

# EAST CAROLINA UNIVERSITY

## GRAHAM BUILDING

ASSET CODE: GRAH

FACILITY CONDITION ANALYSIS

DECEMBER 3, 2009





EAST CAROLINA UNIVERSITY  
Facility Condition Analysis

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# FACILITY CONDITION ANALYSIS

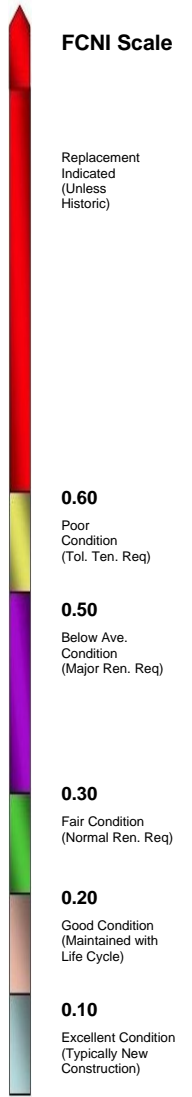
## SECTION 1

### GENERAL ASSET INFORMATION

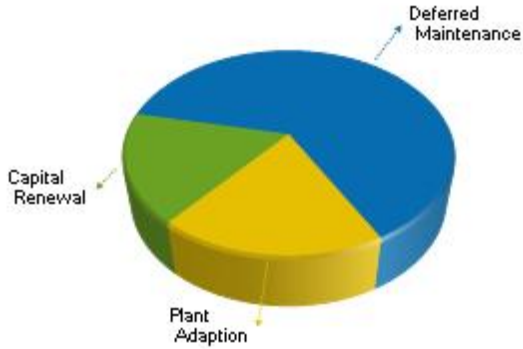


### EXECUTIVE SUMMARY - GRAHAM BUILDING

**Building Code:** GRAH  
**Building Name:** GRAHAM BUILDING  
**Year Built:** 1929  
**Building Use:** Classroom / Academic  
**Square Feet:** 16,080



#### PROJECT COSTS BY CLASSIFICATION



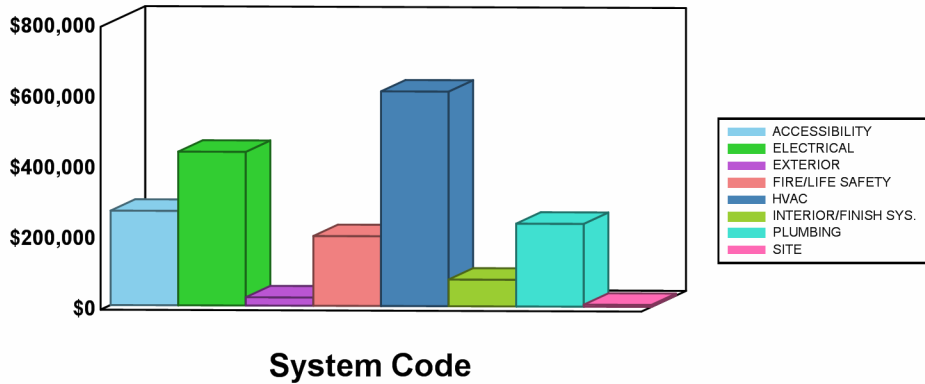
#### Project Costs by Priority

Priority 1:	\$86,283
Priority 2:	\$207,980
Priority 3:	\$1,516,166
Priority 4:	\$30,653
<b>Total Project Costs:</b>	<b>\$1,841,082</b>

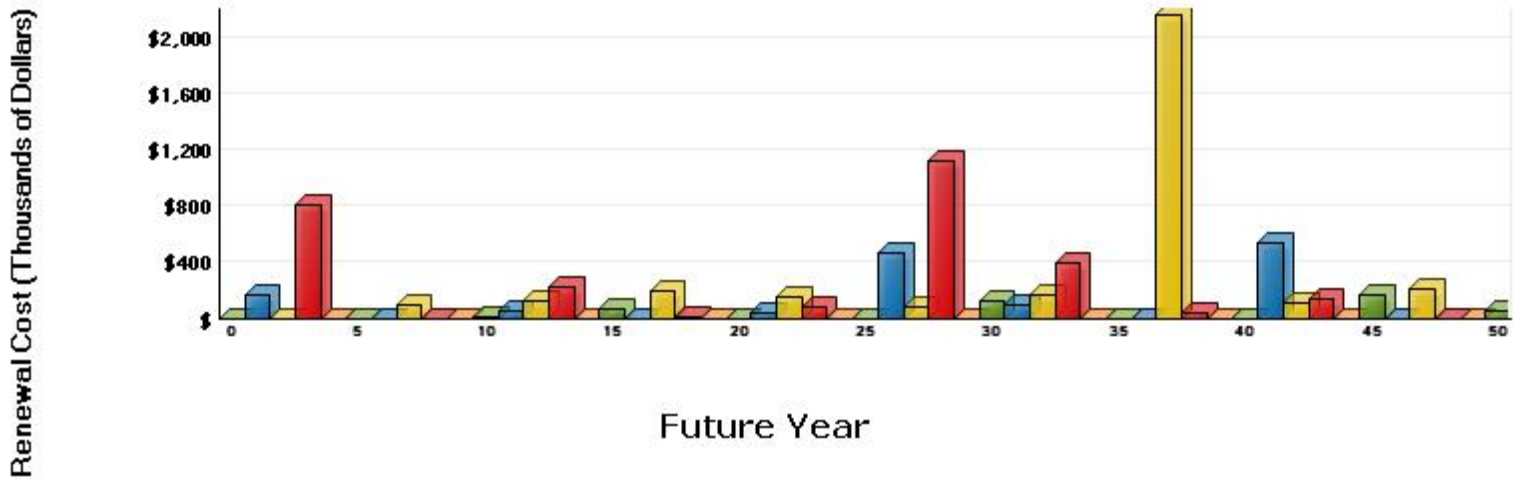
**Facility Replacement Cost: \$4,588,000**

**Facility Condition Needs Index (FCNI): 0.40**  
 (Project Costs / Replacement Cost)

#### PROJECT COSTS BY SYSTEM CODE



#### LIFE CYCLE MODEL EXPENDITURE PROJECTIONS



**Average Annual Renewal Cost Per SqFt \$4.67**





## B. ASSET SUMMARY

Built in 1929 as a three-story, L-shaped academic building, the Maria D. Graham Building was enlarged in the early to mid-1960s when the three-story south addition was completed. The Graham Building is now a three-story, rectangular-shaped, office and classroom structure with a small basement mechanical room. This wood and masonry-framed structure is located near the middle of the west end of the northern portion of the East Carolina University campus in Greenville, North Carolina. It has a listed area of 16,080 gross square feet.

The information for this report was gathered during an inspection conducted on September 4, 2009.

### SITE

The landscaping on this relatively small, flat site consists of turf, shrubs, specimen trees, and foundation planting. All are in overall good condition. The overall condition of the site is such that a modest landscaping project is warranted.

### EXTERIOR STRUCTURE

This wood and masonry-framed building has a brick veneer with punched windows. Except for the glass and wood entry doors, the few exterior doors are painted metal. The brick exterior is in overall good condition, but the painted wood trim and door finishes will need to be renewed again within the next five years. The aging wood north facade entry doors should be replaced.

The roofing consists of a hipped terra-cotta tile application on the northern two-thirds of the building and a flat built-up system on the southern one-third. Both installations are in overall good condition, but experience indicates that the built-up roofing will need to be replaced within the next ten years. Replace the flat built-up roof area with a similar application.

### INTERIOR FINISHES / SYSTEMS

The interior of all three floors have a double-loaded central corridor with classrooms and offices on both sides. Most of the walls are floor-to-ceiling and painted. Ceilings are a combination of lay-in, acoustical tile and painted ceilings. Several offices are carpeted, but most spaces have vinyl tile flooring. The restrooms have ceramic tile floors and walls. All of the carpeting and any damaged floor tiles are recommended for replacement within the next five years. The vinyl tile could contain asbestos material that should be abated according to local, state, and federal regulations. Wall and partial ceiling finish upgrades are also recommended within the next ten years.

The entry floor men's restroom and women's restroom fixtures and finishes have been upgraded recently and are accessible to persons with disabilities. The fixtures and finishes in these two restrooms are sound, but the finishes in both restrooms will need to be renewed within the next five years.

## ACCESSIBILITY

The building has some accessible features. There is a wheelchair ramp at the north entrance, many lever action door handles, some ADA signage, and two wheelchair accessible restrooms at the entry floor. Several upgrades are recommended, however, to enhance accessibility in the building.

Accessibility legislation requires that entry steps have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. The end geometry of the handrails at the three entry steps does not comply with current legislation. Painted metal handrail extensions should be added to the ends of all of these handrails.

The end geometry of the existing exit stair side handrails also does not comply with the current legislation regarding handicapped accessibility within buildings. Painted wood handrail extensions should be added to the ends of all of the interior handrails as well.

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

Current accessibility legislation requires wheelchair access to all floors in a building over two stories in height. There is no wheelchair access to the upper floors of this building. The installation of an interior hydraulic elevator is proposed.

The restroom fixtures and finishes are mostly original to the year of construction or latest major renovation. Except for the entry floor men's restroom and women's restroom, the remaining restrooms in this building have aging fixtures and finishes and are not wheelchair accessible. The entry floor public restroom fixtures and finishes have been upgraded recently and are accessible to persons with disabilities. A comprehensive renovation of all of the upper floor restrooms, including new fixtures, finishes, and accessories, is recommended. Restroom expansion may be necessary in order to meet modern minimum fixture counts and accessibility legislation.

Accessibility legislation requires that building amenities, such as the drinking fountains, be generally accessible to all persons. The single level configuration of the drinking fountains in this building is a barrier to wheelchair accessibility. The installation of dual level, refrigerated drinking fountains is recommended to replace these existing fountains.

ADA legislation has established signage requirements for all permanent spaces in buildings. Compliant signage should meet specific size, graphical, Braille, height, and location requirements. To comply with the intent of this legislation, it is recommended that all non-compliant signage be upgraded to conform to appropriate accessibility standards. The project scope includes directional signage.

## HEALTH

No information was provided by the University as to the presence of asbestos containing material (ACM) within this building. With the age of both sections of this building, the presence of ACM is very possible, but not likely. No ACM abatement is proposed beyond the ACM abatement allowance in the Interior Finishes / Systems category project to upgrade the floor finishes. There was no evidence of a presence of infestations by vermin or insects in this building.

## FIRE / LIFE SAFETY

Code requires that there be a guardrail where there is a change in floor level in excess of 36 inches and that these guardrails be a minimum of 42 inches high. The guardrails must also prevent the passage of a specific diameter sphere. The solid guardrail at the top of the west stair is too low, and the painted metal guardrail at the top of the east stair is too low and lacks sufficient infill. A painted metal rail should be added above and parallel to these existing guardrails. The application of a galvanized, expanded metal lath to the existing guardrails at the top of the east stair is the most cost-effective method of complying with the sphere test. There is no guardrail at the roof edge of the roof hatch. The installation of a painted metal, rooftop guardrail is recommended at the east side of the roof hatch.

Most of the exit access corridor doors in this facility do not have obvious fire ratings. Complete demolition of the existing door systems and replacement according to a code compliant plan to protect egress passages properly is recommended where it cannot be determined that the existing exit access doors and doorframes are rated.

The existing roof access ladder is a series of painted steel rod rungs, each shaped like a block letter U and embedded into the brick wall of the east stair. In addition to lacking any vertical elements to hold on to while using this ladder, the individual rungs are spaced far enough apart vertically so as to be uncomfortable to scale, and the location of this ladder is dangerously close to the guardrail overlook. It is recommended that the existing ladder system be replaced with a new fixed vertical ladder, including an OSHA compliant safety cage, to promote user safety and limit liability.

This facility is protected by a central fire alarm system. The point addressable fire alarm control panel was manufactured by Simplex and is located adjacent to mechanical room 213. The devices that serve this system include manual pull stations, audible / visible devices, and smoke detectors. The fire alarm system is adequate and in good condition. With proper testing and maintenance, it will outlast the purview of this analysis.

This facility is not protected by any form of automatic fire suppression. Manual, dry chemical fire extinguishers are available. However, it is recommended that an automatic fire suppression system be retrofitted. Install an automatic fire sprinkler system in unprotected areas throughout the facility. This project will reduce overall liability and the potential for loss.

Exit signs in this facility are illuminated with fluorescent lamps and have battery backup power. Emergency lighting is available through unitary fixtures with battery backup power. All egress lighting systems are adequate and in good condition. There are no related projects to recommend at this time.

## HVAC

This facility is on the campus steam loop. Hot water is circulated as the heating medium. A local, air-cooled chiller generates chilled water for building cooling. This unit has an 80 ton capacity and was manufactured by Trane. This chiller has served beyond its intended life cycle and is recommended for replacement.

The building is served by a forced air HVAC system with single zone air handling units. The air handling units have hot water heating coils and chilled water cooling coils. The ventilation system delivers 100 percent outside air to specific interior spaces. The air distribution network furnishes constant volume air

to the occupied spaces. Hot water reheat coils are mounted in the duct. Air is returned through the hallways back to the air handlers. The controls for this system are a hybrid configuration with pneumatic temperature controls and direct digital utility modulation and monitoring. The direct digital controls (DDCs) were manufactured by C.B. Environmental Controls. The components of the HVAC system have aged beyond their statistical life cycles, and the system is inefficient compared to modern standards. It is recommended that the existing HVAC system be renovated.

## ELECTRICAL

An oil-filled transformer that is rated for 150 kVA service steps the incoming power down from 12,470 volts to 120/208 volts for building distribution. This unit was manufactured by S&C. It is then distributed by means of a "hot trough" that is rated for 700 amp service and was manufactured by Square D. The 120/208 volt main distribution panels are very old and recommended for replacement.

