


GO COMMITTEE #1  
March 10, 2014  
**Worksession**

**MEMORANDUM**

March 6, 2014

TO: Government Operations and Fiscal Policy Committee

FROM: Essie McGuire, Senior Legislative Analyst 

SUBJECT: **Worksession – Recommended FY15-20 Capital Improvements Program and FY15 Capital Budget, Montgomery County Government, General Government Projects, *continued***

Today the Government Operations and Fiscal Policy Committee will continue its review of the County Executive's Recommended FY15-20 Capital Improvements Program (CIP) and FY15 Capital Budget, Montgomery County Government, General Government Projects. The Committee met on February 24 to begin its review of these General Government projects, and requested additional follow-up information and discussion about several Level of Effort projects, with a focus on the Planned Lifecycle Asset Replacement (PLAR) project.

The Committee reviewed Level of Effort projects that were also reviewed in the most recent Infrastructure Maintenance Task Force (IMTF) Report (excerpts on circles 11-14). The report includes an inventory of systems or units in key project areas, and identifies a backlog of work needed in each area. The report also identifies an Acceptable Annual Replacement Cost (AARC) of how much money should be budgeted annually for replacement or rehabilitation so that, if continued, ultimately the entire inventory of the element will last over its acceptable life span. Rarely is the AARC achieved, but if funds are available it is useful as a target.

**Backlog**

The Committee requested additional information on how the Executive Branch defines and determines the "backlog" of projects in each area. Executive staff provided the following explanation:

*The backlog is a very simple calculation that assumes we have a 5 year backlog of each line item. Backlog equals acceptable annual replacement cost less the annual allocation times 5 years. Several of the items have a much greater than 5 year backlog and this is a conservative number.*

*The projections are all based on the life expectancy of equipment and in reality equipment and systems are left in operation much longer than their projected life. This*

*results in breakdowns and failures that must be handled as an emergency but under the current economy I believe it is safe to say all government organizations are operating in a break-fix mode. **The backlog shown is our best approximation of the value of equipment and systems that are beyond their projected lives, but does not imply this funding level is required to properly operate the facilities.** We structured our calculations for PLAR similar to the method used by Schools and used much lower estimated costs so our backlog is much lower than what they show for PLAR. (emphasis added)*

Council staff bolded the sentence above to highlight a useful summary of the issue. It appears that in all cases, the “backlog” represents a real quantity of work that needs to be done to maintain the older infrastructure elements that are or will be beyond their life span in the next CIP period. For some projects with a defined scope of work (roofs, lot resurfacing), the backlog represents a more discrete target with a specific inventory assessment of life span, age, and condition. For other projects, primarily PLAR and HVAC, the broader nature of the systems involved (plumbing, electrical, HVAC) means that a more continual rehabilitation and maintenance program is expected and the “backlog” is not realistic to eliminate. In all cases, immediate repair issues are dealt with on an as needed basis to keep the systems functional.

#### **Planned Lifecycle Asset Replacement (PLAR) (PDF on circle 5)**

This project covers a wide range of work targeted to replace or repair facility and site components that are outdated or in poor condition, or to extend their useful life. The most recent IMTF report contained one large figure for PLAR, citing a backlog of \$67.5 million (circle 14).

**The Committee requested additional detail on the scope of PLAR projects. Executive staff provided the more detailed breakdown on circle 1 of PLAR projects, with a new AARC of \$21 million and a new backlog total of \$102.8 million. The new PLAR information groups the work into four categories as follows:**

<b>Category of Work</b>	<b>AARC</b>	<b>Backlog</b>
Doors/Windows	\$3.96 million	\$18.6 million
Electrical	\$8.56 million	\$42.0 million
Finishes	\$5.70 million	\$27.9 million
Plumbing	\$3.1 million	\$14.5 million

In Council staff’s view, the updated information is more helpful in giving a sense of how much work exists in each type of area (additional detail in each category is on circle 1). Council staff also notes that the doors and windows category will be moved to the Building Envelope project starting in FY15, as the Committee discussed last week.

**It may be more helpful to look at the AARC figure for PLAR rather than the backlog. The \$21 million AARC represents a pace of work that would be optimal to continually maintain the elements of the systems as they age.** It is based on the fact that across all of the County facility inventory, some systems are past their expected life span, and that over the course of a six-year CIP this projected proportion of those older systems will need

to be replaced or addressed. Many systems last longer than their anticipated life span, so it is not realistic or necessary to replace them on cycle or in advance of repair problems. HVAC systems are similar due to their scope and complexity; however, since these systems represent a more critical safety risk if they do fail they are on their own project track.

In Council staff's view, there would clearly be benefit in increasing the PLAR funding level to get closer to the AARC. The Executive's recommended level of funding is \$750,000 per year. As DGS has stated and as Councilmembers are aware, the difficult budgets of recent years have reduced the County's ability to address facility maintenance issues. This conversation is similar to the operating budget conversation that the Council has had in recent years about facility maintenance; in each of the last two budget years the Council has increased operating funding for facility maintenance in DGS. At this juncture, there is not sufficient fiscal capacity in the CIP to fully fund the AARC or other level of effort project, but if the Committee wants to place additional priority on this rehabilitative facility infrastructure work, it could consider raising the recommended level of effort in this project.

#### **Remaining Level of Effort Projects in IMTF Report**

The projects below were included in the IMTF report. The Committee did not finalize its recommendation for these projects, but did not request any additional information other than the definition of "backlog" as discussed above. For each, the Executive's recommended level of funding is the same as that in the approved CIP. Council staff identifies below for each the recommended annual funding level, the AARC, and the identified backlog.

