

# Facilities Management and Capital Renewal

## PROGRAM DESCRIPTION

One of the primary roles for facilities management in both government and private industry is to provide for the long-term needs of the organization's capital assets. This maximizes the life of the facilities, retards their obsolescence, and provides for a planned program of repairs, improvements, and restorations to make them suitable for organizational needs. Capital renewal is the planned replacement of building subsystems such as roofs, electrical systems, HVAC systems, and plumbing systems that have reached the end of their useful life. Major capital renewal investments are required in facilities to replace old, obsolete building subsystems that have reached the end of their life cycle. Without significant reinvestment in building subsystems, older facilities will fall into a state of ever decreasing condition and functionality and the maintenance and repair costs necessary to keep the doors open will increase.

### LINK TO THE COMPREHENSIVE PLAN

Fairfax County's Comprehensive Plan has established a number of objectives and policies in order to:

- ✓ Provide for a planned series of renovations, improvements, and repairs that will maximize the useful life of County facilities.
- ✓ Modify County facilities and environmental control systems so as to increase energy utilization efficiency.
- ✓ Provide emergency repairs to County facilities in order to correct potential safety or structural hazards.

Source: 2000 Edition of the Fairfax County Comprehensive Plan, as amended

## CURRENT PROGRAM INITIATIVES

The Facilities Management Division currently provides support for evaluating facilities, identifying problems and problem areas, developing cost estimates, establishing priorities, and performing the work required. Some of the major work completed annually at County facilities includes the replacement of building subsystems: HVAC and electrical system repairs and replacement, roof repairs and waterproofing, carpet replacement, parking lot resurfacing, fire alarm replacement, and emergency generator replacement.

Fairfax County presently has a facility inventory of 135 County-owned, General Fund-supported buildings (excluding schools, parks, leased space, revenue facilities, and housing and human services residential facilities) with over 7.3 million square feet of space throughout the County. This inventory is expanding both with the addition of newly constructed facilities and by the acquisition of other property. With such a large inventory, and the acquisition of additional facilities, it is critical that a planned program of repairs and restorations be maintained. In addition, the age of a major portion of this inventory of facilities is reaching a point where major reinvestments are required in the building subsystems.

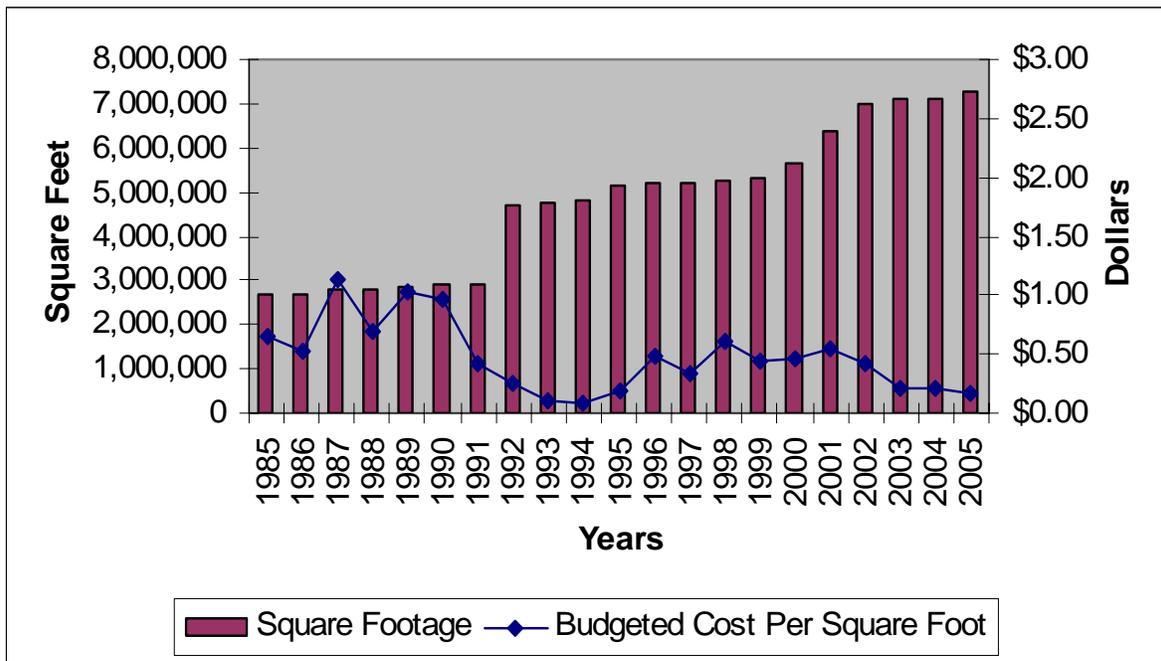
Many County facilities have outdated HVAC and electrical systems which are susceptible to failure or are highly inefficient energy users. Once sites are identified, each individual project involves a two-step process which normally requires two years to complete the design and construction. Roof repairs and waterproofing are conducted in priority order after an annual evaluation of all roofs at County facilities. Based upon the results of that evaluation, critical requirements are prioritized and a five-year plan is established. Repairs and replacement of facility roofs is considered critical for avoiding the serious structural deterioration which occurs from roof leaks. By addressing this problem in a comprehensive manner, a major backlog of roof problems can be avoided. Carpet replacement and parking lot resurfacing are evaluated annually and prioritized, based on most critical requirements for high traffic areas; however, carpet and pavement requirements are programmed based on designated cycles. In addition, emergency generators and fire alarm systems are replaced based on equipment age coupled with maintenance and performance history. Minor repairs and renovations, usually generated by customer requests, are accomplished under the category of miscellaneous building and repair. These small projects abate building obsolescence and improve the efficiency and effectiveness of facilities and facility systems. In addition, that project addresses major structural repairs.