The electrical distribution network in this facility supplies 120/208 volt power throughout. The panels were manufactured predominantly by Square D. The electrical devices are aged and visibly worn, and the system is undersized to support the current needs of the occupants. In order to maintain reliable service throughout the facility, it is recommended that the electrical distribution network be upgraded.

Interior lighting in the facility includes upgraded fixtures that utilize compact and T8 fluorescent lamps, energy-efficient ballasts and lamps that were retrofitted into the existing light fixtures, and some T12 fluorescent lamps. Some fixtures are still fitted with inefficient, incandescent lamps. The fluorescent fixtures are predominantly surface-mounted applications with acrylic lenses. Some lenses are worn or missing and present a dim aesthetic. It should be anticipated that the interior lighting will require replacement within the scope of this analysis. Specify energy-efficient light fixtures for the new systems, and install occupancy sensors where possible. It is recommended that the unitary emergency lighting fixtures be removed and that their functionality be incorporated into the new interior lighting systems.

The exterior areas adjacent to the building are illuminated by building-mounted high intensity discharge (HID), compact fluorescent, and stanchion-mounted 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 distributed throughout this facility via a galvanized steel piping network. Sanitary waste and storm water piping is of cast-iron, bell-and-spigot construction with galvanized steel runouts. The supply and drain piping networks are aged and should be replaced. Failure to undertake such upgrades will likely lead to leaks, drainage issues, and other problems that will require costly maintenance. The plumbing fixtures are recommended for replacement. This action is detailed in the proposed restroom renovation. Domestic water for this facility is heated by an electric residential-grade water heater. This unit is approaching the end of its expected life cycle. It should be anticipated that it will require replacement within the scope of this analysis. However, no project has been prescribed due to insignificant cost.

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:** September 4, 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

<b>CATEGORY CODE</b>	<b>SYSTEM DESCRIPTION</b>
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
<b>SYSTEM DESCRIPTION: ACCESSIBILITY</b>			
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.
<b>SYSTEM DESCRIPTION: ELECTRICAL</b>			
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.
<b>SYSTEM DESCRIPTION: EXTERIOR</b>			
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	DAMP/PROOFING/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.
<b>SYSTEM DESCRIPTION: FIRE / LIFE SAFETY</b>			
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.
<b>SYSTEM DESCRIPTION: HEALTH</b>			
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.
<b>SYSTEM DESCRIPTION: HVAC</b>			
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.
<b>SYSTEM DESCRIPTION: INTERIOR FINISHES / SYSTEMS</b>			
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.
<b>SYSTEM DESCRIPTION: PLUMBING</b>			



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.
<b>SYSTEM DESCRIPTION: SITE</b>			
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.
<b>SYSTEM DESCRIPTION: SECURITY SYSTEMS</b>			
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.
<b>SYSTEM DESCRIPTION: VERTICAL TRANSPORTATION</b>			
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  
 GRAH : GRAHAM BUILDING**

System Code	System Description	Priority Classes				Subtotal
		1	2	3	4	
AC	ACCESSIBILITY	1,685	207,980	55,566	1,798	267,028
EL	ELECTRICAL	0	0	434,581	0	434,581
ES	EXTERIOR	0	0	11,176	12,186	23,361
FS	FIRE/LIFE SAFETY	84,598	0	112,713	0	197,311
HV	HVAC	0	0	607,013	0	607,013
IS	INTERIOR/FINISH SYS.	0	0	58,874	16,669	75,544
PL	PLUMBING	0	0	234,314	0	234,314
SI	SITE	0	0	1,929	0	1,929
	<b>TOTALS</b>	86,283	207,980	1,516,166	30,653	1,841,082

<b>Facility Replacement Cost</b>	<b>\$4,588,000</b>
<b>Facility Condition Needs Index</b>	<b>0.40</b>

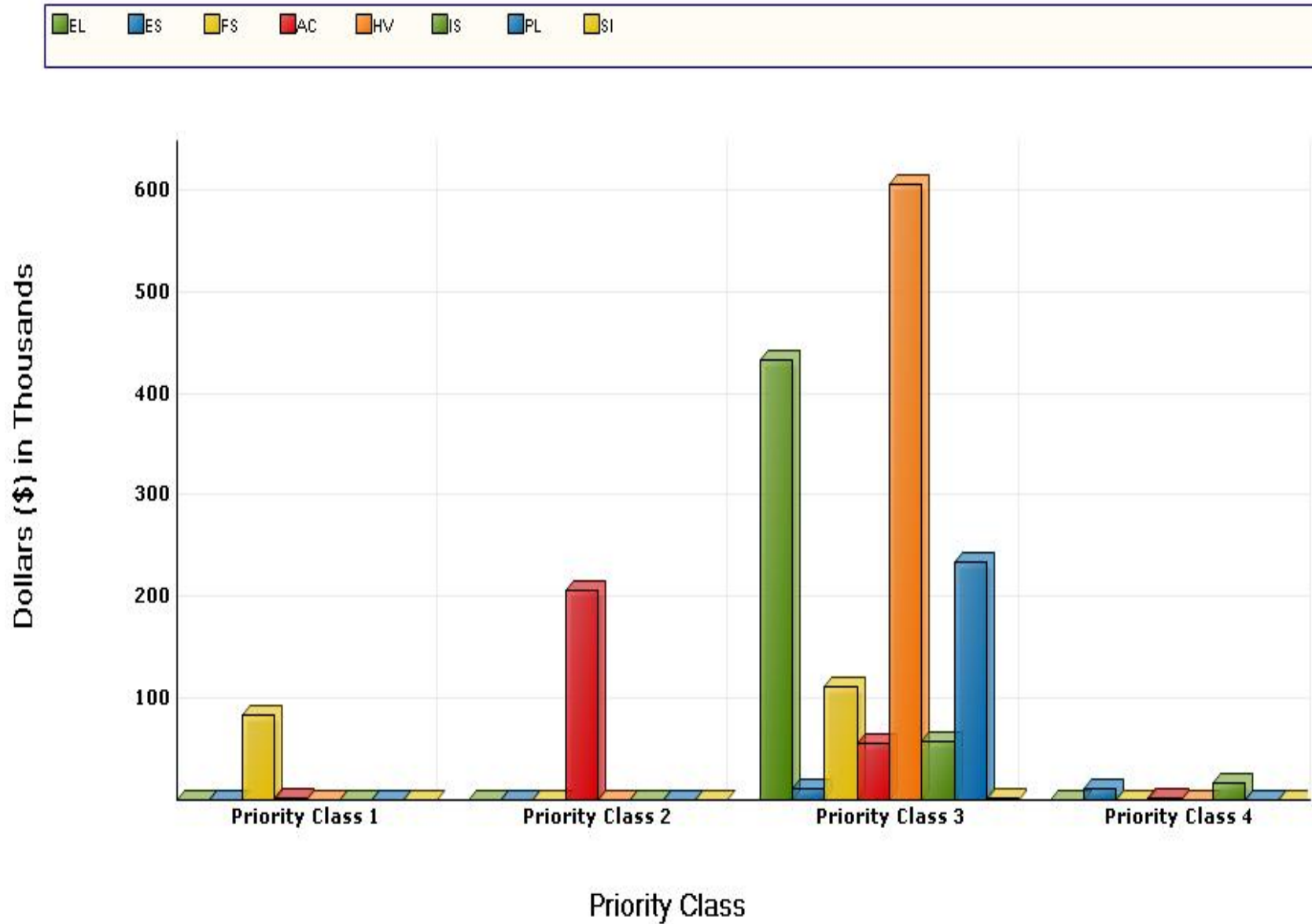
<b>Gross Square Feet</b>	<b>16,080</b>
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<b>Total Cost Per Square Foot</b>	<b>\$114.50</b>
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# FACILITY CONDITION ANALYSIS

## System Code by Priority Class

GRAH : GRAHAM BUILDING



**Detailed Project Totals  
Facility Condition Analysis  
System Code by Project Class  
GRAH : GRAHAM BUILDING**

System Code	System Description	Project Classes			Subtotal
		Capital Renewal	Deferred Maintenance	Plant Adaption	
AC	ACCESSIBILITY	0	0	267,028	267,028
EL	ELECTRICAL	112,360	322,221	0	434,581
ES	EXTERIOR	23,361	0	0	23,361
FS	FIRE/LIFE SAFETY	112,713	0	84,598	197,311
HV	HVAC	0	607,013	0	607,013
IS	INTERIOR/FINISH SYS.	67,646	7,898	0	75,544
PL	PLUMBING	0	234,314	0	234,314
SI	SITE	1,929	0	0	1,929
	<b>TOTALS</b>	318,010	1,171,446	351,627	1,841,082

<b>Facility Replacement Cost</b>	<b>\$4,588,000</b>
<b>Facility Condition Needs Index</b>	<b>0.40</b>

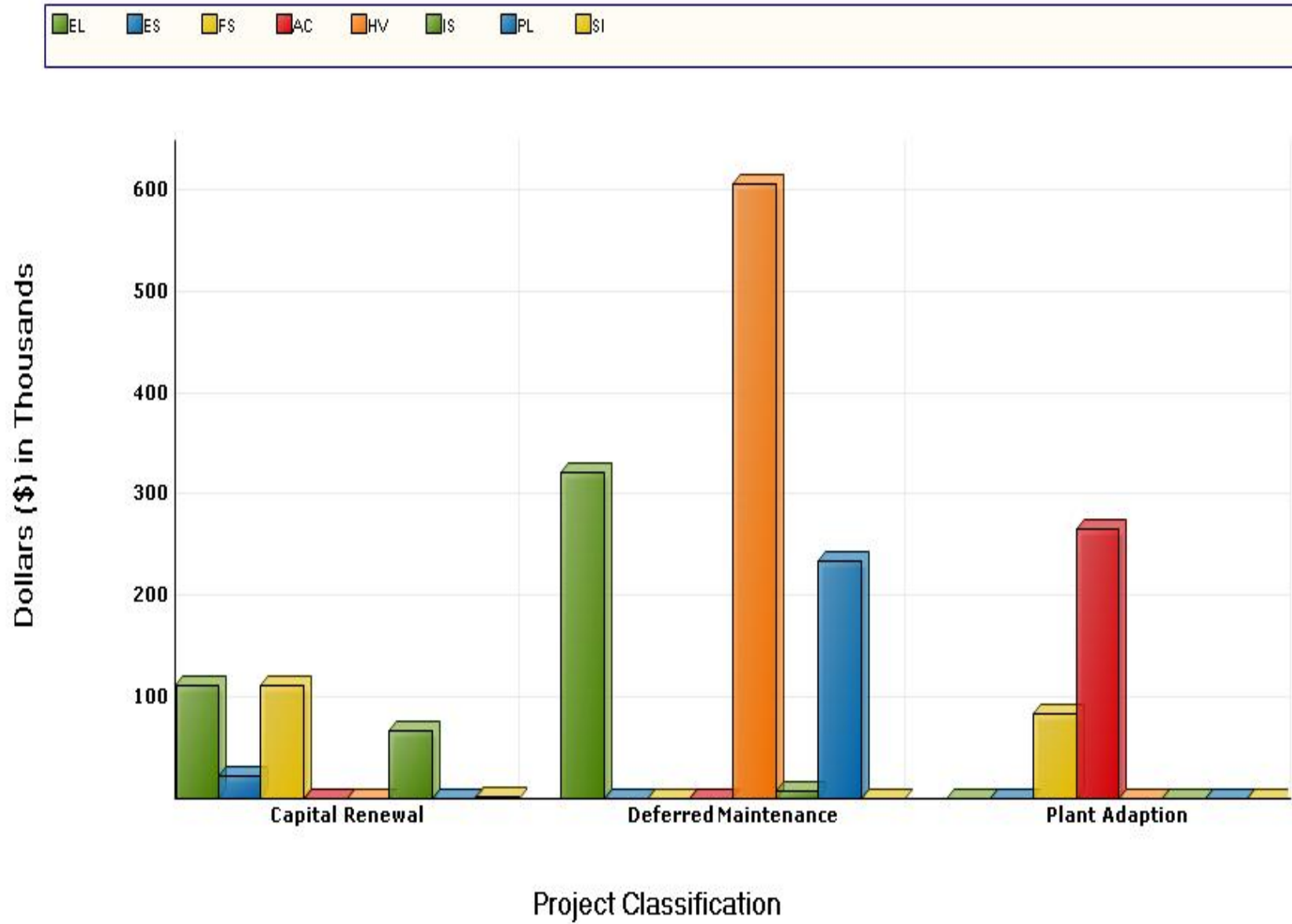
<b>Gross Square Feet</b>	<b>16,080</b>
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<b>Total Cost Per Square Foot</b>	<b>\$114.50</b>
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# FACILITY CONDITION ANALYSIS

## System Code by Project Class

GRAH : GRAHAM BUILDING



**Detailed Project Summary**  
**Facility Condition Analysis**  
**Project Class by Priority Class**  
**GRAH : GRAHAM BUILDING**

Project Class	Priority Classes				Subtotal
	1	2	3	4	
Capital Renewal	0	0	289,155	28,855	318,010
Deferred Maintenance	0	0	1,171,446	0	1,171,446
Plant Adaption	86,283	207,980	55,566	1,798	351,627
<b>TOTALS</b>	86,283	207,980	1,516,166	30,653	1,841,082

