

EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Physicians Quad C

Asset 117

Inspected January 26, 2023

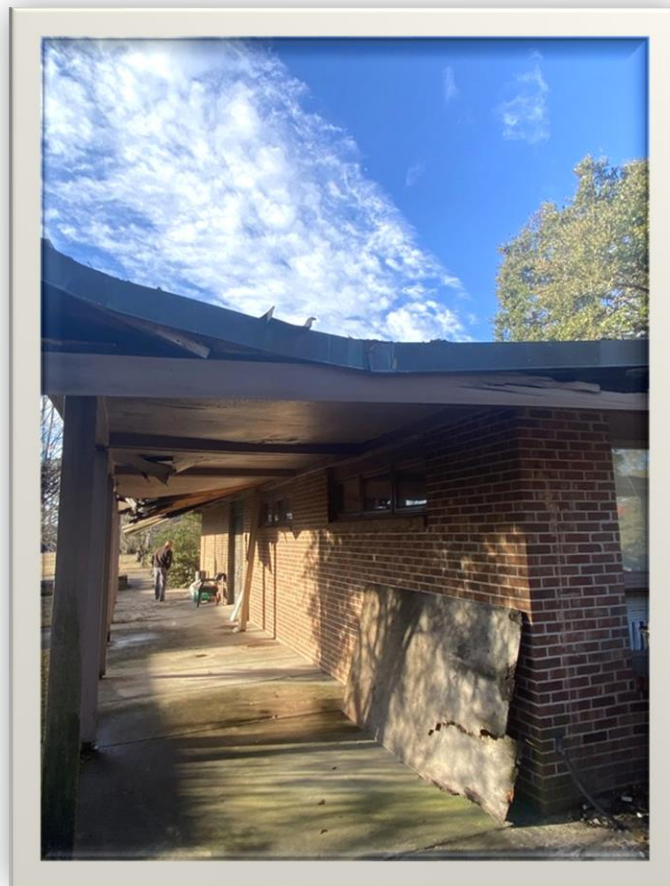


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FACILITY CONDITION ASSESSMENT

SECTION 1

ASSET OVERVIEW

ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

ASSET CODE 117	CURRENT REPLACEMENT VALUE \$1,110,000
ASSET NAME PHYSICIANS QUAD C	FACILITY CONDITION NEEDS INDEX 0.48
ASSET USE Residential / Sgl. Family	FACILITY CONDITION INDEX 0.34
YEAR BUILT 1966	10-YEAR \$/SF 213.72
GSF 2,484	
INSPECTION DATE 01/26/2023	

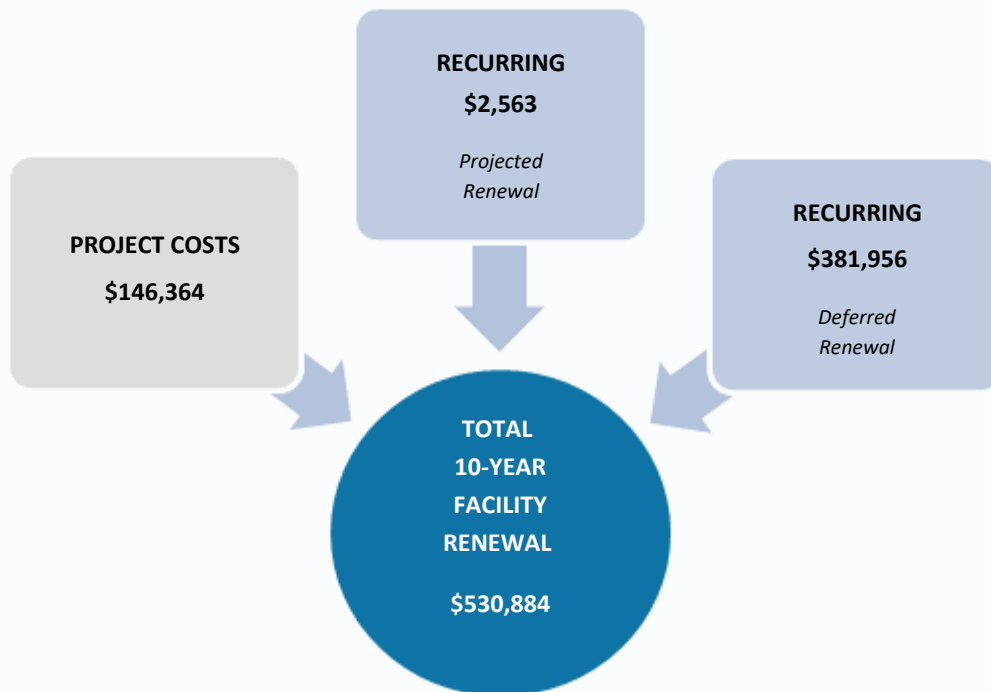
FCNI Scale

The FCNI for this asset is **0.48**

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



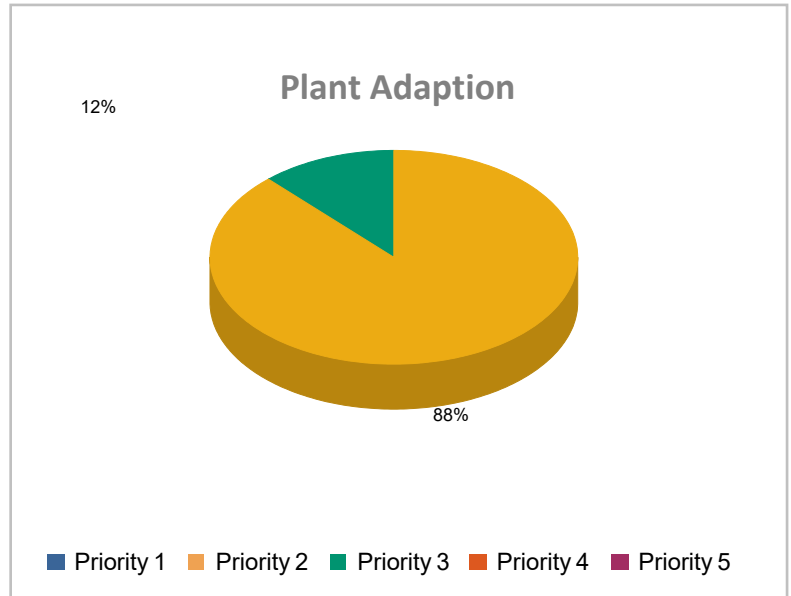
Total Facility Renewal Costs



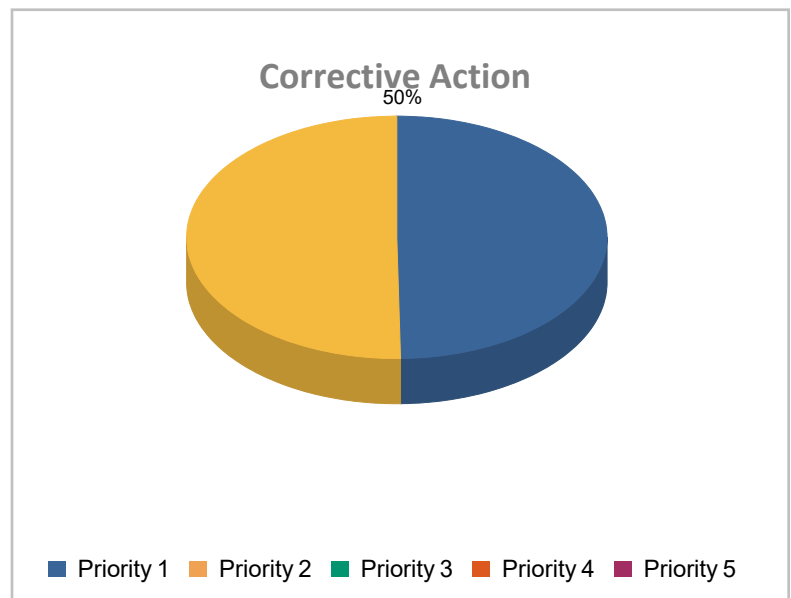
Project Costs

Project Cost by Priority

PLANT ADAPTION	
Priority 1	\$0
Priority 2	\$45,793
Priority 3	\$6,216
Priority 4	\$0
Priority 5	\$0

