

# Facilities Management Department

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LOB #23:

## **CAPITAL RENEWAL AND ADA (AMERICANS WITH DISABILITIES ACT) PROJECTS SUPPORT**

### **Purpose**

Capital Renewal is the systematic management process of planning and budgeting for known future cyclical repair and replacement requirements that extend the life and retain the usable condition of facilities and systems, not normally contained in the annual operating budget. Capital renewal is a planned investment program that ensures facilities will function at levels consistent with County priorities and missions.

The Design, Engineering and Construction Division (DEC) provides a variety of professional engineering, design and construction services for over 9 million square feet of space. Project managers, engineers, space planners and architects manage ADA and Capital Renewal projects that include infrastructure replacements and upgrades of roofs, elevators, fire alarms, generators, electrical systems, building energy management, HVAC systems, building envelope, space renovations and building sub-system assessments. Additionally, this division corrects Americans with Disability Act (ADA) deficiencies as required by the 2011 Fairfax County Government and Department of Justice (DOJ) Settlement Agreement.

### **Description**

Capital renewal is the replacement or upgrade of old, obsolete building systems and components. As the inventory of County facilities ages, it is important for the County to reinvest in buildings and replace aging building equipment. Capital renewal extends the serviceability and life of a building and provides for the continued effective, efficient and safe operation of a building. Capital Renewal needs vary by building size and type, the extent of facilities use and abuse, quality of original construction and maintenance management. Levels of current operating budgets and special appropriations for capital renewal and deferred maintenance also affect building systems conditions. However, inevitably, building systems and components deteriorate and need replacement: plumbing wears out, roofing breaks down and leaks, window frames warp, patched-up electrical wiring becomes dangerous, HVAC systems fail to heat or cool and equipment can no longer be replaced. Underfunding of capital renewal inevitably results in backlogs of deferred maintenance.

The Design Engineering and Construction Division implements the Capital Improvement Program which includes projects for planned and emergency replacement of major facility system components such as roofs, carpet, pavement, heating, ventilation and air conditioning, building energy management systems, electrical distribution systems, fire alarms, fire suppression, elevators and escalators and emergency generators.

In FY 2014 and FY 2015, comprehensive facilities condition assessments were conducted by contracted engineering firms on 48 selected Fairfax County facilities (approximately 1,829,075 square feet of space representative of older facilities). A facility condition assessment is used to develop a baseline of current facility conditions and to develop a multiyear capital renewal plan. The plan provides the foundation to replace major facility systems by providing the following information:

- Subsystem and building envelope assessment report
- Inventory of building systems, equipment and infrastructure assets
- Rank and prioritize all projects by priority and anticipated life cycle
- Recommended replacement schedule and cost estimates

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The consultants perform site visits to observe external and internal building components, review department records and drawings, and conduct interviews with FMD Operations and Maintenance staff. The final reports provide replacement cost estimates based on the physical condition of the components, their ages, expected useful life, defects, deficiencies, industry standards and code requirements. Results from 48 buildings surveyed indicates an estimated capital renewal funding need of \$88,729,637 million (based on 2014 dollars) through 2025 representing only 21 percent of the current building inventory.

In 2011, Fairfax County Government entered into a Settlement Agreement with the Department of Justice regarding the correction of American with Disability Act (ADA) deficiencies at County owned buildings, as well as at leased facilities. The DEC Division is responsible for the identification, design, permitting and construction management, as well as required self-reporting to correct ADA deficiencies. ADA deficiencies evaluated and corrected include but are not limited to:

- Installing ramps, curb cuts and re-grading concrete and pavement
- Adding raised control button markings and audio indicators on elevators
- Installing visual and audio life safety system alarm devices
- Providing access pathways throughout the interior of buildings
- Installing accessible door hardware and adjusting door opening/closing pressure and timing
- Installing grab bars by toilet seats and in showers
- Redesigning fixture locations to increase maneuvering space (toilets, urinals, sinks, dispensers, water fountains, lockers, showers, etc.)
- Installing accessible water fountains
- Increasing the quantity of ADA designated parking spaces and other accessible items/areas such as signs, cane detection, bedrooms, detention cells, food service, public meeting rooms, reception/service counters, etc.

The DEC Division is also responsible for the interior space planning of Fairfax County owned facilities and leased spaces. DEC provides design services and contract oversight for architectural and engineering space planning/design services.