Facility Replacement Cost	\$4,588,000
Facility Condition Needs Index	0.40

Gross Square Feet	16,080
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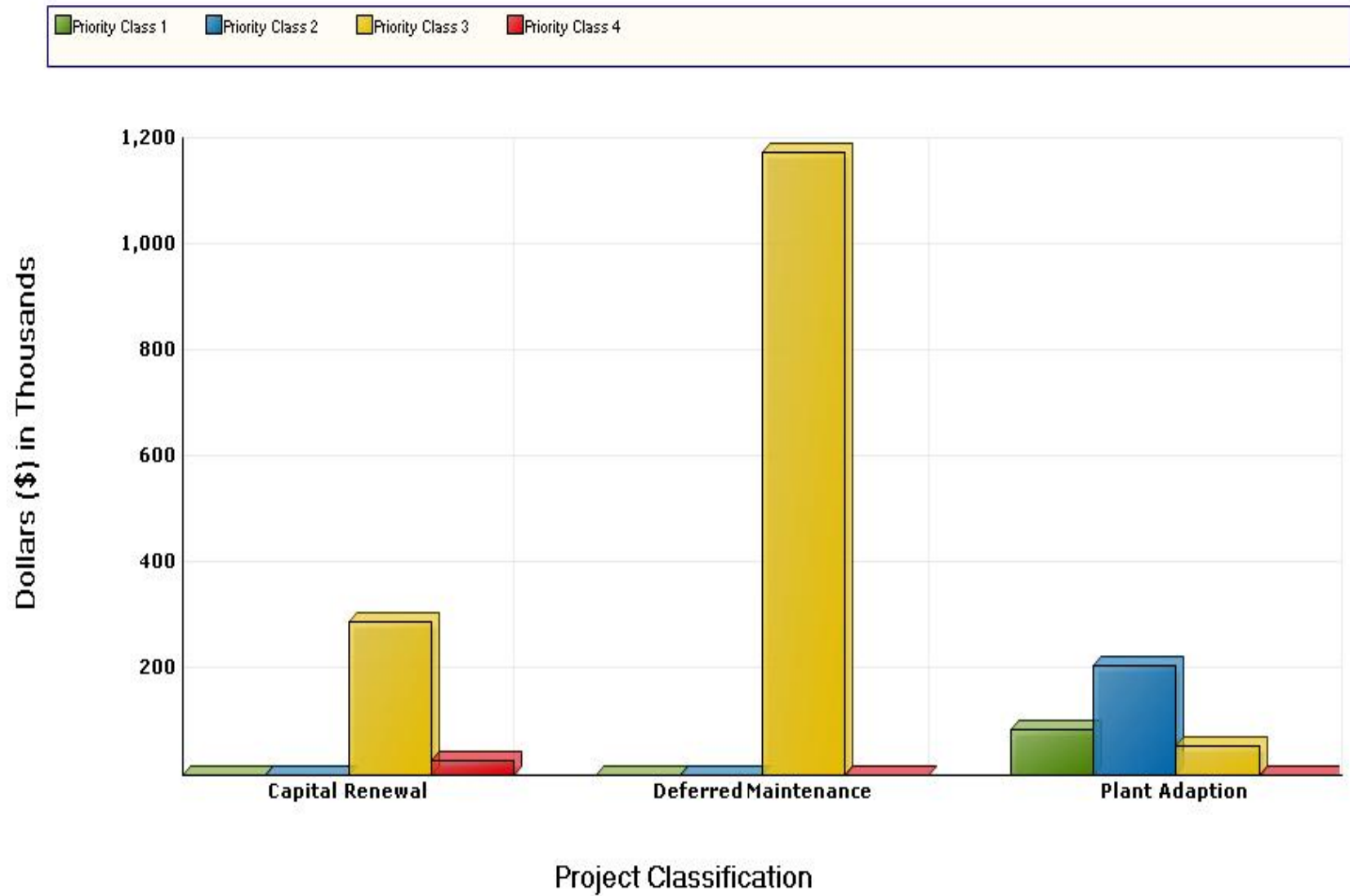
Total Cost Per Square Foot	\$114.50
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# FACILITY CONDITION ANALYSIS

## Project Class by Priority Class

GRAH : GRAHAM BUILDING



Detailed Project Summary  
Facility Condition Analysis  
**Priority Class - Priority Sequence**  
GRAH : GRAHAM BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
FS5E	GRAHFS02	1	1	STAIR GUARDRAIL UPGRADES	1,996	319	2,316
FS5F	GRAHFS03	1	2	INTERIOR DOOR UPGRADES	69,531	11,125	80,656
FS5A	GRAHFS04	1	3	REPLACE EXISTING ROOF ACCESS LADDER	1,402	224	1,626
AC1A	GRAHAC01	1	4	UPGRADE SITE HANDRAILS	1,453	232	1,685
<b>Totals for Priority Class 1</b>					<b>74,382</b>	<b>11,901</b>	<b>86,283</b>
AC3C	GRAHAC02	2	5	INSTALL LEVER ACTION DOOR HARDWARE	16,032	2,565	18,597
AC3B	GRAHAC03	2	6	STAIR HANDRAIL UPGRADES	1,090	174	1,264
AC3A	GRAHAC04	2	7	ELEVATOR INSTALLATION	162,171	25,947	188,118
<b>Totals for Priority Class 2</b>					<b>179,293</b>	<b>28,687</b>	<b>207,980</b>
FS3A	GRAHFS01	3	8	FIRE SPRINKLER SYSTEM INSTALLATION	97,166	15,547	112,713
AC3E	GRAHAC05	3	9	UPPER FLOOR RESTROOM RENOVATIONS	41,103	6,576	47,679
AC3F	GRAHAC06	3	10	DUAL LEVEL DRINKING FOUNTAIN INSTALLATION	6,799	1,088	7,886
ES2B	GRAHES01	3	11	EXTERIOR FINISH UPGRADES	9,634	1,542	11,176
HV3A	GRAHHV01	3	12	HVAC SYSTEM REPLACEMENT	434,457	69,513	503,970
HV2A	GRAHHV02	3	13	REPLACE AIR-COOLED CHILLER	88,830	14,213	103,043
EL3B	GRAHEL03	3	14	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	189,123	30,260	219,383
EL4B	GRAHEL02	3	15	INTERIOR LIGHTING UPGRADE	88,653	14,185	102,838
EL1A	GRAHEL01	3	16	UPGRADE ELECTRICAL SERVICE	69,533	11,125	80,658
EL4A	GRAHEL04	3	17	EXTERIOR LIGHTING REPLACEMENT	27,329	4,373	31,702
IS2B	GRAHIS01	3	18	INTERIOR WALL FINISH RENEWAL	17,355	2,777	20,132
IS1A	GRAHIS02	3	19	FLOOR FINISH UPGRADES	26,590	4,254	30,844
IS6D	GRAHIS03	3	20	ENTRY FLOOR RESTROOM RENOVATIONS	6,809	1,089	7,898
PL1A	GRAHPL01	3	21	WATER SUPPLY PIPING REPLACEMENT	80,111	12,818	92,929
PL2A	GRAHPL02	3	22	DRAIN PIPING REPLACEMENT	121,884	19,501	141,386
SI2A	GRAHSI01	3	23	SITework UPGRADES	1,663	266	1,929
<b>Totals for Priority Class 3</b>					<b>1,307,040</b>	<b>209,126</b>	<b>1,516,166</b>
AC3D	GRAHAC07	4	24	BUILDING SIGNAGE PACKAGE UPGRADE	1,550	248	1,798
ES4B	GRAHES02	4	25	REPLACE BUILT-UP ROOFING	10,505	1,681	12,186

**Detailed Project Summary**  
**Facility Condition Analysis**  
**Priority Class - Priority Sequence**  
 GRAH : GRAHAM BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
IS3B	GRAHIS04	4	26	UPGRADE CEILING FINISHES	14,370	2,299	16,669
<b>Totals for Priority Class 4</b>					<b>26,425</b>	<b>4,228</b>	<b>30,653</b>
<b>Grand Total:</b>					<b>1,587,140</b>	<b>253,942</b>	<b>1,841,082</b>

**Detailed Project Summary**  
**Facility Condition Analysis**  
**Project Cost Range**  
GRAH : GRAHAM BUILDING

<b>Cat. Code</b>	<b>Project Number</b>	<b>Pri Cls</b>	<b>Pri Seq</b>	<b>Project Title</b>	<b>Construction Cost</b>	<b>Professional Fee</b>	<b>Total Cost</b>
FS5E	GRAHFS02	1	1	STAIR GUARDRAIL UPGRADES	1,996	319	2,316
FS5F	GRAHFS03	1	2	INTERIOR DOOR UPGRADES	69,531	11,125	80,656
AC1A	GRAHAC01	1	4	UPGRADE SITE HANDRAILS	1,453	232	1,685
FS5A	GRAHFS04	1	3	REPLACE EXISTING ROOF ACCESS LADDER	1,402	224	1,626
<b>Totals for Priority Class 1</b>					<b>74,382</b>	<b>11,901</b>	<b>86,283</b>
AC3C	GRAHAC02	2	5	INSTALL LEVER ACTION DOOR HARDWARE	16,032	2,565	18,597
AC3B	GRAHAC03	2	6	STAIR HANDRAIL UPGRADES	1,090	174	1,264
<b>Totals for Priority Class 2</b>					<b>17,122</b>	<b>2,740</b>	<b>19,862</b>
EL1A	GRAHEL01	3	16	UPGRADE ELECTRICAL SERVICE	69,533	11,125	80,658
EL4A	GRAHEL04	3	17	EXTERIOR LIGHTING REPLACEMENT	27,329	4,373	31,702
PL1A	GRAHPL01	3	21	WATER SUPPLY PIPING REPLACEMENT	80,111	12,818	92,929
AC3E	GRAHAC05	3	9	UPPER FLOOR RESTROOM RENOVATIONS	41,103	6,576	47,679
AC3F	GRAHAC06	3	10	DUAL LEVEL DRINKING FOUNTAIN INSTALLATION	6,799	1,088	7,886
IS2B	GRAHIS01	3	18	INTERIOR WALL FINISH RENEWAL	17,355	2,777	20,132
IS1A	GRAHIS02	3	19	FLOOR FINISH UPGRADES	26,590	4,254	30,844
ES2B	GRAHES01	3	11	EXTERIOR FINISH UPGRADES	9,634	1,542	11,176
SI2A	GRAHSI01	3	23	SITWORK UPGRADES	1,663	266	1,929
IS6D	GRAHIS03	3	20	ENTRY FLOOR RESTROOM RENOVATIONS	6,809	1,089	7,898
<b>Totals for Priority Class 3</b>					<b>286,926</b>	<b>45,908</b>	<b>332,834</b>
AC3D	GRAHAC07	4	24	BUILDING SIGNAGE PACKAGE UPGRADE	1,550	248	1,798
IS3B	GRAHIS04	4	26	UPGRADE CEILING FINISHES	14,370	2,299	16,669
ES4B	GRAHES02	4	25	REPLACE BUILT-UP ROOFING	10,505	1,681	12,186
<b>Totals for Priority Class 4</b>					<b>26,425</b>	<b>4,228</b>	<b>30,653</b>
<b>Grand Totals for Projects &lt; 100,000</b>					<b>404,855</b>	<b>64,777</b>	<b>469,632</b>

**Detailed Project Summary**  
**Facility Condition Analysis**  
**Project Cost Range**  
 GRAH : GRAHAM BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC3A	GRAHAC04	2	7	ELEVATOR INSTALLATION	162,171	25,947	188,118
<b>Totals for Priority Class 2</b>					<b>162,171</b>	<b>25,947</b>	<b>188,118</b>
FS3A	GRAHFS01	3	8	FIRE SPRINKLER SYSTEM INSTALLATION	97,166	15,547	112,713
HV2A	GRAHHV02	3	13	REPLACE AIR-COOLED CHILLER	88,830	14,213	103,043
EL4B	GRAHEL02	3	15	INTERIOR LIGHTING UPGRADE	88,653	14,185	102,838
EL3B	GRAHEL03	3	14	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	189,123	30,260	219,383
PL2A	GRAHPL02	3	22	DRAIN PIPING REPLACEMENT	121,884	19,501	141,386
<b>Totals for Priority Class 3</b>					<b>585,657</b>	<b>93,705</b>	<b>679,362</b>
<b>Grand Totals for Projects &gt;= 100,000 and &lt; 500,000</b>					<b>747,828</b>	<b>119,653</b>	<b>867,481</b>

**Detailed Project Summary**  
**Facility Condition Analysis**  
**Project Cost Range**  
 GRAH : GRAHAM BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
HV3A	GRAHHV01	3	12	HVAC SYSTEM REPLACEMENT	434,457	69,513	503,970
				<b>Totals for Priority Class 3</b>	<b>434,457</b>	<b>69,513</b>	<b>503,970</b>
				<b>Grand Totals for Projects &gt;= 500,000</b>	<b>434,457</b>	<b>69,513</b>	<b>503,970</b>
				<b>Grand Totals For All Projects:</b>	<b>1,587,140</b>	<b>253,942</b>	<b>1,841,082</b>