#### **Elevator Modernization** (PDF on circle 2; additional information on circle 9)

- CE Recommendation: \$1 million per year
- AARC: \$1.8 million per year
- Backlog: \$4 million

#### **Life Safety Systems** (PDF on circle 4; additional information on circle 9)

- CE Recommendation: \$625,000 per year
- AARC: \$800,000 per year
- Backlog: \$875,000

#### **Resurfacing Parking Lots** (PDF on circle 6; additional information on circle 10)

- CE Recommendation: \$650,000
- AARC: \$900,000
- Backlog: \$3 million

#### **Roof Replacement** (PDF on circle 7; additional information on circle 10)

- CE Recommendation: \$2.24 million
- AARC: \$4.5 million
- Backlog: \$11 million

**HVAC** (PDF on circle 3; additional information on circle 10)

- CE Recommendation: \$1.15 million
- AARC: \$5.4 million
- Backlog: \$64 million

The report shows that some key areas, most notably HVAC and Roof Replacement, could benefit from additional funding to be closer to the AARC and address the backlog. **Given the current fiscal pressures of the CIP, however, Council staff concurs with the Executive's recommendations to continue the current levels of effort for these projects.**

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REVISED BY DGS 3/14

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	CIP			Backlog	Criticality Rating
										FY14 Approved	FY15 Request	Future Funding Level		
2														
3	Montgomery County Government													
4	Infrastructure Maintenance: Capital Improvements Program													
5	HVAC/Elec Replacement: MCG	HVAC & Electrical Systems	\$15K for HVAC; \$5K for electric system	20	5,400	systems	270	\$20,000	\$5,400,000	\$1,150,000	\$1,150,000	\$1,150,000	\$63,750,000	5
6	PLAR: MCG		PLAR total	Varies 20-35	9,506,000	sq. ft.	316500	\$50	\$21,309,750	\$750,000	\$750,000	\$750,000	\$102,798,750	4
7	Doors/Windows	Ext. Doors		30	9,506,000	sq. ft.	316866	\$1	\$316,866	\$50,000	\$0		\$1,459,330	5
8		Ext. Windows		30	9,506,000	sq. ft.	316866	\$4	\$1,267,464	\$50,000	\$50,000		\$6,212,320	4
9		Service/Distribution		20	9,506,000	sq. ft.	475300	\$5	\$2,376,500	\$200,000	\$200,000		\$10,882,500	4
10	Electrical	Lighting/branch Ckt. Wiring		20	9,506,000	sq. ft.	475300	\$10	\$4,753,000	\$100,000	\$200,000		\$23,016,000	3
11		Emer. Light/power		20	9,506,000	sq. ft.	475300	\$5	\$2,376,500	\$0	\$0		\$11,882,500	4
12		Ceiling		20	9,506,000	sq. ft.	475300	\$3	\$1,425,900	\$0	\$0		\$7,129,500	2
13	Finishes	Floor		20	9,506,000	sq. ft.	475300	\$6	\$2,851,800	\$150,000	\$100,000		\$13,634,000	3
14		Wall		10	9,506,000	sq. ft.	950600	\$1	\$950,600	\$0	\$0		\$4,753,000	3
15		Systems		35	9,506,000	sq. ft.	271600	\$7	\$1,901,200	\$0	\$0		\$9,506,000	4
16	Plumbing	Fixtures/Restrooms		25	9,506,000	sq. ft.	386240	\$8	\$3,089,920	\$200,000	\$200,000		\$14,449,600	4
17														
18	Resurfacing Parking Lots: MCG	Asphalt lots and drainage		20	150	lots	6	\$150,000	\$900,000	\$650,000	\$650,000	\$650,000	\$3,000,000	4
19	Roof Replacement: MCG	Roofing Systems	Roof condition survey completed in FY05	20	250	roofs	12	\$375,000	\$4,500,000	\$2,300,000	\$2,240,000	\$2,240,000	\$11,000,000	5
20	HVAC/Elec Replacement: FS	HVAC & Electrical Systems		20	15	stations	1	\$1,150,000	Varies	\$1,150,000	\$1,150,000	Same		5
21	Resurfacing: Fire Stations	Paved Surfaces		20	36	stations	2	\$150,000	\$100,000-\$180,000	\$300,000	\$300,000	Same		4
22	Roof Replacement: FS	Roofing Systems		20	7	stations	1	\$352,000	Varies	\$352,000	\$352,000	Same		5
23	Elevator Modernization	Elevator Systems, Lifts, Escalators		20	120	elevators	6	\$300,000	\$1,800,000	\$1,000,000	\$1,000,000	\$1,000,000	\$4,000,000	4

# Elevator Modernization (P509923)

Category  
Sub Category  
Administering Agency  
Planning Area

General Government  
County Offices and Other Improvements  
General Services (AAGE29)  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

1/6/14  
No  
None  
Ongoing

	Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
<b>EXPENDITURE SCHEDULE (\$000s)</b>											
Planning, Design and Supervision	2,668	1,555	213	900	150	150	150	150	150	150	0
Land	1	0	1	0	0	0	0	0	0	0	0
Site Improvements and Utilities	115	115	0	0	0	0	0	0	0	0	0
Construction	12,742	3,762	3,880	5,100	850	850	850	850	850	850	0
Other	128	128	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>15,654</b>	<b>5,560</b>	<b>4,094</b>	<b>6,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0</b>

<b>FUNDING SCHEDULE (\$000s)</b>											
G.O. Bonds	15,654	5,560	4,094	6,000	1,000	1,000	1,000	1,000	1,000	1,000	0
<b>Total</b>	<b>15,654</b>	<b>5,560</b>	<b>4,094</b>	<b>6,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0</b>

<b>OPERATING BUDGET IMPACT (\$000s)</b>											
Energy				0	0	0	0	0	0	0	0
Maintenance				0	0	0	0	0	0	0	0
<b>Net Impact</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation Request	FY 15	1,000
Appropriation Request Est.	FY 16	1,000
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		9,654
Expenditure / Encumbrances		5,820
Unencumbered Balance		3,834

Date First Appropriation	FY 99
First Cost Estimate	
Current Scope	FY 15
Last FY's Cost Estimate	13,654
Partial Closeout Thru	0
New Partial Closeout	0
Total Partial Closeout	0

### Description

This project provides for the orderly replacement/renovation of aging and outdated elevator systems in County-owned buildings. This project also includes periodic condition assessments of elevator systems in County buildings.

