



Stormwater Program City Council Briefing

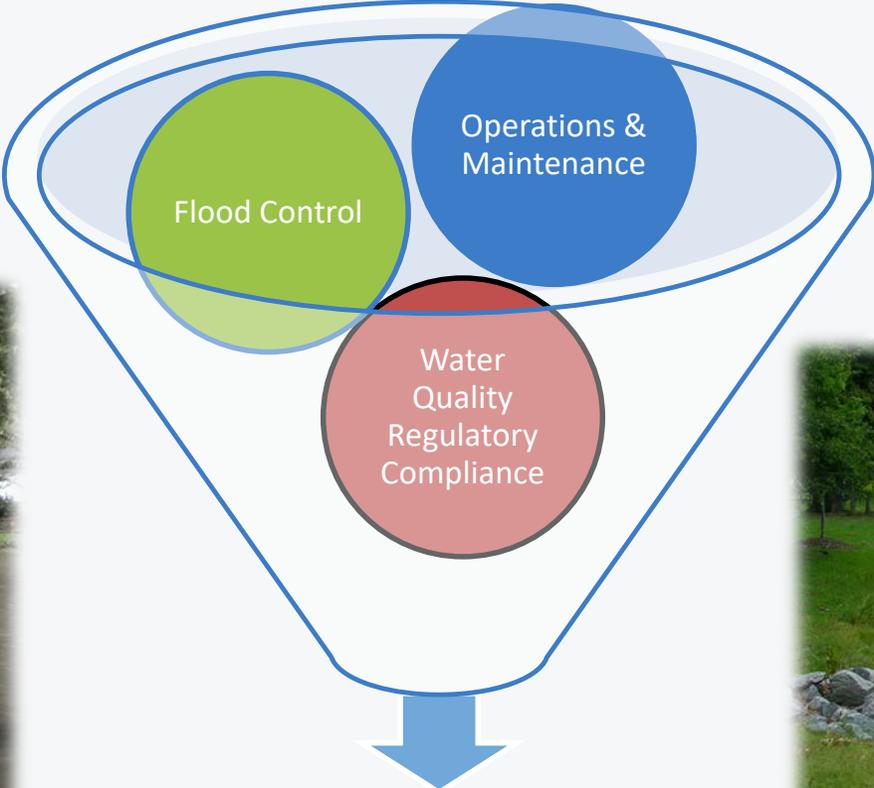
October 29, 2019

OVERVIEW

- **Stormwater Program**
- **Proposed FY 2021-2026 CIP**
- **Flood Control**
- **Water Quality Regulatory Compliance**
- **Operations and Maintenance**
- **Stormwater Program – FTE Needs**
- **Summary**



