cost factors. The percentage adjustment of the national average is shown in the table below. Also included in the renewal costs are the construction markup (general contractor profit and overhead, construction management, permitting, accounting, site security, insurance, bonds, sales tax, institutional fees, site utilities, refuse fees, and insurance) and professional fees (architect or engineer design fees and in-house design costs).

GLOBAL MARKUP	%
Local Labor Index	71.3
Local Materials Index	100.7
Construction Markup	20.0
Professional Fees	16.0

## Recurring Costs

### Renewable Component Inventory and Cost Projections

The Renewable Component Inventory (starting on page 4.1.1) is based on industry standard lifecycle expectancies applied to an inventory of major systems and components within a facility. Each indicated component has the following associated information:

CATEGORY	DESCRIPTION
Component Code	A four-digit code assigned by AMS to the component
Component Description	Description of the individual component
Identifier	Identifying information can be entered as necessary.
Customer ID	Customer-provided equipment ID number
Location	The location of each component can be entered if applicable.
Quantity	The quantity of the listed component
Units	The unit of measure associated with the quantity
Complexity Factor	Adjusts the component replacement costs when it is anticipated that the actual cost will deviate from the average for that component
Total Cost	The unit cost multiplied by quantity, in today's dollars (note that this is a one-time renewal/replacement cost)
Install Date	This is the year that the component was or is estimated to have been installed. When this data is not available, the default is the year the asset was constructed.
Useful Life	Average life expectancy of the component
Useful Life Adjustment	An optional adjustment that lengthens or reduces the first lifecycle of the component
Replacement Year	Expresses when the next replacement should occur and is the sum of the install date, useful life, and any useful life adjustment



The component listing forms the basis of the Recurring Costs by Year report, which provides a year-by-year list of projected recurring renewal costs (in future year dollars) over the next ten years. Each individual component is assigned a replacement year based on lifecycles. For items already past the end of their lifecycle, the replacement year is shown as Deferred Renewal.

For a longer term perspective, the Recurring Component Expenditure Projections Graph presents recurring renewal cost projections over a 50-year period (starting from the date the report is run) based on each individual item's renewal cost and life span. Some components might require renewal several times within the 50-year model, while others might not occur at all. The vertical bars on the graph represent the accumulated total costs for each individual year. The average annual cost per gross square foot (\$/GSF) is shown at the bottom of the graph. In this calculation, costs are not escalated. This figure can be utilized to assess the adequacy of existing capital renewal and repair budgets.

## Recurring Cost Classifications

- **Deferred Renewal**  
Recurring repairs, generated by the Renewable Component Inventory, that are past due for completion and have not yet been accomplished as part of normal maintenance or capital repair efforts. Further deferral could impair the proper functioning of the facility. Deferred Renewal upgrades should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to effect the needed repairs.
- **Projected Renewal**  
Recurring renewal efforts, generated by the Renewable Component Inventory, that will be due within the scope of the assessment. These are regular or normal facility maintenance, repair, or renovation efforts that should be planned in the near future.

## Nonrecurring Costs

As previously mentioned, modifications or repairs necessary to comply with fire/life safety or accessibility code requirements and those that address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within are not included in the Renewable Component Inventory. For each such deficiency identified during the facility inspection, a project with an estimated cost to rectify said deficiency is recommended. These projects each have a unique identifier and are categorized by system type, priority, and classification, which are defined below. The costs in these projects are also indexed to local conditions and markups applied as the situation dictates.

### Project Number

Each project has a unique number consisting of three elements, the asset identification number, system code, and a sequential number assigned by the FCA software. For example, the third fire/life safety project identified for asset 0001 would have a project number of 0001FS03 (0001 for the asset number, FS for fire/life safety, and 03 being the next sequential number for a fire/life safety project).

## Project Classifications

- **Plant Adaption**  
Nonrecurring expenditures, stored in the Projects module, required to adapt the physical plant to the evolving needs of the institution and to changing codes or standards. These are expenditures beyond normal maintenance. Examples include compliance with changing codes (e.g., accessibility), facility alterations required by changing teaching or research methods, and improvements occasioned by the adoption of modern technology (e.g., the use of personal computer networks).
- **Corrective Action**  
Nonrecurring expenditures, stored in the Projects module, for repairs needed to correct random and unpredictable deficiencies. Such projects are not related to aligning a building with codes or standards. Deficiencies classified as Corrective Action could have an effect on building aesthetics, safety, or usability.

## Priority Classes

Recurring renewal needs do not receive individual prioritization, as the entire data set of needs in this category is year-based. Each separate component has a distinct need year, rendering further prioritization unnecessary. Each nonrecurring renewal project, however, has a priority assigned to indicate the criticality of the recommended work. The prioritization utilized for this subset of the data is as follows.

- **Priority 1 – High**  
Items in this category include:
  - a. correcting a cited safety hazard
  - b. stopping accelerated deterioration
  - c. returning a facility to normal operation
- **Priority 2 – Medium**  
Items in this category include:
  - a. repairs to prevent further deterioration
  - b. improvements to facility approach/entry and access to goods and services (DOJ ADA title III, priorities 1 and 2)
  - c. correction of potential safety hazards

- **Priority 3 – Low**

Items in this category include:

- a. improving access to restrooms and other amenities (DOJ ADA title III, priorities 3 and 4)
- b. bringing a facility into compliance with current building codes as grandfather clauses expire
- c. increasing usability following an occupancy or use change
- d. actions that are recommended but not required by code

### Project Subclass

Subclass ratings are assigned to accessibility upgrade activities based on the four Department of Justice priority rankings recommended by the Title III regulations for planning readily achievable barrier removal projects. These ratings are:

- DOJ1 Accessible approach and entrance
- DOJ2 Access to goods and services
- DOJ3 Access to restrooms
- DOJ4 Any other necessary measures

### Category Codes

CATEGORY CODE*	SYSTEM DESCRIPTION
AC1A – AC4B	ACCESSIBILITY
EL1A – EL8A	ELECTRICAL
ES1A – ES6E	EXTERIOR STRUCTURE
FS1A – FS6A	FIRE/LIFE SAFETY
HE1A – HE7A	HEALTH
HV1A – HV8B	HVAC
IS1A – IS6D	INTERIOR FINISHES/SYSTEMS
PL1A – PL5A	PLUMBING
SI1A – SI4A	SITE
VT1A – VT7A	VERTICAL TRANSPORTATION

<i>Example:</i> Category Code = EL5A	
<b>EL</b>	System Description
<b>5</b>	Component Description
<b>A</b>	Element Description

## Priority Sequence

A Priority Sequence number is automatically assigned to each project to rank the projects in order of relative criticality and show the recommended execution order. This number is calculated based on the Priority Class and identified system of each project.

<i>Example</i>			
Priority Class	Category Code	Project Number	Priority Sequence
1	HV2C	0001HV04	01
1	PL1D	0001PL02	02
2	IS1E	0001IS06	03
2	EL4C	0001EL03	04

## Drawings

Floor plans for this facility are provided as a reference.

## Photographs

A code shown on the Photo Log identifies the asset number, photo sequence, and a letter designation for architect (a) or engineer (e).

<i>Example:</i>	
Photo Number: 0001006e	
<b>0001</b>	Asset Number
<b>006</b>	Photo Sequence
<b>e</b>	Engineering Photo

## Sustainability/Energy Analysis

Energy/resource conservation measures (ECMs) are recommendations that will reduce resource consumption or the rate of growth in consumption. Examples include improving the efficiency of an HVAC system (e.g., digital motor speed controls, exhaust energy recovery, retrocommissioning) or directly reducing the consumption of a resource (e.g., low flow plumbing fixtures, high-efficiency lighting, or structural insulation improvement). Where significant conservation opportunities are evident for this facility, ECMs are identified and tabulated in Section 7 as a basis for further viability investigation.

