



STORM SEWER UTILITY

*Town Council
October 16, 2023*



Mission Statement

The Storm Sewer Utility is dedicated to improving health, safety and welfare in the Borough of Chambersburg by providing for the safe and efficient capture and conveyance of stormwater runoff resulting from development by enforcing the Borough's Stormwater Management Code, by maintaining compliance with the Borough's municipal separate storm sewer system (MS4) permit and through construction and maintenance of the Borough's storm sewer system according to sound financial resource and capital improvements management.

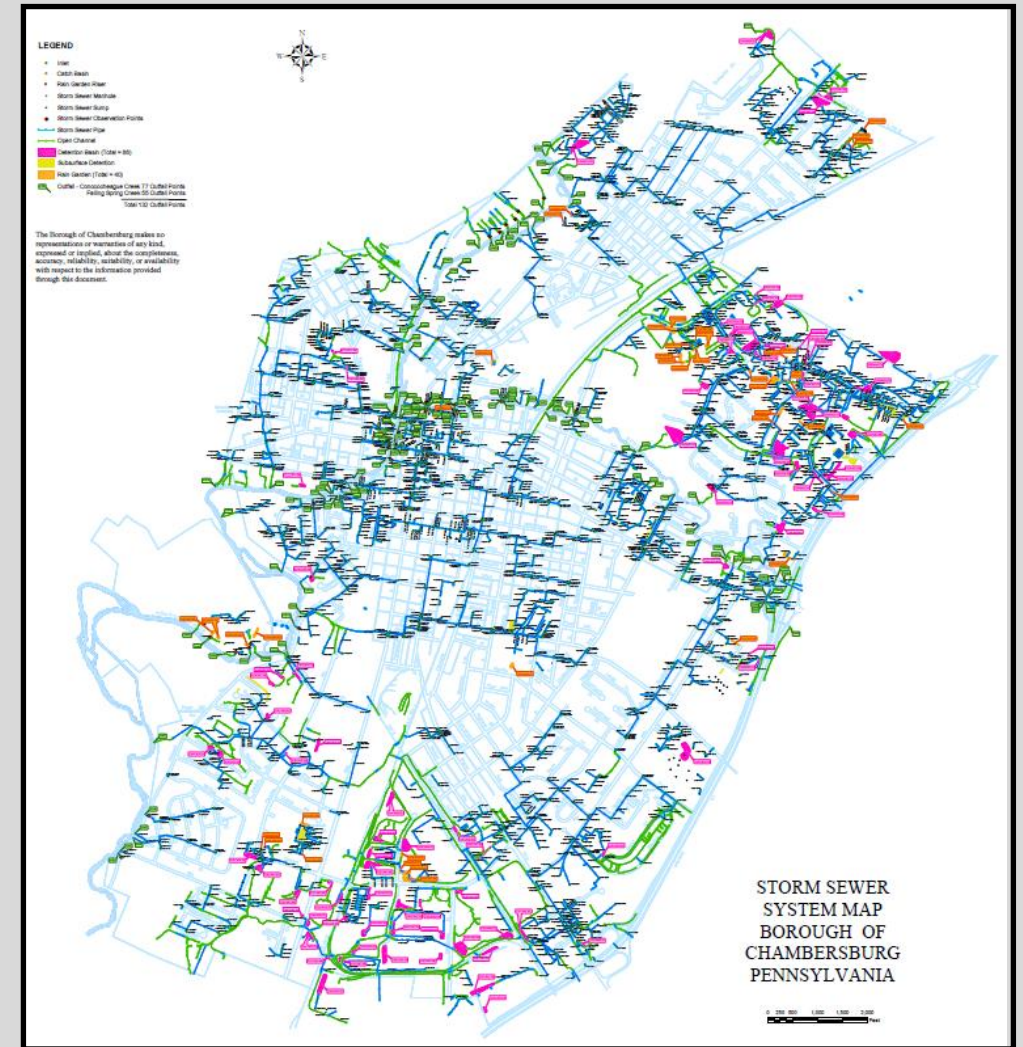


STORM SEWER UTILITY STAFF
Andy Stottlemeyer, Storm Sewer System Manager
Robert Nolan, Storm Sewer System Inspector
Amber Kerstetter, Utilities Secretary II
Penny Morrison, Utilities Secretary II
Brian Fogal, Civil Engineering Supervisor
Chris Bain, GIS Manager
Rod Shuman, GIS Technician
Phil Wolgemuth, Deputy Borough Manager