STORMWATER PROGRAM



Stormwater Management

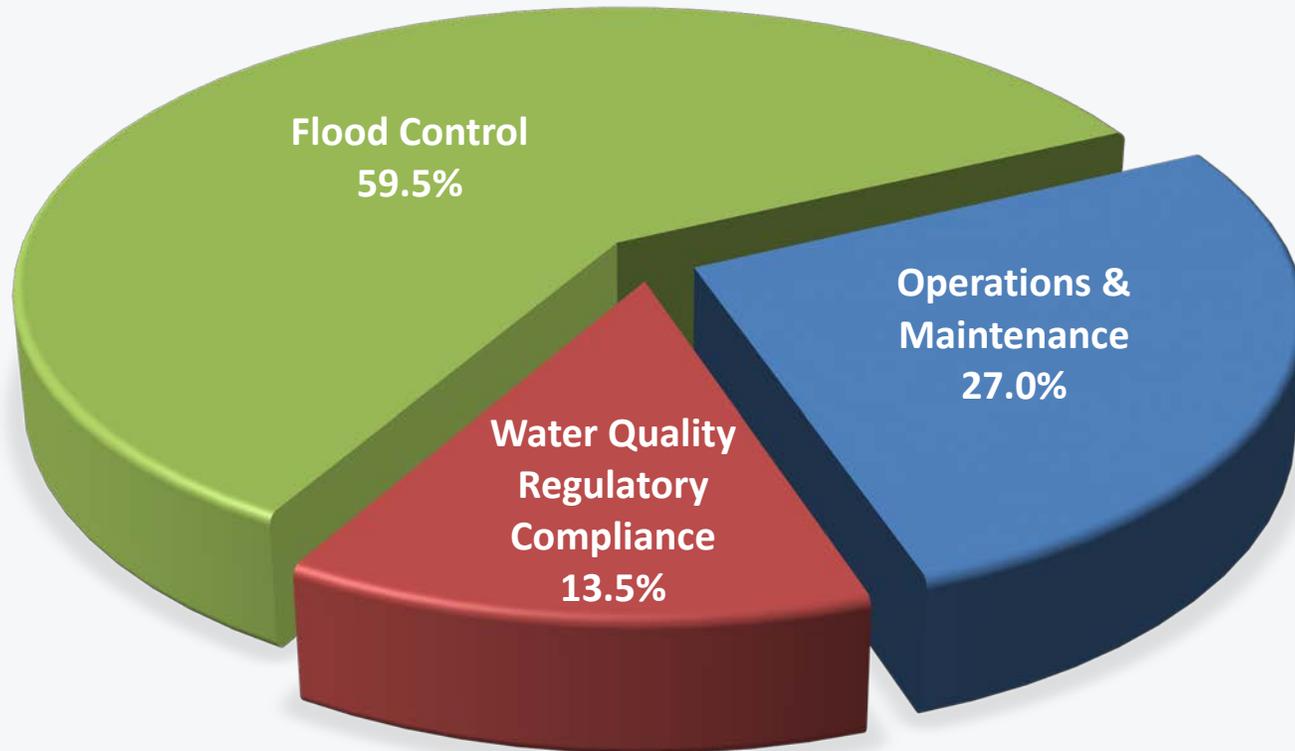


STORMWATER PROGRAM REQUIREMENTS

- Fund Major Flood Control Projects
- Support Flood Control Annual Activities
- Support Stormwater Quality Regulatory Annual Requirements
- Support Operations & Maintenance Annual Activities
- Support Sea Level Rise & Stormwater Modeling Efforts

PROPOSED FY 2021-2026 CIP

SUMMARY



-  Flood Control – \$244.1M
-  Operations & Maintenance – \$110.5M
-  Water Quality Regulatory Compliance – \$55.4M

Total 6-Year Funding - \$410.0M

MAJOR FLOOD CONTROL PROJECTS PROPOSED FY 2021-2026

Project	PROPOSED FY 2021-2026 CIP			
	Estimated Total Project Cost	ATD	Proposed FY 21-26 Funding	Balance to Complete
Windsor Woods*	\$139.9 M	\$19.3 M	\$61.1 M	\$59.5 M
Princess Anne Plaza*	\$200.7 M	\$5.1 M	\$68.4 M	\$127.2 M
The Lakes*	\$31.6 M	\$2.0 M	\$12.2 M	\$17.4 M
Eastern Shore Drive Drainage - Phase I*	\$74.1 M	\$22.3 M	\$42.0 M	\$9.8 M
Eastern Shore Drive Drainage - Phase II*	\$20.0 M	\$0	\$0	\$20.0 M
Lake Bradford/Chubb Lake	\$32.0 M	\$3.3 M	\$6.5 M	\$22.2 M
Central Resort*	\$113.0 M	\$2.0 M	\$19.0 M	\$92.0 M
Total	\$611.3 M	\$54.0 M	\$209.2 M	\$348.1 M

*Includes projects not funded in the 6-year CIP

STORMWATER PROGRAM FUNDING NEEDS PROPOSED FY 2021-2026

Total Flood Control Projects Funding Need

Flood Control Projects:

- Major \$611.3 M
- Other \$187.4 M

Total Project(s) Needs: \$798.7 M

Proposed FY 2021-2026 Programmed Funding \$352.2 M

Total Additional Project(s) Needs: \$446.5 M

STORMWATER PROGRAM FUNDING NEEDS PROPOSED FY 2021-2026

Total Stormwater Program Annual Funding Needs

- Flood Control Programs \$ 2.9 M/Yr
- Stormwater Quality Regulatory \$10.1 M/Yr
- Operations & Maintenance \$39.0 M/Yr

