EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Biotechnology Building

Asset BIOT

Inspected March 16, 2015

ISES CORPORATION

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FACILITY CONDITION ASSESSMENT

SECTION 1

ASSET OVERVIEW

EXECUTIVE SUMMARY - BIOTECHNOLOGY BUILDING

Building Code: BIOT
Building Name: BIOTECHNOLOGY BUILDING
Year Built: 1988
Building Use: Laboratory
Square Feet: 28,152

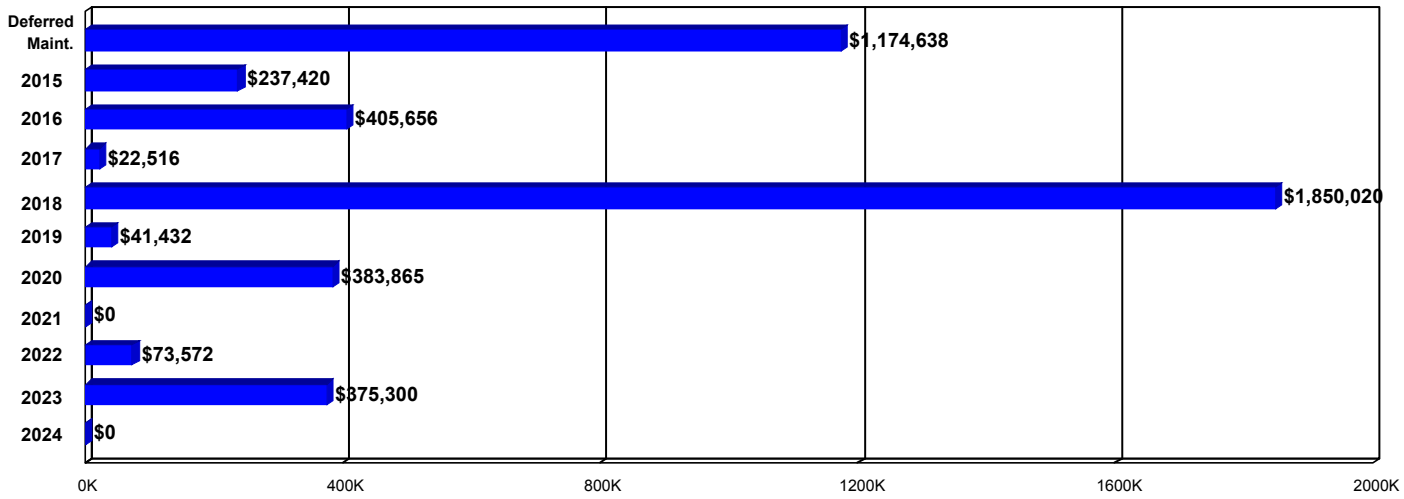
Non-Recurring Project Costs by Priority

Immediate:	$0
Critical:	$0
Non-Critical:	$430,924

Current Replacement Value: **$14,196,000**

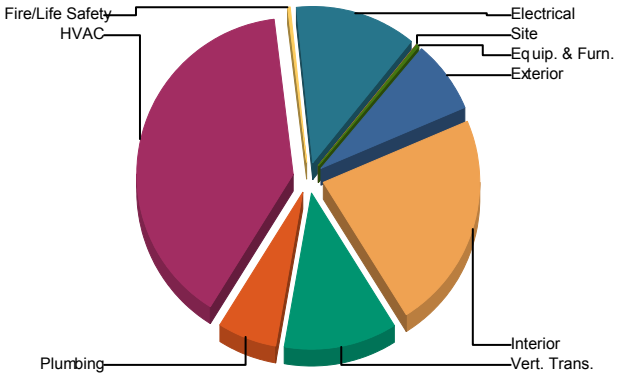
Total Non-Recurring Project Costs: **$430,924**

Recurring Component Replacement Cost By Year



Recurring Facilities Renewal Cost By System

Exterior	**$336,365**
Interior	**$1,030,018**
Plumbing	**$285,970**
HVAC	**$1,780,576**
Fire/Life Safety	**$7,593**
Electrical	**$572,278**
Site	**$9,190**
Conveying	**$534,511**
Equipment	**$7,917**
Total	**$4,564,418**



Non-Recurring Project Cost	**$430,924**
Deferred Maintenance Cost	**$1,174,638**
Projected Facility Renewal Cost	**$3,389,780**
Total 10-Year Facility Cost	**$4,995,342**

FCNI	FCI	10-Yr $/SqFt
0.35	0.083	$177.44

All costs shown as Present Value

ASSET SUMMARY

Constructed in 1988, Biotechnology Building is a 28,152 gross square foot medical research facility on the main campus of East Carolina State University. It also houses the Pediatric Outpatient Center on the ground floor. Located on the North Campus Loop, it is connected to the Vidant Medical Center Brody School of Medicine. This two-story facility contains a mixture of medical exam rooms, medical offices, research labs, and administrative offices.

Information for this report was gathered during a site visit conducted on March 16, 2015.

Site

The landscaping is adequate, but the dedicated parking lot shows signs of damage from snow removal and harsh weather conditions. Although the striping is still visible, this parking lot will require restriping and resurfacing within the next ten years. Pedestrian paving consists of concrete and brick pavers. No upgrade of the brick finish is recommended within the next ten years, but the concrete sidewalks will likely require joint maintenance.

Exterior Structure

The exterior brick facades are in average condition, but sections of masonry need to be repointed and some brick replacement may be needed within the next ten years. The original, double-pane, aluminum frame windows are generally in fair condition, but several are leaking. It is recommended that the windows be replaced. The primary and secondary exterior doors are original and still serviceable. The main entrance is a storefront system with automated doors that are currently in good working order. However, considering these are high traffic doors, they are recommended for replacement within the next ten years. Roof access is provided by a newly installed roof hatch. The modified bitumen roofing system was installed in 2014 and is still in good condition.

Interior Finishes/Systems

Interior finishes consist of carpet in the administrative and office areas, 12x12 tile in the hallways and labs, ceramic tile in restrooms, painted walls, and both acoustical tile and painted ceilings. Some finishes were recently updated and are in good condition. The remaining original finishes are recommended for replacement within the next ten years. Also, the newer carpeting should be replaced due to expected lifecycle depletion. Interior doors are solid core wood and appear to be in good condition. They should outlast the scope of this report. Lab cabinetry varies in age but is generally in adequate condition. No upgrade is anticipated within the next ten years.

Accessibility

There is a great deal of accessibility into and through this building. ADA parking spaces are properly marked, and the primary entrances are at grade level and handicap accessible. Two elevators provide handicap access to both floors, but there is a door covering the hands-free phone. This door should be removed to make this phone ADA compliant. Restrooms for the patients and staff have been upgraded for ADA compliance. Doors have lever hardware, and ADA compliant signage is present throughout the building. Some labs have push button access. However, the break room kitchenette lacks under-counter wheelchair access. The installation of a wheelchair accessible kitchenette is recommended.

Current accessibility legislation requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, some of the interior stairwell handrails are deficient relative to current standards. Also, the site stairs at the southwestern side of the building have only one handrail. Future renovation efforts should include comprehensive stair railing upgrades. It should also be noted that some stairs have open spaces with low headroom clearance under the stringers at ground level. This may be a hazard for the visually impaired. Ensure proper barriers are in place to direct people away from this hazard.

The single level drinking fountains with bottle filler stations do not comply with current ADA requirements. Replacement of these drinking fountains with dual level units is recommended. The construction of alcoves may be required.

Health

A walk-in cold room in room 138 serves the research labs. The enclosure will outlast the scope of this report, but the refrigeration system has a shorter expected service life and is due for replacement.

Fire/Life Safety

Adjacent to the roof access hatch, the parapet wall has two open areas, approximately 6 feet in length, that lack barriers. Consideration should be given to installing barriers to protect personnel.

The modern point addressable central fire alarm system has a recently installed Simplex 4010U control panel in room 003. The devices that serve this system include manual pull stations, audible/visible devices, and smoke detectors. The fire alarm system is in very good condition. With proper maintenance, it should outlast the scope of this report. This facility is also protected by an automatic, comprehensive, wet-pipe sprinkler system, which is adequate and in good condition. With proper testing and maintenance, it will outlast the scope of this report.

Exit signs are LED illuminated and connected to the emergency power network. Emergency lighting is available through standard interior light fixtures that are connected to the emergency power network. The exit signs are in fair condition but will soon be approaching the end of their expected service life. They should be scheduled for replacement.

HVAC

The facility is connected to the campus steam loop via a pressure reducing valves station (PRV) in room 003. Steam is used for heating in the main air handling unit (AHU-001). A shell-and-tube heat exchanger uses the steam to produce heating hot water, which is circulated to the smaller air handler in the Pediatric Outpatient Center, reheat coils, and unit heaters throughout the building by two small heating hot water pumps. A condensate receiver captures the steam condensate and completes the campus steam loop.

The PRVs are beyond their expected service life and should be scheduled for replacement. The heating hot water pumps are in fair condition but should also be replaced. The heat exchanger has a longer expected service life and should be scheduled for replacement towards the end of the next ten years.

Chilled water is supplied by the campus chilled water loop and circulated by a 7.5 hp chilled water pump. The chilled water is used for cooling in both of the air handlers. The pump is in fair condition but should be scheduled for replacement.

Two air handlers provide conditioned air. The main air handler (AHU-001) is located in room 003. This 40 hp York unit has low pressure steam coils for heating and chilled water coils for cooling. A make-up air fan (POPC-SAF-001) runs whenever the return air temperature is above a certain level. This provides the facility with positive air pressure. The Pediatric Outpatient Center has a smaller (10 hp) Trane air handler (POPC-AHU-001) with cooling only. This Trane air handler is undersized for the area it serves. Therefore, a 15 hp unit has been entered into the Lifecycle Model to assure that adequate funding is available for proper replacement.

Two large exhaust fans serving the fume hoods are located on the roof. These exhaust fans were originally designed to be equipped with heat recovery systems (HRS). However, the HRS was removed from the design before the building was constructed. The air handlers and exhaust fans, as well as the pneumatic HVAC controls, are original to the building. The controls (and the controls air compressor) are beyond their expected service life and should be replaced. The installation of a direct digital control system is recommended.

Variable frequency drives (VFD) have been added to the air handlers and exhaust fans to increase their efficiency and provide them with a few more years of service before needing replacement. The VFDs should also be scheduled for replacement towards the end of the next ten years.

When the large exhaust fans (with heat recovery systems) are replaced, in order to meet modern requirements for CDC and NIH research, many upgrades will be required. A project has been included

for these upgrades, including larger motors to get the exhaust to vent high enough away from the building. Larger motors, in turn, will require larger conduit and electrical panels. Modern HEPA filters are also included.

Additional ventilation is provided to interior spaces by centrifugal roof exhausters and other exhaust fans that are mainly original to the building. The original fans are beyond their expected service life and due for replacement.

The HVAC distribution network for the ground floor Pediatric Outpatient Center is in good condition and will last beyond the next ten years. But on the top (first) floor, the lab section of the building, the distribution network has a few design flaws. The inline supply fan and parts of the heat recovery system were removed from the original design. The result is that the exhaust from the autoclaves creates a negative pressure in the corridors, relative to the labs. Modern research standards require just the opposite, a negative pressure in the labs to prevent any contaminants from escaping. Because of these flaws, replacement of the HVAC distribution network is recommended.

Approximately ten fume hoods are located in the lab areas. The hoods are beyond their expected service life. Costs can be reduced if the hood replacement is coordinated with the proposed HVAC distribution network replacement and exhaust fan upgrade.

Electrical

The 7,200 volt power enters the oil-filled transformer on the southeast exterior of the building. The 500 kVA transformer reduces the power to 120/208 volts and feeds the power into the 3,000 amp, Square D switchboard. The transformer and switchboard appear to be original. The transformer has a longer expected service life and should provide reliable service for the next seven to nine years. The switchboard, located in room 003, should be scheduled for replacement soon due to normal lifecycle depletion.

The electrical distribution network provides 120/208 volt power to the building via the motor control center and secondary panels. Receptacles, lighting, and major mechanical systems are all supported by the 120/208 volt circuits. The distribution network is in good condition and should outlast the scope of this report.

The interior spaces of this facility are illuminated by fluorescent fixtures and a few incandescent fixtures (in old mechanical areas). Most of the interior lighting appears to be original and is in fair to poor condition. It is overdue for replacement. Specify energy-efficient fixtures, and install occupancy sensors where possible.

The exterior areas adjacent to the building are illuminated by HID light fixtures that are recessed, post-mounted, or building-mounted. Two of the fixtures appear to be new and will outlast the scope of this report, but most appear to be original and should be scheduled for replacement soon. Additionally, exterior lighting was lacking at the north and west entrances. Install additional fixtures, and place them on photocell activation.

Emergency power is provided by the 100 kW Caterpillar diesel generator, which is located on the southeast exterior. The Generac automatic transfer switch (ATS) is located in room 003. The generator is relatively new and should outlast the scope of this report, but the ATS appears to be original and is overdue for replacement.