**Detailed Project Summary**  
**Facility Condition Analysis**  
**Project Classification**  
GRAH : GRAHAM BUILDING

<b>Cat Code</b>	<b>Project Number</b>	<b>Pri. Seq.</b>	<b>Project Classification</b>	<b>Pri. Cls</b>	<b>Project Title</b>	<b>Total Cost</b>
FS3A	GRAHFS01	8	Capital Renewal	3	FIRE SPRINKLER SYSTEM INSTALLATION	112,713
ES2B	GRAHES01	11	Capital Renewal	3	EXTERIOR FINISH UPGRADES	11,176
EL1A	GRAHEL01	16	Capital Renewal	3	UPGRADE ELECTRICAL SERVICE	80,658
EL4A	GRAHEL04	17	Capital Renewal	3	EXTERIOR LIGHTING REPLACEMENT	31,702
IS2B	GRAHIS01	18	Capital Renewal	3	INTERIOR WALL FINISH RENEWAL	20,132
IS1A	GRAHIS02	19	Capital Renewal	3	FLOOR FINISH UPGRADES	30,844
SI2A	GRAHSI01	23	Capital Renewal	3	SITEWORK UPGRADES	1,929
ES4B	GRAHES02	25	Capital Renewal	4	REPLACE BUILT-UP ROOFING	12,186
IS3B	GRAHIS04	26	Capital Renewal	4	UPGRADE CEILING FINISHES	16,669
<b>Totals for Capital Renewal</b>						<b>318,010</b>
HV3A	GRAHHV01	12	Deferred Maintenance	3	HVAC SYSTEM REPLACEMENT	503,970
HV2A	GRAHHV02	13	Deferred Maintenance	3	REPLACE AIR-COOLED CHILLER	103,043
EL3B	GRAHEL03	14	Deferred Maintenance	3	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	219,383
EL4B	GRAHEL02	15	Deferred Maintenance	3	INTERIOR LIGHTING UPGRADE	102,838
IS6D	GRAHIS03	20	Deferred Maintenance	3	ENTRY FLOOR RESTROOM RENOVATIONS	7,898
PL1A	GRAHPL01	21	Deferred Maintenance	3	WATER SUPPLY PIPING REPLACEMENT	92,929
PL2A	GRAHPL02	22	Deferred Maintenance	3	DRAIN PIPING REPLACEMENT	141,386
<b>Totals for Deferred Maintenance</b>						<b>1,171,446</b>
FS5E	GRAHFS02	1	Plant Adaption	1	STAIR GUARDRAIL UPGRADES	2,316
FS5F	GRAHFS03	2	Plant Adaption	1	INTERIOR DOOR UPGRADES	80,656
FS5A	GRAHFS04	3	Plant Adaption	1	REPLACE EXISTING ROOF ACCESS LADDER	1,626
AC1A	GRAHAC01	4	Plant Adaption	1	UPGRADE SITE HANDRAILS	1,685
AC3C	GRAHAC02	5	Plant Adaption	2	INSTALL LEVER ACTION DOOR HARDWARE	18,597
AC3B	GRAHAC03	6	Plant Adaption	2	STAIR HANDRAIL UPGRADES	1,264
AC3A	GRAHAC04	7	Plant Adaption	2	ELEVATOR INSTALLATION	188,118
AC3E	GRAHAC05	9	Plant Adaption	3	UPPER FLOOR RESTROOM RENOVATIONS	47,679
AC3F	GRAHAC06	10	Plant Adaption	3	DUAL LEVEL DRINKING FOUNTAIN INSTALLATION	7,886
AC3D	GRAHAC07	24	Plant Adaption	4	BUILDING SIGNAGE PACKAGE UPGRADE	1,798
<b>Totals for Plant Adaption</b>						<b>351,627</b>

Detailed Project Summary  
Facility Condition Analysis  
Project Classification  
GRAH : GRAHAM BUILDING

**Grand Total:**

**1,841,082**



**Detailed Project Summary**  
**Facility Condition Analysis**  
**Energy Conservation**  
 GRAH : GRAHAM BUILDING

<b>Cat Code</b>	<b>Project Number</b>	<b>Pri Cls</b>	<b>Pri Seq</b>	<b>Project Title</b>	<b>Total Cost</b>	<b>Annual Savings</b>	<b>Simple Payback</b>
HV3A	GRAHHV01	3	12	HVAC SYSTEM REPLACEMENT	503,970	9,100	55.38
EL4B	GRAHEL02	3	15	INTERIOR LIGHTING UPGRADE	102,838	4,920	20.9
EL4A	GRAHEL04	3	17	EXTERIOR LIGHTING REPLACEMENT	31,702	330	96.07
<b>Totals for Priority Class 3</b>					<b>638,510</b>	<b>14,350</b>	<b>44.5</b>
ES4B	GRAHES02	4	25	REPLACE BUILT-UP ROOFING	12,186	200	60.93
<b>Totals for Priority Class 4</b>					<b>12,186</b>	<b>200</b>	<b>60.93</b>
<b>Grand Total:</b>					<b>650,695</b>	<b>14,550</b>	<b>44.72</b>

Detailed Project Summary  
Facility Condition Analysis  
Category/System Code  
GRAH : GRAHAM BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
AC1A	GRAHAC01	1	4	UPGRADE SITE HANDRAILS	1,453	232	1,685
AC3C	GRAHAC02	2	5	INSTALL LEVER ACTION DOOR HARDWARE	16,032	2,565	18,597
AC3B	GRAHAC03	2	6	STAIR HANDRAIL UPGRADES	1,090	174	1,264
AC3A	GRAHAC04	2	7	ELEVATOR INSTALLATION	162,171	25,947	188,118
AC3E	GRAHAC05	3	9	UPPER FLOOR RESTROOM RENOVATIONS	41,103	6,576	47,679
AC3F	GRAHAC06	3	10	DUAL LEVEL DRINKING FOUNTAIN INSTALLATION	6,799	1,088	7,886
AC3D	GRAHAC07	4	24	BUILDING SIGNAGE PACKAGE UPGRADE	1,550	248	1,798
<b>Totals for System Code: ACCESSIBILITY</b>					<b>230,197</b>	<b>36,832</b>	<b>267,028</b>
EL3B	GRAHEL03	3	14	UPGRADE ELECTRICAL DISTRIBUTION NETWORK	189,123	30,260	219,383
EL4B	GRAHEL02	3	15	INTERIOR LIGHTING UPGRADE	88,653	14,185	102,838
EL1A	GRAHEL01	3	16	UPGRADE ELECTRICAL SERVICE	69,533	11,125	80,658
EL4A	GRAHEL04	3	17	EXTERIOR LIGHTING REPLACEMENT	27,329	4,373	31,702
<b>Totals for System Code: ELECTRICAL</b>					<b>374,639</b>	<b>59,942</b>	<b>434,581</b>
ES2B	GRAHES01	3	11	EXTERIOR FINISH UPGRADES	9,634	1,542	11,176
ES4B	GRAHES02	4	25	REPLACE BUILT-UP ROOFING	10,505	1,681	12,186
<b>Totals for System Code: EXTERIOR</b>					<b>20,139</b>	<b>3,222</b>	<b>23,361</b>
FS5E	GRAHFS02	1	1	STAIR GUARDRAIL UPGRADES	1,996	319	2,316
FS5F	GRAHFS03	1	2	INTERIOR DOOR UPGRADES	69,531	11,125	80,656
FS5A	GRAHFS04	1	3	REPLACE EXISTING ROOF ACCESS LADDER	1,402	224	1,626
FS3A	GRAHFS01	3	8	FIRE SPRINKLER SYSTEM INSTALLATION	97,166	15,547	112,713
<b>Totals for System Code: FIRE/LIFE SAFETY</b>					<b>170,096</b>	<b>27,215</b>	<b>197,311</b>
HV3A	GRAHHV01	3	12	HVAC SYSTEM REPLACEMENT	434,457	69,513	503,970
HV2A	GRAHHV02	3	13	REPLACE AIR-COOLED CHILLER	88,830	14,213	103,043
<b>Totals for System Code: HVAC</b>					<b>523,287</b>	<b>83,726</b>	<b>607,013</b>
IS2B	GRAHIS01	3	18	INTERIOR WALL FINISH RENEWAL	17,355	2,777	20,132
IS1A	GRAHIS02	3	19	FLOOR FINISH UPGRADES	26,590	4,254	30,844
IS6D	GRAHIS03	3	20	ENTRY FLOOR RESTROOM RENOVATIONS	6,809	1,089	7,898
IS3B	GRAHIS04	4	26	UPGRADE CEILING FINISHES	14,370	2,299	16,669
<b>Totals for System Code: INTERIOR/FINISH SYS.</b>					<b>65,124</b>	<b>10,420</b>	<b>75,544</b>
PL1A	GRAHPL01	3	21	WATER SUPPLY PIPING REPLACEMENT	80,111	12,818	92,929
PL2A	GRAHPL02	3	22	DRAIN PIPING REPLACEMENT	121,884	19,501	141,386
<b>Totals for System Code: PLUMBING</b>					<b>201,995</b>	<b>32,319</b>	<b>234,314</b>

**Detailed Project Summary**  
**Facility Condition Analysis**  
**Category/System Code**  
 GRAH : GRAHAM BUILDING

Cat. Code	Project Number	Pri Cls	Pri Seq	Project Title	Construction Cost	Professional Fee	Total Cost
SI2A	GRAHSI01	3	23	SITEWORK UPGRADES	1,663	266	1,929
<b>Totals for System Code: SITE</b>					<b>1,663</b>	<b>266</b>	<b>1,929</b>
<b>Grand Total:</b>					<b>1,587,140</b>	<b>253,942</b>	<b>1,841,082</b>



FACILITY CONDITION ANALYSIS

**SECTION 3**

SPECIFIC PROJECT DETAILS  
ILLUSTRATING DESCRIPTION / COST

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHFS02	<b>Title:</b>	STAIR GUARDRAIL UPGRADES
<b>Priority Sequence:</b>	1		
<b>Priority Class:</b>	1		
<b>Category Code:</b>	FS5E	<b>System:</b>	FIRE/LIFE SAFETY
		<b>Component:</b>	EGRESS PATH
		<b>Element:</b>	STAIRS AND RAILING
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	IBC	1003.3	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Item Only: Floor(s) 3, R		

**Project Description**

Code requires that there be a guardrail where there is a change in floor level in excess of 36 inches and that these guardrails be a minimum of 42 inches high. The guardrails must also prevent the passage of a specific diameter sphere. The solid guardrail at the top of the west stair is too low, and the painted metal guardrail at the top of the east stair is too low and lacks sufficient infill. A painted metal rail should be added above and parallel to these existing guardrails. The application of a galvanized, expanded metal lath to the existing guardrails at the top of the east stair is the most cost-effective method of complying with the sphere test. There is no guardrail at the roof edge of the roof hatch. The installation of a painted metal, rooftop guardrail is recommended at the east side of the roof hatch.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHFS02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Metal rail, galvanized expanded metal grillage, equipment rental, supplies, and paint (2 coats)	LOT	1	\$1,000	\$1,000	\$1,280	\$1,280	\$2,280
<b>Project Totals:</b>				<b>\$1,000</b>		<b>\$1,280</b>	<b>\$2,280</b>

<b>Material/Labor Cost</b>		<b>\$2,280</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$1,664</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$333</b>
<b>Construction Cost</b>		<b>\$1,996</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$319</b>
<b>Total Project Cost</b>		<b>\$2,316</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHFS03	<b>Title:</b>	INTERIOR DOOR UPGRADES
<b>Priority Sequence:</b>	2		
<b>Priority Class:</b>	1		
<b>Category Code:</b>	FS5F	<b>System:</b>	FIRE/LIFE SAFETY
		<b>Component:</b>	EGRESS PATH
		<b>Element:</b>	FIRE DOORS/HARDWARE
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	IBC	713	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

Most of the exit access corridor doors in this facility do not have obvious fire ratings. Complete demolition of the existing door systems and replacement according to a code compliant plan to protect egress passages properly is recommended where it cannot be determined that the existing exit access doors and doorframes are rated.



**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHFS03

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Rated door and rated metal frame, including all hardware and accessible signage	LEAF	53	\$672	\$35,616	\$812	\$43,036	\$78,652
<b>Project Totals:</b>				<b>\$35,616</b>		<b>\$43,036</b>	<b>\$78,652</b>

<b>Material/Labor Cost</b>		<b>\$78,652</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$57,943</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$11,589</b>
<b>Construction Cost</b>		<b>\$69,531</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$11,125</b>
<b>Total Project Cost</b>		<b>\$80,656</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHFS04	<b>Title:</b>	REPLACE EXISTING ROOF ACCESS LADDER
<b>Priority Sequence:</b>	3		
<b>Priority Class:</b>	1		
<b>Category Code:</b>	FS5A	<b>System:</b>	FIRE/LIFE SAFETY
		<b>Component:</b>	EGRESS PATH
		<b>Element:</b>	DESIGNATION
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	OSHA	1910.27	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Item Only: Floor(s) 3		

**Project Description**

The existing roof access ladder is a series of painted steel rod rungs, each shaped like a block letter U and embedded into the brick wall of the east stair. In addition to lacking any vertical elements to hold on to while using this ladder, the individual rungs are spaced far enough apart vertically so as to be uncomfortable to scale, and the location of this ladder is dangerously close to the guardrail overlook. It is recommended that the existing ladder system be replaced with a new fixed vertical ladder, including an OSHA compliant safety cage, to promote user safety and limit liability.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHFS04

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Vertical safety ladder with cage	LF	15	\$62.48	\$937	\$29.16	\$437	\$1,375
<b>Project Totals:</b>				<b>\$937</b>		<b>\$437</b>	<b>\$1,375</b>

<b>Material/Labor Cost</b>		<b>\$1,375</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$1,168</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$234</b>
<b>Construction Cost</b>		<b>\$1,402</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$224</b>
<b>Total Project Cost</b>		<b>\$1,626</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC01	<b>Title:</b>	UPGRADE SITE HANDRAILS
<b>Priority Sequence:</b>	4		
<b>Priority Class:</b>	1		
<b>Category Code:</b>	AC1A	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	SITE
		<b>Element:</b>	STAIR AND RAILINGS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ADAAG	505	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Item Only: Floor(s) 1		

**Project Description**

ADA legislation regarding building accessibility by the handicapped requires that entry steps have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. The end geometry of the handrails at the three existing entry steps does not comply with current legislation. Painted metal handrail extensions should be added to the ends of all of these handrails.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Handrail extensions, equipment rental, tools, and supplies	LOT	1	\$550	\$550	\$1,280	\$1,280	\$1,830
<b>Project Totals:</b>				<b>\$550</b>		<b>\$1,280</b>	<b>\$1,830</b>

<b>Material/Labor Cost</b>		<b>\$1,830</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$1,210</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$242</b>
<b>Construction Cost</b>		<b>\$1,453</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$232</b>
<b>Total Project Cost</b>		<b>\$1,685</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC02	<b>Title:</b>	INSTALL LEVER ACTION DOOR HARDWARE
<b>Priority Sequence:</b>	5		
<b>Priority Class:</b>	2		
<b>Category Code:</b>	AC3C	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	INTERIOR PATH OF TRAVEL
		<b>Element:</b>	DOORS AND HARDWARE
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ADAAG	309.4	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3, B		

**Project Description**

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

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Lever actuated door hardware	EA	43	\$273	\$11,739	\$69.77	\$3,000	\$14,739
<b>Project Totals:</b>				<b>\$11,739</b>		<b>\$3,000</b>	<b>\$14,739</b>

<b>Material/Labor Cost</b>		<b>\$14,739</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<u>\$13,360</u>
<b>General Contractor Mark Up at 20.0%</b>	+	<u>\$2,672</u>
<b>Construction Cost</b>		<u>\$16,032</u>
<b>Professional Fees at 16.0%</b>	+	<u>\$2,565</u>
<b>Total Project Cost</b>		<u><b>\$18,597</b></u>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC03	<b>Title:</b>	STAIR HANDRAIL UPGRADES
<b>Priority Sequence:</b>	6		
<b>Priority Class:</b>	2		
<b>Category Code:</b>	AC3B	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	INTERIOR PATH OF TRAVEL
		<b>Element:</b>	STAIRS AND RAILINGS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	IBC	1003.3	
	ADAAG	505	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Item Only: Floor(s) 1, 2, 3, B		

**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. The end geometry of the existing exit stair side handrails does not comply with current legislation. Painted wood handrail extensions should be added to the ends of all of the interior handrails.



