

EAST CAROLINA UNIVERSITY
BRODY MEDICAL SCIENCES BUILDING

ASSET CODE: BROD

FACILITY CONDITION ANALYSIS

DECEMBER 7, 2009



EAST CAROLINA UNIVERSITY
Facility Condition Analysis

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FACILITY CONDITION ANALYSIS

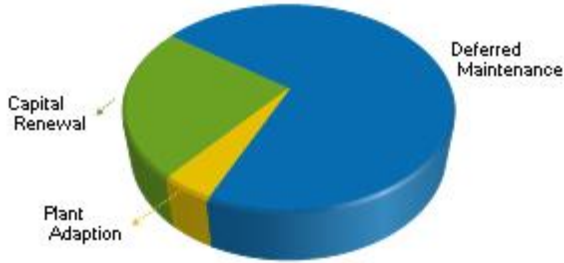
SECTION 1

GENERAL ASSET INFORMATION

EXECUTIVE SUMMARY - BRODY MEDICAL SCIENCES BUILDING

Building Code: BROD
Building Name: BRODY MEDICAL SCIENCES BUILDING
Year Built: 1982
Building Use: Laboratory
Square Feet: 480,279

PROJECT COSTS BY CLASSIFICATION

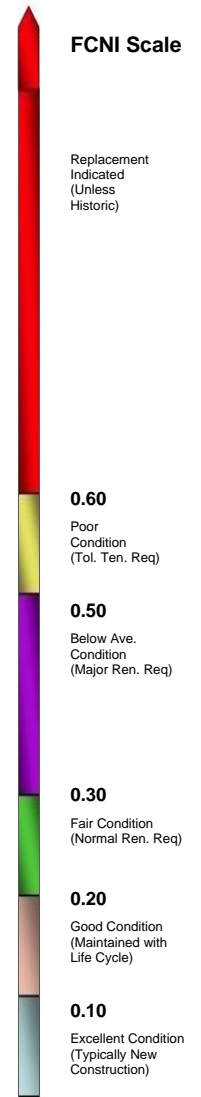


Project Costs by Priority

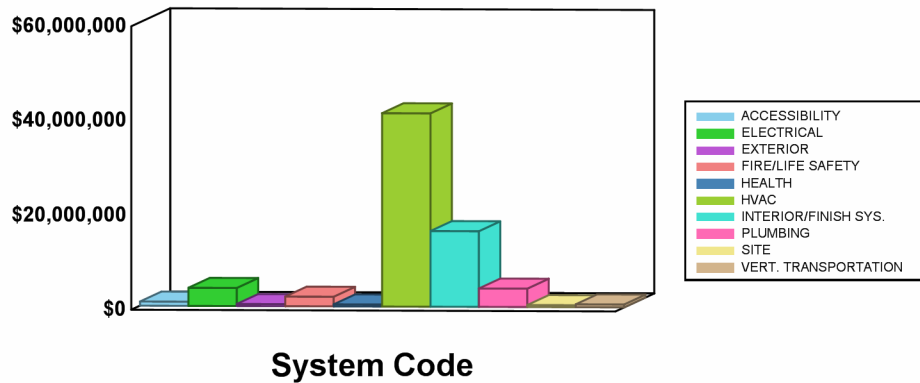
Priority 1: \$0
Priority 2: \$1,854,619
Priority 3: \$61,529,604
Priority 4: \$5,636,587
Total Project Costs: **\$69,020,811**

Facility Replacement Cost: **\$196,432,000**

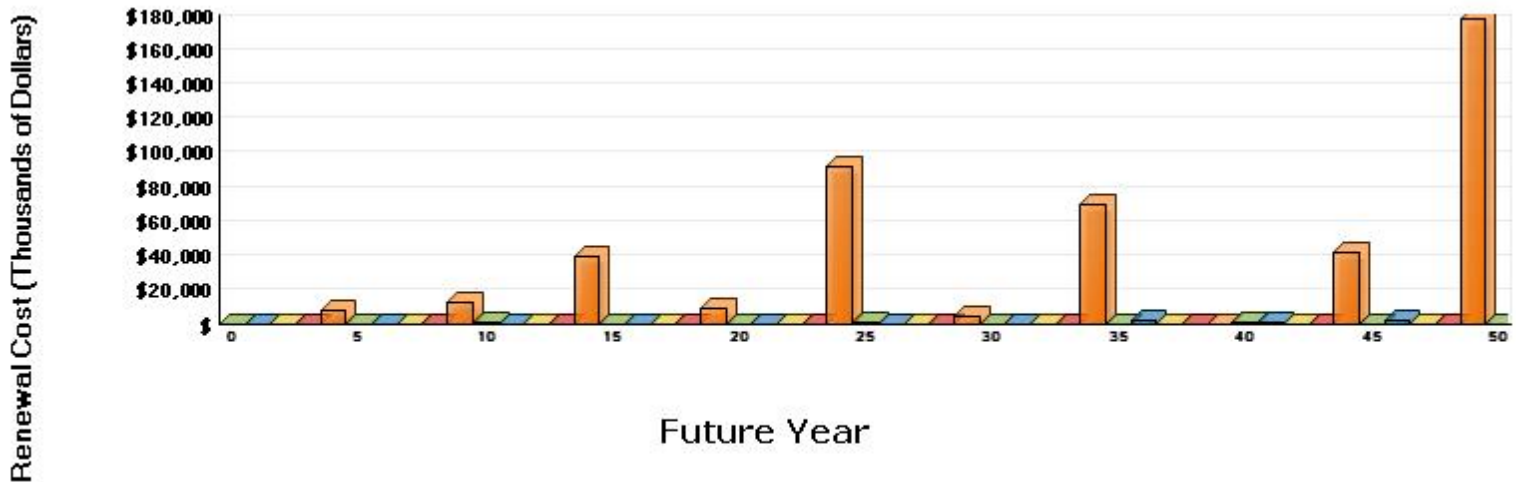
Facility Condition Needs Index (FCNI): 0.35
 (Project Costs / Replacement Cost)



PROJECT COSTS BY SYSTEM CODE



LIFE CYCLE MODEL EXPENDITURE PROJECTIONS



Average Annual Renewal Cost Per SqFt \$7.44

B. ASSET SUMMARY

Built in 1982, Brody Medical Science Building is a nine-story medical research laboratory. The facility also has a mechanical penthouse. In 1989, a three-story east wing was constructed to provide extra office and library space. A single story auditorium addition was also added to the south facade. The building is constructed of a precast concrete structure and cast-in-place floors on a poured basement foundation. The exterior finish consists of brick facades and single ply and built-up roof systems. The upper floors have lab and office areas. The third floor is similar, but has the addition of an office area at the east wing. The second floor consists of classrooms and an abandoned library area at the east wing. The first floor has administration areas, an outpatient area, auditorium, and the lower level of the library. The ground floor houses animal research, mechanical, and lab space. Brody Medical Science Building totals 480,279 square feet and is located at the Health Science Campus of East Carolina University in Greenville, North Carolina.

The information in this report was gathered during a site visit that concluded on August 31, 2009.

SITE

There is limited landscaping around this facility. The landscaping that does exist consists of grassy lawns, shrubs, and a few ornamental trees. Landscaping appears to be well maintained and should not need additional work in the next ten years.

Pedestrian paving systems are in overall poor condition and represent a liability to the owner. New systems, including excavation, grading, base compaction, and paving, are recommended. Vehicular paving systems are in fair condition and will need moderate upgrades.

EXTERIOR STRUCTURE

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

The upper roof system has been replaced within the last few years with a built-up roof. The lower level roofs have not been upgraded and remain single ply systems that are beyond their useful lives. It is recommended that the single ply membrane roofing systems be replaced. The existing stress conditions around the seams and at the perimeter flashing will lead to failure if left unattended. Replace the stressed roofs and flashing with similar applications. The replacement of the skylight systems is also warranted.

Primary exterior doors include metal-framed glass doors that are original to construction. It is recommended that aged and inefficient exterior door systems be replaced. This project includes only the primary entrance doors. The replacement units should maintain the architectural design aspects of this facility and be modern, energy-efficient applications. Painted metal secondary and service doors should

outlast the ten-year scope of this report. Exterior windows are dual pane units in metal frames that appear to be 1982 and 1989 vintage. The units are in good condition and should outlast the scope of this report.

INTERIOR FINISHES / SYSTEMS

Interior floor finishes include vinyl tile, carpet, and ceramic flooring. Wall finishes consist of painted plaster or concrete, and ceiling finishes include painted plaster or lay-in acoustical tile. These applications vary in age and condition from area to area. Floor, wall, and ceiling finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

The condition of the interior door systems is such that door system replacements are recommended as part of a comprehensive renovation effort. Complete demolition of existing door systems and replacement according to a code compliant plan to protect egress passages properly is recommended. Door hardware and proper signage should be included with this effort.

While some casework has been replaced in the building, the majority of the laboratory casework is in overall poor condition. Install new casework as part of a comprehensive laboratory renovation effort. The fixed seating in the various assembly areas is worn and should be upgraded. Replace this seating with new folding fixed seats in a similar row configuration. Ensure that ADA requirements are followed with the new seating layout.

ACCESSIBILITY

Access to the building is provided by several at-grade entrances. Once inside, seven passenger elevators provide access to the various levels. Select remodeling in the building, including parts of the outpatient area and the first floor administration area, have included accessible upgrades such as lever hardware, Braille signage, dual level drinking fountains, and accessible restrooms. Despite these limited upgraded areas, the majority of the building has amenities that do not meet modern accessible code. Several recommendations are made to upgrade amenities in the event of a major renovation. Non-compliant door hardware and signage should be replaced as part of a building-wide interior door upgrade recommended in the Interior Finishes / Systems section of this report.

Current accessibility legislation requires that building amenities be generally accessible to all persons. The configurations of the break room kitchenettes and drinking fountains are barriers to accessibility in some areas. The installation of wheelchair-accessible kitchenette cabinetry is recommended where applicable. All single level, refrigerated drinking fountains should be replaced with dual level units.

While select areas have been upgraded with accessible restrooms, most of the restrooms in the building are original. The fixtures are sound but dated and are spaced such that clearances are not ADA compliant. A comprehensive restroom renovation, including new fixtures, finishes, partitions, and accessories, is recommended. Restroom expansion may be necessary in order to meet modern minimum fixture counts and accessibility legislation.

The hallway emergency showers on select floors are located in stalls that have curbs. These curbs prevent wheelchair access and are barriers to accessibility. Modify the emergency showers to provide roll-in access.

HEALTH

There were no reports or evidence of any asbestos containing material or lead based paint. Environmental coolers were observed in the third through eighth floor research areas. These walk-in cold boxes are in service to support research functions in the laboratory areas of the facility. The mechanical components of these systems have been in service beyond their expected life cycles. It is recommended that they be replaced within the purview of this analysis.

FIRE / LIFE SAFETY

The paths of egress in this building are adequate in regard to fire rating. Interior doors are recommended for replacement with proper fire rating in mind. Current legislation regarding building accessibility by the handicapped 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. Code also requires that guardrailing be provided to ensure protection from objects passing through open areas. Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in outer handrail and guardrail design relative to current standards. The finishes on the stairs have also deteriorated or are otherwise unsafe. Future renovation efforts should include comprehensive stair railing and finish upgrades.

Fire and life safety protection within the structure is provided by an addressable fire alarm system assessed to have been upgrade in the mid-1990s. The fire alarm system is equipped with combination audible annunciators and opaque strobes as well as fire pulls. Approximately 30 percent of the original fire alarm devices have been upgraded, such as the xenon strobes. It is anticipated the fire alarm system will reach the end of its useful service life within the next five years, and complete system upgrade is recommended. Budgetary consideration is allocated for renewal of the fire alarm system for approximately 70 percent of the building footprint.

The auditorium area of the building is not protected by an automatic fire suppression system. Manual chemical fire extinguishers are available for immediate access. The remaining areas of the facility are protected by a comprehensive, automatic, wet-pipe fire suppression system equipped with fusible link type sprinkler heads. Water pressure within the fire suppression system is maintained by a timeworn, 125 horsepower, electric fire pump. Frangible glass bulb fire sprinkler heads were observed in select renovated areas. The statistical life cycle for a sprinkler head is approximately twenty years. During this time, scale can accumulate inside the head and cause it to malfunction when needed. It is recommended that the aging sprinkler heads be replaced to ensure that proper protection is available. Additionally, the project estimate includes the installation cost for a comprehensive fire suppression system in the unprotected areas of the facility and renewal of the original fire pump.

Emergency exits are indicated by modern LED type exit signs connected to the building emergency generator power network. The LED exit signs are in good condition and should remain serviceable for the purview of this report. The path of egress is illuminated by select interior light fixtures connected to the generator power. Based on the daytime inspection, the emergency egress illumination level was not easily identified. It is assumed that there is sufficient emergency egress lighting, since no deficiencies were reported.

HVAC

The primary heating medium is steam supplied from the central plant. The low pressure steam is reduced to heating hot water via a hot water heat exchanger located in mechanical room GS58. Base-mounted hot water pumps circulate the heating hot water to the various hot water reheat boxes and hot water heating coils. Steam condensate is returned to the central plant by aging condensate return units.

Chilled water is the primary cooling media and is also supplied from the central plant. Chilled water is circulated by two base-mounted, 75 horsepower chilled water pumps equipped with variable frequency drives (VFDs). The original heating and cooling equipment are anticipated to become maintenance intensive with age, and renewal is incorporated in the overall HVAC upgrade recommendation addressed below.

Air distribution throughout the structure is provided by original, constant and variable air volume (VAV) air handling units. Heat wheels are utilized as an energy conservation measure for the large built-up air handlers (AHU1, 2, and 3) located in the eighth floor mechanical room. The air handlers' supply and return fans are equipped with ABB VFDs. Building exhaust is provided by multiple centrifugal and utility exhaust fans of various ages and conditions. Building automation is provided by an outdated hybrid pneumatic Johnson Control Metasys system. With the exception of the new heat wheels, the majority of the mechanical systems have been in service since the early 1980s. A complete upgrade of the HVAC system is recommended within the next five years.

Approximately 120 fume hoods serve the research labs of this building. Undesirable fume hood particulates are exhausted by six new strobic exhaust fans that were installed in 2008. The fume hoods and their associated mechanical exhaust fans have been in service beyond their intended life cycles. It is recommended that they be replaced within the scope of this analysis. The cost estimate excludes a few fume hoods that were recently installed.

ELECTRICAL

High voltage from the utility company is reduced to 277/480 volt, three-phase building service via three liquid service entrance transformers located at the northeast corner of the building. The related 1,200 amp General Electric switchgears are located in mechanical room GS58. Based on historical life cycles, the switchgears have reached the end of their useful service life. Reliable power is a necessity in a research environment. Therefore, renewal is advised within the next five years.

Building mechanical equipment, lighting, and research equipment are connected to the 480/277 volt system. Secondary dry type transformers reduce the 480/277 volt primary to 120/208 volt secondary service. The building secondary electrical system is routed with vertical bus ducts. The electrical distribution network in this facility is in good operating condition. However, it is recommended that minor deficiencies in the electrical distribution network be rectified. Such remedies include, but are not limited to, installing additional circuits, replacing worn switches and receptacles, replacing circuit breakers, updating panel directories, and replacing original on-off switches with disconnect type circuit breakers on the motor control center located in mechanical room GS58.

Emergency power for this facility is provided by three diesel generators of various capacities and conditions. Generator #1 is an original 400 kW, diesel Caterpillar generator that was installed in 1979. In 1989, a 350 kW, Onan diesel generator was installed. Due to the on-going research, additional

emergency power was required. Therefore, a 600 kW diesel Caterpillar generator was installed in 1999. It is anticipated the generators #1 and #2 will reach the end of their useful service life within the next ten years, and renewal is recommended. Replace the 400 kW Caterpillar unit with a 600 kW generator.

The current lighting configuration for this facility consists of lay-in /surface-mounted, T8 and T12 fluorescent fixtures and incandescent fixtures. New lighting fixtures were observed in select renovated areas of the buildings such as the first floor administration area, Radiology, Isolation Examination, and the F Module in the outpatient area. Based on life cycle depletion, replacement of approximately 60 percent of the original interior fixtures is recommended. Select lamps with the same color temperature and rendering index for lighting uniformity. Install occupancy sensors in select areas for additional energy conservation.

The exterior areas adjacent to the building are illuminated by building-mounted high intensity discharge (HID) fixtures. These exterior light fixtures are currently in good condition. However, their replacement should be scheduled within the outlook of this report due to predictable wear. Install new energy-efficient fixtures, and place them on photocell activation.

PLUMBING

Potable water is supplied through a copper piping network. Sanitary and storm water is conveyed by cast-iron, no-hub piping construction with copper runouts. The drain piping network is adequate and does not currently require any projects. However, the supply piping network will require replacement within the scope of this analysis. The plumbing fixtures in the original portion of the facility are recommended for replacement. This action is detailed in the proposed restroom renovation. Additionally, the domestic booster system is original to the building construction. It is problematic, and replacement is recommended within the next three years.

Domestic water for this facility is heated by domestic hot water heat exchanger installed approximately in 2002. It is in good condition and should remain serviceable for the scope of this assessment. However, the original sump pump system located in mechanical room GS58 is at the end of its useful service life. Budgetary consideration is allocated for its renewal within the next five years.

Central compressed air and vacuum systems support building program processes. These systems are currently providing dependable service. However, it should be expected that they will require replacement within the scope of this report.

VERTICAL TRANSPORTATION

The University commissioned an outside contractor to perform an elevator condition study in 2009. The capital project recommendations from this study have been included as projects in the ISES database.

Note: The deficiencies outlined in this report were noted from a visual inspection. ISES engineers and architects developed projects with related costs that are needed over the next ten-year period to bring the facility to “like-new” condition. The costs developed do not represent the cost of a complete facility renovation. Soft costs not represented in this report include telecommunications, 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. However, existing fixed building components and systems were thoroughly inspected. The developed costs represent correcting existing deficiencies and anticipated life cycle failures (within a ten-year period) to bring the facility to modern standards without any anticipation of change to facility space layout or function. Please refer to Section Three of this report for recommended Specific Project Details.