Plumbing

Potable water is distributed throughout this facility via a copper piping network. There are backflow preventers, assumed to be original, on the domestic water and fire suppression mains. Due to their normally short expected service life, these units should be scheduled for replacement soon. Sanitary waste and stormwater piping is cast iron, no-hub. The supply and drain piping networks appear to be in good condition. They will likely provide reliable service throughout the scope of this analysis.

The plumbing fixtures are original and currently in fair to good condition. They should be scheduled for replacement in the next ten years due to normal lifecycle depletion. The new restroom fixtures should have automatic, hands-free faucets and flush valves.

Two Flo-Rite instantaneous domestic water heaters are located in room 003. These are relatively new and use low pressure steam to generate hot water. No upgrade is warranted. The sump pump in room 003 appears to be 1988 vintage and, therefore, beyond its expected service life. Replacement is recommended.

Vertical Transportation

This facility is served by two 1988 vintage, hydraulic passenger elevators with 40 hp hydraulic pumps. They stop at both floors (G and 1 and were installed by US Elevator. The elevators are overdue for a major modernization.

Note: The renewal needs outlined in this report were identified from the visual inspection and staff interviews. Our professional architectural and engineering inspectors thoroughly 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

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Date of Inspection

March 16, 2015

Inspection Team Personnel

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Client Contact

NAME	POSITION
Griffin L. Avin	Director of Facilities Services, Health Sciences Campus

DEFINITIONS

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

Overview

Recurring and Non-Recurring Facility Renewal Costs

Facility renewal costs are divided into two main categories – recurring and non-recurring. 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 Lifecycle Component Inventory, which is explained in detail below. Non-recurring costs typically consist of modifications or repairs necessary to comply with fire/life safety or accessibility code requirements or to address isolated, non-recurring deficiencies that could negatively affect the structure of the facility or the systems and components within. For these non-recurring 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 non-recurring facilities 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.

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

Facility Condition Index (FCI)

The FCI is a ratio of the Deferred Maintenance facilities renewal costs to the current replacement value.

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

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. Typical general contractor fees (which could include profit, overhead, bonds, and insurance) and professional fees (architect or engineer design fees and in-house design costs) are also included in the project costs.

GLOBAL MARKUP	%
Local Labor Index	51.3
Local Materials Index	100.7
General Contractor Markup	20.0
Professional Fees	16.0

Recurring Costs

Asset Component Inventory and Cost Projections

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

CATEGORY	DEFINITION
Uniformat Code	The standard Uniformat Code that applies to the component
Component Description	This line item describes the individual component
Identifier	Unique identifying information entered for a component as necessary
Quantity	The quantity of the listed component
Units	The unit of measure associated with the quantity
Unit Cost	The cost to replace each individual component unit (this cost is in today's dollars)
Complexity Adjustment	A factor utilize to adjust component replacement costs accordingly when it is anticipated that the actual cost will deviate from the average for that component
Total Cost	Unit cost multiplied by quantity, in today's dollars. Note that this is a one-time renewal/replacement cost
Install Date	Year that the component was or is estimated to have been installed. When this data is not available, it defaults to the year the asset was constructed
Life Expectancy	Average life expectancy for each individual component
Life Expectancy Adjustment	Utilized to adjust the first lifecycle of the component and to express when the next replacement should occur

The component listing forms the basis of the Recurring Component Renewal Schedule, which provides a year-by-year list of projected recurring renewal costs over the next ten years. Each individual component is assigned a replacement year based on lifecycles, and the costs for each item are in future year dollars. For items that are already past the end of their lifecycle, the replacement year is shown as Deferred Maintenance.

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 Maintenance
  Recurring repairs, generated by the Lifecycle Component Inventory, that are past due for completion but have not yet been accomplished as part of normal maintenance or capital repair efforts. Further deferral of such renewal could impair the proper functioning of the facility. Costs estimated for Deferred Maintenance projects should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to effect the needed repairs.

- Recurring Component Replacement
  Recurring renewal efforts, generated by the Lifecycle Component Inventory, that will be due within the scope of the assessment. These projects represent regular or normal facility maintenance, repair, or renovation that should be planned in the near future.

Non-Recurring Costs

As previously mentioned, modifications or repairs necessary to comply with fire/life safety or accessibility code requirements and those that address isolated, non-recurring deficiencies that could negatively affect the structure of the facility or the systems and components within are not included in the Lifecycle 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/Program Adaption
  Non-recurring 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 changed teaching or research methods, and improvements occasioned by the adoption of modern technology (e.g., the use of personal computer networks).

- Corrective Action
  Non-recurring 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 non-recurring 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 – Immediate

  Projects in this category require immediate action to:

  a. correct a cited safety hazard
  b. stop accelerated deterioration
  c. and/or return a facility to normal operation

- Priority 2 – Critical

  Projects in this category include actions that must be addressed in the short-term:

  a. repairs to prevent further deterioration

  b. improvements to facilities associated with critical accessibility needs

  c. potential safety hazards

- Priority 3 – Non-Critical

  Projects in this category include:

  a. improvements to facilities associated with non-critical accessibility needs

  b. actions to bring a facility into compliance with current building codes as grandfather clauses expire

  c. actions to improve the usability of a facility following an occupancy or use change

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
SS1A – SS7A	SECURITY SYSTEMS
VT1A – VT7A	VERTICAL TRANSPORTATION

Refer to the Category Code Report starting on page 1.5.1.

Example: **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.

Example:

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

Project Subclass Type

- Energy Conservation
  Projects with energy conservation opportunities, based on simple payback analysis.

Drawings/Project Locations

The drawings for this facility are marked with icons (see legend on plans) denoting the specific location(s) for each project. Within each icon are the last four characters of the respective project number (e.g., 0001IS01 is marked on the plan as IS01).

Photographs

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

Example: **Photo Number: 0001006e**	
0001	Asset Number
006	Photo Sequence
e	Engineering Photo

CATEGORY CODE REPORT

ACCESSIBILITY

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
AC1A	Site	Stair and Railings	Includes exterior stairs and railings which are not part of the building entrance points.
AC1B	Site	Ramps and Walks	Includes sidewalks, grade change ramps (except for a building entrance), curb ramps, etc.
AC1C	Site	Parking	Designated parking spaces, including striping, signage, access aisles and ramps, etc.
AC1D	Site	Tactile Warnings	Raised tactile warnings located at traffic crossing and elevation changes.
AC2A	Building Entry	General	Covers all aspects of entry into the building itself, including ramps, lifts, doors and hardware, power operators, etc.
AC3A	Interior Path of Travel	Lifts/Ramps/ Elevators	Interior lifts, ramps and elevators designed to accommodate level changes inside a building. Includes both installation and retrofitting.
AC3B	Interior Path of Travel	Stairs and Railings	Upgrades to interior stairs and handrails for accessibility reasons.
AC3C	Interior Path of Travel	Doors and Hardware	Accessibility upgrades to the interior doors including widening, replacing hardware power, assisted operators, etc.
AC3D	Interior Path of Travel	Signage	Interior building signage upgrades for compliance with THE ADA.
AC3E	Interior Path of Travel	Restrooms/ Bathrooms	Modifications to and installation of accessible public restrooms and bathrooms. Bathrooms that are an integral part of residential suites are catalogued under HC4A.
AC3F	Interior Path of Travel	Drinking Fountains	Upgrading/replacing drinking fountains for reasons of accessibility.
AC3G	Interior Path of Travel	Phones	Replacement/modification of public access telephones.
AC4A	General	Functional Space Modifications	This category covers all necessary interior modifications necessary to make the services and functions of a building accessible. It includes installation of assistive listening systems, modification of living quarters, modifications to laboratory workstations, etc. Bathrooms that are integral to efficiency suites are catalogued here.
AC4B	General	Other	All accessibility issues not catalogued elsewhere.

ELECTRICAL

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
EL1A	Incoming Service	Transformer	Main building service transformer.
EL1B	Incoming Service	Disconnects	Main building disconnect and switchgear.
EL1C	Incoming Service	Feeders	Incoming service feeders. Complete incoming service upgrades, including transformers, feeders, and main distribution panels are catalogued here.
EL1D	Incoming Service	Metering	Installation of meters to record consumption and/or demand.
EL2A	Main Distribution Panels	Condition Upgrade	Main distribution upgrade due to deficiencies in condition.
EL2B	Main Distribution Panels	Capacity Upgrade	Main distribution upgrades due to inadequate capacity.
EL3A	Secondary Distribution	Step-Down Transformers	Secondary distribution step-down and isolation transformers.
EL3B	Secondary Distribution	Distribution Network	Includes conduit, conductors, sub-distribution panels, switches, outlets, etc. Complete interior rewiring of a facility is catalogued here.

EL3C	Secondary Distribution	Motor Controllers	Mechanical equipment motor starters and control centers.
EL4A	Devices and Fixtures	Exterior Lighting	Exterior building lighting fixtures, including supply conductors and conduit.
EL4B	Devices and Fixtures	Interior Lighting	Interior lighting fixtures (also system wide emergency lighting), including supply conductors and conduits.
EL4C	Devices and Fixtures	Lighting Controllers	Motion sensors, photocell controllers, lighting contactors, etc.
EL4D	Devices and Fixtures	GFCI Protection	Ground fault protection, including GFCI receptacles and breakers.
EL4E	Devices and Fixtures	Lightning Protection	Lightning arrestation systems including air terminals and grounding conductors.
EL5A	Emergency Power System	Generation/ Distribution	Includes generators, central battery banks, transfer switches, emergency power grid, etc.
EL6A	Systems	UPS/DC Power Supply	Uninterruptible power supply systems and DC motor-generator sets and distribution systems.
EL7A	Infrastructure	Above Ground Transmission	Includes poles, towers, conductors, insulators, fuses, disconnects, etc.
EL7B	Infrastructure	Underground Transmission	Includes direct buried feeders, ductbanks, conduit, manholes, feeders, switches, disconnects, etc.
EL7C	Infrastructure	Substations	Includes incoming feeders, breakers, buses, switchgear, meters, CTs, PTs, battery systems, capacitor banks, and all associated auxiliary equipment.
EL7D	Infrastructure	Distribution Switchgear	Stand-alone sectionalizing switches, distribution switchboards, etc.
EL7F	Infrastructure	Area and Street Lighting	Area and street lighting systems, including stanchions, fixtures, feeders, etc.
EL8A	General	Other	Electrical system components not catalogued elsewhere.

EXTERIOR STRUCTURE

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
ES1A	Foundation/ Footing	Structure	Structural foundation improvements involving structural work on foundation wall/footing, piers, caissons, and piles, including crack repairs, shoring, and pointing
ES1B	Foundation/ Footing	Dampproofing/ Dewatering	Foundation/footing waterproofing work, including, damp-proofing, dewatering, insulation, etc.
ES2A	Columns/Beams/ Walls	Structure	Structural work to primary load-bearing structural components aside from floors, including columns, beams, bearing walls, lintels, arches, etc.
ES2B	Columns/Beams/ Walls	Finish	Work involving restoration of the appearance and weatherproof integrity of exterior wall/structural envelope components, including masonry/pointing, expansion joints, efflorescence and stain removal, grouting, surfacing, chimney repairs, etc.
ES3A	Floor	Structure	Work concerning the structural integrity of the load supporting floors, both exposed and unexposed, including deformation, delamination, spalling, shoring, crack repair, etc.
ES4A	Roof	Repair	Work on waterproof horizontal finish (roof) involving repair and/or limited replacement (<40% total), including membrane patching, flashing repair, coping caulk/resetting, PPT wall parging/coating, walkpad installation, skylight and roof hatch R&R, etc.
ES4B	Roof	Replacement	Work involving total refurbishment of roofing system, including related component rehab.
ES5A	Fenestrations	Doors	Work on exterior exit/access door, including storefronts, airlocks, air curtains, vinyl slat doors, all power/manual operating hardware (except handicapped), etc.
ES5B	Fenestrations	Windows	Work on exterior fenestration closure and related components, including glass/metal/wood curtain walls, fixed or operable window sashes, glazing, frames, sills, casings, stools, seats, coatings, treatments, screens, storm windows, etc.

ES6A	General	Attached Structure	Work on attached exterior structure components not normally considered in above categories, including porches, stoops, decks, monumental entrance stairs, cupolas, tower, etc.
ES6B	General	Areaways	Work on attached grade level or below structural features, including subterranean lightwells, areaways, basement access stairs, etc.
ES6C	General	Trim	Work on ornamental exterior (generally non-structural) elements, including beltlines, quoins, porticos, soffits, cornices, moldings, trim, etc.
ES6D	General	Superstructure	Finish and structural work on non-standard structures with exposed load-bearing elements, such as stadiums, bag houses, bleachers, freestanding towers, etc.
ES6E	General	Other	Any exterior work not specifically categorized elsewhere, including finish and structural work on freestanding boiler stacks.