### Cost Change

Increase is due to the addition of FY19 and FY20 to this ongoing project.

### Justification

Many elevator systems in County buildings are inefficient, outdated, and beyond economic repair. The useful life of heavy use equipment (hoist, machine motor generation set, governor, controls, car safety devices, door operator, rails, air conditioning pump units, car buffers, door hardware, etc.) has been exhausted. The existing maintenance program is only capable of keeping the elevator operational, since spare parts are not always readily available in the market, resulting in increased shut down time, greater energy consumption, and higher maintenance costs. Renovation/replacement of aging and outdated elevator systems improves reliability, energy conservation, safety, and code compliance. Facility condition assessments of 73 County facilities, completed by a consultant in FY05, FY06, and FY07, have been used to prioritize the six-year program. The March 2010 Report of the Infrastructure Maintenance Task Force, identified an annual level of effort for elevator modernization based on a 25-year lifespan.

### Other

Scheduled elevator modernizations:

FY15: Public Safety Headquarters; Holiday Park Senior Center; Chevy Chase Library.

FY16: Grey Brick Courthouse; Davis Library

### Disclosures

Expenditures will continue indefinitely.

### Coordination

Departments affected by Elevator Modernization projects, Department of General Services

# HVAC/Elec Replacement: MCG (P508941)

Category  
Sub Category  
Administering Agency  
Planning Area

General Government  
County Offices and Other Improvements  
General Services (AAGE29)  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

1/6/14  
No  
None  
Ongoing

	Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
<b>EXPENDITURE SCHEDULE (\$000s)</b>											
Planning, Design and Supervision	2,307	192	765	1,350	225	225	225	225	225	225	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	340	340	0	0	0	0	0	0	0	0	0
Construction	7,817	276	1,991	5,550	925	925	925	925	925	925	0
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>10,464</b>	<b>808</b>	<b>2,756</b>	<b>6,900</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>0</b>

<b>FUNDING SCHEDULE (\$000s)</b>											
G.O. Bonds	10,464	808	2,756	6,900	1,150	1,150	1,150	1,150	1,150	1,150	0
<b>Total</b>	<b>10,464</b>	<b>808</b>	<b>2,756</b>	<b>6,900</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>1,150</b>	<b>0</b>

<b>OPERATING BUDGET IMPACT (\$000s)</b>											
Energy				-357	-17	-34	-51	-68	-85	-102	
<b>Net Impact</b>				<b>-357</b>	<b>-17</b>	<b>-34</b>	<b>-51</b>	<b>-68</b>	<b>-85</b>	<b>-102</b>	

## APPROPRIATION AND EXPENDITURE DATA (000s)

Appropriation Request	FY 15	1,150
Appropriation Request Est.	FY 16	1,150
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		3,564
Expenditure / Encumbrances		2,052
Unencumbered Balance		1,512

Date First Appropriation	FY 96
First Cost Estimate	
Current Scope	FY 15
Last FY's Cost Estimate	8,426
Partial Closeout Thru	19,152
New Partial Closeout	808
Total Partial Closeout	19,960

## Description

This project provides for the orderly replacement/renovation of outdated Heating, Ventilation, and Air Conditioning (HVAC) systems and electrical systems in County buildings. The Department of General Services (DGS) currently oversees, monitors and provides services for operation of the mechanical, electrical and fire protection systems of 250 County facilities with approximately 12 million square feet of occupied space. The project requires periodic condition assessments and renovation of the HVAC, plumbing, electrical, and control systems and equipment; overhauling the air distribution systems; electrical service upgrades; and emergency generator replacements.

## Cost Change

Increase due to the addition of FY19 and FY20 to this ongoing project.

## Justification

Many HVAC, plumbing and electrical systems in County-owned buildings are outdated and well beyond economical repair, particularly in buildings which have not been renovated in many years. In the life of the buildings, the HVAC, plumbing and electrical systems require major renovation or replacement at least once every 25 years. These renovations will not only significantly extend the life of the County buildings, but convert the old mechanical/electrical systems to state-of-the-art energy efficient systems which improves indoor air quality. It conserves energy and saves resources. The criteria for selecting the County facilities for systems renovation or replacement include: mechanical/electrical systems degradation, high maintenance costs, high energy consumption, current code compliance, indoor air quality, and major change of the functional use of the building. Occupational Safety and Health Administration (OSHA) has issued proposed rules for providing quality of indoor air in the work place (OSHA 29 CFR parts 1910, 1915, and 1926). The rules require indoor air quality (IAQ) compliance plans to be implemented. The results of a facility condition assessment of 73 County facilities completed by a consultant in FY05, FY06 and FY07 have been used to prioritize the six-year program. The March 2010 Report of the Infrastructure Maintenance Task Force, identified an annual level of effort for HVAC/electrical replacement based on a 25 year life span.

## Other

Scheduled HVAC/Electrical Replacements:

FY15: Longwood Recreation Center; Wheaton Police Station; Germantown Police Station; Grey Brick Courthouse; Kensington Library.  
FY16: Council Office Building; Little Falls Library; Lone Oak Daycare Center; Leland Community Center; Upper County Community Recreation Center.

