

Appendix 3-E

CASE STUDY: SETTING UP A LOCAL STORMWATER UTILITY, CITY OF STAUNTON, VIRGINIA

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Staunton, Virginia (**Figure 3-D.1**), is a small city with a population of approximately 25,000 people and approximately 11,500 individual properties. Staunton is subject to Phase II MS4 permit coverage. The city has identified nearly \$14 million in drainage improvements that need to be made, mainly to address flooding problems (**Figures 3-C.2** and **3-C.3**) that occur more and more frequently and an aging stormwater infrastructure that needs to be repaired or replaced. In October, 2008, the City Council directed the public works staff to proceed with preparation of an ordinance to implement a stormwater utility. The stormwater utility will bill city residents and businesses a monthly service fee, with the funds used to pay for progressive drainage system repairs and upgrades to solve the flooding and other drainage problems that exist.



Figure 3-E.1. Map of the City of Staunton, Virginia

The City Council adopted the final stormwater utility ordinance in July, 2009. Public Works staff then proceeded to procure the billing software and set up implementation staffing and mechanisms. The stormwater utility fee went into effect on February 1, 2010.



Figure 3-E.2. Roadway Flooding



Figure 3-E.3. Residential Flooding

Figure 3-E.4. Flood Debris in Stream



Figure 3-E.5. Clogged Storm Drains That Need to Be Cleaned Out

While there are a number of stormwater-related issues to which stormwater utility funding may be directed, Staunton chose at least initially to focus on funding their drainage infrastructure needs,

in order to alleviate flooding occurrences and repair or replace infrastructure, as needed. As used by many stormwater utilities across the nation, Staunton selected the *Equivalent Runoff Unit (ERU)* as its base billing unit. An ERU is defined as the *average area of impervious surface for single-family or duplex residential lots* within the municipality. This area was determined to be *2,600 square feet* for Staunton.

A base billing rate was established for each ERU, and a *tiered billing rate structure* was established (**Table 3-E.1**), with each tier reflecting a range of impervious area. Using such a system results in a manageable number of billing tiers and makes the system simpler for the public to understand.

Based on more billable properties, a higher ERU base billing rate, or other factors, a community might be able to generate considerably more revenue and thus be able to address stormwater issues more comprehensively. For example, a locality might be able to assume some or all of the routine maintenance responsibilities for BMPs.

Table 3-E.1. City of Staunton Stormwater Utility's Tiered Monthly Billing Rate Structure

Range of Impervious Area on the Property (Square Feet)	Tier	Monthly Utility Billing Rate Per Property	Median Equivalent Runoff Units (ERUs)
< 3,400	1	\$3.20	1.0
3,400 - 6,800	2	\$6.28	2.0
6,800 - 10,000	3	\$10.34	3.2
10,000 - 20,000	4	\$18.46	5.8
20,000 - 30,000	5	\$30.77	9.6
30,000 - 40,000	6	\$43.08	13.5
40,000 - 50,000	7	\$55.38	17.3
50,000 - 60,000	8	\$67.69	21.2
60,000 - 70,000	9	\$80.00	25.0
70,000 - 80,000	10	\$92.31	28.8
80,000 - 90,000	11	\$104.62	32.7
90,000 - 100,000	12	\$116.92	36.5
100,000 - 200,000	13	\$184.62	57.7
200,000 - 300,000	14	\$307.69	96.2
300,000 - 400,000	15	\$430.77	134.6
400,000 - 500,000	16	\$553.85	173.1
500,000 - 1,000,000	17	\$923.08	288.5
> 1,000,000	18	\$1,230.77	384.6

Source: CSN and CWP (2010)

Properties within the city were then assessed by multiplying the *Base Rate* of \$3.20/month by the number of ERUs determined for the property. **Table 3-C.2** below, which is based on this formula, shows how many of each type of property are being billed in each tier and total revenues generated.

Table 3-E.2. Sources of Staunton Stormwater Utility Fees

TIER	BILLING RATE (\$)	NO. SINGLE-FAM. RES. PROPERTIES	NO. MULTI-FAMILY / COMM. PROPERTIES	TOTAL NO. PROPERTIES	TOTAL REVENUE (\$)
1	3.20	7,444	1,033	8,477	27,126.40
2	6.28	1,288	323	1,611	10,117.08
3	10.34	114	142	256	2,647.04
4	18.46	77	200	277	5,113.42
5	30.77	13	88	101	3,107.77
6	43.08	6	50	56	2,412.48
7	55.38	1	27	28	1,550.64
8	67.69	0	17	17	1,150.73
9	80.00	1	13	14	1,120.00
10	92.31	0	9	9	830.79
11	104.62	0	8	8	836.96
12	116.92	0	6	6	701.52
13	184.62	2	27	29	5,353.98
14	307.69	0	6	6	1,846.14
15	430.77	0	7	7	3,015.39
16	553.85	0	2	2	1,107.70
17	923.08	0	1	1	923.08
18	1,230.77	0	1	1	1,230.77
Totals		8,946	1,960	10,906	70,191.89
					x 12
Total Annual Revenue (not including reductions for credits):					842,302.68

Source: CSN and CWP (2010)

The City Council recognized that some landowners have city-approved stormwater management BMPs located on their properties. These landowners are held responsible for maintaining these BMPs so they will continue to function as designed. Therefore, Council established two types of credits (for water quantity BMPs or water quality BMPs) and up to three tiers of credit for each type of BMP (a maximum of six tiers of credit).

This means that the normal billing rate will be reduced by from 1 to 6 tiers, based on the types and effectiveness of BMPs located on the property. Properties that are less than 16 percent impervious or less than 8 percent impervious receive automatic credits of 3 tiers or 6 tiers, respectively. This credit system functions as an incentive to minimize impervious cover. However, the minimum property billing rate is the Tier 1 rate of \$3.20/month, regardless of the credits that might apply.

With the dedicated and predictable revenues from the Stormwater Utility program, Staunton established the annual budget for stormwater system improvements shown in **Table 3-E.3** below. It should be clear that this budget exceeds the total annual revenues shown in **Table 3-E.2** above (minus whatever credits apply and are deducted from customer bills. Staunton makes up this difference from other sources of funding (general fund, capital improvements budget, etc.).

**Table 3-E.3. Staunton Stormwater Utility:
Initial Stormwater Improvements Annual Budget**

Budget Category	Amount (\$)
Capital Projects	416,000
Operations & Maintenance Equipment	150,000
New Staff (Salaries & Benefits):	
• Maintenance Employees: 2	
• Projects/Design Engineer: 1	
• Finance & Accounting Specialist: 1	200,000
Cover SWM Credits (revenue reduction)	170,000
Total Budget:	936,000

Source: CSN and CWP (2010)