

EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Physicians Quad M

Asset 118

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 118	CURRENT REPLACEMENT VALUE \$2,402,000
ASSET NAME PHYSICIANS QUAD M	FACILITY CONDITION NEEDS INDEX 0.28
ASSET USE Residential / Sgl. Family	FACILITY CONDITION INDEX 0.23
YEAR BUILT 1978	10-YEAR \$/SF 195.52
GSF 3,472	
INSPECTION DATE 01/26/2023	

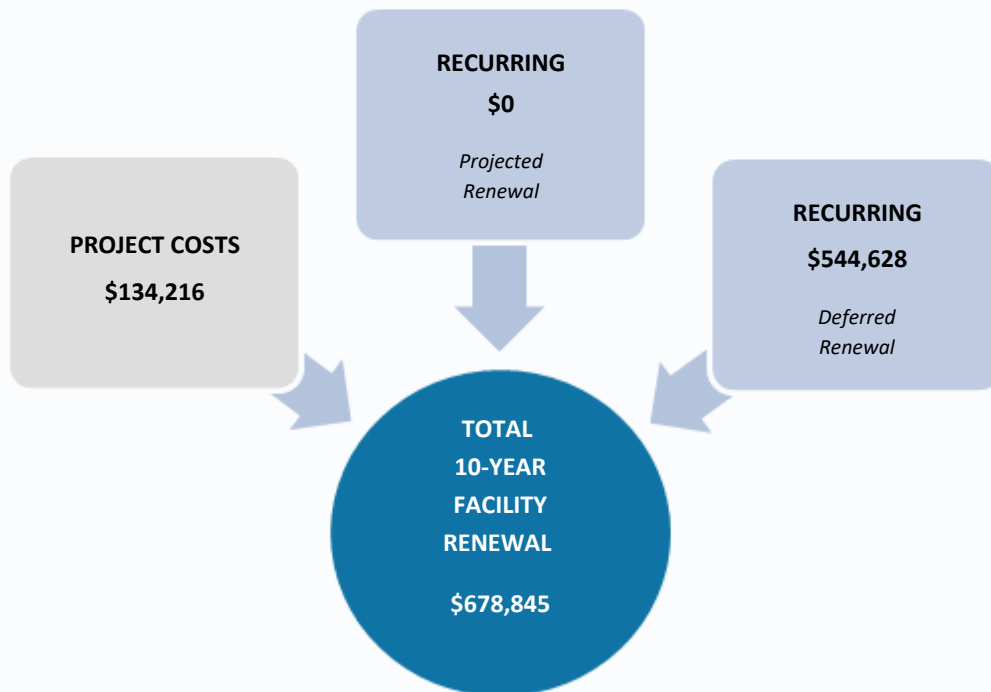
FCNI Scale

The FCNI for this asset is **0.28**

- 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)



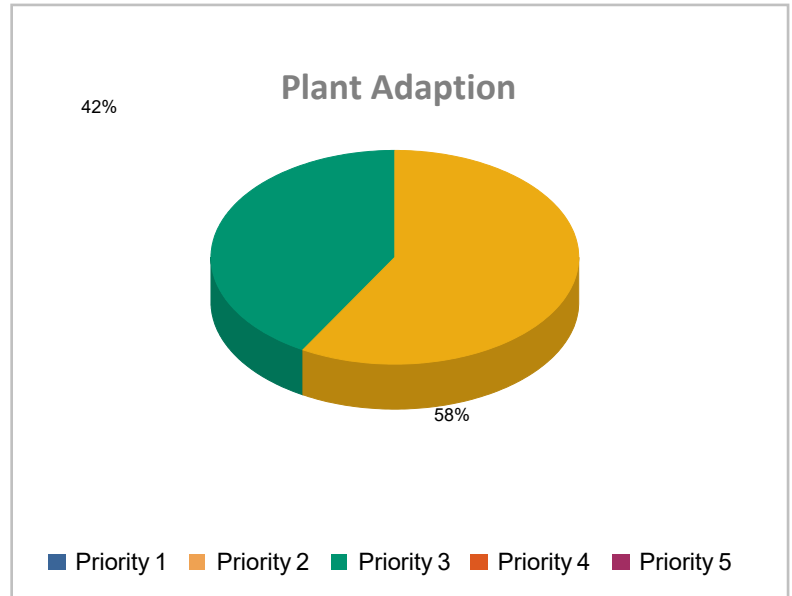
Total Facility Renewal Costs



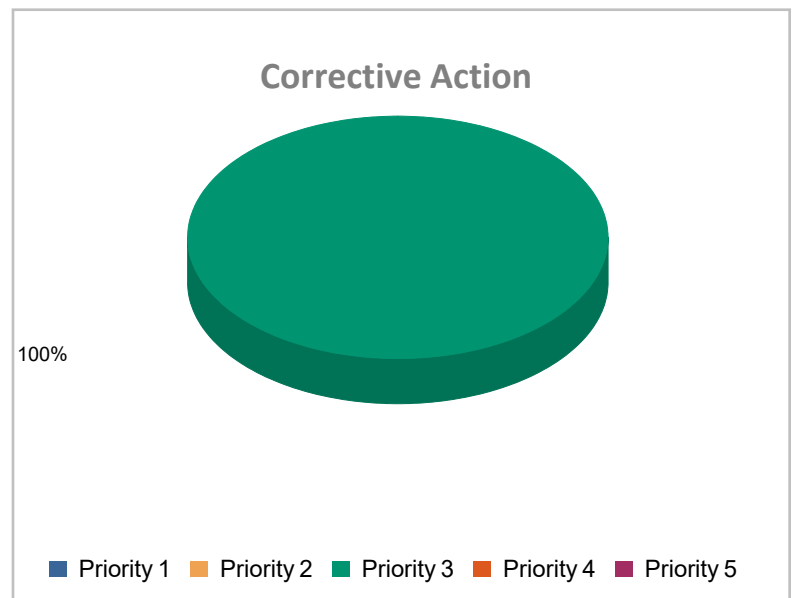
Project Costs

Project Cost by Priority

PLANT ADAPTION	
Priority 1	\$0
Priority 2	\$57,257
Priority 3	\$40,881
Priority 4	\$0
Priority 5	\$0