In order to better define the County's capital renewal needs, a comprehensive facilities condition assessment has been conducted on 92 building sites (approximately 4.2 million square feet of space). The assessment included a complete visual inspection of roofs and all mechanical and electrical components for each facility. Maintenance and repair deficiencies were identified and funding requirements developed. The results indicate about \$80 million will be needed through FY 2010. Another 1.4 million square feet of parking garage facilities have also been assessed and the results indicate another \$3.9 million will be needed through FY 2013. The following table outlines the expected service life of building subsystems used to project capital renewal requirements, coupled with the actual condition of the subsystem component:

**GENERAL GUIDELINES FOR EXPECTED SERVICE LIFE  
OF BUILDING SUBSYSTEMS**

<b>ROOFS</b>	20 years
<b>ELECTRICAL</b>	
Lighting	20 years
Generators	25 years
Service/power	25 years
Fire alarms	15 years
<b>CONVEYING SYSTEMS</b>	
Elevator	25 years
Escalator	25 years
<b>HVAC</b>	
Equipment	20 years
Boilers	15 to 30 years
Building Control Systems	10 years
<b>PLUMBING</b>	
Pumps	15 years
Pipes and fittings (supply)	30 years
Fixtures	30 years
<b>FINISHES</b>	
Broadloom Carpet	7 years
Carpet Tiles	15 years
Systems Furniture	20 to 25 years
<b>SITE</b>	
Paving	15 years

The following graph depicts the increase in the County facility square footage for the last 20 years and the corresponding budgeted capital subsystem renewal funding. Since 1985, the County floor area increased from 2.6 million square feet to over 7.0 million in 2003. This increase includes significant square footage associated with the construction of the main Government Center building and the acquisition of the Pennino and Herry buildings in 1992. As County square footage has increased, funding to support capital renewal has not kept pace. The industry standard for capital renewal investment is currently 2 percent of replacement value. Based on current average replacement values of \$150 per square foot, 2 percent would equate to capital renewal requirements of \$3.00 per square foot. Budgeted renewal funds have not reached this level. This may be due to the fact that much of the square footage added in the early 90's was in the form of new facilities and thus has not yet required major capital renewal and subsystem replacement. However, this infrastructure is now aging and appropriate action must be taken to avoid system failures leading to potential disruptions in County services. Funding challenges will be addressed by studying options such as increased pay-as-you-go financing, bond funding, creating a sinking fund (similar to the vehicle replacement program) and other possible mechanisms.



## CURRENT PROJECT DESCRIPTIONS

1. **Miscellaneous Building and Repair.** This is a continuing project for the repair, renovation, remodeling and upgrading of various facilities throughout the County. Requirements include abatement of health or safety hazards and emergency or unanticipated repairs of building systems or components.
2. **Mechanical/Electrical Systems.** This is a continuing project for the repair, renovation and upgrading of mechanical, HVAC, and electrical systems in various facilities throughout the County.
3. **Roof Repairs and Waterproofing.** This is a continuing project for the repair and replacement of facility roofs and waterproofing systems at County buildings.
4. **Fire Alarm System Replacements.** This is a continuing project for the replacement of fire alarm systems based on age, and difficulty in obtaining replacement parts and service, and condition assessment. This program provides for the replacement of fire alarm systems which are 15 to 30 years old, have exceeded their useful life, and experience frequent failure when tested.