## Disclosures

Expenditures will continue indefinitely.

## Coordination

Department of General Services, Departments affected by HVAC projects

# Life Safety Systems: MCG (P509970)

Category  
Sub Category  
Administering Agency  
Planning Area

General Government  
County Offices and Other Improvements  
General Services (AAGE29)  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

1/6/14  
No  
None  
Ongoing

	Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
<b>EXPENDITURE SCHEDULE (\$000s)</b>											
Planning, Design and Supervision	1,486	880	186	420	70	70	70	70	70	70	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	328	328	0	0	0	0	0	0	0	0	0
Construction	6,470	1,464	1,676	3,330	555	555	555	555	555	555	0
Other	904	904	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>9,188</b>	<b>3,576</b>	<b>1,862</b>	<b>3,750</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>0</b>
<b>FUNDING SCHEDULE (\$000s)</b>											
G.O. Bonds	9,188	3,576	1,862	3,750	625	625	625	625	625	625	0
<b>Total</b>	<b>9,188</b>	<b>3,576</b>	<b>1,862</b>	<b>3,750</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>625</b>	<b>0</b>
<b>OPERATING BUDGET IMPACT (\$000s)</b>											
Maintenance				0	0	0	0	0	0	0	0
<b>Net Impact</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## APPROPRIATION AND EXPENDITURE DATA (000s)

Appropriation Request	FY 15	625
Appropriation Request Est.	FY 16	625
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		5,438
Expenditure / Encumbrances		3,878
Unencumbered Balance		1,562

Date First Appropriation	FY 99
First Cost Estimate	
Current Scope	FY 15
Current Scope	9,188
Last FY's Cost Estimate	7,938
Partial Closeout Thru	0
New Partial Closeout	0
Total Partial Closeout	0

### Description

This project provides funding for installation of modern life safety systems to protect the County's facilities and to protect buildings in the event of fire emergencies. Implementation of this project will help to minimize the dangers to life from fire, including smoke and fumes. The scope of the project encompasses fire alarms with voice addressable capabilities, sprinklers for fire suppression, fire and smoke detection, smoke control systems, and emergency generators.

### Cost Change

Increase is due to additional funding in FY19 and FY20.

### Justification

Numerous existing facilities are in need of modern, basic life safety systems. In many older facilities, there are no emergency generators, fire alarms or sprinklers. Emergency generators are critical to support fire alarms and fire pumps during power outages. Some facilities are 24-hour residential facilities. In case of fire, there could be a significant potential exposure to loss of life and property. Most of the facilities do not meet code and have outdated fire alarm systems for which spare parts are no longer available and which can no longer be kept in reliable operation. Many of these County facilities were built years ago, and thus, were grandfathered under the fire code since the occupancy category has not changed. The outdated systems need to be replaced and upgraded to provide improved protection to County employees and County properties.

Facility condition assessments of 73 County facilities, completed by a consultant in FY05, FY06, and FY07, have been used to structure and prioritize the six-year program. "The Third Report of the Infrastructure Maintenance Task Force (March 2008)," identified an annual level of effort for life safety systems based on a 25-year lifespan.

### Other

Scheduled replacements:

FY15: Holiday Park Senior Center, Colesville Health Center, Signal Shop Bethesda Depot, Grey Brick Courthouse, One Lawrence Court (Alcohol Rehab)

FY16: Bushey Drive Recreation Headquarters, Potomac Library, Davis Library, Layhill Group Home, Brook Grove Daycare, Fire Station #10 (Bethesda-Cabin John)

### Disclosures

Expenditures will continue indefinitely.

### Coordination

Departments affected by Life Safety Systems projects, Department of General Services



# Planned Lifecycle Asset Replacement: MCG (P509514)

Category  
b Category  
Administering Agency  
Planning Area

General Government  
County Offices and Other Improvements  
General Services (AAGE29)  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

1/6/14  
No  
None  
Ongoing

Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
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## EXPENDITURE SCHEDULE (\$000s)

Planning, Design and Supervision	498	94	44	360	60	60	60	60	60	0
Land	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	126	126	0	0	0	0	0	0	0	0
Construction	6,614	39	2,435	4,140	690	690	690	690	690	0
Other	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>7,238</b>	<b>259</b>	<b>2,479</b>	<b>4,500</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>0</b>

## FUNDING SCHEDULE (\$000s)

G.O. Bonds	7,238	259	2,479	4,500	750	750	750	750	750	0
<b>Total</b>	<b>7,238</b>	<b>259</b>	<b>2,479</b>	<b>4,500</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>0</b>

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation Request	FY 15	750
Appropriation Request Est.	FY 16	750
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		2,738
Expenditure / Encumbrances		923
Unencumbered Balance		1,815

Date First Appropriation	FY 95
First Cost Estimate	
Current Scope	FY 15
Last FY's Cost Estimate	5,921
Partial Closeout Thru	9,094
New Partial Closeout	259
Total Partial Closeout	9,353

## Description

This project provides for a comprehensive lifecycle replacement program to protect the County's investment in facilities and to sustain efficient and reliable facility operation. The project is targeted at slowing the deterioration of key facility and site components based on an inventory of their age and condition. The project includes: mechanical/plumbing equipment; lighting system replacement not covered under the Energy Conservation CIP program; and reconstruction of sidewalks and curbs adjacent to County facilities. The scope of this project parallels approved CIP projects of Montgomery County Public Schools, Montgomery College, and the Maryland-National Capital Park and Planning Commission.

## Cost Change

Increase is due to the addition of FY19 and FY20 to this ongoing project and is partially offset by the capitalization of prior expenditures.