C. INSPECTION TEAM DATA

DATE OF INSPECTION: August 31, 2009

INSPECTION TEAM PERSONNEL:

<u>NAME</u>	<u>POSITION</u>	<u>SPECIALTY</u>
Thomas Ferguson, AIA, LEED® AP	Project Architect	Interior Finishes / Exterior / ADA- Handicapped Accessibility / Site / Fire Safety / Life Safety / Health
Rob Gasaway, Q.E.I.	Facility Analyst	Interior Finishes / Exterior / ADA- Handicapped Accessibility / Site / Fire Safety / Life Safety / Health
John Holder, Q.E.I.	Project Engineer	Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health
Imelda Jordan	Project Engineer	Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health
James Lewis	Project Engineer	Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health
Carl Mason, PE, BSCP	Project Engineer	Interior Finishes / Exterior / ADA- Handicapped Accessibility / Site / Fire Safety / Life Safety / Health
Paul Southwell	Project Engineer	Mechanical / Electrical / Plumbing / Energy / Fire Safety / Life Safety / Health
Norm Teahan, RA, AIA, NCARB	Project Architect	Interior Finishes / Exterior / ADA- Handicapped Accessibility / Site / Fire Safety / Life Safety / Health

FACILITY CONTACTS:

<u>NAME</u>	<u>POSITION</u>
William Bagwell	Associate Vice Chancellor, Campus Operations

REPORT DEVELOPMENT:

Report Development by: ISES Corporation
2165 West Park Court
Suite N
Stone Mountain, GA 30087

Contact: Kyle Thompson, Project Manager
770-879-7376

D. FACILITY CONDITION ANALYSIS - DEFINITIONS

The following information is a clarification of Asset Report Sections using example definitions.

1. REPORT DESCRIPTION

Section 1: Asset Executive Summary, Asset Summary, and General Report Information

Section 2: Detailed Project Summaries and Totals

- A. Detailed Project Totals – Matrix with FCNI Data and Associated Charts
- B. Detailed Projects by Priority Class / Priority Sequence
- C. Detailed Projects by Cost within range [\$0 - < \$100,000]
- D. Detailed Projects by Cost within range [≥ \$100,000 - < \$500,000]
- E. Detailed Projects by Cost within range [≥ \$500,000]
- F. Detailed Projects by Project Classification
- G. Detailed Projects by Project Rating Type - Energy Conservation
- H. Detailed Projects by Category / System Code

FCNI = Facility Condition Needs Index, Total Cost vs. Replacement Cost. The FCNI provides a life cycle cost comparison. Facility replacement cost is based on replacement with current construction standards for 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.

$$\text{FCNI} = \frac{\text{Deferred Maintenance / Modernization} + \text{Capital Renewal} + \text{Plant Adaption}}{\text{Plant / Facility Replacement Cost}}$$

Section 3: Specific Project Details Illustrating Description / Cost

Section 4: Drawings with Iconography

The drawings for this facility are marked with ICONS (see legend), denoting the specific location(s) for each project. Within each ICON is the last four characters of the respective project number (e.g., 0001IS01 is marked on plan by IS01). There is one set of drawings marked with ICONS representing all priority classes (1, 2, 3, and 4).

Section 5: Life Cycle Model Summary and Projections

Section 6: Photographic Log

2. PROJECT CLASSIFICATION

- A. Plant / Program Adaption: Expenditures 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).
- B. Deferred Maintenance: Refers to expenditures for repairs which were not accomplished as a part of normal maintenance or capital repair which have accumulated to the point that facility deterioration is evident and 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 affect the needed repairs. Deferred maintenance projects represent catch up expenses.
- C. Capital Renewal: A subset of regular or normal facility maintenance which refers to major repairs or the replacement / rebuilding of major facility components (e.g., roof replacement at the end of its normal useful life is capital repair; roof replacement several years after its normal useful life is deferred maintenance).

3. PROJECT SUBCLASS TYPE

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

4. PRIORITY SEQUENCE BY PRIORITY CLASS (Shown in Sections 2 and 3)

All projects are assigned both a Priority Sequence number and Priority Class number for categorizing and sorting projects based on criticality and recommended execution order.

Example:

	<u>PRIORITY CLASS 1</u>	
CODE	PROJECT NO.	PRIORITY SEQUENCE
HV2C	0001HV04	01
PL1D	0001PL02	02

	<u>PRIORITY CLASS 2</u>	
CODE	PROJECT NO.	PRIORITY SEQUENCE
IS1E	0001IS06	03
EL4C	0001EL03	04

5. PRIORITY CLASS (Shown in Sections 2 and 3)

PRIORITY 1 - Currently Critical (Immediate)

Projects in this category require immediate action to:

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

PRIORITY 2 - Potentially Critical (Year One)

Projects in this category, if not corrected expeditiously, will become critical within a year. Situations in this category include:

- a. intermittent interruptions
- b. rapid deterioration
- c. potential safety hazards

PRIORITY 3 - Necessary - Not Yet Critical (Years Two to Five)

Projects in this category include conditions requiring appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

PRIORITY 4 - Recommended (Years Six to Ten)

Projects in this category include items that represent a sensible improvement to existing conditions. These items are not required for the most basic function of a facility; however, Priority 4 projects will either improve overall usability and / or reduce long-term maintenance.

6. COST SUMMARIES AND TOTALS

The cost summaries and totals are illustrated by Detailed Projects sorted in multiple formats (shown in Sections 2 and 3).

City Index material / labor cost factors: (shown in Sections 2 and 3)

Cost factors are based on the Greenville City Index and are adjusted for material and labor cost factors (2009). Refer to the project related labor report found later in this section.

Global Markup Percentages

R.S. MEANS

Local Labor Index:	51.3 %	of National Average
Local Materials Index:	100.7 %	of National average
General Contractor Markup:	20.0 %	Contractor profit & overhead, bonds & insurance
Professional Fees:	16.0 %	Arch. / Eng. Firm design fees and in-house design cost



7. PROJECT NUMBER (Shown in Sections 2 and 3)

Example:

Project Number = 0001-EL-04 (unique for each independent project)

- 0001 - Building Identification Number
- EL - System Code, EL represents Electrical
- 04 - Sequential Assignment Project Number by Category / System

8. PHOTO NUMBER (Shown in Section 6)

A code shown on the Photographic Log identifies the building number, photo sequence, and architect, engineer, or vertical transportation.

Example: 0001006e

<u>Building Number</u>	<u>Photo Sequence</u>	<u>Arch / Eng / VT</u>
0001	006	e

9. LIFE CYCLE COST MODEL DESCRIPTION AND DEFINITIONS (Shown in Section 5)

Included in this report is a Life Cycle Cost Model. This model consists of two elements, one is the component listing (starting on page 5.1.1) and the other is the Life Cycle Cost Projections Graph (page 5.2.1). The component list is a summary of all major systems and components within the facility. Each indicated component has the following associated information:

Uniformat Code	This is the standard Uniformat Code that applies to the component
Component Description	This line item describes the individual component
Qty	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)
Total Cost	Unit cost multiplied by Quantity, also in today's dollars. Note that this is a one time renewal / replacement cost
Install Date	Year that the component was installed. Where this data is not available, it defaults to the year the asset was constructed
Life Exp	Average life expectancy for each individual component

The component listing forms the basis for the Life Cycle Cost Projections Graph shown on page 5.2.1. This graph represents a projection over a fifty-year period (starting from the date the report is run) of expected component renewals based on each individual item's renewal cost and life span. Some components might require renewal several times within the fifty-year model, while others might not occur at all. Each individual component is assigned a renewal year based on life cycles, and the costs for each item are inflated forward to the appropriate year. The vertical bars shown on the graph represent the accumulated (and inflated) total costs for each individual year. At the bottom of the graph, the average annual cost per gross square foot (\$/GSF) is shown for the facility. In this calculation, all costs are not inflated. This figure can be utilized to assess the adequacy of existing capital renewal and repair budgets.

10. CATEGORY CODE (Shown in Sections 2 and 3)

Refer to the following Category Code Report.

Example: Category Code = EL5A

EL = System Description
5 = Component Description
A = Element Description

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

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
SYSTEM DESCRIPTION: ACCESSIBILITY			
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 ADA.
AC3E	INTERIOR PATH OF TRAVEL	RESTROOMS/BATHROOMS	Modifications to and installation of accessible public restrooms and bathrooms. Bathrooms, which 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, which are integral to efficiency suites, are catalogued here.
AC4B	GENERAL	OTHER	All accessibility issues not catalogued elsewhere.
SYSTEM DESCRIPTION: ELECTRICAL			
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 stepdown 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.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
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.
SYSTEM DESCRIPTION: EXTERIOR			
ES1A	FOUNDATION/FOOTING	STRUCTURE	Structural foundation improvements involving structural work on foundation wall/footing, piers, caissons, piles including crack repairs, shoring & 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 & 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 & 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 light wells, 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.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
ES6E	GENERAL	OTHER	Any exterior work not specifically categorized elsewhere including finish and structural work on freestanding boiler stacks.
SYSTEM DESCRIPTION: FIRE / LIFE SAFETY			
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 sprinklers type automatic fire suppressions including wet pipe & 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.
SYSTEM DESCRIPTION: HEALTH			
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.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
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.
SYSTEM DESCRIPTION: HVAC			
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 & 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	Replacement of HVAC control systems.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
		UPGRADE	
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, 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.
SYSTEM DESCRIPTION: INTERIOR FINISHES / SYSTEMS			
IS1A	FLOOR	FINISHES-DRY	R & R of carpet, hardwood strip flooring, concrete coating, vinyl linoleum & tile, marble, terrazzo, rubber flooring, 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 & 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	CABINETY	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 light wells, etc.
SYSTEM DESCRIPTION: PLUMBING			

CATEGORY CODE REPORT			
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, sanitary sewer systems; including combined systems.
PL4D	INFRASTRUCTURE	STORM WATER COLLECTION	Storm water collection systems, 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.
SYSTEM DESCRIPTION: SITE			
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.
SYSTEM DESCRIPTION: SECURITY SYSTEMS			
SS1A	LIGHTING	EXTERIOR	Fixtures, stanchions, foliage interference, cleanliness, locations, etc.

CATEGORY CODE REPORT			
CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
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.
SYSTEM DESCRIPTION: VERTICAL TRANSPORTATION			
VT1A	MACHINE ROOM	GENERAL	Machine, worm gear, thrust bearing, brake, motors, sheaves, generator, controller, selector, governor, pump(s), valves, oil, access, lighting, ventilation, 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, ventilation.
VT3A	HOISTWAY	GENERAL	Enclosure, fascia, interlock, doors, hangers, closers, sheaves, rails, hoistway switches, ropes, traveling cables, selector tape, weights, compensation.
VT4A	HALL FIXTURES	GENERAL	Operating panel, position indicator, hall buttons, lobby panel, hall lanterns, fire fighter service, audible signals, card/key access.
VT5A	PIT	GENERAL	Buffer(s), guards, sheaves, hydro packing, floor, lighting, safety controls.
VT6A	OPERATING CONDITIONS	GENERAL	Door open time, door close time, door thrust, acceleration, deceleration, leveling, dwell time, speed, OFR time, nudging.
VT7A	GENERAL	OTHER	General information/projects relating to vertical transportation system components.

FACILITY CONDITION ANALYSIS

SECTION 2

**DETAILED PROJECT SUMMARIES
AND TOTALS**

**Detailed Project Totals
 Facility Condition Analysis
 System Code by Priority Class
 BROD : BRODY MEDICAL SCIENCES BUILDING**

System Code	System Description	Priority Classes				Subtotal
		1	2	3	4	
AC	ACCESSIBILITY	0	0	0	887,670	887,670
EL	ELECTRICAL	0	0	3,831,634	0	3,831,634
ES	EXTERIOR	0	0	443,366	0	443,366
FS	FIRE/LIFE SAFETY	0	1,854,619	189,849	0	2,044,468
HE	HEALTH	0	0	0	196,130	196,130
HV	HVAC	0	0	40,935,442	0	40,935,442
IS	INTERIOR/FINISH SYS.	0	0	15,237,454	787,410	16,024,863
PL	PLUMBING	0	0	134,202	3,765,378	3,899,580
SI	SITE	0	0	138,352	0	138,352
VT	VERT. TRANSPORTATION	0	0	619,305	0	619,305
	TOTALS	0	1,854,619	61,529,604	5,636,587	69,020,811

Facility Replacement Cost	\$196,432,000
Facility Condition Needs Index	0.35

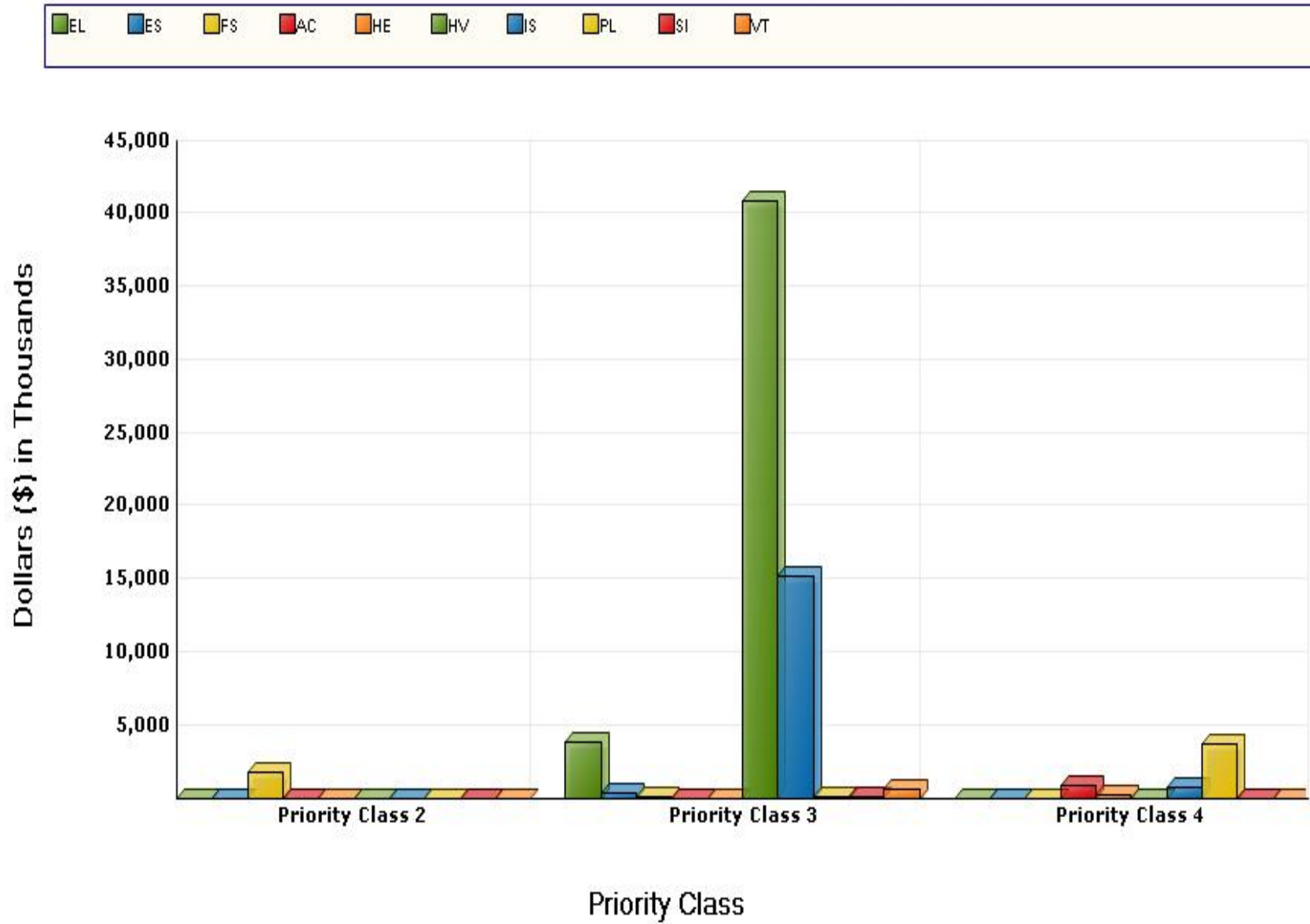
Gross Square Feet	480,279
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Total Cost Per Square Foot	\$143.71
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FACILITY CONDITION ANALYSIS

System Code by Priority Class

BROD : BRODY MEDICAL SCIENCES BUILDING



**Detailed Project Totals
 Facility Condition Analysis
 System Code by Project Class
 BROD : BRODY MEDICAL SCIENCES BUILDING**

System Code	System Description	Project Classes			Subtotal
		Capital Renewal	Deferred Maintenance	Plant Adaption	
AC	ACCESSIBILITY	0	0	887,670	887,670
EL	ELECTRICAL	312,879	3,518,755	0	3,831,634
ES	EXTERIOR	0	443,366	0	443,366
FS	FIRE/LIFE SAFETY	0	0	2,044,468	2,044,468
HE	HEALTH	196,130	0	0	196,130
HV	HVAC	0	40,935,442	0	40,935,442
IS	INTERIOR/FINISH SYS.	12,057,058	3,967,806	0	16,024,863
PL	PLUMBING	3,765,378	134,202	0	3,899,580
SI	SITE	138,352	0	0	138,352
VT	VERT. TRANSPORTATION	0	619,305	0	619,305
	TOTALS	16,469,797	49,618,876	2,932,138	69,020,811

Facility Replacement Cost	\$196,432,000
Facility Condition Needs Index	0.35

Gross Square Feet	480,279
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Total Cost Per Square Foot	\$143.71
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**Detailed Project Summary
 Facility Condition Analysis
 Project Class by Priority Class
 BROD : BRODY MEDICAL SCIENCES BUILDING**

Project Class	Priority Classes				Subtotal
	1	2	3	4	
Capital Renewal	0	0	11,720,879	4,748,917	16,469,797
Deferred Maintenance	0	0	49,618,876	0	49,618,876
Plant Adaption	0	1,854,619	189,849	887,670	2,932,138
TOTALS	0	1,854,619	61,529,604	5,636,587	69,020,811