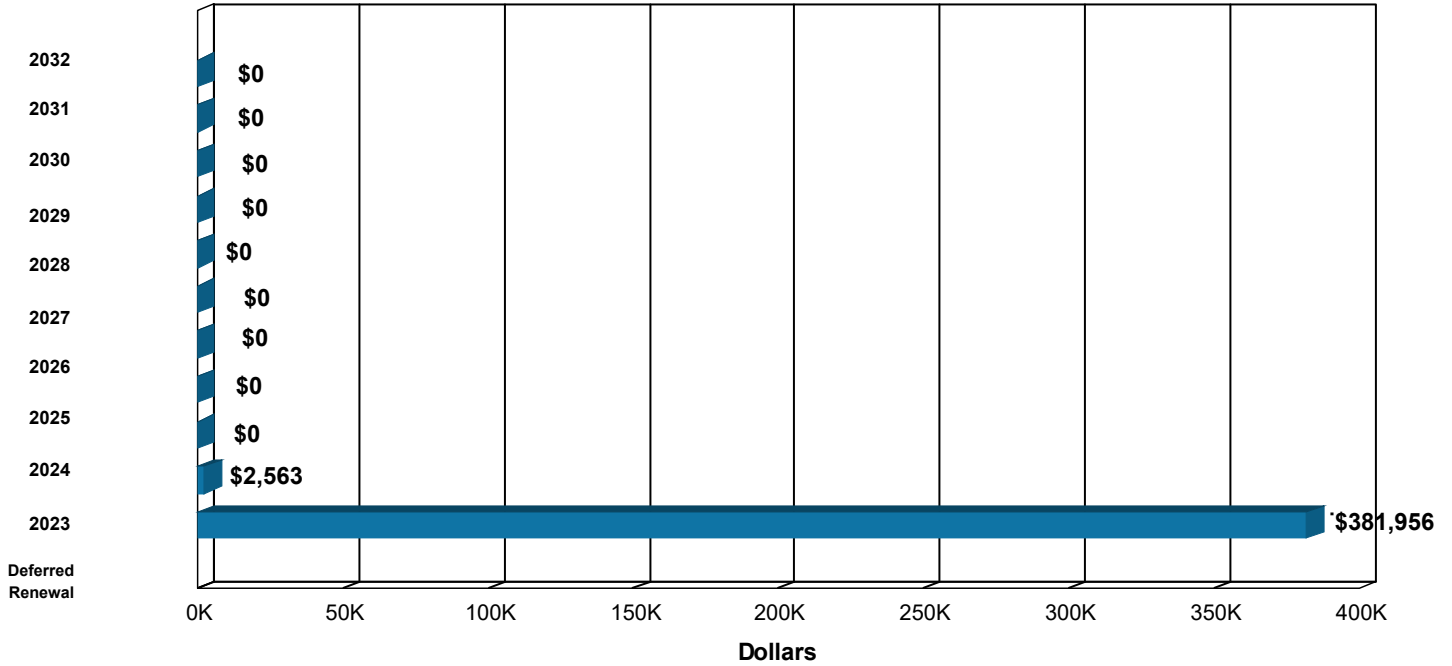


CORRECTIVE ACTION	
Priority 1	\$46,903
Priority 2	\$47,452
Priority 3	\$0
Priority 4	\$0
Priority 5	\$0

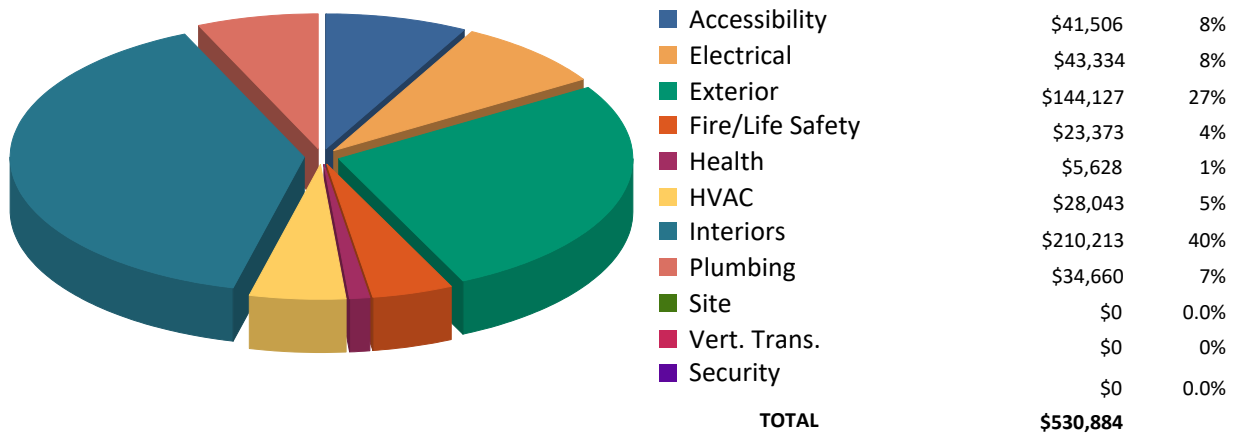


Recurring Costs

Component Replacement Cost by Year



Facilities Renewal Cost by System



ASSET SUMMARY

The Physicians Quadrangle C on the East Carolina University campus was constructed in 1966. It is a single-story, wooden structure with an unfinished attic space. This facility has been unoccupied for about five years and has been neglected during that time. It totals 2,484 gross square feet and has an asphalt shingle roof and brick exterior.

Information for this report was gathered during a site visit that concluded on January 25, 2023.

Site

The building sits on a flat parcel of land. Landscaping consists of ornamental planting beds, shrubbery, specimen trees, and areas of turf. The site is a little overgrown and needs landscaping maintenance.

Exterior Structure

The facility has an asphalt three tab standard roof which has failed in several areas. The shingles, roof decking, and the truss systems will all need to be replaced. The exterior walls are standard brick with wooden trim and soffits. The brick exterior brick joints have deteriorated over time and need to be repointed. This should include restoration or replacement of damaged brick and repointing of all masonry joints as needed. Match any new masonry units and pointing to the existing systems as well as possible. The wood trim and soffits all have water damage and will also need to be replaced. The wood-framed glass glazing in the office is worn, not very efficient, and requires replacement. The wood exit doors are in poor condition and should be replaced. Additionally, the exit door hardware is old and not compliant with current ADA requirements. Replacement with ADA-compliant hardware is addressed in the Accessibility section.

Interior Finishes/Systems

The painted gypsum walls and the wood wainscoting are in poor condition, and several areas have severe water damage. Ceilings are suspended acoustical tiles and painted hard surfaces. Most of the ceiling tiles are either water damaged or missing. A new ceiling system will need to be installed. The painted ceiling areas also have water damage and are stained and will need to be repainted. The offices have carpet tiles, the common areas have welded seam vinyl tile, and there is ceramic floor tile in the restrooms. All of the interior floor finishes are in poor condition and will need to be replaced. The wood interior doors are also in poor condition and should be replaced. Replacement of the knob hardware is addressed in the Accessibility section. The wood and laminate casework is in poor condition and overdue for replacement.