**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC03

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Wood rail extensions, tools supplies, and paint (2 coats)	LOT	1	\$250	\$250	\$1,280	\$1,280	\$1,530
<b>Project Totals:</b>				<b>\$250</b>		<b>\$1,280</b>	<b>\$1,530</b>

<b>Material/Labor Cost</b>		<b>\$1,530</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$908</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$182</b>
<b>Construction Cost</b>		<b>\$1,090</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$174</b>
<b>Total Project Cost</b>		<b>\$1,264</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC04	<b>Title:</b>	ELEVATOR INSTALLATION
<b>Priority Sequence:</b>	7		
<b>Priority Class:</b>	2		
<b>Category Code:</b>	AC3A	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	INTERIOR PATH OF TRAVEL
		<b>Element:</b>	LIFTS/RAMPS/ELEVATORS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ASME	A17.1	
	ADAAG	407	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Undefined: Floor(s) 1		

**Project Description**

Current accessibility legislation requires wheelchair access to all floors in a building over two stories in height. There is no wheelchair access to the upper floors of this building. The installation of an interior hydraulic elevator is proposed.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC04

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Elevator installation within current building footprint (two stops)	SYS	1	\$72,266	\$72,266	\$53,731	\$53,731	\$125,997
Each additional stop	FLR	1	\$16,661	\$16,661	\$35,144	\$35,144	\$51,805
<b>Project Totals:</b>				<b>\$88,927</b>		<b>\$88,875</b>	<b>\$177,802</b>

<b>Material/Labor Cost</b>		<b>\$177,802</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<u>\$135,142</u>
<b>General Contractor Mark Up at 20.0%</b>	+	<u>\$27,028</u>
<b>Construction Cost</b>		<u>\$162,171</u>
<b>Professional Fees at 16.0%</b>	+	<u>\$25,947</u>
<b>Total Project Cost</b>		<u><b>\$188,118</b></u>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHFS01	<b>Title:</b>	FIRE SPRINKLER SYSTEM INSTALLATION
<b>Priority Sequence:</b>	8		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	FS3A	<b>System:</b>	FIRE/LIFE SAFETY
		<b>Component:</b>	SUPPRESSION
		<b>Element:</b>	SPRINKLERS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	NFPA	1, 13, 13R, 101	
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

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.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHFS01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Install wet-pipe sprinkler system, including valves, piping, sprinkler heads, piping supports, etc.	SF	16,080	\$3.08	\$49,526	\$3.77	\$60,622	\$110,148
<b>Project Totals:</b>				<b>\$49,526</b>		<b>\$60,622</b>	<b>\$110,148</b>

<b>Material/Labor Cost</b>		<b>\$110,148</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$80,972</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$16,194</b>
<b>Construction Cost</b>		<b>\$97,166</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$15,547</b>
<b>Total Project Cost</b>		<b>\$112,713</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC05	<b>Title:</b>	UPPER FLOOR RESTROOM RENOVATIONS
<b>Priority Sequence:</b>	9		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	AC3E	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	INTERIOR PATH OF TRAVEL
		<b>Element:</b>	RESTROOMS/BATHROOMS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ADAAG	604, 605, 606, 607, 608	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Room Only: Floor(s) 2, 3		

**Project Description**

The restroom fixtures and finishes are mostly original to the year of construction or latest major renovation. Except for the entry floor men's restroom and women's restroom, the remaining restrooms in this building have aging fixtures and finishes and are not wheelchair accessible. The entry floor public restroom fixtures and finishes have been upgraded recently and are accessible to persons with disabilities. A comprehensive renovation of all of the upper floor restrooms, including new fixtures, finishes, 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**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC05

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Major restroom renovation, including fixtures, finishes, partitions, accessories, and expansion if necessary (assumes 55 square feet of restroom area per fixture)	FIXT	12	\$1,969	\$23,628	\$1,699	\$20,388	\$44,016
<b>Project Totals:</b>				<b>\$23,628</b>		<b>\$20,388</b>	<b>\$44,016</b>

<b>Material/Labor Cost</b>		<b>\$44,016</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$34,252</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$6,850</b>
<b>Construction Cost</b>		<b>\$41,103</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$6,576</b>
<b>Total Project Cost</b>		<b>\$47,679</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC06	<b>Title:</b>	DUAL LEVEL DRINKING FOUNTAIN INSTALLATION
<b>Priority Sequence:</b>	10		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	AC3F	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	INTERIOR PATH OF TRAVEL
		<b>Element:</b>	DRINKING FOUNTAINS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ADAAG	211, 602	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Item Only: Floor(s) 1, 2, 3		

**Project Description**

ADA legislation requires that building amenities, such as the drinking fountains, be generally accessible to all persons. The single level configuration of the drinking fountains in this building is a barrier to wheelchair accessibility. The installation of dual level, refrigerated drinking fountains is recommended to replace these existing fountains.



**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC06

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Dual level drinking fountain	EA	4	\$1,216	\$4,864	\$374	\$1,496	\$6,360
<b>Project Totals:</b>				<b>\$4,864</b>		<b>\$1,496</b>	<b>\$6,360</b>

<b>Material/Labor Cost</b>		<b>\$6,360</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$5,666</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$1,133</b>
<b>Construction Cost</b>		<b>\$6,799</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$1,088</b>
<b>Total Project Cost</b>		<b>\$7,886</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHES01	<b>Title:</b>	EXTERIOR FINISH UPGRADES
<b>Priority Sequence:</b>	11		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	ES2B	<b>System:</b>	EXTERIOR
		<b>Component:</b>	COLUMNS/BEAMS/WALLS
		<b>Element:</b>	FINISH
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	Not Applicable		
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Building-wide: Floor(s) 1		

**Project Description**

The brick exterior is in overall good condition, but the painted wood trim and door finishes will need to be renewed again within the next five years. The aging wood north facade entry doors should also be replaced.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHES01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
High traffic door system	LEAF	2	\$1,978	\$3,956	\$1,999	\$3,998	\$7,954
Paint (2 coats), supplies, and tools	LOT	1	\$350	\$350	\$3,200	\$3,200	\$3,550
<b>Project Totals:</b>				<b>\$4,306</b>		<b>\$7,198</b>	<b>\$11,504</b>

<b>Material/Labor Cost</b>		<b>\$11,504</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$8,029</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$1,606</b>
<b>Construction Cost</b>		<b>\$9,634</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$1,542</b>
<b>Total Project Cost</b>		<b>\$11,176</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHHV01	<b>Title:</b>	HVAC SYSTEM REPLACEMENT
<b>Priority Sequence:</b>	12		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	HV3A	<b>System:</b>	HVAC
		<b>Component:</b>	HEATING/COOLING
		<b>Element:</b>	SYSTEM RETROFIT/REPLACE
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Energy Conservation	\$9,100	
<b>Code Application:</b>	ASHRAE	62-2004	
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3, 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 variable air volume (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 DDCs for the new equipment. Incorporate variable frequency drives (VFDs) into the new HVAC design as applicable.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHHV01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Air handlers, exhaust fans, ductwork, VAVs, VFDs, DDCs, heat exchangers, pumps, piping, electrical connections, and demolition of existing equipment	SF	16,080	\$13.78	\$221,582	\$16.84	\$270,787	\$492,370
<b>Project Totals:</b>				<b>\$221,582</b>		<b>\$270,787</b>	<b>\$492,370</b>

<b>Material/Labor Cost</b>		<b>\$492,370</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$362,047</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$72,409</b>
<b>Construction Cost</b>		<b>\$434,457</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$69,513</b>
<b>Total Project Cost</b>		<b>\$503,970</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHHV02	<b>Title:</b>	REPLACE AIR-COOLED CHILLER
<b>Priority Sequence:</b>	13		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	HV2A	<b>System:</b>	HVAC
		<b>Component:</b>	COOLING
		<b>Element:</b>	CHILLERS/CONTROLS
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ASHRAE	15-2004	
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Item Only: Floor(s) 1		

**Project Description**

The existing air-cooled chiller is recommended for replacement. Remove the existing chiller, and install a new chiller, along with electrical connections and related controls and programming. Specify an energy-efficient replacement system that utilizes a non-CFC refrigerant.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHHV02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Air-cooled chiller replacement and removal of existing unit	TON	80	\$797	\$63,794	\$238	\$19,073	\$82,867
<b>Project Totals:</b>				<b>\$63,794</b>		<b>\$19,073</b>	<b>\$82,867</b>

<b>Material/Labor Cost</b>		<b>\$82,867</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$74,025</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$14,805</b>
<b>Construction Cost</b>		<b>\$88,830</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$14,213</b>
<b>Total Project Cost</b>		<b>\$103,043</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHEL03	<b>Title:</b>	UPGRADE ELECTRICAL DISTRIBUTION NETWORK
<b>Priority Sequence:</b>	14		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	EL3B	<b>System:</b>	ELECTRICAL
		<b>Component:</b>	SECONDARY DISTRIBUTION
		<b>Element:</b>	DISTRIBUTION NETWORK
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	NEC	Articles 110, 210, 220, 230	
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

An upgrade of the building electrical system is recommended. Aging components, such as the circuit breakers, could serve as fire hazards if they fail to open a circuit in an overload or short circuit condition. Remove existing aged electrical components and branch circuitry. Install new power panels, switches, raceways, conductors, and devices. Provide molded case thermal magnetic circuit breakers and HACR circuit breakers for HVAC equipment. Redistribute the electrical loads to the appropriate areas to ensure safe and reliable power to building occupants. Provide ground fault circuit interrupter (GFCI) protection where required, and clearly label all panels for circuit identification.



**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHEL03

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Power panels, conductors, raceways, devices, demolition, and cut and patching materials	SF	16,080	\$5.52	\$88,762	\$8.27	\$132,982	\$221,743
<b>Project Totals:</b>				<b>\$88,762</b>		<b>\$132,982</b>	<b>\$221,743</b>

<b>Material/Labor Cost</b>		<b>\$221,743</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$157,602</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$31,521</b>
<b>Construction Cost</b>		<b>\$189,123</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$30,260</b>
<b>Total Project Cost</b>		<b>\$219,383</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHEL02	<b>Title:</b>	INTERIOR LIGHTING UPGRADE
<b>Priority Sequence:</b>	15		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	EL4B	<b>System:</b>	ELECTRICAL
		<b>Component:</b>	DEVICES AND FIXTURES
		<b>Element:</b>	INTERIOR LIGHTING
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Energy Conservation	\$4,920	
<b>Code Application:</b>	NEC	Articles 210, 410	
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**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**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHEL02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
High efficiency fluorescent fixtures, occupancy sensors, and demolition of existing lighting	SF	16,080	\$2.81	\$45,185	\$3.44	\$55,315	\$100,500
<b>Project Totals:</b>				<b>\$45,185</b>		<b>\$55,315</b>	<b>\$100,500</b>

<b>Material/Labor Cost</b>		<b>\$100,500</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$73,878</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$14,776</b>
<b>Construction Cost</b>		<b>\$88,653</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$14,185</b>
<b>Total Project Cost</b>		<b>\$102,838</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHEL01	<b>Title:</b>	UPGRADE ELECTRICAL SERVICE
<b>Priority Sequence:</b>	16		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	EL1A	<b>System:</b>	ELECTRICAL
		<b>Component:</b>	INCOMING SERVICE
		<b>Element:</b>	TRANSFORMER
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	NEC	Articles 230, 450	
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Room Only: Floor(s) 1		

**Project Description**

An upgrade to the electrical service is recommended. Remove existing electric service equipment. Install new transformers, switchgear, conductors, connections, and terminations. The new service should provide 277/480 volt power for lighting and mechanical equipment and 120/208 volt power for receptacles and other power needs. Main 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**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHEL01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
480 volt service transformer, switchgear, all connections, and terminations	AMP	400	\$50.00	\$20,000	\$29.00	\$11,600	\$31,600
120/208 volt step-down transformer, main distribution, all connections, and terminations	AMP	700	\$35.00	\$24,500	\$20.00	\$14,000	\$38,500
<b>Project Totals:</b>				<b>\$44,500</b>		<b>\$25,600</b>	<b>\$70,100</b>