Storm Sewer System

The Borough storm sewer system is comprised of the following:

- 3,151 inlets (3,004 inlets and 147 catch basins)
- 138 outfalls to Conococheague Creek and Falling Spring Creek
- 189 subsurface detention areas
- 99 detention basins
- 81.82 miles of pipe
- 54 rain gardens
- 32.01 miles of open channels



MS4 Permit



The Borough municipal separate storm sewer system (MS4) operates under Pennsylvania Department of Environmental Protection NPDES General Permit No. PAG 133704, of which coverage commenced on June 1, 2018 and will expire at midnight on March 15, 2025.

In 2018, a new NPDES General Permit, along with a Chesapeake Bay Pollutant Reduction Plan, was approved by the Pennsylvania Department of Environmental Protection (DEP). The Borough has until March 15, 2025 to achieve pollutant loading reductions for sediment, total nitrogen, and total phosphorous.

The MS4 Permit requires the Borough to operate a stormwater management program to address the following Minimum Control Measures:

- MCM 1. Public Education and Outreach on Stormwater Impacts
- MCM 2. Public Involvement and Participation
- MCM 3. Illicit Discharge Detection and Elimination
- MCM 4. Construction Site Stormwater Runoff Control
- MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment
- MCM 6. Pollution Prevention and Good Housekeeping

Intergovernmental Cooperation Agreements

Town Council approved Intergovernmental Cooperation Agreements with Hamilton Township and St. Thomas Township to provide Stormwater Management Program Administrative Services for their MS4 Permits and Pollutant Reduction Plans that were approved by the Pennsylvania Department of Environmental Protection.

Services provided by the Storm Sewer Utility:

- Prepare MS4 Annual Report.
- Public education, outreach, involvement and participation.
- Code enforcement.
- Develop and implement operation and maintenance program for Township facilities.
- Develop and implement training program for Township employees to ensure prevention of pollutants from municipal operations to the MS4.

\$2,179.02 invoiced for services provided through September 30, 2023

\$5,405.22 received for services provided in 2022

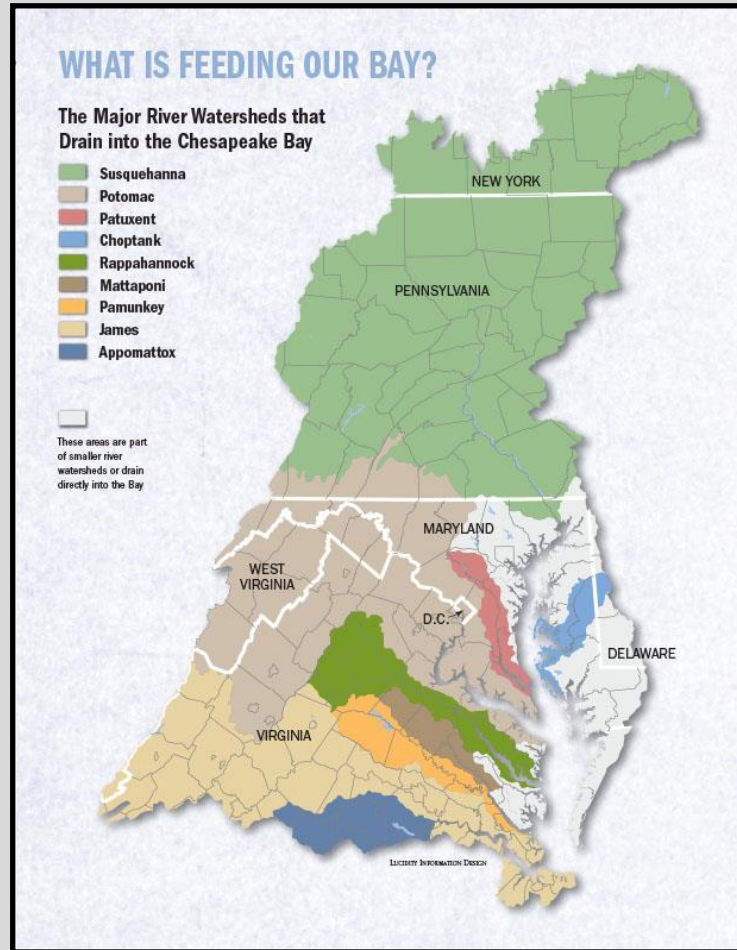
\$2,918.61 received for services provided in 2021

\$3,068.21 received for services provided in 2020

\$7,470.70 received for services provided in 2019

\$602.98 received for services provided in 2018

Chesapeake Bay Pollutant Reduction Plan



Implement Best Management Practices (BMPs) to produce tangible improvements to the quality of stormwater discharges in the Chesapeake Bay Watershed.