Facility Replacement Cost	\$196,432,000
Facility Condition Needs Index	0.35

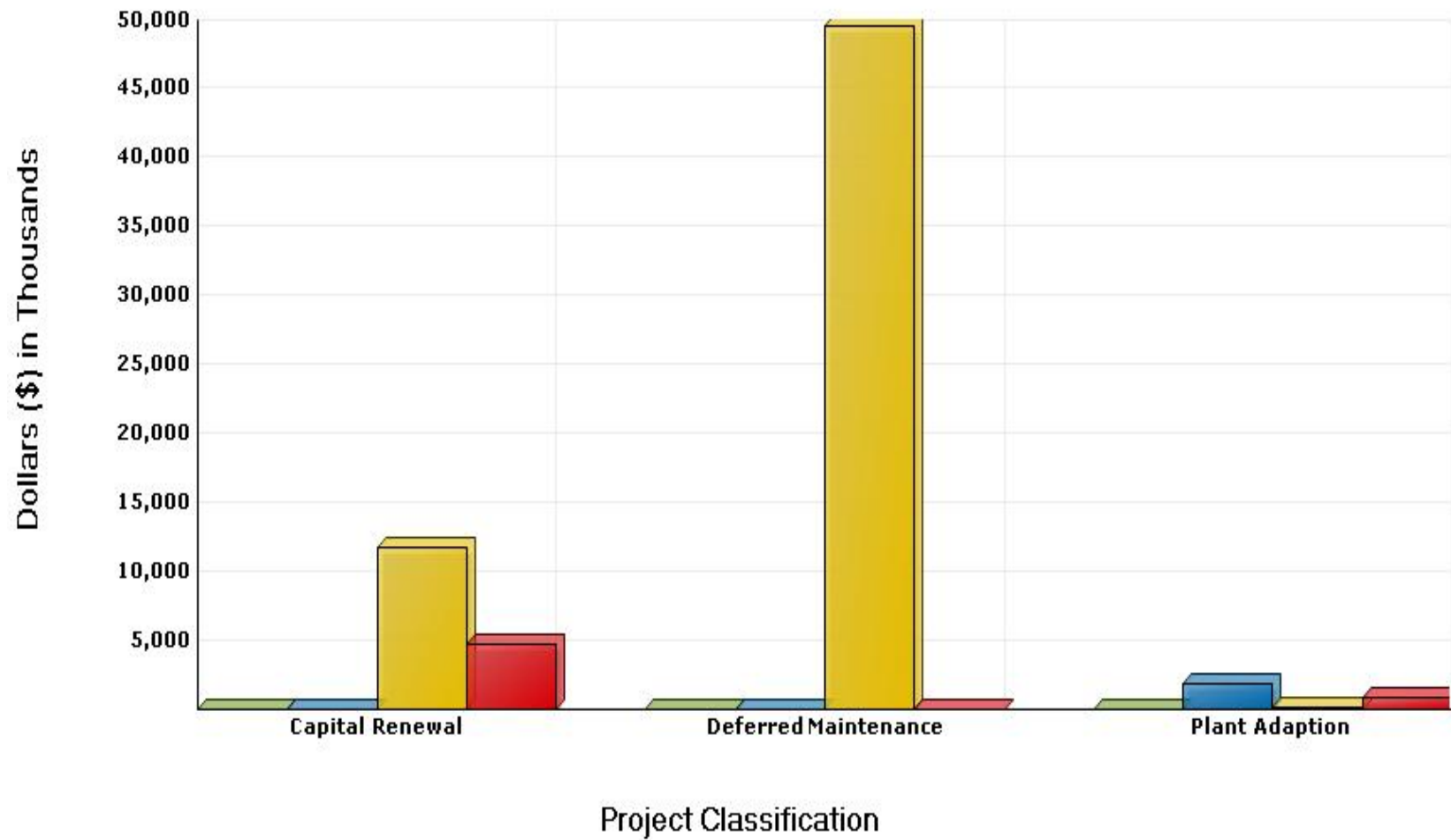
Gross Square Feet	480,279
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Total Cost Per Square Foot	\$143.71
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FACILITY CONDITION ANALYSIS

Project Class by Priority Class

BROD : BRODY MEDICAL SCIENCES BUILDING



Detailed Project Summary
Facility Condition Analysis
Priority Class - Priority Sequence
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS2A	BRODFS02	2	1	FIRE ALARM SYSTEM REPLACEMENT	777,333	124,373	901,706
FS3A	BRODFS03	2	2	FIRE SPRINKLER SYSTEM EXTENSION AND FIRE PUMP RENEWAL	821,477	131,436	952,913
Totals for Priority Class 2					1,598,809	255,809	1,854,619
FS5E	BRODFS01	3	3	STAIR SAFETY UPGRADES	163,663	26,186	189,849
ES4B	BRODES03	3	4	MEMBRANE ROOF REPLACEMENT	171,848	27,496	199,344
ES5A	BRODES02	3	5	EXTERIOR DOOR REPLACEMENT	72,416	11,587	84,003
ES2B	BRODES01	3	6	RESTORE BRICK VENEER	137,948	22,072	160,020
HV3A	BRODHV01	3	7	HVAC SYSTEM REPLACEMENT	31,114,137	4,978,262	36,092,399
HV4B	BRODHV02	3	8	FUME HOOD REPLACEMENT	4,175,037	668,006	4,843,043
EL5A	BRODEL01	3	9	REPLACE EMERGENCY GENERATOR	316,236	50,598	366,834
EL3B	BRODEL04	3	10	ELECTRICAL SYSTEM REPAIRS	1,105,767	176,923	1,282,690
EL4B	BRODEL03	3	11	INTERIOR LIGHTING UPGRADE	1,599,254	255,881	1,855,135
EL4A	BRODEL05	3	12	EXTERIOR LIGHTING REPLACEMENT	12,151	1,944	14,096
EL2A	BRODEL02	3	13	REPLACE 277/480 VOLT SWITCHGEAR	269,723	43,156	312,879
IS1A	BRODIS01	3	14	REFINISH FLOORING	2,600,295	416,047	3,016,342
IS2B	BRODIS02	3	15	REFINISH WALLS	820,228	131,236	951,464
IS3B	BRODIS03	3	16	REFINISH CEILINGS	1,643,983	263,037	1,907,020
IS6B	BRODIS05	3	17	LABORATORY CASEWORK UPGRADES	7,924,069	1,267,851	9,191,920
IS6D	BRODIS06	3	18	FIXED SEATING UPGRADE	147,162	23,546	170,708
PL1B	BRODPL02	3	19	DOMESTIC WATER BOOSTER PUMP REPLACEMENT	7,817	1,251	9,067
PL2B	BRODPL03	3	20	REPLACE SUMP PUMPS	7,286	1,166	8,452
PL3A	BRODPL04	3	21	REPLACE PROCESS AIR EQUIPMENT	100,589	16,094	116,683
SI4A	BRODSI01	3	22	SITE PAVING UPGRADES	119,269	19,083	138,352
VT7A	BRODVT01	3	23	UPGRADE ELEVATOR NO. 1 (SOUTH A) AND NO. 2 (SOUTH B)	402,800	0	402,800
VT7A	BRODVT02	3	24	UPGRADE ELEVATOR NO. 1 (NORTH B) AND NO. 2 (NORTH A)	140,980	0	140,980
VT7A	BRODVT03	3	25	UPGRADE ELEVATOR NO. 1 (HLS)	75,525	0	75,525
Totals for Priority Class 3					53,128,184	8,401,421	61,529,604
HE1A	BRODHE01	4	26	LAB COLD BOX UPGRADES	169,077	27,052	196,130

Detailed Project Summary
Facility Condition Analysis
Priority Class - Priority Sequence
 BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC4A	BRODAC01	4	27	INTERIOR AMENITY ACCESSIBILITY UPGRADES	185,531	29,685	215,216
AC3E	BRODAC02	4	28	RESTROOM RENOVATION	513,787	82,206	595,992
AC3E	BRODAC03	4	29	EMERGENCY SHOWER RENOVATION	65,915	10,546	76,462
IS4A	BRODIS04	4	30	REPLACE INTERIOR DOORS	678,801	108,608	787,410
PL1A	BRODPL01	4	31	WATER SUPPLY PIPING REPLACEMENT	3,246,016	519,362	3,765,378
Totals for Priority Class 4					4,859,127	777,460	5,636,587
Grand Total:					59,586,120	9,434,690	69,020,811

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
ES5A	BRODES02	3	5	EXTERIOR DOOR REPLACEMENT	72,416	11,587	84,003
VT7A	BRODVT03	3	25	UPGRADE ELEVATOR NO. 1 (HLS)	75,525	0	75,525
EL4A	BRODEL05	3	12	EXTERIOR LIGHTING REPLACEMENT	12,151	1,944	14,096
PL1B	BRODPL02	3	19	DOMESTIC WATER BOOSTER PUMP REPLACEMENT	7,817	1,251	9,067
PL2B	BRODPL03	3	20	REPLACE SUMP PUMPS	7,286	1,166	8,452
Totals for Priority Class 3					175,195	15,947	191,142
AC3E	BRODAC03	4	29	EMERGENCY SHOWER RENOVATION	65,915	10,546	76,462
Totals for Priority Class 4					65,915	10,546	76,462
Grand Totals for Projects < 100,000					241,111	26,494	267,604

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
ES2B	BRODES01	3	6	RESTORE BRICK VENEER	137,948	22,072	160,020
ES4B	BRODES03	3	4	MEMBRANE ROOF REPLACEMENT	171,848	27,496	199,344
FS5E	BRODFS01	3	3	STAIR SAFETY UPGRADES	163,663	26,186	189,849
IS6D	BRODIS06	3	18	FIXED SEATING UPGRADE	147,162	23,546	170,708
SI4A	BRODSI01	3	22	SITE PAVING UPGRADES	119,269	19,083	138,352
VT7A	BRODVT01	3	23	UPGRADE ELEVATOR NO. 1 (SOUTH A) AND NO. 2 (SOUTH B)	402,800	0	402,800
VT7A	BRODVT02	3	24	UPGRADE ELEVATOR NO. 1 (NORTH B) AND NO. 2 (NORTH A)	140,980	0	140,980
EL5A	BRODEL01	3	9	REPLACE EMERGENCY GENERATOR	316,236	50,598	366,834
EL2A	BRODEL02	3	13	REPLACE 277/480 VOLT SWITCHGEAR	269,723	43,156	312,879
PL3A	BRODPL04	3	21	REPLACE PROCESS AIR EQUIPMENT	100,589	16,094	116,683
Totals for Priority Class 3					1,970,219	228,230	2,198,449
AC4A	BRODAC01	4	27	INTERIOR AMENITY ACCESSIBILITY UPGRADES	185,531	29,685	215,216
HE1A	BRODHE01	4	26	LAB COLD BOX UPGRADES	169,077	27,052	196,130
Totals for Priority Class 4					354,608	56,737	411,345
Grand Totals for Projects >= 100,000 and < 500,000					2,324,827	284,967	2,609,794

Detailed Project Summary
Facility Condition Analysis
Project Cost Range
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS2A	BRODFS02	2	1	FIRE ALARM SYSTEM REPLACEMENT	777,333	124,373	901,706
FS3A	BRODFS03	2	2	FIRE SPRINKLER SYSTEM EXTENSION AND FIRE PUMP RENEWAL	821,477	131,436	952,913
Totals for Priority Class 2					1,598,809	255,809	1,854,619
IS1A	BRODIS01	3	14	REFINISH FLOORING	2,600,295	416,047	3,016,342
IS2B	BRODIS02	3	15	REFINISH WALLS	820,228	131,236	951,464
IS3B	BRODIS03	3	16	REFINISH CEILINGS	1,643,983	263,037	1,907,020
IS6B	BRODIS05	3	17	LABORATORY CASEWORK UPGRADES	7,924,069	1,267,851	9,191,920
HV3A	BRODHV01	3	7	HVAC SYSTEM REPLACEMENT	31,114,137	4,978,262	36,092,399
HV4B	BRODHV02	3	8	FUME HOOD REPLACEMENT	4,175,037	668,006	4,843,043
EL4B	BRODEL03	3	11	INTERIOR LIGHTING UPGRADE	1,599,254	255,881	1,855,135
EL3B	BRODEL04	3	10	ELECTRICAL SYSTEM REPAIRS	1,105,767	176,923	1,282,690
Totals for Priority Class 3					50,982,770	8,157,243	59,140,013
AC3E	BRODAC02	4	28	RESTROOM RENOVATION	513,787	82,206	595,992
IS4A	BRODIS04	4	30	REPLACE INTERIOR DOORS	678,801	108,608	787,410
PL1A	BRODPL01	4	31	WATER SUPPLY PIPING REPLACEMENT	3,246,016	519,362	3,765,378
Totals for Priority Class 4					4,438,604	710,177	5,148,780
Grand Totals for Projects >= 500,000					57,020,183	9,123,229	66,143,412
Grand Totals For All Projects:					59,586,120	9,434,690	69,020,811

Detailed Project Summary
Facility Condition Analysis
Project Classification
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat Code	Project Number	Pri. Seq.	Project Classification	Pri. Cls	Project Title	Total Cost
EL2A	BRODEL02	13	Capital Renewal	3	REPLACE 277/480 VOLT SWITCHGEAR	312,879
IS3B	BRODIS03	16	Capital Renewal	3	REFINISH CEILINGS	1,907,020
IS6B	BRODIS05	17	Capital Renewal	3	LABORATORY CASEWORK UPGRADES	9,191,920
IS6D	BRODIS06	18	Capital Renewal	3	FIXED SEATING UPGRADE	170,708
SI4A	BRODSI01	22	Capital Renewal	3	SITE PAVING UPGRADES	138,352
HE1A	BRODHE01	26	Capital Renewal	4	LAB COLD BOX UPGRADES	196,130
IS4A	BRODIS04	30	Capital Renewal	4	REPLACE INTERIOR DOORS	787,410
PL1A	BRODPL01	31	Capital Renewal	4	WATER SUPPLY PIPING REPLACEMENT	3,765,378
Totals for Capital Renewal						16,469,797
ES4B	BRODES03	4	Deferred Maintenance	3	MEMBRANE ROOF REPLACEMENT	199,344
ES5A	BRODES02	5	Deferred Maintenance	3	EXTERIOR DOOR REPLACEMENT	84,003
ES2B	BRODES01	6	Deferred Maintenance	3	RESTORE BRICK VENEER	160,020
HV3A	BRODHV01	7	Deferred Maintenance	3	HVAC SYSTEM REPLACEMENT	36,092,399
HV4B	BRODHV02	8	Deferred Maintenance	3	FUME HOOD REPLACEMENT	4,843,043
EL5A	BRODEL01	9	Deferred Maintenance	3	REPLACE EMERGENCY GENERATOR	366,834
EL3B	BRODEL04	10	Deferred Maintenance	3	ELECTRICAL SYSTEM REPAIRS	1,282,690
EL4B	BRODEL03	11	Deferred Maintenance	3	INTERIOR LIGHTING UPGRADE	1,855,135
EL4A	BRODEL05	12	Deferred Maintenance	3	EXTERIOR LIGHTING REPLACEMENT	14,096
IS1A	BRODIS01	14	Deferred Maintenance	3	REFINISH FLOORING	3,016,342
IS2B	BRODIS02	15	Deferred Maintenance	3	REFINISH WALLS	951,464
PL1B	BRODPL02	19	Deferred Maintenance	3	DOMESTIC WATER BOOSTER PUMP REPLACEMENT	9,067
PL2B	BRODPL03	20	Deferred Maintenance	3	REPLACE SUMP PUMPS	8,452
PL3A	BRODPL04	21	Deferred Maintenance	3	REPLACE PROCESS AIR EQUIPMENT	116,683
VT7A	BRODVT01	23	Deferred Maintenance	3	UPGRADE ELEVATOR NO. 1 (SOUTH A) AND NO. 2 (SOUTH B)	402,800
VT7A	BRODVT02	24	Deferred Maintenance	3	UPGRADE ELEVATOR NO. 1 (NORTH B) AND NO. 2 (NORTH A)	140,980
VT7A	BRODVT03	25	Deferred Maintenance	3	UPGRADE ELEVATOR NO. 1 (HLS)	75,525
Totals for Deferred Maintenance						49,618,876
FS2A	BRODFS02	1	Plant Adaption	2	FIRE ALARM SYSTEM REPLACEMENT	901,706

Detailed Project Summary
Facility Condition Analysis
Project Classification
 BROD : BRODY MEDICAL SCIENCES BUILDING

Cat Code	Project Number	Pri. Seq.	Project Classification	Pri. Cls	Project Title	Total Cost
FS3A	BRODFS03	2	Plant Adaption	2	FIRE SPRINKLER SYSTEM EXTENSION AND FIRE PUMP RENEWAL	952,913
FS5E	BRODFS01	3	Plant Adaption	3	STAIR SAFETY UPGRADES	189,849
AC4A	BRODAC01	27	Plant Adaption	4	INTERIOR AMENITY ACCESSIBILITY UPGRADES	215,216
AC3E	BRODAC02	28	Plant Adaption	4	RESTROOM RENOVATION	595,992
AC3E	BRODAC03	29	Plant Adaption	4	EMERGENCY SHOWER RENOVATION	76,462
					Totals for Plant Adaption	2,932,138
					Grand Total:	69,020,811

Detailed Project Summary
Facility Condition Analysis
Energy Conservation
 BROD : BRODY MEDICAL SCIENCES BUILDING

Cat Code	Project Number	Pri Cls	Pri Seq	Project Title	Total Cost	Annual Savings	Simple Payback
ES4B	BRODES03	3	4	MEMBRANE ROOF REPLACEMENT	199,344	2,500	79.74
HV3A	BRODHV01	3	7	HVAC SYSTEM REPLACEMENT	36,092,399	306,600	117.72
EL4B	BRODEL03	3	11	INTERIOR LIGHTING UPGRADE	1,855,135	88,180	21.04
EL4A	BRODEL05	3	12	EXTERIOR LIGHTING REPLACEMENT	14,096	1,310	10.76
Totals for Priority Class 3					38,160,974	398,590	95.74
Grand Total:					38,160,974	398,590	95.74