Accessibility

The main and secondary entrances are wheelchair accessible. The restrooms are not accessible and will need to be renovated to meet current ADA requirements.

The knob actuated door hardware is a barrier to accessibility. Accessibility legislation requires that door hardware be designed for operation by 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. In addition, the signage to the permanent spaces is not ADA compliant. It is recommended that all noncompliant signage be upgraded to conform to appropriate accessibility standards. Compliant signage should meet specific size, graphical, Braille, height, and location requirements.

Current legislation requires that building amenities be generally accessible to all persons. The configuration of the single-level drinking fountain is a barrier to accessibility and it should be replaced with a dual-level unit.

Health

Due to the long term leaks associated with the failing roof system, the area inside the building should be tested for mold and removal if necessary.

Fire/Life Safety

Emergency exits are not properly identified and emergency egress lighting is not available. To improve occupant safety, install battery pack emergency egress lighting units and battery backup LED exit signs.

Currently the building has a security alarm system installed but no fire alarm system. The security alarm system does provide alarm points to the visual/audible devices but there are no useable manual input devices. Smoke detectors are lacking in the egress corridors or unoccupied rooms. A programable multi point fire alarm system is recommended.

This facility is not protected by any form of automatic fire suppression system. Manual, dry chemical fire extinguishers are available for immediate use.

HVAC

Heating and cooling for this former medical clinic are provided by two split DX systems equipped with electric furnaces. Both fan coil units are in the attic. Condensing unit 1 was installed in 2007 but has been disconnected and is no longer in use. Condensing unit 2 was replaced in 2015 and is in fair condition. A fractional horsepower exhaust fan in the bathroom is well beyond its useful lifecycle and should be replaced.

Due to the non-occupancy of this building over the past few years and the lack of any environmental control of temperature and moisture, it is highly likely that mold is present in all the HVAC equipment and distribution networks. The replacement of all HVAC equipment and distribution networks is recommended.

Electrical

High voltage from the utility company is reduced to 120/240 volt, two-phase power via a service entrance transformer on the site. The related 200-amp General Electric main electrical panel has been in service for over thirty-five years. Additionally, the electrical distribution network supplies 120/240 volt power throughout the building. Aging components, such as the circuit breakers, serve as potential fire hazards if they fail to open a circuit in an overload or short circuit condition. Remove the existing 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 the 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 current lighting configuration consists of recessed and surface-mounted aging incandescent fixtures. Based on lifecycle depletion, the replacement of these fixtures is recommended. Install occupancy sensors in select areas for additional energy conservation.

Nighttime illumination is provided by compact fluorescent fixtures. Due to the daytime inspection, the illumination level was not easily verified. New LED fixtures should be installed to replace the existing fixtures. Additionally, it is recommended that additional exterior lighting be installed in order to illuminate the areas surrounding this facility. During the inspection, a deficiency in quantity of light fixtures was observed. Install new exterior lighting systems in order to ensure a safe environment for building users during dark hours of the day. Place all new exterior lighting systems on photocell activation.

Plumbing

Potable water is distributed throughout via a copper piping network. Sanitary waste and stormwater are conveyed by cast-iron, bell-and-spigot piping construction with copper runouts. 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 domestic water heater. The unit is in poor condition and should be scheduled for replacement.

Plumbing fixtures consist of wall-hung lavatories, tankless water closets, and stainless-steel sinks. All of the plumbing fixtures are past their recommended lifecycle and should be replaced.

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

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Project Manager

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Date of Inspection

January 26, 2023

Inspection Team Personnel

NAME	POSITION	SPECIALTY
John Pasley	Facility Assessor	Interior Finishes, Exterior Structure, ADA Compliance, Site, Fire/Life Safety, Health, 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	
EL	System Description
5	Component Description
A	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	
0001	Asset Number
006	Photo Sequence
e	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	38,678	2,828	0	0	0	0	0	0	0	0	0	0	0	\$41,506
EXTERIOR	46,903	25,567	0	71,657	0	0	0	0	0	0	0	0	0	0	\$144,127
INTERIOR	0	0	0	210,213	0	0	0	0	0	0	0	0	0	0	\$210,213
PLUMBING	0	0	0	32,097	2,563	0	0	0	0	0	0	0	0	0	\$34,660
HVAC	0	0	0	28,043	0	0	0	0	0	0	0	0	0	0	\$28,043
FIRE/LIFE SAFETY	0	23,373	0	0	0	0	0	0	0	0	0	0	0	0	\$23,373
ELECTRICAL	0	0	3,387	39,946	0	0	0	0	0	0	0	0	0	0	\$43,334
SITE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
VERT. TRANS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
HEALTH/EQUIP.	0	5,628	0	0	0	0	0	0	0	0	0	0	0	0	\$5,628
SUBTOTAL	\$46,903	\$93,246	\$6,216	\$381,956	\$2,563	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$530,884
TOTAL NONRECURRING PROJECT NEEDS			\$146,364	TOTAL RECURRING COMPONENT REPLACEMENT NEEDS											\$384,520

CURRENT REPLACEMENT VALUE	\$1,110,000
FACILITY CONDITION NEEDS INDEX	0.48
FACILITY CONDITION INDEX	0.34

GSF	TOTAL 10-YEAR FACILITY RENEWAL NEEDS	10-YEAR NEEDS/SF
2,484	\$530,884	\$213.72

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	\$41,506	\$0	\$41,506
EXTERIOR	\$72,470	\$71,657	\$144,127
INTERIOR	\$0	\$210,213	\$210,213
PLUMBING	\$0	\$34,660	\$34,660
HVAC	\$0	\$28,043	\$28,043
FIRE/LIFE SAFETY	\$23,373	\$0	\$23,373
ELECTRICAL	\$3,387	\$39,946	\$43,334
SITE	\$0	\$0	\$0
VERT. TRANS	\$0	\$0	\$0
HEALTH	\$5,628	\$0	\$5,628
TOTALS	\$146,364	\$384,520	\$530,884

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
117 WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	WOOD, DOUBLE HUNG		ALL EXTERIOR ELEV	B2010	Deferred Renewal	47,911
117 DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD PANELS		MAIN AND SECONDARY	B2030	Deferred Renewal	8,178
117 RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	THREE TAB SHINGLE	19600	MAIN ROOF	B3010	Deferred Renewal	15,568
117 DR01	DOOR AND FRAME, INTERIOR, NON-RATED	STANDARD WOOD		ALL AREAS	C1020	Deferred Renewal	72,965
117 CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	WOOD, LAMINATE		EXAM ROOMS	C1030	Deferred Renewal	45,443
117 IW01	WALL FINISH - PAINT, STANDARD	PAINTED HARD SURFACES		ALL AREAS	C3010	Deferred Renewal	14,198
117 IW08	WALL FINISH - WOOD PANEL, STANDARD	WOOD WAINSCOT		CORRIDORS	C3010	Deferred Renewal	29,240
117 IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	ROLL STYLE CARPET		OFFICES	C3020	Deferred Renewal	14,594
117 IF04	FLOORING - VINYL SHEET, STANDARD	WELDED SEAM VINYL		COMMON AREAS	C3020	Deferred Renewal	11,442
117 IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC TILE		RESTROOM	C3020	Deferred Renewal	3,828
117 IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	SUSPENDED ACOUSTICAL TILES		OFFICES	C3030	Deferred Renewal	16,887
117 IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	PAINTED HARD SURFACES		COMMON AREAS	C3030	Deferred Renewal	1,616
117 FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	SINGLE LEVER		RESTROOM	D2010	Deferred Renewal	3,203
117 FX04	PLUMBING FIXTURE - SINK, KITCHEN	STAINLESS STEEL		KITCHEN AREA	D2010	Deferred Renewal	2,600
117 FX04	PLUMBING FIXTURE - SINK, KITCHEN	PORCELAIN STEEL		LAB	D2010	Deferred Renewal	2,600