Herbert, Roland, and Grubic, the Borough's storm sewer engineering consultant, prepared a Chesapeake Bay Pollutant Reduction Plan that was submitted to the Pennsylvania Department of Environmental Protection in 2017 for review along with the Borough's Notice of Intent for general MS4 Permit renewal coverage.



To date, completion of Best Management Practices projects approved through the plan have resulted in meeting 25% of the Borough's nutrient reduction goal of 417,247 pounds per year.

Chesapeake Bay Pollutant Reduction Plan

Best Management Practices projects were approved through the plan, which are intended to reduce the amount of nitrogen, phosphorous and sediment that are conveyed into the Falling Spring Creek and Conococheague Creek, which ultimately flows to the Chesapeake Bay via the Potomac River.

The Borough is responsible for funding these projects, with progress to be evaluated by DEP when our MS4 Permit expires on March 15, 2023.

Projects completed or in planning stages:

1. *Fifth Ave. Extension (complete)*
2. *Gilbert Avenue (complete)*
3. *Rhodes Drive (complete)*
4. *Central Avenue Parking Lot Rain Garden (complete)*
5. *Harrison Drive Inlet Filter (complete)*
6. *Fourth Street (complete)*
7. *South Main Street (complete)*
8. *Wolf Ave. Rail Trail (construction contact awarded 2023)*
9. *South Fourth Street (finance and construct 2024-2026)*

Table 6: Proposed BMPs

Site	BMP ID	BMP Type	Drainage Area (acres)	Length (ft)	Pollutant Load Reduction TSS (lbs/yr)
Rhodes Drive	BMP-1A	Bioswale	2.39	n/a	2,766
	BMP-1B	Pervious Pavement	0.31	n/a	81
Fifth Ave Extension	BMP-2	Subsurface Infiltration	6	600	3,879
Elder Street / W Commerce Street	BMP-3A	Subsurface Infiltration	9.2	n/a	5,047
	BMP-3B	Streambank Restoration	n/a	1,400	62,832
	BMP-3C	Subsurface Infiltration	9.18	n/a	5,036
	BMP-3D	Bioretention	4.35	n/a	3,580
Stevens Elementary	BMP-4A	Streambank Restoration	n/a	500	22,440
	BMP-4B	Riparian Buffer	12.38	n/a	6,670
Wilson College	BMP-5	Bioretention	103.5	n/a	100,368
Mill Creek Acres Park	BMP-6	Bioretention	100	n/a	96,974
Nitterhouse Park	BMP-7	Bioretention	7.2	n/a	5,925
Wolf Ave Rail Trail	BMP-8A	Bioretention Pocket	5.08	100	4,926
	BMP-8B	Bioretention Pocket	4.59	100	4,451
	BMP-8C	Bioretention Pocket	4.02	100	3,898
	BMP-8D	Bioretention Pocket	6.22	100	6,032
	BMP-8E	Bioretention Pocket	5.28	100	5,120
Fourth Street	BMP-9	Streambank Restoration	n/a	250	11,220
South Fourth Street	BMP-10	Subsurface Infiltration	29.3	n/a	16,074
Ludwig Ave Parking Lot	BMP-11	Subsurface Infiltration	2.52	100	1,383
South Main Street	BMP-12A	Stream Restoration	n/a	675	30,294
	BMP-12B	Riparian Buffer	7.06	675	3,804
Sheffler Drive	BMP-13	Riparian Buffer	31.6	n/a	14,447
Total					417,247