## Benefits

Capital renewal extends the serviceability and life of a building, providing for the continued effective, efficient and safe operation of a building. Without significant reinvestment in building subsystems, older facilities will fall into a state of deteriorating condition and functionality and the repair and maintenance costs will increase. Additional benefits include:

- Management/mitigation of facility or subsystem failure/safety risk
- Addressing requirements to meet legal compliance
- Assessment reporting that provides perspective on 10 year capital planning needs
- Detailed sub-system analysis within each building assessed
- Avoidance of more expensive emergency repairs occasioned by major system failures
- Reducing deferred maintenance
- Energy and sustainability advancements

The Americans with Disabilities Act (ADA) is a civil rights legislation. The law is designed to protect the civil rights of people who have physical and mental disabilities, in a manner similar to the way that previous civil rights laws have protected people who are of various races, religions and ethnic backgrounds. The ADA mandates changes in the way that both private businesses and the government conduct employment

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practices and provide products and services to the general public to ensure that all Americans have full access to, and can fully participate in, all aspects of society. The ADA requires the removal of barriers that deny individuals with disabilities equal opportunity and access to jobs, public accommodations, government services, public transportation and telecommunications.

## Mandates

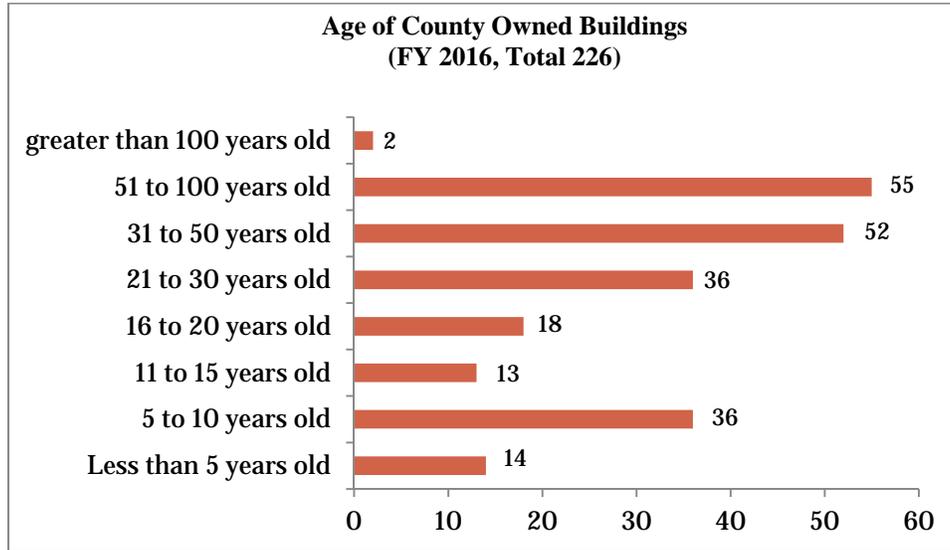
This line of business complies with the following mandates:

- OSHA. OSHA provides mandatory requirements for the operation of buildings as well as laws and regulations that impact building design and construction. OSHA Standard 1910.
- ADA. In 2011 the County entered into a Settlement Agreement with the Department of Justice. The Settlement Agreement provides requirements for the correction of all ADA deficiencies within County owned and leased buildings. The Department of Justice's revised regulations for Titles II and III of the Americans with Disabilities Act of 1990 (ADA) were published in the Federal Register on September 15, 2010. These regulations adopted revised, enforceable accessibility standards called the 2010 ADA Standards for Accessible Design, "2010 Standards." On March 15, 2012, compliance with the 2010 Standards was required for new construction and alterations under Titles II and III. March 15, 2012, is also the compliance date for using the 2010 Standards for program accessibility and barrier removal.
- Uniform/State/County Building codes. Building codes impact capital renewal needs/requirements and their design and construction. Building codes such as fire safety codes and structural and plumbing standards affect us in obvious ways. Others, such as lighting quality, acoustics, the air we breathe, sustainability and energy conservation also have major effects on capital renewal project needs, design and construction. Where a building was designed and constructed to meet the IECC LEED certification requirements, capital renewal projects must be designed and constructed to the standards required to continue to meet the certification. State and County Health Department codes impact facility/area design and construction where there is child care, food service, doctor offices, etc.
- Environmental Protection Agency (EPA) regulates the design, construction and replacement of many building systems (such as generators and underground fuel tanks), removal or encapsulating of hazardous materials (such as asbestos, lead paint and mold), equipment emission requirements, refrigerant compliance and storm water discharge. In 2015 the EPA revised underground storage tank regulations.
- Centers for Disease Control and Prevention (CDC) and OSHA have regulations that provide for the proper design and construction of isolation rooms. The CDC guidelines were released in 1994; the OSHA compliance directive was put in place in 1996. Negative Pressure/Isolation Rooms are used by the Fairfax County Department of Health for isolation of persons with possible communicable diseases (TB infection). The mechanical elements that make an isolation room effective will deteriorate over time, which may make the controls ineffective. For example, fans can break and ducts can become clogged and air can escape through cracks, shifting finishes or changing equipment. An isolation room that was successfully tested after construction may not be operating correctly later. Hence, periodic and ongoing assessment and renewal of negative pressure isolation rooms is important.
- International Association for Property and Evidence. Professional Standards Version 2.4 provides requirements for evidence (physical) storage areas. The standards provide requirements for exterior walls, interior walls, windows, roofs, doors, ventilation, layout, life safety equipment/systems and security. A requirement example is maintaining an evidence room temperature in a controlled environment of 60 to 75 degrees, with relative humidity that does not exceed 60 percent. The proper design of a drug storage area includes a negative pressure ventilation system that changes the air in the storage room approximately 10-12 CPH (changes per hour). Heating, air conditioning, and ventilation system duct or registers are constructed to prevent unauthorized entry into the secure storage area.
- Virginia Rehabilitation Code (2006) for historic structures.

