December 7, 2023

City of Staunton
Stormwater Utility Fee Analysis/Study

This report summarizes Wiley Wilson's evaluation of Staunton's Stormwater Management (SWM) and Municipal Separate Storm Sewer System (MS4) Program's cashflow from fiscal year (FY) 2024 to FY 2030. Six Stormwater (SW) utility fee adjustment scenarios have been developed to provide revenue to support Staunton's SWM/MS4 program costs. The existing fee structure was evaluated to determine the equitability of charges between the residential and non-residential properties. A review of fee crediting was also conducted to determine the appropriateness of current program.

PROJECTED COSTS TO FUND THE CITY OF STAUNTON SWM/MS4 PROGRAMS (TABLE 1)

The costs for the Staunton SWM/MS4 program fall into six categories: 1) Administrative, 2)Capital, 3) TMDL projects, 4) Flooding, 5) Vehicles/Equipment, and 6) Depreciation of Enterprise. The City provided Wiley|Wilson with data on the administrative, capital, and depreciation costs for the past two fiscal years. Using the last complete year (FY 2022) as a starting point, these costs are projected to increase by 3% every year from FY 2024 to 2030.

A value of $300,000 was included in the study for new equipment. This cost was split between two years assuming the expense will be a planned purchase for new equipment that will support the SWM/MS4 program. This value could also be a shared expense between other Staunton enterprise funds that share equipment.

Wiley|Wilson assumed Staunton has already budgeted for or appropriated the capital required to comply with the Total Maximum Daily Load (TMDL) obligations in the L2 permit cycle (ending July 1, 2023). The costs to comply with the obligations for the 2023-2028 permit cycle are sourced from the TMDL/MS4 presentation made to the Council in February 2023. The current proposed project list for TMDL compliance includes:

- Asylum Creek (in front of The Villages) Restoration - $850,000 (2025 - 2026)
- Staunton High School Stream Restoration - $1,350,000 (2026 – 2027)
- Green Hills Ponds Retrofit for Quality Credit- $2,500,000 (2025 – 2028)
- Public/Private BMP Retrofit Projects for Quality Credit - $7,000,000 (2025 - 2028)

The city has experienced significant flooding in recent years. The evaluation includes developing an annual allotment to pay for projects to mitigate flooding/flood damage. For the purposes of this study, the flooding allotment value is $100,000 per year.

TABLE 1: PROJECTED STAUNTON SWM/MS4 PROGRAM COST							
	2024	2025	2026	2027	2028	2029	2030
Admin.	$ 273,355	$ 281,554	$ 290,003	$ 298,701	$ 307,663	$ 316,893	$ 326,398
Capital	$ 292,804	$ 301,588	$ 310,636	$ 319,955	$ 329,554	$ 339,441	$ 349,624
TMDL	$ -	$ 1,170,000	$ 2,340,000	$ 3,510,000	$ 3,510,000	$ 1,170,000	$ -
Flooding	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
Veh/Equip.	$ -	$ -	$ -	$ -	$ 150,000	$ 150,000	$ -
Deprec.	$ 510,717	$ 526,039	$ 541,820	$ 558,075	$ 574,817	$ 592,061	$ 609,823
Total	$ 1,176,876	$ 2,379,181	$ 3,582,459	$ 4,786,731	$ 4,972,034	$ 2,668,395	$ 1,385,845

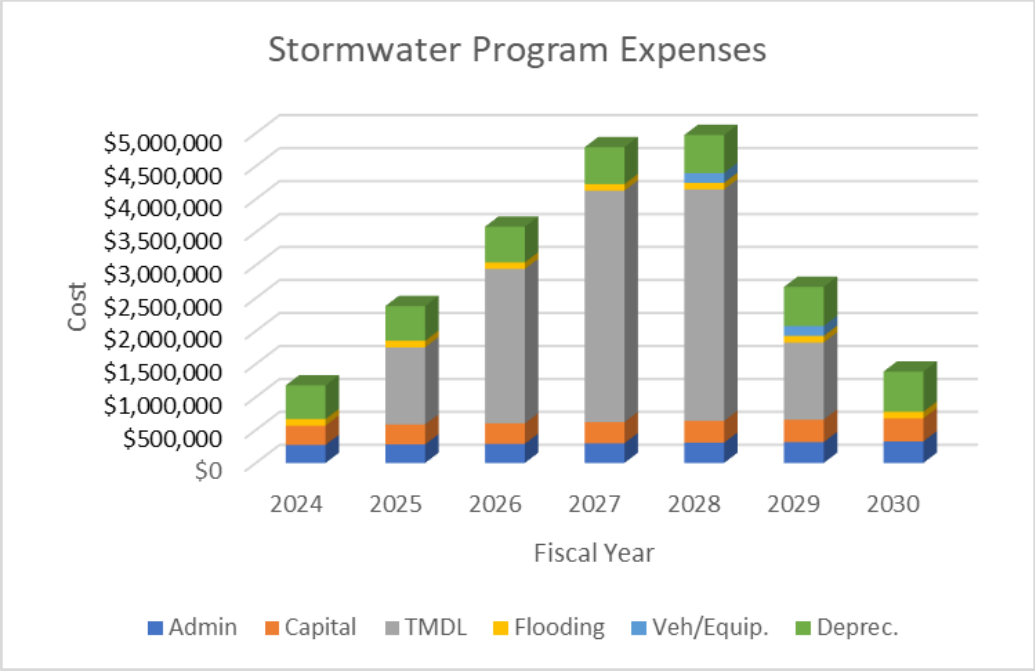

Figure 1

SW UTILITY FEE

The sole source of income for the SWM/MS4 program is the Stormwater (SW) utility fee. Staunton has an 18-tier system based on square footage of impervious area per parcel.

The fee for each tier is based on an Equivalent Residential Unit (ERU) charge of $3.20 per ERU which is based on the square footage of impervious area. Tier 1(0-3400 sq. ft. of impervious area) is equivalent to one ERU and represents the minimum applied user fee. City code exempts cemeteries, City-owned parcels, State and Federal-owned parcels with SW management, and contiguous lots from the SW utility fee.