Detailed Project Summary
Facility Condition Analysis
Category/System Code
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC4A	BRODAC01	4	27	INTERIOR AMENITY ACCESSIBILITY UPGRADES	185,531	29,685	215,216
AC3E	BRODAC02	4	28	RESTROOM RENOVATION	513,787	82,206	595,992
AC3E	BRODAC03	4	29	EMERGENCY SHOWER RENOVATION	65,915	10,546	76,462
Totals for System Code: ACCESSIBILITY					765,233	122,437	887,670
EL5A	BRODEL01	3	9	REPLACE EMERGENCY GENERATOR	316,236	50,598	366,834
EL3B	BRODEL04	3	10	ELECTRICAL SYSTEM REPAIRS	1,105,767	176,923	1,282,690
EL4B	BRODEL03	3	11	INTERIOR LIGHTING UPGRADE	1,599,254	255,881	1,855,135
EL4A	BRODEL05	3	12	EXTERIOR LIGHTING REPLACEMENT	12,151	1,944	14,096
EL2A	BRODEL02	3	13	REPLACE 277/480 VOLT SWITCHGEAR	269,723	43,156	312,879
Totals for System Code: ELECTRICAL					3,303,133	528,501	3,831,634
ES4B	BRODES03	3	4	MEMBRANE ROOF REPLACEMENT	171,848	27,496	199,344
ES5A	BRODES02	3	5	EXTERIOR DOOR REPLACEMENT	72,416	11,587	84,003
ES2B	BRODES01	3	6	RESTORE BRICK VENEER	137,948	22,072	160,020
Totals for System Code: EXTERIOR					382,212	61,154	443,366
FS2A	BRODFS02	2	1	FIRE ALARM SYSTEM REPLACEMENT	777,333	124,373	901,706
FS3A	BRODFS03	2	2	FIRE SPRINKLER SYSTEM EXTENSION AND FIRE PUMP RENEWAL	821,477	131,436	952,913
FS5E	BRODFS01	3	3	STAIR SAFETY UPGRADES	163,663	26,186	189,849
Totals for System Code: FIRE/LIFE SAFETY					1,762,472	281,996	2,044,468
HE1A	BRODHE01	4	26	LAB COLD BOX UPGRADES	169,077	27,052	196,130
Totals for System Code: HEALTH					169,077	27,052	196,130
HV3A	BRODHV01	3	7	HVAC SYSTEM REPLACEMENT	31,114,137	4,978,262	36,092,399
HV4B	BRODHV02	3	8	FUME HOOD REPLACEMENT	4,175,037	668,006	4,843,043
Totals for System Code: HVAC					35,289,174	5,646,268	40,935,442
IS1A	BRODIS01	3	14	REFINISH FLOORING	2,600,295	416,047	3,016,342
IS2B	BRODIS02	3	15	REFINISH WALLS	820,228	131,236	951,464
IS3B	BRODIS03	3	16	REFINISH CEILINGS	1,643,983	263,037	1,907,020
IS6B	BRODIS05	3	17	LABORATORY CASEWORK UPGRADES	7,924,069	1,267,851	9,191,920
IS6D	BRODIS06	3	18	FIXED SEATING UPGRADE	147,162	23,546	170,708
IS4A	BRODIS04	4	30	REPLACE INTERIOR DOORS	678,801	108,608	787,410
Totals for System Code: INTERIOR/FINISH SYS.					13,814,537	2,210,326	16,024,863
PL1B	BRODPL02	3	19	DOMESTIC WATER BOOSTER PUMP REPLACEMENT	7,817	1,251	9,067

Detailed Project Summary
Facility Condition Analysis
Category/System Code
BROD : BRODY MEDICAL SCIENCES BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
PL2B	BRODPL03	3	20	REPLACE SUMP PUMPS	7,286	1,166	8,452
PL3A	BRODPL04	3	21	REPLACE PROCESS AIR EQUIPMENT	100,589	16,094	116,683
PL1A	BRODPL01	4	31	WATER SUPPLY PIPING REPLACEMENT	3,246,016	519,362	3,765,378
Totals for System Code: PLUMBING					3,361,707	537,873	3,899,580
SI4A	BRODSI01	3	22	SITE PAVING UPGRADES	119,269	19,083	138,352
Totals for System Code: SITE					119,269	19,083	138,352
VT7A	BRODVT01	3	23	UPGRADE ELEVATOR NO. 1 (SOUTH A) AND NO. 2 (SOUTH B)	402,800	0	402,800
VT7A	BRODVT02	3	24	UPGRADE ELEVATOR NO. 1 (NORTH B) AND NO. 2 (NORTH A)	140,980	0	140,980
VT7A	BRODVT03	3	25	UPGRADE ELEVATOR NO. 1 (HLS)	75,525	0	75,525
Totals for System Code: VERT. TRANSPORTATION					619,305		619,305
Grand Total:					59,586,120	9,434,690	69,020,811

FACILITY CONDITION ANALYSIS

SECTION 3

SPECIFIC PROJECT DETAILS
ILLUSTRATING DESCRIPTION / COST

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODFS02	Title:	FIRE ALARM SYSTEM REPLACEMENT
Priority Sequence:	1		
Priority Class:	2		
Category Code:	FS2A	System:	FIRE/LIFE SAFETY
		Component:	DETECTION ALARM
		Element:	GENERAL
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	702.1	
	NFPA	1, 101	
Project Class:	Plant Adaption		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P		

Project Description

Upgrade the existing fire alarm system with a modern application. Specify a point addressable supervised main fire alarm panel with an annunciator. This work includes pull stations, audible and visible alarms, smoke and heat detectors, and wiring network. Install all devices in accordance with current NFPA and ADA requirements. The system should be monitored to report activation or trouble to an applicable receiving station. The cost estimate is based on approximately 70 percent of the building square footage.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODFS02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Fire alarm control panel(s), annunciator, smoke and heat detectors, manual pull stations, audible and visual alarms, wiring, raceways, and cut and patching materials	SF	336,195	\$1.46	\$490,845	\$0.89	\$299,214	\$790,058
Project Totals:				\$490,845		\$299,214	\$790,058

Material/Labor Cost		\$790,058
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$647,777</u>
General Contractor Mark Up at 20.0%	+	<u>\$129,555</u>
Construction Cost		<u>\$777,333</u>
Professional Fees at 16.0%	+	<u>\$124,373</u>
Total Project Cost		<u>\$901,706</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODFS03	Title:	FIRE SPRINKLER SYSTEM EXTENSION AND FIRE PUMP RENEWAL
Priority Sequence:	2		
Priority Class:	2		
Category Code:	FS3A	System:	FIRE/LIFE SAFETY
		Component:	SUPPRESSION
		Element:	SPRINKLERS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	NFPA	1, 13, 13R, 101	
Project Class:	Plant Adaption		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P		

Project Description

Approximately 80 percent of the building has automatic fire suppression. A few areas, such as the original auditorium, do not have fire suppression. To provide additional fire protection to building occupants, install an automatic fire sprinkler system in unprotected areas throughout the facility. This includes piping, valves, sprinkler heads, and piping supports. Install flow switches and sensors to interface with the fire alarm system. Additionally, replace the original sprinkler heads on the existing system. The cost includes renewal of the original 125 horsepower electric fire pump.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODFS03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install wet-pipe sprinkler system, including valves, piping, sprinkler heads, piping supports, etc.	SF	96,056	\$3.08	\$295,852	\$3.77	\$362,131	\$657,984
Fire pump, controls, piping, valves, and connections	GPM	1,500	\$62.34	\$93,510	\$3.76	\$5,640	\$99,150
Fire sprinkler head replacement	SF	384,223	\$0.09	\$34,580	\$0.35	\$134,478	\$169,058
Project Totals:				\$423,943		\$502,249	\$926,192

Material/Labor Cost		\$926,192
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$684,564
General Contractor Mark Up at 20.0%	+	\$136,913
Construction Cost		\$821,477
Professional Fees at 16.0%	+	\$131,436
Total Project Cost		\$952,913

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODFS01	Title:	STAIR SAFETY UPGRADES
Priority Sequence:	3		
Priority Class:	3		
Category Code:	FS5E	System:	FIRE/LIFE SAFETY
		Component:	EGRESS PATH
		Element:	STAIRS AND RAILING
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	IBC	1003.3	
	ADAAG	505	
Project Class:	Plant Adaption		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G		

Project Description

Current legislation regarding building accessibility by the handicapped 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. Code also requires that guardrailing be provided to ensure protection from objects passing through open areas. Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in outer handrail and guardrail design relative to current standards. The finishes on the stairs have also deteriorated or are otherwise unsafe. Future renovation efforts should include comprehensive stair railing and finish upgrades.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODFS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Center handrail / guardrail system per floor	FLR	38	\$1,297	\$49,286	\$833	\$31,654	\$80,940
Stair tread and landing finish upgrades per floor	FLR	38	\$1,449	\$55,062	\$773	\$29,374	\$84,436
Project Totals:				\$104,348		\$61,028	\$165,376

Material/Labor Cost		\$165,376
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$136,386
General Contractor Mark Up at 20.0%	+	\$27,277
Construction Cost		\$163,663
Professional Fees at 16.0%	+	\$26,186
Total Project Cost		\$189,849

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODES03	Title:	MEMBRANE ROOF REPLACEMENT
Priority Sequence:	4		
Priority Class:	3		
Category Code:	ES4B	System:	EXTERIOR
		Component:	ROOF
		Element:	REPLACEMENT
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Energy Conservation	\$2,500	
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) R		

Project Description

The upper roof system has been replaced within the last few years with a built-up roof. The lower level roofs have not been upgraded and remain single ply systems that are beyond their useful lives. It is recommended that the single ply membrane roofing systems be replaced. The existing stress conditions around the seams and at the perimeter flashing will lead to failure if left unattended. Replace the stressed roofs and flashing with similar applications. The replacement of the skylight systems is also warranted.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODES03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Membrane roof	SF	28,820	\$3.79	\$109,228	\$1.73	\$49,859	\$159,086
Skylight	SF	100	\$57.27	\$5,727	\$36.45	\$3,645	\$9,372
Project Totals:				\$114,955		\$53,504	\$168,458

Material/Labor Cost		\$168,458
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$143,207
General Contractor Mark Up at 20.0%	+	\$28,641
Construction Cost		\$171,848
Professional Fees at 16.0%	+	\$27,496
Total Project Cost		\$199,344

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODES02	Title:	EXTERIOR DOOR REPLACEMENT
Priority Sequence:	5		
Priority Class:	3		
Category Code:	ES5A	System:	EXTERIOR
		Component:	FENESTRATIONS
		Element:	DOORS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/5/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

Primary exterior doors include metal-framed glass doors that are original to construction. It is recommended that aged and inefficient exterior door systems be replaced. This project includes only the primary entrance doors. The replacement units should maintain the architectural design aspects of this facility and be modern, energy-efficient applications. Painted metal secondary and service doors should outlast the ten-year scope of this report.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODES02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
High traffic door system	LEAF	20	\$1,978	\$39,560	\$1,999	\$39,980	\$79,540
Project Totals:				\$39,560		\$39,980	\$79,540

Material/Labor Cost		\$79,540
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$60,347</u>
General Contractor Mark Up at 20.0%	+	<u>\$12,069</u>
Construction Cost		<u>\$72,416</u>
Professional Fees at 16.0%	+	<u>\$11,587</u>
Total Project Cost		<u>\$84,003</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODES01	Title:	RESTORE BRICK VENEER
Priority Sequence:	6		
Priority Class:	3		
Category Code:	ES2B	System:	EXTERIOR
		Component:	COLUMNS/BEAMS/WALLS
		Element:	FINISH
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/5/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

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

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODES01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Cleaning and surface preparation	SF	84,000	\$0.11	\$9,240	\$0.22	\$18,480	\$27,720
Selective mortar and / or sealant repairs (assumes 10 linear feet for every 100 square feet of envelope)	LF	8,400	\$2.45	\$20,580	\$4.99	\$41,916	\$62,496
Applied finish or sealant	SF	84,000	\$0.22	\$18,480	\$0.82	\$68,880	\$87,360
Project Totals:				\$48,300		\$129,276	\$177,576

Material/Labor Cost		\$177,576
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$114,957
General Contractor Mark Up at 20.0%	+	\$22,991
Construction Cost		\$137,948
Professional Fees at 16.0%	+	\$22,072
Total Project Cost		\$160,020

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODHV01	Title:	HVAC SYSTEM REPLACEMENT
Priority Sequence:	7		
Priority Class:	3		
Category Code:	HV3A	System:	HVAC
		Component:	HEATING/COOLING
		Element:	SYSTEM RETROFIT/REPLACE
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Energy Conservation	\$306,600	
Code Application:	ASHRAE	62-2004	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P, R		

Project Description

A complete redesign and replacement of the HVAC system is recommended. Demolish and dispose of existing equipment. Install a new modern HVAC system with VAV and constant volume air distribution as needed. This includes new air handlers, exhaust fans, ductwork, terminal units, heat exchangers, pumps, piping, controls, and related electrical components. Specify direct digital controls (DDCs) for the new equipment. Incorporate VFDs into the new HVAC design as applicable.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODHV01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Air handlers, exhaust fans, ductwork, VAVs, VFDs, DDCs, heat exchangers, pumps, piping, electrical connections, and demolition of existing equipment	SF	480,279	\$33.04	\$15,868,418	\$40.38	\$19,393,666	\$35,262,084
Project Totals:				\$15,868,418		\$19,393,666	\$35,262,084

Material/Labor Cost		\$35,262,084
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$25,928,448
General Contractor Mark Up at 20.0%	+	\$5,185,690
Construction Cost		\$31,114,137
Professional Fees at 16.0%	+	\$4,978,262
Total Project Cost		\$36,092,399

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODHV02	Title:	FUME HOOD REPLACEMENT
Priority Sequence:	8		
Priority Class:	3		
Category Code:	HV4B	System:	HVAC
		Component:	AIR MOVING/VENTILATION
		Element:	EXHAUST FANS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ASHRAE	62-2004, 110-1995	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P, R		

Project Description

The replacement of the aging fume hoods is recommended. Demolish the necessary fume hoods and their related mechanical systems. Install new modern fume hood systems, including hoods, fans, ductwork, piping, and electrical connections. Provide modern DDC controls that interface with the HVAC system.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODHV02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Fume hood replacement, including mechanical systems, controls, demolition, and disposal fees	SYS	115	\$24,990	\$2,873,850	\$9,920	\$1,140,800	\$4,014,650
Project Totals:				\$2,873,850		\$1,140,800	\$4,014,650

Material/Labor Cost		\$4,014,650
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$3,479,197
General Contractor Mark Up at 20.0%	+	\$695,839
Construction Cost		\$4,175,037
Professional Fees at 16.0%	+	\$668,006
Total Project Cost		\$4,843,043

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODEL01	Title:	REPLACE EMERGENCY GENERATOR
Priority Sequence:	9		
Priority Class:	3		
Category Code:	EL5A	System:	ELECTRICAL
		Component:	EMERGENCY POWER SYSTEM
		Element:	GENERATION/DISTRIBUTION
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Article 700	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) G		

Project Description

Replace generators #1 and #2 with appropriately sized units based on current facility requirements. The replacement costs include the demolition of existing equipment and installation new generators, automatic transfer switches (ATS), diesel fuel tank, battery and charger, exhaust system, and necessary electrical connections. Specify diesel-fired units unless otherwise directed by local standards.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODEL01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Diesel generator set #1, including fuel tank, battery, charger, exhaust, and automatic transfer switches	KW	600	\$250	\$150,000	\$50.00	\$30,000	\$180,000
Diesel generator set #2, including fuel tank, battery, charger, exhaust, and automatic transfer switches	KW	350	\$250	\$87,500	\$50.00	\$17,500	\$105,000
Project Totals:				\$237,500		\$47,500	\$285,000

Material/Labor Cost		\$285,000
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$263,530
General Contractor Mark Up at 20.0%	+	\$52,706
Construction Cost		\$316,236
Professional Fees at 16.0%	+	\$50,598
Total Project Cost		\$366,834

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODEL04	Title:	ELECTRICAL SYSTEM REPAIRS
Priority Sequence:	10		
Priority Class:	3		
Category Code:	EL3B	System:	ELECTRICAL
		Component:	SECONDARY DISTRIBUTION
		Element:	DISTRIBUTION NETWORK
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Articles 100, 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P		

Project Description

Aging devices, including wall switches and receptacles, are potential shock and fire hazards. Replace all worn or damaged switches, receptacles, and cover plates. Install ground fault circuit interrupter (GFCI) receptacles where required by code. Test power panels for proper operation, replacing faulty breakers as needed. Update power panel directories for circuit identification.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODEL04

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Switches, receptacles, cover plates, breakers, and miscellaneous materials	SF	480,279	\$1.08	\$518,701	\$1.62	\$778,052	\$1,296,753
Project Totals:				\$518,701		\$778,052	\$1,296,753

Material/Labor Cost		\$1,296,753
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$921,473</u>
General Contractor Mark Up at 20.0%	+	<u>\$184,295</u>
Construction Cost		<u>\$1,105,767</u>
Professional Fees at 16.0%	+	<u>\$176,923</u>
Total Project Cost		<u>\$1,282,690</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODEL03	Title:	INTERIOR LIGHTING UPGRADE
Priority Sequence:	11		
Priority Class:	3		
Category Code:	EL4B	System:	ELECTRICAL
		Component:	DEVICES AND FIXTURES
		Element:	INTERIOR LIGHTING
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Energy Conservation	\$88,180	
Code Application:	NEC	Articles 210, 410	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P		

Project Description

An interior lighting upgrade is recommended. Replace existing aged and / or inefficient light fixtures with modern fixtures of the latest energy-efficient design. Select lamps with the same color temperature and rendering index for lighting uniformity. Install occupancy sensors in select areas for additional energy conservation.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODEL03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
High efficiency fluorescent fixtures, occupancy sensors, and demolition of existing lighting	SF	288,167	\$2.83	\$815,513	\$3.46	\$997,058	\$1,812,570
Project Totals:				\$815,513		\$997,058	\$1,812,570

Material/Labor Cost		\$1,812,570
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$1,332,712
General Contractor Mark Up at 20.0%	+	\$266,542
Construction Cost		\$1,599,254
Professional Fees at 16.0%	+	\$255,881
Total Project Cost		\$1,855,135

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODEL05	Title:	EXTERIOR LIGHTING REPLACEMENT
Priority Sequence:	12		
Priority Class:	3		
Category Code:	EL4A	System:	ELECTRICAL
		Component:	DEVICES AND FIXTURES
		Element:	EXTERIOR LIGHTING
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Energy Conservation	\$1,310	
Code Application:	NEC	410	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Building-wide: Floor(s) 1		

Project Description

Exterior lighting upgrades are recommended. Replace exterior light fixtures as needed. Specify high efficiency fixtures with photocells for lighting control.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODEL05

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
HID wall-mount fixture and demolition of existing fixture	EA	20	\$406	\$8,120	\$190	\$3,800	\$11,920
Project Totals:				\$8,120		\$3,800	\$11,920