2023 Accomplishments

- Welcomed Penny Morrison, Utilities Secretary;
- Successfully completed Pennsylvania Department of Environmental Protection monitoring for MS4 Permit;
- Hired David H. Martin Excavating to complete the South Main Street Stormwater BMP Implementation Project for total cost of \$284,452.50, which was partially funded with Watershed Restoration and Protection Program grant;
- Hired Fayetteville Contractors to complete the Center Street Improvements Project, Phase 2 for total cost of \$421,735.73, which is funded with CDBG and Storm Sewer Capital Reserve;
- Hired Flyway Excavating to complete the Falling Spring Streambank Restoration Project, Phase 2 for total cost of \$19,500, which is funded with Watershed Restoration and Protection Program grant;
- Hired FlockWorks to provide guided goat grazing to clear overgrown land along the banks of the Conococheague Creek adjacent to the Rail Trail for a total cost of \$5,651.58;
- Secured grant funding through the PA Fish and Boat Commission Boating Facility Grant program in the amount of \$58,500 for the Conococheague Creek Adaptive Canoe and Kayak Launch at the Chambersburg Rail Trail;
- Secured grant totaling \$220,000 from the Chesapeake Bay Trust Green Streets, Green Jobs, Green Towns program to complete the Chambersburg Rail Trail Stormwater Management Project, BMP project proposed through Chesapeake Bay Pollutant Plan;
- Hired Biohabitats to develop a conceptual plan for the Falling Spring Presbyterian Church Floodplain Restoration Project and to add the project to the Chesapeake Bay Pollutant Reduction Plan;
- Issued 8 Stormwater Management Code violation notices;
- Through September 30, 2023, spent \$53,098.29 on various storm sewer system maintenance projects and estimate spending \$20,000 more through December 31, 2023.

2023 Accomplishments



Falling Spring Streambank
Restoration Project



FlockWorks Guided Goat Grazing



South Main Street
Stormwater BMP
Implementation Project

Storm Sewer Pollution Control Fee and Credit Program

Storm Sewer Pollution Control Fees are classified in two ways; (1) as single-family residential, with those customers being charged one Equivalent Residential Unit (ERU) per month, and (2) as non-single-family residential (commercial, industrial and institutional), with those customers being charged based on the number of ERUs as a result of impervious area on their parcel. ERU is the average impervious area of all single-family residential properties in the Borough. One ERU equals 2,920 square feet. In essence, how many houses is a non-single-family residential parcel equivalent to in comparison to the average impervious surface of a single-family home.

There are currently 7,182 single-family residential and 745 non-single-family residential customers paying for 18,552 ERUs encompassing 54,171,840 square feet of impervious area. Of the 18,552 ERUs, 7,182 are for single-family residential customers and 11,370 are for non-single-family residential customers.

LAND USE	CUSTOMERS	SQUARE FEET	PERCENTAGE TOTAL
Single-family	7,182	20,971,440	39%
Non-single-family	745	33,200,400	61%
Total	7,927	54,171,840	

Storm Sewer Pollution Control Fee and Credit Program



Borough of Chambersburg
Storm Sewer Management Program Credit Policy Manual

As approved by Town Council on December 13, 2021

As revised by Town Council on December 12, 2022

As revised by Town Council on February 13, 2023

As revised by Town Council on September 25, 2023

Three different credits are offered as means for customers to reduce monthly Storm Sewer Pollution Control Fees by implementing Best Management Practice (BMPs) activities to reduce the contribution of stormwater and pollutants to the storm sewer system and/or to aid in meeting MS4 permit obligations.

1. Single-family residential customers that attend Borough sponsored educational programs that comply with the MS4 Minimum Control Measure (MCM) for Public Education.
2. Non-single-family residential customers that install and maintain structural BMPs on their property that comply with the Borough's Stormwater Management Code.
3. Any customer that provides an easement for BMPs to be installed on their property to comply with the MS4 permit or Chesapeake Bay Pollutant Reduction Plan.