A review of the SW utility fee equitability was performed to ensure that the 18-tier system was distributing the SW utility fee proportionally to the impervious area of each user group. This evaluation revealed that the tier system does adequately distribute the fee in an equitable manner when comparing residential and non-residential classes. This equitable distribution is based on baseline fee distribution and does not consider the impacts of the SW utility fee program crediting.

CREDITS

Staunton offers annual credits to property owners for constructing, operating, and maintaining SW quality and quantity Best Management Practices (BMPs)on their property. A 3-tier reduction for a quantity BMP and 3 tier reduction for a quality BMP for an allowable total of a 6-tier reduction and/or credit.

Twenty four percent of the parcels in the city claim at least one BMP which reduces the SW utility fee revenue currently received by 25%. This reduction of revenue is primarily attributed to commercial properties. These reductions cause the distribution of the SW utility fee to be less equitable and put a higher proportion of the revenue generation on residential users. Typically, other localities SW utility fee programs result in only a 5% reduction in revenue, as a result, their crediting programs has fewer of these credit applications. A review of the City's crediting program points to some issues with the existing crediting allowance.

Staunton's SW utility fee crediting program does not require an annual renewal to maintain the claimed credit. Annual credit renewal is a mechanism that other localities use to ensure that property and business owners are maintaining their SW BMPs. Renewals require that a third-party professional evaluate the BMP annually to verify it is functioning properly and is still providing for proper detention and nutrient reduction as designed. BMP's that are not maintained are prevented from obtaining credit through this process.

Staunton's crediting program also allows for users to reduce their fee up to 6 tiers for BMPs that provide a water quality and quantity benefit. There is potential crediting that exceeds typical maximum reductions by using these tier reductions as the crediting strategy. An example of the excessive crediting value can be seen in the application of a 6-tier credit to a Tier 18 property. In this example, the standard charge would be $2,464.54 bi-monthly; however, the 6-tier maximum credit currently allowed would result in a charge of only $233.84 bi-monthly. This represents a 90% reduction that far exceeds values typically observed in other localities. This 90% reduction also exceeds the percent value of the standard operating costs of the program. The administrative and capital costs to operate the SWM/MS4 program represents approximately 50% of the total program costs. Other localities in Virginia limit the reduction to a percentage of the fee initially charged, typically only up to 40 or 50% of the SW utility fee. These localities define the maximum credit benefit because there is baseline cost that must be accounted for regardless of an individual user's impact.

CASH FLOW

The City of Staunton provided Wiley|Wilson with their spreadsheet for tracking credits, calculating revenues and GIS files of the impervious area in Staunton. Wiley|Wilson independently calculated the yearly income from the SW utility fee to verify the City's accounting and serve as a platform for modifications to the fee amount and structure. The estimated yearly income from the SW utility fee was calculated by assigning a tier to each eligible parcel within the city according to Table 2, below, then summing the corresponding rates over all the parcels and multiplying by 12. The parcels exempted by the contiguous lot exception were not estimated for this study. The incomes calculated by Wiley|Wilson were 10% higher than those calculated by the City for FY 23, which may be related to the contiguous lot exemption.

TABLE 2: CURRENT SW UTILITY FEE

Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 3.20	10	70,001	80,000	$ 92.31
2	3,401	6,800	$ 6.28	11	80,001	90,000	$ 104.62
3	6,801	10,000	$ 10.34	12	90,001	100,000	$ 116.92
4	10,001	20,000	$ 18.46	13	100,001	200,000	$ 184.62
5	20,001	30,000	$ 30.77	14	200,001	300,000	$ 307.69
6	30,001	40,000	$ 43.08	15	300,001	400,000	$ 430.77
7	40,001	50,000	$ 55.38	16	400,001	500,000	$ 553.85
8	50,001	60,000	$ 67.69	17	500,001	1,000,000	$ 923.08
9	60,001	70,000	$ 80.00	18	1,000,001	>	$ 1,230.77

This study examined 6 cash flow Scenarios:

1) Increase rates to achieve full funding of the SWM/MS4 program.
2) Increase rates for full funding of the SWM/MS4 program and reduce income lost to credits to (5) % of total revenue.
3) Increase rates to support payment of debt service on loans funding the SWM/MS4 program.
4) Increase rates to support payment of debt service on loans funding and reduce income lost to credits to (5) % of total revenue.
5) Increase rates proportional to rate increases for City Water, Sewer, and Refuse services, loans to fund the SWM/MS4 program, and reduce income lost to credits to (5) % of total revenue.
6) Reduce income lost to credits to (5) % of total revenue.

In all scenarios, the duration of the study is from FY 2024 to FY 2030. The rate increase was done equitably to ensure that all sectors (single family residential, condominium, retail, commercial, etc.) were billed proportional to the impervious area of their properties. Currently, single family residential parcels account for 39% of the impervious area in Staunton and are billed for 40% and 45% of the total pre- and post-credit revenue, respectively.

Scenario 1 - Increase Rates to Fully Fund the SWM/MS4 program through 2030

The goal of Scenario 1 was to determine the rates required for the City to fully fund the SWM/MS4 program over the duration of the study period without the use of loans or modifications to the crediting system. This scenario would result in the largest overall rate increase but will not require any long-term loan burden. The resultant cost per ERU to sustain the SWM/MS4 program under this scenario is $10.56 per month or $126.72 per year. Figure 2 shows the cashflow versus expenditures. Scenario 1 Table shows that rate increase correlation for the 18-tier system.

