STORMWATER PROGRAM

The Stormwater Program is administered by the Engineering Department. Staff is responsible for the planning, design, and construction of stormwater projects that will improve the environment, reduce runoff volumes, mitigate flooding, and meet state and federal regulatory compliance requirements.

Many projects in the Stormwater Program work to meet the Environmental Protection Agency's (EPA) Total Maximum Daily Load (TMDL) for the Chesapeake Bay. TMDL is the calculation of the maximum amount of pollution a body of water can receive and still meet state water quality standards designed to ensure waterways meet a national primary goal of being swimmable and fishable. Monitoring data shows that the Chesapeake Bay has poor water quality, degraded habitats, and low populations of many species of fish and shellfish.

According to the EPA, the goal of TMDL for the bay is to restore clean water in the Chesapeake Bay and the region's streams, creeks, and rivers. TMDL was promoted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. It is required under the federal Clean Water Act and responds to consent decrees in Virginia and the District of Columbia from the late 1990s. Pollution limits are divided by jurisdiction and major river basin based on state-of-the-art modeling tools, extensive monitoring data, peer-revised science and close interaction with jurisdiction partners. The TMDL is designed to ensure that all pollution control measures needed to fully restore the Chesapeake Bay and its tidal rivers are in place by 2025, with practices in place by 2017 to meet 60 percent of the overall nitrogen, phosphorus, and sediment reductions.

The Virginia Municipal Separate Storm Sewer Program (MS-4) is also a major driver of stormwater projects. The permit is renewed every 5 years with increasing requirements to remove pollutants from natural streams.

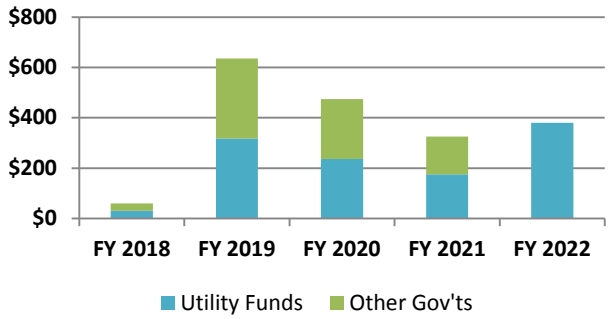
PRIOR YEAR ACCOMPLISHMENTS

Prince William Hospital SWM Pond (D-013)
Estimated completion date is June 2017.

THE FIVE-YEAR PLAN (FY 2018 – FY 2022)

The FY 2018 Adopted Five-Year Capital Improvement Program includes a $1,140,000 transfer from the Stormwater Fund and $735,000 in State funding.

In FY 2018 funding includes a $30,000 transfer from the Stormwater Fund and $30,000 from State Grants.



(Dollars in Thousands)

FY 2018 CAPITAL PROJECTS

Hazel Drive Channel Improvements (D-021)
Planning stage of stream restoration including armoring banks, creating natural ponds, and sinuosity in channel.

FY 2018 MAINTENANCE CAPITAL PROJECTS

There are no maintenance capital projects proposed in the Stormwater Program.

NEW CAPITAL PROJECTS

There are no new projects proposed for the Stormwater Program.

SUMMARY OF STORMWATER CAPITAL PROJECTS

($ in Thousands)

Cost Estimates:	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project	5-Year CIP
Planning	574	60	10	50	25	-	1,825	2,544	145
Land	5	-	-	-	-	-	-	5	-
Construction	5,132	-	626	424	300	380	17,611	24,473	1,730
Total Cost	**5,711**	**60**	**636**	**474**	**325**	**380**	**19,436**	**27,022**	**1,875**
Funding Sources:									
General Fund	172	-	-	-	-	-	-	172	-
Sewer Fund	335	-	-	-	-	-	60	395	-
Water Fund	-	-	-	-	-	-	230	230	-
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	252	30	318	237	175	380	10,398	11,790	1,140
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	3,000	-	-	-	-	-	-	3,000	-
State	1,741	30	318	237	150	-	8,748	11,224	735
Federal	-	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	211	-	-	-	-	-	-	211	-
Total Funding	**5,711**	**60**	**636**	**474**	**325**	**380**	**19,436**	**27,022**	**1,875**
Operating Impacts:									
Revenue	-	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-	-
Program (Costs) Saving	-	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Program Highlights:

The FY 2018 Adopted Five-Year CIP includes $1,875,000 for the Stormwater Program, which reflects an increase of $578,000 or 44.6% from the FY 2017 Adopted Five-Year CIP. Changes in the adopted CIP include changes to the timing of projects to ensure the City meets the necessary reductions to comply with the MS-4 permit, revised project estimates based on the operational study conducted in FY 2017, and the programming of state revenue reflecting staff's intent to apply for grants.