Storm Sewer Pollution Control Fee and Credit Program

PUBLIC EDUCATION CREDIT	Educational program to be offered in Council Chambers on Tuesday, December 12, 2023 at 7:00 p.m. Single-family residential customers that attend will receive reimbursement for one per ERU fee (\$5).
STRUCTURAL BMP CREDIT	<p>All non-single-family residential customers receive a 30% Structural BMP Credit for a period of one year, from January 1 through December 31, 2023.</p> <ul style="list-style-type: none"> • 30% credit offered for structural BMPs that were installed on a customer's property after June 20, 2004 when Town Council first adopted Stormwater Management Code. • 15% credit offered for structural BMPs that were installed on a customer's property before June 20, 2004 when Town Council first adopted Stormwater Management Code. • 30% credit offered for customer properties where structural BMPs were installed before and after June 20, 2004 when Town Council first adopted Stormwater Management Code. <p>140 of 745 non-single-family customers have structural BMPs with 23 customers approved for 30% credit and 7 approved for 15 % credit.</p>
EASEMENT CREDIT	No easement credits issued to date.
IMPERVIOUS AREA REDUCTION	No impervious area reductions approved to date.

Storm Sewer Pollution Control Fee and Credit Program

STORM SEWER POLLUTION CONTROL FEE CUSTOMERS WITH APPROVED BMPS						
	Customer	Address	ERU	ERU w/ Credit	Percentage	Annual Revenue
1	Chambersburg Area School District	N. Franklin St./S. Sixth St./Stanley Ave.	550.5	385	30%	\$23,100
2	Wilson College	Philadelphia Ave.	360	252	30%	\$15,120
3	Ventura Foods	Orchard Dr.	360	252	30%	\$15,120
4	Keystone Sheets	Nitterhouse Dr.	219.5	186.5	15%	\$11,190
5	Borough of Chambersburg Recreation Department	Various Locations	168	130.5	30%	\$7,830
6	Borough of Chambersburg WWTP	Hollywell Ave.	186	130	30%	\$7,800
7	Keystone Rural Health Center	Chambers Hill Dr./Fifth Ave.	148.5	104.5	30%	\$6,270
8	Keystone Ford	Walker Rd.	114.5	80	30%	\$4,800
9	Chambersburg Square	Norland Ave.	104	72.5	30%	\$4,350
10	Franklin County	N. Main St./N. Second St.	95	67	30%	\$4,020
11	Franklin Logistics	Sheffler Dr.	78.5	66.5	15%	\$3,990
12	Jennings Chevrolet Buick GMC	Norland Ave.	83	58	30%	\$3,480
13	Cluggy's Amusement Center	Bedington Blvd.	63.5	54	15%	\$3,240
14	All Boxed Up	S. Main St.	72	50.5	30%	\$3,030
15	Patriot Federal Credit Union	Wayne Ave.	65	45.5	30%	\$2,730

Storm Sewer Pollution Control Fee and Credit Program

STORM SEWER POLLUTION CONTROL FEE CUSTOMERS WITH APPROVED BMPS						
	Customer	Address	ERU	ERU w/ Credit	Percentage	Annual Revenue
16	Gateway Shopping Center	Gateway Ave.	48	33.5	30%	\$2,010
17	First United Methodist Church	S. Second St.	41.5	29	30%	\$1,740
18	The Orchards	Orchard Dr.	41.5	35.5	15%	\$2,130
19	Chambersburg Bible Church	Orchard Dr.	31.5	27	15%	\$1,620
20	Abe's Auto Service	S. Main St.	39	27.5	30%	\$1,650
21	Orchard Park Commons	Orchard Dr.	39	27.5	30%	\$1,650
22	The Butcher Shoppe	Stouffer Ave.	38.5	27	30%	\$1,620
23	Tolbert Masonry	Hollywell Ave.	28	24	15%	\$1,440
24	Sheetz	Norland Ave.	25	17.5	30%	\$1,050
25	Mission Hill Church	Pleasant St.	21.5	15	30%	\$900
26	Parkview Corner	E. South St.	15	10.5	30%	\$630
27	Pavilion Shoppes	Walker Rd.	13	9	30%	\$540
28	Simple Choice Cremation Services	Orchard Dr.	11	9.5	15%	\$570
29	Bruster's Real Ice Cream	Gateway Ave.	7	5	30%	\$300
30	Royer's Flowers & Gifts	St. Paul Dr.	5	3.5	30%	\$210

Storm Sewer Pollution Control Fee and Credit Program

Town Council set the 2023 per month per ERU fee at \$5 with single-family residential customers charged one ERU (\$5 per month) and all other customers (non-single-family residential) charged ERUs based on the amount of impervious area on their property. All non-single-family residential customers receive a 30% Structural BMP Credit for a period of one year, from January 1 through December 31, 2023. Noncompliance as of December 31, 2023 will automatically eliminate the 30% credit with the first full utility billing cycle in January 2024 for those customers who do not qualify.