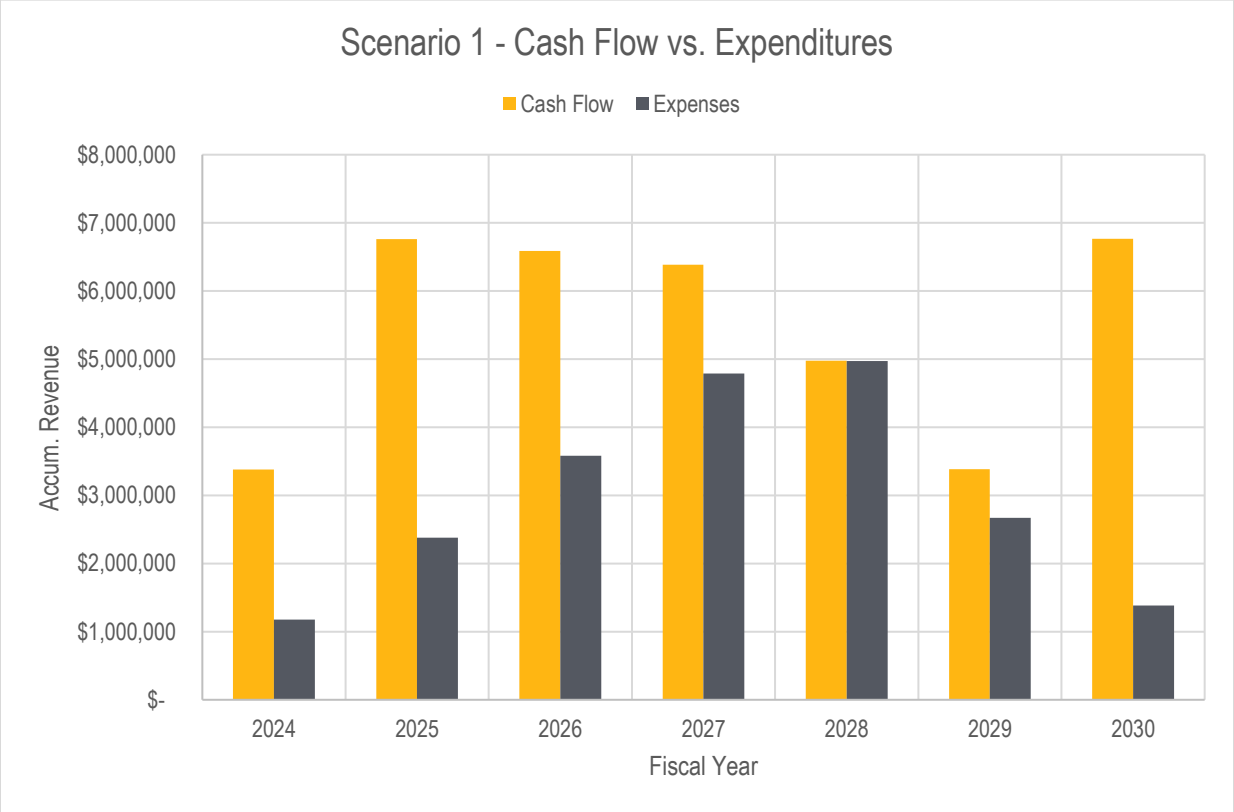

Figure 2

SCENARIO 1 TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 10.56	10	70,001	80,000	$ 417.05
2	3,401	6,800	$ 28.36	11	80,001	90,000	$ 472.66
3	6,801	10,000	$ 46.71	12	90,001	100,000	$ 528.26
4	10,001	20,000	$ 83.41	13	100,001	200,000	$ 834.10
5	20,001	30,000	$ 139.02	14	200,001	300,000	$ 1,390.16
6	30,001	40,000	$ 194.62	15	300,001	400,000	$ 1,946.22
7	40,001	50,000	$ 250.23	16	400,001	500,000	$ 2,502.28
8	50,001	60,000	$ 305.84	17	500,001	1,000,000	$ 4,170.46
9	60,001	70,000	$ 361.44	18	1,000,001	>	$ 5,560.62

Scenario 2- Increase Rates for Full Funding and Reduce Income Lost to Credits to 5%

Scenario 2 determines the rates required to fully fund the SWM/MS4 program through 2030 without adding debt and limiting SW utility fee reductions from crediting to 5%. Figure 3 shows the cashflow for the scenario. Scenario 2 Table shows the fee rates for the Calculation. The resultant cost per ERU to sustain the SWM/MS4 program under this scenario is $8.04 per month or $96.48 per year.