## Justification

The County currently has a significant backlog of facility and site components that result from facility age and past deferrals of deficiencies. Various components are outdated, inefficient, and costly to repair. The replacement of components significantly extends the useful life of County facilities. In FY05, FY06 and FY07, the County engaged a consultant to conduct a comprehensive facility condition assessment survey of 73 County facilities, or approximately 30 percent of the County's facility inventory. Based upon the age and condition of each component and industry-accepted component lifetimes, a priority listing of component replacement was developed. The results of the facility condition assessment of 73 County facilities have been used to prioritize the six-year program.

## Other

Scheduled replacements:

FY15: Pre-Release Center, Brook Grove Daycare, One Lawrence Court, Riley Group Home, Avery Road Back House, 1301 Piccard Dr.  
FY16: Layhill Group Home, Judith Resnick Daycare Center, Waring Station Daycare, Damascus Library

## Disclosures

Expenditures will continue indefinitely.

## Coordination

Departments affected by PLAR projects, Department of General Services

## Resurfacing Parking Lots: MCG (P509914)

Category General Government  
 Sub Category County Offices and Other Improvements  
 Administering Agency General Services (AAGE29)  
 Planning Area Countywide

Date Last Modified 1/6/14  
 Required Adequate Public Facility No  
 Relocation Impact None  
 Status Ongoing

	Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
<b>EXPENDITURE SCHEDULE (\$000s)</b>											
Planning, Design and Supervision	617	361	76	180	30	30	30	30	30	30	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	97	97	0	0	0	0	0	0	0	0	0
Construction	9,383	3,115	2,548	3,720	620	620	620	620	620	620	0
Other	58	58	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>10,155</b>	<b>3,631</b>	<b>2,624</b>	<b>3,900</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>0</b>
<b>FUNDING SCHEDULE (\$000s)</b>											
Department of Liquor Control Fund	157	92	65	0	0	0	0	0	0	0	0
G.O. Bonds	9,998	3,539	2,559	3,900	650	650	650	650	650	650	0
<b>Total</b>	<b>10,155</b>	<b>3,631</b>	<b>2,624</b>	<b>3,900</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>650</b>	<b>0</b>

### APPROPRIATION AND EXPENDITURE DATA (000s)

Appropriation Request	FY 15	650
Appropriation Request Est.	FY 16	650
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		6,255
Expenditure / Encumbrances		3,749
Unencumbered Balance		2,506

Date First Appropriation	FY 99
First Cost Estimate	
Current Scope	FY 15
Last FY's Cost Estimate	8,855
Partial Closeout Thru	0
New Partial Closeout	0
Total Partial Closeout	0

#### Description

This project provides for the design and major rehabilitation of existing asphalt parking lots and associated drainage structures. Work includes milling and re-paving, full depth reconstruction of failed areas, and re-establishing positive drainage.

#### Cost Change

Increase is due to the addition of FY19 and FY20 to this ongoing project and is partially offset by the capitalization of prior expenditures.

#### Justification

The age and condition of paved surfaces (primarily parking lots) at County facilities creates the need for this project. The deterioration of bituminous pavement occurs because of bitumen evaporation, infiltration of moisture, exposure to the environment, and disintegration due to salt and other compounds used during the winter. The maintenance and repair of paved surfaces is managed through the County's facilities maintenance program. A facility planning approach to major repair and resurfacing of paved surfaces has established a validated inventory of paved surfaces requiring major work; allowed for systematic planning and execution to eliminate the inventory of major work; and begun to arrest the continuing deterioration of paved surfaces, preventing more costly total reconstruction. This project implements an annual major repair and resurfacing program for paved surfaces as they reach the end of their useful life. The results of facility condition assessments for 73 County facilities, completed by a consultant in FY05, FY06 and 07, have been used to prioritize the six year program. The March 2010 Report of the Infrastructure Maintenance Task Force, identified an annual level of effort for parking lot resurfacing based on an average 20 year life for parking lots.

#### Other

Parking lots may be accelerated or delayed based on changing priorities and needs.

Parking lots scheduled for resurfacing:

FY15: 4th District Police Station; Potomac Community Center; Kensington Park Library

FY16: Leland Community Center; Grey Brick Courthouse; Clara Barton Recreation and Daycare Center

#### Disclosures

Expenditures will continue indefinitely.

#### Coordination

Department of General Services, Departments affected by resurfacing projects

## Roof Replacement: MCG (P508331)

Category  
Sub Category  
Administering Agency  
Planning Area

General Government  
County Offices and Other Improvements  
General Services (AAGE29)  
Countywide

Date Last Modified  
Required Adequate Public Facility  
Relocation Impact  
Status

1/6/14  
No  
None  
Ongoing

Total	Thru FY13	Est FY14	Total 6 Years	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs
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### EXPENDITURE SCHEDULE (\$000s)

Planning, Design and Supervision	3,697	49	1,008	2,640	440	440	440	440	440	0
Land	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	0	0	0	0	0	0	0	0	0	0
Construction	15,979	0	5,179	10,800	1,800	1,800	1,800	1,800	2,300	1,300
Other	7	1	6	0	0	0	0	0	0	0
<b>Total</b>	<b>19,683</b>	<b>50</b>	<b>6,193</b>	<b>13,440</b>	<b>2,240</b>	<b>2,240</b>	<b>2,240</b>	<b>2,240</b>	<b>2,740</b>	<b>1,740</b>

### FUNDING SCHEDULE (\$000s)

G.O. Bonds	19,683	50	6,193	13,440	2,240	2,240	2,240	2,240	2,740	1,740
<b>Total</b>	<b>19,683</b>	<b>50</b>	<b>6,193</b>	<b>13,440</b>	<b>2,240</b>	<b>2,240</b>	<b>2,240</b>	<b>2,240</b>	<b>2,740</b>	<b>1,740</b>

### APPROPRIATION AND EXPENDITURE DATA (000s)

Appropriation Request	FY 15	2,240
Appropriation Request Est.	FY 16	2,240
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		6,243
Expenditure / Encumbrances		433
Unencumbered Balance		5,810

Date First Appropriation	FY 96
First Cost Estimate	
Current Scope	FY 15
Last FY's Cost Estimate	17,439
Partial Closeout Thru	22,626
New Partial Closeout	50
Total Partial Closeout	22,676

#### Description

This project provides for major roof replacement of County buildings.