FIRE/LIFE SAFETY

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
FS1A	Lighting	Egress Lighting/Exit Signage	R&R work on exit signage and packaged AC/DC emergency lighting.
FS2A	Detection/Alarm	General	Repair or replacement of fire alarm/detection system/components, including alarms, pull boxes, smoke/heat detectors, annunciator panels, central fire control stations, remote dialers, fire station communications, etc.
FS3A	Suppression	Sprinklers	Repair or installation of water sprinkler type automatic fire suppressions, including wet-pipe and dry-pipe systems, heads, piping, deflectors, valves, monitors, associated fire pump, etc.
FS3B	Suppression	Standpipe/Hose	Repair or installation of standpipe system or components, including hardware, hoses, cabinets, nozzles, necessary fire pumping system, etc.
FS3C	Suppression	Extinguishers	Repairs or upgrades to F.E. cabinets/wall fastenings and handheld extinguisher testing/replacement.
FS3D	Suppression	Other	Other fire suppression items not specifically categorized elsewhere, including fire blankets, carbon dioxide automatic systems, Halon systems, dry chemical systems, etc.
FS4A	Hazardous Materials	Storage Environment	Installation or repair of special storage environment for the safe holding of flammable or otherwise dangerous materials/supplies, including vented flammables storage cabinets, holding pens/rooms, cages, fire safe chemical storage rooms, etc.
FS4B	Hazardous Materials	User Safety	Improvements, repairs, installation, or testing of user safety equipment, including emergency eyewashes, safety showers, emergency panic/shut-down system, etc.
FS5A	Egress Path	Designation	Installation, relocation or repair of posted diagrammatic emergency evacuation routes.
FS5B	Egress Path	Distance/ Geometry	Work involving remediation of egress routing problems, including elimination of dead end corridors, excessive egress distance modifications, and egress routing inadequacies.
FS5C	Egress Path	Separation Rating	Restoration of required fire protective barriers, including wall rating compromises, fire-rated construction, structural fire proofing, wind/safety glazing, transom retrofitting, etc.
FS5D	Egress Path	Obstruction	Clearance of items restricting the required egress routes.
FS5E	Egress Path	Stairs Railing	Retrofit of stair/landing configurations/structure, railing heights/geometries, etc.
FS5F	Egress Path	Fire Doors/ Hardware	Installation/replacement/repair of fire doors and hardware, including labeled fire doors, fire shutters, closers, magnetic holders, panic hardware, etc.
FS5G	Egress Path	Finish/Furniture Ratings	Remediation of improper fire/smoke ratings of finishes and furniture along egress routes.
FS6A	General	Other	Life/fire safety items not specifically categorized elsewhere.

HEALTH

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
HE1A	Environmental Control	Equipment and Enclosures	Temperature control chambers (both hot and cold) for non-food storage. Includes both chamber and all associated mechanical equipment.
HE1B	Environmental Control	Other	General environmental control problems not catalogued elsewhere.
HE2A	Pest Control	General	Includes all measures necessary to control and destroy insects, rodents, and other pests.
HE3A	Refuse	General	Issues related to the collection, handling, and disposal of refuse.
HE4A	Sanitation Equipment	Laboratory and Process	Includes autoclaves, cage washers, steam cleaners, etc.
HE5A	Food Service	Kitchen Equipment	Includes ranges, grilles, cookers, sculleries, etc.
HE5B	Food Service	Cold Storage	Includes the cold storage room and all associated refrigeration equipment.
HE6A	Hazardous Material	Structural Asbestos	Testing, abatement, and disposal of structural and building finish materials containing asbestos.
HE6B	Hazardous Material	Mechanical Asbestos	Testing, abatement, and disposal of mechanical insulation materials containing asbestos.
HE6C	Hazardous Material	PCBs	Includes testing, demolition, disposal, and cleanup of PCB contaminated substances.
HE6D	Hazardous Material	Fuel Storage	Includes monitoring, removal, and replacement of above and below ground fuel storage and distribution systems. Also includes testing and disposal of contaminated soils.
HE6E	Hazardous Material	Lead Paint	Testing, removal, and disposal of lead-based paint systems.
HE6F	Hazardous Material	Other	Handling, storage, and disposal of other hazardous materials.
HE7A	General	Other	Health related issues not catalogued elsewhere.

HVAC

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
HV1A	Heating	Boilers/Stacks/ Controls	Boilers for heating purposes, including their related stacks, flues, and controls.
HV1B	Heating	Radiators/ Convectors	Including cast-iron radiators, fin tube radiators, baseboard radiators, etc.
HV1C	Heating	Furnace	Furnaces and their related controls, flues, etc.
HV1D	Heating	Fuel Supply/Storage	Storage and/or distribution of fuel for heating purposes, including tanks and piping networks and related leak detection/monitoring.
HV2A	Cooling	Chillers/ Controls	Chiller units for production of chilled water for cooling purposes, related controls (not including mods for CFC compliance).
HV2B	Cooling	Heat Rejection	Repair/replacement of cooling towers, dry coolers, air-cooling, and heat rejection. Includes connection of once-through system to cooling tower.
HV3A	Heating/Cooling	System Retrofit/ Replace	Replacement or major retrofit of HVAC systems.
HV3B	Heating/Cooling	Water Treatment	Treatment of hot water, chilled water, steam, condenser water, etc.
HV3C	Heating/Cooling	Package/Self-Contained Units	Repair/replacement of self-contained/package type units, including stand-up units, rooftop units, window units, etc; both air conditioners and heat pumps.
HV3D	Heating/Cooling	Conventional Split Systems	Repair, installation, or replacement of conventional split systems, both air conditioners and heat pumps, including independent component replacements of compressors and condensers.

HV4A	Air Moving/ Ventilation	Air Handlers/ Fan Units	Includes air handlers and coils, fan coil units, unit ventilators, filtration upgrades, etc., not including package/self-contained units, split systems, or other specifically categorized systems.
HV4B	Air Moving/ Ventilation	Exhaust Fans	Exhaust fan systems, including fans, range and fume hoods, controls, and related ductwork.
HV4C	Air Moving/ Ventilation	Other Fans	Supply, return, or any other fans not incorporated into a component categorized elsewhere.
HV4D	Air Moving/ Ventilation	Air Distribution Network	Repair, replacement, or cleaning of air distribution network, including ductwork, terminal reheat/cool, VAV units, induction units, power induction units, insulation, dampers, linkages, etc.
HV5A	Steam/Hydronic Distribution	Piping Network	Repair/replacement of piping networks for heating and cooling systems, including pipe, fittings, insulation, related components, etc.
HV5B	Steam/Hydronic Distribution	Pumps	Repair or replacement of pumps used in heating and cooling systems, related control components, etc.
HV5C	Steam/Hydronic Distribution	Heat Exchangers	Including shell-and-tube heat exchangers and plate heat exchangers for heating and cooling.
HV6A	Controls	Complete System Upgrade	Replacement of HVAC control systems.
HV6B	Controls	Modifications/ Repairs	Repair or modification of HVAC control system.
HV6C	Controls	Air Compressors/ Dryers	Repair or modification of control air compressors and dryers.
HV7A	Infrastructure	Steam/Hot Water Generation	Generation of central steam and/or hot water, including boilers and related components.
HV7B	Infrastructure	Steam/Hot Water Distribution	Distribution system for central hot water and/or steam.
HV7C	Infrastructure	Chilled Water Generation	Generation of central chilled water, including chillers and related components.
HV7D	Infrastructure	Chilled Water Distribution	Distribution system for central chilled water.
HV7E	Infrastructure	Tunnels/ Manholes/ Trenches	Repairs, installation, or replacement of utility system access chambers.
HV7F	Infrastructure	Other	HVAC infrastructure issues not specifically categorized elsewhere.
HV8A	General	CFC Compliance	Chiller conversions/replacements for CFC regulatory compliance, monitoring, etc.
HV8B	General	Other	HVAC issues not catalogued elsewhere.

INTERIOR FINISHES/SYSTEMS

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
IS1A	Floor	Finishes-Dry	R&R of carpet, hardwood strip flooring, concrete coating, vinyl linoleum and tile, marble, terrazzo, rubber flooring, and underlayment in predominantly dry areas ("dry" includes non-commercial kitchens)
IS1B	Floor	Finishes-Wet	Flooring finish/underlayment work in predominantly "wet" areas, including work with linoleum, rubber, terrazzo, concrete coating, quarry tile, ceramic tile, epoxy aggregate, etc.
IS2A	Partitions	Structure	Structural work on full height permanent interior partitions, including wood/metal stud and drywall systems, CMU systems, structural brick, tile, glass block, etc.
IS2B	Partitions	Finishes	Work on full height permanent interior partitions, including R&R, to gypsum board, plaster, lath, wood paneling, acoustical panels, wall coverings, column coverings, tile, paint, etc.
IS3A	Ceilings	Repair	Repair of interior ceilings (<40% of total), including tiles, gypsum board, plaster, paint, etc.
IS3B	Ceilings	Replacement	Major refurbishments (>40% of total) to interior ceiling systems, including grid system replacements, structural framing, new suspended systems, paint, plastering, etc.

IS4A	Doors	General	Any work on interior non-fire-rated doors, roll-up counter doors, mechanical/plumbing access doors, and all door hardware (except for reasons of access improvement).
IS5A	Stairs	Finish	Any finish restorative work to stair tower walking surfaces, including replacement of rubber treads, safety grips, nosings, etc. (except as required to accommodate disabled persons).
IS6A	General	Molding	R&R to interior trim/molding systems, including rubber/vinyl/wood base, crown/chair/ornamental moldings, cased openings, etc.
IS6B	General	Cabinetry	R&R work to interior casework systems, including cabinets, countertops, wardrobes, lockers, mail boxes, built-in bookcases, lab/work benches, reagent shelving, etc. (except as required for access by the disabled).
IS6C	General	Screening	Work on temporary or partial height partitioning systems, including toilet partitions, urinal/vanity screens, etc.
IS6D	General	Other	Any work on interior elements not logically or specifically categorized elsewhere, including light coves, phone booths, interior lightwells, etc.

PLUMBING

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
PL1A	Domestic Water	Piping Network	Repair or replacement of domestic water supply piping network, insulation, hangers, etc.
PL1B	Domestic Water	Pumps	Domestic water booster pumps, circulating pumps, related controls, etc.
PL1C	Domestic Water	Storage/ Treatment	Equipment or vessels for storage or treatment of domestic water.
PL1D	Domestic Water	Metering	Installation, repair, or replacement of water meters.
PL1E	Domestic Water	Heating	Domestic water heaters, including gas, oil, and electric water heaters, shell-and-tube heat exchangers, tank type, and instantaneous.
PL1F	Domestic Water	Cooling	Central systems for cooling and distributing drinking water.
PL1G	Domestic Water	Fixtures	Plumbing fixtures, including sinks, drinking fountains, water closets, urinals, etc.
PL1H	Domestic Water	Conservation	Alternations made to the water distribution system to conserve water.
PL1I	Domestic Water	Backflow Protection	Backflow protection devices, including backflow preventers, vacuum breakers, etc.
PL2A	Wastewater	Piping Network	Repair or replacement of building wastewater piping network.
PL2B	Wastewater	Pumps	Pump systems used to lift wastewater, including sewage ejectors and other sump systems.
PL3A	Special Systems	Process Gas/Fluids	Generation and/or distribution of process steam, compressed air, natural and LP gas, process water, vacuum, etc.
PL4A	Infrastructure	Potable Water Storage/ Treatment	Storage and treatment of potable water for distribution.
PL4B	Infrastructure	Industrial Water Distribution/ Treatment	Storage and treatment of industrial water for distribution.
PL4C	Infrastructure	Sanitary Water Collection	Sanitary water collection systems and sanitary sewer systems, including combined systems.
PL4D	Infrastructure	Stormwater Collection	Stormwater collection systems and storm sewer systems; storm water only.
PL4E	Infrastructure	Potable Water Distribution	Potable water distribution network.
PL4F	Infrastructure	Wastewater Treatment	Wastewater treatment plants, associated equipment, etc.
PL5A	General	Other	Plumbing issues not categorized elsewhere.

SITE

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
SI1A	Access	Pedestrian	Paved pedestrian surfaces, including walks, site stairs, step ramps, paths, pedestrian signage, sidewalk bridges/canopies, pedestrian plaza/mall areas, etc.
SI1B	Access	Vehicular	Paved vehicular surfaces, including roads, paths, curbs, guards, bollards, bridges, skyways, joints, shoulder work, culverts, ditches, vehicular signage, etc.
SI2A	Landscape	Grade/Flora	Landscape related work, including new grass/turf refurbishment, grade improvements, catch basins, swales, berms, pruning, new ornamental flora, etc.
SI3A	Hardscape	Structure	Permanent hard site features, predominantly ornamental, including terraces, fences, statues, freestanding signage, fountains, benches, etc.
SI4A	General	Other	Other site work not specifically categorized elsewhere.