STORMWATER CAPITAL PROJECT LISTING

($ in Thousands)

Project Name	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project	5-Year CIP
Sills Pond	-	-	-	-	-	-	396	396	-
Tudor Oaks SWM Pond	-	-	-	50	300	-	-	350	350
Peabody Street / Early S	-	-	-	-	25	380	-	405	405
Prince William Hospital	5,559	-	-	-	-	-	-	5,559	-
Cockrell Branch SWM P	-	-	10	424	-	-	-	434	434
Jackson Avenue Draina	-	-	-	-	-	-	1,940	1,940	-
Hazel Drive Channel Imp	-	60	626	-	-	-	-	686	686
School Street Drainage I	152	-	-	-	-	-	-	152	-
Winter's Branch Stream	-	-	-	-	-	-	8,250	8,250	-
Flat Branch Stream Rest	-	-	-	-	-	-	4,100	4,100	-
Sumner Lake Stream Re	-	-	-	-	-	-	4,750	4,750	-
Total	**5,711**	**60**	**636**	**474**	**325**	**380**	**19,436**	**27,022**	**1,875**

D-010 Tudor Oaks SWM Pond

Year Introduced: 2002
Change: Funding to Later Year
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Public Works
Manager: J. Renaud
Plan Conformance:
Comprehensive Plan 7.7

Est. Start: 7/1/2019
Est. Complete: 6/30/2021

Description:

Acquire and expand a private stormwater management pond to make it a regional facility. Land acquisition would be donated by HOA. This project will assist the City in meeting the nutrient reductions necessary as required by the State and EPA as part of Total Maximum Daily Load (TMDL) for the Chesapeake Bay.

Cost Estimate: ($ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	-	-	-	50	-	-	-	50
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	300	-	-	300
Total Cost	**-**	**-**	**-**	**50**	**300**	**-**	**-**	**350**
Funding Sources: ($ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	25	150	-	-	175
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
State	-	-	-	25	150	-	-	175
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	**-**	**-**	**-**	**50**	**300**	**-**	**-**	**350**
Operating Impacts: ($ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

D-011 Peabody Street / Early Street Drainage

Year Introduced: 2002
Change: Moved From Future
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Public Works
Manager: J. Renaud
Plan Conformance:
Comprehensive Plan 7.7

Est. Start: 7/1/2020
Est. Complete: 6/30/2023

Description:
Replace 2,000 feet of deteriorating 27"-30" storm sewer pipe and correct flooding issues in yard due to through drainage. Through drainage needs to be improved, upgraded or rerouted to reduce flooding and impact to property due to deteriorated drainage pipes. Current drainage system is not in City of Manassas easement.

Cost Estimate: ($ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	-	-	-	-	25	-	-	25
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	380	-	380
Total Cost	**-**	**-**	**-**	**-**	**25**	**380**	**-**	**405**
Funding Sources: ($ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	25	380	-	405
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	**-**	**-**	**-**	**-**	**25**	**380**	**-**	**405**
Operating Impacts: ($ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

D-013 Prince William Hospital Regional SWM Pond

Year Introduced: 2002
Change: No change
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Public Works
Manager: J. Renaud
Plan Conformance:
Comprehensive Plan 7.7

Est. Start: 3/1/2013
Est. Complete: 6/16/2017

Description:

Construct a 2.8-acre pond to treat a 300+-acre drainage area. VA DEQ Stormwater Local Assistance Funding was secured in FY14 for this project. This project will assist the City in meeting the nutrient reductions necessary as required by the State and EPA as part of Total Maximum Daily Load (TMDL) for the Chesapeake Bay.

Cost Estimate: ($ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	574	-	-	-	-	-	-	574
Land	-	-	-	-	-	-	-	-
Construction	4,985	-	-	-	-	-	-	4,985
Total Cost	**5,559**	**-**	**-**	**-**	**-**	**-**	**-**	**5,559**
Funding Sources: ($ in 1,000s)								
General Fund	120	-	-	-	-	-	-	120
Sewer Fund	335	-	-	-	-	-	-	335
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	252	-	-	-	-	-	-	252
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	3,000	-	-	-	-	-	-	3,000
State	1,741	-	-	-	-	-	-	1,741
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	111	-	-	-	-	-	-	111
Total Funding	**5,559**	**-**	**-**	**-**	**-**	**-**	**-**	**5,559**
Operating Impacts: ($ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

D-018 Cockrell Branch SWM Pond Restoration / Dredging

Year Introduced: 2008
Change: No change
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Public Works
Manager: J. Renaud
Plan Conformance:
Comprehensive Plan 7.7

Est. Start: 7/1/2018
Est. Complete: 6/30/2020

Description:
Restore and dredge the Cockrell Branch Storm Water Management Pond. This will restore capacity and functionality to the pond and improve aesthetics. This project maybe eligible for Total Maximum Daily Load (TMDL) credit.