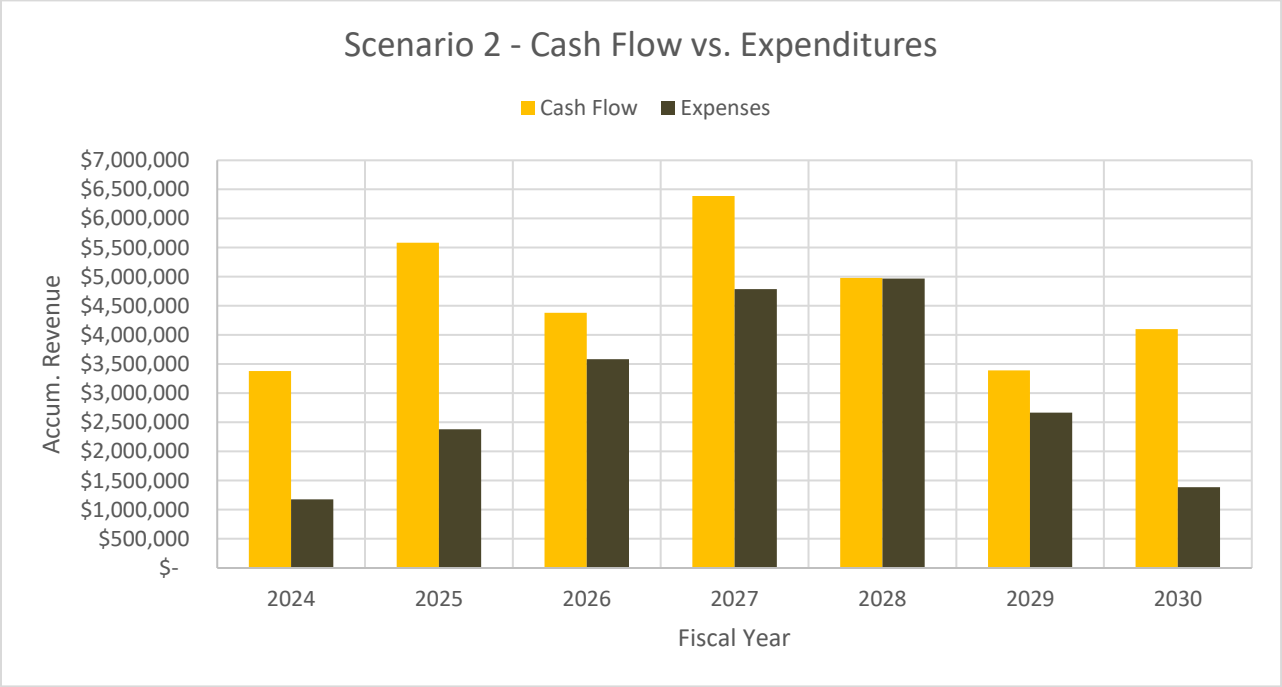

Figure 3

SCENARIO 2 TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 8.04	10	70,001	80,000	$ 305.54
2	3,401	6,800	$ 20.78	11	80,001	90,000	$ 346.28
3	6,801	10,000	$ 34.22	12	90,001	100,000	$ 387.02
4	10,001	20,000	$ 61.11	13	100,001	200,000	$ 611.08
5	20,001	30,000	$ 101.85	14	200,001	300,000	$ 1,018.46
6	30,001	40,000	$ 142.59	15	300,001	400,000	$ 1,425.85
7	40,001	50,000	$ 183.33	16	400,001	500,000	$ 1,833.23
8	50,001	60,000	$ 224.06	17	500,001	1,000,000	$ 3,055.39
9	60,001	70,000	$ 264.80	18	1,000,001	>	$ 4,073.85

Scenario 3 - Increase Rates & Use Loans to Fully Fund the SWM/MS4 program

Scenario 3 seeks to lower the above rates of the SW utility fee by taking on debt service to fully fund the SWM/MS4 program expenses projected for FY 27 and 28 per Table 1 by using a 20-year loan from the Clean Water Revolving Loan Fund offered by the Virginia DEQ. The rate for a 20-year loan as of June 2023 is 2.05% which corresponds to a yearly payment of $215,697.24 on a principal of $3,510,000. The debt service for the loans will be added to the cost of the SWM/MS4 program. The resultant cost per ERU to fund the SWM/MS4 program under this scenario is $7.66 per month or $91.92 per year. Figure 4 and the Scenario 3 Table shows the cashflow graph and revised fees.

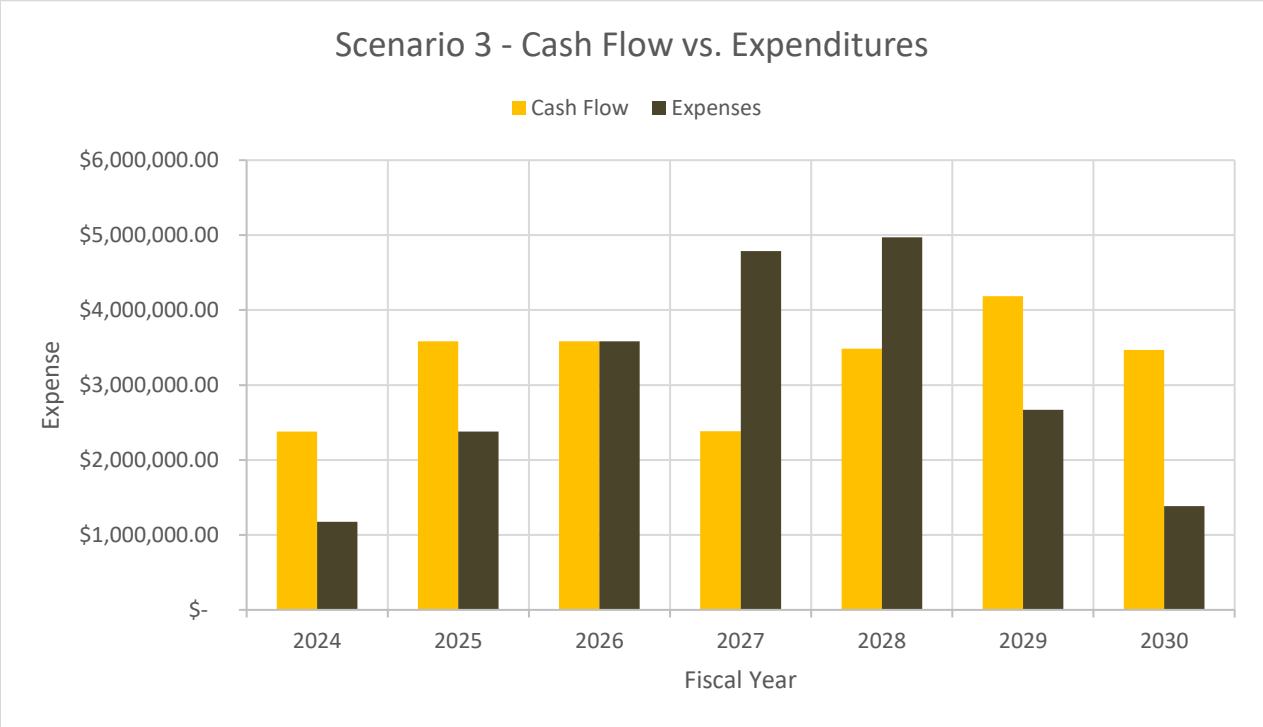

Figure 4

SCENARIO 3 TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 7.66	10	70,001	80,000	$ 288.93
2	3,401	6,800	$ 19.65	11	80,001	90,000	$ 327.45
3	6,801	10,000	$ 32.36	12	90,001	100,000	$ 365.97
4	10,001	20,000	$ 57.79	13	100,001	200,000	$ 577.85
5	20,001	30,000	$ 96.31	14	200,001	300,000	$ 963.08
6	30,001	40,000	$ 134.83	15	300,001	400,000	$ 1,348.31
7	40,001	50,000	$ 173.36	16	400,001	500,000	$ 1,733.54
8	50,001	60,000	$ 211.88	17	500,001	1,000,000	$ 2,889.23
9	60,001	70,000	$ 250.40	18	1,000,001	>	$ 3,852.31

Scenario 4 - Increase Rates, Use Loans, and Reduce Income Lost to Credits to 5% to Fully Fund the SWM/MS4 program

Scenario 4 builds on Scenario 3 and brings the reduction of income due to crediting in-line with other Virginia localities. This study did not attempt to solve how the effects of credits may be reduced. Some options could be to require property owners to apply for the credit every year and require annual third-party inspection for the BMPs or capping the credits to percentage of the tier per type of BMP. Figure 5 shows the cashflow for Scenario 4 with and without credits. Scenario 4 Table shows the fee rates for the calculation that result in a break-even situation. The resultant cost per ERU to sustain the stormwater program under this scenario is $5.91 per month or $70.92 per year.