SECURITY SYSTEMS

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
SS1A	Lighting	Exterior	Fixtures, stanchions, foliage interference, cleanliness, locations, etc.
SS2A	Site	Fencing	Perimeter campus fencing, individual building fencing, includes both pedestrian and vehicular control fences.
SS2B	Site	General	Hidden areas due to foliage, fencing, parking, walls, etc.
SS3A	Communications	Emergency Phones	Access, locations, visibility, function, reliability, etc.
SS4A	Access Control	Doors	Access, locks, keys, two-way speakers, reliability, redundancy, etc.
SS4B	Access Control	Windows	Locks, screens, access, reliability, etc.
SS4C	Access Control	Systems	Card key, proximity devices, data control, data use, reliability, system design, etc.
SS5A	Monitoring	Systems	Cameras, audio communication, monitoring stations, locations, system design, etc.
SS6A	Circulation	Pedestrian	On campus as well as to and from off-campus housing and class locations, etc.
SS6B	Circulation	Vehicular	Guard gates, access, systems, data control and use, identification, etc.
SS7A	General	Other	General information/projects pertaining to security issues.

VERTICAL TRANSPORTATION

CODE	Component Description	Element Description	DEFINITION
VT1A	Machine Room	General	Machine, worm gear, thrust bearing, brake, motors, sheaves, generator, controller, selector, governor, pump(s), valves, oil, access, lighting, ventilation, and floor.
VT2A	Car	General	Position indicator, lighting, floor, gate-doors, operation devices, safeties, safety shoe, light ray/detection, emergency light, fire fighter service, car top, door operator, stop switch, car frame, car guides, sheaves, phone, and ventilation.
VT3A	Hoistway	General	Enclosure, fascia, interlock, doors, hangers, closers, sheaves, rails, hoistway switches, ropes, traveling cables, selector tape, weights, and compensation.
VT4A	Hall Fixtures	General	Operating panel, position indicator, hall buttons, lobby panel, hall lanterns, fire fighter service, audible signals, and card/key access.
VT5A	Pit	General	Buffer(s), guards, sheaves, hydro packing, floor, lighting, and safety controls.
VT6A	Operating Conditions	General	Door open time, door close time, door thrust, acceleration, deceleration, leveling, dwell time, speed, OFR time, and nudging.
VT7A	General	Other	General information/projects relating to vertical transportation system components.

FACILITY CONDITION ASSESSMENT

SECTION 2

COST SUMMARIES AND TOTALS

Detailed Facility Cost Summary

Facilities Renewal Budget Pro-Forma

BIOT : BIOTECHNOLOGY BUILDING

	Non-Recurring Project Costs			Recurring Component Replacement Cost											
	Immediate	Critical	Non-Critical	Deferred Maint.	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Accessibility	0	0	29,420	0	0	0	0	0	0	0	0	0	0	0	**$29,420**
Exterior	0	0	0	0	0	0	0	77,495	0	258,870	0	0	0	0	**$336,365**
Interior	0	0	0	0	0	0	3,582	807,797	20,073	124,995	0	73,572	0	0	**$1,030,018**
Plumbing	0	0	0	539	14,814	0	0	0	0	0	0	0	270,618	0	**$285,970**
HVAC	0	0	400,058	356,407	0	405,656	18,934	964,728	0	0	0	0	34,852	0	**$2,180,634**
Fire/Life Safety	0	0	0	0	7,593	0	0	0	0	0	0	0	0	0	**$7,593**
Electrical	0	0	1,446	283,181	207,097	0	0	0	13,077	0	0	0	68,923	0	**$573,723**
Site	0	0	0	0	0	0	0	0	8,282	0	0	0	908	0	**$9,190**
Conveying	0	0	0	534,511	0	0	0	0	0	0	0	0	0	0	**$534,511**
Equipment	0	0	0	0	7,917	0	0	0	0	0	0	0	0	0	**$7,917**
	0	0	430,924	1,174,638	237,420	405,656	22,516	1,850,020	41,432	383,865	0	73,572	375,300	0	**$4,995,342**

Non-Recurring Project Cost	**$430,924**
Recurring Component Replacement Cost	**$4,564,418**
Total 10-Year Facility Cost	**$4,995,342**

CRV	**$14,196,000**
FCNI	**0.35**
FCI	**0.08**

Building SqFt.	**28,152**
10-Yr $ / SqFt	**$177.44**

All costs shown as Present Value

Detailed Facility Cost Summary
Facilities Renewal Needs by System
BIOT : BIOTECHNOLOGY BUILDING

	Non-Recurring Project Costs	Recurring Component Replacement Cost	Total 10-Yr. Facility Renewal Costs
Accessibility	$29,420	$0	**$29,420**
Exterior	$0	$336,365	**$336,365**
Interior	$0	$1,030,018	**$1,030,018**
Plumbing	$0	$285,970	**$285,970**
HVAC	$400,058	$1,780,576	**$2,180,634**
Fire/Life Safety	$0	$7,593	**$7,593**
Electrical	$1,446	$572,278	**$573,723**
Site	$0	$9,190	**$9,190**
Conveying	$0	$534,511	**$534,511**
Equipment/Other	$0	$7,917	**$7,917**
	$430,924	**$4,564,418**	**$4,995,342**

All costs shown as Present Value

Detailed Facility Cost Summary
Facilities Renewal Plan
BIOT : BIOTECHNOLOGY BUILDING

Non-Recurring Project Costs

Project Number	Title	Uniformat	Priority Class	Project Classifcation	Project Cost (Present Val.)
BIOTAC01	STAIR SAFETY UPGRADES	C2020	Non-Critical	Plant Adaption	6,585
BIOTHV01	UPGRADE EXHAUST AIR UNITS	D3040	Non-Critical	Plant Adaption	400,058
BIOTEL01	ADD EXTERIOR LIGHTING	D5020	Non-Critical	Plant Adaption	1,446
BIOTAC02	KITCHENETTE ACCESSIBILITY UPGRADES		Non-Critical	Plant Adaption	9,660
BIOTAC03	DUAL LEVEL DRINKING FOUNTAIN UPGRADE		Non-Critical	Plant Adaption	13,174
					430,924

Recurring Component Replacement Cost

Component			Uniformat	Repl. Year	Repl. Cost (Present Val.)
VT03	ELEVATOR MODERNIZATION - HYDRAULIC		D1010	Deferred Maint.	$457,710
VT04	ELEVATOR CAB RENOVATION - PASSENGER		D1010	Deferred Maint.	$76,801
PP04	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)	PMP-006	D2030	Deferred Maint.	$539
FN19	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	EAF-005	D3040	Deferred Maint.	$4,954
FN19	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	ROOF	D3040	Deferred Maint.	$4,954
FN29	FAN - PROPELLER WITH LOUVER, 1/4" SP (2-4 HP)	EAF-007	D3040	Deferred Maint.	$3,691
HD01	HOOD, FUME		D3040	Deferred Maint.	$95,154
HX12	PRESSURE REDUCING VALVE, STEAM SYSTEM (4")	PRV	D3040	Deferred Maint.	$8,324
AC03	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (>10 TOTAL HP)	ROOM 003	D3060	Deferred Maint.	$23,722
BA09	HVAC CONTROLS SYSTEM - LABORATORY, WET	LAB	D3060	Deferred Maint.	$155,655
BA11	HVAC CONTROLS SYSTEM - MEDICAL CLINIC	CLINIC	D3060	Deferred Maint.	$59,954
MC01	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (<=400A) W/STARTERS	MCC G	D5010	Deferred Maint.	$64,535
LE02	LIGHTING - EXTERIOR, POST LANTERN, (INC, CFL, LED) RES		D5020	Deferred Maint.	$1,920
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)		D5020	Deferred Maint.	$545
LE07	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)		D5020	Deferred Maint.	$1,523
LI09	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	LAB	D5020	Deferred Maint.	$133,220
LI11	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	CLINIC	D5020	Deferred Maint.	$71,490
GN11	SWITCH - AUTO TRANSFER, 208 OR 240 V (>100 AMP)	TSW-ATS1	D5090	Deferred Maint.	$9,948

BF04	BACKFLOW PREVENTER (3-4 INCHES)	BFP-001 DW	D2020	2015	$7,407
BF04	BACKFLOW PREVENTER (3-4 INCHES)	FIRE SUPPRSN	D2020	2015	$7,407
EL01	EXIT SIGN - CENTRAL POWER		D4030	2015	$7,593
SG07	MAIN SWITCHBOARD W/BREAKERS (>2500 AMP)	120V	D5010	2015	$207,097
CR02	REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	ROOM 138	E1020	2015	$7,917
AH08	AIR HANDLING UNIT - INDOOR (12-17 HP)	POPC-AHU-001	D3040	2016	$88,397
AH12	AIR HANDLING UNIT - INDOOR (35-45 HP)	AHU-001	D3040	2016	$193,707
FN11	FAN - AXIAL, SUPPLY, 2.5" SP (7.5-10 HP) 15,600 CFM	POPC-SAF-001 MUA	D3040	2016	$16,298
FN40	FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)	ROOF - HRS	D3040	2016	$30,875
FN40	FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)	ROOF - HRS	D3040	2016	$57,890
PH01	PUMP - ELECTRIC (<=10 HP)	CHW PUMP	D3040	2016	$10,565
PH01	PUMP - ELECTRIC (<=10 HP)	PMP-001	D3040	2016	$3,962
PH01	PUMP - ELECTRIC (<=10 HP)	PMP-002	D3040	2016	$3,962
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD		C3030	2017	$3,582
PH14	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	ROOM 003	D3040	2017	$18,934
EW01	WALL, EXTERIOR, MASONRY POINTING		B2010	2018	$64,187
DR12	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	MAIN	B2030	2018	$6,156
DR28	DOOR OPERATOR, POWER-ASSIST	MAIN ENTRY	B2030	2018	$7,153
DR24	DOOR LOCK, COMMERCIAL-GRADE		C1020	2018	$148,421
CW03	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	BREAK ROOM	C1030	2018	$203,546
IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD		C3010	2018	$279,796
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD		C3020	2018	$29,710
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD		C3030	2018	$146,323
HV09	HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	LAB	D3040	2018	$964,728
IF04	FLOORING - VINYL SHEET, STANDARD		C3020	2019	$20,073
VF02	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	HEAT RECOVERY	D5010	2019	$4,040
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	POPC-AHU-001	D5010	2019	$4,190
VF04	VARIABLE FREQUENCY DRIVE (10-15 HP)	HEAT RECOVERY	D5010	2019	$4,848
SI06	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE		G2020	2019	$8,282
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD		B2010	2020	$258,870
IW01	WALL FINISH - PAINT, STANDARD		C3010	2020	$124,995
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD		C3020	2022	$73,572
FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	CLINIC	D2010	2023	$40,392

FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	LAB	D2010	2023	$4,252
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	CLINIC	D2010	2023	$4,314
FX04	PLUMBING FIXTURE - SINK, KITCHEN	CLINIC	D2010	2023	$1,780
FX04	PLUMBING FIXTURE - SINK, KITCHEN	LAB	D2010	2023	$1,780
FX05	PLUMBING FIXTURE - SINK, LABORATORY-USE	LAB	D2010	2023	$137,566
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	CLINIC	D2010	2023	$1,469
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	LAB	D2010	2023	$2,938
FX10	PLUMBING FIXTURE - URINAL	LAB	D2010	2023	$1,722
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	CLINIC	D2010	2023	$4,818
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	LAB	D2010	2023	$8,030
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	LAB	D2010	2023	$54,859
FX16	PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH	LAB	D2010	2023	$6,697
HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	HEX-001	D3040	2023	$34,852
TX17	TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY (300-500 KVA)	120V	D5010	2023	$59,834
VF08	VARIABLE FREQUENCY DRIVE (30-40 HP)	VSD-001	D5010	2023	$9,088
SI01	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE		G2030	2023	$908
					$4,564,418

All costs shown as Present Value

Detailed Project Summary

Facility Condition Assessment

Project Classification

BIOT : BIOTECHNOLOGY BUILDING

Cat. Code	Project Number	Pri Seq	Project Classification	Pri Cls	Project Title	Construction Cost	Prof Fees	Actual Cost to Date	Remaining Cost
AC3B	BIOTAC01	1	Plant Adaption	3	STAIR SAFETY UPGRADES	5,677	908	0	6,585
AC4A	BIOTAC02	2	Plant Adaption	3	KITCHENETTE ACCESSIBILITY UPGRADES	8,328	1,332	0	9,660
AC3F	BIOTAC03	3	Plant Adaption	3	DUAL LEVEL DRINKING FOUNTAIN UPGRADE	11,357	1,817	0	13,174
HV4B	BIOTHV01	4	Plant Adaption	3	UPGRADE EXHAUST AIR UNITS	344,877	55,180	0	400,058
EL4A	BIOTEL01	5	Plant Adaption	3	ADD EXTERIOR LIGHTING	1,246	199	0	1,446
			Totals for Plant Adaption			**371,486**	**59,438**	**0**	**430,924**
				Grand Total:		**371,486**	**59,438**	**0**	**430,924**