Total Annual Need **\$52.0 M/Yr**

Proposed FY 2021-2026 Programmed Funding \$30.5 M/Yr

Total Additional Annual Need **\$21.5 M/Yr**

Flood Control

FULLY FUNDED PROJECTS PROPOSED FY 2021-2026 CIP

	CIP	PROJECT	TOTAL PROJECT COST
1	7400000	Aragona Drainage Improvements	\$ 4,400,000
2	7047000	Ashville Park Drainage Improvements - Phase I	\$ 12,000,000
3	7064000	Central Resort District - 24th Street Culvert	\$ 5,200,000
4	7084000	Central Resort District - Redirect Stormwater to 16th St. Pump Station	\$ 15,000,000
5	7402000	College Park and Level Green Drainage Improvements	\$ 2,289,000
6	7065000	Eastern Shore Drive - Cape Henry Canal Phase II	\$ 4,300,000
7	7066000	Eastern Shore Drive - Elevate Lynnhaven Drive	\$ 3,600,000
8	7068000	Eastern Shore Drive - Lynnhaven Colony Park Pump Station	\$ 10,900,000
9	7069000	Eastern Shore Drive - Lynnhaven Drive Pump Station	\$ 13,700,000
10	7070000	Eastern Shore Drive - Vista Circle Pump Station	\$ 14,300,000
11	7151000	Eastern Shore Drive Drainage Phase I	\$ 17,500,000
12	7050000	Princess Anne Plaza Drainage Improvements - Phase I	\$ 5,833,597
13	7030000	Sea Level Rise/Recurrent Flooding Analysis	\$ 5,044,447
14	7016000	South Lake Holly Watershed	\$ 16,609,587
15	7027000	SWM Master Planning, Analysis, and Inventory	\$ 15,795,486
16	7094000	The Lakes - South London Bridge Creek Channels and Gate	\$ 12,192,000
17	7051000	The Lakes Drainage Improvements	\$ 2,000,000
18	7076000	Windsor Woods - Thalia Creek/Lake Trashmore Improvements	\$ 5,200,000
19	7028000	Windsor Woods Drainage	\$ 25,671,437
20	7077000	Windsor Woods Pump Station	\$ 40,250,000
21	7078000	Windsor Woods Tide Gate	\$ 9,350,000
TOTAL			\$ 241,135,554

\$241.1 M

PARTIALLY FUNDED PROJECTS PROPOSED FY 2021-2026 CIP

	CIP	PROJECT	TOTAL PROJECT COST	BALANCE TO COMPLETE
1	7081000	Atlantic Ocean Watershed Stormwater Projects	\$ 7,255,000	\$ 6,755,000
2	7041000	Central Resort District Drainage Improvements	\$ 92,800,000	\$ 92,000,000
3	7086000	Elizabeth River Watershed Stormwater Projects	\$ 12,800,000	\$ 11,435,000
4	7053000	Lake Bradford/Chubb Lake	\$ 32,000,000	\$ 22,243,100
5	7071000	Little Creek Watershed (1&31) Stormwater Projects	\$ 8,600,000	\$ 7,600,000
6	7072000	Lynnhaven River Watershed (3-8 & 30) Stormwater Projects	\$ 22,800,000	\$ 21,020,000
7	7005000	North Lake Holly Watershed	\$ 24,071,135	\$ 600,000
8	7073000	Princess Anne Plaza Golf Course Conversion	\$ 83,600,000	\$ 39,000,000
9	7089000	Princess Anne Plaza North London Bridge Creek Pump Station	\$ 65,900,000	\$ 42,900,000
10	7092000	Southern Rivers Watershed Stormwater Projects	\$ 15,400,000	\$ 11,600,000
11	SWU01FC	Stormwater Green Infrastructure	\$ 20,000,000	\$ 19,500,000
12	SWU02FC	USACE Regional Coastal Storm Risk Management Study	\$ 1,500,000	\$ 1,000,000
TOTAL			\$ 386,726,135	\$ 275,653,100