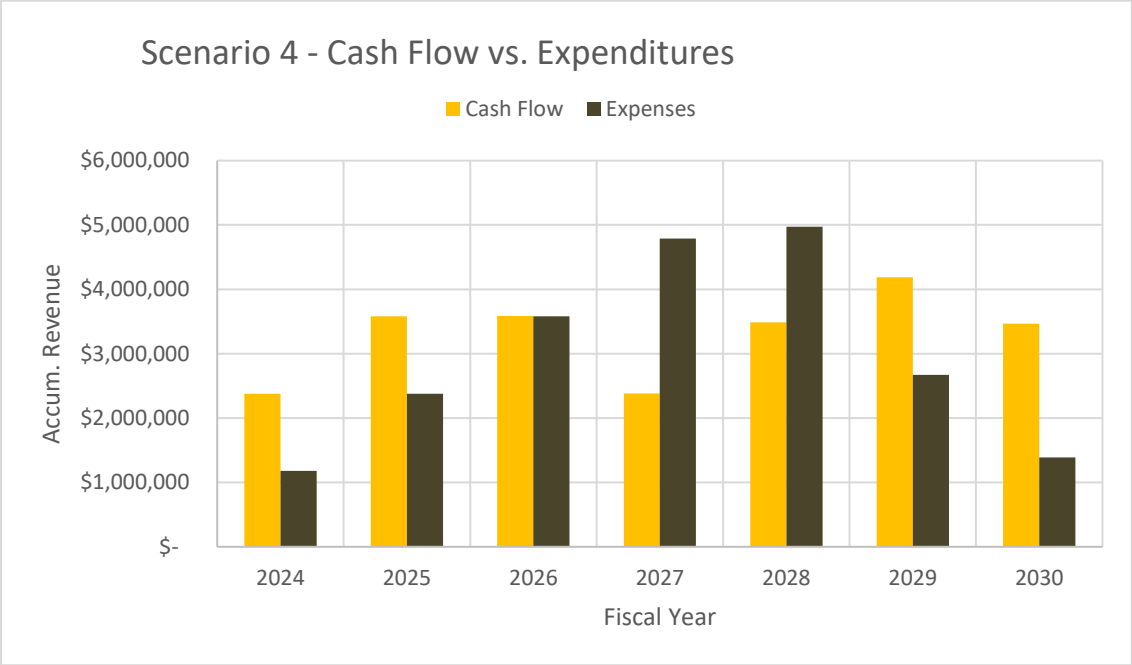

Figure 5

SCENARIO 4 TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 5.91	10	70,001	80,000	$ 211.94
2	3,401	6,800	$ 14.41	11	80,001	90,000	$ 240.20
3	6,801	10,000	$ 23.74	12	90,001	100,000	$ 268.46
4	10,001	20,000	$ 42.39	13	100,001	200,000	$ 423.88
5	20,001	30,000	$ 70.65	14	200,001	300,000	$ 706.46
6	30,001	40,000	$ 98.91	15	300,001	400,000	$ 989.05
7	40,001	50,000	$ 127.16	16	400,001	500,000	$ 1,271.63
8	50,001	60,000	$ 155.42	17	500,001	1,000,000	$ 2,119.39
9	60,001	70,000	$ 183.68	18	1,000,001	>	$ 2,825.85

Scenario 5 - Increases SW Utility Fee Rates Proportional to Rate Increases for Water, Sewer, and Refuse services, Use Loans, and Reduce Income Lost to Credits to 5%

Scenario 5 increases the SW utility fee rate proportional to the rate increases the City has approved for Water, Sewer, and Refuse services for the period from 2005 to 2022. Over the same period, the base SW utility fee increased from $2.70 to $3.20 in 2010 which has been accounted for in the rate increases presented here. The amount of income lost due to crediting has been reduced to 5%. The income of the SW utility fee program is supplemented by two 20-year loans in FY 27 and FY 28 to partially defray the costs of the MS4/TMDL projects. The loan principal is set to allow the program to break even by 2030. Both loans will be fully paid off by 2047 and, assuming no new MS4/TMDL requirements or vehicle expenditures after 2029, the SWM/MS4 program will be firmly in the black.

5A – SW Utility Fee Rate Increase Proportional to Water Service

The cost of Water Service increased from 2005 to 2022. The study applies an equivalent proportional increase in the existing stormwater fee that result in a cost per ERU of $6.30 per month or $75.60 per year. The principal of each loan is $2.32 million which has a yearly payment of $142,569 (double for two loans). Figure 6 presents the cashflow for calculations. Scenario 5A Table shows the fee rates.