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
117 FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	FLUSH VALVE		RESTROOM	D2010	Deferred Renewal	4,691
117 PS17	SUPPLY PIPING SYSTEM - RESIDENCE	GALVANIZED		THROUGHOUT	D2020	Deferred Renewal	7,563
117 PD17	DRAIN PIPING SYSTEM - RESIDENCE	CAST IRON		THROUGHOUT	D2030	Deferred Renewal	11,440
117 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	INTERNATIONAL (DISCONNECTED)		EAST SIDE	D3030	Deferred Renewal	7,745
117 HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER 1		EAST SIDE	D3030	Deferred Renewal	7,745
117 HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 1 (DISCONNECTED)		ATTIC	D3030	Deferred Renewal	2,470
117 HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 2		ATTIC	D3030	Deferred Renewal	2,470
117 FN25	FAN - PROPELLER WITH LOUVER, 1/4" SP (<=0.5 HP)	TOILET EXHAUST FAN		RESTROOM	D3040	Deferred Renewal	2,255
117 HV17	HVAC DISTRIBUTION NETWORKS - RESIDENCE	ORIGINAL		THROUGHOUT	D3040	Deferred Renewal	5,357
117 SE17	ELECTRICAL DISTRIBUTION NETWORK - RESIDENCE	ORIGINAL		THROUGHOUT	D5010	Deferred Renewal	24,261
117 LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		EXTRANCES, CORNER SOFFIT	D5020	Deferred Renewal	600
117 LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T8, INCANDESCENT		THROUGHOUT	D5020	Deferred Renewal	15,086
117 WH07	WATER HEATER - RESIDENTIAL, GAS (<=35 GAL)	A O SMITH	19602	ATTIC SPACE	D2020	2023	2,563
TOTAL							\$384,520

FACILITIES RENEWAL PLAN
NONRECURRING PROJECT COSTS

All costs shown as Present Value

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
117ES01	ROOF STRUCTURE REPAIRS	B1020	1	Corrective Action	46,903
117AC01	RESTROOM ACCESSIBILITY UPGRADES	D2010	2	Plant Adaption	6,471
117AC02	REPLACE INTERIOR AND EXTERIOR DOOR HARDWARE	B2030	2	Plant Adaption	32,207
117ES02	EXTERIOR MASONRY WALL RENEWAL	B2010	2	Corrective Action	25,567
117FS01	FIRE ALARM SYSTEM INSTALLATION	D5030	2	Corrective Action	16,258
117FS02	INSTALL EXIT SIGNS AND EMERGENCY LIGHTING	D5020	2	Plant Adaption	7,116
117HE01	TESTING AND REMOVAL OF MOLD	F2020	2	Corrective Action	5,628
117AC03	UPGRADE DRINKING FOUNTAIN	C1010	3	Plant Adaption	2,828
117EL01	ADD EXTERIOR LIGHTING	D5020	3	Plant Adaption	3,387
TOTAL					\$146,364

FACILITY CONDITION ASSESSMENT

SECTION 3

**NONRECURRING
PROJECT DETAILS**

All costs shown as Present Value

ROOF STRUCTURE REPAIRS			
Project Number:	117ES01	Category Code:	
Priority Sequence:	1	ES4A	
Priority Class:	High	System:	EXTERIOR
Project Class:	Corrective Action	Component:	ROOF
Date Basis:	3/16/2023	Element:	REPAIR

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	DOJ4 - Other	Floor-wide: Floor(s) R

Description

The roof joists, decking, soffits, and fascia trim have all been severely damaged by water intrusion due to the dilapidated shingle roof. All these structures will need to be demolished and reconstructed.

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
Repair all damaged structures in the roof system.	LOT	1	\$18,450	\$18,450	\$21,200	\$21,200	\$39,650
Base Material/Labor Costs				\$18,450		\$21,200	
Indexed Material/Labor Costs				\$18,579		\$15,116	\$33,695
Construction Mark Up at 20.0%							\$6,739
Original Construction Cost							\$40,434
Date of Original Estimate:	3/16/2023					Inflation	\$0
Current Year Construction Cost							\$40,434
Professional Fees at 16.0%							\$6,469
TOTAL PROJECT COST							\$46,903

All costs shown as Present Value

FIRE ALARM SYSTEM INSTALLATION			
Project Number:	117FS01	Category Code:	
Priority Sequence:	2	FS2A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Corrective Action	Component:	DETECTION ALARM
Date Basis:	2/7/2023	Element:	GENERAL

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

Description

There is currently no fire alarm system installed in this building. Some monitoring devices are connected to the security system, but this should be replaced with a modern fire alarm system to serve this facility. Specify a point addressable supervised main fire alarm panel with an annunciator. This includes 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 an applicable 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, and cut and patching materials	SF	2,484	\$2.67	\$6,632	\$1.83	\$4,546	\$11,178
Fire alarm control panel(s), annunciator, and cut and patching materials	EA	1	\$1,050	\$1,050	\$985	\$985	\$2,035
Base Material/Labor Costs				\$7,682		\$5,531	
Indexed Material/Labor Costs				\$7,736		\$3,943	\$11,679
Construction Mark Up at 20.0%							\$2,336
Original Construction Cost							\$14,015
Date of Original Estimate:	2/7/2023		Inflation			\$0	
Current Year Construction Cost							\$14,015
Professional Fees at 16.0%							\$2,242
TOTAL PROJECT COST							\$16,258

All costs shown as Present Value

INSTALL EXIT SIGNS AND EMERGENCY LIGHTING			
Project Number:	117FS02	Category Code:	
Priority Sequence:	3	FS1A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	Component:	LIGHTING
Date Basis:	3/16/2023	Element:	EGRESS LTG./EXIT SIGNAGE

Code Application:		Subclass/Savings:	Project Location:
NFPA	1,13,13R,101	DOJ4 - Other	Floor-wide: Floor(s) 1

Description

The egress path is not clearly designated by exit signs. It is recommended that new LED-type exit signs be installed. Also, install emergency batter back-up lighting.

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 illuminated exit signs	EA	6	\$405	\$2,431	\$207	\$1,242	\$3,673
Install battery back-up egress lighting	EA	6	\$135	\$810	\$225	\$1,350	\$2,160
Base Material/Labor Costs				\$3,240		\$2,593	
Indexed Material/Labor Costs				\$3,263		\$1,849	\$5,112
Construction Mark Up at 20.0%							\$1,022
Original Construction Cost							\$6,134
Date of Original Estimate:	3/16/2023		Inflation			\$0	
Current Year Construction Cost							\$6,134
Professional Fees at 16.0%							\$981
TOTAL PROJECT COST							\$7,116

All costs shown as Present Value

TESTING AND REMOVAL OF MOLD			
Project Number:	117HE01	Category Code:	
Priority Sequence:	4	HE6F	
Priority Class:	Medium	System:	HEALTH
Project Class:	Corrective Action	Component:	HAZARDOUS MATERIAL
Date Basis:	3/16/2023	Element:	OTHER

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	DOJ4 - Other	Floor-wide: Floor(s) 1,A

Description

Due to the long term leaks associated with the failing roof system, the area inside the building should be tested for mold and removal if necessary.