Detailed Project Summary

Facility Condition Assessment

Category/System Code Update Report

BIOT : BIOTECHNOLOGY BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fees	Actual Cost to Date	Remaining Cost
AC3B	BIOTAC01	3	1	STAIR SAFETY UPGRADES	5,677	908	0	6,585
AC4A	BIOTAC02	3	2	KITCHENETTE ACCESSIBILITY UPGRADES	8,328	1,332	0	9,660
AC3F	BIOTAC03	3	3	DUAL LEVEL DRINKING FOUNTAIN UPGRADE	11,357	1,817	0	13,174
	Totals for System Code:			**ACCESSIBILITY**	**25,362**	**4,058**	**0**	**29,420**
EL4A	BIOTEL01	3	5	ADD EXTERIOR LIGHTING	1,246	199	0	1,446
	Totals for System Code:			**ELECTRICAL**	**1,246**	**199**	**0**	**1,446**
HV4B	BIOTHV01	3	4	UPGRADE EXHAUST AIR UNITS	344,877	55,180	0	400,058
	Totals for System Code:			**HVAC**	**344,877**	**55,180**	**0**	**400,058**
				Grand Total:	**371,486**	**59,438**	**0**	**430,924**

FACILITY CONDITION ASSESSMENT

SECTION 3

PROJECT DETAILS

Specific Project Details

Facility Condition Assessment

Section Three

Project Description

Project Number:	BIOTAC01	**Title:**	STAIR SAFETY UPGRADES
Priority Sequence:	1		
Priority Class:	3		
Category Code:	AC3B	**System:**	ACCESSIBILITY
		Component:	INTERIOR PATH OF TRAVEL
		Element:	STAIRS AND RAILINGS
Building Code:	BIOT		
Building Name:	BIOTECHNOLOGY BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	IBC 1003.3 ADAAG 505		
Project Class:	Plant Adaption		
Project Date:	03/16/2015		
Project Location:	Item Only: Floor(s) 1,G		

Project Description

Current accessibility legislation requires that stairs have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, some of the interior stairwell handrails are deficient relative to current standards. Also, the site stairs at the southwestern side of the building have only one handrail. Future renovation efforts should include comprehensive stair railing upgrades.

Specific Project Details

Facility Condition Assessment

Section Three

Project Cost

Project Number: BIOTAC01

Task Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Wall-mounted handrail system per floor	FLR	3	$642	$1,927	$584	$1,752	$3,679
Freestanding handrail system	LF	10	$102	$1,022	$168	$1,682	$2,704
	Project Totals:			**$2,949**		**$3,433**	**$6,382**

Material/Labor Cost		$6,382
Material Index		100.70
Labor Index		51.30
Material/Labor Indexed Cost		$4,731
General Contractor Mark Up at 20.0%	+	$946
Inflation	+	$0
Construction Cost		$5,677
Professional Fees at 16.0%	+	$908
Total Project Cost		**$6,585**

Specific Project Details

Facility Condition Assessment

Section Three

Project Description

Project Number:	BIOTAC02	**Title:**	KITCHENETTE ACCESSIBILITY UPGRADES
Priority Sequence:	2		
Priority Class:	3		
Category Code:	AC4A	**System:**	ACCESSIBILITY
		Component:	GENERAL
		Element:	FUNCTIONAL SPACE MOD.
Building Code:	BIOT		
Building Name:	BIOTECHNOLOGY BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG 804		

Project Class:	Plant Adaption
Project Date:	05/28/2015
Project Location:	Room 120 Room Only: Floor(s) 1

Project Description

The break room kitchenette lacks under-counter wheelchair access. The installation of wheelchair accessible kitchenette cabinetry is recommended.

Specific Project Details

Facility Condition Assessment

Section Three

Project Cost

Project Number: BIOTAC02

Task Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
ADA compliant kitchenette unit with base cabinetry, overhead cabinetry, and amenities	EA	1	$5,849	$5,849	$2,046	$2,046	$7,896
	Project Totals:			**$5,849**		**$2,046**	**$7,896**

Material/Labor Cost		$7,896
Material Index		100.70
Labor Index		51.30
Material/Labor Indexed Cost		$6,940
General Contractor Mark Up at 20.0%	+	$1,388
Inflation	+	$0
Construction Cost		$8,328
Professional Fees at 16.0%	+	$1,332
Total Project Cost		**$9,660**

Specific Project Details

Facility Condition Assessment

Section Three

Project Description

Project Number:	BIOTAC03	**Title:**	DUAL LEVEL DRINKING FOUNTAIN UPGRADE
Priority Sequence:	3		
Priority Class:	3		
Category Code:	AC3F	**System:**	ACCESSIBILITY
		Component:	INTERIOR PATH OF TRAVEL
		Element:	DRINKING FOUNTAINS
Building Code:	BIOT		
Building Name:	BIOTECHNOLOGY BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG 211, 602		
Project Class:	Plant Adaption		
Project Date:	05/28/2015		
Project Location:	Undefined: Floor(s) 1,G		

Project Description

The single level drinking fountains with bottle filler stations do not comply with current ADA requirements. Replacement of these drinking fountains with dual level units is recommended. The construction of alcoves may be required.

Specific Project Details

Facility Condition Assessment

Section Three

Project Cost

Project Number: BIOTAC03

Task Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Alcove construction	EA	2	$983	$1,967	$4,197	$8,395	$10,361
Dual level drinking fountain	EA	2	$1,364	$2,728	$419	$839	$3,567
	Project Totals:			**$4,695**		**$9,233**	**$13,928**

Material/Labor Cost		$13,928
Material Index		100.70
Labor Index		51.30
Material/Labor Indexed Cost		$9,464
General Contractor Mark Up at 20.0%	+	$1,893
Inflation	+	$0
Construction Cost		$11,357
Professional Fees at 16.0%	+	$1,817
Total Project Cost		**$13,174**

Specific Project Details

Facility Condition Assessment

Section Three

Project Description

Project Number:	BIOTHV01	**Title:**	UPGRADE EXHAUST AIR UNITS
Priority Sequence:	4		
Priority Class:	3		
Category Code:	HV4B	**System:**	HVAC
		Component:	AIR MOVING/VENTILATION
		Element:	EXHAUST FANS
Building Code:	BIOT		
Building Name:	BIOTECHNOLOGY BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Plant Adaption		
Project Date:	03/16/2015		
Project Location:	Floor-wide: Floor(s) R		

Project Description

To meet modern requirements for CDC and NIH research, replacement of the EAUs on the roof will require many upgrades. This includes larger motors to vent the exhaust the required distance above the building. Larger motors, in turn, will require larger conduit and electrical panels. Modern HEPA filters are also included.

Specific Project Details

Facility Condition Assessment

Section Three

Project Cost

Project Number: BIOTHV01

Task Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Cost difference for installing larger exhaust fan motor, including rewiring, larger circuit breaker and panels	EA	2	$45,000	$90,000	$1,800	$3,600	$93,600
Installation of HEPA filtration system	EA	2	$95,000	$190,000	$3,500	$7,000	$197,000
	Project Totals:			**$280,000**		**$10,600**	**$290,600**

Material/Labor Cost		$290,600
Material Index		100.70
Labor Index		51.30
Material/Labor Indexed Cost		$287,398
General Contractor Mark Up at 20.0%	+	$57,480
Inflation	+	$0
Construction Cost		$344,877
Professional Fees at 16.0%	+	$55,180
Total Project Cost		**$400,058**

Specific Project Details

Facility Condition Assessment

Section Three

Project Description

Project Number:	BIOTEL01	**Title:**	ADD EXTERIOR LIGHTING
Priority Sequence:	5		
Priority Class:	3		
Category Code:	EL4A	**System:**	ELECTRICAL
		Component:	DEVICES AND FIXTURES
		Element:	EXTERIOR LIGHTING
Building Code:	BIOT		
Building Name:	BIOTECHNOLOGY BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Plant Adaption		
Project Date:	03/16/2015		
Project Location:	Area Wide: Floor(s) G		

Project Description

It is recommended that additional exterior lighting be installed to illuminate the north and west entrances. During the inspection, these doors were lacking an exterior light fixture. Place all new exterior lighting systems on photocell activation.

Specific Project Details

Facility Condition Assessment

Section Three

Project Cost

Project Number: BIOTEL01

Task Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
HID wall-mount fixture	EA	2	$349	$699	$326	$653	$1,352
Project Totals:				**$699**		**$653**	**$1,352**

Material/Labor Cost		$1,352
Material Index		100.70
Labor Index		51.30
Material/Labor Indexed Cost		$1,039
General Contractor Mark Up at 20.0%	+	$208
Inflation	+	$0
Construction Cost		$1,246
Professional Fees at 16.0%	+	$199
Total Project Cost		**$1,446**

FACILITY CONDITION ASSESSMENT

SECTION 4

LIFECYCLE COMPONENT INVENTORY

Asset Component Inventory

BIOT : BIOTECHNOLOGY BUILDING

Uni-format	Component Description	Identifier	Qty	Units	Unit Cost	Cmplx Adj	Total Cost	Install Date	Life Exp	Lf Adj
B2010	WALL, EXTERIOR, MASONRY POINTING		11,420	SF	$5.02	1.12	$64,187	1988	30	
B2010	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD		1,920	SF	$120.38	1.12	$258,870	1988	40	-8
B2010	GLASS, CURTAIN WALL, STANDARD	STOREFRONT	450	SF	$142.63	1.12	$71,884	1988	60	
B2030	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	BRIDGE	1	LEAF	$1,680.78		$1,681	1988	40	
B2030	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	SECONDARY	3	LEAF	$1,680.78		$5,042	1988	40	
B2030	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	MAIN	2	LEAF	$3,077.90		$6,156	1988	25	5
B2030	DOOR OPERATOR, POWER-ASSIST	MAIN ENTRY	1	EA	$7,152.95		$7,153	1988	20	10
B3010	ROOF - BITUMINOUS, 2-PLY, SBS MODIFIED BITUMEN, MOP		7,100	SF	$4.58		$32,498	2014	20	
B3010	ROOF GUTTER AND LEADER - ALUMINUM OR GALVANIZED, COATED		25	LF	$12.66		$317	2014	20	
C1020	DOOR AND FRAME, INTERIOR, NON-RATED		83	LEAF	$1,747.12		$145,011	1988	40	
C1020	DOOR AND FRAME, INTERIOR, FIRE-RATED		157	LEAF	$3,109.63		$488,212	1988	40	
C1020	DOOR LOCK, COMMERCIAL-GRADE		245	EA	$605.80		$148,421	1988	20	10
C1030	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	BREAK ROOM	20	EA	$10,177.31		$203,546	1988	20	10
C1030	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	LAB SPACES	4,000	SF	$120.30	0.60	$288,718	1988	40	
C1030	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	LAB SPACES	2,000	SF	$120.30	0.60	$144,359	1992	40	
C1030	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	LAB SPACES	2,000	SF	$120.30	0.60	$144,359	2000	40	
C3010	WALL FINISH - PAINT, STANDARD		83,410	SF	$1.50		$124,995	1988	12	20
C3010	WALL FINISH - TILE, CERAMIC / STONE, STANDARD		9,270	SF	$30.18		$279,796	1988	30	
C3020	FLOORING - CARPET, TILE OR ROLL, STANDARD		7,180	SF	$10.25		$73,572	2010	12	
C3020	FLOORING - VINYL COMPOSITION TILE, STANDARD		5,980	SF	$4.97		$29,710	1988	20	10
C3020	FLOORING - VINYL COMPOSITION TILE, STANDARD		5,980	SF	$4.97		$29,710	2010	20	
C3020	FLOORING - VINYL SHEET, STANDARD		2,390	SF	$8.40		$20,073	1988	15	16