<b>Material/Labor Cost</b>		\$70,100
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		\$57,944
<b>General Contractor Mark Up at 20.0%</b>	+	\$11,589
<b>Construction Cost</b>		\$69,533
<b>Professional Fees at 16.0%</b>	+	\$11,125
<b>Total Project Cost</b>		<b>\$80,658</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHEL04	<b>Title:</b>	EXTERIOR LIGHTING REPLACEMENT
<b>Priority Sequence:</b>	17		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	EL4A	<b>System:</b>	ELECTRICAL
		<b>Component:</b>	DEVICES AND FIXTURES
		<b>Element:</b>	EXTERIOR LIGHTING
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Energy Conservation	\$330	
<b>Code Application:</b>	NEC	410	
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Building-wide: Floor(s) 1, 2, 3, R		

**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**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHEL04

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
HID wall-mount fixture and demolition of existing fixture	EA	5	\$406	\$2,030	\$190	\$950	\$2,980
Compact fluorescent, wall-mount exterior light and demolition of existing light	EA	4	\$131	\$524	\$137	\$548	\$1,072
Replace lighting stanchion, including fixture, 30 foot	EA	1	\$2,662	\$2,662	\$1,996	\$1,996	\$4,658
Replace lighting stanchion, including fixture, 12 foot	EA	8	\$1,331	\$10,648	\$1,220	\$9,760	\$20,408
<b>Project Totals:</b>				<b>\$15,864</b>		<b>\$13,254</b>	<b>\$29,118</b>

<b>Material/Labor Cost</b>		<b>\$29,118</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$22,774</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$4,555</b>
<b>Construction Cost</b>		<b>\$27,329</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$4,373</b>
<b>Total Project Cost</b>		<b>\$31,702</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHIS01	<b>Title:</b>	INTERIOR WALL FINISH RENEWAL
<b>Priority Sequence:</b>	18		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	IS2B	<b>System:</b>	INTERIOR/FINISH SYS.
		<b>Component:</b>	PARTITIONS
		<b>Element:</b>	FINISHES
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	Not Applicable		
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

Interior wall finish applications consist mostly of paint, with some ceramic tile in the restrooms. 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**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHIS01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Standard wall finish (paint, wall covering, etc.)	SF	24,650	\$0.17	\$4,191	\$0.81	\$19,967	\$24,157
<b>Project Totals:</b>				<b>\$4,191</b>		<b>\$19,967</b>	<b>\$24,157</b>

<b>Material/Labor Cost</b>		<b>\$24,157</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$14,463</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$2,893</b>
<b>Construction Cost</b>		<b>\$17,355</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$2,777</b>
<b>Total Project Cost</b>		<b>\$20,132</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHIS02	<b>Title:</b>	FLOOR FINISH UPGRADES
<b>Priority Sequence:</b>	19		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	IS1A	<b>System:</b>	INTERIOR/FINISH SYS.
		<b>Component:</b>	FLOOR
		<b>Element:</b>	FINISHES-DRY
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	OSHA	29 CFR 1910.1001, 1926.1101	
	EPA	40 CFR 61.M, 763	
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Undefined: Floor(s) 1, 2, 3		

**Project Description**

Interior floor finish applications vary in age, type, and condition. Most of the flooring is vinyl tile in the corridors and most offices, ceramic tile in the restrooms, and carpeting in a few offices. All of the carpeting and any damaged floor tiles are recommended for replacement within the next five years. The vinyl tile could contain asbestos material that should be abated according to local, state, and federal regulations.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHIS02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Carpet	SF	2,170	\$5.36	\$11,631	\$2.00	\$4,340	\$15,971
Vinyl floor tile	SF	500	\$3.53	\$1,765	\$2.50	\$1,250	\$3,015
ACM abatement allowance	LOT	1	\$2,500	\$2,500	\$6,400	\$6,400	\$8,900
<b>Project Totals:</b>				<b>\$15,896</b>		<b>\$11,990</b>	<b>\$27,886</b>

<b>Material/Labor Cost</b>		<b>\$27,886</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<u>\$22,158</u>
<b>General Contractor Mark Up at 20.0%</b>	+	<u>\$4,432</u>
<b>Construction Cost</b>		<u>\$26,590</u>
<b>Professional Fees at 16.0%</b>	+	<u>\$4,254</u>
<b>Total Project Cost</b>		<u><b>\$30,844</b></u>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHIS03	<b>Title:</b>	ENTRY FLOOR RESTROOM RENOVATIONS
<b>Priority Sequence:</b>	20		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	IS6D	<b>System:</b>	INTERIOR/FINISH SYS.
		<b>Component:</b>	GENERAL
		<b>Element:</b>	OTHER
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	Not Applicable		
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Room Only: Floor(s) 1		

**Project Description**

The entry floor men's restroom and women's restroom fixtures and finishes have been upgraded recently and are accessible to persons with disabilities. The fixtures and finishes in these two restrooms are sound, but the finishes in both restrooms will need to be renewed within the next five years.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHIS03

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Moderate restroom finish renovations	FIXT	9	\$300	\$2,700	\$640	\$5,760	\$8,460
<b>Project Totals:</b>				<b>\$2,700</b>		<b>\$5,760</b>	<b>\$8,460</b>

<b>Material/Labor Cost</b>		<b>\$8,460</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<u>\$5,674</u>
<b>General Contractor Mark Up at 20.0%</b>	+	<u>\$1,135</u>
<b>Construction Cost</b>		<u>\$6,809</u>
<b>Professional Fees at 16.0%</b>	+	<u>\$1,089</u>
<b>Total Project Cost</b>		<u><b>\$7,898</b></u>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHPL01	<b>Title:</b>	WATER SUPPLY PIPING REPLACEMENT
<b>Priority Sequence:</b>	21		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	PL1A	<b>System:</b>	PLUMBING
		<b>Component:</b>	DOMESTIC WATER
		<b>Element:</b>	PIPING NETWORK
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	IPC	Chapter 6	
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

The replacement of the aging water piping network is recommended. Failure to replace the water piping will result in frequent leaks and escalating maintenance costs. Remove the existing water supply network. Install new copper water supply piping with fiberglass insulation. Install isolation valves, pressure regulators, shock absorbers, backflow preventers, and vacuum breakers as needed.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHPL01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Copper pipe and fittings, valves, backflow prevention devices, insulation, hangers, demolition, and cut and patching materials	SF	16,080	\$1.81	\$29,105	\$4.54	\$73,003	\$102,108
<b>Project Totals:</b>				<b>\$29,105</b>		<b>\$73,003</b>	<b>\$102,108</b>

<b>Material/Labor Cost</b>		<b>\$102,108</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$66,759</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$13,352</b>
<b>Construction Cost</b>		<b>\$80,111</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$12,818</b>
<b>Total Project Cost</b>		<b>\$92,929</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHPL02	<b>Title:</b>	DRAIN PIPING REPLACEMENT
<b>Priority Sequence:</b>	22		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	PL2A	<b>System:</b>	PLUMBING
		<b>Component:</b>	WASTEWATER
		<b>Element:</b>	PIPING NETWORK
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	IPC	Chapters 7-11	
<b>Project Class:</b>	Deferred Maintenance		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

The replacement of the aging drain piping is recommended throughout the facility. Failure to replace the old piping will result in frequent leaks and escalating maintenance costs. Remove sanitary and storm drain piping as needed. Install new cast-iron drain piping networks with copper runouts to the fixtures. Install new floor drains, roof drains, and traps.



**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHPL02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Cast-iron drain piping and fittings, copper pipe and fittings, floor / roof drains, traps, hangers, demolition, and cut and patching materials	SF	16,080	\$2.89	\$46,471	\$6.64	\$106,771	\$153,242
<b>Project Totals:</b>				<b>\$46,471</b>		<b>\$106,771</b>	<b>\$153,242</b>

<b>Material/Labor Cost</b>		<b>\$153,242</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$101,570</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$20,314</b>
<b>Construction Cost</b>		<b>\$121,884</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$19,501</b>
<b>Total Project Cost</b>		<b>\$141,386</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHSI01	<b>Title:</b>	SITWORK UPGRADES
<b>Priority Sequence:</b>	23		
<b>Priority Class:</b>	3		
<b>Category Code:</b>	SI2A	<b>System:</b>	SITE
		<b>Component:</b>	LANDSCAPE
		<b>Element:</b>	GRADE/FLORA
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	Not Applicable		
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Undefined: Floor(s) 1		

**Project Description**

The landscaping on this relatively small, flat site consists of turf, shrubs, specimen trees, and foundation planting. All are in overall good condition. The overall condition of the site is such that a modest landscaping project is warranted.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHSI01

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Trees, shrubs, planting soil, amendments, sand, fill, and sod	SF	750	\$1.04	\$780	\$1.56	\$1,170	\$1,950
<b>Project Totals:</b>				<b>\$780</b>		<b>\$1,170</b>	<b>\$1,950</b>

<b>Material/Labor Cost</b>		<b>\$1,950</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$1,386</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$277</b>
<b>Construction Cost</b>		<b>\$1,663</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$266</b>
<b>Total Project Cost</b>		<b>\$1,929</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHAC07	<b>Title:</b>	BUILDING SIGNAGE PACKAGE UPGRADE
<b>Priority Sequence:</b>	24		
<b>Priority Class:</b>	4		
<b>Category Code:</b>	AC3D	<b>System:</b>	ACCESSIBILITY
		<b>Component:</b>	INTERIOR PATH OF TRAVEL
		<b>Element:</b>	SIGNAGE
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	ADAAG	703.1	
<b>Project Class:</b>	Plant Adaption		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3, B		

**Project Description**

Accessibility legislation has established signage requirements for all permanent spaces in buildings. Compliant signage should meet specific size, graphical, Braille, height, and location requirements. To comply with the intent of this legislation, it is recommended that all non-compliant signage be upgraded to conform to appropriate accessibility standards. The project scope includes directional signage.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHAC07

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
ADA compliant signage	EA	21	\$53.11	\$1,115	\$15.62	\$328	\$1,443
<b>Project Totals:</b>				<b>\$1,115</b>		<b>\$328</b>	<b>\$1,443</b>

<b>Material/Labor Cost</b>		<b>\$1,443</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<u>\$1,291</u>
<b>General Contractor Mark Up at 20.0%</b>	+	<u>\$258</u>
<b>Construction Cost</b>		<u>\$1,550</u>
<b>Professional Fees at 16.0%</b>	+	<u>\$248</u>
<b>Total Project Cost</b>		<u><b>\$1,798</b></u>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHES02	<b>Title:</b>	REPLACE BUILT-UP ROOFING
<b>Priority Sequence:</b>	25		
<b>Priority Class:</b>	4		
<b>Category Code:</b>	ES4B	<b>System:</b>	EXTERIOR
		<b>Component:</b>	ROOF
		<b>Element:</b>	REPLACEMENT
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Energy Conservation	\$200	
<b>Code Application:</b>	Not Applicable		
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) R		

**Project Description**

The roofing consists of a hipped terra-cotta tile application on the northern two-thirds of the building and a flat built-up system on the southern one-third. Both installations are in overall good condition, but experience indicates that the built-up roofing will need to be replaced within the next ten years. Replace the flat built-up roof area with a similar application.

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHES02

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Built-up roof	SF	1,780	\$3.06	\$5,447	\$3.58	\$6,372	\$11,819
<b>Project Totals:</b>				<b>\$5,447</b>		<b>\$6,372</b>	<b>\$11,819</b>

<b>Material/Labor Cost</b>		<b>\$11,819</b>
<b>Material Index</b>		<b>100.7%</b>
<b>Labor Index</b>		<b>51.3%</b>
<b>Material/Labor Indexed Cost</b>		<b>\$8,754</b>
<b>General Contractor Mark Up at 20.0%</b>	<b>+</b>	<b>\$1,751</b>
<b>Construction Cost</b>		<b>\$10,505</b>
<b>Professional Fees at 16.0%</b>	<b>+</b>	<b>\$1,681</b>
<b>Total Project Cost</b>		<b>\$12,186</b>

**Specific Project Details**  
**Facility Condition Analysis**  
**Section Three**  
GRAH : GRAHAM BUILDING

**Project Description**

<b>Project Number:</b>	GRAHIS04	<b>Title:</b>	UPGRADE CEILING FINISHES
<b>Priority Sequence:</b>	26		
<b>Priority Class:</b>	4		
<b>Category Code:</b>	IS3B	<b>System:</b>	INTERIOR/FINISH SYS.
		<b>Component:</b>	CEILINGS
		<b>Element:</b>	REPLACEMENT
<b>Building Code:</b>	GRAH		
<b>Building Name:</b>	GRAHAM BUILDING		
<b>Subclass/Savings:</b>	Not Applicable		
<b>Code Application:</b>	Not Applicable		
<b>Project Class:</b>	Capital Renewal		
<b>Project Date:</b>	10/16/2009		
<b>Project Location:</b>	Floor-wide: Floor(s) 1, 2, 3		

**Project Description**

Ceiling finish applications vary in age, type, and condition and consist mostly of ceiling tile along with some paint. Partial 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**  
 GRAH : GRAHAM BUILDING

**Project Cost**

**Project Number:** GRAHIS04

**Task Cost Estimate**

<b>Task Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Material Unit Cost</b>	<b>Total Material Cost</b>	<b>Labor Unit Cost</b>	<b>Total Labor Cost</b>	<b>Total Cost</b>
Acoustical tile ceiling system	SF	2,500	\$2.12	\$5,300	\$2.98	\$7,450	\$12,750
Painted ceiling finish application	SF	4,800	\$0.17	\$816	\$0.81	\$3,888	\$4,704
<b>Project Totals:</b>				<b>\$6,116</b>		<b>\$11,338</b>	<b>\$17,454</b>