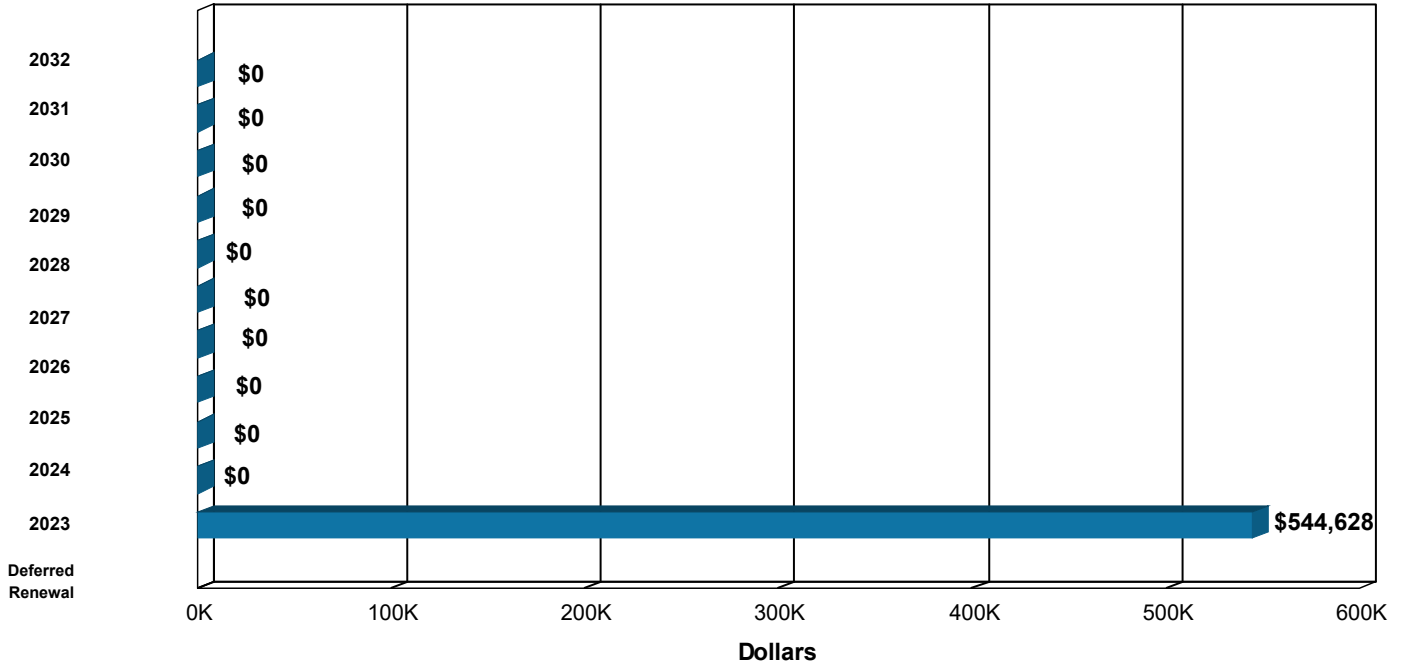


CORRECTIVE ACTION	
Priority 1	\$0
Priority 2	\$0
Priority 3	\$36,078
Priority 4	\$0
Priority 5	\$0

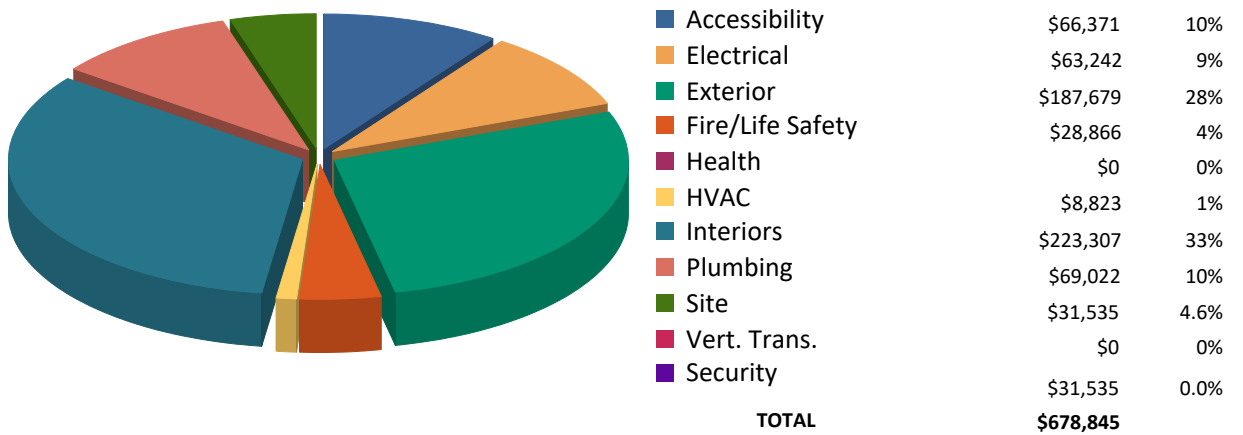


Recurring Costs

Component Replacement Cost by Year



Facilities Renewal Cost by System



ASSET SUMMARY

Physicians Quadrangle M is a single-story medical clinic office that is part of the Health Sciences Campus at East Carolina University. Built in 1978, this concrete structure with a brick facade and asphalt roof is 3,4726 gross square feet and contains a small attic space. There have been no finish upgrades since original construction.

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

Site

The site is a flat parcel in overall fair condition. There is a mixture of pedestrian walkways, overgrown grassy lawns, shrubbery, and mature trees. The walkways leading to the entrances are in fair condition and a portion should be considered for replacement. The remainder are due for joint maintenance.

Exterior Structure

The exterior facade is brick with wood-framed, single-pane glazing. The exterior wall finish is timeworn and weathered and needs to be repointed and cleaned with a light chemical. The brick finish itself appears to be structurally sound. The windows are original and should be upgraded to dual-pane, energy-efficient glazing. Exterior doors are wood, were recently replaced, and have commercial lockset hardware. They should outlast the scope of this report. The pitched asphalt shingle roof, as well as the gutter and downspout system, should also be replaced.

Interior Finishes/Systems

Floor finishes include carpet throughout the corridors and offices, vinyl composition tile in the break area, and ceramic tile in the restroom. These finishes are due for replacement. Ceilings are mostly suspended acoustical tile with some areas of painted drywall. No ceiling upgrades are recommended at this time. Walls are covered with wallpaper throughout the facility and are due for replacement. Interior doors are wood with knob hardware. The doors have exceeded their lifecycle and should be replaced within the next ten years. Casework systems are laminate countertops and cabinetry in break areas. They are due for replacement.