Asset Component Inventory

BIOT : BIOTECHNOLOGY BUILDING

Uni-format	Component Description	Identifier	Qty	Units	Unit Cost	Cmplx Adj	Total Cost	Install Date	Life Exp	Lf Adj
C3020	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD		1,200	SF	$23.97		$28,765	2000	30	
C3020	FLOORING - LAMINATE PLANK, STANDARD		1,200	SF	$6.43		$7,714	2010	15	
C3030	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD		19,140	SF	$7.64		$146,323	1988	30	
C3030	CEILING FINISH - PAINTED OR STAINED, STANDARD		2,390	SF	$1.50		$3,582	1988	24	5
D1010	ELEVATOR MODERNIZATION - HYDRAULIC		2	EA	$228,855.19		$457,710	1988	25	1
D1010	ELEVATOR CAB RENOVATION - PASSENGER		2	EA	$38,400.32		$76,801	1988	12	14
D2010	PLUMBING FIXTURE - LAVATORY, COUNTER	LAB	4	EA	$1,062.96		$4,252	1988	35	
D2010	PLUMBING FIXTURE - LAVATORY, COUNTER	CLINIC	38	EA	$1,062.96		$40,392	1988	35	
D2010	PLUMBING FIXTURE - LAVATORY, WALL HUNG	CLINIC	4	EA	$1,078.41		$4,314	1988	35	
D2010	PLUMBING FIXTURE - SINK, KITCHEN	LAB	1	EA	$1,780.26		$1,780	1988	35	
D2010	PLUMBING FIXTURE - SINK, KITCHEN	CLINIC	1	EA	$1,780.26		$1,780	1988	35	
D2010	PLUMBING FIXTURE - SINK, LABORATORY-USE	LAB	54	EA	$2,547.52		$137,566	1988	35	
D2010	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	LAB	2	EA	$1,468.86		$2,938	1988	35	
D2010	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	CLINIC	1	EA	$1,468.86		$1,469	1988	35	
D2010	PLUMBING FIXTURE - URINAL	LAB	1	EA	$1,722.47		$1,722	1988	35	
D2010	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	LAB	5	EA	$1,606.00		$8,030	1988	35	
D2010	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	CLINIC	3	EA	$1,606.00		$4,818	1988	35	
D2010	PLUMBING FIXTURE - EMERGENCY EYEWASH	LAB	14	EA	$3,918.51		$54,859	1988	35	
D2010	PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH	LAB	1	EA	$6,696.75		$6,697	1988	35	
D2020	BACKFLOW PREVENTER (3-4 INCHES)	BFP-001 DW	1	EA	$7,406.90		$7,407	1988	10	17
D2020	BACKFLOW PREVENTER (3-4 INCHES)	FIRE SUPPRSN	1	EA	$7,406.90		$7,407	1988	10	17
D2020	SUPPLY PIPING SYSTEM - LABORATORY, WET	LAB	14,076	SF	$9.78	1.18	$162,399	1988	35	2
D2020	SUPPLY PIPING SYSTEM - MEDICAL CLINIC	CLINIC	14,076	SF	$5.48	1.18	$91,056	1988	35	2

Asset Component Inventory

BIOT : BIOTECHNOLOGY BUILDING

Uni-format	Component Description	Identifier	Qty	Units	Unit Cost	Cmplx Adj	Total Cost	Install Date	Life Exp	Lf Adj
D2020	WATER HEATER - SHELL & TUBE (105-400 GPM)	FLO-RITE	140	GPM	$363.93		$50,950	2005	30	
D2020	WATER HEATER - SHELL & TUBE (105-400 GPM)	FLO-RITE	140	GPM	$363.93		$50,950	2005	30	
D2030	DRAIN PIPING SYSTEM - LABORATORY, WET	LAB	14,076	SF	$14.85	1.18	$246,621	1988	40	-3
D2030	DRAIN PIPING SYSTEM - MEDICAL CLINIC	CLINIC	14,076	SF	$8.33	1.18	$138,439	1988	40	
D2030	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)	PMP-006	1	EA	$538.86		$539	1988	20	6
D3040	AIR HANDLING UNIT - INDOOR (12-17 HP)	POPC-AHU-001	15	HP	$5,893.14		$88,397	1988	25	3
D3040	AIR HANDLING UNIT - INDOOR (35-45 HP)	AHU-001	40	HP	$4,842.68		$193,707	1988	25	3
D3040	FAN - AXIAL, SUPPLY, 2.5" SP (7.5-10 HP) 15,600 CFM	POPC-SAF-001 MUA	10	HP	$1,629.76		$16,298	1988	20	8
D3040	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	EAF-006	1	EA	$4,953.73		$4,954	2008	20	
D3040	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	EAF-005	1	EA	$4,953.73		$4,954	1988	20	6
D3040	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	ROOF	1	EA	$4,953.73		$4,954	1988	20	6
D3040	FAN - PROPELLER WITH LOUVER, 1/4" SP (2-4 HP)	EAF-007	3	HP	$1,230.17		$3,691	1988	20	6
D3040	FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)	ROOF - HRS	8	HP	$3,859.32		$30,875	1988	20	8
D3040	FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)	ROOF - HRS	15	HP	$3,859.32		$57,890	1988	20	8
D3040	HOOD, FUME		50	LF	$1,903.09		$95,154	1988	20	6
D3040	HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	LAB	14,076	SF	$58.08	1.18	$964,728	1988	40	-10
D3040	HVAC DISTRIBUTION NETWORKS - MEDICAL CLINIC	CLINIC	14,076	SF	$20.76	1.18	$344,773	1988	40	
D3040	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	HEX-001	280	GPM	$124.47		$34,852	1988	35	
D3040	PRESSURE REDUCING VALVE, STEAM SYSTEM (4")	PRV	1	EA	$8,323.56		$8,324	1988	20	6
D3040	PUMP - ELECTRIC (<=10 HP)	PMP-001	3	HP	$1,320.68		$3,962	1988	25	3
D3040	PUMP - ELECTRIC (<=10 HP)	PMP-002	3	HP	$1,320.68		$3,962	1988	25	3
D3040	PUMP - ELECTRIC (<=10 HP)	CHW PUMP	8	HP	$1,320.68		$10,565	1988	25	3
D3040	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	ROOM 003	3	HP	$6,311.39		$18,934	1988	20	9

Asset Component Inventory

BIOT : BIOTECHNOLOGY BUILDING

Uni-format	Component Description	Identifier	Qty	Units	Unit Cost	Cmplx Adj	Total Cost	Install Date	Life Exp	Lf Adj
D3060	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (>10 TOTAL HP)	ROOM 003	15	HP	$1,581.49		$23,722	1988	20	6
D3060	HVAC CONTROLS SYSTEM - LABORATORY, WET	LAB	14,076	SF	$9.37	1.18	$155,655	1988	18	8
D3060	HVAC CONTROLS SYSTEM - MEDICAL CLINIC	CLINIC	14,076	SF	$3.61	1.18	$59,954	1988	18	8
D4010	FIRE SPRINKLER SYSTEM		28,152	SF	$9.47	1.07	$285,278	1988	80	
D4030	EXIT SIGN - CENTRAL POWER		30	EA	$253.10		$7,593	1988	20	7
D4030	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	4010U, RM 003	1	EA	$29,281.79		$29,282	2008	15	2
D4030	FIRE ALARM SYSTEM - DEVICES		28,152	SF	$3.21	1.07	$96,784	2008	18	
D5010	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (<=400A) W/STARTERS	MCC G	5	EA	$51,628.18	0.25	$64,535	1988	25	1
D5010	ELECTRICAL DISTRIBUTION NETWORK - LABORATORY, WET	LAB	14,076	SF	$18.37	1.18	$305,126	1988	40	
D5010	ELECTRICAL DISTRIBUTION NETWORK - MEDICAL CLINIC	CLINIC	14,076	SF	$14.94	1.18	$248,160	1988	40	
D5010	MAIN SWITCHBOARD W/BREAKERS (>2500 AMP)	120V	3,000	AMP	$69.03		$207,097	1988	20	7
D5010	TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY (300-500 KVA)	120V	500	KVA	$119.67		$59,834	1988	35	
D5010	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	HEAT RECOVERY	8	HP	$504.99		$4,040	2007	12	
D5010	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	POPC-AHU-001	10	HP	$418.99		$4,190	2007	12	
D5010	VARIABLE FREQUENCY DRIVE (10-15 HP)	HEAT RECOVERY	15	HP	$323.17		$4,848	2007	12	
D5010	VARIABLE FREQUENCY DRIVE (30-40 HP)	VSD-001	40	HP	$227.21		$9,088	2007	16	
D5020	LIGHTING - EXTERIOR, POST LANTERN, (INC, CFL, LED) RES		4	EA	$480.09		$1,920	1988	15	11
D5020	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)		3	EA	$181.79		$545	1988	15	11
D5020	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)		2	EA	$761.55		$1,523	1988	15	11
D5020	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)	NEW	2	EA	$761.55		$1,523	2008	15	3
D5020	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	LAB	14,076	SF	$8.02	1.18	$133,220	1988	20	6
D5020	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	CLINIC	14,076	SF	$4.30	1.18	$71,490	1988	20	6
D5090	GENERATOR - DIESEL (<30-100KW)	EMG-001	100	KW	$859.04		$85,904	2008	25	
D5090	SWITCH - AUTO TRANSFER, 208 OR 240 V (>100 AMP)	TSW-ATS1	420	AMP	$23.68		$9,948	1988	25	1

Asset Component Inventory

BIOT : BIOTECHNOLOGY BUILDING

Uni-format	Component Description	Identifier	Qty	Units	Unit Cost	Cmplx Adj	Total Cost	Install Date	Life Exp	Lf Adj
E1020	WALK-IN REFRIGERATOR OR FREEZER STRUCTURE	ROOM 138	120	SF	$279.80	1.18	$39,620	1988	35	2
E1020	REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	ROOM 138	1	EA	$7,916.69		$7,917	1988	10	17
G2020	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE		3,000	SY	$2.76		$8,282	1988	7	24
G2030	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE		250	LF	$3.63		$908	1988	7	28
G2030	BRICK PAVERS		800	SF	$15.64		$12,509	1988	25	12
							$8,147,015			

Recurring Component Renewal Schedule

BIOT : BIOTECHNOLOGY BUILDING

Uniformat Code	Component Description		Qty	Units	DM Replacement Cost	Year
D1010	ELEVATOR MODERNIZATION - HYDRAULIC		2	EA	$457,710	DM
D1010	ELEVATOR CAB RENOVATION - PASSENGER		2	EA	$76,801	DM
D2030	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)	PMP-006	1	EA	$539	DM
D3040	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	EAF-005	1	EA	$4,954	DM
D3040	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (20"-22" DIAMETER)	ROOF	1	EA	$4,954	DM
D3040	FAN - PROPELLER WITH LOUVER, 1/4" SP (2-4 HP)	EAF-007	3	HP	$3,691	DM
D3040	HOOD, FUME		50	LF	$95,154	DM
D3040	PRESSURE REDUCING VALVE, STEAM SYSTEM (4")	PRV	1	EA	$8,324	DM
D3060	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (>10 TOTAL HP)	ROOM 003	15	HP	$23,722	DM
D3060	HVAC CONTROLS SYSTEM - LABORATORY, WET	LAB	14,076	SF	$155,655	DM
D3060	HVAC CONTROLS SYSTEM - MEDICAL CLINIC	CLINIC	14,076	SF	$59,954	DM
D5010	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (<=400A) W/STARTERS	MCC G	5	EA	$64,535	DM
D5020	LIGHTING - EXTERIOR, POST LANTERN, (INC, CFL, LED) RES		4	EA	$1,920	DM
D5020	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)		3	EA	$545	DM
D5020	LIGHTING - EXTERIOR, WALL FLOOD (SV, MH, ID, LED)		2	EA	$1,523	DM
D5020	LIGHTING SYSTEM, INTERIOR - LABORATORY, WET	LAB	14,076	SF	$133,220	DM
D5020	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	CLINIC	14,076	SF	$71,490	DM

All costs shown as Future Value assuming a 3.00% average inflation rate

Recurring Component Renewal Schedule

D5090	SWITCH - AUTO TRANSFER, 208 OR 240 V (>100 AMP)	TSW-ATS1	420	AMP	$9,948	DM

Deferred Maintenance Cost for Asset No. BIOT **$1,174,638**

Uniformat Code	Component Description		Qty	Units	2015 Replacement Cost	Year
D2020	BACKFLOW PREVENTER (3-4 INCHES)	BFP-001 DW	1	EA	$7,407	2015
D2020	BACKFLOW PREVENTER (3-4 INCHES)	FIRE SUPPRSN	1	EA	$7,407	2015
E1020	REFRIGERATION SYSTEM - WALK-IN, 2 EVAP FANS, 6700 BTUH, CONDENSER	ROOM 138	1	EA	$7,917	2015
D5010	MAIN SWITCHBOARD W/BREAKERS (>2500 AMP)	120V	3,000	AMP	$207,097	2015
D4030	EXIT SIGN - CENTRAL POWER		30	EA	$7,593	2015

Projected Component Replacement Cost for Asset No. BIOT for 2015 **$237,420**

Uniformat Code	Component Description		Qty	Units	2016 Replacement Cost	Year
D3040	AIR HANDLING UNIT - INDOOR (12-17 HP)	POPC-AHU-001	15	HP	$91,049	2016
D3040	AIR HANDLING UNIT - INDOOR (35-45 HP)	AHU-001	40	HP	$199,518	2016
D3040	FAN - AXIAL, SUPPLY, 2.5" SP (7.5-10 HP) 15,600 CFM	POPC-SAF-001 MUA	10	HP	$16,787	2016
D3040	PUMP - ELECTRIC (<=10 HP)	PMP-001	3	HP	$4,081	2016
D3040	PUMP - ELECTRIC (<=10 HP)	PMP-002	3	HP	$4,081	2016
D3040	PUMP - ELECTRIC (<=10 HP)	CHW PUMP	8	HP	$10,882	2016
D3040	FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)	ROOF - HRS	8	HP	$31,801	2016
D3040	FAN - MIXED-FLOW, SHORT STACK, EXHAUST (<=30 HP)	ROOF - HRS	15	HP	$59,626	2016

Projected Component Replacement Cost for Asset No. BIOT for 2016 **$417,825**

Uniformat Code	Component Description		Qty	Units	2017 Replacement Cost	Year

All costs shown as Future Value assuming a 3.00% average inflation rate

Recurring Component Renewal Schedule

D3040	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	ROOM 003	3	HP	$20,087	2017
C3030	CEILING FINISH - PAINTED OR STAINED, STANDARD		2,390	SF	$3,800	2017