2023 STORM SEWER POLLUTION CONTROL FEE				
Fee Amount	Credit	Single-family	Non-single-family	Total Annual Revenue
\$5 per month	30%	\$430,920*	\$676,440	\$1,107,360
* Single-family residential customers that attend educational program on December 12, 2023 will receive reimbursement for one per ERU fee (\$5).				

CUSTOMERS	IMPERVIOUS AREA	IMPERVIOUS AREA PERCENTAGE	REVENUE PERCENTAGE
Single-family	20,971,440 sf	39%	47%
Non-single-family	33,200,400 sf	61%	53%

Storm Sewer Pollution Control Fee and Credit Program

For 2024, staff recommends continuing \$5 per month ERU fee with single-family residential customers charged one ERU (\$5 per month) and all other customers (non-single-family residential) charged ERUs based on the amount of impervious area on their property. Staff recommends eliminating the 30% Structural BMP Credit for all non-single-family residential customers, which was provided in 2022 and 2023. To date, 30 of 745 customers have been approved for permanent 15% or 30% Structural BMP Credit, which accounts for 799.5 credits, reducing non-single-family residential ERUs from 11,370 to 10,570.5.

2024 STORM SEWER POLLUTION CONTROL FEE			
Customers	Fee Amount	ERUs	Total Annual Revenue
Single-family	\$5 per month	7,182	\$430,920
Non-single-family with credit	\$5 per month	2,105	\$126,300
Non-single-family without credit	\$5 per month	14,284	\$857,040
Total		23,571	\$1,414,260

CUSTOMERS	IMPERVIOUS AREA	IMPERVIOUS AREA PERCENTAGE	REVENUE PERCENTAGE
Single-family	20,971,440 sf	39%	30%
Non-single-family	33,200,400 sf	61%	70%

2024 Goals and Recommendations

- Implement Phase 1 of pipe camera inspection and cleaning project, which is estimated to cost \$1,500,000 over several phases/years;
- Expend \$220,000 Chesapeake Bay Trust Green Streets, Green Jobs, Green Towns Program grant, plus \$86,574 from Capital Reserve, to complete Chambersburg Rail Trail Stormwater Management Project, BMP project proposed through Chesapeake Bay Pollutant Plan;
- Expend \$58,500 Pennsylvania Fish and Boat Commission grant, plus \$46,500 from Capital Reserve, to complete Conococheague Creek Adaptive Canoe and Kayak Launch at the Chambersburg Rail Trail;
- Work with Dennis E. Black Engineering, Inc. to prepare plans and bid specifications for the South Fourth/Fifth Street Storm Sewer System Improvements Project, to be funded with Capital Reserve, plus bond;
- Work with Dennis E. Black Engineering, Inc. to prepare plans and bid specifications for the Southgate Shopping Center Storm Sewer System Improvements Project, to be funded with \$2.6M United States Army Corps of Engineers grant, plus bond;
- Work with Community and Economic Development Office and Engineering Office to complete the Meeting Place Greenway Project, to be funded with \$365,893 CDBG-CV;
- Complete the Pleasant Street Storm Sewer Improvements Project, which will hopefully be funded with a Franklin County Conservation District Dirt, Gravel and Low Volume Road grant, plus Capital Reserve;
- Prepare and advertise bid specifications to hire contractor to complete storm sewer system improvements in conjunction with 2024 street improvements, to be funded with Capital Reserve;

2024 Goals and Recommendations

- If funded by the Federal Emergency Management Agency, participate in the Loudon Street Flood Mitigation Project for the Borough to acquire the property at 195 Loudon Street, relocate its current use, demolish the structure and to establish permanent use of the site as passive recreation land;
- Prepare RFP to hire engineering consultant for Stormwater Management Plan and capital improvement project design, cost estimate and management services, which was last completed in 2017;
- Prepare RFP to hire consultant for aerial photography and impervious coverage analysis, which was last completed in 2018;
- Work with the Solicitor and consulting engineer to prepare application to renew MS4 Permit and update the Stormwater Management Code;
- Establish a program to better inform property owners of maintenance requirements for BMPs on their property;
- Establish better capital improvements planning program by using data from pipe camera inspection;
- Bring back the goats! Hire FlockWorks to provide guided goat grazing to clear overgrown land along the banks of the Conococheague Creek and other areas requiring maintenance;
- Ask Town Council to consider elimination of the Storm Sewer Utility Rate Structure and Credit Program Advisory Committee and to determine what, if any, Storm Sewer Utility items should be addressed by the Intermunicipal Water, Wastewater and Stormwater Liaison Committee.