Accessibility

The configuration of the drinking fountains is a barrier to accessibility. All single-level drinking fountains should be replaced with dual-level units. Additionally, building amenities are required to be accessible to all persons. The current configuration of the casework in the kitchenettes is a barrier to accessibility. The cabinetry should be replaced with casework to accommodate compliant frontal wheelchair access.

It is recommended that lever handle hardware be installed on all doors that still have knobs. The signage to the permanent spaces is also 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. This scope includes all directional signage.

The restrooms throughout the building are not fully compliant with ADAAG. Installation of ADA-compliant fixtures and accessible accessories should remedy the situation.

Health

No health-related issues were observed or reported at the time of the inspection.

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, and none appears to be required. Manual, dry chemical fire extinguishers are available for immediate use.

HVAC

Heating and cooling for this medical clinic are provided by a split DX system equipped with an electric furnace. The unit is in the attic and was installed in 2015. The condenser unit was also replaced in 2015 and is in fair condition. The split system should remain serviceable for the scope of this assessment. A fractional horsepower exhaust fan in the bathroom is well beyond its useful lifecycle and should be replaced. Replacement of the HVAC distribution networks is also recommended.

Electrical

High voltage from the utility company is reduced to 120/240 volt, two-phase power via a service entrance transformer located on the site. The related 175-amp General Electric main electrical panel has been in service for over thirty-five years. 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 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 lay-in and surface-mounted T8 and T5 fluorescent fixtures and aging incandescent fixtures. Based on lifecycle depletion, replacement of the T8, T5, and all of the incandescent fixtures is recommended. Install occupancy sensors in select areas for additional energy conservation.

Nighttime illumination is provided by compact fluorescent fixtures. The illumination level was not easily verified as the inspection was during the daytime. Due to the limited service access to these fixtures, they should be replaced with long life LED lighting.

Plumbing

Potable water is distributed throughout this facility via a galvanized iron piping network. Sanitary waste and stormwater are conveyed by cast-iron, bell-and-spigot piping 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 that was installed in 2003 and should be scheduled for replacement.

Restroom plumbing fixtures include wall-hung lavatories and tank-type water closets. These fixtures are in satisfactory working condition but have exceeded their expected service life and should be considered for replacement within the next ten years. The kitchen sink should outlast the scope of this report.

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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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
John Pasley	Facility Assessor	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.

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

Facility Condition Index (FCI)

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

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

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	28,391	37,980	0	0	0	0	0	0	0	0	0	0	0	\$66,371
EXTERIOR	0	0	22,484	165,196	0	0	0	0	0	0	0	0	0	0	\$187,679
INTERIOR	0	0	0	223,307	0	0	0	0	0	0	0	0	0	0	\$223,307
PLUMBING	0	0	0	69,022	0	0	0	0	0	0	0	0	0	0	\$69,022
HVAC	0	0	0	8,823	0	0	0	0	0	0	0	0	0	0	\$8,823
FIRE/LIFE SAFETY	0	28,866	0	0	0	0	0	0	0	0	0	0	0	0	\$28,866
ELECTRICAL	0	0	2,901	60,341	0	0	0	0	0	0	0	0	0	0	\$63,242
SITE	0	0	13,594	17,941	0	0	0	0	0	0	0	0	0	0	\$31,535
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
SUBTOTAL	\$0	\$57,257	\$76,959	\$544,628	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$678,845
TOTAL NONRECURRING PROJECT NEEDS			\$134,216	TOTAL RECURRING COMPONENT REPLACEMENT NEEDS											\$544,628

CURRENT REPLACEMENT VALUE	\$2,402,000
FACILITY CONDITION NEEDS INDEX	0.28
FACILITY CONDITION INDEX	0.23

GSF	TOTAL 10-YEAR FACILITY RENEWAL NEEDS	10-YEAR NEEDS/SF
3,472	\$678,845	\$195.52

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	\$66,371	\$0	\$66,371
EXTERIOR	\$22,484	\$165,196	\$187,679
INTERIOR	\$0	\$223,307	\$223,307
PLUMBING	\$0	\$69,022	\$69,022
HVAC	\$0	\$8,823	\$8,823
FIRE/LIFE SAFETY	\$28,866	\$0	\$28,866
ELECTRICAL	\$2,901	\$60,341	\$63,242
SITE	\$13,594	\$17,941	\$31,535
VERT. TRANS	\$0	\$0	\$0
HEALTH	\$0	\$0	\$0
TOTALS	\$134,216	\$544,628	\$678,845

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
118 WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	WOOD FRAME		EXTERIOR	B2010	Deferred Renewal	134,151
118 RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	PITCH ASPHALT		ROOF	B3010	Deferred Renewal	24,294
118 RR20	ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED	PITCH ASPHALT			B3010	Deferred Renewal	6,751
118 DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	WOOD		THROUGHOUT	C1020	Deferred Renewal	94,516
118 DR24	DOOR LOCK, COMMERCIAL-GRADE			EXT DOORS	C1020	Deferred Renewal	2,689
118 CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LAMINATE		BREAK AREA	C1030	Deferred Renewal	31,161
118 IW09	WALL FINISH - WALL COVERING, ROLL	VINYL WALL COVER		THROUGHOUT	C3010	Deferred Renewal	46,159
118 IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	BROADLOOM		THROUGHOUT	C3020	Deferred Renewal	41,422
118 IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	VCT		BREAK AREA	C3020	Deferred Renewal	1,234
118 IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC			C3020	Deferred Renewal	6,125
118 FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	LAMINATE		RESTROOM	D2010	Deferred Renewal	1,587
118 FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	PC		RESTROOM	D2010	Deferred Renewal	4,804
118 FX11	PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE	PC LOW FLOW		RESTROOM	D2010	Deferred Renewal	5,619
118 PS17	SUPPLY PIPING SYSTEM - RESIDENCE	GALVANIZED		THROUGHOUT	D2020	Deferred Renewal	10,572
118 WH11	WATER HEATER - COMMERCIAL, ELECTRIC (<=30 GAL)	A O SMITH	19607	ATTIC SPACE	D2020	Deferred Renewal	30,451
118 PD17	DRAIN PIPING SYSTEM - RESIDENCE	CAST IRON		THROUGHOUT	D2030	Deferred Renewal	15,990
118 FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	FRACTIONAL HP		RESTROOM	D3040	Deferred Renewal	1,335