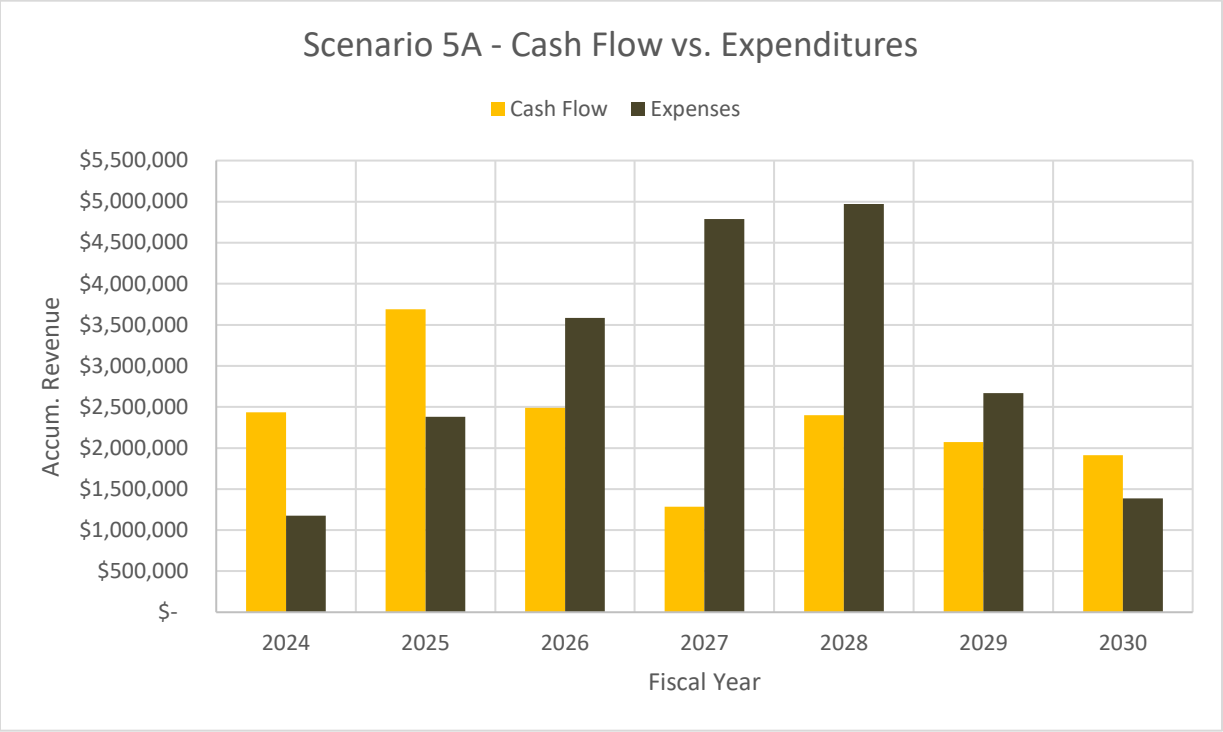

Figure 6

SCENARIO 5A TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 6.30	10	70,001	80,000	$ 228.92
2	3,401	6,800	$ 15.57	11	80,001	90,000	$ 259.45
3	6,801	10,000	$ 25.64	12	90,001	100,000	$ 289.97
4	10,001	20,000	$ 45.79	13	100,001	200,000	$ 457.85
5	20,001	30,000	$ 76.31	14	200,001	300,000	$ 763.08
6	30,001	40,000	$ 106.83	15	300,001	400,000	$ 1,068.31
7	40,001	50,000	$ 137.36	16	400,001	500,000	$ 1,373.54
8	50,001	60,000	$ 167.88	17	500,001	1,000,000	$ 2,289.23
9	60,001	70,000	$ 198.40	18	1,000,001	>	$ 3,052.31

5B – SW Utility Fee Rate Increase Proportional to Sewer Service

The cost of Sewer Service increased from 2005 to 2022. The study applies an equivalent proportional increase in the existing stormwater fee that result in a cost per ERU of $5.98 per month or $71.76 per year. The principal of each loan is $2.91 million which has a yearly payment of $178,826 (double for two loans). Figure 7 presents the cashflow for the calculations. Scenario 5B Table shows the fee rates.

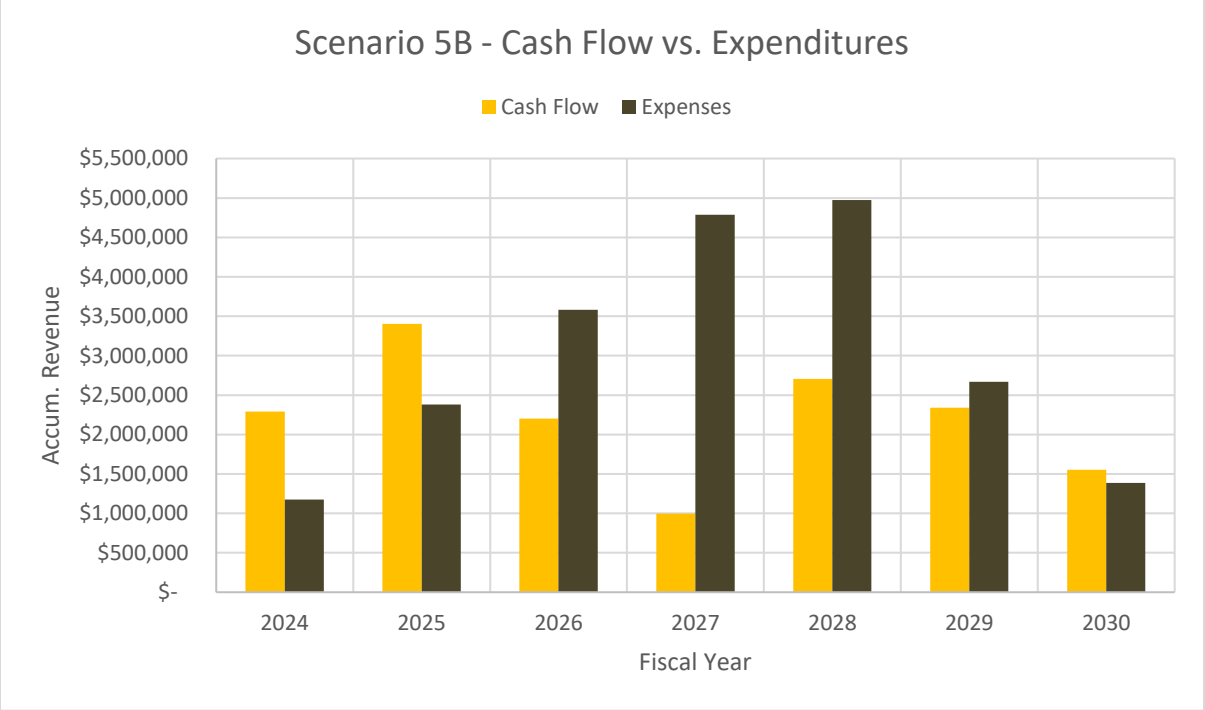

Figure 7

SCENARIO 5B TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 5.98	10	70,001	80,000	$ 214.89
2	3,401	6,800	$ 14.61	11	80,001	90,000	$ 243.55
3	6,801	10,000	$ 24.07	12	90,001	100,000	$ 272.20
4	10,001	20,000	$ 42.98	13	100,001	200,000	$ 429.79
5	20,001	30,000	$ 71.63	14	200,001	300,000	$ 716.31
6	30,001	40,000	$ 100.28	15	300,001	400,000	$ 1,002.83
7	40,001	50,000	$ 128.94	16	400,001	500,000	$ 1,289.36
8	50,001	60,000	$ 157.59	17	500,001	1,000,000	$ 2,148.92
9	60,001	70,000	$ 186.24	18	1,000,001	>	$ 2,865.23

5C – SW Utility Fee Rate Increase Proportional to Refuse Service

The cost of Refuse Service increased from 2005 to. The study applies an equivalent proportional increase in the existing stormwater fee that result in a cost per ERU of $7.44 per month or $89.28 per year. One loan of $400,000 in FY 2027 would be needed for the program to break even by 2030. The yearly payment is $24,581. Figure 8 presents the cashflow for the versus the expenditures. Scenario 5C Table shows the fee rates.