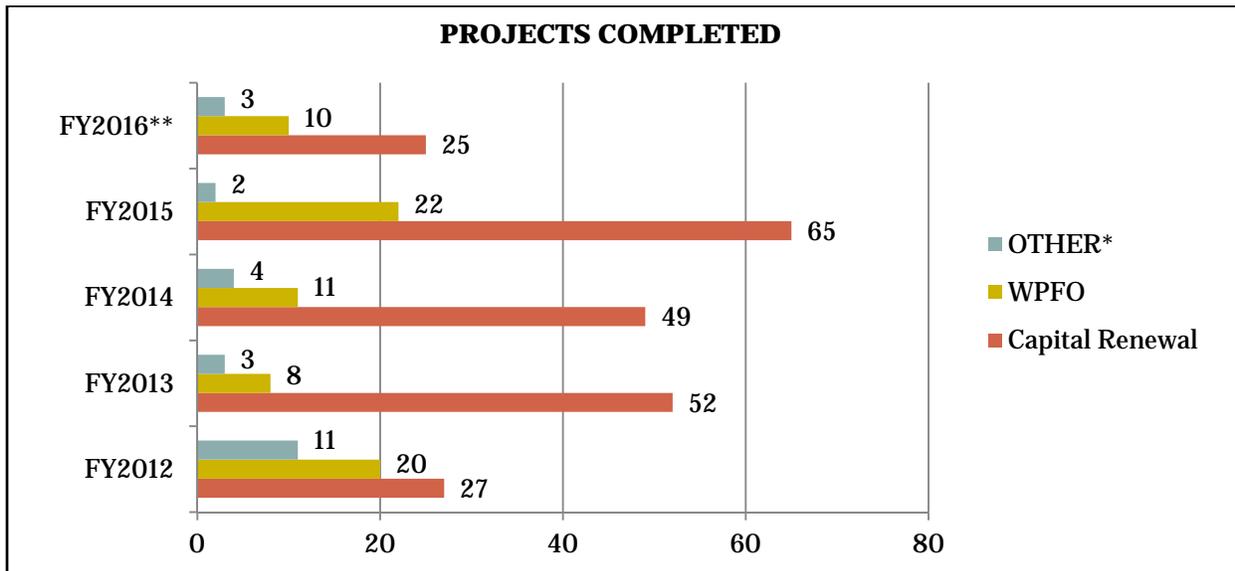
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## Trends and Challenges

As facilities grow older, maintenance requirements increase. Even as some facility systems are replaced through the Capital Renewal Program, maintenance requirements continue to increase due to the age of the majority of the County's facilities. Currently, 64 percent of the buildings maintained by FMD are over 20 years old. Per industry standard most building systems require replacement at 20 to 25 years of age.



Since 2012, the DEC Division has completed 218 capital renewal projects. All capital renewal projects are completed in occupied buildings. Often, due to the need to maintain the continuity of business, projects must be phased to minimize the impact on the building and occupants. This results in projects requiring a longer duration for completion of construction activities.



\*Other includes isolation rooms, Workhouse Arts Foundation tunnels, public safety bond projects, etc.