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
118 HV17	HVAC DISTRIBUTION NETWORKS - RESIDENCE	ORIGINAL BUILD		THROUGHOUT	D3040	Deferred Renewal	7,488
118 SE17	ELECTRICAL DISTRIBUTION NETWORK - RESIDENCE	120/240		THROUGHOUT	D5010	Deferred Renewal	33,910
118 SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MAIN		EXTERIOR	D5010	Deferred Renewal	2,588
118 LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		CORNER SOFF, ENTRIES	D5020	Deferred Renewal	600
118 LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T-8		RENO AREAS	D5020	Deferred Renewal	6,392
118 LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T-8, FLUORESCENT		THROUGHOUT	D5020	Deferred Renewal	16,850
118 SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	SIDEWALK			G2030	Deferred Renewal	17,941
TOTAL							\$544,628

FACILITIES RENEWAL PLAN
NONRECURRING PROJECT COSTS

All costs shown as Present Value

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
118AC02	UPGRADE INTERIOR DOORS & SIGNAGE	C1010	2	Plant Adaption	21,921
118AC03	RESTROOM ACCESSIBILITY UPGRADES	D2010	2	Plant Adaption	6,471
118FS01	FIRE ALARM SYSTEM INSTALLATION	D5030	2	Plant Adaption	21,750
118FS02	INSTALL EMERGENCY LIGHTING AND EXIT LIGHTS	D5020	2	Plant Adaption	7,116
118AC01	UPGRADE CABINETS AND DRINKING FOUNTAINS	C1010	3	Plant Adaption	37,980
118EL01	ADD EXTERIOR LIGHTING	D5020	3	Plant Adaption	2,901
118ES01	EXTERIOR MASONRY WALL RENEWAL	B2010	3	Corrective Action	22,484
118SI01	SITE PAVING RENEWAL	G2040	3	Corrective Action	13,594
TOTAL					\$134,216

FACILITY CONDITION ASSESSMENT

SECTION 3

**NONRECURRING
PROJECT DETAILS**

All costs shown as Present Value

FIRE ALARM SYSTEM INSTALLATION			
Project Number:	118FS01	Category Code:	
Priority Sequence:	1	FS2A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	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 a security alarm system installed but 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 work 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	3,472	\$2.67	\$9,270	\$1.83	\$6,354	\$15,624
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				\$10,320		\$7,339	
Indexed Material/Labor Costs				\$10,392		\$5,233	\$15,625
Construction Mark Up at 20.0%							\$3,125
Original Construction Cost							\$18,750
Date of Original Estimate:	2/7/2023		Inflation			\$0	
Current Year Construction Cost							\$18,750
Professional Fees at 16.0%							\$3,000
TOTAL PROJECT COST							\$21,750

All costs shown as Present Value

INSTALL EMERGENCY LIGHTING AND EXIT LIGHTS			
Project Number:	118F502	Category Code:	
Priority Sequence:	2	FS1A	
Priority Class:	Medium	System:	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	Component:	LIGHTING
Date Basis:	3/17/2023	Element:	EGRESS LTG./EXIT SIGNAGE

Code Application:		Subclass/Savings:	Project Location:
NFPA	1,13,13R,101	DOJ2 - Access to Goods & Services	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:	3/17/2023		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

RESTROOM ACCESSIBILITY UPGRADES			
Project Number:	118AC03	Category Code:	
Priority Sequence:	3	AC3E	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	2/10/2023	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 throughout the building are not fully compliant with ADAAG. Installation of ADA-compliant fixtures and accessible accessories in at least one single-user restroom should remedy the situation.

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)	SYS	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:	2/10/2023					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

UPGRADE INTERIOR DOORS & SIGNAGE			
Project Number:	118AC02	Category Code:	
Priority Sequence:	4	AC3C	
Priority Class:	Medium	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	2/10/2023	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

To comply with ADA legislation, it is recommended that lever handle door 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 the appropriate accessibility standards. Compliant signage should meet specific size, graphical, Braille, height, and location requirements. This scope includes all directional signage.

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	21	\$87.09	\$1,829	\$25.61	\$538	\$2,367
Lever actuated door hardware	EA	21	\$498	\$10,461	\$200	\$4,191	\$14,652
Base Material/Labor Costs				\$12,290		\$4,729	
Indexed Material/Labor Costs				\$12,376		\$3,371	\$15,748
Construction Mark Up at 20.0%							\$3,150
Original Construction Cost							\$18,897
Date of Original Estimate:	2/10/2023		Inflation			\$0	
Current Year Construction Cost							\$18,897
Professional Fees at 16.0%							\$3,024
TOTAL PROJECT COST							\$21,921

All costs shown as Present Value

UPGRADE CABINETRY AND DRINKING FOUNTAINS			
Project Number:	118AC01	Category Code:	
Priority Sequence:	5	AC3F	
Priority Class:	Low	System:	ACCESSIBILITY
Project Class:	Plant Adaption	Component:	INTERIOR PATH OF TRAVEL
Date Basis:	2/10/2023	Element:	DRINKING FOUNTAINS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	211, 602, 804	DOJ2 - Access to Goods & Services	Floor-wide: Floor(s) 1

Description

The configuration of the drinking fountains is a barrier to accessibility. All single-level drinking fountains should be replaced with dual-level units. Additionally, building amenities are required to be accessible to all persons. The current configuration of the casework in the kitchenettes is a barrier to accessibility. The cabinetry should be replaced with casework to accommodate compliant frontal wheelchair access.