FACILITY CONDITION ASSESSMENT

**SECTION 2**

**COST SUMMARIES  
AND TOTALS**



**RENEWAL NEEDS MATRIX**

*All dollars shown as Present Value*

CATEGORY	NONRECURRING PROJECT NEEDS			RECURRING COMPONENT REPLACEMENT NEEDS											
	Immediate	Critical	Noncritical	Deferred Renewal	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	TOTAL
ACCESSIBILITY	0	62,263	0	0	0	0	0	0	0	0	0	0	0	0	\$62,263
EXTERIOR	0	0	0	140,187	0	0	0	0	0	0	0	0	0	0	\$140,187
INTERIOR	0	0	0	175,596	0	0	0	0	0	0	61,321	0	0	0	\$236,917
PLUMBING	0	0	0	38,531	0	0	0	0	0	0	0	0	0	0	\$38,531
HVAC	0	0	0	24,049	0	0	0	2,371	0	0	10,327	0	0	0	\$36,747
FIRE/LIFE SAFETY	1,264	23,429	0	0	0	0	0	0	0	0	0	0	0	0	\$24,693
ELECTRICAL	0	0	1,694	140,939	0	0	0	0	0	0	0	0	0	0	\$142,633
SITE	0	0	81,867	0	0	0	0	0	0	0	0	0	0	0	\$81,867
VERT. TRANS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
HEALTH/EQUIP.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
<b>SUBTOTAL</b>	<b>\$1,264</b>	<b>\$85,692</b>	<b>\$83,561</b>	<b>\$519,302</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,371</b>	<b>\$0</b>	<b>\$0</b>	<b>\$71,648</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$763,838</b>
<b>TOTAL NONRECURRING PROJECT NEEDS</b>			<b>\$170,517</b>	<b>TOTAL RECURRING COMPONENT REPLACEMENT NEEDS</b>										<b>\$593,321</b>	

<b>CURRENT REPLACEMENT VALUE</b>	<b>\$2,515,000</b>
<b>FACILITY CONDITION NEEDS INDEX</b>	<b>0.30</b>
<b>FACILITY CONDITION INDEX</b>	<b>0.21</b>

<b>GSF</b>	<b>TOTAL 10-YEAR FACILITY RENEWAL NEEDS</b>	<b>10-YEAR NEEDS/SF</b>
<b>3,636</b>	<b>\$763,838</b>	<b>\$210.08</b>

### RENEWAL NEEDS BY SYSTEM

*All costs shown as Present Value*

CATEGORY	NONRECURRING PROJECT COSTS	RECURRING COMPONENT REPLACEMENT COSTS	TOTAL 10-YEAR FACILITY RENEWAL COSTS
ACCESSIBILITY	\$62,263	\$0	\$62,263
EXTERIOR	\$0	\$140,187	\$140,187
INTERIOR	\$0	\$236,917	\$236,917
PLUMBING	\$0	\$38,531	\$38,531
HVAC	\$0	\$36,747	\$36,747
FIRE/LIFE SAFETY	\$24,693	\$0	\$24,693
ELECTRICAL	\$1,694	\$140,939	\$142,633
SITE	\$81,867	\$0	\$81,867
VERT. TRANS	\$0	\$0	\$0
HEALTH	\$0	\$0	\$0
<b>TOTALS</b>	<b>\$170,517</b>	<b>\$593,321</b>	<b>\$763,838</b>



**FACILITIES RENEWAL PLAN**  
 RECURRING COMPONENT REPLACEMENT COSTS

*All costs shown as Present Value*

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
119 EW01	WALL, EXTERIOR, MASONRY POINTING	RED BRICK		EXTERIOR	B2010	Deferred Renewal	65,141
119 WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	SINGLE PANE		EXTERIOR	B2010	Deferred Renewal	53,660
119 DR09	DOOR AND FRAME, EXTERIOR, SWINGING, HARDWOOD	PTD WOOD		EXTERIOR	B2030	Deferred Renewal	21,387
119 DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	WOOD		THROUGHOUT	C1020	Deferred Renewal	126,022
119 DR24	DOOR LOCK, COMMERCIAL-GRADE	WOOD DRS		EXTERIOR	C1020	Deferred Renewal	2,689
119 CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LAMINATE		BRK RM	C1030	Deferred Renewal	6,492
119 IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD	CERAMIC		RESTROOM	C3010	Deferred Renewal	6,930
119 IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC		RESTROOM	C3020	Deferred Renewal	6,125
119 IC03	CEILING FINISH - ATTACHED ACOUSTICAL TILE	ATTACHED ACOUS TILE		THROUGHOUT	C3030	Deferred Renewal	27,339
119 PS14	SUPPLY PIPING SYSTEM - OFFICE	GALVANIZED		THROUGHOUT	D2020	Deferred Renewal	15,385
119 PD14	DRAIN PIPING SYSTEM - OFFICE	CAST IRON		THROUGHOUT	D2030	Deferred Renewal	23,146
119 FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	BATH EXHAUST		RESTROOMS	D3040	Deferred Renewal	1,335
119 HV14	HVAC DISTRIBUTION NETWORKS - OFFICE			THROUGHOUT	D3040	Deferred Renewal	22,714
119 SE14	ELECTRICAL DISTRIBUTION NETWORK - OFFICE	120/240		THROUGHOUT	D5010	Deferred Renewal	85,925
119 SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MAIN		JANITOR CLOSET	D5010	Deferred Renewal	2,662
119 LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		ENTRIES, CORNER SOFF	D5020	Deferred Renewal	600
119 LI14	LIGHTING SYSTEM, INTERIOR - OFFICE	T8		RENO AREA	D5020	Deferred Renewal	14,233

**FACILITIES RENEWAL PLAN**  
 RECURRING COMPONENT REPLACEMENT COSTS

*All costs shown as Present Value*

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	CUSTOMER ID	LOCATION	UNI- FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
119 LI14	LIGHTING SYSTEM, INTERIOR - OFFICE	T8, INCAND		THROUGHOUT	D5020	Deferred Renewal	37,519
119 HU13	EVAPORATOR UNIT, ELECTRIC HEAT (>12.5 KW)	CARRIER 2		ATTIC	D3030	2026	2,371
119 IW01	WALL FINISH - PAINT, STANDARD	PAINTED FINISH		THROUGHOUT	C3010	2029	20,341
119 IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	CARPET TILE		OFFICES	C3020	2029	40,980
119 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER		EAST EXT	D3030	2029	10,327
<b>TOTAL</b>							<b>\$593,321</b>

**FACILITIES RENEWAL PLAN**  
**NONRECURRING PROJECT COSTS**

*All costs shown as Present Value*

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
119FS01	IMPROVE EGRESS PATHWAY DESIGNATION	D5090	1	Plant Adaption	1,264
119AC01	INTERIOR DOOR ACCESSIBILITY UPGRADES	C1020	2	Plant Adaption	25,098
119AC02	RESTROOM AND DRINKING FOUNTAIN ACCESSIBILITY UPGRADES	D2010	2	Plant Adaption	30,668
119AC03	STAIR RAILING UPGRADES	C2020	2	Plant Adaption	2,164
119AC04	EXTERIOR ACCESSIBILITY UPGRADES	B2030	2	Plant Adaption	4,333
119FS02	FIRE ALARM SYSTEM INSTALLATION	D5030	2	Plant Adaption	23,429
119EL01	ADD EXTERIOR LIGHTING	D5020	3	Plant Adaption	1,694
119SI01	SITE PAVING RENEWAL	G2040	3	Plant Adaption	81,867
<b>TOTAL</b>					<b>\$170,517</b>



FACILITY CONDITION ASSESSMENT

**SECTION 3**

**NONRECURRING  
PROJECT DETAILS**

All costs shown as Present Value

IMPROVE EGRESS PATHWAY DESIGNATION			
<b>Project Number:</b>	119FS01	<b>Category Code:</b>	
<b>Priority Sequence:</b>	1	FS1A	
<b>Priority Class:</b>	High	<b>System:</b>	FIRE/LIFE SAFETY
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	LIGHTING
<b>Date Basis:</b>	2/6/2023	<b>Element:</b>	EGRESS LTG./EXIT SIGNAGE

Code Application:		Subclass/Savings:	Project Location:
NFPA	101-47	Not Applicable	Floor-wide: Floor(s) 1
IBC	1011		

**Description**

The egress pathways are not clearly designated by exit signs. It is recommended that new LED battery backup exit signs be installed.