BTC: \$275.6 M

REQUESTED NOT FUNDED PROJECTS PROPOSED FY 2021-2026 CIP

	CIP	PROJECT	TOTAL PROJECT COST	BALANCE TO COMPLETE
22		Ashville Park Phase II	\$ 18,853,000	\$ 18,853,000
23		Eastern Shore Drive - Poinciana Pump Station	\$ 8,200,000	\$ 8,200,000
24		Eastern Shore Drive - Phase I, Section 1F Improvements	\$ 1,000,000	\$ 1,000,000
25		Eastern Shore Drive - Phase I, Section 1G Improvements	\$ 625,000	\$ 625,000
26		Eastern Shore Drive - Phase II	\$ 20,000,000	\$ 20,000,000
27		Princess Anne Plaza Drainage Improvements - Phase II	\$ 35,400,000	\$ 35,400,000
28		Princess Anne Plaza Little League Ballfields Relocation	\$ 3,800,000	\$ 3,800,000
29		Princess Anne Plaza Northgate Ballfields Conversion	\$ 6,200,000	\$ 6,200,000
30		The Lakes Drainage Drainage Improvements - Flood Barriers	\$ 3,600,000	\$ 3,600,000
31		The Lakes Drainage Drainage Improvements - Holland Road Gate	\$ 8,100,000	\$ 8,100,000
32		The Lakes Drainage Improvements - Phase II	\$ 5,700,000	\$ 5,700,000
33		Windsor Woods Drainage - Flood Barriers	\$ 14,000,000	\$ 14,000,000
34		Windsor Woods Storm Drain Pipe Projects (Phase II)	\$ 45,405,000	\$ 45,405,000
TOTAL			\$170,883,000	\$170,883,000

TOTAL BTC \$446.5 M

BTC: \$170.9 M

Water Quality Regulatory Compliance

WATER QUALITY REGULATORY PROGRAM

- **Stormwater MS4 Permit Compliance**
- **VSMP and VESCP Compliance**
- **Stormwater Utility Support**

WATER QUALITY REGULATORY PROJECTS PROPOSED FY 2021-2026 CIP

Fully Funded

	CIP	PROJECT	TOTAL PROJECT COST	BALANCE TO COMPLETE
1	7060000	Bayville Lake Water Quality Improvement Project	\$ 4,300,000	N/A
2	7054000	Lynnhaven River Watershed - II	\$ 8,492,177	N/A
3	7410000	Southern Rivers Watershed	\$ 10,300,000	N/A
4	7414000	Storm Water Quality Enhancements II	\$ 25,567,948	N/A
5	7042000	Surface Water Regulatory Compliance Program	\$ 23,231,942	N/A
6	7043000	Water Quality Cost Participation Projects II	\$ 416,773	N/A
		TOTAL	\$ 72,308,840	

Not Fully Funded

	CIP	PROJECT	TOTAL PROJECT COST	BALANCE TO COMPLETE
7	7406000	Elizabeth River Watershed	\$ 14,735,150	\$ 3,350,000
8	7061000	Lake Edward Water Quality Improvement Project	\$ 4,400,000	\$ 2,900,000
9	7059000	Lynnhaven River Basin Ecosystem Restoration	\$ 14,500,000	\$ 500,000
		TOTAL	\$ 33,635,150	\$ 6,750,000

BTC: \$6.75 M

Operations & Maintenance

PROGRAM CYCLE GOALS PROPOSED FY 2021-2026 CIP

O & M Capital Improvement Program Project Cycle in Years and Funding Requirements

CIP #	Program	Current Funding/YR	Current Cycle/YR	Desired Cycle	Additional Funding Required for Desired Cycle	95 yr	50 yr	25 yr	20yr	15yr	12yr	10yr	8yr	5yr	2yr
7023	Primary Sys Infr Imp II	\$2,270,000	12yr	8yr	\$2,600,000	-	-	-	-	-	✓	\$1,000,000	\$2,600,000	\$10,500,000	-
7055	Canal Program	\$500,000	95yr	25yr	\$1,500,000	✓	\$500,000	\$1,500,000	-	\$2,800,000	-	\$4,800,000	-	-	-
7082	BMP Maint	\$1,000,000	25yr	20yr	\$200,000	✓	-	-	\$200,000	-	-	-	-	-	-
7087	Enhanced Rehab	\$1,200,000	>90yr	15yr	\$8,500,000	✓	\$400,000	\$4,000,000	-	\$8,500,000	-	\$10,900,000	\$17,200,000	\$30,700,000	-
7411	Oceanfront Facilities Maint	\$1,650,000	5yr	2yr	\$350,000	-	-	-	-	-	-	-	-	✓	\$350,000
7412	Stormwater Pump Stations	\$1,250,000	15yr	15yr	-	-	-	-	-	✓	-	-	-	-	-
7415	Lake Mgmt PH II	\$4,950,000	95yr	50yr	\$2,300,000	✓	\$2,300,000	-	-	-	-	-	-	-	-
7416	SW Infr Rehab PH II	\$5,750,000	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	-
CIP Total		\$18,570,000		Funding Need	\$15,450,000										