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 casework with base cabinetry, overhead cabinetry, and amenities	EA	1	\$8,553	\$8,553	\$2,992	\$2,992	\$11,545
Dual-level drinking fountain	EA	2	\$1,995	\$3,989	\$613	\$1,226	\$5,215
Alcove construction for drinking fountain	EA	2	\$1,438	\$2,876	\$6,137	\$12,274	\$15,150
Base Material/Labor Costs				\$15,417		\$16,492	
Indexed Material/Labor Costs				\$15,525		\$11,759	\$27,284
Construction Mark Up at 20.0%							\$5,457
Original Construction Cost							\$32,741
Date of Original Estimate:	2/10/2023					Inflation	\$0
Current Year Construction Cost							\$32,741
Professional Fees at 16.0%							\$5,239
TOTAL PROJECT COST							\$37,980

All costs shown as Present Value

EXTERIOR MASONRY WALL RENEWAL			
Project Number:	118ES01	Category Code:	
Priority Sequence:	6	ES2B	
Priority Class:	Low	System:	EXTERIOR
Project Class:	Corrective Action	Component:	COLUMNS/BEAMS/WALLS
Date Basis:	2/10/2023	Element:	FINISH

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

Description

Brick veneer is the primary exterior finish. While the brick is fundamentally sound, exposure to the elements has caused some deterioration of the mortar joints and expansion joints. Cleaning, surface preparation, selective repairs, and applied finish or penetrating sealant upgrades are recommended to restore the aesthetics and integrity of the building envelope.

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
Restore exterior masonry wall to include cleaning and approximately two percent pointing	SF	5,810	\$0.41	\$2,382	\$3.32	\$19,289	\$21,671
Base Material/Labor Costs				\$2,382		\$19,289	
Indexed Material/Labor Costs				\$2,399		\$13,753	\$16,152
Construction Mark Up at 20.0%							\$3,230
Original Construction Cost							\$19,382
Date of Original Estimate:	2/10/2023					Inflation	\$0
Current Year Construction Cost							\$19,382
Professional Fees at 16.0%							\$3,101
TOTAL PROJECT COST							\$22,484

All costs shown as Present Value

ADD EXTERIOR LIGHTING			
Project Number:	118EL01	Category Code:	
Priority Sequence:	7	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
Install new LED exterior lighting	EA	6	\$204	\$1,226	\$199	\$1,191	\$2,418
Base Material/Labor Costs				\$1,226		\$1,191	
Indexed Material/Labor Costs				\$1,235		\$849	\$2,084
Construction Mark Up at 20.0%							\$417
Original Construction Cost							\$2,501
Date of Original Estimate:	2/7/2023					Inflation	\$0
Current Year Construction Cost							\$2,501
Professional Fees at 16.0%							\$400
TOTAL PROJECT COST							\$2,901

All costs shown as Present Value

SITE PAVING RENEWAL			
Project Number:	118SI01	Category Code:	
Priority Sequence:	8	SI1A	
Priority Class:	Low	System:	SITE
Project Class:	Corrective Action	Component:	ACCESS
Date Basis:	2/10/2023	Element:	PEDESTRIAN

Code Application:

Not Applicable

Subclass/Savings:

Not Applicable

Project Location:

Undefined: Floor(s) 1

Description

Pedestrian paving systems are in overall poor condition and represent a liability to the owner. They should be replaced.

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
Base Material/Labor Costs				\$5,450		\$6,000	
Indexed Material/Labor Costs				\$5,488		\$4,278	\$9,766
Construction Mark Up at 20.0%							\$1,953
Original Construction Cost							\$11,719
Date of Original Estimate:	2/10/2023					Inflation	\$0
Current Year Construction Cost							\$11,719
Professional Fees at 16.0%							\$1,875
TOTAL PROJECT COST							\$13,594

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	INSTR DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	WOOD FRAME		EXTERIOR	650	SF	1.12	\$134,151	1978	40	4	DR
DR10	DOOR AND FRAME, EXTERIOR, SWINGING, WOOD PANEL	WOOD		EXTERIOR	3	LEAF	1.00	\$8,178	2020	25	-5	2040
RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	PITCH ASPHALT		ROOF	4,073	SF	1.00	\$24,294	1978	18	26	DR
RR20	ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED	PITCH ASPHALT			330	LF	1.00	\$6,751	1978	20	24	DR
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	WOOD		THROUGHOUT	21	LEAF	1.00	\$94,516	1978	40	4	DR
DR24	DOOR LOCK, COMMERCIAL-GRADE			EXT DOORS	3	EA	1.00	\$2,689	1978	20	24	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LAMINATE		BREAK AREA	48	LF	1.00	\$31,161	1990	20	12	DR
IW09	WALL FINISH - WALL COVERING, ROLL	VINYL WALL COVER		THROUGHOUT	7,360	SF	1.00	\$46,159	1990	20	12	DR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	BROADLOOM		THROUGHOUT	2,810	SF	1.00	\$41,422	2010	12		DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	VCT		BREAK AREA	160	SF	1.00	\$1,234	1990	20	12	DR
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC			160	SF	1.00	\$6,125	1978	30	14	DR
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	2X2 GRID		THROUGHOUT	2,660	SF	1.00	\$32,316	2010	30		2040
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	PT ON DRYWALL		THROUGHOUT	470	SF	1.00	\$1,266	2010	24		2034
FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	LAMINATE		RESTROOM	1	EA	1.00	\$1,587	1978	35	9	DR
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	PC		RESTROOM	3	EA	1.00	\$4,804	1978	35	9	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
FX04	PLUMBING FIXTURE - SINK, KITCHEN	SST		RESTROOM	1	EA	1.00	\$2,600	1978	35	24	2037
FX11	PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE	PC LOW FLOW		RESTROOM	4	EA	1.00	\$5,619	1978	35	9	DR
PS17	SUPPLY PIPING SYSTEM - RESIDENCE	GALVANIZED		THROUGHOUT	3,472	SF	1.00	\$10,572	1978	35	9	DR
WH11	WATER HEATER - COMMERCIAL, ELECTRIC (<=30 GAL)	A O SMITH	19607	ATTIC SPACE	30	GAL	1.00	\$30,451	2003	20	-1	DR
PD17	DRAIN PIPING SYSTEM - RESIDENCE	CAST IRON		THROUGHOUT	3,472	SF	1.00	\$15,990	1978	40	4	DR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	CARRIER, 1		EXTERIOR EAST SIDE	3	TON	1.00	\$7,745	2015	23		2038
HU12	EVAPORATOR UNIT, ELECTRIC HEAT (7.5-12.5 KW)	CARRIER 1		ATTIC	9.20	KW	1.00	\$2,841	2015	20		2035
FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	FRACTIONAL HP		RESTROOM	4	HP	0.10	\$1,335	1978	20	24	DR
HV17	HVAC DISTRIBUTION NETWORKS - RESIDENCE	ORIGINAL BUILD		THROUGHOUT	3,472	SF	0.20	\$7,488	1978	40	4	DR
SE17	ELECTRICAL DISTRIBUTION NETWORK - RESIDENCE	120/240		THROUGHOUT	3,472	SF	1.00	\$33,910	1978	40	4	DR
SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MAIN		EXTERIOR	175	AMP	0.15	\$2,588	1978	20	24	DR
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		CORNER SOFF, ENTRIES	4	EA	0.30	\$600	1995	15	12	DR
LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T-8, FLUORESCENT		THROUGHOUT	2,636	SF	1.00	\$16,850	1978	20	24	DR
LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T-8		RENO AREAS	1,000	SF	1.00	\$6,392	2000	20	2	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	SIDEWALK			3,000	LF	1.00	\$17,941	1978	7	37	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:								\$599,574					