All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install new battery pack LED exit signs, including all connections and extension of power	EA	2	\$331	\$662	\$169	\$338	\$1,001
<b>Base Material/Labor Costs</b>				<b>\$662</b>		<b>\$338</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$667</b>		<b>\$241</b>	<b>\$908</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$182</b>
<b>Original Construction Cost</b>							<b>\$1,090</b>
<b>Date of Original Estimate:</b>	2/6/2023				<b>Inflation</b>		<b>\$0</b>
<b>Current Year Construction Cost</b>							<b>\$1,090</b>
<b>Professional Fees at 16.0%</b>							<b>\$174</b>
<b>TOTAL PROJECT COST</b>							<b>\$1,264</b>

All costs shown as Present Value

FIRE ALARM SYSTEM INSTALLATION			
<b>Project Number:</b>	119FS02	<b>Category Code:</b>	
<b>Priority Sequence:</b>	2	FS2A	
<b>Priority Class:</b>	Medium	<b>System:</b>	FIRE/LIFE SAFETY
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	DETECTION ALARM
<b>Date Basis:</b>	2/7/2023	<b>Element:</b>	GENERAL

Code Application:		Subclass/Savings:	Project Location:
ADAAG	702.1	Not Applicable	Floor-wide: Floor(s) 1
NFPA	1, 101		

**Description**

There is no fire alarm system in this building. Some monitoring devices are connected to the security system, but this should be replaced with a modern fire alarm system. Specify a point addressable supervised main fire alarm panel with an annunciator, and include pull stations, audible and visible alarms, smoke and heat detectors, and an associated wiring network. Install all devices in accordance with current NFPA and ADA requirements. The system should be monitored to report activation or trouble to a receiving station.



All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Smoke and heat detectors, manual pull stations, audible and visual alarms, wiring, conduit, cut and patching materials	SF	3,636	\$2.79	\$10,144	\$1.92	\$6,981	\$17,126
Fire alarm control panel, annunciator, cut and patching materials	EA	1	\$1,000	\$1,000	\$885	\$885	\$1,885
<b>Base Material/Labor Costs</b>				<b>\$11,144</b>		<b>\$7,866</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$11,222</b>		<b>\$5,609</b>	<b>\$16,831</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$3,366</b>
<b>Original Construction Cost</b>							<b>\$20,197</b>
<b>Date of Original Estimate:</b>	2/7/2023		<b>Inflation</b>			<b>\$0</b>	
<b>Current Year Construction Cost</b>							<b>\$20,197</b>
<b>Professional Fees at 16.0%</b>							<b>\$3,232</b>
<b>TOTAL PROJECT COST</b>							<b>\$23,429</b>

All costs shown as Present Value

RESTROOM AND DRINKING FOUNTAIN ACCESSIBILITY UPGRADES			
<b>Project Number:</b>	119AC02	<b>Category Code:</b>	
<b>Priority Sequence:</b>	3	AC3E	
<b>Priority Class:</b>	Medium	<b>System:</b>	ACCESSIBILITY
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	INTERIOR PATH OF TRAVEL
<b>Date Basis:</b>	2/6/2023	<b>Element:</b>	RESTROOMS/BATHROOMS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	211, 602, 604, 605, 606, 607, 608	DOJ3 - Restrooms	Room Only: Floor(s) 1

**Description**

The restrooms are not fully ADA compliant. The installation of accessible fixtures and accessories is recommended. Also, the single-level drinking fountain should be replaced with a dual-level unit set in an alcove or with a tapered lower cabinet design.

All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
ADA compliant signage	EA	10	\$87.09	\$871	\$25.61	\$256	\$1,127
ADA compliant lavatory	EA	4	\$1,008	\$4,032	\$375	\$1,501	\$5,534
ADA compliant toilet	EA	4	\$1,584	\$6,334	\$418	\$1,674	\$8,008
Dual-level drinking fountain	EA	1	\$1,995	\$1,995	\$613	\$613	\$2,608
Alcove construction for drinking fountain	EA	1	\$1,438	\$1,438	\$6,137	\$6,137	\$7,575
<b>Base Material/Labor Costs</b>				<b>\$14,670</b>		<b>\$10,181</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$14,772</b>		<b>\$7,259</b>	<b>\$22,032</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$4,406</b>
<b>Original Construction Cost</b>							<b>\$26,438</b>
<b>Date of Original Estimate:</b>	2/6/2023					<b>Inflation</b>	<b>\$0</b>
<b>Current Year Construction Cost</b>							<b>\$26,438</b>
<b>Professional Fees at 16.0%</b>							<b>\$4,230</b>
<b>TOTAL PROJECT COST</b>							<b>\$30,668</b>

All costs shown as Present Value

EXTERIOR ACCESSIBILITY UPGRADES			
<b>Project Number:</b>	119AC04	<b>Category Code:</b>	
<b>Priority Sequence:</b>	4	AC2A	
<b>Priority Class:</b>	Medium	<b>System:</b>	ACCESSIBILITY
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	BUILDING ENTRY
<b>Date Basis:</b>	2/6/2023	<b>Element:</b>	GENERAL

**Code Application:**

**Subclass/Savings:**

**Project Location:**

ADAAG 502

DOJ1 - Approach & Entrance

Item Only: Floor(s) 1

**Description**

The knob hardware on all exterior doors should be replaced with ADA compliant lever hardware, and accessible parking spaces should be designated in the parking lot.

All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Accessible parking space, including striping and signage	EA	2	\$437	\$874	\$137	\$273	\$1,148
ADA compliant signage	EA	1	\$87.09	\$87	\$25.61	\$26	\$113
Lever actuated door hardware	EA	3	\$498	\$1,494	\$200	\$599	\$2,093
<b>Base Material/Labor Costs</b>				<b>\$2,456</b>		<b>\$897</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$2,473</b>		<b>\$640</b>	<b>\$3,113</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$623</b>
<b>Original Construction Cost</b>							<b>\$3,736</b>
<b>Date of Original Estimate:</b>	2/6/2023					<b>Inflation</b>	<b>\$0</b>
<b>Current Year Construction Cost</b>							<b>\$3,736</b>
<b>Professional Fees at 16.0%</b>							<b>\$598</b>
<b>TOTAL PROJECT COST</b>							<b>\$4,333</b>

All costs shown as Present Value

INTERIOR DOOR ACCESSIBILITY UPGRADES			
<b>Project Number:</b>	119AC01	<b>Category Code:</b>	
<b>Priority Sequence:</b>	5	AC3C	
<b>Priority Class:</b>	Medium	<b>System:</b>	ACCESSIBILITY
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	INTERIOR PATH OF TRAVEL
<b>Date Basis:</b>	2/6/2023	<b>Element:</b>	DOORS AND HARDWARE

Code Application:		Subclass/Savings:	Project Location:
ADAAG	309.4	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1

**Description**

Accessibility legislation requires that door hardware be designed for people with little or no ability to grasp objects with their hands. To comply with the intent of this legislation, it is recommended that lever handle hardware be installed on all doors that still have knobs.

All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Lever actuated door hardware	EA	28	\$498	\$13,948	\$200	\$5,588	\$19,536
<b>Base Material/Labor Costs</b>				<b>\$13,948</b>		<b>\$5,588</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$14,046</b>		<b>\$3,984</b>	<b>\$18,030</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$3,606</b>
<b>Original Construction Cost</b>							<b>\$21,636</b>
<b>Date of Original Estimate:</b>	2/6/2023					<b>Inflation</b>	<b>\$0</b>
<b>Current Year Construction Cost</b>							<b>\$21,636</b>
<b>Professional Fees at 16.0%</b>							<b>\$3,462</b>
<b>TOTAL PROJECT COST</b>							<b>\$25,098</b>

All costs shown as Present Value

STAIR RAILING UPGRADES			
<b>Project Number:</b>	119AC03	<b>Category Code:</b>	
<b>Priority Sequence:</b>	6	AC3B	
<b>Priority Class:</b>	Medium	<b>System:</b>	ACCESSIBILITY
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	INTERIOR PATH OF TRAVEL
<b>Date Basis:</b>	2/6/2023	<b>Element:</b>	STAIRS AND RAILINGS

Code Application:		Subclass/Savings:	Project Location:
IBC	1003.3	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1
ADAAG	505		

### Description

Accessibility legislation requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. The stairs are deficient in handrail design relative to current standards. Future renovation efforts should include comprehensive stair railing upgrades.