<b>Material/Labor Cost</b>		<b>\$17,454</b>
<b>Material Index</b>		100.7%
<b>Labor Index</b>		51.3%
<b>Material/Labor Indexed Cost</b>		<b>\$11,975</b>
<b>General Contractor Mark Up at 20.0%</b>	+	<b>\$2,395</b>
<b>Construction Cost</b>		<b>\$14,370</b>
<b>Professional Fees at 16.0%</b>	+	<b>\$2,299</b>
<b>Total Project Cost</b>		<b>\$16,669</b>



FACILITY CONDITION ANALYSIS

**SECTION 4**

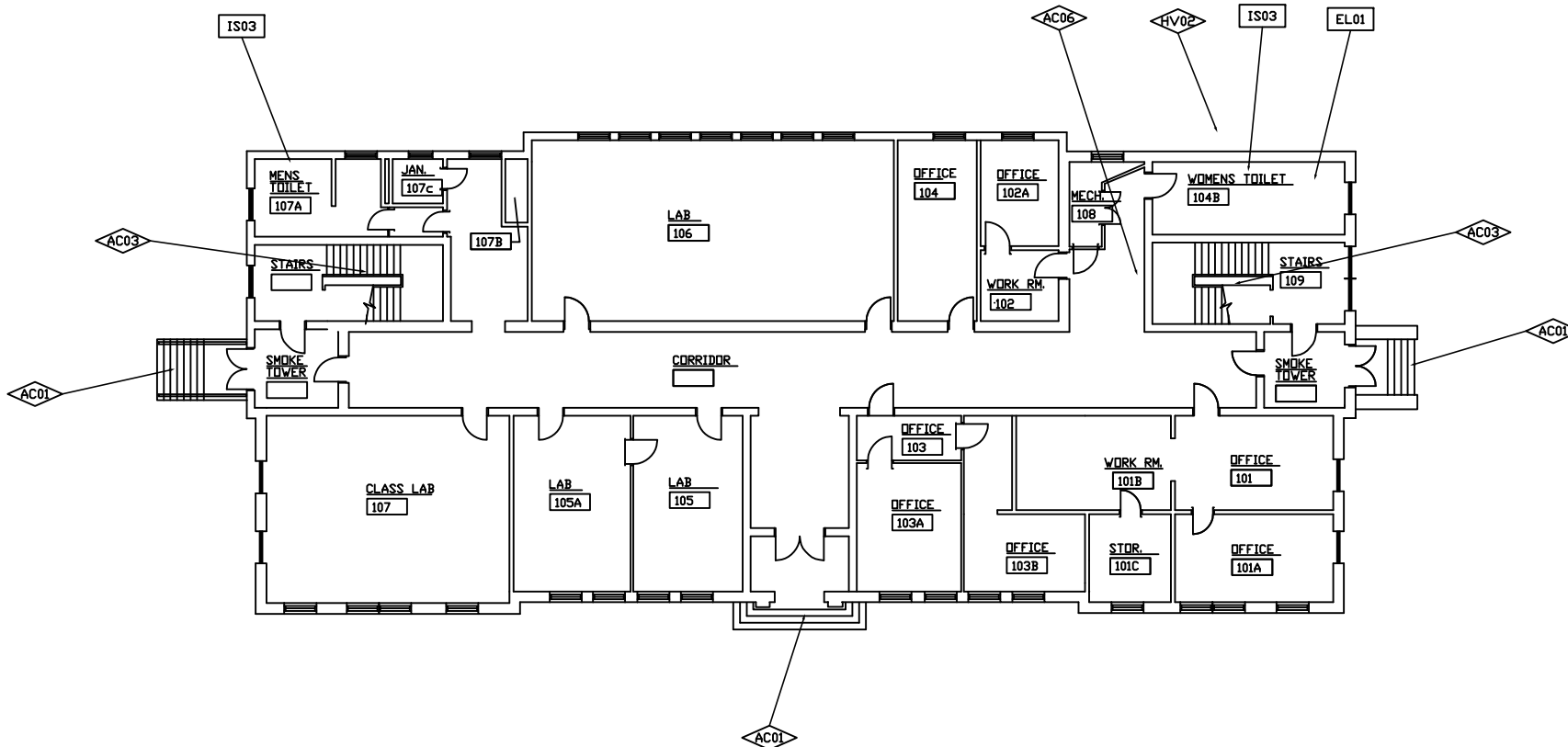
**DRAWINGS  
AND PROJECT LOCATIONS**











FACILITY  
CONDITION  
ANALYSIS

2165 West Park Court  
Suite N  
Stone Mountain GA 30087  
770.879.7376

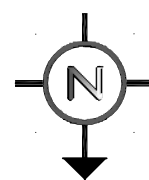


-  PROJECT NUMBER APPLIES TO ONE ROOM ONLY
-  PROJECT NUMBER APPLIES TO ONE ITEM ONLY
-  PROJECT NUMBER APPLIES TO ENTIRE BUILDING
-  PROJECT NUMBER APPLIES TO ENTIRE FLOOR
-  PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS
-  PROJECT NUMBER APPLIES TO AREA AS NOTED

- AC04 (circle) IS02 (circle) SI01 (circle) EL04 (circle) ES01 (circle)
- AC02 (inverted triangle) AC07 (inverted triangle) EL02 (inverted triangle) EL03 (inverted triangle) FS01 (inverted triangle) FS03 (inverted triangle)
- HV01 (inverted triangle) IS01 (inverted triangle) IS04 (inverted triangle) PL01 (inverted triangle) PL02 (inverted triangle)

**BASEMENT**

- AC02 (inverted triangle) AC07 (inverted triangle)
- AC03 (diamond)



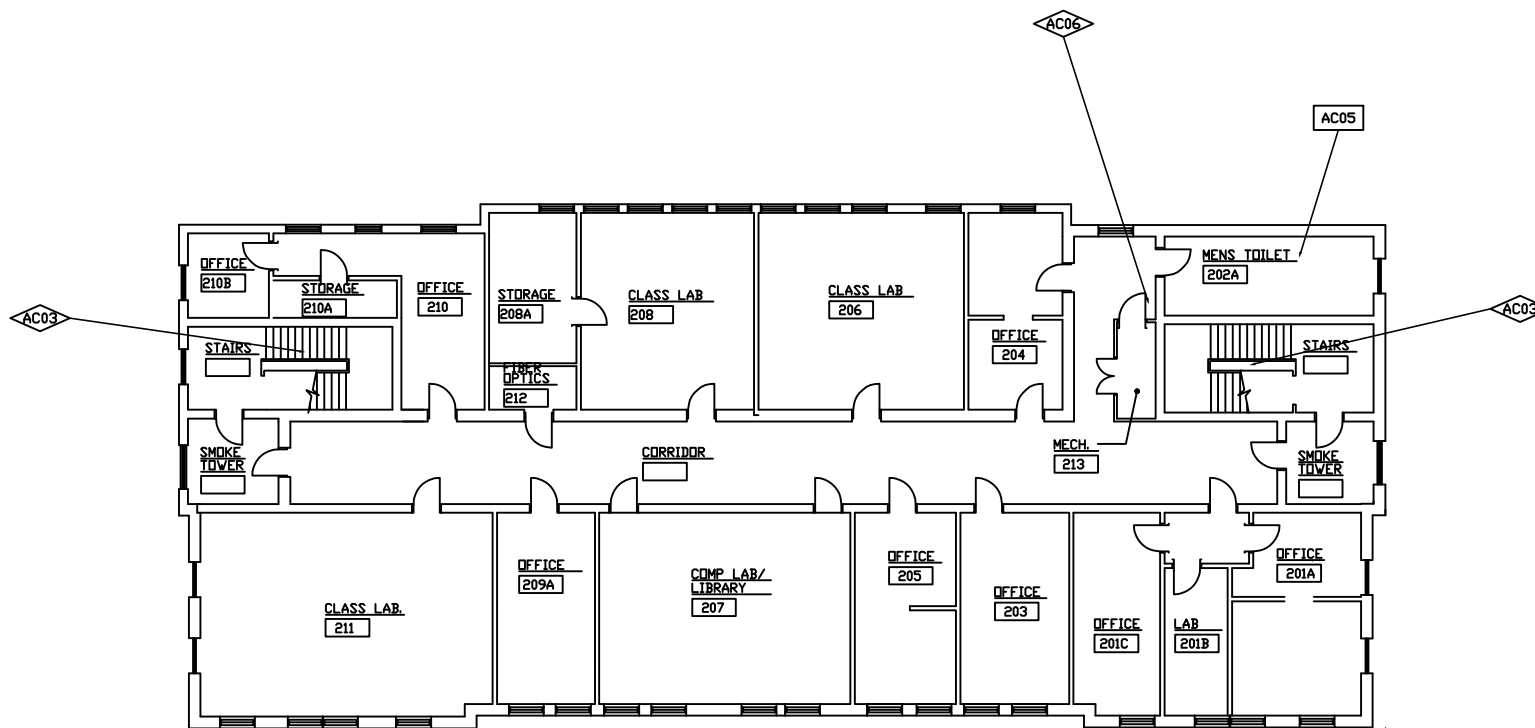
Date: 10/22/09  
 Drawn by: J.T.V.  
 Project No. 09-041







**FIRST FLOOR PLAN**















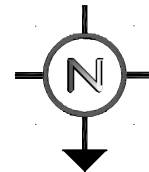
FACILITY  
CONDITION  
ANALYSIS

2165 West Park Court  
Suite N  
Stone Mountain GA 30087  
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

-  IS02
-  AC02
-  AC07
-  EL02
-  EL03
-  FS01
-  FS03
-  HV01
-  IS01
-  IS04
-  PL01
-  PL02



Date: 10/22/09  
 Drawn by: J.T.V.  
 Project No. 09-041

SECOND  
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

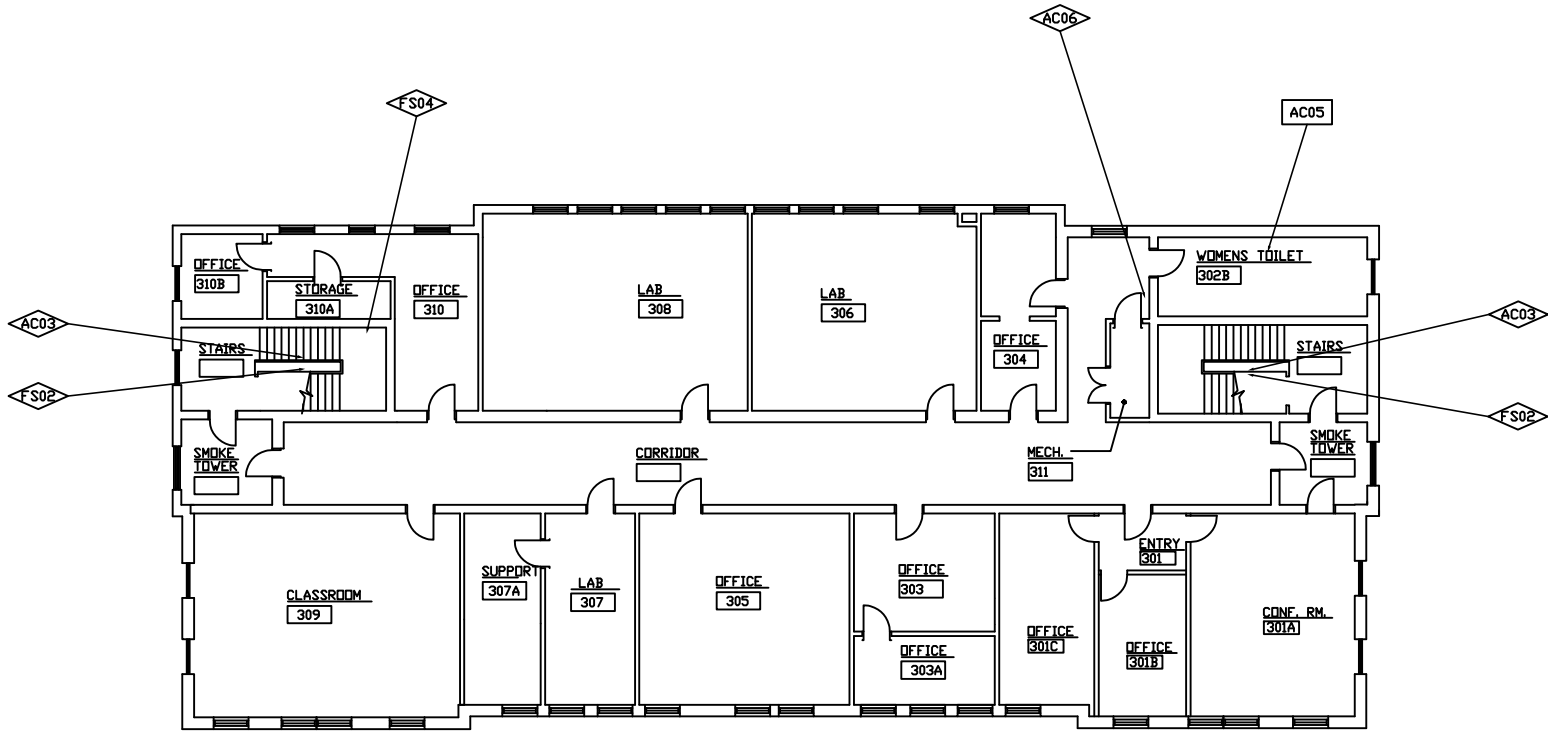
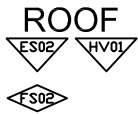
Date: 10/22/09

Drawn by: J.T.V.