Projected Component Replacement Cost for Asset No. BIOT for 2017 **$23,887**

Uniformat Code	Component Description		Qty	Units	2018 Replacement Cost	Year
D3040	HVAC DISTRIBUTION NETWORKS - LABORATORY, WET	LAB	14,076	SF	$1,054,184	2018
C1030	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	BREAK ROOM	20	EA	$222,420	2018
B2030	DOOR AND STOREFRONT, EXTERIOR, SWINGING, ALUMINUM AND GLASS	MAIN	2	LEAF	$6,727	2018
B2030	DOOR OPERATOR, POWER-ASSIST	MAIN ENTRY	1	EA	$7,816	2018
C1020	DOOR LOCK, COMMERCIAL-GRADE		245	EA	$162,183	2018
B2010	WALL, EXTERIOR, MASONRY POINTING		11,420	SF	$70,138	2018
C3030	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD		19,140	SF	$159,891	2018
C3020	FLOORING - VINYL COMPOSITION TILE, STANDARD		5,980	SF	$32,465	2018
C3010	WALL FINISH - TILE, CERAMIC / STONE, STANDARD		9,270	SF	$305,741	2018

Projected Component Replacement Cost for Asset No. BIOT for 2018 **$2,021,567**

Uniformat Code	Component Description		Qty	Units	2019 Replacement Cost	Year
D5010	VARIABLE FREQUENCY DRIVE (5-7.5 HP)	HEAT RECOVERY	8	HP	$4,547	2019
D5010	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	POPC-AHU-001	10	HP	$4,716	2019
D5010	VARIABLE FREQUENCY DRIVE (10-15 HP)	HEAT RECOVERY	15	HP	$5,456	2019
C3020	FLOORING - VINYL SHEET, STANDARD		2,390	SF	$22,592	2019
G2020	ASPHALT VEHICULAR PAVING - SEALCOAT AND STRIPE		3,000	SY	$9,321	2019

Projected Component Replacement Cost for Asset No. BIOT for 2019 **$46,632**

All costs shown as Future Value assuming a 3.00% average inflation rate

Recurring Component Renewal Schedule

Uniformat Code	Component Description	Qty	Units	2020 Replacement Cost	Year
C3010	WALL FINISH - PAINT, STANDARD	83,410	SF	$144,903	2020
B2010	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD	1,920	SF	$300,101	2020
	Projected Component Replacement Cost for Asset No. BIOT for 2020			**$445,004**	

No Projected Component Replacement Cost for Asset No. BIOT for 2021

Uniformat Code	Component Description	Qty	Units	2022 Replacement Cost	Year
C3020	FLOORING - CARPET, TILE OR ROLL, STANDARD	7,180	SF	$90,485	2022
	Projected Component Replacement Cost for Asset No. BIOT for 2022			**$90,485**	

Uniformat Code	Component Description		Qty	Units	2023 Replacement Cost	Year
G2030	CONCRETE PEDESTRIAN PAVING - JOINT MAINTENANCE		250	LF	$1,150	2023
D5010	TRANSFORMER - OIL-FILLED, 3PH, 5-15KV PRIMARY (300-500 KVA)	120V	500	KVA	$75,796	2023
D5010	VARIABLE FREQUENCY DRIVE (30-40 HP)	VSD-001	40	HP	$11,513	2023
D3040	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	HEX-001	280	GPM	$44,149	2023
D2010	PLUMBING FIXTURE - LAVATORY, COUNTER	LAB	4	EA	$5,386	2023
D2010	PLUMBING FIXTURE - SINK, KITCHEN	LAB	1	EA	$2,255	2023
D2010	PLUMBING FIXTURE - SINK, LABORATORY-USE	LAB	54	EA	$174,265	2023
D2010	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	LAB	2	EA	$3,721	2023
D2010	PLUMBING FIXTURE - URINAL	LAB	1	EA	$2,182	2023
D2010	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	LAB	5	EA	$10,172	2023

All costs shown as Future Value assuming a 3.00% average inflation rate

Recurring Component Renewal Schedule

D2010	PLUMBING FIXTURE - EMERGENCY EYEWASH	LAB	14	EA	$69,494	2023
D2010	PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH	LAB	1	EA	$8,483	2023
D2010	PLUMBING FIXTURE - LAVATORY, COUNTER	CLINIC	38	EA	$51,168	2023
D2010	PLUMBING FIXTURE - LAVATORY, WALL HUNG	CLINIC	4	EA	$5,464	2023
D2010	PLUMBING FIXTURE - SINK, KITCHEN	CLINIC	1	EA	$2,255	2023
D2010	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	CLINIC	1	EA	$1,861	2023
D2010	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	CLINIC	3	EA	$6,103	2023

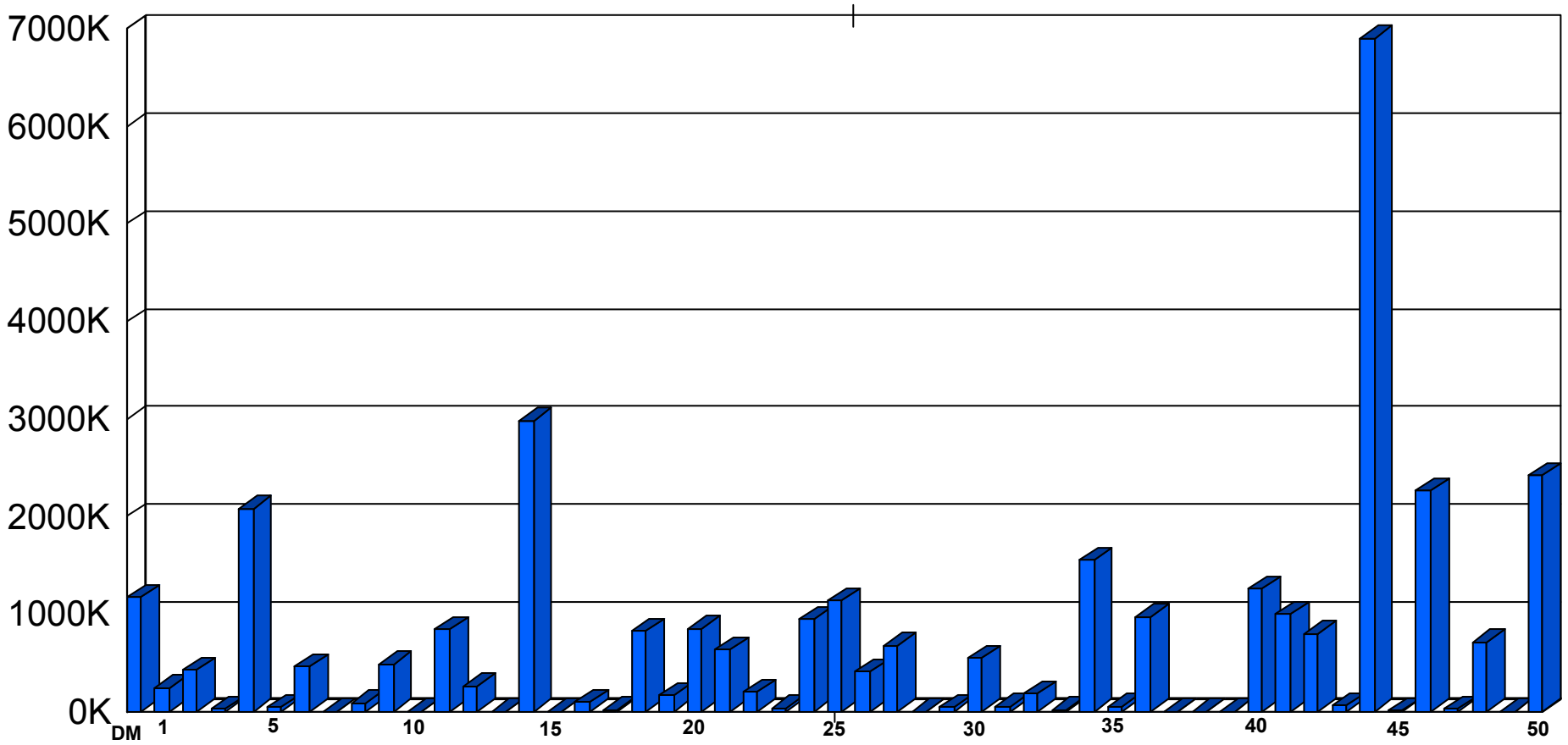
Projected Component Replacement Cost for Asset No. BIOT for 2023 **$475,419**

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

All costs shown as Future Value assuming a 3.00% average inflation rate

Recurring Component Expenditure Projections

BIOT : BIOTECHNOLOGY BUILDING



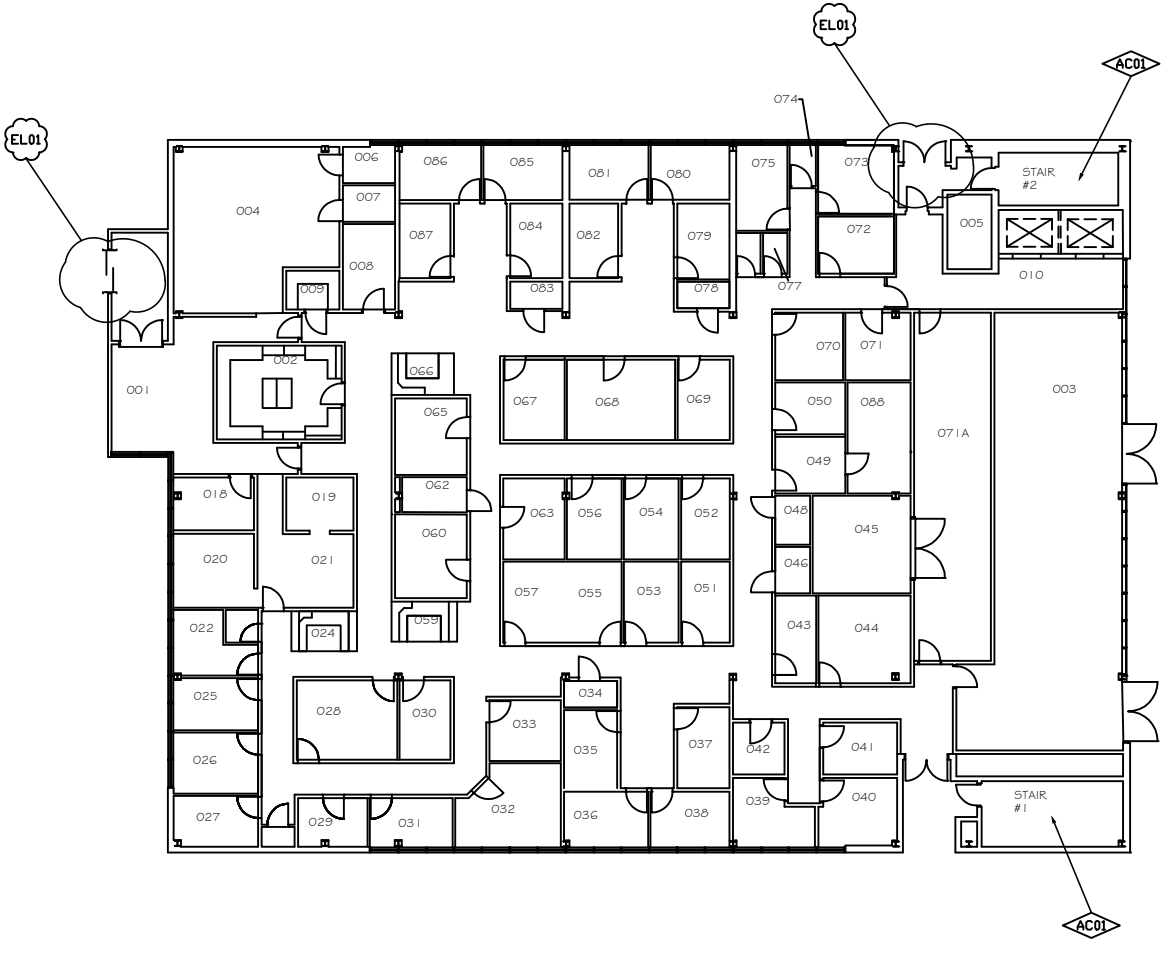
Average Annual Renewal Cost per SqFt $10.41