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 FRAME		EXTERIOR	B2010	650	SF	\$134,151	DR
RR13	ROOF - SHINGLE ASPHALT COMPOSITE, STANDARD	PITCH ASPHALT		ROOF	B3010	4,073	SF	\$24,294	DR
RR20	ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED	PITCH ASPHALT			B3010	330	LF	\$6,751	DR
DR24	DOOR LOCK, COMMERCIAL-GRADE			EXT DOORS	C1020	3	EA	\$2,689	DR
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	WOOD		THROUGHOUT	C1020	21	LEAF	\$94,516	DR
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	LAMINATE		BREAK AREA	C1030	48	LF	\$31,161	DR
IW09	WALL FINISH - WALL COVERING, ROLL	VINYL WALL COVER		THROUGHOUT	C3010	7,360	SF	\$46,159	DR
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	BROADLOOM		THROUGHOUT	C3020	2,810	SF	\$41,422	DR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	VCT		BREAK AREA	C3020	160	SF	\$1,234	DR
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	CERAMIC			C3020	160	SF	\$6,125	DR
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	PC		RESTROOM	D2010	3	EA	\$4,804	DR
FX11	PLUMBING FIXTURE - WATER CLOSET, TANK-TYPE	PC LOW FLOW		RESTROOM	D2010	4	EA	\$5,619	DR

RECURRING NEEDS BY YEAR

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

FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	LAMINATE		RESTROOM	D2010	1	EA	\$1,587	DR
PS17	SUPPLY PIPING SYSTEM - RESIDENCE	GALVANIZED		THROUGHOUT	D2020	3,472	SF	\$10,572	DR
WH11	WATER HEATER - COMMERCIAL, ELECTRIC (<=30 GAL)	A O SMITH	19607	ATTIC SPACE	D2020	30	GAL	\$30,451	DR
PD17	DRAIN PIPING SYSTEM - RESIDENCE	CAST IRON		THROUGHOUT	D2030	3,472	SF	\$15,990	DR
HV17	HVAC DISTRIBUTION NETWORKS - RESIDENCE	ORIGINAL BUILD		THROUGHOUT	D3040	3,472	SF	\$7,488	DR
FN26	FAN - PROPELLER WITH LOUVER, 1/4" SP (.5-1 HP)	FRACTIONAL HP		RESTROOM	D3040	4	HP	\$1,335	DR
SG01	MAIN SWITCHBOARD W/BREAKERS (<400 AMP)	MAIN		EXTERIOR	D5010	175	AMP	\$2,588	DR
SE17	ELECTRICAL DISTRIBUTION NETWORK - RESIDENCE	120/240		THROUGHOUT	D5010	3,472	SF	\$33,910	DR
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	INCAN, FLOOD		CORNER SOFF, ENTRIES	D5020	4	EA	\$600	DR
LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T-8, FLUORESCENT		THROUGHOUT	D5020	2,636	SF	\$16,850	DR
LI17	LIGHTING SYSTEM, INTERIOR - RESIDENCE	T-8		RENO AREAS	D5020	1,000	SF	\$6,392	DR
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE	SIDEWALK			G2030	3,000	LF	\$17,941	DR
TOTAL DEFERRED RENEWAL COST								\$544,628	