REQUESTED NOT FUNDED PROJECTS PROPOSED FY 2021-2026 CIP

CIP	PROJECT	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26
7083000	Cave-In Repair Project (Backlog from 8 months to 2 months)	\$2,000,000	\$4,000,000	\$3,000,000			
7088000	Pinewood Road Culvert Replacement	\$1,000,000					
New	Roadside Ditch Program	\$0	\$1,000,000	\$2,000,000	\$5,000,000	\$5,000,000	\$5,000,000
New	Arctic Avenue Drainage Improvements	\$2,000,000					
Subtotal		\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	5,000,000	\$ 5,000,000
Proposed Fy 2021-2026 Funding		\$18,570,000	\$34,020,000	\$34,020,000	\$34,020,000	\$34,020,000	\$34,020,000
FY 2021-2026 Funding Need (Desired Cycle)		\$15,450,000					
Total		\$39,020,000	\$39,020,000	\$39,020,000	\$39,020,000	\$39,020,000	\$39,020,000

STORMWATER OPERATING BUDGET OVERVIEW

PROPOSED FY 2021-2026

■ \$28.5 M FY19-20 Operating Budget

- ▷ 8 Bureaus
 - \$13M O&M
 - \$3M Street Sweeping
 - \$2.7M Mosquito Control
 - \$2M Construction & Engineering
 - \$1M Inspection & Spills
 - \$3.9M Project Management
 - \$2.3M Surface Water Regulatory
 - \$0.61M O&M GF

■ FY 21 Approved BMP Crew

- ▷ (1) Maintenance Supervisor
- ▷ (2) MEO III
- ▷ (2) MEO II

■ FY 21 Includes \$400K for Equipment

FY21	FY22	FY23	FY 24	FY25	FY 26
\$1.2M	\$800K	\$800K	\$800K	\$800K	\$800K

■ FY 21 Requested Pipe Cleaning Crew (5 year cycle)

- ▷ (6) MEO III
- ▷ (6) Maintenance Workers
- ▷ (1) Engineering Technician I
- ▷ (1) Construction Inspector – Environmental I
- ▷ (4) Vacuum Trucks

FY21	FY22	FY23	FY 24	FY25	FY 26
\$3.5M	\$1M	\$1M	\$1M	\$1M	\$1M

STORMWATER PROGRAM – FTE NEEDS

	FY18	FY19	FY20	FY21	FY22	FY23	Total
Flood Control - Stormwater Engineering Center	5	0	5				10
	5-Engineer IIIs		1-Construction Inspector III, 1-Engineer IV, 3-Engineer IIIs				
Water Quality Regulatory Compliance (Mandated)	4	0	4	5			13
	2-Engineer III, 1-Engineer I, 1-Media Coordinator		4-Engineer IIIs	4-Engineer IIIs, 1-Admin Tech			
Operations & Maintenance	4	0	1	19	2	3	29
	2-Engineer IIIs 2-Construction Inspector IIIs		1-Engineer III	*1-Maintenance Supervisor *2-MEO III *2-MEO II *Previously Approved BMP Maintenance Crew **6-MEO III **6-Maintenance Workers **1-Engineering Tech I **1-Const Insp I - Environmental **FY21 Requested NEW Pipe Cleaning Crew	*2-MEO 1 *Previously Approved BMP Maintenance Crew	1-Engineer III 1-Engineer Tech I 1-Construction Inspector I	
Total Positions	13	0	10	24	2	3	52

SUMMARY

- Flood Control continues to be a critical neighborhood issue and is more complicated and expensive
- Stormwater Quality regulations and permitting are more demanding and compliance is mandatory
- More complicated projects and regulations are increasing Operation and Maintenance requirements
- Aging infrastructure is increasing the amount of maintenance needs
- Proposed FY 2021-2026 CIP does not address Sea Level Rise adaptation strategies

DISCUSSION