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
Testing and removal of mold	LOT	1	\$1,820	\$1,820	\$3,100	\$3,100	\$4,920
Base Material/Labor Costs				\$1,820		\$3,100	
Indexed Material/Labor Costs				\$1,833		\$2,210	\$4,043
Construction Mark Up at 20.0%							\$809
Original Construction Cost							\$4,852
Date of Original Estimate:	3/16/2023					Inflation	\$0
Current Year Construction Cost							\$4,852
Professional Fees at 16.0%							\$776
TOTAL PROJECT COST							\$5,628

All costs shown as Present Value

RESTROOM ACCESSIBILITY UPGRADES			
Project Number:	117AC01	Category Code:	
Priority Sequence:	5	AC3E	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	2/16/2023	Element:	RESTROOMS/BATHROOMS

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

Description

The restrooms are not fully compliant with ADAAG standards. One of the restrooms should be renovated to comply to all ADA standards.

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
Grab bars (per stall)	EA	1	\$232	\$232	\$546	\$546	\$779
Mirror	EA	1	\$478	\$478	\$367	\$367	\$845
ADA-compliant signage	EA	1	\$87.09	\$87	\$25.61	\$26	\$113
ADA-compliant lavatory	EA	1	\$1,008	\$1,008	\$375	\$375	\$1,383
ADA-compliant toilet	EA	1	\$1,584	\$1,584	\$418	\$418	\$2,002
Base Material/Labor Costs				\$3,389		\$1,733	
Indexed Material/Labor Costs				\$3,413		\$1,236	\$4,648
Construction Mark Up at 20.0%							\$930
Original Construction Cost							\$5,578
Date of Original Estimate:	2/16/2023					Inflation	\$0
Current Year Construction Cost							\$5,578
Professional Fees at 16.0%							\$892
TOTAL PROJECT COST							\$6,471

All costs shown as Present Value

REPLACE INTERIOR AND EXTERIOR DOOR HARDWARE			
Project Number:	117AC02	Category Code:	
Priority Sequence:	6	AC3C	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	3/16/2023	Element:	DOORS AND HARDWARE

Code Application:		Subclass/Savings:	Project Location:
ADAAG	309.4, 703.1	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1

Description

The knob actuated door hardware is a barrier to accessibility. Accessibility legislation requires that door hardware be designed for operation by 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. In addition, the signage to the permanent spaces is not ADA compliant. It is recommended that all noncompliant signage be upgraded to conform to appropriate accessibility standards. Compliant signage should meet specific size, graphical, Braille, height, and location requirements.

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
Exterior door hardware upgrade	EA	3	\$567	\$1,702	\$200	\$599	\$2,300
ADA-compliant signage	EA	28	\$87.09	\$2,439	\$25.61	\$717	\$3,156
Lever actuated door hardware	EA	28	\$498	\$13,948	\$200	\$5,588	\$19,536
Base Material/Labor Costs				\$18,089		\$6,903	
Indexed Material/Labor Costs				\$18,215		\$4,922	\$23,137
Construction Mark Up at 20.0%							\$4,627
Original Construction Cost							\$27,765
Date of Original Estimate:	3/16/2023		Inflation			\$0	
Current Year Construction Cost							\$27,765
Professional Fees at 16.0%							\$4,442
TOTAL PROJECT COST							\$32,207

All costs shown as Present Value

EXTERIOR MASONRY WALL RENEWAL			
Project Number:	117ES02	Category Code:	
Priority Sequence:	7	ES2A	
Priority Class:	Medium	System:	EXTERIOR
Project Class:	Corrective Action	Component:	COLUMNS/BEAMS/WALLS
Date Basis:	3/16/2023	Element:	STRUCTURE

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	DOJ4 - Other	Area Wide: Floor(s) 1

Description

The brick exterior brick joints have deteriorated over time and need to be repointed. This should include restoration or replacement of damaged brick and repointing of all masonry joints as needed. Match any new masonry units and pointing to the existing systems as well as possible.

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
Repair joints and damaged brick	SF	2,380	\$0.93	\$2,213	\$9.51	\$22,634	\$24,847
Base Material/Labor Costs				\$2,213		\$22,634	
Indexed Material/Labor Costs				\$2,229		\$16,138	\$18,367
Construction Mark Up at 20.0%							\$3,673
Original Construction Cost							\$22,040
Date of Original Estimate:	3/16/2023					Inflation	\$0
Current Year Construction Cost							\$22,040
Professional Fees at 16.0%							\$3,526
TOTAL PROJECT COST							\$25,567

All costs shown as Present Value

UPGRADE DRINKING FOUNTAIN			
Project Number:	117AC03	Category Code:	
Priority Sequence:	8	AC3F	
Priority Class:	Low	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	3/17/2023	Element:	DRINKING FOUNTAINS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	602	DOJ2 - Access to Goods & Services	Item Only: Floor(s) 1

Description

Current legislation requires that building amenities be generally accessible to all persons. The configuration of the single-level drinking fountain is a barrier to accessibility and it should be replaced with a dual-level unit.

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
Dual level drinking fountain	EA	1	\$1,657	\$1,657	\$509	\$509	\$2,166
Base Material/Labor Costs				\$1,657		\$509	
Indexed Material/Labor Costs				\$1,669		\$363	\$2,032
Construction Mark Up at 20.0%							\$406
Original Construction Cost							\$2,438
Date of Original Estimate:	3/17/2023					Inflation	\$0
Current Year Construction Cost							\$2,438
Professional Fees at 16.0%							\$390
TOTAL PROJECT COST							\$2,828

All costs shown as Present Value

ADD EXTERIOR LIGHTING			
Project Number:	117EL01	Category Code:	
Priority Sequence:	9	EL4A	
Priority Class:	Low	System:	ELECTRICAL
Project Class:	Plant Adaption	Component:	DEVICES AND FIXTURES
Date Basis:	2/7/2023	Element:	EXTERIOR LIGHTING

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

Description

It is recommended that additional exterior lighting be installed in order to illuminate the areas surrounding this facility. During the inspection, a deficiency in quantity of light fixtures was observed. Install new exterior lighting systems in order to ensure a safe environment for building users during dark hours of the day. Place all new exterior lighting systems 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
Add exterior lighting	EA	12	\$125	\$1,502	\$108	\$1,292	\$2,794
Base Material/Labor Costs				\$1,502		\$1,292	
Indexed Material/Labor Costs				\$1,512		\$921	\$2,433
Construction Mark Up at 20.0%							\$487
Original Construction Cost							\$2,920
Date of Original Estimate:	2/7/2023					Inflation	\$0
Current Year Construction Cost							\$2,920
Professional Fees at 16.0%							\$467
TOTAL PROJECT COST							\$3,387