#### Cost Change

Increase due the addition of FY19 and FY20 to this ongoing project and is partially offset by capitalization of prior expenditures.

#### Justification

The age of many County buildings creates the need for this project. Factors determining the need for replacement include poor condition, age, long-term utilization, and probability of continued repairs. The project consists of an annual replacement schedule for those roofs which have reached the end of their useful service life. Asbestos abatement is an important component of the roof replacement effort and will be performed when required. The roof replacements covered under this program are prioritized based upon a consultant's survey completed in FY05 and an in-house priority schedule. Information generated in that condition survey will be the basis for future roof replacement projects. The March 2010 Report of the Infrastructure Maintenance Task Force identified an annual level of effort funding for roof replacement based on an average 20-year life for roof systems.

#### Other

Roof Replacement may be accelerated or delayed based on changing priorities and need.

Roofs scheduled for replacement:

FY15: Grey Brick Courthouse, Davis Library, Seneca Creek Pool, Council Office Building, Fire Station #31

FY16: Executive Office Building, Upper County Daycare, Clara Barton Community Center, 1301 Piccard Drive, McDonald Knolls, Little Falls Library

#### Disclosures

Expenditures will continue indefinitely.

#### Coordination

Department of General Services, Departments affected by roof replacement projects

- Phase II was deferred from the FY13-18 CIP due to fiscal capacity. Please explain why this project is a priority at this time for inclusion in the FY15-20 CIP. Has there been any change in condition?

Phase II is the historic renovation of the building, which dates back to the 1800's. In 1995, the Courthouse had a small renovation to upgrade the HVAC and to provide an elevator to improve access in accordance with the 1994 American with Disabilities Act. No work was performed on the building envelope. Currently, the slate roofing is deteriorating, as is the copper metal roofing on the steeple (both of which have reached the end of service life). The masonry joints need to be tuck-pointed on the exterior walls and parapets. This deterioration has allowed moisture infiltration, which has damaged the building, with repair efforts (caulking and individual slate replacements) slowing but not stopping the problems. Along with accessibility issues, the HVAC, plumbing, and electrical systems are at the end of useful life. The fire prevention systems requires redesign and installation to provide for a better and modern system to safeguard potential loss of the historic wood structure.

Moisture infiltration into a building will cause significant damage to the structure (wood frame and decking), along with damage to the plaster ceilings and floor coverings. The exterior is showing the signs of wear with its 123 year age and it is judged necessary that a full exterior renovation, with restoration of the slate, copper, and brick be accomplished prior to its 130th year. There is limited damage and moisture now and DGS judges that the building can remain serviceable until 2018. If the building suffers significant cracking, moisture movement, and structural distress, there may be a need to accelerate the project to an earlier time frame.

#### **Other level of effort projects**

- The following projects appear to have no change in the level of funding recommended from prior years. For each, please indicate how much work or the number of projects anticipated each year.
  - Asbestos

The current level of funding for Asbestos Abatement is sufficient to allow the department to proactively set priorities and work through environmental concerns at our County facilities. The number of projects varies depending on scope and size and need. Recent work funded through this project includes the following Asbestos remediation: the removal of asbestos containing vinyl flooring tile during renovation of the 5th floor Judicial Center; the removal of materials from the Liquor Warehouse and Gaithersburg Highway Depot as part of the County

Service Park demolition; and removal of lead based painted wooden siding for the Ken Gar Community Center.

- Elevator Modernization

The number of projects will vary each year depending on the scope, size and need. The elevator modernization work required for the Public Safety Headquarters will span FY14 and FY15 so that we maintain elevator functionality for building occupants throughout the modernization process. Elevator modernization work at this facility is estimated at \$3,000,000. Other planned projects include 8818 Georgia Avenue, the Holiday Park Senior Center, Chevy Chase Library, Grey Brick Courthouse, and Davis Library.

- Energy Conservation

This project provides for energy conservation retrofits in County-owned buildings including retrofits to lighting systems, building envelopes, heating and cooling controls, and boiler efficiency upgrades. Projects planned for FY15 and FY16 include lighting and HVAC control upgrades for Potomac Library, Kensington Library and Little Falls Library.

- Environmental Compliance (mostly same with funding shifts)

Along with the Asbestos Abatement project, the Environmental Compliance project provides funding to proactively set priorities and address environmental concerns at our County facilities. Funds were used to remove Underground tanks from our Fire Stations, the County Service Park, and other County facilities; to remove contaminated soils; to construct the Salt Barn and Sand Filter at the Colesville Depot; and to improve storm water quality at our industrial facilities by updating the pollution prevention plans. FY15 and FY16 funds will provide for continued cleanup at the former County Service Park; improvements to the Silver Spring Depot; upgrades to the fueling facilities and steam bay at the Bus Maintenance Facility; development of a bulk materials storage plan at the Highway Services area to coordinate with the new Purple line plans; and Petroleum storage tank upgrades/replacements at Burtonsville Fire Station (FS) #15, Silver Spring FS#16, and Rockville FS#31.