Material/Labor Cost		\$11,920
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$10,126</u>
General Contractor Mark Up at 20.0%	+	<u>\$2,025</u>
Construction Cost		<u>\$12,151</u>
Professional Fees at 16.0%	+	<u>\$1,944</u>
Total Project Cost		<u>\$14,096</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODEL02	Title:	REPLACE 277/480 VOLT SWITCHGEAR
Priority Sequence:	13		
Priority Class:	3		
Category Code:	EL2A	System:	ELECTRICAL
		Component:	MAIN DISTRIBUTION PANELS
		Element:	CONDITION UPGRADE
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	NEC	Article 230	
Project Class:	Capital Renewal		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 8, G		

Project Description

The 277/480 volt switchgear is recommended for replacement. The existing aged circuit breakers could serve as fire hazards should they fail to interrupt a circuit in an overload or short circuit condition. The existing switchgear should be replaced in its entirety. New switchgear components should include a ground fault main circuit breaker, digital metering for remote control / monitoring, and transient surge protection.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODEL02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
277/480 volt switchgear, including switchboard, circuit breakers, feeders, digital metering, transient surge protector, and demolition of existing equipment	AMP	8,400	\$18.62	\$156,408	\$15.61	\$131,124	\$287,532
Project Totals:				\$156,408		\$131,124	\$287,532

Material/Labor Cost		\$287,532
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$224,769
General Contractor Mark Up at 20.0%	+	\$44,954
Construction Cost		\$269,723
Professional Fees at 16.0%	+	\$43,156
Total Project Cost		\$312,879

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODIS01	Title:	REFINISH FLOORING
Priority Sequence:	14		
Priority Class:	3		
Category Code:	IS1A	System:	INTERIOR/FINISH SYS.
		Component:	FLOOR
		Element:	FINISHES-DRY

Building Code:	BROD
Building Name:	BRODY MEDICAL SCIENCES BUILDING
Subclass/Savings:	Not Applicable

Code Application: Not Applicable

Project Class:	Deferred Maintenance
Project Date:	10/5/2009

Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G
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Project Description

Interior floor finishes include vinyl tile, carpet, and ceramic flooring. The applications vary in age and condition from area to area. Floor finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODIS01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Carpet	SF	81,650	\$5.36	\$437,644	\$2.00	\$163,300	\$600,944
Vinyl floor tile	SF	285,770	\$3.53	\$1,008,768	\$2.50	\$714,425	\$1,723,193
Ceramic tile	SF	20,410	\$7.24	\$147,768	\$10.63	\$216,958	\$364,727
Project Totals:				\$1,594,181		\$1,094,683	\$2,688,864

Material/Labor Cost		\$2,688,864
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$2,166,912</u>
General Contractor Mark Up at 20.0%	+	<u>\$433,382</u>
Construction Cost		<u>\$2,600,295</u>
Professional Fees at 16.0%	+	<u>\$416,047</u>
Total Project Cost		<u>\$3,016,342</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODIS02	Title:	REFINISH WALLS
Priority Sequence:	15		
Priority Class:	3		
Category Code:	IS2B	System:	INTERIOR/FINISH SYS.
		Component:	PARTITIONS
		Element:	FINISHES

Building Code:	BROD
Building Name:	BRODY MEDICAL SCIENCES BUILDING
Subclass/Savings:	Not Applicable

Code Application: Not Applicable

Project Class:	Deferred Maintenance
Project Date:	10/5/2009

Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G
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Project Description

Interior wall finishes consist of painted plaster or concrete. The applications vary in age and condition from area to area. Wall finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODIS02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Standard wall finish (paint, wall covering, etc.)	SF	1,164,990	\$0.17	\$198,048	\$0.81	\$943,642	\$1,141,690
Project Totals:				\$198,048		\$943,642	\$1,141,690

Material/Labor Cost		\$1,141,690
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$683,523</u>
General Contractor Mark Up at 20.0%	+	<u>\$136,705</u>
Construction Cost		<u>\$820,228</u>
Professional Fees at 16.0%	+	<u>\$131,236</u>
Total Project Cost		<u>\$951,464</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODIS03	Title:	REFINISH CEILINGS
Priority Sequence:	16		
Priority Class:	3		
Category Code:	IS3B	System:	INTERIOR/FINISH SYS.
		Component:	CEILINGS
		Element:	REPLACEMENT
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G		

Project Description

Ceiling finishes include painted plaster or lay-in acoustical tile. The applications vary in age and condition from room to room. Ceiling finish upgrades should be considered as part of any future cosmetic improvements or major comprehensive renovation efforts.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODIS03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Acoustical tile ceiling system	SF	367,410	\$2.12	\$778,909	\$2.98	\$1,094,882	\$1,873,791
Painted ceiling finish application	SF	40,820	\$0.17	\$6,939	\$0.81	\$33,064	\$40,004
Project Totals:				\$785,849		\$1,127,946	\$1,913,795

Material/Labor Cost		\$1,913,795
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$1,369,986
General Contractor Mark Up at 20.0%	+	\$273,997
Construction Cost		\$1,643,983
Professional Fees at 16.0%	+	\$263,037
Total Project Cost		\$1,907,020

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODIS05	Title:	LABORATORY CASEWORK UPGRADES
Priority Sequence:	17		
Priority Class:	3		
Category Code:	IS6B	System:	INTERIOR/FINISH SYS.
		Component:	GENERAL
		Element:	CABINETRY
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G		

Project Description

While some casework has been replaced in the building, the majority of the laboratory casework is in overall poor condition. Install new casework as part of a comprehensive laboratory renovation effort.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODIS05

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Laboratory base cabinetry, wall cabinetry, and shelving per SF of lab space (assumes casework density of 20% of total lab area)	SF	312,180	\$17.74	\$5,538,073	\$6.41	\$2,001,074	\$7,539,147
Project Totals:				\$5,538,073		\$2,001,074	\$7,539,147

Material/Labor Cost		\$7,539,147
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$6,603,391
General Contractor Mark Up at 20.0%	+	\$1,320,678
Construction Cost		\$7,924,069
Professional Fees at 16.0%	+	\$1,267,851
Total Project Cost		\$9,191,920

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODIS06	Title:	FIXED SEATING UPGRADE
Priority Sequence:	18		
Priority Class:	3		
Category Code:	IS6D	System:	INTERIOR/FINISH SYS.
		Component:	GENERAL
		Element:	OTHER
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/5/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

The fixed seating in the various assembly areas is worn and should be upgraded. Replace this seating with new folding fixed seats in a similar row configuration. Ensure that ADA requirements are followed with the new seating layout.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODIS06

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Basic, upholstered, folding, and fixed seating	EA	600	\$160	\$96,000	\$84.35	\$50,610	\$146,610
Project Totals:				\$96,000		\$50,610	\$146,610

Material/Labor Cost		\$146,610
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$122,635</u>
General Contractor Mark Up at 20.0%	+	<u>\$24,527</u>
Construction Cost		<u>\$147,162</u>
Professional Fees at 16.0%	+	<u>\$23,546</u>
Total Project Cost		<u>\$170,708</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODPL02	Title:	DOMESTIC WATER BOOSTER PUMP REPLACEMENT
Priority Sequence:	19		
Priority Class:	3		
Category Code:	PL1B	System:	PLUMBING
		Component:	DOMESTIC WATER
		Element:	PUMPS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Item Only: Floor(s) G		

Project Description

The domestic water booster pump system will require replacement within the scope of this analysis. This work includes all pumps, motors, controllers, and connections. Specify a high efficiency system, and incorporate variable frequency drives, if possible.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODPL02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Domestic water booster pump system, including demolition of existing equipment	SYS	1	\$5,730	\$5,730	\$1,450	\$1,450	\$7,180
Project Totals:				\$5,730		\$1,450	\$7,180

Material/Labor Cost		\$7,180
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$6,514</u>
General Contractor Mark Up at 20.0%	+	<u>\$1,303</u>
Construction Cost		<u>\$7,817</u>
Professional Fees at 16.0%	+	<u>\$1,251</u>
Total Project Cost		<u>\$9,067</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODPL03	Title:	REPLACE SUMP PUMPS
Priority Sequence:	20		
Priority Class:	3		
Category Code:	PL2B	System:	PLUMBING
		Component:	WASTEWATER
		Element:	PUMPS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	IPC	712	
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Item Only: Floor(s) G		

Project Description

The replacement of the sump pump system is recommended. Remove the existing pump assembly. Install a new duplex sump pump system, including pit, pumps, alternating controls, alarms, piping, and electrical connections.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODPL03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Sump pump system, including pit, pumps, controls, connections, and demolition of existing system	SYS	1	\$4,440	\$4,440	\$3,120	\$3,120	\$7,560
Project Totals:				\$4,440		\$3,120	\$7,560

Material/Labor Cost		\$7,560
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$6,072
General Contractor Mark Up at 20.0%	+	\$1,214
Construction Cost		\$7,286
Professional Fees at 16.0%	+	\$1,166
Total Project Cost		\$8,452

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODPL04	Title:	REPLACE PROCESS AIR EQUIPMENT
Priority Sequence:	21		
Priority Class:	3		
Category Code:	PL3A	System:	PLUMBING
		Component:	SPECIAL SYSTEMS
		Element:	PROCESS GAS/FLUIDS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/24/2009		
Project Location:	Item Only: Floor(s) G		

Project Description

Central compressed air and vacuum systems support building program processes. These systems are currently providing dependable service. However, it should be expected that they will require replacement within the scope of this report. Replace the compressor, air dryer, and vacuum pump system with modern applications.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODPL04

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Process duplex air compressor system with air dryer, all connections, demolition, and disposal fees	HP	20	\$3,190	\$63,800	\$910	\$18,200	\$82,000
Process duplex vacuum pump system, all connections, demolition, and disposal fees	HP	10	\$910	\$9,100	\$210	\$2,100	\$11,200
Project Totals:				\$72,900		\$20,300	\$93,200

Material/Labor Cost		\$93,200
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$83,824
General Contractor Mark Up at 20.0%	+	\$16,765
Construction Cost		\$100,589
Professional Fees at 16.0%	+	\$16,094
Total Project Cost		\$116,683

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODSI01	Title:	SITE PAVING UPGRADES
Priority Sequence:	22		
Priority Class:	3		
Category Code:	SI4A	System:	SITE
		Component:	GENERAL
		Element:	OTHER
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	502	
Project Class:	Capital Renewal		
Project Date:	10/5/2009		
Project Location:	Undefined: Floor(s) 1		

Project Description

Pedestrian paving systems are in overall poor condition and represent a liability to the owner. New systems, including excavation, grading, base compaction, and paving, are recommended. Vehicular paving systems are in fair condition and will need moderate upgrades.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODSI01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Concrete pedestrian paving (1,000 sf minimum)	SF	7,200	\$2.97	\$21,384	\$3.64	\$26,208	\$47,592
Allowance for vehicular paving wear course rehabilitation, sealcoat, and striping	SY	6,500	\$7.91	\$51,415	\$3.79	\$24,635	\$76,050
Project Totals:				\$72,799		\$50,843	\$123,642

Material/Labor Cost		\$123,642
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$99,391
General Contractor Mark Up at 20.0%	+	\$19,878
Construction Cost		\$119,269
Professional Fees at 16.0%	+	\$19,083
Total Project Cost		\$138,352

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODVT01	Title:	UPGRADE ELEVATOR NO. 1 (SOUTH A) AND NO. 2 (SOUTH B)
Priority Sequence:	23		
Priority Class:	3		
Category Code:	VT7A	System:	VERT. TRANSPORTATION
		Component:	GENERAL
		Element:	OTHER
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/12/2009		
Project Location:	Item Only: Floor(s) G		

Project Description

Perform a complete modernization to include replacement of the machine, governor, motion/motor/operation controller, door operator, door hangers, rollers/related door equipment, interlocks, car operating panel, signal fixtures, car safeties, car and counterweight buffers and refurbishing of the car interior.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODVT01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Client-reported cost to modernize elevators	EA	1	\$400,000	\$400,000	\$0.00	\$	\$400,000
Project Totals:				\$400,000		\$	\$400,000

Material/Labor Cost	\$400,000
Material Index	100.7%
Labor Index	51.3%
Material/Labor Indexed Cost	\$402,800
No GCM Required	
Construction Cost	\$402,800
No Professional Fees Required	
Total Project Cost	\$402,800

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODVT02	Title:	UPGRADE ELEVATOR NO. 1 (NORTH B) AND NO. 2 (NORTH A)
Priority Sequence:	24		
Priority Class:	3		
Category Code:	VT7A	System:	VERT. TRANSPORTATION
		Component:	GENERAL
		Element:	OTHER
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/12/2009		
Project Location:	Item Only: Floor(s) G		

Project Description

Recommend to replace the machines, deflector sheaves, and governors. Elevators were modernized in 2000 with new controllers. New machines shall be equipped with DC Motors since the Controllers are SCR Drive.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODVT02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Client-reported cost to upgrade elevators	EA	1	\$140,000	\$140,000	\$0.00	\$	\$140,000
Project Totals:				\$140,000		\$	\$140,000

Material/Labor Cost	\$140,000
Material Index	100.7%
Labor Index	51.3%
Material/Labor Indexed Cost	<u>\$140,980</u>
No GCM Required	
Construction Cost	<u>\$140,980</u>
No Professional Fees Required	
Total Project Cost	<u><u>\$140,980</u></u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODVT03	Title:	UPGRADE ELEVATOR NO. 1 (HLS)
Priority Sequence:	25		
Priority Class:	3		
Category Code:	VT7A	System:	VERT. TRANSPORTATION
		Component:	GENERAL
		Element:	OTHER
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Deferred Maintenance		
Project Date:	10/12/2009		
Project Location:	Item Only: Floor(s) G		

Project Description

Perform a complete modernization on the hydraulic elevator. Replace the hydraulic pumping unit with motor, pump, valve, controller, door operator, door hangers, tracks, related hardware, interlocks, car operating panel, and signal fixtures, and refurbish the car interior.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODVT03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Client-reported cost to modernize elevator	EA	1	\$75,000	\$75,000	\$0.00	\$	\$75,000
Project Totals:				\$75,000		\$	\$75,000

Material/Labor Cost	\$75,000
Material Index	100.7%
Labor Index	51.3%
Material/Labor Indexed Cost	<u>\$75,525</u>
No GCM Required	
Construction Cost	<u>\$75,525</u>
No Professional Fees Required	
Total Project Cost	<u>\$75,525</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODHE01	Title:	LAB COLD BOX UPGRADES
Priority Sequence:	26		
Priority Class:	4		
Category Code:	HE1A	System:	HEALTH
		Component:	ENVIRONMENTAL CONTROL
		Element:	EQUIPMENT AND ENCLOSURES
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ASHRAE	15-2004	
Project Class:	Capital Renewal		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 3, 4, 5, 6, 7, 8		

Project Description

The replacement of the laboratory cold box systems is recommended. This includes the mechanical systems and the associated insulated enclosures. For the mechanical systems of the replacement units, specify non-CFC/HCFC refrigerant based systems of the latest energy-efficient design.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODHE01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Refrigeration system, including compressor, evaporator unit, controls, refrigerant, and demolition of existing equipment	SYS	11	\$3,350	\$36,850	\$2,480	\$27,280	\$64,130
Replace standard cooler / freezer, galvanized panels and insulation, 7 foot 6 inch ceiling, shelving, and vapor barrier	SF	880	\$78.35	\$68,948	\$45.11	\$39,697	\$108,645
Project Totals:				\$105,798		\$66,977	\$172,775

Material/Labor Cost		\$172,775
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$140,898
General Contractor Mark Up at 20.0%	+	\$28,180
Construction Cost		\$169,077
Professional Fees at 16.0%	+	\$27,052
Total Project Cost		\$196,130

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODAC01	Title:	INTERIOR AMENITY ACCESSIBILITY UPGRADES
Priority Sequence:	27		
Priority Class:	4		
Category Code:	AC4A	System:	ACCESSIBILITY
		Component:	GENERAL
		Element:	FUNCTIONAL SPACE MOD.
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	211, 602, 804	
Project Class:	Plant Adaption		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G		

Project Description

Current accessibility legislation requires that building amenities be generally accessible to all persons. The configurations of the break room kitchenettes and drinking fountains are barriers to accessibility in some areas. The installation of wheelchair-accessible kitchenette cabinetry is recommended where applicable. All single level, refrigerated drinking fountains should be replaced with dual level units.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODAC01

Task Cost Estimate

Task Description	Unit	Qty	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	SYS	4	\$4,894	\$19,576	\$1,999	\$7,996	\$27,572
Dual level drinking fountain	EA	31	\$1,216	\$37,696	\$374	\$11,594	\$49,290
Alcove construction including finishes	EA	31	\$877	\$27,187	\$3,742	\$116,002	\$143,189
Project Totals:				\$84,459		\$135,592	\$220,051

Material/Labor Cost		\$220,051
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$154,609
General Contractor Mark Up at 20.0%	+	\$30,922
Construction Cost		\$185,531
Professional Fees at 16.0%	+	\$29,685
Total Project Cost		\$215,216

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODAC02	Title:	RESTROOM RENOVATION
Priority Sequence:	28		
Priority Class:	4		
Category Code:	AC3E	System:	ACCESSIBILITY
		Component:	INTERIOR PATH OF TRAVEL
		Element:	RESTROOMS/BATHROOMS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	604, 605, 606, 607, 608	
Project Class:	Plant Adaption		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G		

Project Description

While select areas have been upgraded with accessible restrooms, most of the restrooms in the building are original. The fixtures are sound but dated and are spaced such that clearances are not ADA compliant. A comprehensive restroom renovation, including new fixtures, finishes, partitions, and accessories, is recommended. Restroom expansion may be necessary in order to meet modern minimum fixture counts and accessibility legislation.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODAC02

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Major restroom renovation, including fixtures, finishes, partitions, accessories, and expansion if necessary (assumes 55 square feet of restroom area per fixture)	FIXT	150	\$1,969	\$295,350	\$1,699	\$254,850	\$550,200
Project Totals:				\$295,350		\$254,850	\$550,200

Material/Labor Cost		\$550,200
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$428,156
General Contractor Mark Up at 20.0%	+	\$85,631
Construction Cost		\$513,787
Professional Fees at 16.0%	+	\$82,206
Total Project Cost		\$595,992