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
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	WOOD, DOUBLE HUNG		ALL EXTERIOR ELEV	260	SF	1.00	\$47,911	1966	40	16	DR
DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD PANELS		MAIN AND SECONDARY	3	LEAF	1.00	\$8,178	1966	25	31	DR
RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	THREE TAB SHINGLE	19600	MAIN ROOF	2,610	SF	1.00	\$15,568	2000	18	4	DR
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	STANDARD WOOD		ALL AREAS	28	LEAF	1.00	\$72,965	1966	40	16	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	WOOD, LAMINATE		EXAM ROOMS	70	LF	1.00	\$45,443	1966	20	36	DR
IW01	WALL FINISH - PAINT, STANDARD	PAINTED HARD SURFACES		ALL AREAS	5,270	SF	1.00	\$14,198	1966	12	44	DR
IW08	WALL FINISH - WOOD PANEL, STANDARD	WOOD WAINSCOT		CORRIDORS	1,320	SF	1.00	\$29,240	1966	40	16	DR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	ROLL STYLE CARPET		OFFICES	990	SF	1.00	\$14,594	1966	12	44	DR
IF04	FLOORING - VINYL SHEET, STANDARD	WELDED SEAM VINYL		COMMON AREAS	890	SF	1.00	\$11,442	1966	15	41	DR
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC TILE		RESTROOM	100	SF	1.00	\$3,828	1966	30	26	DR
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	SUSPENDED ACOUSTICAL TILES		OFFICES	1,390	SF	1.00	\$16,887	1966	30	26	DR
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	PAINTED HARD SURFACES		COMMON AREAS	600	SF	1.00	\$1,616	1966	24	32	DR
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	SINGLE LEVER		RESTROOM	2	EA	1.00	\$3,203	1966	35	21	DR
FX04	PLUMBING FIXTURE - SINK, KITCHEN	STAINLESS STEEL		KITCHEN AREA	1	EA	1.00	\$2,600	1966	35	21	DR
FX04	PLUMBING FIXTURE - SINK, KITCHEN	PORCELAIN STEEL		LAB	1	EA	1.00	\$2,600	1966	35	21	DR

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
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	FLUSH VALVE		RESTROOM	2	EA	1.00	\$4,691	1966	35	21	DR
PS17	SUPPLY PIPING SYSTEM - RESIDENCE	GALVANIZED		THROUGHOUT	2,484	SF	1.00	\$7,563	1966	35	21	DR
WH07	WATER HEATER - RESIDENTIAL, GAS (<=35 GAL)	A O SMITH	19602	ATTIC SPACE	30	GAL	1.00	\$2,563	2003	20		2023
PD17	DRAIN PIPING SYSTEM - RESIDENCE	CAST IRON		THROUGHOUT	2,484	SF	1.00	\$11,440	1966	40	16	DR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	INTERNATIONAL (DISCONNECTED)		EAST SIDE	3	TON	1.00	\$7,745	2007	23	-9	DR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER 1		EAST SIDE	3	TON	1.00	\$7,745	2015	23	-16	DR
HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 1 (DISCONNECTED)		ATTIC	8	KW	1.00	\$2,470	2000	20	2	DR
HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 2		ATTIC	8	KW	1.00	\$2,470	2000	20	2	DR
FN25	FAN - PROPELLER WITH LOUVER, 1/4" SP (<=0.5 HP)	TOILET EXHAUST FAN		RESTROOM	0.25	HP	1.00	\$2,255	1966	20	36	DR
HV17	HVAC DISTRIBUTION NETWORKS - RESIDENCE	ORIGINAL		THROUGHOUT	2,484	SF	0.20	\$5,357	1966	40	16	DR
SE17	ELECTRICAL DISTRIBUTION NETWORK - RESIDENCE	ORIGINAL		THROUGHOUT	2,484	SF	1.00	\$24,261	1966	40	16	DR
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		EXTRANCES, CORNER SOFFIT	4	EA	0.30	\$600	1995	15	12	DR
LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T8, INCANDESCENT		THROUGHOUT	2,360	SF	1.00	\$15,086	2000	20	2	DR

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR	
Grand Total:								\$384,520					

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
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	WOOD, DOUBLE HUNG		ALL EXTERIOR ELEV	B2010	260	SF	\$47,911	DR
DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD PANELS		MAIN AND SECONDARY	B2030	3	LEAF	\$8,178	DR
RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	THREE TAB SHINGLE	19600	MAIN ROOF	B3010	2,610	SF	\$15,568	DR
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	STANDARD WOOD		ALL AREAS	C1020	28	LEAF	\$72,965	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	WOOD, LAMINATE		EXAM ROOMS	C1030	70	LF	\$45,443	DR
IW01	WALL FINISH - PAINT, STANDARD	PAINTED HARD SURFACES		ALL AREAS	C3010	5,270	SF	\$14,198	DR
IW08	WALL FINISH - WOOD PANEL, STANDARD	WOOD WAINSCOT		CORRIDORS	C3010	1,320	SF	\$29,240	DR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	ROLL STYLE CARPET		OFFICES	C3020	990	SF	\$14,594	DR
IF04	FLOORING - VINYL SHEET, STANDARD	WELDED SEAM VINYL		COMMON AREAS	C3020	890	SF	\$11,442	DR
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC TILE		RESTROOM	C3020	100	SF	\$3,828	DR
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	SUSPENDED ACOUSTICAL TILES		OFFICES	C3030	1,390	SF	\$16,887	DR
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	PAINTED HARD SURFACES		COMMON AREAS	C3030	600	SF	\$1,616	DR

RECURRING NEEDS BY YEAR

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

FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	FLUSH VALVE		RESTROOM	D2010	2	EA	\$4,691	DR
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	SINGLE LEVER		RESTROOM	D2010	2	EA	\$3,203	DR
FX04	PLUMBING FIXTURE - SINK, KITCHEN	STAINLESS STEEL		KITCHEN AREA	D2010	1	EA	\$2,600	DR
FX04	PLUMBING FIXTURE - SINK, KITCHEN	PORCELAIN STEEL		LAB	D2010	1	EA	\$2,600	DR
PS17	SUPPLY PIPING SYSTEM - RESIDENCE	GALVANIZED		THROUGHOUT	D2020	2,484	SF	\$7,563	DR
PD17	DRAIN PIPING SYSTEM - RESIDENCE	CAST IRON		THROUGHOUT	D2030	2,484	SF	\$11,440	DR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	INTERNATIONAL (DISCONNECTED)		EAST SIDE	D3030	3	TON	\$7,745	DR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER 1		EAST SIDE	D3030	3	TON	\$7,745	DR
HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 1 (DISCONNECTED)		ATTIC	D3030	8	KW	\$2,470	DR
HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 2		ATTIC	D3030	8	KW	\$2,470	DR
HV17	HVAC DISTRIBUTION NETWORKS - RESIDENCE	ORIGINAL		THROUGHOUT	D3040	2,484	SF	\$5,357	DR
FN25	FAN - PROPELLER WITH LOUVER, 1/4" SP (<=0.5 HP)	TOILET EXHAUST FAN		RESTROOM	D3040	0.25	HP	\$2,255	DR
SE17	ELECTRICAL DISTRIBUTION NETWORK - RESIDENCE	ORIGINAL		THROUGHOUT	D5010	2,484	SF	\$24,261	DR
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		EXTRANCES, CORNER SOFFIT	D5020	4	EA	\$600	DR

RECURRING NEEDS BY YEAR

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

LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T8, INCANDESCENT		THROUGHOUT	D5020	2,360	SF	\$15,086	DR
TOTAL DEFERRED RENEWAL COST								\$381,956	

2023									
COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	UNI-FORMAT	QTY	UNITS	REPLACEMENT COST	YEAR
WH07	WATER HEATER - RESIDENTIAL, GAS (<=35 GAL)	A O SMITH	19602	ATTIC SPACE	D2020	30	GAL	\$2,563	2023
2023 PROJECTED COMPONENT REPLACEMENT COST								\$2,563	

No Projected Component Replacement Cost for Asset No. 117 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. 117 for 2025