- Life Safety Systems

The Life Safety LOE project funds the replacement of fire alarm/suppression systems and replacement of building generators supporting life safety systems at buildings. We have over 50 generators in buildings that should be planned for replacement every 20 to 25 years.

- PLAR

This project provides for a comprehensive lifecycle replacement program to protect the County's investment in facilities and to sustain efficient and reliable facility operation. PLAR funds will be targeted to facilities undergoing Energy Systems Modernization work including 401 Hungerford Drive, 1301 Piccard Drive, and the Pre-Release Center. Funding will allow for refreshing the facility interior space in coordination with energy system replacements.

- Resurfacing Parking Lots

This project provides for the design and major rehabilitation of existing asphalt parking lots and associated drainage structures. Projects currently planned include the Edison Park Public Safety Headquarters parking lot repavement at an estimated cost of \$1.2M, the Damascus Depot, and the 5th District Police Station. Projects planned for FY15 and FY16 include the 4th District Police Station, Potomac Community Center, Kensington Park Library, Leland Community Center, Grey Brick Courthouse, Clara Barton Recreation and Daycare Center. Parking lots may be accelerated or delayed based on changing priorities and needs.

- Roof Replacement

Major roof replacements currently underway or planned for FY14 include Edison Park Public Safety Headquarters at an estimated cost of \$1.2M, Avery Road, and Pre-Release Center. Roof replacements planned for FY15 and FY16 include Grey Brick Courthouse, Davis Library, Seneca Creek Pool, Council Office Building, Fire Station #31, Executive Office Building, Upper County Daycare, Clara Barton Community Center, 1301 Piccard Drive, McDonald Knolls, and Little Falls Library. Candidate projects may be accelerated or delayed based on changing priorities and needs.

- HVAC/Electrical

HVAC/Electrical projects completed or planned for FY14 include the Strathmore Humidification system at an estimated cost of \$1.1M and the replacement of the chiller at the Damascus Recreation Center. Projects planned for FY15 and FY16 include replacements/renovations at Longwood Recreation Center, Wheaton Police Station, Germantown Police Station, Grey Brick Courthouse, Kensington Library, Council Office Building, Little Falls Library, Lone Oak Daycare Center, Leland Community Center, and Upper County Community Recreation Center. While this Level of Effort project plans for the orderly replacement/renovation of outdated systems, unplanned system failures frequently require us to change the schedule for planned projects.

## 1. Overview

In March 2005 the Infrastructure Maintenance Task Force (IMTF) issued its first regular report describing the funding necessary to maintain adequately the County agencies' infrastructure, including school buildings, libraries, recreation centers, administrative buildings, roads, sidewalks and hiker-biker trails, garages and lots, ballfields, playgrounds, and other publicly owned facilities. IMTF's second report was published in March 2006, and it noted that future updates would be produced biennially. The next reports were published in March 2008, 2010, and 2012. The Task Force was initially chaired by former Councilmember Marilyn J. Praisner, and has consisted of facilities managers from Montgomery County Government, Montgomery County Public Schools, Montgomery College, and the Maryland-National Capital Park and Planning Commission.

The Task Force's mission is focused on capital programs that rehabilitate infrastructure or replace it in kind, and on operating programs engaged in preventive maintenance—the kind of maintenance that preserves the quality of a capital asset so that it can be functional throughout its useful life. A few examples of such programs are: planned life-cycle asset replacement (PLAR); exterior painting; roof replacement; resurfacing; bridge renovation and rehabilitation; and window caulking. Some types of programs *not* included in this study include: modernizations; interior painting; and litter collection.

The primary objective of the Task Force is to identify the direst needs as candidates for additional funding in the upcoming Capital Improvements Program (CIP) and Operating Budget.

## 2. Information on Infrastructure Maintenance

Over the winter months the Task Force updated information that the members had developed for the fourth report. The Task Force used the same format as the last report for the CIP tables; the information is arrayed in the tables on ©1-12. The data items are:

- **Capital Project** title (Column A), often broken down to each **Major Element** within it (Column B). For example, the Sidewalk and Infrastructure Revitalization project is on Lines 18 and 19 on ©1 and ©2, with the sidewalk element on Line 18 and the curb and gutter replacement element on Line 19. Any further clarifications or assumptions are included under **Notes** (Column C).
- **Acceptable Life Span (years)** is not the optimal life span of the asset, but what each agency feels is a tolerable life span—assuming at least some level of regular maintenance—before it has to be replaced or comprehensively rehabilitated. For example, the Department of Transportation (DOT) believes that the acceptable life span for curb and gutter is 30 years (Line 19, Column D).
- **Inventory** is the quantity of the asset in **Units** that are either shown in Columns E and F, respectively. There are an estimated 2,098 miles of curb and gutter on County streets (Columns E and F).