All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Wall-mounted handrail system per floor	FLR	1	\$939	\$939	\$854	\$854	\$1,793
<b>Base Material/Labor Costs</b>				<b>\$939</b>		<b>\$854</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$946</b>		<b>\$609</b>	<b>\$1,555</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$311</b>
<b>Original Construction Cost</b>							<b>\$1,865</b>
<b>Date of Original Estimate:</b>	2/6/2023		<b>Inflation</b>				<b>\$0</b>
<b>Current Year Construction Cost</b>							<b>\$1,865</b>
<b>Professional Fees at 16.0%</b>							<b>\$298</b>
<b>TOTAL PROJECT COST</b>							<b>\$2,164</b>

All costs shown as Present Value

ADD EXTERIOR LIGHTING			
<b>Project Number:</b>	119EL01	<b>Category Code:</b>	
<b>Priority Sequence:</b>	7	EL4A	
<b>Priority Class:</b>	Low	<b>System:</b>	ELECTRICAL
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	DEVICES AND FIXTURES
<b>Date Basis:</b>	2/7/2023	<b>Element:</b>	EXTERIOR LIGHTING

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Building-wide: Floor(s) 1

**Description**

The illumination level was not easily verified during this daytime inspection, but it appears additional lighting is needed. Install additional exterior light fixtures to ensure a safe environment for building users, and place all new lighting on photocell activation.

All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Recessed LED exterior light fixture	EA	6	\$125	\$751	\$108	\$646	\$1,397
<b>Base Material/Labor Costs</b>				<b>\$751</b>		<b>\$646</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$756</b>		<b>\$461</b>	<b>\$1,217</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$243</b>
<b>Original Construction Cost</b>							<b>\$1,460</b>
<b>Date of Original Estimate:</b>	2/7/2023					<b>Inflation</b>	<b>\$0</b>
<b>Current Year Construction Cost</b>							<b>\$1,460</b>
<b>Professional Fees at 16.0%</b>							<b>\$234</b>
<b>TOTAL PROJECT COST</b>							<b>\$1,694</b>

All costs shown as Present Value

SITE PAVING RENEWAL			
<b>Project Number:</b>	119SI01	<b>Category Code:</b>	
<b>Priority Sequence:</b>	8	SI4A	
<b>Priority Class:</b>	Low	<b>System:</b>	SITE
<b>Project Class:</b>	Plant Adaption	<b>Component:</b>	GENERAL
<b>Date Basis:</b>	2/6/2023	<b>Element:</b>	OTHER

**Code Application:**

Not Applicable

**Subclass/Savings:**

Not Applicable

**Project Location:**

Undefined: Floor(s) 1

**Description**

The pedestrian and vehicular paving systems are in overall poor condition. Replacement of these paving systems is recommended

All costs shown as Present Value

**Project Cost Estimate**

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Replace pedestrian concrete walkways	SF	1,000	\$5.45	\$5,450	\$6.00	\$6,000	\$11,450
Rebuild asphalt parking lot paving structure	SY	700	\$36.91	\$25,837	\$46.14	\$32,298	\$58,135
<b>Base Material/Labor Costs</b>				<b>\$31,287</b>		<b>\$38,298</b>	
<b>Indexed Material/Labor Costs</b>				<b>\$31,506</b>		<b>\$27,306</b>	<b>\$58,812</b>
<b>Construction Mark Up at 20.0%</b>							<b>\$11,762</b>
<b>Original Construction Cost</b>							<b>\$70,575</b>
<b>Date of Original Estimate:</b>	2/6/2023		<b>Inflation</b>			<b>\$0</b>	
<b>Current Year Construction Cost</b>							<b>\$70,575</b>
<b>Professional Fees at 16.0%</b>							<b>\$11,292</b>
<b>TOTAL PROJECT COST</b>							<b>\$81,867</b>



FACILITY CONDITION ASSESSMENT

**SECTION 4**

LIFECYCLE COMPONENT  
INVENTORY





### RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
EW01	WALL, EXTERIOR, MASONRY POINTING	RED BRICK		EXTERIOR	6,290	SF	1.12	\$65,141	1974	30	18	DR
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	SINGLE PANE		EXTERIOR	260	SF	1.12	\$53,660	1974	40	8	DR
DR09	DOOR AND FRAME, EXTERIOR, SWINGING, HARDWOOD	PTD WOOD		EXTERIOR	3	LEAF	1.00	\$21,387	1974	35	13	DR
RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	PITCHED	19610	ROOF	5,125	SF	1.00	\$30,569	2021	18	7	2046
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	WOOD		THROUGHOUT	28	LEAF	1.00	\$126,022	1974	40	8	DR
DR24	DOOR LOCK, COMMERCIAL-GRADE	WOOD DRS		EXTERIOR	3	EA	1.00	\$2,689	1974	20	28	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LAMINATE		BRK RM	10	LF	1.00	\$6,492	1974	20	28	DR
IW01	WALL FINISH - PAINT, STANDARD	PAINTED FINISH		THROUGHOUT	7,550	SF	1.00	\$20,341	2017	12		2029
IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD	CERAMIC		RESTROOM	150	SF	1.00	\$6,930	1974	30	18	DR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	CARPET TILE		OFFICES	2,780	SF	1.00	\$40,980	2017	12		2029
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	VINYL PLANK		BRK AREA	490	SF	1.00	\$3,780	2017	20		2037
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC		RESTROOM	160	SF	1.00	\$6,125	1974	30	18	DR
IC03	CEILING FINISH - ATTACHED ACOUSTICAL TILE	ATTACHED ACOUS TILE		THROUGHOUT	3,270	SF	1.00	\$27,339	1974	30	18	DR
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	PC		RESTROOM	4	EA	1.00	\$6,405	2013	35		2048
FX04	PLUMBING FIXTURE - SINK, KITCHEN	SST		BRK AREA	1	EA	1.00	\$2,600	2013	35		2048

### RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	IN STL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
FX11	PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE	PC LOW FLOW		RESTROOM	4	EA	1.00	\$5,619	2013	35		2048
PS14	SUPPLY PIPING SYSTEM - OFFICE	GALVANIZED		THROUGHOUT	3,636	SF	1.00	\$15,385	1974	35	13	DR
WH09	WATER HEATER - RESIDENTIAL, GAS (45-55 GAL)	RHEEM	19611	7	50	GAL	0.15	\$405	2018	20		2038
PD14	DRAIN PIPING SYSTEM - OFFICE	CAST IRON		THROUGHOUT	3,636	SF	1.00	\$23,146	1974	40	8	DR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER		EAST EXT	3	TON	1.00	\$7,745	2013	23		2036
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER		EAST EXT	4	TON	1.00	\$10,327	2006	23		2029
HU13	EVAPORATOR UNIT, ELECTRIC HEAT (>12.5 KW)	CARRIER 1		ATTIC	9	KW	1.00	\$1,940	2013	20		2033
HU13	EVAPORATOR UNIT, ELECTRIC HEAT (>12.5 KW)	CARRIER 2		ATTIC	11	KW	1.00	\$2,371	2006	20		2026
FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	BATH EXHAUST		RESTROOMS	4	HP	0.10	\$1,335	1974	20	28	DR
HV14	HVAC DISTRIBUTION NETWORKS - OFFICE			THROUGHOUT	3,636	SF	0.20	\$22,714	1974	40	8	DR
SE14	ELECTRICAL DISTRIBUTION NETWORK - OFFICE	120/240		THROUGHOUT	3,636	SF	1.00	\$85,925	1974	40	8	DR
SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MAIN		JANITOR CLOSET	225	AMP	0.12	\$2,551	1974	20	28	DR
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	SURFACE MOUNT LED		MAIN ENTRY	1	EA	1.00	\$282	2018	15		2033
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		ENTRIES, CORNER SOFF	4	EA	0.30	\$600	1995	15	12	DR
LI14	LIGHTING SYSTEM, INTERIOR - OFFICE	T8, INCAND		THROUGHOUT	2,636	SF	1.00	\$37,519	1974	20	28	DR

### RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
LI14	LIGHTING SYSTEM, INTERIOR - OFFICE	T8		RENO AREA	1,000	SF	1.00	\$14,233	2000	20	2	DR
<b>Grand Total:</b>								<b>\$652,556</b>				

## RECURRING NEEDS BY YEAR

*All costs shown as Future Value using a 3% average inflation rate*

DEFERRED RENEWAL									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
EW01	WALL, EXTERIOR, MASONRY POINTING	RED BRICK		EXTERIOR	B2010	6,290	SF	\$65,141	DR
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	SINGLE PANE		EXTERIOR	B2010	260	SF	\$53,660	DR
DR09	DOOR AND FRAME, EXTERIOR, SWINGING, HARDWOOD	PTD WOOD		EXTERIOR	B2030	3	LEAF	\$21,387	DR
DR24	DOOR LOCK, COMMERCIAL-GRADE	WOOD DRS		EXTERIOR	C1020	3	EA	\$2,689	DR
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	WOOD		THROUGHOUT	C1020	28	LEAF	\$126,022	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LAMINATE		BRK RM	C1030	10	LF	\$6,492	DR
IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD	CERAMIC		RESTROOM	C3010	150	SF	\$6,930	DR
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC		RESTROOM	C3020	160	SF	\$6,125	DR
IC03	CEILING FINISH - ATTACHED ACOUSTICAL TILE	ATTACHED ACOUS TILE		THROUGHOUT	C3030	3,270	SF	\$27,339	DR
PS14	SUPPLY PIPING SYSTEM - OFFICE	GALVANIZED		THROUGHOUT	D2020	3,636	SF	\$15,385	DR
PD14	DRAIN PIPING SYSTEM - OFFICE	CAST IRON		THROUGHOUT	D2030	3,636	SF	\$23,146	DR
HV14	HVAC DISTRIBUTION NETWORKS - OFFICE			THROUGHOUT	D3040	3,636	SF	\$22,714	DR

### RECURRING NEEDS BY YEAR

*All costs shown as Future Value using a 3% average inflation rate*

FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	BATH EXHAUST		RESTROOMS	D3040	4	HP	\$1,335	DR
SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MAIN		JANITOR CLOSET	D5010	225	AMP	\$2,551	DR
SE14	ELECTRICAL DISTRIBUTION NETWORK - OFFICE	120/240		THROUGHOUT	D5010	3,636	SF	\$85,925	DR
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		ENTRIES, CORNER SOFF	D5020	4	EA	\$600	DR
LI14	LIGHTING SYSTEM, INTERIOR - OFFICE	T8, INCAND		THROUGHOUT	D5020	2,636	SF	\$37,519	DR
LI14	LIGHTING SYSTEM, INTERIOR - OFFICE	T8		RENO AREA	D5020	1,000	SF	\$14,233	DR
<b>TOTAL DEFERRED RENEWAL COST</b>								<b>\$519,191</b>	

***No Projected Component Replacement Cost for Asset No. 119 for 2023***

***No Projected Component Replacement Cost for Asset No. 119 for 2024***

## RECURRING NEEDS BY YEAR

*All costs shown as Future Value using a 3% average inflation rate*

*No Projected Component Replacement Cost for Asset No. 119 for 2025*

2026									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
HU13	EVAPORATOR UNIT, ELECTRIC HEAT (>12.5 KW)	CARRIER 2		ATTIC	D3030	11	KW	\$2,591	2026
<b>2026 PROJECTED COMPONENT REPLACEMENT COST</b>								<b>\$2,591</b>	

*No Projected Component Replacement Cost for Asset No. 119 for 2027*

## RECURRING NEEDS BY YEAR

*All costs shown as Future Value using a 3% average inflation rate*

**No Projected Component Replacement Cost for Asset No. 119 for 2028**

2029									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
IW01	WALL FINISH - PAINT, STANDARD	PAINTED FINISH		THROUGHOUT	C3010	7,550	SF	\$24,288	2029
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	CARPET TILE		OFFICES	C3020	2,780	SF	\$48,932	2029
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER		EAST EXT	D3030	4	TON	\$12,331	2029
<b>2029 PROJECTED COMPONENT REPLACEMENT COST</b>								<b>\$85,551</b>	

**No Projected Component Replacement Cost for Asset No. 119 for 2030**

## RECURRING NEEDS BY YEAR

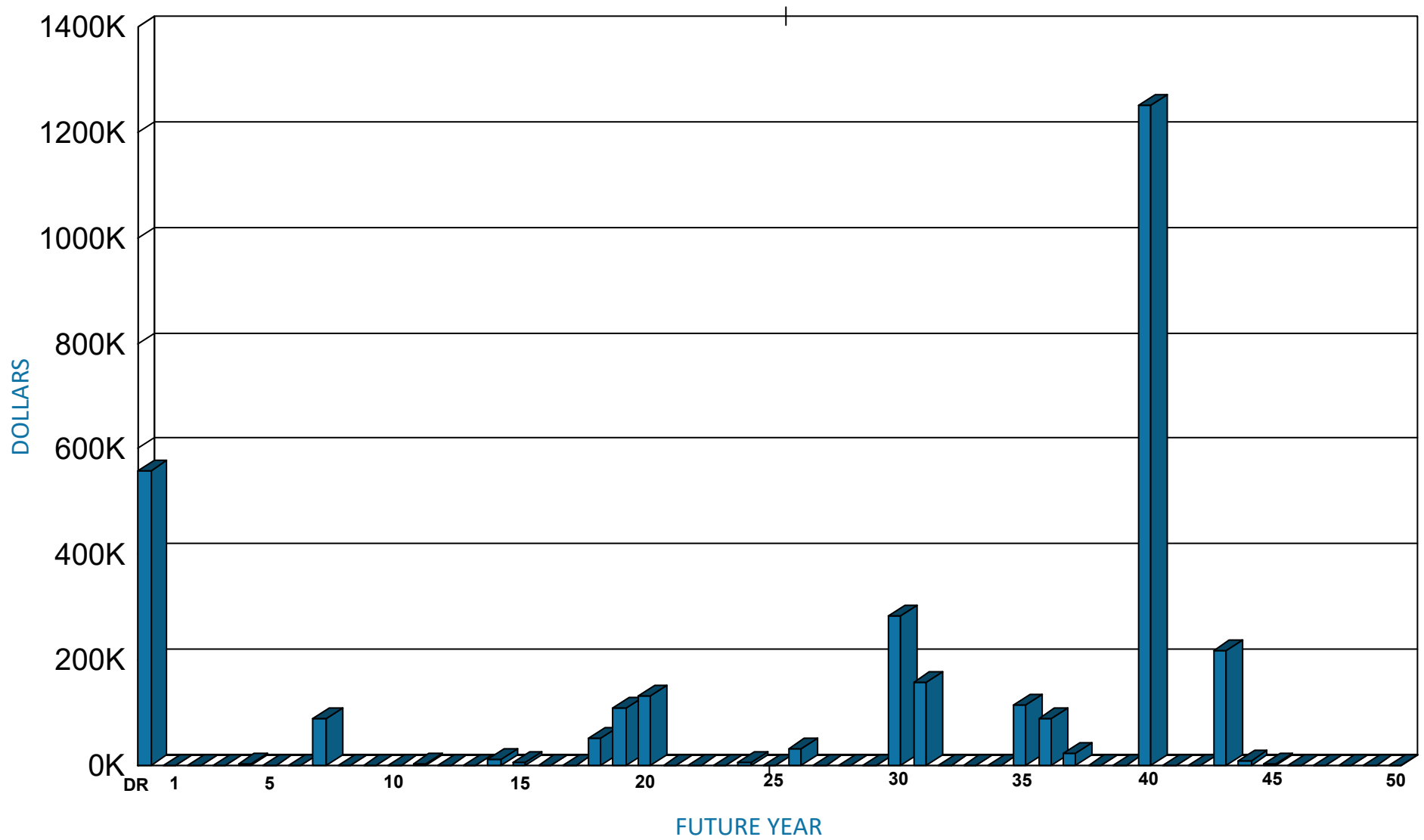
*All costs shown as Future Value using a 3% average inflation rate*