No Projected Component Replacement Cost for Asset No. 117 for 2026

No Projected Component Replacement Cost for Asset No. 117 for 2027

No Projected Component Replacement Cost for Asset No. 117 for 2028

RECURRING NEEDS BY YEAR

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

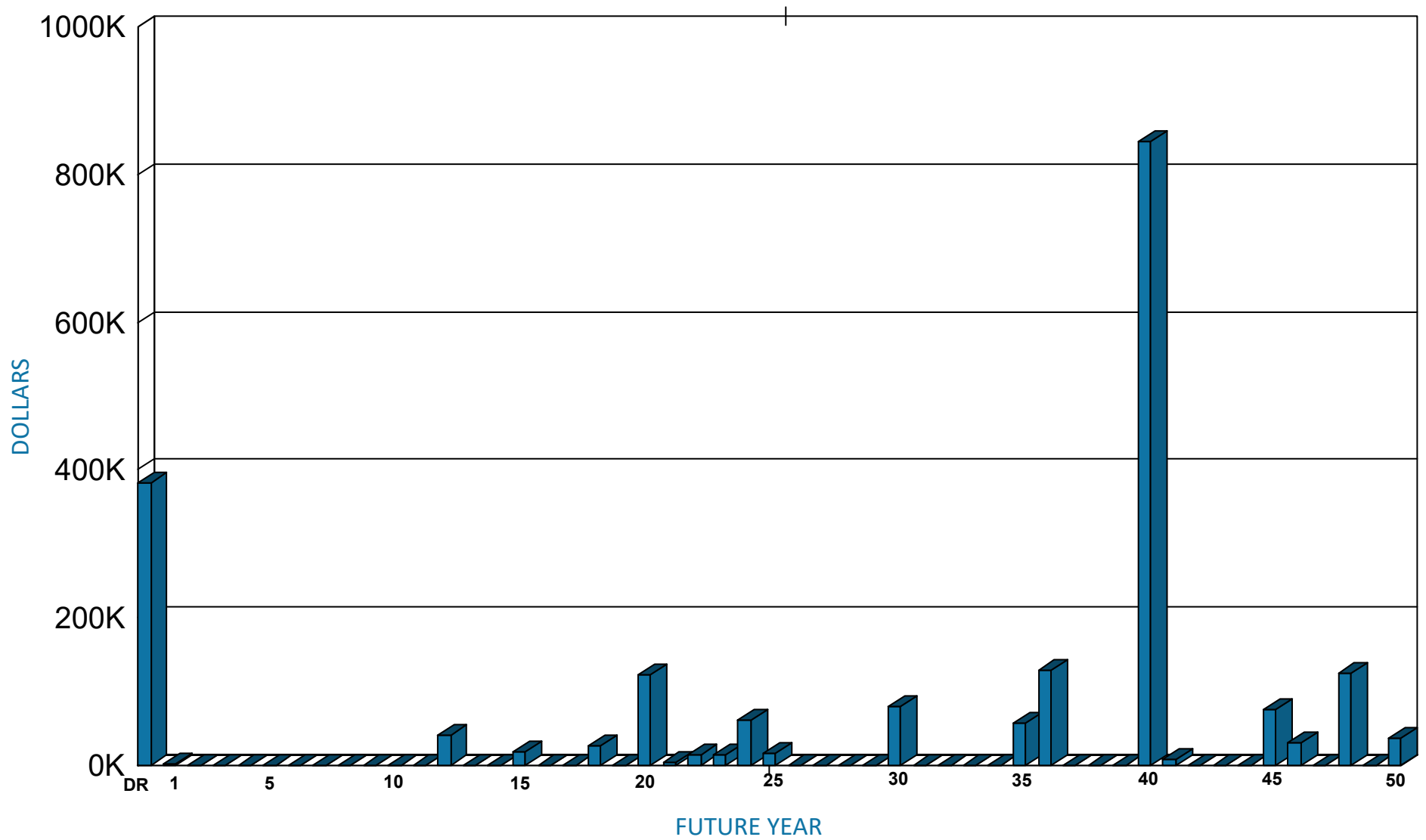
No Projected Component Replacement Cost for Asset No. 117 for 2029

No Projected Component Replacement Cost for Asset No. 117 for 2030

No Projected Component Replacement Cost for Asset No. 117 for 2031

No Projected Component Replacement Cost for Asset No. 117 for 2032

RECURRING COMPONENT EXPENDITURE PROJECTIONS

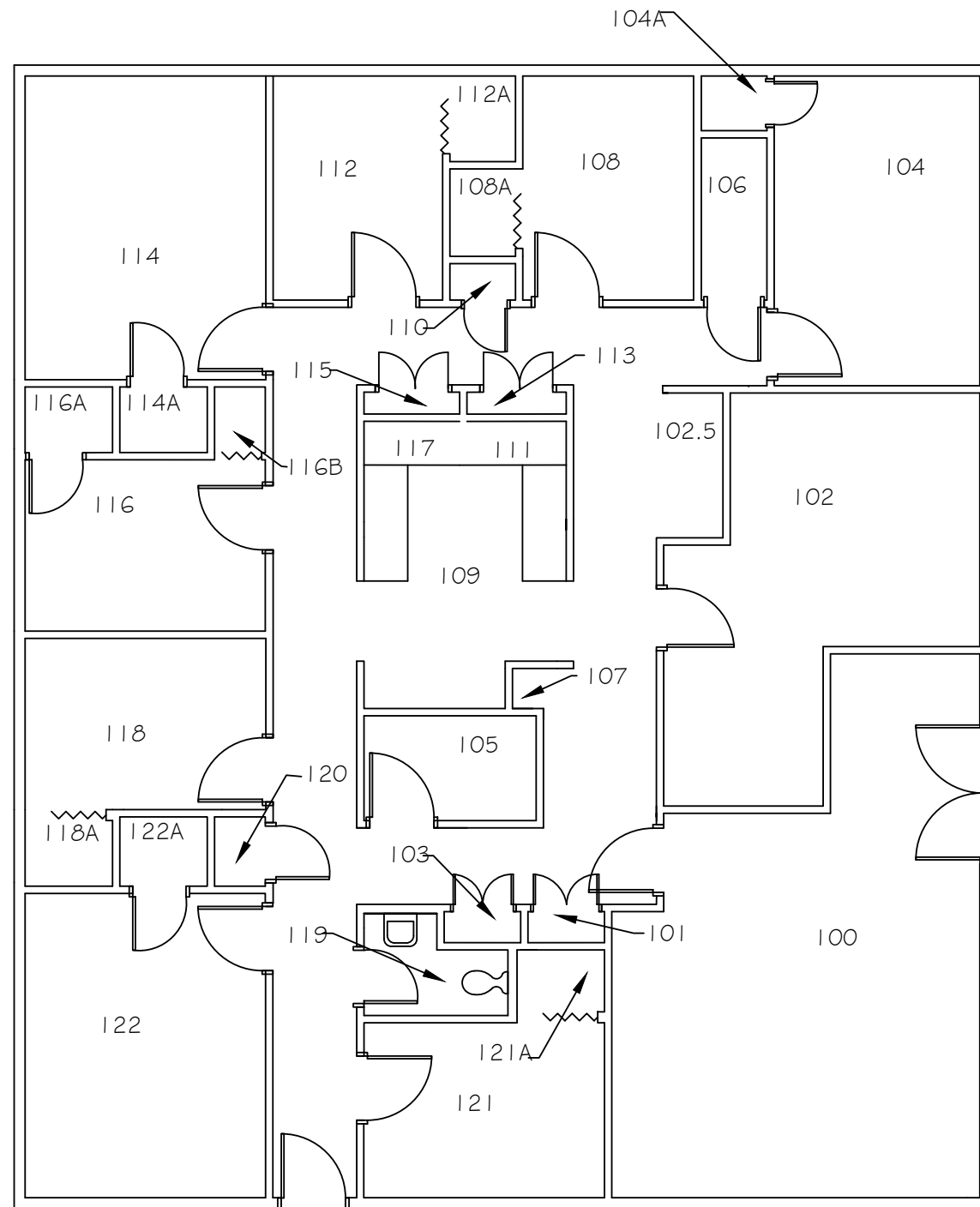


Average Annual Renewal Cost per SF \$7.82

FACILITY CONDITION ASSESSMENT

SECTION 5

DRAWINGS



East Carolina University School of Medicine
FACILITIES MAINTENANCE

PHYSICIAN'S QUADRANGLE C

FLOOR PLAN

No.	Revision/Issue	Date

Firm Name and Address
Facilities Services Department
Health Sciences Campus Steam Plant
East Carolina University
600 Moye Boulevard
Greenville, NC 27858