- **How much/many should be replaced annually** is generally the **Inventory** divided by the **Acceptable Life Span**, rounded to the nearest unit. In this example, 70 miles of curb and gutter should be replaced every year (Column G).
- **Average Cost** is the mean cost of replacing/rehabilitating the particular type of infrastructure, in current-year dollars. The mean cost of replacing curb and gutter is \$142,000/mile in FY 2015 dollars (Column H).
- **Acceptable Annual Replacement Cost** is how much money should be budgeted annually to replace/rehabilitate the particular type of infrastructure so that the entire **Inventory** will last over the **Acceptable Life Span**. This is calculated by multiplying the **How much/many should be replaced annually** figure by the **Average Cost** figure. In the case of curb and gutter replacement, 70 miles x \$142,000/mile = \$9,940,000 (Column I). *This is the baseline against which the budget should be compared.*
- **FY14 Approved** is the amount budgeted for FY14—explicitly or implicitly—for this item in the CIP as approved by the Council last May. In this case there was \$6,800,000 programmed to the Sidewalk and Infrastructure Revitalization project for FY14, of which \$3,600,000 implicitly was for curb and gutter replacement (Column J).
- **FY15 Request** is the amount requested for FY15—explicitly or implicitly—for this item in the CIP as recently requested by the agency. In this case the Executive has requested \$6,300,000 for the Sidewalk and Infrastructure Revitalization project in FY15, of which \$3,300,000 implicitly is for curb and gutter replacement (Column K).
- **Future Funding Level** indicates whether the CIP programs the same level as FY15 in each of FYs16-20, or whether it eventually attains a higher or lower level. For curb and gutter replacement a higher level than \$3,300,000 is programmed in at least one later year (Column L).
- **Backlog** is the amount of funds that would need to be programmed in one year to eliminate the backlog immediately. DOT calculates that a one-time expenditure of \$197,806,000 would eliminate the backlog in curb and gutter replacement (Column M).
- **Criticality Rating** is a 1-to-5 rating on an ordinal scale indicating the relative importance of replacing this particular type of infrastructure. The scale is defined as follows:
  - 5 = Life safety and systems absolutely necessary to occupy the buildings or very important to the preservation of the facility.
  - 4 = Systems that are very important to the operation of the facility.
  - 3 = Systems that do not typically fail to perform suddenly, but are fairly important to operation of the facility.
  - 2 = Passive systems that are not vital to the operation of the facility.
  - 1 = Systems that are primarily aesthetic in nature or perform a less important function.



Curb and gutter replacement has a Criticality Rating of '3' (Column N).

The Task Force made a special effort to use the same **Acceptable Life Span** and **Criticality Rating** for similar types of infrastructure across agencies. However, the **Average Cost** of these items often differs from one agency to the next, due to the special circumstances of each agency's assets.

The **Acceptable Annual Replacement Cost** could be less than what is displayed in the tables for individual items depending upon how aggressive facilities are otherwise modernized or improved. School and other building modernizations not only provide more core space, but also replace HVAC, roof, and other building systems. On ©4 MCPS has discounted capital construction costs by 25% to avoid such double-counting.

The Operating Budget tables are simpler, noting for each infrastructure element the maintenance activity, the Annual Requirement (the corollary to the Acceptable Annual Replacement Cost in the CIP tables), the FY14 Approved Budget, the FY15 Request, and the Criticality Rating. The information is displayed on ©14-17.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N											
1	Capital Project	Major Element	Notes	Acceptable Life Span (Years)	Inventory	Units	How much/many should be replaced annually	Average Cost	Acceptable Annual Replacement Cost	CIP			Backlog	Criticality Rating											
										FY14 Approved	FY15 Request	Future Funding Level													
2																									
3										Montgomery County Government															
4										Infrastructure Maintenance: Capital Improvements Program															
5	HVAC/Elec Replacement: MCG	HVAC & Electrical Systems	\$15K for HVAC; \$5K for electric system	20	5,400	systems	270	\$20,000	\$5,400,000	\$1,150,000	\$1,150,000	\$1,150,000	\$63,750,000	5											
6	PLAR: MCG		PLAR total	Varies 20-50	9,506,000	sq. ft.	316500	\$45	\$14,242,500	\$750,000	\$750,000	\$750,000	\$67,462,500	4											
7	Resurfacing Parking Lots: MCG	Asphalt lots and drainage		20	150	lots	6	\$150,000	\$900,000	\$650,000	\$650,000	\$650,000	\$3,000,000	4											
8	Roof Replacement: MCG	Roofing Systems	Roof condition survey completed in FY05	20	250	roofs	12	\$375,000	\$4,500,000	\$2,300,000	\$2,240,000	\$2,240,000	\$11,000,000	5											
9	HVAC/Elec Replacement: FS	HVAC & Electrical Systems		20	15	stations	1	\$1,150,000	\$1,150,000	\$1,150,000	\$1,150,000	Same		5											
10	Resurfacing: Fire Stations	Paved Surfaces		20	36	stations	2	\$150,000	\$300,000	\$300,000	\$300,000	Same		4											
11	Roof Replacement: FS	Roofing Systems		20	7	stations	1	\$352,000	\$352,000	\$352,000	\$352,000	Same		5											
12	Elevator Modernization	Elevator Systems, Lifts, Escalators		20	120	elevators	6	\$300,000	\$1,800,000	\$1,000,000	\$1,000,000	\$1,000,000	\$4,000,000	4											
13	Life Safety Systems:MCG	Life Safety Systems		15	125	systems	8	\$100,000	\$800,000	\$875,000	\$625,000	\$625,000	\$875,000	5											
14	Bridge Preservation Program	Paint Systems		15	145	bridges	9	\$72,000	\$648,000	\$504,000	\$504,000	Same	\$5,000,000	3											
15	Bridge Renovation	All bridge components	Work scope based on biennial inspections	N/A	349	bridges	30	\$23,300	\$699,000	\$700,000	\$700,000	Same	\$8,000,000	4											
16	County Maintained Roadways	Primary/Arterials	FY14 @ PCI 71	15	966	lane-miles	64	\$121,465	\$7,822,346	\$7,500,000	\$6,000,000	Higher	\$65,000,000	4											
17	County Maintained Roadways	Residential/Rural	FY14 @ PCI 68	15-20	4,210	lane-miles	241	\$143,127	\$34,432,000	\$17,300,000	\$29,200,000	Higher	\$363,500,000	4											
18	Infrastructure Revit. Sidewalk	Sidewalks Repairs		30	1,034	miles	34	\$87,000	\$2,958,000	\$3,200,000	\$3,000,000	Higher	\$60,030,000	3											

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