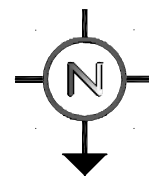
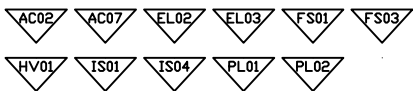
Project No. 09-041

THIRD  
FLOOR  
PLAN

Sheet No.  
3 of 3



IS02







FACILITY CONDITION ANALYSIS

**SECTION 5**

LIFE CYCLE MODEL SUMMARY  
AND PROJECTIONS



**Life Cycle Model**  
**Building Component Summary**  
**GRAH : GRAHAM BUILDING**

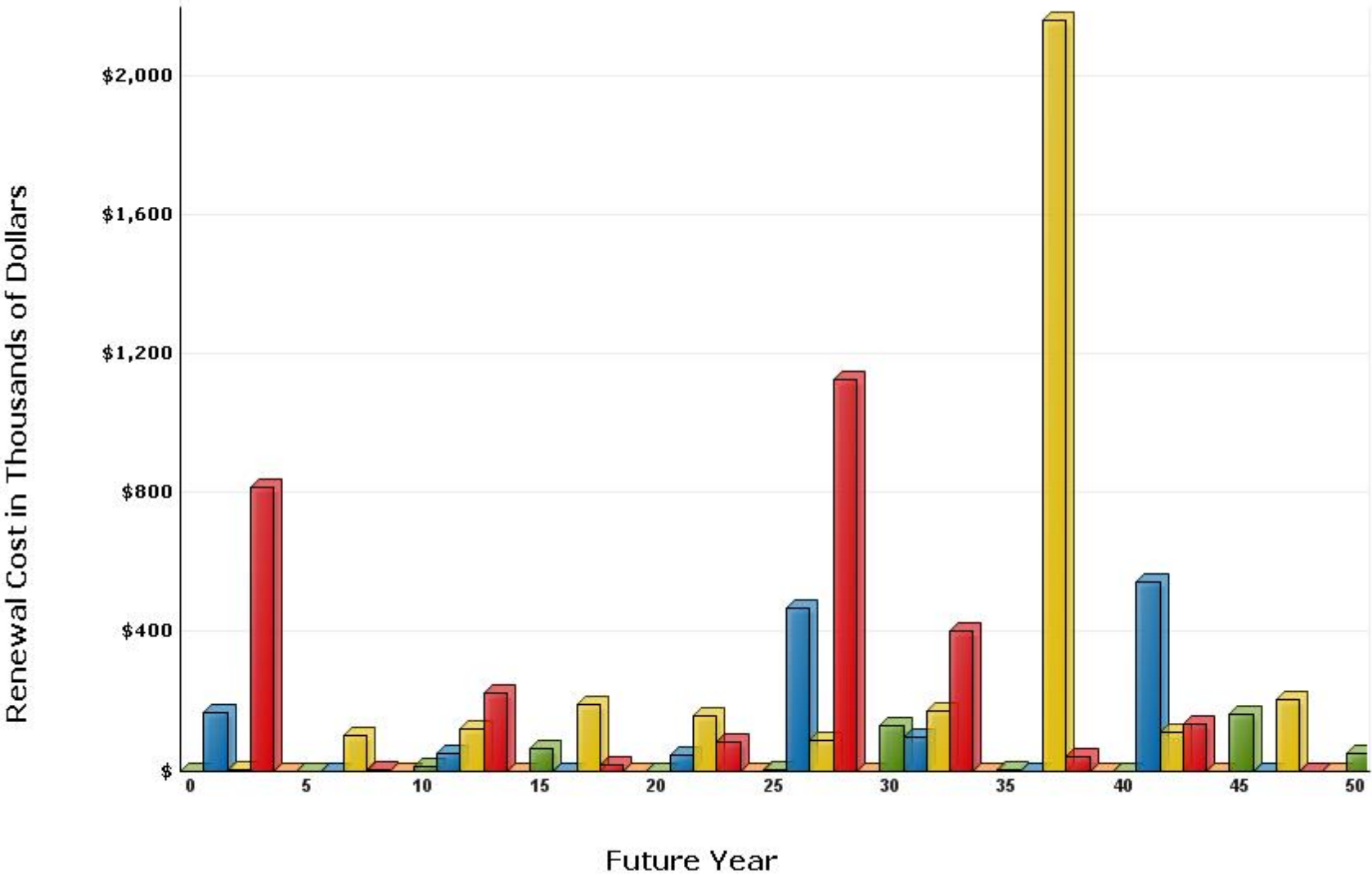
<b>Unifomat Code</b>	<b>Component Description</b>	<b>Qty</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Complex Adj</b>	<b>Total Cost</b>	<b>Install Date</b>	<b>Life Exp</b>
B2010	EXTERIOR FINISH RENEWAL	5,720	SF	\$1.30	.31	\$2,312	1929	10
B2010	EXTERIOR FINISH RENEWAL	3,080	SF	\$1.30	.31	\$1,245	1963	10
B2020	STANDARD GLAZING AND CURTAIN WALL	5,040	SF	\$104.04		\$524,344	1990	55
B2030	HIGH TRAFFIC EXTERIOR DOOR SYSTEM	4	LEAF	\$4,311.24		\$17,245	2001	20
B2030	HIGH TRAFFIC EXTERIOR DOOR SYSTEM	2	LEAF	\$4,311.24		\$8,622	1965	20
B3010	BUILT-UP ROOF	1,780	SF	\$6.70		\$11,931	1998	20
B3010	TILE ROOF	3,500	SF	\$19.15		\$67,012	1970	70
C1020	STANDARD DOOR AND FRAME INCLUDING HARDWARE	13	LEAF	\$783.68		\$10,188	1985	35
C1020	STANDARD DOOR AND FRAME INCLUDING HARDWARE	53	LEAF	\$783.68		\$41,535	1985	35
C1020	INTERIOR DOOR HARDWARE	13	EA	\$423.04		\$5,500	1985	15
C1020	INTERIOR DOOR HARDWARE	53	EA	\$423.04		\$22,421	1985	15
C3010	STANDARD WALL FINISH (PAINT, WALL COVERING, ETC.)	24,650	SF	\$0.80		\$19,746	2001	10
C3020	CARPET	2,170	SF	\$8.75		\$18,980	2001	10
C3020	VINYL FLOOR TILE	8,330	SF	\$6.59		\$54,877	1970	15
C3020	CERAMIC FLOOR TILE	910	SF	\$17.36		\$15,800	1929	20
C3030	ACOUSTICAL TILE CEILING SYSTEM	6,620	SF	\$4.99		\$33,054	1990	15
C3030	PAINTED CEILING FINISH APPLICATION	4,800	SF	\$0.80		\$3,845	2001	15
D2010	PLUMBING FIXTURES - CLASSROOM / ACADEMIC	16,080	SF	\$7.96		\$127,955	1929	35
D2020	WATER PIPING - CLASSROOM / ACADEMIC	16,080	SF	\$5.66		\$91,057	1929	35
D2020	WATER HEATER (RES., GAS)	40	GAL	\$68.06		\$2,723	1999	10
D2030	DRAIN PIPING - CLASSROOM / ACADEMIC	16,080	SF	\$8.60		\$138,208	1929	40
D2050	AIR COMPRESSOR PACKAGE (AVERAGE SIZE)	1	SYS	\$6,456.49		\$6,456	1985	25
D3030	CHILLER - AIR COOLED (60-100 TONS)	80	TON	\$1,260.62		\$100,849	1985	20
D3040	EXHAUST FAN - CENTRIFUGAL ROOF EXHAUSTER OR SIMILAR	3	EA	\$2,768.62		\$8,306	1985	20
D3040	HVAC SYSTEM - CLASSROOM / ACADEMIC	16,080	SF	\$30.67		\$493,167	1961	25
D3040	BASE MTD. PUMP - UP TO 15 HP	2	HP	\$3,175.77		\$6,352	1961	20
D5010	ELECTRICAL SYSTEM - CLASSROOM / ACADEMIC	16,080	SF	\$13.35		\$214,655	1961	50
D5010	ELECTRICAL SWITCHGEAR 120/208V	700	AMP	\$32.96		\$23,075	1961	20
D5020	EMERGENCY LIGHT (BATTERY)	16	EA	\$283.62		\$4,538	2006	20

**Life Cycle Model  
Building Component Summary  
GRAH : GRAHAM BUILDING**

<b>Unifomat Code</b>	<b>Component Description</b>	<b>Qty</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Complex Adj</b>	<b>Total Cost</b>	<b>Install Date</b>	<b>Life Exp</b>
D5020	EXIT SIGNS (BATTERY)	20	EA	\$280.76		\$5,615	2006	20
D5020	EXTERIOR LIGHT (HID)	5	EA	\$689.58		\$3,448	1989	20
D5020	LIGHTING - CLASSROOM / ACADEMIC	5,360	SF	\$6.26		\$33,541	1999	20
D5020	LIGHTING - CLASSROOM / ACADEMIC	5,360	SF	\$6.26		\$33,541	1961	20
D5020	LIGHTING - CLASSROOM / ACADEMIC	5,360	SF	\$6.26		\$33,541	1981	20
D5030	FIRE ALARM SYSTEM, POINT ADDRESSABLE	16,080	SF	\$2.61		<u>\$42,043</u>	2008	15
						<b>\$2,227,725</b>		

# Life Cycle Model Expenditure Projections

GRAH : GRAHAM BUILDING



Average Annual Renewal Cost Per SqFt \$4.67



FACILITY CONDITION ANALYSIS

**SECTION 6**

PHOTOGRAPHIC LOG





**Photo Log - Facility Condition  
Analysis**

**GRAH : GRAHAM BUILDING**

<b>Photo ID No</b>	<b>Description</b>	<b>Location</b>	<b>Date</b>
GRAH001a	View looking northeast across west facade	Exterior elevation	9/4/2009
GRAH001e	Quincy 2 HP reciprocating air compressor	Southeast corner, building exterior	9/4/2009
GRAH002a	View looking northeast across south facade	Exterior elevation	9/4/2009
GRAH002e	5 HP chill water circulating pump	Southeast corner, building exterior	9/4/2009
GRAH003a	View of southeast corner	Exterior elevation	9/4/2009
GRAH003e	Rudd 40 gallon electric water heater	Mechanical room 109	9/4/2009
GRAH004a	View of northeast corner	Exterior elevation	9/4/2009
GRAH004e	2 HP hot water circulation pump	Mechanical room 109	9/4/2009
GRAH005a	View of northwest corner	Exterior elevation	9/4/2009
GRAH005e	Incoming steam service / condensate return system	Mechanical room 109	9/4/2009
GRAH006a	Two, single level drinking fountains	First floor, women's restroom corridor	9/4/2009
GRAH006e	Steam to water heat exchanger	Mechanical room 109	9/4/2009
GRAH007a	Antique wood toilet partitioning	Second floor, men's restroom	9/4/2009
GRAH007e	Trane air handler with chill / hot water coils	Mechanical room 108	9/4/2009
GRAH008a	Solid guardrail that is too low and painted wood handrails beyond lacking recommended end geometry	Third floor, west stair	9/4/2009
GRAH008e	Trane air handler with chill / hot water coils	Mechanical room 213	9/4/2009
GRAH009a	Painted metal guardrail that is too low and lacks sufficient infill and painted wood handrails beyond lacking recommended end geometry	Third floor, east stair	9/4/2009
GRAH009e	T12 fluorescent, surface mount fixtures	Third floor, corridor	9/4/2009
GRAH010a	View looking southeast at roof hatch lacking guardrail	Roof	9/4/2009
GRAH010e	300 amp, 120/208 volt, three-phase panel	Mechanical room 109	9/4/2009
GRAH011a	View looking west across south half of roof	Roof	9/4/2009
GRAH011e	General electric distribution panels	Mechanical room 109	9/4/2009
GRAH012a	Dangerous roof access ladder assembly	Third floor, east stair	9/4/2009
GRAH012e	45 kVA dry type transformer	Mechanical room 109	9/4/2009
GRAH013e	Retrofitted T8 fluorescent, surface mount fixtures	Second floor, corridor	9/4/2009
GRAH014e	T8 fluorescent, 2 x 4 recessed fixtures	First floor, office	9/4/2009
GRAH015e	150 kVA, 12,470 volt primary S&C oil-filled transformer	Northeast corner, building exterior	9/4/2009
GRAH016e	Upgraded pole light and HID lamp	Northeast corner, building exterior	9/4/2009
GRAH017e	Original roof ventilator	Roof, northeast corner	9/4/2009

**Photo Log - Facility Condition  
Analysis**

**GRAH : GRAHAM BUILDING**

<b>Photo ID No</b>	<b>Description</b>	<b>Location</b>	<b>Date</b>
GRAH018e	Electric service junction box	Mechanical room 109	9/4/2009
GRAH019e	Simplex annunciator panel	First floor, west entrance	9/4/2009
GRAH020e	Simplex fire alarm control panel	Adjacent to mechanical room 213	9/4/2009
GRAH021e	Two-bowl sink	Break room 210	9/4/2009

Facility Condition Analysis - Photo Log



GRAH001A.jpg



GRAH001E.jpg



GRAH002A.jpg



GRAH002E.jpg



GRAH003A.jpg



GRAH003E.jpg



GRAH004A.jpg



GRAH004E.jpg



GRAH005A.jpg



GRAH005E.jpg



GRAH006A.jpg



GRAH006E.jpg



GRAH007A.jpg



GRAH007E.jpg



GRAH008A.jpg



GRAH008E.jpg



GRAH009A.jpg



GRAH009E.jpg



GRAH010A.jpg



GRAH010E.jpg

Facility Condition Analysis - Photo Log



GRAH011A.jpg



GRAH011E.jpg



GRAH012A.jpg



GRAH012E.jpg



GRAH013E.jpg



GRAH014E.jpg



GRAH015E.jpg



GRAH016E.jpg



GRAH017E.jpg



GRAH018E.jpg



GRAH019E.jpg



GRAH020E.jpg



GRAH021E.jpg