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODAC03	Title:	EMERGENCY SHOWER RENOVATION
Priority Sequence:	29		
Priority Class:	4		
Category Code:	AC3E	System:	ACCESSIBILITY
		Component:	INTERIOR PATH OF TRAVEL
		Element:	RESTROOMS/BATHROOMS
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	ADAAG	603	
Project Class:	Plant Adaption		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 3, 4, 5, 6, 7		

Project Description

The hallway emergency showers on select floors are located in stalls that have curbs. These curbs prevent wheelchair access and are barriers to accessibility. Modify the emergency showers to provide roll-in access.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODAC03

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Roll-in shower	EA	10	\$3,280	\$32,800	\$4,269	\$42,690	\$75,490
Project Totals:				\$32,800		\$42,690	\$75,490

Material/Labor Cost		\$75,490
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		<u>\$54,930</u>
General Contractor Mark Up at 20.0%	+	<u>\$10,986</u>
Construction Cost		<u>\$65,915</u>
Professional Fees at 16.0%	+	<u>\$10,546</u>
Total Project Cost		<u>\$76,462</u>

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODIS04	Title:	REPLACE INTERIOR DOORS
Priority Sequence:	30		
Priority Class:	4		
Category Code:	IS4A	System:	INTERIOR/FINISH SYS.
		Component:	DOORS
		Element:	GENERAL
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	Not Applicable		
Project Class:	Capital Renewal		
Project Date:	10/5/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G		

Project Description

The condition of the interior door systems is such that door system replacements are recommended as part of a comprehensive renovation effort. Complete demolition of existing door systems and replacement according to a code compliant plan to protect egress passages properly is recommended. Door hardware and proper signage should be included with this effort.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODIS04

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Interior door and frame installation with all hardware and accessible signage	EA	147	\$370	\$54,390	\$396	\$58,212	\$112,602
Rated door and rated metal frame, including all hardware and accessible signage	EA	440	\$672	\$295,680	\$812	\$357,280	\$652,960
Project Totals:				\$350,070		\$415,492	\$765,562

Material/Labor Cost		\$765,562
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$565,668
General Contractor Mark Up at 20.0%	+	\$113,134
Construction Cost		\$678,801
Professional Fees at 16.0%	+	\$108,608
Total Project Cost		\$787,410

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Description

Project Number:	BRODPL01	Title:	WATER SUPPLY PIPING REPLACEMENT
Priority Sequence:	31		
Priority Class:	4		
Category Code:	PL1A	System:	PLUMBING
		Component:	DOMESTIC WATER
		Element:	PIPING NETWORK
Building Code:	BROD		
Building Name:	BRODY MEDICAL SCIENCES BUILDING		
Subclass/Savings:	Not Applicable		
Code Application:	IPC	Chapter 6	
Project Class:	Capital Renewal		
Project Date:	10/24/2009		
Project Location:	Floor-wide: Floor(s) 1, 2, 3, 4, 5, 6, 7, 8, G, P		

Project Description

Replace water supply and process piping as needed throughout the facility. Remove the aging water supply and process piping. Install new copper water supply piping with fiberglass insulation. Provide isolation valves, pressure regulators, shock absorbers, and backflow prevention devices in appropriate areas. Install new process piping as needed such as gas lines, vacuum lines, compressed air lines, purified water lines, process steam lines, etc., along with related isolation valves and gas cocks. Clearly label exposed piping for identification of the conveyed fluids and gases.

Specific Project Details
Facility Condition Analysis
Section Three
BROD : BRODY MEDICAL SCIENCES BUILDING

Project Cost

Project Number: BRODPL01

Task Cost Estimate

Task Description	Unit	Qty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Water and specialty pipe and fittings, valves, backflow prevention devices, insulation, hangers, labels, demolition, and cut and patching materials	SF	480,279	\$2.46	\$1,181,486	\$6.15	\$2,953,716	\$4,135,202
Project Totals:				\$1,181,486		\$2,953,716	\$4,135,202

Material/Labor Cost		\$4,135,202
Material Index		100.7%
Labor Index		51.3%
Material/Labor Indexed Cost		\$2,705,013
General Contractor Mark Up at 20.0%	+	\$541,003
Construction Cost		\$3,246,016
Professional Fees at 16.0%	+	\$519,362
Total Project Cost		\$3,765,378

FACILITY CONDITION ANALYSIS

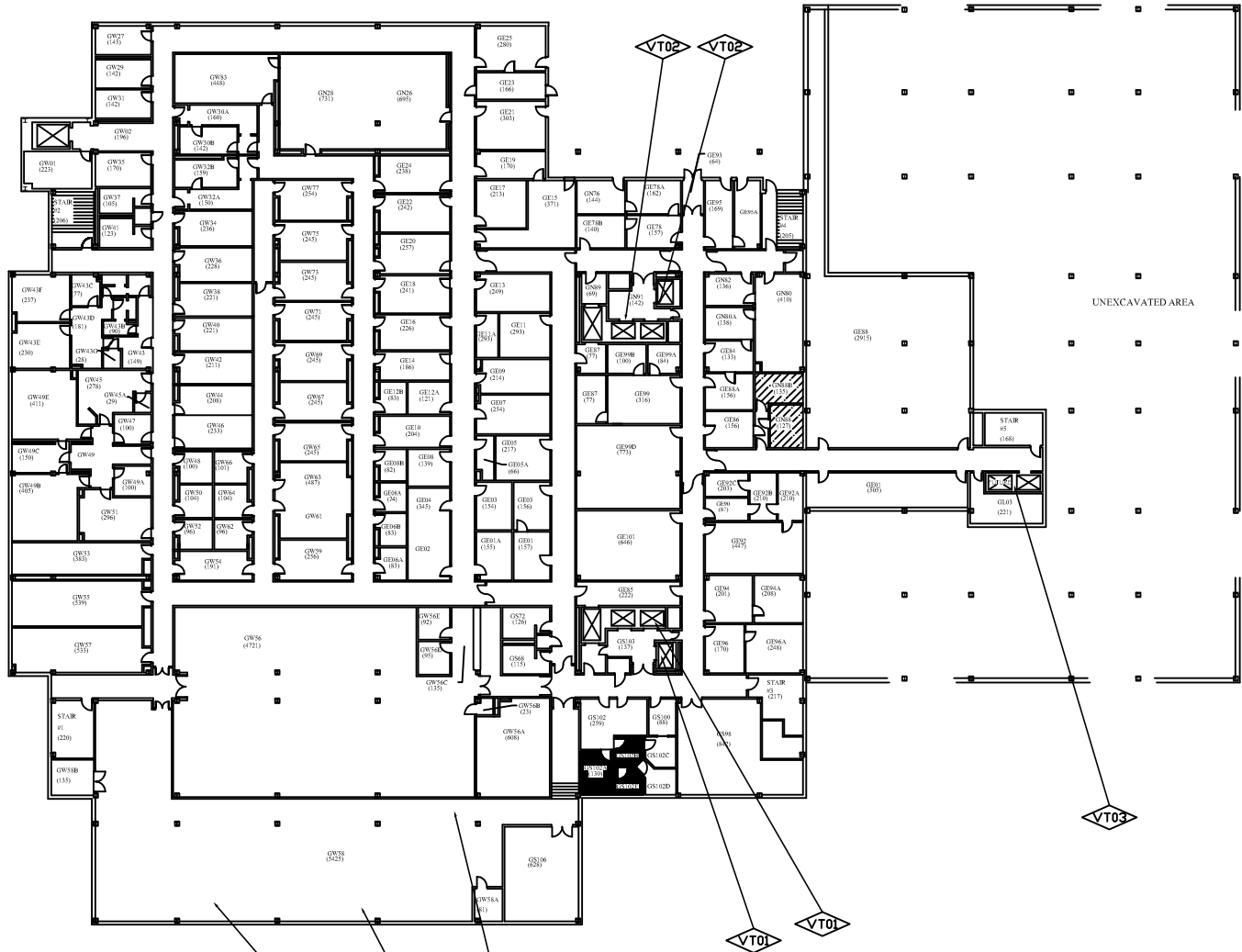
SECTION 4

**DRAWINGS
AND PROJECT LOCATIONS**



FACILITY CONDITION ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376



UNEXCAVATED AREA

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

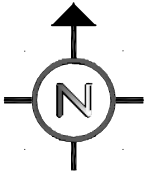
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PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

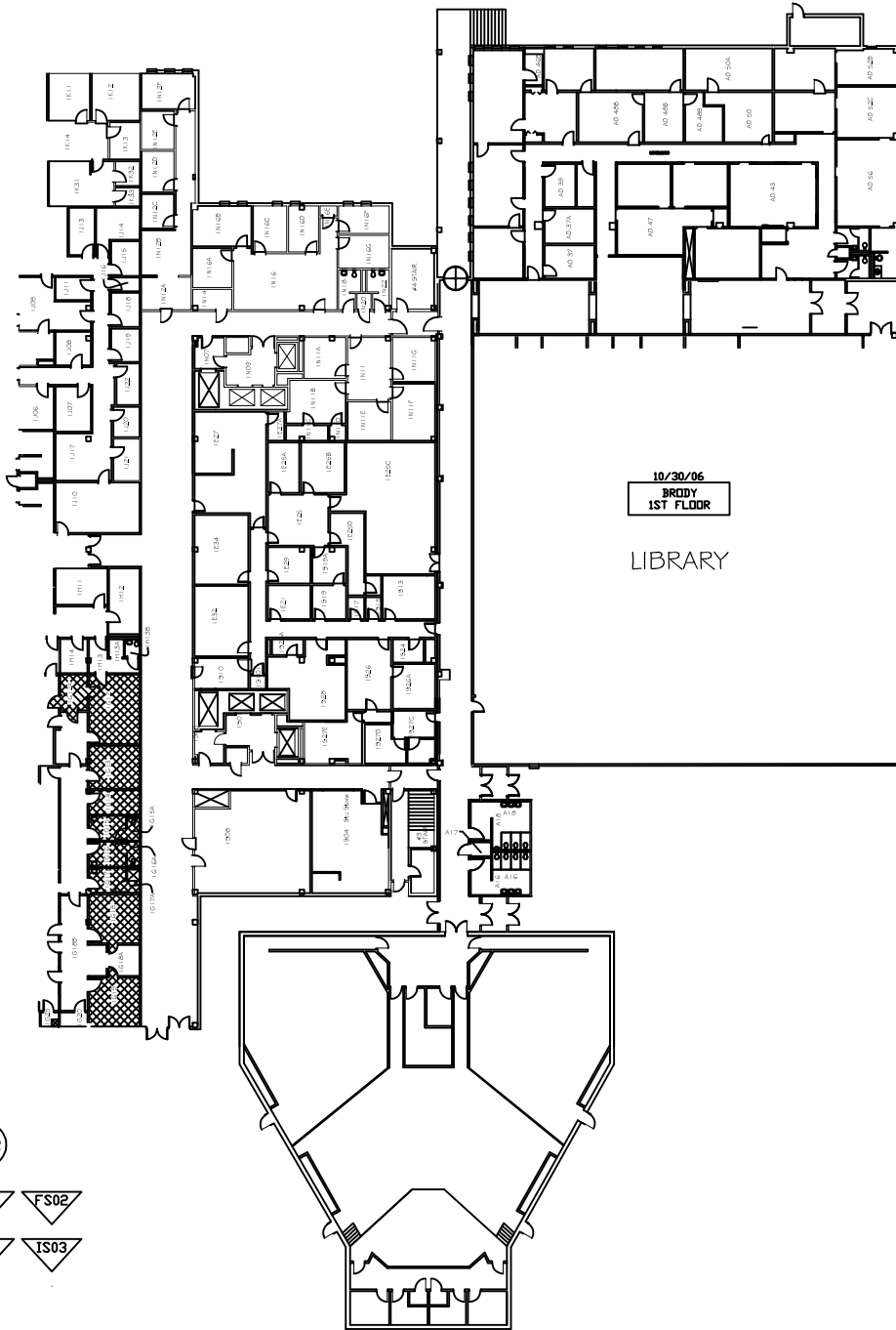
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- AC02
- EL01
- EL02
- EL03
- EL04
- FS01
- FS02
- FS03
- HV01
- HV02
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- IS02
- IS03
- IS04
- IS05
- PL01

- PL02
- PL03
- PL04

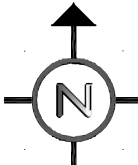


Date: 12/04/09
Drawn by: J.T.V.
Project No. 09-041

GROUND FLOOR PLAN



- IS06 S101 EL05 ES01 ES02
- AC01 AC02 EL03 EL04 FS01 FS02
- FS03 HV01 HV02 IS01 IS02 IS03
- IS04 IS05 PL01



FACILITY CONDITION ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376

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

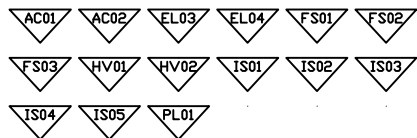
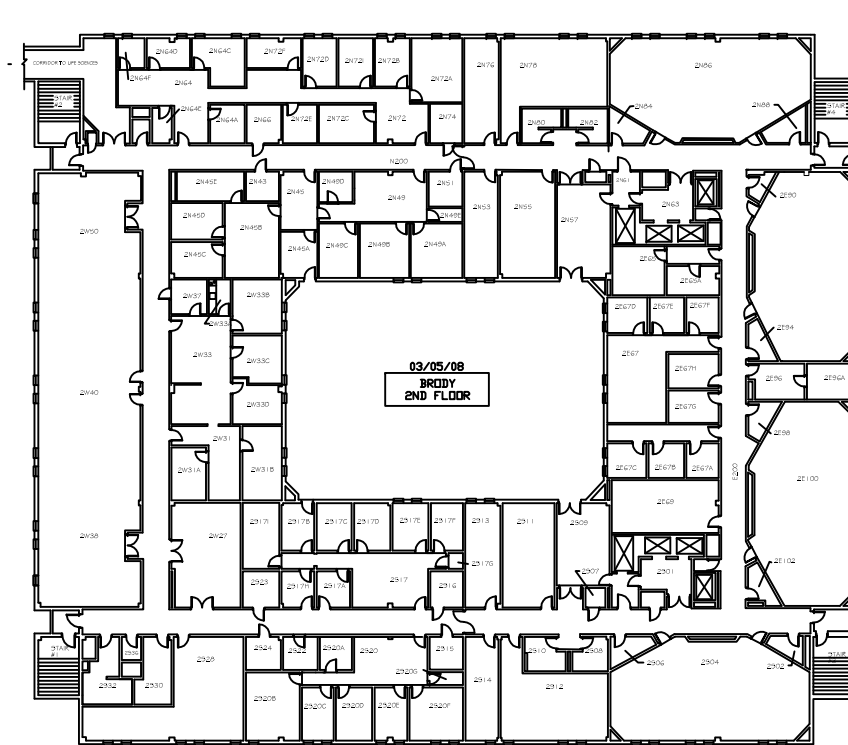
Date: 12/04/09
Drawn by: J.T.V.
Project No. 09-041

FIRST FLOOR PLAN



FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
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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

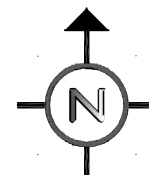
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Drawn by: J.T.V.

Project No. 09-041

SECOND
FLOOR
PLAN

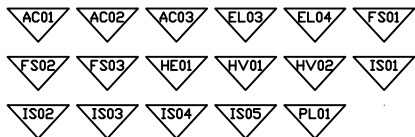
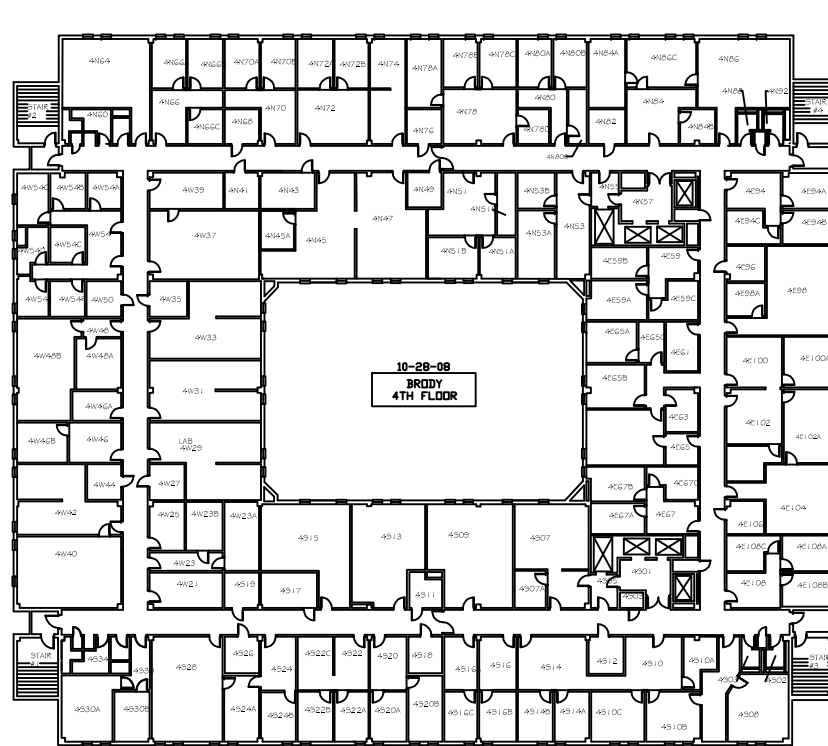
Sheet No.
3 of 9





FACILITY
CONDITION
ANALYSIS

2165 West Park Court
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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

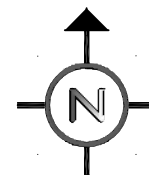
Date: 12/04/09

Drawn by: J.T.V.