***No Projected Component Replacement Cost for Asset No. 119 for 2031***

***No Projected Component Replacement Cost for Asset No. 119 for 2032***



### RECURRING COMPONENT EXPENDITURE PROJECTIONS



Average Annual Renewal Cost per SF \$8.28



FACILITY CONDITION ASSESSMENT

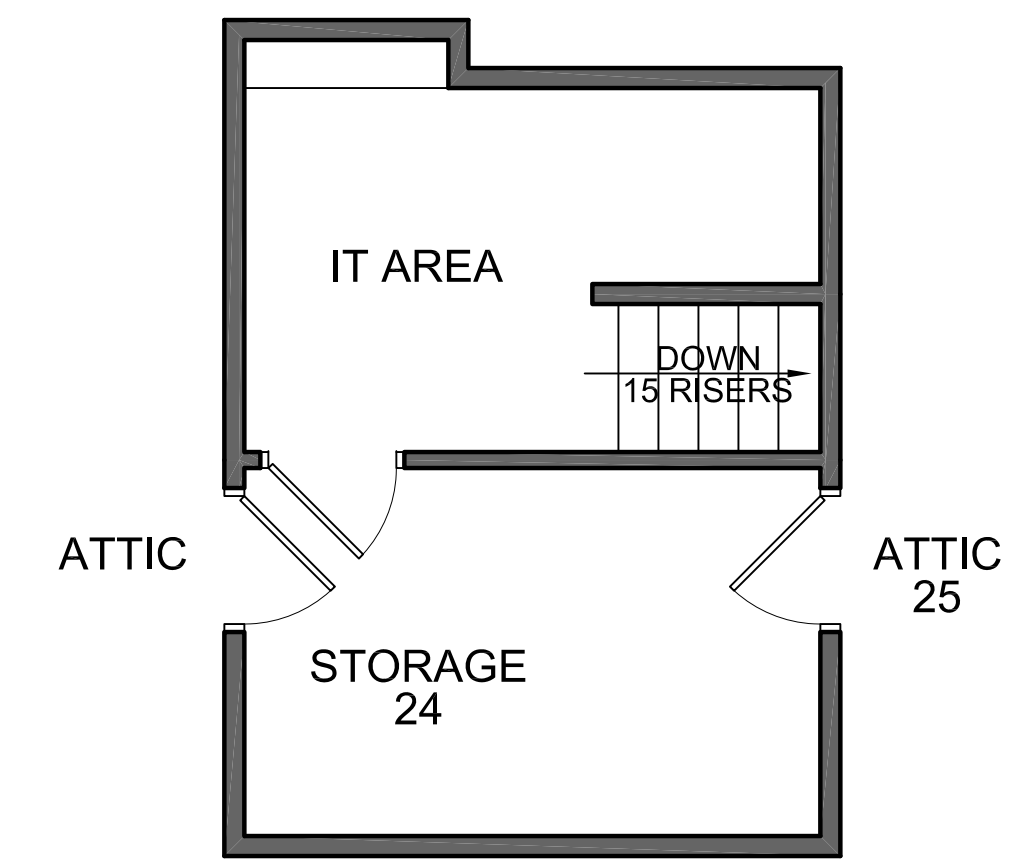
**SECTION 5**

DRAWINGS

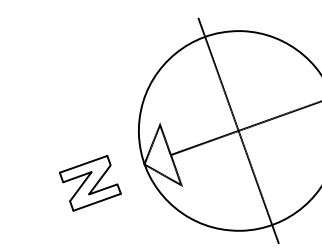
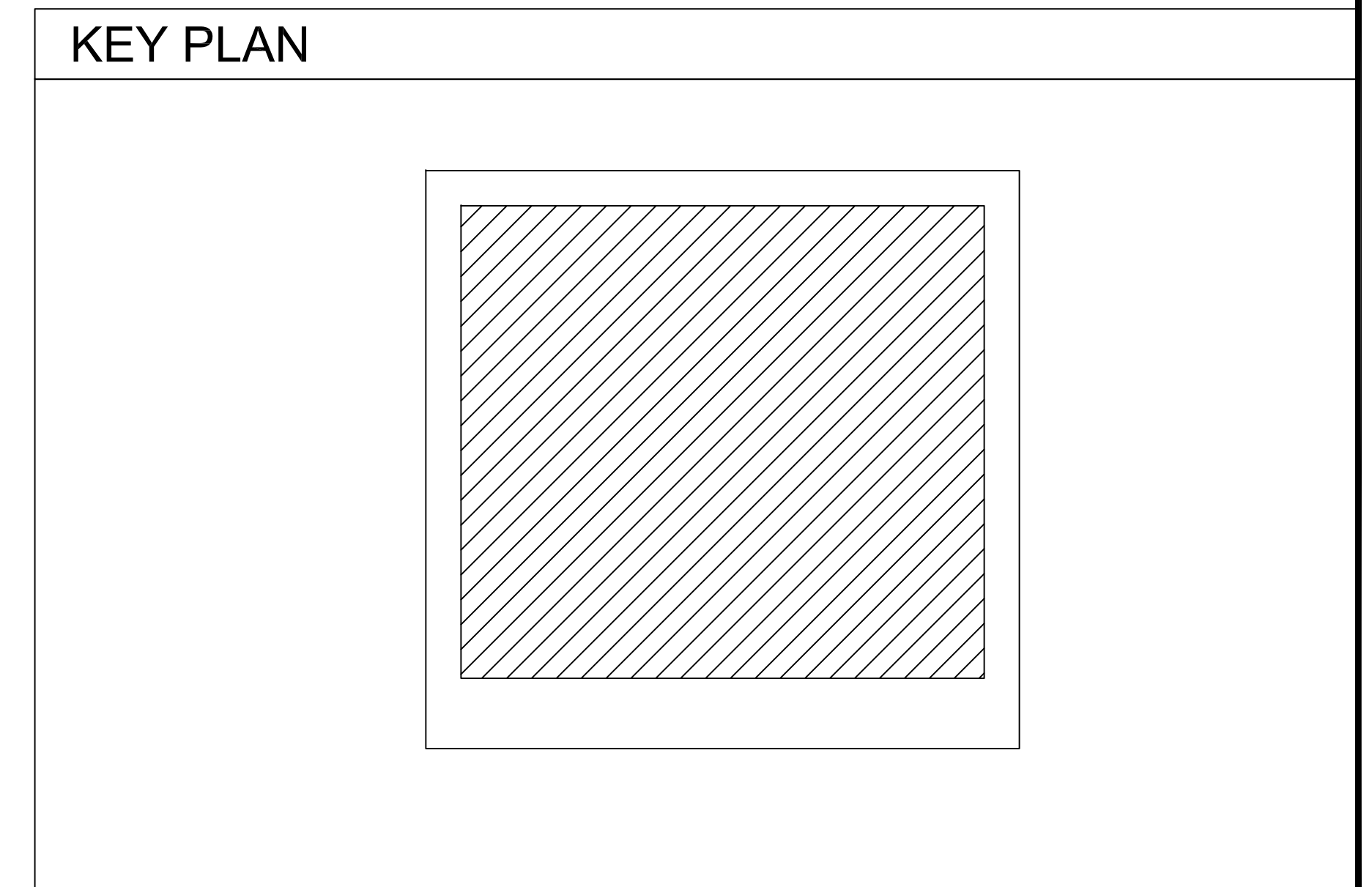