FACILITY CONDITION ASSESSMENT

SECTION 5

DRAWINGS/ PROJECT LOCATIONS

EAST CAROLINA UNIVERSITY



AC03

AC01 AC02

BIOTECHNOLOGY BUILDING

BLDG NO. BIOT

ISES CORPORATION

FACILITY CONDITION ANALYSIS

3100 Breckinridge Boulevard
Suite 400, Duluth GA 30096
770.879-7825

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

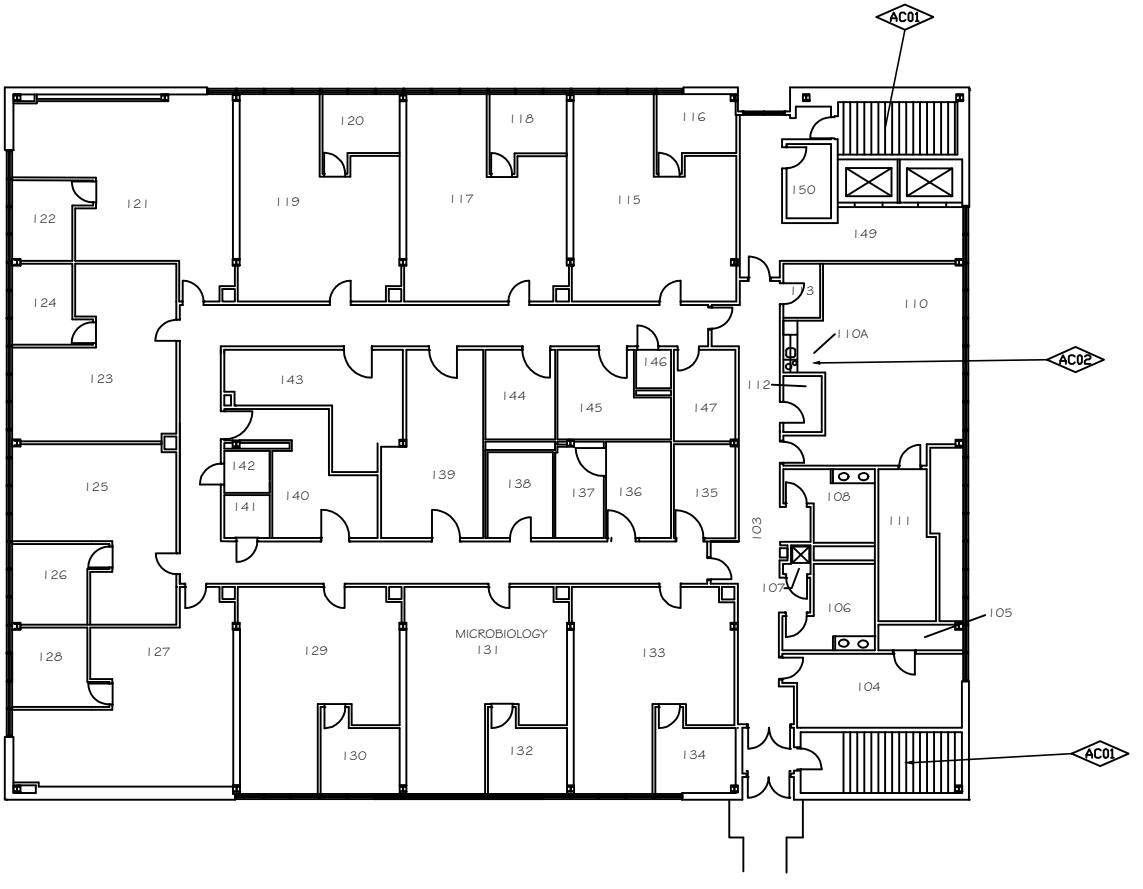
Date: 05/28/2015
Drawn by: T.C.
Project No. 15-003

GROUND FLOOR PLAN

Sheet No.
1 of 2

EAST CAROLINA UNIVERSITY

ROOF
HV01



AC03

AC01 AC02

BIOTECHNOLOGY BUILDING

BLDG NO. BIOT

ISES CORPORATION

FACILITY CONDITION ANALYSIS

3100 Breckinridge Boulevard
Suite 400, Duluth GA 30096
770.879-7825

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

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PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 05/28/2015
Drawn by: T.C.
Project No. 15-008

FIRST FLOOR PLAN

Sheet No.
2 of 2

SECTION 6

PHOTOGRAPHS

Photo ID No.	Description	Location	Date
BIOT001a	Void	Void	03/16/2015
BIOT001e	Centrifugal roof exhaust fan	Roof	03/16/2015
BIOT002a	Exterior signage	Site	03/16/2015
BIOT002e	Exhaust fan with heat recovery system	Roof	03/16/2015
BIOT003a	Newly installed built-up roof	Roof	03/16/2015
BIOT003e	Fluorescent light fixture	Stairwell	03/16/2015
BIOT004a	Roof drain	Roof	03/16/2015
BIOT004e	Exit sign	First floor corridor	03/16/2015
BIOT005a	Newly installed built-up roof	Roof	03/16/2015
BIOT005e	Lay-in fluorescent light fixture with dirty acrylic lens	First floor corridor	03/16/2015
BIOT006a	Asphalt parking area	Main Parking	03/16/2015
BIOT006e	Modern audible/visible fire device	First floor corridor	03/16/2015
BIOT007a	Asphalt parking area	Main Parking	03/16/2015
BIOT007e	Countertop lavatories	Men's restroom 108	03/16/2015
BIOT008a	Minor damage to the acoustical tile ceiling	Lobby	03/16/2015
BIOT008e	Urinal	Men's restroom 108	03/16/2015
BIOT009a	Newly installed carpet	Treatment lobby floor	03/16/2015
BIOT009e	Water closet	Men's restroom 108	03/16/2015
BIOT010a	Carpet and vinyl tile	Treatment lobby	03/16/2015
BIOT010e	Service sink	Room 107	03/16/2015
BIOT011a	Painted wall finish, 12x12 vinyl tile	Hallway from treatment lobby	03/16/2015
BIOT011e	Incandescent light fixture and sprinkler head	Room 107	03/16/2015
BIOT012a	Ceramic floor tile	Men's restroom	03/16/2015
BIOT012e	Kitchen sink and stove	Room 110A	03/16/2015
BIOT013a	Ceramic wall finish	Men's restroom	03/16/2015
BIOT013e	Fluorescent light fixtures in laboratory	Room 115	03/16/2015
BIOT014a	Exterior windows	Break room	03/16/2015
BIOT014e	Lab sink and emergency eyewash	Room 115	03/16/2015
BIOT015a	Kitchenette	Break room	03/16/2015
BIOT015e	Fume hood	Room 115	03/16/2015
BIOT016a	Lever actuated hardware and wood door	Hallway from break room	03/16/2015
BIOT016e	Concrete floor in autoclave room needed to be dug out to repair damaged drain piping	Room 143	03/16/2015

Photo ID No.	Description	Location	Date
BIOT017a	Assisted lab access door	Abandoned lab	03/16/2015
BIOT017e	1,000 amp secondary electrical panel	Room 142	03/16/2015
BIOT018a	Elevator call buttons	Elevator lobby	03/16/2015
BIOT018e	Combination eyewash and safety shower	First floor corridor	03/16/2015
BIOT019a	Elevator control panel	Elevator	03/16/2015
BIOT019e	Motor control center	Room 003	03/16/2015
BIOT020a	Painted walls and vinyl tile floor	Lab 115/116	03/16/2015
BIOT020e	ABB variable frequency drive for AHU-001	Room 003	03/16/2015
BIOT021a	Vinyl floor	Lab 115/116	03/16/2015
BIOT021e	3,000 amp Square D switchboard (120/208 V)	Room 003	03/16/2015
BIOT022a	Signage	Lab 115 116	03/16/2015
BIOT022e	Simplex 4010U fire alarm control panel	Room 003	03/16/2015
BIOT023a	12x12 vinyl tile	Lab	03/16/2015
BIOT023e	Generac automatic transfer switch	Room 003	03/16/2015
BIOT024a	Damaged acoustical tile ceiling	Lab	03/16/2015
BIOT024e	Steam coils and cooling coils going into AHU-001	Room 003	03/16/2015
BIOT025a	Lab cabinets and countertop	Lab	03/16/2015
BIOT025e	Original pneumatic controls	Room 003	03/16/2015
BIOT026a	Damaged lab cabinets	Lab	03/16/2015
BIOT026e	Air compressor for HVAC controls	Room 003	03/16/2015
BIOT027a	Signage package	Lab	03/16/2015
BIOT027e	Two heating hot water pumps	Room 003	03/16/2015
BIOT028a	Single level drinking fountain	Hallway near lab 115	03/16/2015
BIOT028e	Shell-and-tube heat exchanger	Room 003	03/16/2015
BIOT029a	Acoustical tile ceiling, vinyl tile floor, painted walls	Typical hallway	03/16/2015
BIOT029e	Condensate receiver	Room 003	03/16/2015
BIOT030a	Original lab cabinetry	Lab	03/16/2015
BIOT030e	Two Flo-Rite steam-fed heat exchangers for domestic hot water	Room 003	03/16/2015
BIOT031a	Acoustical tile ceiling, vinyl tile floor, painted walls	Hallway	03/16/2015
BIOT031e	Steam pressure reducing valves	Room 003	03/16/2015
BIOT032a	Partially ADA compliant handrail	Exit stair	03/16/2015
BIOT032e	7.5 hp chilled water pump	Room 003	03/16/2015

Photo ID No.	Description	Location	Date
BIOT033a	Materials stored under stairs	Exit stair	03/16/2015
BIOT033e	Through-wall exhaust fan (EAF-007)	Room 003	03/16/2015
BIOT034a	Signage	Room 071a	03/16/2015
BIOT034e	Sump pump	Room 003	03/16/2015
BIOT035a	Signage	Room 044	03/16/2015
BIOT035e	Fluorescent light fixtures in office	Room 041	03/16/2015
BIOT036a	Vinyl floor tile	Room 044	03/16/2015
BIOT036e	Typical exam room sink	Room 053	03/16/2015
BIOT037a	2x2 acoustical tile ceiling	Administrative office	03/16/2015
BIOT037e	10 hp Trane air handler (POPC-AHU-001)	Room 045	03/16/2015
BIOT038a	Single level drinking fountain	Hallway near administrative office	03/16/2015
BIOT038e	40 hp hydraulic pump for the passenger elevator	Room 005	03/16/2015
BIOT039a	Painted wall finish	Exam room	03/16/2015
BIOT039e	Entrance lacking an exterior light fixture	Northeast exterior	03/16/2015
BIOT040a	Water closet and lavatory	Unisex restroom in exam	03/16/2015
BIOT040e	Post-mounted light fixture	Northeast exterior	03/16/2015
BIOT041a	ADA compliant signage	Room 071a	03/16/2015
BIOT041e	Entrance lacking an exterior light fixture	Northwest exterior	03/16/2015
BIOT042a	Vinyl tile floor, painted walls, acoustical tile ceiling	Storage room	03/16/2015
BIOT042e	Recessed exterior light fixture along the ramp walkway	South exterior	03/16/2015
BIOT043a	Exterior window and brick finish	Exterior elevation	03/16/2015
BIOT043e	Ceiling-mounted HID exterior light fixture	South exterior	03/16/2015
BIOT044a	Double-pane, aluminum framed window	Exterior elevation	03/16/2015
BIOT044e	100 kW Caterpillar emergency generator	Southeast exterior	03/16/2015
BIOT045a	Exterior brick finish and double-pane, aluminum frame windows	Main entrance	03/16/2015
BIOT045e	500 kVA, oil-filled transformer (7200 to 120/208 volt)	Southeast exterior	03/16/2015
BIOT046a	Exterior brick finish and sidewalk	Exterior elevation	03/16/2015
BIOT047a	Exterior stairs with only one handrail	Exterior stairs	03/16/2015
BIOT048a	Brick pavers	Site	03/16/2015
BIOT049a	Exterior brick finish and double-pane, aluminum frame windows	Exterior elevation	03/16/2015
BIOT050a	Concrete sidewalk and brick pavers	Site	03/16/2015

Photo Log - Facility Condition Assessment
BIOT : BIOTECHNOLOGY BUILDING

Photo ID No.	Description	Location	Date
BIOT051a	Glass storefront	Main entrance	03/16/2015
BIOT052a	Laminate floor	Main lobby	03/16/2015
BIOT053a	Partially compliant curb ramp	Main entrance ADA parking	03/16/2015
BIOT054a	Exterior signage	Site	03/16/2015

Facility Condition Assessment - Photographs

BIOT001e.jpg

BIOT002a.jpg

BIOT002e.jpg

BIOT003a.jpg

BIOT003e.jpg

BIOT004a.jpg

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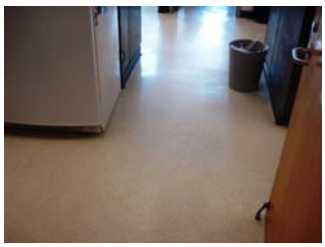

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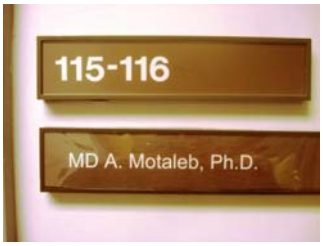

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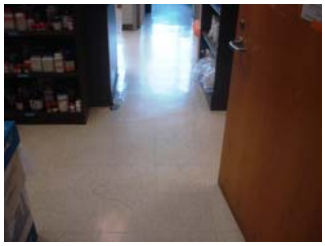

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