Project Name and Address
Physician's Quadrangle Building C
ECU Brody School of Medicine
Greenville, NC 27858

Drawn By Facilities Services	Sheet 47
Date 14 July 2003	
Scale NTS	

Physician's Quadrangle Building C

SCALE: NTS

FACILITY CONDITION ASSESSMENT

SECTION 6

PHOTOGRAPHS



117001a 1/26/2023
Asphalt shingle roofing
Main roof



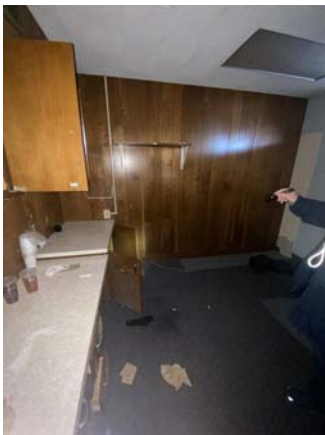
117001e 1/26/2023
Incandescent lighting
Commons area



117002a 1/26/2023
Damage to roof system
Front breezeway



117002e 1/26/2023
Recessed lighting
Corridor



117003a 1/26/2023
Carpet
Office area



117003e 1/26/2023
Incandescent flood lighting
Corner soffit



117004a 1/26/2023
Welded seam vinyl
Common area



117004e 1/26/2023
Incandescent surface mount light
Building entrance



117005a 1/26/2023
Suspended acoustical ceiling
Office area



117005e 1/26/2023
Electric water heater 19602
Attic space



117006a 1/26/2023
Painted hard surface ceiling
Common area



117006e 1/26/2023
Indoor fan unit 1
Attic space



117007a 1/26/2023
Wood paneling wainscot
Corridor



117007e 1/26/2023
Heat pump condensing units 1
East elevation



117008a 1/26/2023
Painted hard surface walls and standard doors
Corridor



117008e 1/26/2023
Heat pump condensing units 2
East elevation



117009a 1/26/2023
Noncompliant knob hardware
Office door



117009e 1/26/2023
Main electrical meter base
East elevation



117010a 1/26/2023
Wood casework
Reception area



117010e 1/26/2023
Electrical distribution panel
Mechanical area



117011a 1/26/2023
Wood panel exterior doors
Main entrance



117011e 1/26/2023
Manual fire alarm device
Corridor at exit



117012a 1/26/2023
Noncompliant knob hardware
Main entrance



117012e 1/26/2023
Noncompliant exit sign
Corridor area



117013a 1/26/2023
Exterior brick walls
All elevations



117013e 1/26/2023
Exhaust fan
Bathroom



117014a 1/26/2023
Wood-framed glazing
All elevations



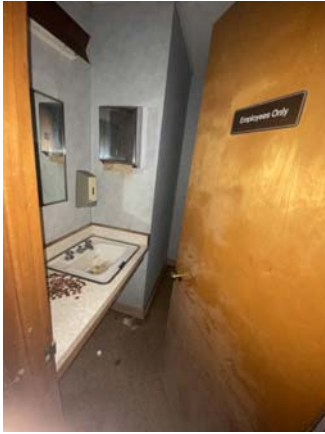
117015a 1/26/2023
Tankless water closet
Restroom



117016a 1/26/2023
Wall-hung lavatory
Restroom



117017a 1/26/2023
Stainless-steel sink
Kitchen area



117018a 1/26/2023
Porcelain on steel sink
Lab area



117019a 1/26/2023
Damage to roof system
Front soffit area



117020a 1/26/2023
Damage to roof system
Front soffit area



117021a 1/26/2023
Damage to roof system
East elevation



117022a 1/26/2023
Single-level drinking fountain
Interior

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 C
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.

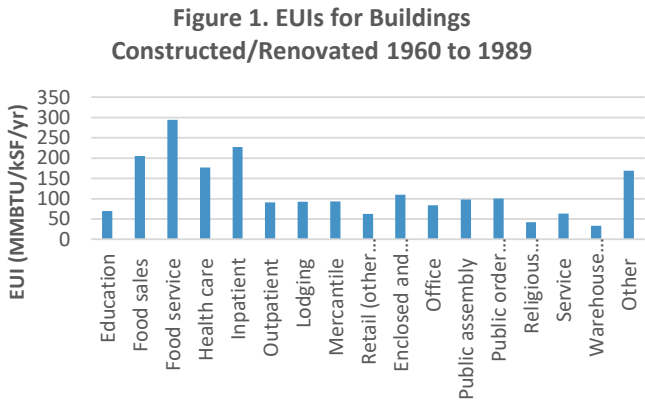
Metric #1: Energy Use Intensity (EUI)

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
Benchmark EUI (MMBTU/kSF/yr) =	84
Building EUI to be Calculated by Client (MMBTU/kSF/yr) =	

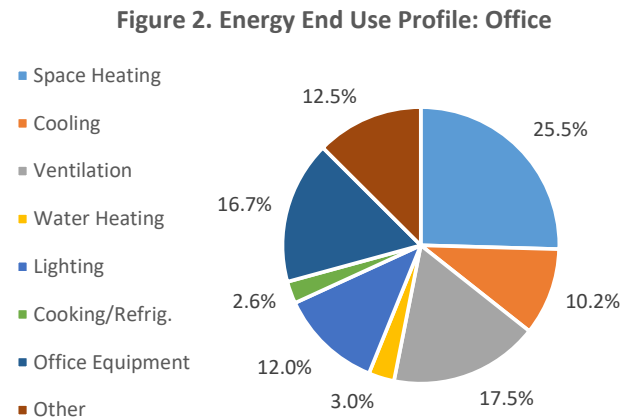
TABLE 3. EUI COMPARISON	
Very Energy Efficient (consumes more than 30% less energy)	EUI < 58.8
Energy Efficient (consumes 10% to 30% less energy)	58.8 <= EUI <= 75.6
Similar (consumes within 10% less or 10% more energy)	75.6 < EUI < 92.4
Energy Inefficient (consumes 10% to 30% more energy)	92.4 <= EUI <= 109.2
Very Energy Inefficient (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%
Total	100.0%



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 - Insulation	INSTALL ADDITIONAL INSULATION. Insulation increases the R-value of the envelope and reduces the heat gain/loss through the envelope.	LC/NC; CAP
Building Envelope - Roof Material	INSTALL A COOL ROOF PRODUCT. Cool roofs reflect sunlight/reduce solar heat gain. ENERGY STAR qualified cool roof products can lower roof surface temperature by up to 50°F, significantly decreasing the amount of heat transferred into a building.	CAP
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

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
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
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
Plumbing - Urinals	INSTALL LOW-FLOW URINALS. WaterSense labeled urinals save water and reduce the energy required to pump water.	LC/NC; CAP