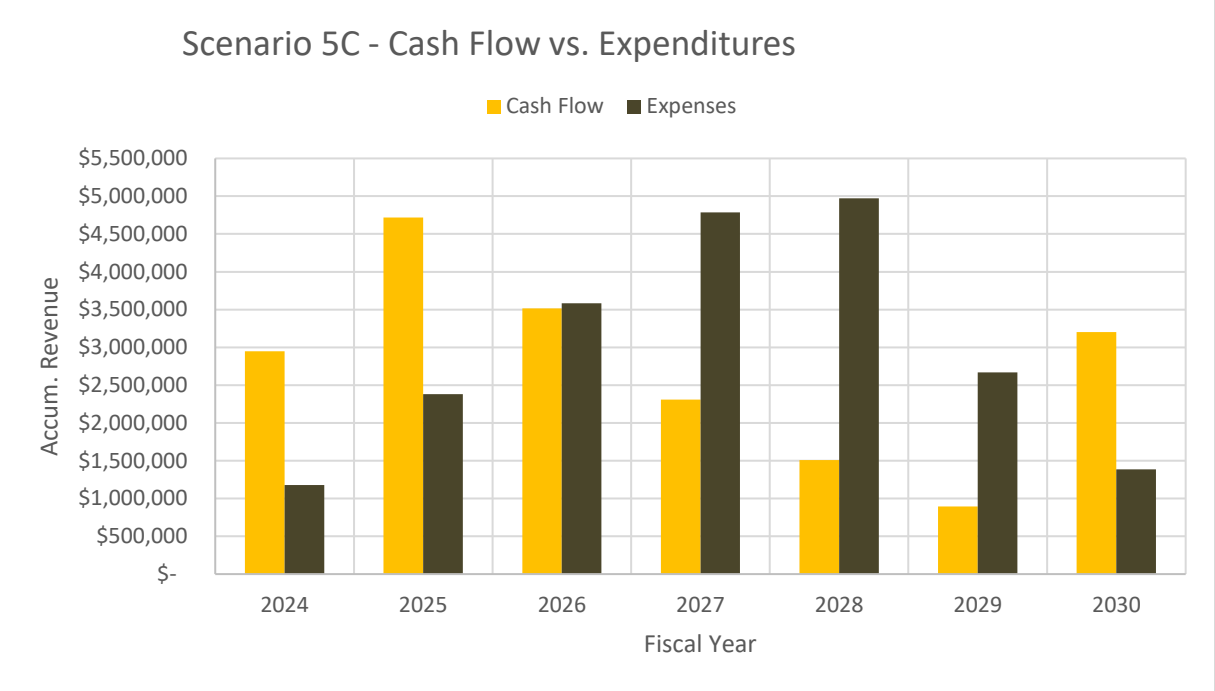

Figure 8

SCENARIO 5C TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 7.44	10	70,001	80,000	$ 279.32
2	3,401	6,800	$ 19.00	11	80,001	90,000	$ 316.57
3	6,801	10,000	$ 31.29	12	90,001	100,000	$ 353.81
4	10,001	20,000	$ 55.87	13	100,001	200,000	$ 558.65
5	20,001	30,000	$ 93.11	14	200,001	300,000	$ 931.08
6	30,001	40,000	$ 130.35	15	300,001	400,000	$ 1,303.51
7	40,001	50,000	$ 167.60	16	400,001	500,000	$ 1,675.94
8	50,001	60,000	$ 204.84	17	500,001	1,000,000	$ 2,793.23
9	60,001	70,000	$ 242.08	18	1,000,001	>	$ 3,724.31

Scenario 6 - Reduce Income Lost for Credits to only 5%

Scenario 6 is the bare minimum change to the existing rate structure. ***It does not break-even,*** as visualized in Figure 9. Scenario 6 Table shows the credit adjusted fee rates required to produce revenue 5% less than the rates without credit. The calculated, credit adjusted monthly revenue from the SW utility fee is approximately $70,350. By limiting the income lost due to credits, the calculated monthly revenue would be approximately $87, 070 which is equivalent to increasing the SW utility fee by 27.8%, or $3.78 per month or $45.46 per year.