Project No. 09-041

FOURTH
FLOOR
PLAN

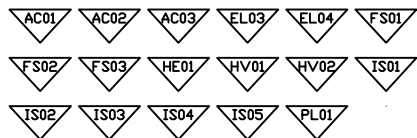
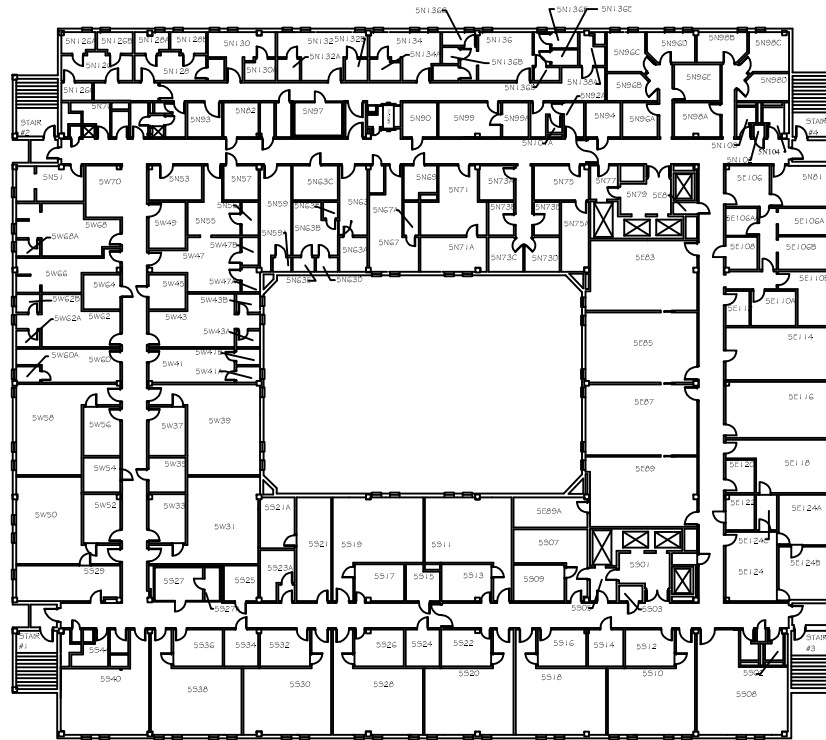
Sheet No.
5 of 9





FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376



PROJECT NUMBER
APPLIES TO
ONE ROOM ONLY

PROJECT NUMBER
APPLIES TO
ONE ITEM ONLY

PROJECT NUMBER
APPLIES TO
ENTIRE BUILDING

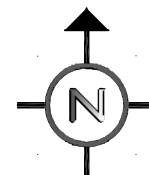
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APPLIES TO
ENTIRE FLOOR

PROJECT NUMBER
APPLIES TO A SITUATION
OF UNDEFINED EXTENTS

PROJECT NUMBER
APPLIES TO AREA
AS NOTED

Date: 12/04/09
Drawn by: J.T.V.
Project No. 09-041

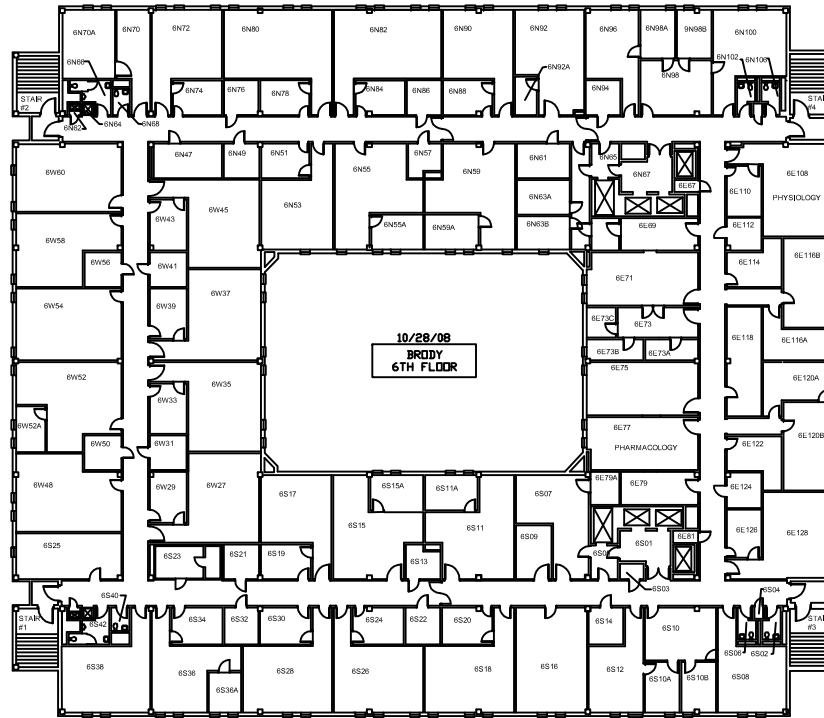
FIFTH
FLOOR
PLAN











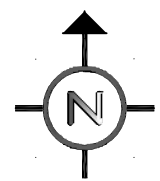
FACILITY
CONDITION
ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376



-  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

- AC01 AC02 AC03 EL03 EL04 FS01
- FS02 FS03 HE01 HV01 HV02 IS01
- IS02 IS03 IS04 IS05 PL01



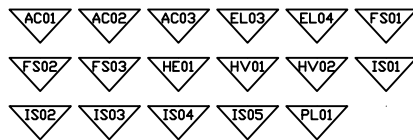
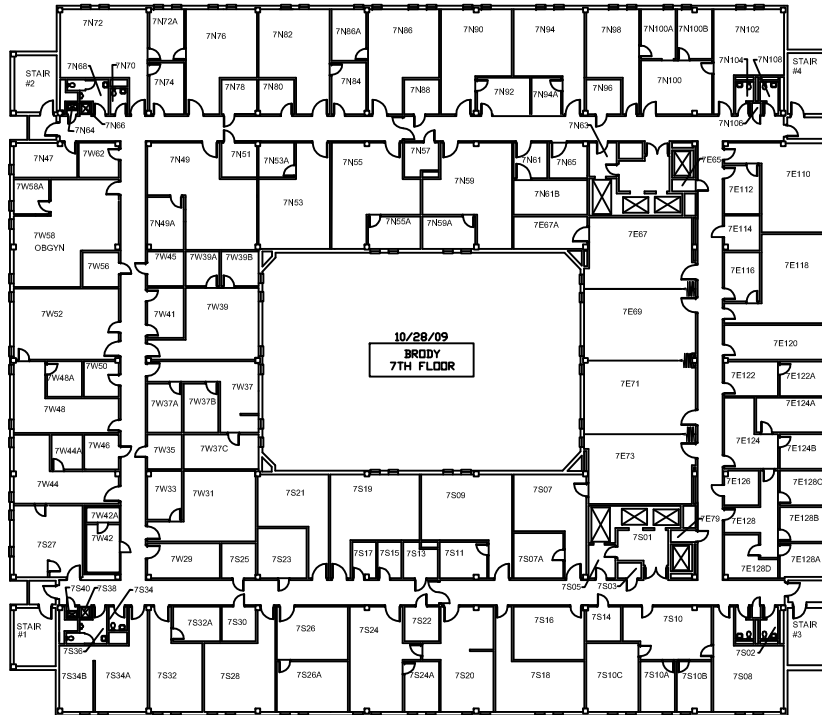
Date: 12/04/09
 Drawn by: J.T.V.
 Project No. 09-041







SIXTH
FLOOR
PLAN



FACILITY
CONDITION
ANALYSIS

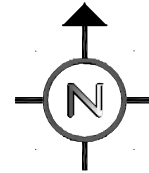
2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376



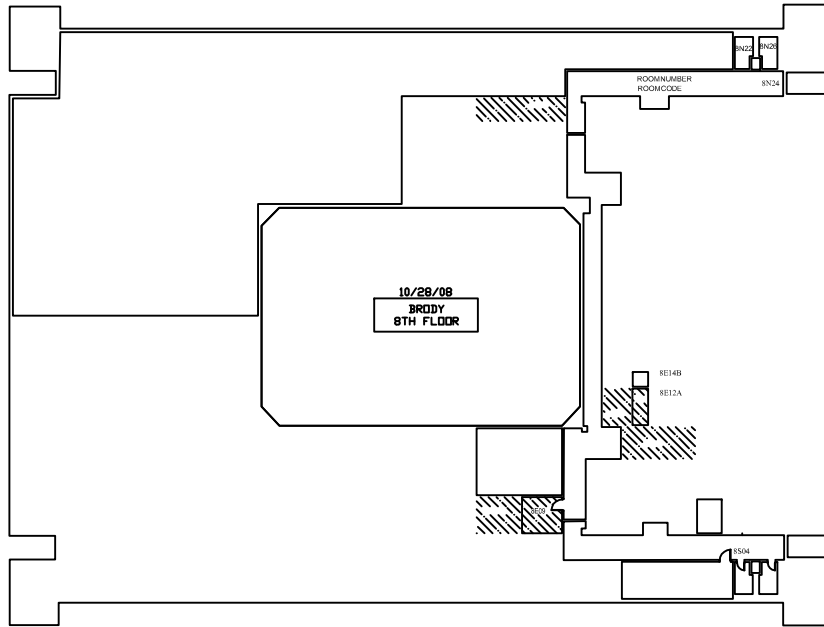
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-  PROJECT NUMBER APPLIES TO ONE ITEM ONLY
-  PROJECT NUMBER APPLIES TO ENTIRE BUILDING
-  PROJECT NUMBER APPLIES TO ENTIRE FLOOR
-  PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS
-  PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/04/09
 Drawn by: J.T.V.
 Project No. 09-041

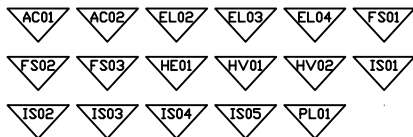
SEVENTH
FLOOR
PLAN



ROOF



PENTHOUSE



FACILITY CONDITION ANALYSIS

2165 West Park Court
Suite N
Stone Mountain GA 30087
770.879.7376

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

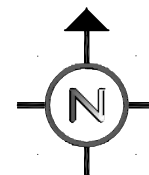
PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/04/09

Drawn by: J.T.V.

Project No. 09-041

EIGHTH FLOOR PLAN



FACILITY CONDITION ANALYSIS

SECTION 5

LIFE CYCLE MODEL SUMMARY
AND PROJECTIONS

Life Cycle Model
Building Component Summary
BROD : BRODY MEDICAL SCIENCES BUILDING

Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
B2010	EXTERIOR FINISH RENEWAL	63,000	SF	\$1.30	.31	\$25,459	1982	10
B2010	EXTERIOR FINISH RENEWAL	21,000	SF	\$1.30	.31	\$8,486	1989	10
B2020	STANDARD GLAZING AND CURTAIN WALL	21,000	SF	\$104.04		\$2,184,768	1982	55
B2020	STANDARD GLAZING AND CURTAIN WALL	7,000	SF	\$104.04		\$728,256	1989	55
B2030	HIGH TRAFFIC EXTERIOR DOOR SYSTEM	20	LEAF	\$4,311.24		\$86,225	1982	20
B2030	LOW TRAFFIC EXTERIOR DOOR SYSTEM	16	LEAF	\$2,863.29		\$45,813	1982	40
B3010	BUILT-UP ROOF	19,210	SF	\$6.70		\$128,758	2006	20
B3010	MEMBRANE ROOF	28,820	SF	\$6.41		\$184,644	1989	15
B3020	SKYLIGHT	100	SF	\$104.04		\$10,404	1989	30
C1020	STANDARD DOOR AND FRAME INCLUDING HARDWARE	147	LEAF	\$783.68		\$115,201	1982	35
C1020	RATED DOOR AND FRAME INCLUDING HARDWARE	440	LEAF	\$1,489.06		\$655,186	1982	35
C1020	INTERIOR DOOR HARDWARE	440	EA	\$423.04		\$186,139	1982	15
C1020	INTERIOR DOOR HARDWARE	147	EA	\$423.04		\$62,187	1982	15
C3010	STANDARD WALL FINISH (PAINT, WALL COVERING, ETC.)	1,164,990	SF	\$0.80		\$933,204	1982	10
C3020	CARPET	81,650	SF	\$8.75		\$714,148	1982	10
C3020	VINYL FLOOR TILE	285,770	SF	\$6.59		\$1,882,616	1982	15
C3020	CERAMIC FLOOR TILE	20,410	SF	\$17.36		\$354,366	1982	20
C3020	RESURFACE AND SEAL CONCRETE OR TERRAZZO	20,410	SF	\$5.85		\$119,331	1982	50
C3030	ACOUSTICAL TILE CEILING SYSTEM	367,410	SF	\$4.99		\$1,834,482	1982	15
C3030	PAINTED CEILING FINISH APPLICATION	40,820	SF	\$0.80		\$32,698	1982	15
D1010	ELEVATOR MODERNIZATION - HYDRAULIC	1	EA	\$158,628.64		\$158,629	1997	25
D1010	ELEVATOR MODERNIZATION - TRACTION - HIGH RISE	4	EA	\$160,245.86		\$640,983	1982	25
D1010	ELEVATOR MODERNIZATION - TRACTION - HIGH RISE	4	EA	\$160,245.86		\$640,983	1982	25
D1010	ELEVATOR CAB RENOVATION - PASSENGER	4	EA	\$26,616.80		\$106,467	1982	12
D1010	ELEVATOR CAB RENOVATION - PASSENGER	1	EA	\$26,616.80		\$26,617	1997	12
D1010	ELEVATOR CAB RENOVATION - PASSENGER	4	EA	\$26,616.80		\$106,467	1982	12
D2010	PLUMBING FIXTURES - LABORATORY	480,279	SF	\$10.78		\$5,175,232	1982	35
D2020	WATER / PROCESS PIPING - LABORATORY	480,279	SF	\$7.67		\$3,684,888	1982	35
D2020	DOMESTIC WATER PRESSURE BOOSTER SYSTEM	1	SYS	\$8,868.58		\$8,869	1982	20
D2020	WATER HEATER, SHELL AND TUBE HEAT EXCHANGE	48	GPM	\$355.69		\$17,073	2002	24

Life Cycle Model
Building Component Summary
BROD : BRODY MEDICAL SCIENCES BUILDING

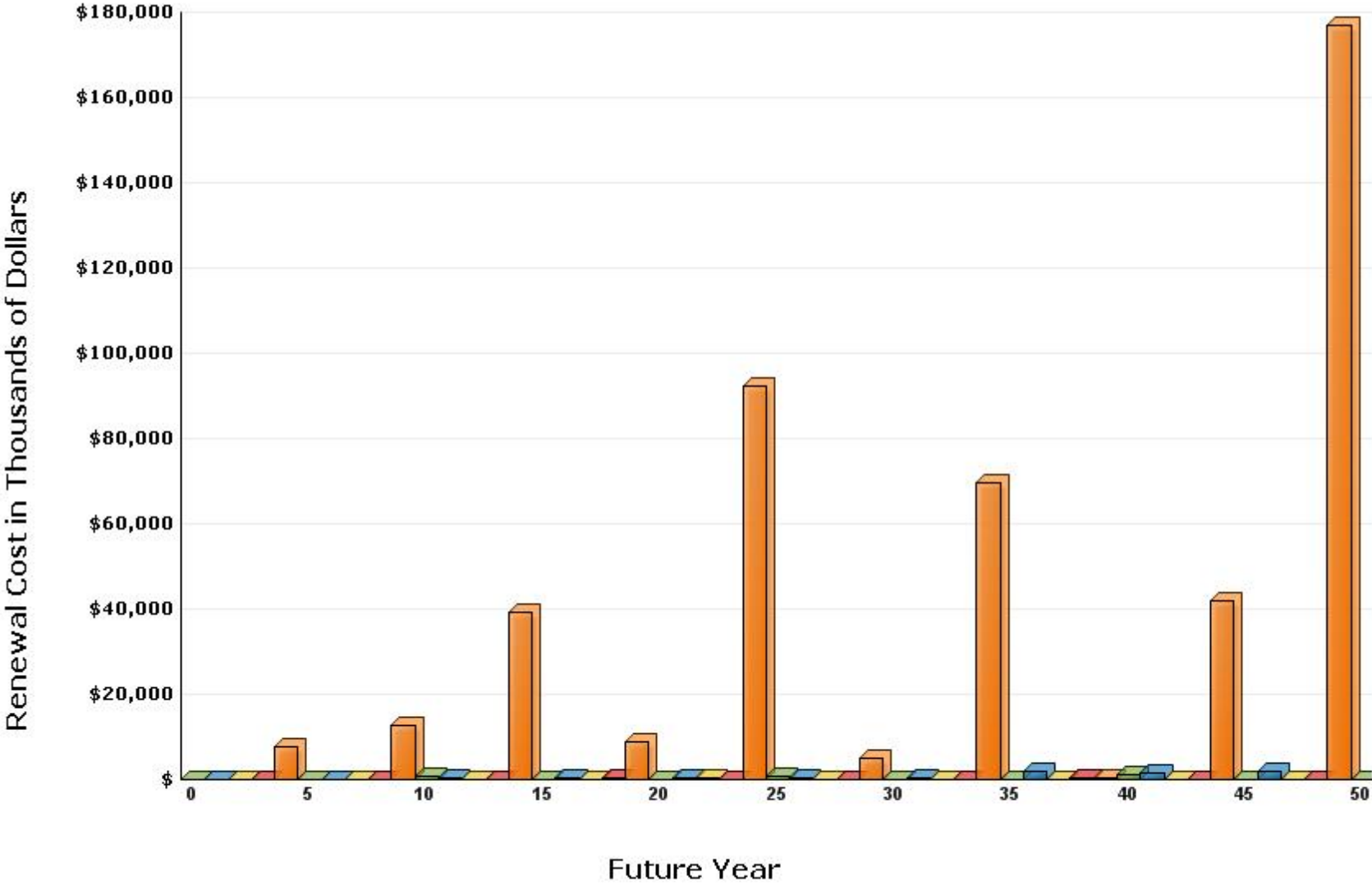
Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
D2030	DRAIN PIPING - LABORATORY	480,279	SF	\$11.66		\$5,600,927	1982	40
D2030	SUMP PUMP SYS (2 PUMPS, CONTROLS)	1	SYS	\$8,276.49		\$8,276	1982	20
D2050	AIR COMPRESSOR PACKAGE (AVERAGE SIZE)	1	SYS	\$6,456.49		\$6,456	1982	25
D2050	MED / LAB AIR COMPRESSOR SYS. INC. DRYER	20	HP	\$5,013.71		\$100,274	1982	20
D2050	MED / LAB VACUUM PUMP SYSTEM	10	HP	\$1,393.81		\$13,938	1982	20
D3030	COLD BOX REFRIGERATION SYSTEM	11	SYS	\$6,324.50		\$69,569	1982	15
D3040	CONDENSATE RECEIVER	2	SYS	\$9,504.01		\$19,008	1982	15
D3040	EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR	4	EA	\$2,768.62		\$11,074	1982	20
D3040	EXHAUST FAN - UTILITY SET OR SIMILAR	4	EA	\$3,660.81		\$14,643	1982	20
D3040	FUME HOOD INCLUDING MECH. SYS	115	SYS	\$41,216.93		\$4,739,947	1982	20
D3040	FUME HOOD INCLUDING MECH. SYS	5	SYS	\$41,216.93		\$206,085	2002	20
D3040	HVAC SYSTEM - LABORATORY	480,279	SF	\$73.54		\$35,319,751	1982	25
D3040	BASE MTD. PUMP - UP TO 15 HP	6	HP	\$3,175.77		\$19,055	2002	20
D3040	BASE MTD. PUMP - 15 HP TO 50 HP	50	HP	\$1,142.19		\$57,110	2002	20
D3040	BASE MTD. PUMP - 50 HP TO 150 HP	150	HP	\$782.99		\$117,448	1979	25
D4010	FIRE SPRINKLER SYSTEM	384,223	SF	\$6.86		\$2,636,189	1982	80
D4010	FIRE SPRINKLER HEADS	384,223	SF	\$0.38		\$144,910	1982	20
D4020	FIRE PUMP - ELECTRIC (UP TO 750 GPM)	150	GPM	\$86.64		\$12,997	1982	25
D5010	ELECTRICAL SYSTEM - LABORATORY	480,279	SF	\$14.42		\$6,925,647	1982	50
D5010	ELECTRICAL SWITCHGEAR 277/480V	8,400	AMP	\$39.56		\$332,333	1982	20
D5010	TRANSFORMER, DRY, 480-208V (30-150 KVA)	2,625	KVA	\$96.00		\$251,988	1982	30
D5010	VARIABLE FREQUENCY DRIVE (OVER 50 HP)	150	HP	\$237.46		\$35,619	1979	12
D5020	EXIT SIGNS (CENTRAL POWER)	322	EA	\$163.78		\$52,736	1982	20
D5020	EXTERIOR LIGHT (HID)	20	EA	\$689.58		\$13,792	1982	20
D5020	LIGHTING - LABORATORY	288,167	SF	\$6.29		\$1,813,487	1982	20
D5020	LIGHTING - LABORATORY	192,112	SF	\$6.29		\$1,208,995	2002	20
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	336,195	SF	\$2.61		\$879,012	1982	15
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	144,084	SF	\$2.61		\$376,721	2003	15
D5040	GENERATOR, DIESEL (200-500 KW)	400	KW	\$377.78		\$151,113	1979	25
D5040	GENERATOR, DIESEL (200-500 KW)	350	KW	\$377.78		\$132,224	1989	25