5. **Parking Lot Resurfacing.** This is a continuing project for the repair and maintenance to parking lots and sidewalks at various facilities throughout the County. Parking lot and sidewalk surfaces are removed, the base re-compacted and a new surface course installed. In some cases, asphalt paving is milled down and resurfaced.
6. **Carpet Replacement.** This is a continuing project for carpet replacement at various County facilities where the existing carpet has deteriorated beyond repair or is in an unserviceable condition.
7. **Emergency Generator Replacement.** This is a continuing project for generator replacements at 70 various sites throughout the County. Requirements are programmed based on equipment age coupled with maintenance and performance history.
8. **Library Facilities Capital Renewal.** This is a bond funded project for replacement of HVAC/Plumbing/Electrical systems, roofs, fire alarms, parking lot paving and carpet at various different libraries. Minor interior renovations and security improvements will also be included.
9. **Human/Juvenile Services Facilities Capital Renewal.** This is a bond funded project for replacement of HVAC/Plumbing/Electrical systems, roofs, fire alarms, parking lot paving, and carpet at various different facilities. Minor interior renovations and security improvements will also be included.
10. **Public Safety Facilities Capital Renewal.** This is a bond funded project for replacement of HVAC/Plumbing/Electrical systems, roofs, fire alarms, parking lot paving, and carpet at various different facilities. Minor interior renovations and security improvements will also be included.
11. **Systems Furniture Replacement.** This is a proposed continuing project to begin in FY 2011 for the time-phased replacement of over 4,700 workstations over a 20 year period and costing nearly \$40,000,000. During the period of FY 2007 through 2010, annual funding of \$200,000 is required to continue systems furniture stock replacement until the project funding begins in earnest in FY 2011.
12. **Security Improvements.** This will be a continuing project to provide security improvements to County facilities as developed by a security consultant conducting comprehensive evaluations of County facilities. This project is still in the formulation stage and will need to be refined over the next year.
13. **Americans with Disabilities Act (ADA) Compliance.** This project provides funding for County compliance with the Americans with Disabilities Act of 1990. Title II of the ADA prohibits discrimination on the basis of disability by public entities and requires that each program, service, or activity conducted by a public entity be readily accessible to and usable by individuals with disabilities. This project supports the continued ADA compliance on County owned facilities.
14. **HIPAA Compliance.** \$100,000 to begin to address priority modifications at County facilities. The Health Insurance Portability and Accountability Act (HIPAA), passed by Congress in 1996, requires Countywide compliance with electronic transmission, privacy, disclosure, security and storage regulations with respect to employee and customer health information to protect the privacy of individually identifiable information. Compliance requirements may affect business practices, staffing allocations, facility reconfiguration, awareness training, and technology.
15. **Northern Virginia Community College Contribution.** \$1,012,000 for Fairfax County's contribution to the continued construction and maintenance of various capital projects on college campuses. Fairfax County participates with eight other jurisdictions to provide funds for required capital improvements in the Northern Virginia Community College system.
16. **Amphitheater (Government Center).** \$50,000 for planning and preliminary design for a future amphitheater on the grounds of the Fairfax County Government Center.

**PROJECT COST SUMMARIES  
FACILITIES MANAGEMENT AND CAPITAL RENEWAL  
(\$000's)**

Project Title/ Project Number	Source of Funds	Anticipated to be Expended Thru FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	Total FY2006-FY2010	Total FY2011-FY2015	Total Project Estimate
1. Miscellaneous Building and Repair / 003099	G, U	C	<b>300</b>	700	700	500	500	2,700	3,700	6,400
2. Mechanical/Electrical Systems / 009151	G, U	C	<b>870</b>	8,866	6,619	525	500	17,380	16,500	33,880
3. Roof Repairs and Waterproofing / 009132	G, U	C	<b>220</b>	723	279	559	272	2,053	1,900	3,953
4. Fire Alarm System Replacements / 003100	G, U	C	<b>142</b>	498	800	97	100	1,637	1,300	2,937
5. Parking Lot Resurfacing / 009136	G, U	C	<b>100</b>	1,071	477	199	514	2,361	3,522	5,883
6. Carpet Replacement / 009133	G, U	C	<b>150</b>	511	2,400	2,440	152	5,653	4,000	9,653
7. Emergency Generator Replacement / 009431	G, U	C	<b>400</b>	134	62	115	29	740	1,000	1,740
8. Library Facilities Capital Renewal	B, U	0	<b>2,500</b>	3,500				6,000		6,000
9. Human/Juvenile Services Facilities Capital Renewal	B, U	0	<b>2,500</b>	4,500				7,000		7,000
10. Public Safety Facilities Capital Renewal	B, U	0		5,000	14,000	7,000		26,000		26,000
11. Systems Furniture Replacement	U	0		200	200	200	200	800	4,500	5,300
12. Security Improvements / 009429	U	0		500	500	500	500	2,000	2,000	4,000
13. Americans with Disabilities Act (ADA) Compliance / 009406	G	C	<b>300</b>					300		300
14. HIPAA Compliance / 009459	G	100						0		100
15. Northern Virginia Community College Contribution / 008043	G	C	<b>1,012</b>					1,012		1,012
16. Government Center Amphitheater	G	0	<b>50</b>					50		50
<b>TOTAL</b>		100	<b>8,544</b>	26,203	26,037	12,135	2,767	75,686	38,422	114,208

Key: Stage of Development	
	Feasibility Study or Design
	Land Acquisition
	Construction

Notes:  
Numbers in bold italics represent funded amounts.  
A "C" in the Authorized or Expended Column denotes a continuing project.

Key: Source of Funds	
B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined