

STORMWATER PROGRAM

The Stormwater Program is administered by the Engineering Department. Major Stormwater Division objectives include the following items:

- 1) Compliance with the General Permit for discharges of stormwater from the City's Small Municipal Separate Storm Sewer System (MS4), as issued by the Virginia Department of Environmental Quality (VADEQ). The MS4 permit requires:
 - Reduction in discharges of stormwater pollutants;
 - Water quality protection of streams and rivers within the City; and
 - Enforcement of State Water Control laws to satisfy water quality requirements.
- 2) Mitigation of flooding by assuring proper conveyance of stormwater runoff via infrastructure operations



Lucasville Regional Stormwater Pond

PRIOR YEAR ACCOMPLISHMENTS

The stormwater utility annually invests in ongoing and new projects to maintain and improve stormwater management. Full implementation of the adopted CIP will accrue sediment and nutrient pollution reduction credits. These credits apply to MS4 Stormwater Program requirements and Total Maximum Daily Load (TMDL) program requirements due in 2022 and 2028. Recent and ongoing projects include:

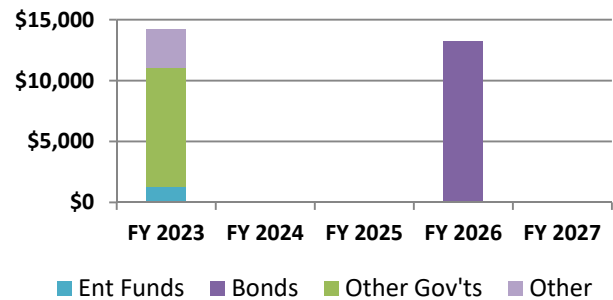
- 1) Stormwater facility repairs to Cannon Industrial and Sumner Lake Stormwater Management Facilities (SWMF);
- 2) Retrofit design completed for Lucasville, Round Elementary, and Sills Warehouse/Euclid Industrial Park SWMFs;
- 3) Liberia Stream Restoration Design
- 4) Winters Branch Regional SWMF Repair and Stream Restoration Design;
- 5) City-wide Stormwater Management Facility Deferred Maintenance Program;
- 6) Targeted Storm Sewer Investigations and Repair Preparations; and
- 7) Floodplain Assessment and Map Update Project.

THE FIVE-YEAR PLAN (FY 2023 – FY 2027)

The FY 2023 Five-Year Capital Improvement Program includes:

- \$1,240,000 Transfer from Stormwater Fund
- \$13,250,000 Bonds
- \$9,821,000 State and Federal Aid
- \$3,190,000 Other Sources

FY 2023 funding consists of a \$1,240,000 transfer from the Stormwater Fund; \$9,821,000 in State and Federal Aid; and \$3,190,000 in Other Sources.



(Dollars in Thousands)

FY 2023 CAPITAL PROJECTS

Major projects expected to begin construction:

- Euclid/Sills Warehouse SWMF Retrofit (D-009)
- Lucasville Regional SWMF Retrofit (D-039)

Major projects expected to complete design:

- Round Elementary SWMF Retrofit and Stream Restoration (D-036)
- Liberia Stream Restoration (D-027)

FY 2023 MAINTENANCE CAPITAL PROJECTS

Maintenance capital projects in the Stormwater Program include recurring maintenance of stormwater management facilities (D-029) and drainage infrastructure (D-035 & D-038) to ensure the integrity of the system, extend infrastructure lifespan, and reduce localized flooding issues. A multi-year project to update outdated FEMA floodplain maps (D-030) is also funded.

NEW CAPITAL PROJECTS

- Sumner Lake Stream Restoration (D-028)
- SWMF Annual/Deferred Maintenance (D-029)
- Public Facilities Improvements (D-034)
- Cannon Branch/Flat Branch Stream Restoration (D-040)
- Oakenshaw Regional Pond Retrofit (D-042)
- New Britain Regional Pond Retrofit (D-043)

SUMMARY OF STORMWATER CAPITAL PROJECTS

(\$ in Thousands)

Cost Estimates:	Prior Years	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Future	Total Project	5-Year CIP
Planning	771	1,375	-	-	850	-	-	2,996	2,225
Land	-	-	-	-	-	-	-	-	-
Construction	2,646	12,876	-	-	12,400	-	750	28,672	25,276
Total Cost	3,417	14,251	-	-	13,250	-	750	31,668	27,501
Funding Sources:									
General Fund	-	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	288	1,240	-	-	-	-	750	2,278	1,240
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	3,040	-	-	-	13,250	-	-	16,290	13,250
State	-	774	-	-	-	-	-	774	774
Federal	-	9,047	-	-	-	-	-	9,047	9,047
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	89	3,190	-	-	-	-	-	3,279	3,190
Total Funding	3,417	14,251	-	-	13,250	-	750	31,668	27,501
Operating Impacts:									
Revenue	-	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-	-
Program (Costs) Saving	-	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	(729)	(13,846)	(14,575)	(729)
Net Revenue	-	-	-	-	-	(729)	(13,846)	(14,575)	(729)

STORMWATER CAPITAL PROJECT LISTING

(\$ in Thousands)

Project Name	Prior Years	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Future	Total Project	5-Year CIP
Euclid/Sills Warehouse	699	-	-	-	-	-	-	699	-
Liberia Stream Restorati	2,470	-	-	-	-	-	-	2,470	-
Sumner Lake Stream Re	-	-	-	-	4,900	-	-	4,900	4,900
Public Facilities Stormwa	-	-	-	-	-	-	750	750	-
Round Elementary Pond	14	5,300	-	-	-	-	-	5,314	5,300
Cannon Branch/Winters	88	4,347	-	-	-	-	-	4,435	4,347
Lucasville Regional Pon	146	1,804	-	-	-	-	-	1,950	1,804
Cannon Branch/Flat Bra	-	-	-	-	6,400	-	-	6,400	6,400
Oakenshaw Regional Po	-	-	-	-	1,950	-	-	1,950	1,950
New Britain Regional Po	-	2,800	-	-	-	-	-	2,800	2,800
Total	3,417	14,251	-	-	13,250	-	750	31,668	27,501

D-028 Sumner Lake Stream Restoration

Year Introduced: 2023
Change: New Project
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Engineering
Manager: L. Kilby

Plan Conformance:
 CFI 7.4.7

Est. Start: 7/1/2025
Est. Complete: 6/30/2028



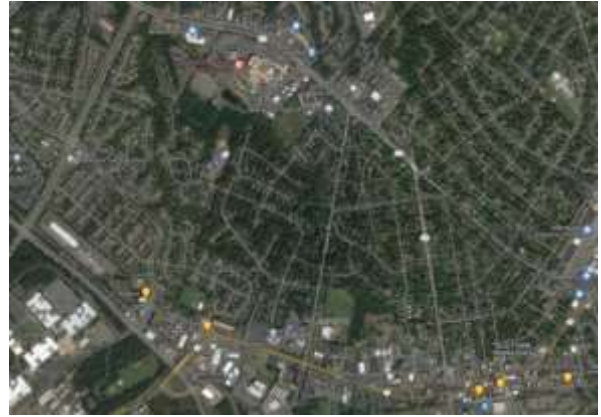
Description:

Repair the eroded stream banks from just upstream of Sumner Lake to Grant Avenue. Stabilize and protect the stream bank from further erosion. This project will qualify for Total Maximum Daily Load (TMDL) pollution reduction credit.

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Future	Total Project
Planning	-	-	-	-	600	-	-	600
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	4,300	-	-	4,300
Total Cost	-	-	-	-	4,900	-	-	4,900
Funding Sources: (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	4,900	-	-	4,900
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	-	-	-	-	4,900	-	-	4,900
Operating Impacts: (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	(270)	(5,120)	(5,390)
Net Revenue	-	-	-	-	-	(270)	(5,120)	(5,390)

D-040 Cannon Branch/Flat Branch Stream Restoration

Year Introduced: 2023
Change: New Project
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Engineering
Manager: L. Kilby



Plan Conformance:
 CFI 7.4.7

Est. Start: 7/1/2025
Est. Complete: 6/30/2030

Description:

Continuation of streambank stabilization efforts in and around the City, focusing on drainage areas between Liberia Avenue and Wellington Road, from Godwin Drive to Rt. 28. This project will result in Total Maximum Daily Load (TMDL) pollution reduction credit.

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	6,400	-	-	6,400
Total Cost	-	-	-	-	6,400	-	-	6,400
Funding Sources: (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	6,400	-	-	6,400
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	-	-	-	-	6,400	-	-	6,400
Operating Impacts: (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	(352)	(6,688)	(7,040)
Net Revenue	-	-	-	-	-	(352)	(6,688)	(7,040)

D-042 Oakenshaw Regional Pond Retrofit

Year Introduced: 2023
Change: New Project
Associated Proj: N/A
Program Area: Stormwater
Managing Dept: Engineering
Manager: L. Kilby



Plan Conformance:
 CFI 7.4.7

Est. Start: 7/21/2022
Est. Complete: 6/30/2028

Description:

Retrofit of existing City stormwater management facility for TMDL pollution reduction credits. Requirement for MS4 permit compliance by 2028 deadlines. Proposed improvements will be dependent on results of the feasibility study.

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Future	Total Project
Planning	-	-	-	-	250	-	-	250
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	1,700	-	-	1,700
Total Cost	-	-	-	-	1,950	-	-	1,950
Funding Sources: (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Sewer Fund	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-
Stormwater Fund	-	-	-	-	-	-	-	-
Airport Fund	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	1,950	-	-	1,950
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-
Total Funding	-	-	-	-	1,950	-	-	1,950
Operating Impacts: (\$ in 1,000s)								
Revenue	-	-	-	-	-	-	-	-
Staffing (Costs) Savings	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	(107)	(2,038)	(2,145)
Net Revenue	-	-	-	-	-	(107)	(2,038)	(2,145)

STORMWATER MAINTENANCE CAPITAL PROJECT LISTING

(\$ in Thousands)

The City identifies Capital Projects as projects with a cost greater than \$100,000 **and** a useful life of 10+ years. The City recognizes that there are additional projects/needs that are capital in nature but do not meet the requirement set forth for a capital project. These additional projects/needs are considered Maintenance Capital Projects, a list of which is provided below for the Stormwater Program.

Project Name	Prior Years	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Future	Total Project	5-Year CIP
Drainage Maintenance &	643	500	500	500	500	500	-	3,143	2,500
Floodplain Mapping Upd	320	125	125	125	125	125	-	945	625
SWMF Annual/Deferred	105	900	375	375	-	-	-	1,755	1,650
Upstream Inspections &	500	550	500	500	500	500	-	3,050	2,550
Total Cost	1,568	2,075	1,500	1,500	1,125	1,125	-	8,893	7,325

Funding Sources

General Fund	500	500	500	500	500	500	-	3,000	2,500
Sewer Fund	-	-	-	-	-	-	-	-	-
Water Fund	-	-	-	-	-	-	-	-	-
Electric Fund	-	-	-	-	-	-	-	-	-
Stormwater Fund	1,068	1,525	1,000	1,000	625	625	-	5,843	4,775
Airport Fund	-	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-	-
Federal	-	50	-	-	-	-	-	50	50
NVTA	-	-	-	-	-	-	-	-	-
Other Sources	-	-	-	-	-	-	-	-	-
Total Funding	1,568	2,075	1,500	1,500	1,125	1,125	-	8,893	7,325