2024 Revenue and Expenditure Recommendations

- Staff recommends eliminating the 30% Structural BMP Credit for all non-single-family residential customers, which was provided in 2022 and 2023;
- Staff also recommends seeking \$5M bond to fund Capital Improvements Projects for 2024/2025/2026, with annual debt service to be paid with revenue from Storm Sewer Pollution Control Fee. The bond itself does not necessitate a rate increase now but may if more construction projects are needed in the future;
- No personnel or vehicle changes recommended for 2024. Vehicle fleet includes 2020 Ford F Series Truck;

Storm Sewer Pollution Control Fee \$5 per ERU	\$1,414,260
Hamilton Township and St. Thomas Township	\$5,000
Other revenue	\$5,000
Total	\$1,424,260
Revenue	\$1,424,260
Operations	\$500,000
Maintenance/Capital Improvements/Bond Payments	\$924,260
Capital Reserve Balance September 30, 2023	\$1,938,150

Capital Improvements Projects Bond (2024/2025/2026)

1	Southgate Shopping Center Storm Sewer System Improvements Project	\$2,613,892
2	S. Fourth/Fifth St. Storm Sewer System Improvements Project	\$1,212,278
3	Conococheague Creek Floodplain Mitigation Project	\$650,000
4	Industrial Dr. Storm Sewer Improvements	\$550,000
5	Papermill Rd. Dam Removal	\$380,000
6	Fifth Ave. Drainage Conveyance Upgrades	\$275,000
7	Streambank Stabilization at Water Wheel	\$250,000
8	Large Inlet Replacement Project	\$220,000
9	N. Fourth St. Box Culvert Replacement	\$200,000
10	Storm Sewer Upgrades at Lincoln Way East	\$150,000
11	S. Main St. Storm Sewer Upgrades	\$100,000
12	Hood St. Inlet Relocation	\$75,000
13	Limekiln Dr. Storm Sewer Replacement	\$50,000
14	Pleasant St. Storm Sewer Improvements	\$50,000
15	Slotted Drain Removal (Various Locations)	\$50,000
16	Stouffer Ave. Storm Sewer Upgrades	\$50,000
17	Harrison Dr. Pipe Lining	\$40,000
18	Hudson Ave. (Edgar Ave. to Philadelphia Ave.)	\$30,000
	Total	\$6,946,170

Capital Improvements Projects No Bond and Future

1	Pipe Camera Inspection and Cleaning Project (2024/2025/2026)	\$1,500,000
2	Chambersburg Rail Trail Stormwater Management Project (2023/2024)	\$306,574
3	Conococheague Creek Adaptive Canoe and Kayak Launch at the Chambersburg Rail Trail (2024)	\$105,000
4	Pleasant St. Storm Sewer System Improvements Project (2024)	\$30,000
5	Commerce St. Storm Sewer Upgrades	TBD
6	Elder St/Commerce St. (CBPRP BMP Project)	TBD
7	Falling Spring Presbyterian Church Floodplain Restoration Project (CBPRP BMP Project)	TBD
8	Floodplain Restoration at Long John Silver's	TBD
9	Grandview Ave. Storm Sewer Upgrades	TBD
10	Grant St. Storm Sewer System Improvements Project	TBD
11	Hollywell Ave. Pipe Installation	TBD
12	Industrial Dr. Storm Sewer Improvements	TBD
13	King St. Storm Sewer System Improvements Project	TBD
14	Ludwig Ave. Parking Lot (CBPRP BMP Project)	TBD
15	Mill Creek Acres Park (CBPRP BMP Project)	TBD
16	Nitterhouse Park (CBPRP BMP Project)	TBD
17	Sheffler Dr. (CBPRP BMP Project)	TBD
18	Stevens Elementary School (CBPRP BMP Project)	TBD
19	Wilson College (CBPRP BMP Project)	TBD