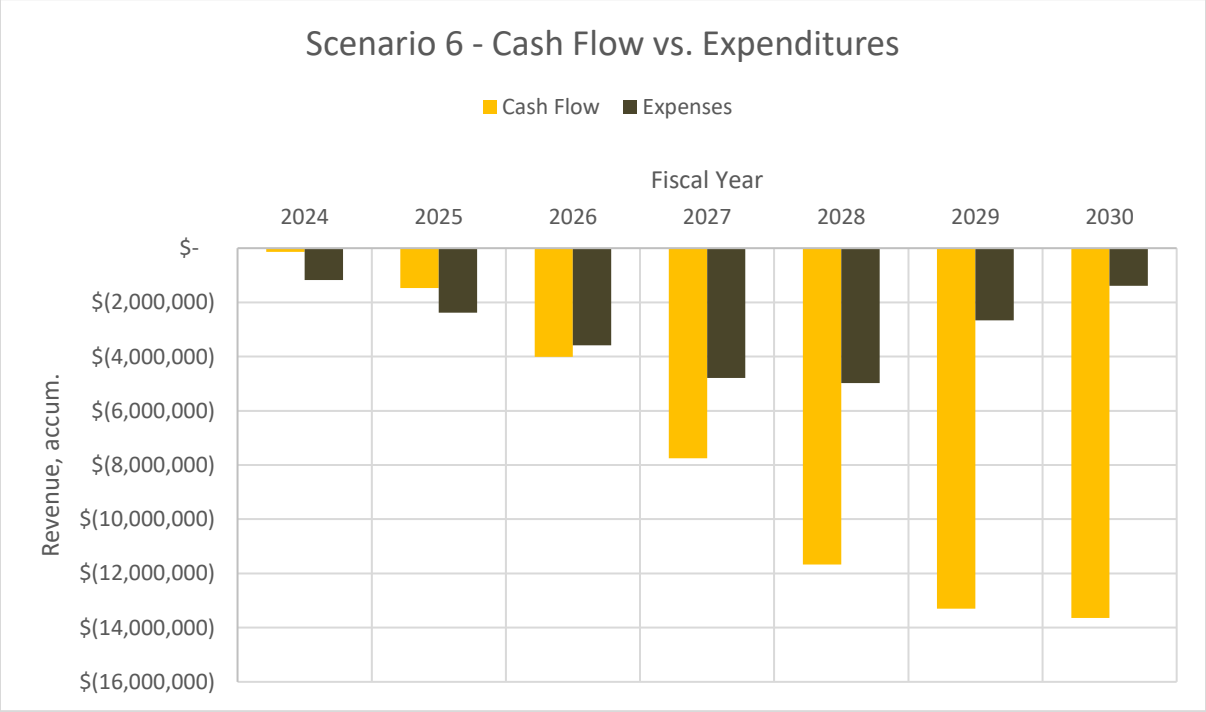

Figure 9

SCENARIO 6 TABLE - SW UTILITY FEE							
Tier	Impervious Area		Monthly Rate	Tier	Impervious Area		Monthly Rate
1	0	3,400	$ 3.78	10	70,001	80,000	$ 117.97
2	3,401	6,800	$ 8.02	11	80,001	90,000	$ 133.70
3	6,801	10,000	$ 13.21	12	90,001	100,000	$ 149.43
4	10,001	20,000	$ 23.59	13	100,001	200,000	$ 235.94
5	20,001	30,000	$ 39.32	14	200,001	300,000	$ 393.23
6	30,001	40,000	$ 55.05	15	300,001	400,000	$ 550.52
7	40,001	50,000	$ 70.78	16	400,001	500,000	$ 707.82
8	50,001	60,000	$ 86.51	17	500,001	1,000,000	$ 1,179.69
9	60,001	70,000	$ 102.24	18	1,000,001	>	$ 1,572.92

RECOMMENDATIONS

The City of Staunton's current SW utility fee (see Table 1) cannot fund the current or future demands of the SWM/MS4 program. This is a result of increased demand by Federal and State regulations. The SW enterprise fund has remained at its current rate since 2010. It is common for enterprise funds to increase over time to account for increases in program demands, inflation and the needs of aging infrastructure. The SW enterprise fund will need additional funding to meet regulatory obligations either through the general fund or through modifications to the SW utility fee. Figure 10 charts the annual expenditure deficit that will need to be funded through the general fund or other mechanisms.

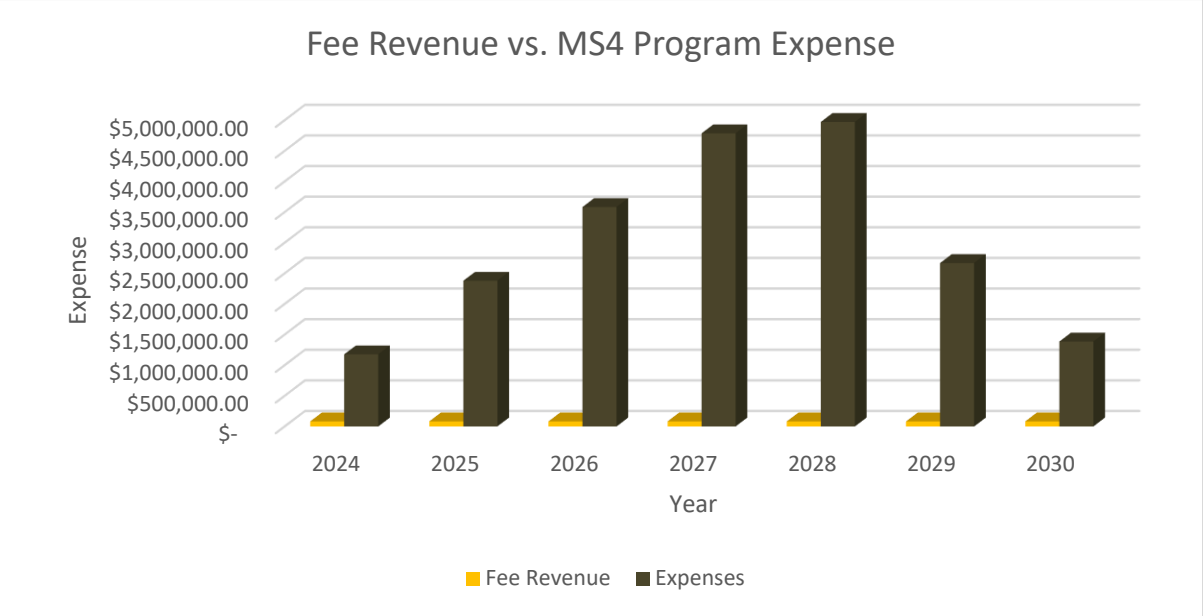

Figure 10

Wiley Wilson recommends that the SW utility fee be increased as soon as feasible to provide full funding for the SWM/MS4 program requirements mandated through the next permit cycle by adopting either Scenario 2, Scenario 4 or by selecting a value in between. If the Scenario 2 is not selected, a portion of the stormwater expenses will need to be covered through grants and/or debt service. The above study identified 6 approaches to address these increases. Each of these scenarios except Scenario 6 would fully fund the SWM/MS4 program.

We also recommend that the SW fee crediting process be modified regardless of the chosen rate increase scenario. There is a probability that ineffective and unmaintained SWM/BMP practices are currently being credited. This reduces the revenue of the SWM/MS4 program while increasing overall burden to the City of Staunton. The crediting should also provide a maximum benefit that corresponds to the value of the minimum administrative and infrastructure maintenance program costs.