Cost Estimate: ($ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	-	-	10	-	-	-	-	10
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	424	-	-	-	424
Total Cost	**-**	**-**	**10**	**424**	**-**	**-**	**-**	**434**
Funding Sources: ($ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	5	212	-	-	-	217
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
State	-	-	5	212	-	-	-	217
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	**-**	**-**	**10**	**424**	**-**	**-**	**-**	**434**
Operating Impacts: ($ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

D-021 Hazel Drive Channel Improvements

Year Introduced: 2013
Change: Moved From Future
Associated Proj: S-016
Program Area: Stormwater
Managing Dept: Public Works
Manager: J. Renaud
Plan Conformance:
Comprehensive Plan 7.7

Est. Start: 7/1/2017
Est. Complete: 10/31/2019

Description:

Stream restoration along Flat Branch. Approximately 500 feet of stream to be restored to meet DEQ Stream Restoration including armoring banks, creating natural pools and sinuosity in channel. Project may be eligible for Total Maximum Daily Load (TMDL) credit.

Cost Estimate: ($ in 1,000s)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Future**	**Total Project**
Planning	-	60	-	-	-	-	-	60
Land	-	-	-	-	-	-	-	-
Construction	-	-	626	-	-	-	-	626
Total Cost	**-**	**60**	**626**	**-**	**-**	**-**	**-**	**686**
Funding Sources: ($ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	30	313	-	-	-	-	343
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
State	-	30	313	-	-	-	-	343
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	**-**	**60**	**626**	**-**	**-**	**-**	**-**	**686**
Operating Impacts: ($ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

D-025 School Street Drainage Improvements

Year Introduced: 2014
Change: No change
Associated Proj: T019;E014;S017;W063
Program Area: Stormwater
Managing Dept: Public Works
Manager: J. Renaud
Plan Conformance:
Comprehensive Plan 7.7

Est. Start: 9/1/2014
Est. Complete: 6/30/2018

Description:
Install storm drain pipe to prevent existing homes from being flooded by off-site stormwater flows. This will improve the storm drainage to the existing ditch, which receives drainage from Prince William St/Jefferson Ave area. It will reduce localized residential flooding as well.

Cost Estimate: ($ in 1,000s)	Prior Years	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	5	-	-	-	-	-	-	5
Construction	147	-	-	-	-	-	-	147
Total Cost	**152**	**-**	**-**	**-**	**-**	**-**	**-**	**152**
Funding Sources: ($ in 1,000s)								
General Fund	52	-	-	-	-	-	-	52
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	100	-	-	-	-	-	-	100
Total Funding	**152**	**-**	**-**	**-**	**-**	**-**	**-**	**152**
Operating Impacts: ($ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

STORMWATER FUTURE YEARS PROJECTS SUMMARY

($ in Thousands)

Project #	Project Name and Description	COST	SOURCE
D-009	Sills Pond Retrofit and expand an existing stormwater management pond. This will assist the City in meeting the nutrient reductions necessary as required by the State and EPA as part of the Total Maximum Daily Load (TMDL).	$ 396	Stormwater / State
D-019	Jackson Avenue Drainage Improvements Replace existing underground storm sewer system with a larger pipe system. This includes replacing sidewalk, curb and gutter, structures, and pavement. This should address problems with flooding of yards upstream.	$ 1,940	Sewer / Water/ Stormwater
D-026	Winter's Branch Stream Restoration Repair the eroded stream banks along Winter's Branch from Bartow Street to Wellington Road. Stabilize and protect the stream from further erosion. This project may be eligible for Total Maximum Daily Load (TMDL) credit.	$ 8,250	Stormwater / State
D-027	Flat Branch Stream Restoration Repair the eroded stream banks along Flat Branch from upstream of the New Britain storm water management facility to Mathis Avenue and Portner Avenue (2 tributaries). Stabilize and protect the stream from further erosion. This project may be eligible for Total Maximum Daily Load (TMDL) credit.	$ 4,100	Stormwater / State
D-028	Sumner Lake Stream Restoration Repair the eroded stream banks from just upstream of Sumner Lake to Grant Avenue. Stabilize and protect the stream from further erosion. This project may be eligible for Total Maximum Daily Load (TMDL) credit.	$ 4,750	Stormwater / State