**Life Cycle Model
Building Component Summary
BROD : BRODY MEDICAL SCIENCES BUILDING**

Unifomat Code	Component Description	Qty	Units	Unit Cost	Complex Adj	Total Cost	Install Date	Life Exp
D5040	GENERATOR, DIESEL (200-500 KW)	600	KW	\$377.78		\$226,670	1999	25
E2010	KITCHENETTE UNIT WITH CABINETRY AND AMENITIES	4	LOT	\$5,940.22		\$23,761	1982	20
E2010	LABORATORY CASEWORK (20% CASEWORK DENSITY)	312,180	SF	\$28.82		\$8,997,905	1982	20
E2010	BASIC FOLDING FIXED SEATING	600	EA	\$278.95		\$167,369	1982	20
F1020	ENVIRONMENTAL CHAMBER	880	SF	\$139.02		<u>\$122,334</u>	1982	35
						\$91,667,943		

Life Cycle Model Expenditure Projections

BROD : BRODY MEDICAL SCIENCES BUILDING



Average Annual Renewal Cost Per SqFt \$7.44

FACILITY CONDITION ANALYSIS

SECTION 6

PHOTOGRAPHIC LOG

**Photo Log - Facility Condition
Analysis
BROD : BRODY MEDICAL SCIENCES BUILDING**

Photo ID No	Description	Location	Date
BROD001a	Roof detail	Roof	8/31/2009
BROD001e	Original exhaust fan	Roof	8/31/2009
BROD002a	Roof detail	Roof	8/31/2009
BROD002e	Original traction elevator	North penthouse elevator room	8/31/2009
BROD003a	Open central facade	Exterior elevation	8/31/2009
BROD003e	Original electro server mechanical control panel	North penthouse elevator room	8/31/2009
BROD004a	Penthouse detail	Roof	8/31/2009
BROD004e	Steam unit heater	North penthouse elevator room	8/31/2009
BROD005a	Roof detail	Roof	8/31/2009
BROD005e	Original traction elevator	South penthouse elevator room	8/31/2009
BROD006a	Stairwell design	Eighth floor	8/31/2009
BROD006e	Original electro server mechanical control panel	South penthouse elevator room	8/31/2009
BROD007a	Stairwell design	Eighth floor	8/31/2009
BROD007e	Steam unit heater	South penthouse elevator room	8/31/2009
BROD008a	Stairwell design	Eighth floor	8/31/2009
BROD008e	Original exhaust fan	Roof	8/31/2009
BROD009a	Corridor finishes	Eighth floor	8/31/2009
BROD009e	New strobic exhaust fan	Roof	8/31/2009
BROD010a	Single level drinking fountain	Eighth floor	8/31/2009
BROD010e	Outdated and inefficient heat wheel	Air handler outside air intake	8/31/2009
BROD011a	Restroom fixtures	Eighth floor	8/31/2009
BROD011e	Outdated Johnson Control pneumatic control system	Eighth floor, north mechanical room	8/31/2009
BROD012a	Knob door hardware and Braille signage	Eighth floor	8/31/2009
BROD012e	ABB variable frequency drives	Eighth floor, north mechanical room	8/31/2009
BROD013a	Corridor finishes	Seventh floor	8/31/2009
BROD013e	Original General Electric motor control center	Eighth floor, north mechanical room	8/31/2009
BROD014a	Lab cabinetry detail	Seventh floor	8/31/2009
BROD014e	Original built-up air handling unit	Eighth floor mechanical room	8/31/2009
BROD015a	Window detail	Seventh floor	8/31/2009
BROD015e	Supply fan	Eighth floor, mechanical room	8/31/2009
BROD016a	Corridor finishes	Seventh floor	8/31/2009

**Photo Log - Facility Condition
Analysis
BROD : BRODY MEDICAL SCIENCES BUILDING**

Photo ID No	Description	Location	Date
BROD016e	Outdated fume hood exhaust fans	Eighth floor, mechanical room	8/31/2009
BROD017a	Lab finishes	Seventh floor	8/31/2009
BROD017e	GE main 1,000 amp switchboard	Eighth floor, mechanical room	8/31/2009
BROD018a	Non-compliant break room sink	Sixth floor	8/31/2009
BROD018e	Original fusible link sprinkler head	Mechanical room 8S08	8/31/2009
BROD019a	Corridor finishes	Fifth floor	8/31/2009
BROD019e	Original opaque strobe and audible annunciator	Eighth floor	8/31/2009
BROD020a	Corridor finishes	Fourth floor	8/31/2009
BROD020e	Typical LED exit sign	Eighth floor	8/31/2009
BROD021a	Eyewash design	Fourth floor	8/31/2009
BROD021e	Walk-in cooler	Eighth floor	8/31/2009
BROD022a	Remodeled lab area	Fourth floor, room 4S09	8/31/2009
BROD022e	Typical fume hood	Lab 7N59	8/31/2009
BROD023a	Corridor finishes	Third floor	8/31/2009
BROD023e	Typical laboratory drain piping	Room 7N88	8/31/2009
BROD024a	Lever door hardware and signage in east wing	Third floor	8/31/2009
BROD024e	Emergency eyewash and shower	Lab 7S38	8/31/2009
BROD025a	Classroom interior finishes	Third floor	8/31/2009
BROD025e	Non-GFCI receptacle	Women's restroom	8/31/2009
BROD026a	Corridor finishes	Third floor	8/31/2009
BROD026e	Original T12 lighting fixture	Lab 5W43	8/31/2009
BROD027a	Dual level drinking fountain	Third floor	8/31/2009
BROD027e	Original fume hood	Lab 4S09	8/31/2009
BROD028a	East wing roof detail	Roof	8/31/2009
BROD028e	Typical electrical distribution equipment	Electrical room 3N47	8/31/2009
BROD029a	Auditorium roof detail	Roof	8/31/2009
BROD029e	Emergency outlet	Third floor, west wing	8/31/2009
BROD030a	Corridor finishes	Second floor	8/31/2009
BROD030e	Xenon strobe and audible annunciator	Third floor, west wing	8/31/2009
BROD031a	Remodeled classroom finishes	Second floor	8/31/2009
BROD031e	Electrical panel	Third floor, west wing	8/31/2009
BROD032a	Lecture hall seating	Second floor	8/31/2009

**Photo Log - Facility Condition
Analysis
BROD : BRODY MEDICAL SCIENCES BUILDING**

Photo ID No	Description	Location	Date
BROD032e	Walk-in cooler condensing unit	Third floor, lower roof, east wing	8/31/2009
BROD033a	Library interior finishes	Second floor	8/31/2009
BROD033e	Timeworn exhaust fan	Third floor, lower roof, east wing	8/31/2009
BROD034a	Library interior finishes	Second floor	8/31/2009
BROD034e	Drain piping	Third floor	8/31/2009
BROD035a	Library interior finishes	Second floor	8/31/2009
BROD035e	Xenon strobe and audible annunciator	Third floor	8/31/2009
BROD036a	Window detail	Second floor	8/31/2009
BROD036e	Glass bulb sprinkler head	Room 2W40	8/31/2009
BROD037a	Library floor detail	Second floor	8/31/2009
BROD037e	Dry-pipe fusible link sprinkler head	Second floor, east wing	8/31/2009
BROD038a	Single level drinking fountain	Second floor	8/31/2009
BROD038e	Void	Void	8/31/2009
BROD039a	Classroom interior finishes	Second floor	8/31/2009
BROD039e	Emergency battery backup lighting	Auditorium	8/31/2009
BROD040a	Library floor detail	First floor	8/31/2009
BROD040e	New lighting fixture	First floor, administration lobby area	8/31/2009
BROD041a	Library interior finishes	First floor	8/31/2009
BROD041e	Original air handler AC3	Mechanical room GL02	8/31/2009
BROD042a	Auditorium seating	First floor	8/31/2009
BROD042e	Hot water heat exchanger	Mechanical room GL02	8/31/2009
BROD043a	Auditorium seating	First floor	8/31/2009
BROD043e	Hot water pumps	Mechanical room GL02	8/31/2009
BROD044a	Auditorium seating	First floor	8/31/2009
BROD044e	Timeworn air handler AHU4	Mechanical room GL02	8/31/2009
BROD045a	Stairs to stage in auditorium	First floor	8/31/2009
BROD045e	Hydraulic elevator	Elevator room GE03	8/31/2009
BROD046a	Corridor finishes	First floor, administration	8/31/2009
BROD046e	Outdated Johnson Control pneumatic control system	Electrical room GS98	8/31/2009
BROD047a	Corridor finishes	First floor, administration	8/31/2009
BROD047e	Switchboard SSB	Electrical room GS98	8/31/2009

**Photo Log - Facility Condition
Analysis
BROD : BRODY MEDICAL SCIENCES BUILDING**

Photo ID No	Description	Location	Date
BROD048a	Corridor finishes	First floor	8/31/2009
BROD048e	Switchboard SSA	Electrical room GS98	8/31/2009
BROD049a	Corridor finishes	First floor, outpatient area	8/31/2009
BROD049e	Emergency switchboard	Electrical room GS98	8/31/2009
BROD050a	Corridor finishes	First floor, outpatient area	8/31/2009
BROD050e	Medical air compressor	Mechanical room GS58	8/31/2009
BROD051a	Lobby finishes	First floor, outpatient area	8/31/2009
BROD051e	Air handler AC2	Mechanical room GS58	8/31/2009
BROD052a	Corridor finishes	Ground floor	8/31/2009
BROD052e	Sump pump	Mechanical room GS58	8/31/2009
BROD053a	Exam room detail	Ground floor	8/31/2009
BROD053e	Motor control center	Mechanical room GS58	8/31/2009
BROD054a	West facade	Exterior elevation	8/31/2009
BROD054e	Condensate return unit for AC2	Mechanical room GS58	8/31/2009
BROD055a	West facade	Exterior elevation	8/31/2009
BROD055e	Domestic booster system	Mechanical room GS58	8/31/2009
BROD056a	West facade	Exterior elevation	8/31/2009
BROD056e	4 inch backflow preventer	Mechanical room GS58	8/31/2009
BROD057a	North facade	Exterior elevation	8/31/2009
BROD057e	Emergency fire pump	Mechanical room GS58	8/31/2009
BROD058a	Loading dock detail	Exterior elevation	8/31/2009
BROD058e	Original chilled water pump	Mechanical room GS58	8/31/2009
BROD059a	North facade	Exterior elevation	8/31/2009
BROD059e	Condensate return unit	Mechanical room GS58	8/31/2009
BROD060a	North facade	Exterior elevation	8/31/2009
BROD060e	Heat exchanger	Mechanical room GS58	8/31/2009
BROD061a	North facade	Exterior elevation	8/31/2009
BROD061e	2002 hot water pumps	Mechanical room GS58	8/31/2009
BROD062a	East facade	Exterior elevation	8/31/2009
BROD062e	2002 vintage domestic hot water heat exchanger	Mechanical room GS58	8/31/2009
BROD063a	South facade	Exterior elevation	8/31/2009
BROD063e	Typical surgical lights	Room GW49B	8/31/2009
BROD064a	South facade	Exterior elevation	8/31/2009

**Photo Log - Facility Condition
Analysis
BROD : BRODY MEDICAL SCIENCES BUILDING**

Photo ID No	Description	Location	Date
BROD064e	Elevator	Ground floor, northwest elevator room	8/31/2009
BROD065a	South facade	Exterior elevation	8/31/2009
BROD065e	Walk-in cooler	Ground floor	8/31/2009
BROD066a	South entry door	Exterior elevation	8/31/2009
BROD066e	Service entrance transformer	Northeast corner	8/31/2009
BROD067a	South facade	Exterior elevation	8/31/2009
BROD067e	High voltage switch	Northeast corner	8/31/2009
BROD068e	Caterpillar generator #3	Generator room	8/31/2009
BROD069e	Onan generator	Generator room	8/31/2009
BROD070e	Generator #1	Generator room	8/31/2009
BROD071e	Automatic transfer switches	Generator room	8/31/2009
BROD072e	Exterior HID fixture	East facade	8/31/2009

Facility Condition Analysis - Photo Log



BROD001A.jpg



BROD001E.jpg



BROD002A.jpg



BROD002E.jpg



BROD003A.jpg



BROD003E.jpg



BROD004A.jpg



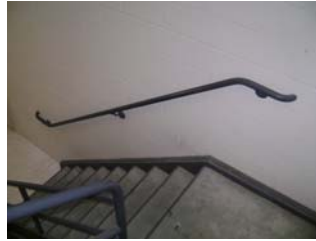
BROD004E.jpg



BROD005A.jpg



BROD005E.jpg



BROD006A.jpg



BROD006E.jpg



BROD007A.jpg



BROD007E.jpg



BROD008A.jpg



BROD008E.jpg



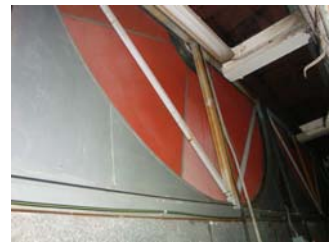
BROD009A.jpg



BROD009E.jpg



BROD010A.jpg



BROD010E.jpg

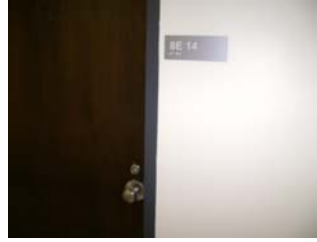
Facility Condition Analysis - Photo Log



BROD011A.jpg



BROD011E.jpg



BROD012A.jpg



BROD012E.jpg



BROD013A.jpg



BROD013E.jpg



BROD014A.jpg



BROD014E.jpg



BROD015A.jpg



BROD015E.jpg



BROD016A.jpg



BROD016E.jpg



BROD017A.jpg



BROD017E.jpg



BROD018A.jpg



BROD018E.jpg



BROD019A.jpg



BROD019E.jpg



BROD020A.jpg



BROD020E.jpg

Facility Condition Analysis - Photo Log



BROD021A.jpg



BROD021E.jpg



BROD022A.jpg



BROD022E.jpg



BROD023A.jpg



BROD023E.jpg



BROD024A.jpg



BROD024E.jpg



BROD025A.jpg



BROD025E.jpg



BROD026A.jpg



BROD026E.jpg



BROD027A.jpg



BROD027E.jpg



BROD028A.jpg



BROD028E.jpg



BROD029A.jpg



BROD029E.jpg



BROD030A.jpg



BROD030E.jpg

Facility Condition Analysis - Photo Log



BROD031A.jpg



BROD031E.jpg



BROD032A.jpg



BROD032E.jpg



BROD033A.jpg



BROD033E.jpg



BROD034A.jpg



BROD034E.jpg



BROD035A.jpg



BROD035E.jpg



BROD036A.jpg



BROD036E.jpg



BROD037A.jpg



BROD037E.jpg



BROD038A.jpg



BROD039A.jpg



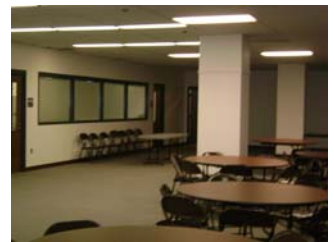
BROD039E.jpg



BROD040A.jpg



BROD040E.jpg



BROD041A.jpg

Facility Condition Analysis - Photo Log



BROD041E.jpg



BROD042A.jpg



BROD042E.jpg



BROD043A.jpg



BROD043E.jpg



BROD044A.jpg



BROD044E.jpg



BROD045A.jpg



BROD045E.jpg



BROD046A.jpg



BROD046E.jpg



BROD047A.jpg



BROD047E.jpg



BROD048A.jpg



BROD048E.jpg



BROD049A.jpg



BROD049E.jpg



BROD050A.jpg



BROD050E.jpg



BROD051A.jpg

Facility Condition Analysis - Photo Log



BROD051E.jpg



BROD052A.jpg



BROD052E.jpg



BROD053A.jpg



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BROD054A.jpg



BROD054E.jpg



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Facility Condition Analysis - Photo Log



BROD061E.jpg



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