RECURRING NEEDS BY YEAR

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

No Projected Component Replacement Cost for Asset No. 118 for 2023

No Projected Component Replacement Cost for Asset No. 118 for 2024

No Projected Component Replacement Cost for Asset No. 118 for 2025

No Projected Component Replacement Cost for Asset No. 118 for 2026

RECURRING NEEDS BY YEAR

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

No Projected Component Replacement Cost for Asset No. 118 for 2027

No Projected Component Replacement Cost for Asset No. 118 for 2028

No Projected Component Replacement Cost for Asset No. 118 for 2029

No Projected Component Replacement Cost for Asset No. 118 for 2030

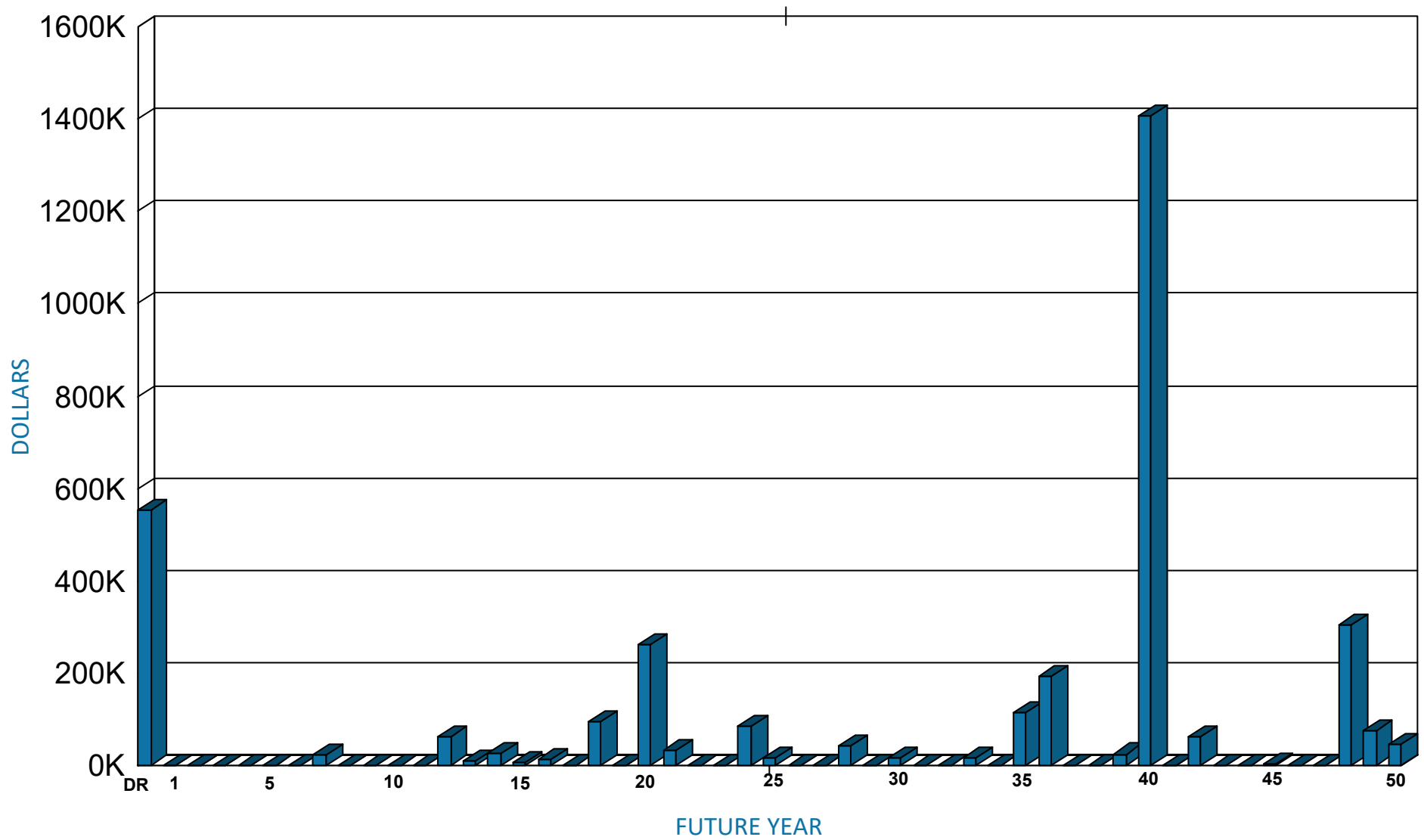
RECURRING NEEDS BY YEAR

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

No Projected Component Replacement Cost for Asset No. 118 for 2031

No Projected Component Replacement Cost for Asset No. 118 for 2032

RECURRING COMPONENT EXPENDITURE PROJECTIONS

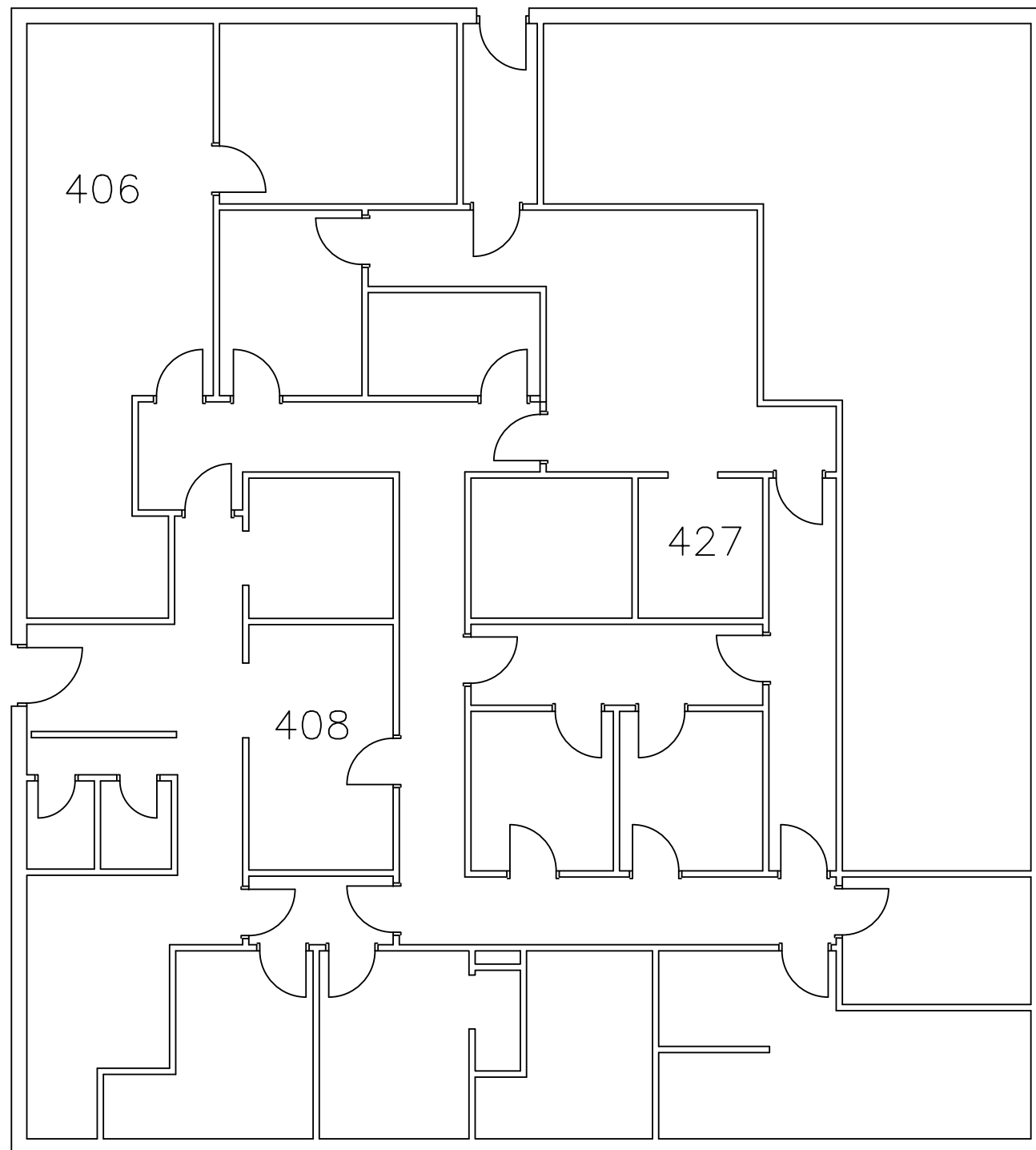


Average Annual Renewal Cost per SF \$9.13

FACILITY CONDITION ASSESSMENT

SECTION 5

DRAWINGS



Physician's Quadrangle Building M

SCALE: NTS



East Carolina University School of Medicine
 FACILITIES MAINTENANCE
PHYSICIAN'S QUADRANGLE M
 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 M
 ECU Brody School of Medicine
 Greenville, NC 27858