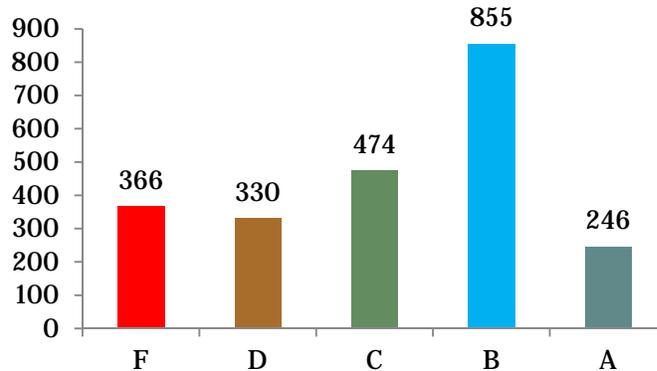
\*\*Represents projects completed as of 9/8/2015

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There continues to be a significant and unmet challenge to eliminate the backlog of capital renewal projects. In FY 2014 and FY 2015, comprehensive facilities condition assessments were conducted by contracted engineering firms on 48 selected Fairfax County facilities (approximately 1,829,075 square feet of space representative of older facilities) accounting for 21 percent of the FMD Board of Supervisors owned building inventory. The total number of required/outstanding capital renewal projects, as identified by the 48 Building Condition Assessments, is 2,271.

**48 Building Assessments**  
**Number of Deficiencies by Category**



Category F: Currently Critical - requires immediate attention to correct a safety hazard, stop accelerated deterioration and/or return a facility/system to operation.

Category D: Potentially Critical - if not corrected expeditiously, will become critical within a year. Situations in this category include intermittent operations, rapid deterioration and potential life safety hazards.

Category C: Necessary but not yet Critical - requires appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher cost if deferred further.

Category B: Recommended - items that represent a sensible improvement to the existing conditions. These are not required at this time for the most basic function of the facility.

Category A: Appearance – finishes that have deteriorated and are required to maintain the required aesthetic standards.

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## **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

### **ADA**

FMD is also responsible for ensuring that ADA (Americans with Disabilities Act) violations are identified and corrected in 226 Board of Supervisors owned buildings as well as leased spaces comprising over 10 million square feet. The 226 buildings are spread over 400 plus square miles of urban development. To date, FMD has completed 100 percent of the assessments of County-owned properties and leased spaces as required by the ADA compliance settlement agreement with the Department of Justice. As a result of these assessments, over 3,500 Self-Assessment identified ADA violations have been identified at Board of Supervisors owned facilities that must be corrected (estimated cost of \$7M). In addition, over 2,100 Self-Assessment identified ADA violations have been identified in leased spaces that must be corrected (estimated cost of \$740,000)

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## Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
<b>LOB #23: Capital Renewal and ADA (Americans with Disabilities Act) Projects Support</b>			
<b>FUNDING</b>			
<b>Expenditures:</b>			
Compensation	\$2,295,215	\$2,319,851	\$2,244,410
Operating Expenses	1,774,141	946,798	666,863
<b>Total Expenditures</b>	<b>\$4,069,356</b>	<b>\$3,266,649</b>	<b>\$2,911,273</b>
General Fund Revenue	\$0	\$0	\$0
<b>Net Cost/(Savings) to General Fund</b>	<b>\$4,069,356</b>	<b>\$3,266,649</b>	<b>\$2,911,273</b>
<b>POSITIONS</b>			
Authorized Positions/Full-Time Equivalents (FTEs)			
<b>Positions:</b>			
Regular	29 / 29	29 / 29	29 / 29
<b>Total Positions</b>	<b>29 / 29</b>	<b>29 / 29</b>	<b>29 / 29</b>

## Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Capital Renewal Funds Expended/committed	\$24,528,784	\$17,543,382	\$12,418,255	\$10,951,752	\$15,125,026
Percentage of Capital Renewal Funds Expended/committed	59%	57%	52%	59%	60%
ADA Funds Expended/committed	\$3,476,091	\$4,460,764	\$1,888,631	\$2,953,518	\$2,545,126
Percentage of ADA Funds Expended/committed	88.0%	99.5%	61.7%	80.0%	80.0%

The metrics provided illustrate the complexities of completing major projects (through Capital Renewal) within a 12 month period as represented in a relatively low percentage of Funds Expended/Committed. In comparison, when completing smaller, less complex ADA projects, the department is able to utilize a greater portion of the allocated funds.