FIRST FLOOR



SECOND FLOOR



FIRST AND SECOND FLOORS  
PHYSICIANS QUADRANGLE - N



# FACILITY CONDITION ASSESSMENT

## SECTION 6

### PHOTOGRAPHS







119001a 1/26/2023  
Tile walls and floor, wall-hung lavatory and tank-type  
toilet  
Restroom



119001e 1/26/2023  
T5 fluorescent lay-in troffer lighting  
Commons area



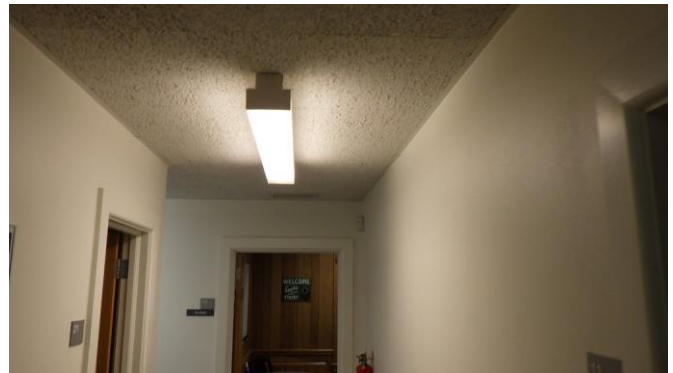
119002a 1/26/2023  
Acoustical tile ceiling, carpeting, painted walls, built-in  
casework  
Office



119002e 1/26/2023  
Incandescent lighting  
Restroom



119003a 1/26/2023  
Single-pane window  
Office



119003e 1/26/2023  
T8 fluorescent surface-mounted lighting  
Patient corridor



119004a 1/26/2023  
Painted walls, carpeting  
Office



119004e 1/26/2023  
Incandescent floodlight  
Exterior corner soffit



119005a 1/26/2023  
Painted walls and ceiling, carpeting, wood doors with  
knob  
Corridor



119005e 1/26/2023  
Incandescent surface-mounted light  
Main entry



119006a 1/26/2023  
Single-level water fountain  
Corridor



119006e 1/26/2023  
Electric water heater 19611  
Office 7



119007a 1/26/2023  
Painted walls, glazing, casework, vinyl plank floor  
Break room



119007e 1/26/2023  
Indoor fan unit 2  
Attic space



119008a 1/26/2023  
Signage  
Corridor



119008e 1/26/2023  
Indoor fan unit 1  
Attic



119009a 1/26/2023  
Acoustical tile ceiling, painted walls, carpeting  
Conference room



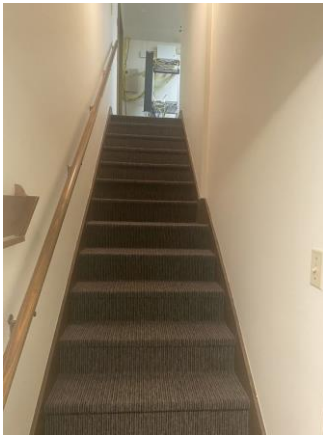
119009e 1/26/2023  
Heat pump control thermostat  
Patient corridor



119010a 1/26/2023  
Vinyl plank flooring  
Meeting room



119010e 1/26/2023  
Heat pump condensing units 1 and 2  
East exterior



119011a 1/26/2023  
Carpet treads  
Stairway



119011e 1/26/2023  
Main electrical disconnect  
East exterior



119012a 1/26/2023  
Wood door with knob hardware  
Corridor



119012e 1/26/2023  
Main electrical disconnect 400 amp breaker  
East exterior



119013a 1/26/2023  
Brick exterior, wood door with knob hardware  
Main entry



119013e 1/26/2023  
Bathroom exhaust fan  
Bathroom



119014a 1/26/2023  
Brick exterior and glazing  
Exterior



119015a 1/26/2023  
Brick exterior and glazing  
Exterior



119016a 1/26/2023  
Brick exterior, glazing, asphalt shingle roof  
Exterior



119017a 1/26/2023  
Brick exterior, glazing, asphalt shingle roof  
Exterior



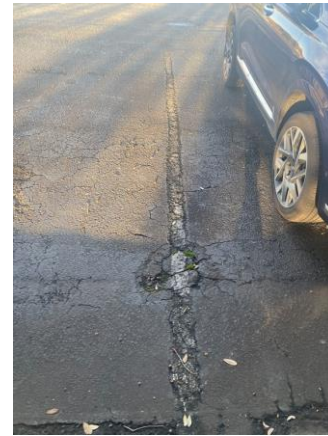
119018a 1/26/2023  
Brick exterior, wood doors with knob hardware  
Exterior



119019a 1/26/2023  
Brick exterior, glazing, asphalt shingle roof  
Exterior



119020a 1/26/2023  
Cracked asphalt parking lot  
Site



119021a 1/26/2023  
Cracked asphalt parking lot  
Site

FACILITY CONDITION ASSESSMENT

**SECTION 7**

PRELIMINARY ENERGY  
ASSESSMENT





## INTRODUCTION

A Preliminary Energy Assessment (PEA) was conducted to identify energy conservation opportunities. The PEA is intended to be a preliminary energy screening only. The goal is to identify potential energy savings opportunities in a building. It is not equivalent to an American Society of Heating, Refrigeration, or Air Conditioning Engineers (ASHRAE) Level 1, 2, or 3 audit. The PEA has two sections: 1) Benchmarking Data and 2) Energy Conservation Opportunities. Basic building information is provided in **Table 1**.

TABLE 1. BUILDING INFORMATION	
Client	EAST CAROLINA UNIVERSITY
Asset Number	119
Asset Name	PHYSICIANS QUAD N
Year Built or Last Energy Renovation	1974

## BENCHMARKING DATA

The purpose of benchmarking building performance is to determine how well a building performs in comparison to other similar buildings. For this analysis, buildings were assessed based on their primary use (e.g., education, food sales, food service, etc.) and year constructed. Two metrics -- energy use intensity and energy end use -- are presented for the building manager to use to assess how efficiently the building performs compared to similar buildings.

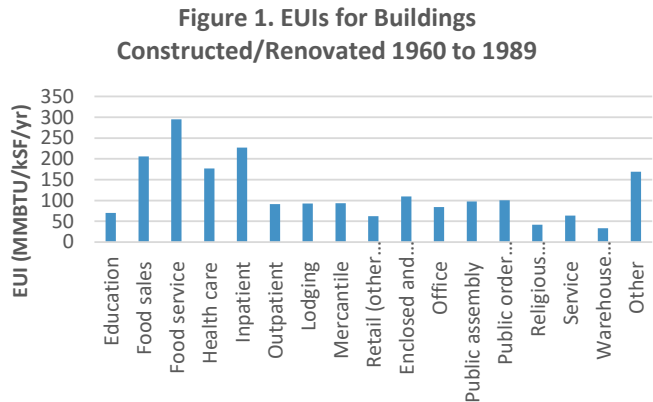
### Metric #1: Energy Use Intensity (EUI)

EUI is a measure of energy consumption per square foot of building space per year. The units of measurement are million British thermal units per thousand square foot per year (MMBTU/kSF/yr). The US-DOE EUI can be compared to the actual EUI of the client building to determine how efficient the building is compared to other similar buildings. A building manager can calculate EUI by summing total energy consumption per year (in MMBTU/yr) and dividing it by the building area (in kSF). Benchmarking data from the U.S. Energy Information Administration (EIA) Commercial Building Energy Consumption Survey (CBECS) database was used for this analysis.

Basic information about the building use and the time of the most recent major HVAC or lighting upgrade is provided in **Table 2**. That information is used to determine the Benchmark EUI. The building manager can calculate the Building EUI and compare it to the Benchmark EUI to determine how building efficiency compares to similar buildings (see **Table 3**). In addition, **Figure 1** shows the EUIs of various building types for further comparison.

TABLE 2. BUILDING DETAILS	
FCA Building Type	Office
Energy Information Administration Equivalent Building Type	Office
Range of Years Constructed/Last Major Energy Renovation	1960 to 1989
<b>Benchmark EUI (MMBTU/kSF/yr) =</b>	<b>84</b>
<b>Building EUI to be Calculated by Client (MMBTU/kSF/yr) =</b>	

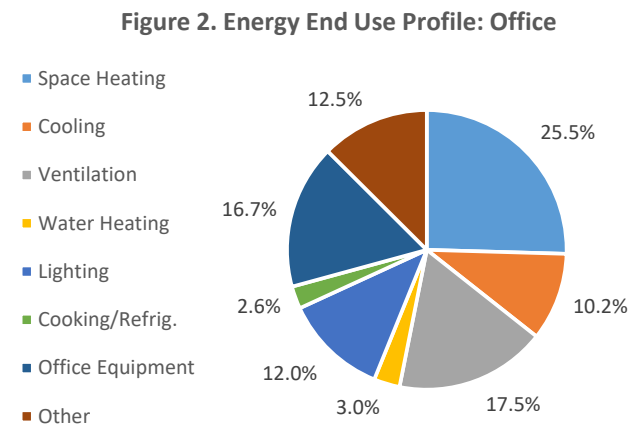
TABLE 3. EUI COMPARISON	
<b>Very Energy Efficient</b> (consumes more than 30% less energy)	EUI < 58.8
<b>Energy Efficient</b> (consumes 10% to 30% less energy)	58.8 <= EUI <= 75.6
<b>Similar</b> (consumes within 10% less or 10% more energy)	75.6 < EUI < 92.4
<b>Energy Inefficient</b> (consumes 10% to 30% more energy)	92.4 <= EUI <= 109.2
<b>Very Energy Inefficient</b> (consumes more than 30% more energy)	EUI > 109.2



### Metric #2: Energy End Use

Energy end use data characterizes how energy is used by profiling energy consumption into end use categories such as space heating, cooling, ventilation, lighting, etc. When energy end use data is presented in a pie chart, high energy-consuming activities are readily identified. A building manager can determine the energy end use profile for a building by analyzing trend data from a Building Automation System and/or Energy Management Control System.

TABLE 4. ENERGY END USE PROFILE: OFFICE	
Space Heating	25.5%
Cooling	10.2%
Ventilation	17.5%
Water Heating	3.0%
Lighting	12.0%
Cooking/Refrig.	2.6%
Office Equipment	16.7%
Other	12.5%
<b>Total</b>	<b>100.0%</b>



References:

1. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. "Technologies and Products by Category." Efficient Technologies and Products for Federal Facilities. DOE. <http://energy.gov/eere/femp/efficient-technologies-and-products-federal-facilities>. Accessed: June 2016.

2. U.S. Energy Information Administration [EIA]. "2012 CBECS Survey Data." Commercial Building Energy Consumption Survey. EIA. <http://www.eia.gov/consumption/commercial/data/2012/index.cfm?view=consumption#c1-c12>, Accessed: June 2016.

## ENERGY CONSERVATION OPPORTUNITIES

This section presents energy conservation measures (ECMs) recommended for further investigation. Recommended ECMs are categorized into one or more cost categories to indicate an approximate level of resources required to implement the ECM. These cost categories are:

**Operation and Maintenance Measures (O&M):** O&M actions usually (a) can be completed by in-house maintenance personnel and (b) result in an immediate return on investment.

**Low-Cost/No-Cost Measures (LC/NC):** LC/NC measures typically (a) can be done by in-house personnel, (b) require little to no investment cost, and (c) result in significant energy savings. In other words, LC/NC measures typically have a quick payback period (less than one year).

**Capital Improvement Measures (CAP):** CAP measures are major capital investments that usually require significant time (i.e., approximately six months to three years) for planning, design, and implementation. Oftentimes, a request for proposal, design/bid/build (D/B/B), and/or design/build (D/B) package is required. The return on investment for CAP projects ranges significantly, varying from a payback period from one to twenty plus years.

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
Building Envelope - Window/Door Heat Gain/Loss	INCREASE THE R-VALUE OF THE WINDOWS/DOORS. ENERGY STAR qualified fenestration products such as windows and doors can minimize HVAC energy consumption by reducing solar heat gain/loss.	CAP
Building Envelope - Window/Door Air Infiltration	WEATHERSTRIP/CAULK WINDOWS/DOORS. When there is air leakage, weatherstrip around movable components and caulk around rigid components to reduce infiltration and save on heating/cooling costs.	O&M; LC/NC
Lighting - Interior	INSTALL EFFICIENT LIGHTING FIXTURES. While incandescent lamp fixtures have a low initial cost, the lamps are energy inefficient and have a short useful life. Consider CFL and LED lighting instead. HID lamps are necessary in some applications; however, alternatives such as high bay, T5 lighting fixtures or LED fixtures should be considered as an alternate. T12 lamps are an outdated lighting technology that should be replaced with newer technologies such as T8, T5, or LED lamp fixtures.	N/A, Varies
Lighting - Interior, Controls	INSTALL LIGHTING CONTROLS. Oftentimes, lighting fixtures on switches do not get turned off when a space is unoccupied. Occupancy sensors, photocell sensors, and lighting control systems can help reduce lighting energy consumption. For example, consider installing occupancy sensors in offices, common areas, and other areas that have variable occupancy. In areas where there is natural lighting, consider using photocell sensors to dim or shut off fixtures that aren't needed. Alternatively, install a comprehensive light control system that uses time clock schedules, occupancy sensors, photocell sensors, etc., to monitor and control lighting throughout an entire building.	N/A, Varies
Lighting - Exterior	INSTALL EFFICIENT LIGHTING FIXTURES. While incandescent lamp fixtures have a low initial cost, the lamps are energy inefficient and have a short useful life. Consider CFL and LED lighting instead. HID lamps are necessary in some applications; however, alternatives such as high intensity T5 or LED fixtures should be considered. T12 lamps are an outdated lighting technology that should be replaced with newer technologies such as high intensity fluorescent or LED lamp fixtures.	N/A, Varies

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
Lighting - Exterior, Controls	INSTALL LIGHTING CONTROLS. Consider using photocell sensors or timeclocks to shut off building/parking lot fixtures during daylight hours.	N/A, Varies
HVAC - Air Dist. Network Insulation	INSULATE DUCTWORK. Insulating HVAC ductwork reduces heat loss and decreases energy consumption.	CAP
HVAC - Air Dist. Network, VAV	INSTALL VARIABLE AIR VOLUME (VAV) SYSTEM. In constant air volume (CAV) systems, more energy is required to heat, cool, and distribute air than in VAV systems. Consider a VAV system to reduce energy consumption, mainly fan energy consumption.	CAP
HVAC - Unitary Equipment	INSTALL EFFICIENT UNITARY EQUIPMENT. Consider replacing the existing equipment with FEMP recommended/ENERGY STAR qualified unitary equipment.	LC/NC; CAP
HVAC - Unitary Equipment Controls	UPGRADE CONTROLS. Install controls that allow the unitary equipment to be programmed for on/off and/or thermostat setpoints so that the systems operate at appropriate temperatures and do not run when the building/space is unoccupied.	LC/NC; CAP
HVAC - Building Comfort/Tuning	CONDUCT RETROCOMMISSIONING (RCX). RCx the building to identify and address operating deficiencies, optimize HVAC operations, reduce energy bills, and improve occupant comfort.	CAP
Plumbing - DHW Piping Insulation	INSULATE THE DOMESTIC HOT WATER PIPES. Insulating piping reduces heat loss, thereby reducing the amount of energy consumption.	LC/NC; CAP
Plumbing - DHW Heater Efficiency	INSTALL A HIGH-EFFICIENCY WATER HEATER. High efficiency/ENERGY STAR water heaters consume less energy. Consider condensing water heaters that capture the latent heat from water vapor contained in the flue gases.	LC/NC; CAP
Plumbing - Water Closets	INSTALL LOW-FLOW FLUSH VALVES/NEW WATER CLOSETS. WaterSense labeled water closets save water and reduce the energy required to pump water.	LC/NC; CAP