Drawn By Facilities Services	Sheet 48
Date 14 July 2003	
Scale NTS	

FACILITY CONDITION ASSESSMENT

SECTION 6

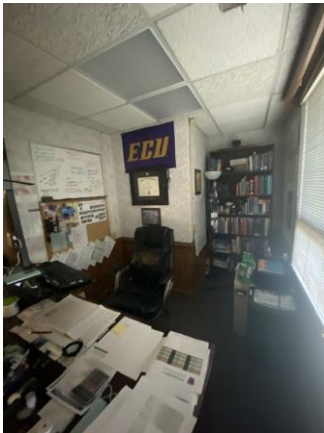
PHOTOGRAPHS



118001a 1/26/2023
Tile walls and floor, wall covering, lavatory, and tank
water closet
Restroom



118001e 1/26/2023
T5 lay in troffers
Commons area



118002a 1/26/2023
ACT, wall covering, and carpet
Office



118002e 1/26/2023
Incandescent lighting
Restroom



118003a 1/26/2023
ACT, wall covering, and carpet
Corridor



118003e 1/26/2023
T8 surface mount lighting
Patient corridor



118004a 1/26/2023
Wood-framed, single-pane window
Office



118004e 1/26/2023
Incandescent flood lighting
Exterior corner soffit



118005a 1/26/2023
VCT, ACT, and casework
Break area



118005e 1/26/2023
Incandescent surface mount light
Building entrances



118006a 1/26/2023
VCT, ACT, and casework with a sink
Break area



118006e 1/26/2023
Thermostat
Hallway



118007a 1/26/2023
ACT, wall cover, carpet
Office



118007e 1/26/2023
Condensing unit 1
Site



118008a 1/26/2023
Noncompliant exit signage
Exit



118008e 1/26/2023
Power meter
Exterior wall



118009a 1/26/2023
ACT, wall covering, and carpet
Training room



118009e 1/26/2023
Power distribution panel
Main corridor



118010a 1/26/2023
Finished ceiling and walls and carpet
Storage room



118010e 1/26/2023
Audible/visual alarm device
Corridor



118011a 1/26/2023
ACT, wall covering, and carpet
Conference room



118011e 1/26/2023
Manual fire alarm device
Side exit door



118012a 1/26/2023
Wood door with knob hardware and noncompliant exit
sign
Exit



118012e 1/26/2023
Electrical distribution panel
Corridor



118013a 1/26/2023
Countertop lavatory
Restroom



118013e 1/26/2023
Noncompliant exit sign
Corridor



118014a 1/26/2023
Single-level water fountain
Waiting room



118014e 1/26/2023
Smoke alarm device
Corridor



118015a 1/26/2023
Countertop and casework
Reception window



118015e 1/26/2023
Exhaust fan
Restroom



118016a 1/26/2023
Brick exterior, glazing, and signage
Exterior



118017a 1/26/2023
Brick exterior, hollow-metal doors, and wood posts
Exterior



118018a 1/26/2023
Brick exterior, wood posts, and extended roof awning
Exterior



118019a 1/26/2023
Brick exterior and glazing
Exterior



118020a 1/26/2023
Brick exterior and glazing
Exterior



118021a 1/26/2023
Brick exterior and glazing
Exterior



118022a 1/26/2023
Brick exterior and glazing
Exterior



118023a 1/26/2023
Brick exterior and wood door and posts
Exterior



118024a 1/26/2023
Wood-framed, single-pane windows
Exterior



118025a 1/26/2023
Deteriorated roof awning
Exterior

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	118
Asset Name	Physicians Quad M
Year Built or Last Energy Renovation	1978

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.

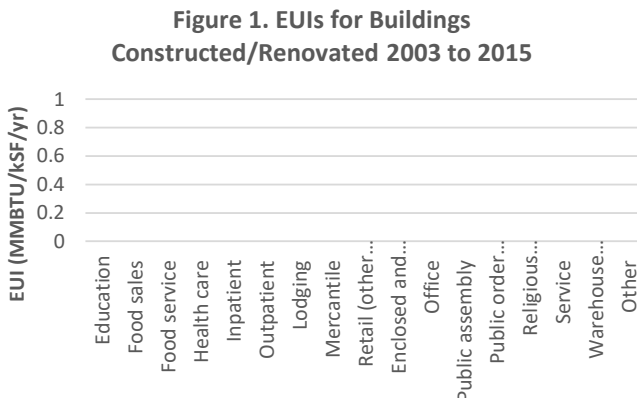
Metric #1: Energy Use Intensity (EUI)

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	2003 to 2015
Benchmark EUI (MMBTU/kSF/yr) =	#N/A
Building EUI to be Calculated by Client (MMBTU/kSF/yr) =	

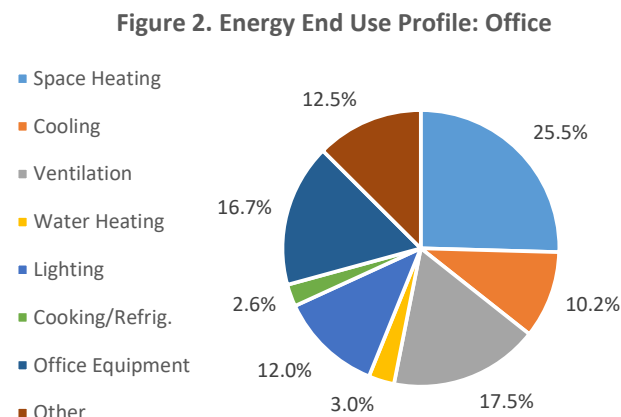
TABLE 3. EUI COMPARISON	
Very Energy Efficient (consumes more than 30% less energy)	#N/A
Energy Efficient (consumes 10% to 30% less energy)	#N/A
Similar (consumes within 10% less or 10% more energy)	#N/A
Energy Inefficient (consumes 10% to 30% more energy)	#N/A
Very Energy Inefficient (consumes more than 30% more energy)	#N/A



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 - 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
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
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

ECM CATEGORY	ECM RECOMMENDED FOR FURTHER CONSIDERATION	COST CATEGORY
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 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