PUBLIC WORKS COMMITTEE MEETING

MONDAY,NOVEMBER 6,2023 | 6 PM

3rd Committee Meeting

The Committee will meet in Mauldin City Hall at 5 East Butler Road in the Council Chambers at 6 p.m.

The meeting will be available remotely through Zoom. Please visit the City's website at https://cityofmauldin.org/your-government/meeting-minutes-agendas/ to access the meeting via audio and videoconferencing.
A quorum of Council will be present.

PUBLIC WORKS COMMITTEE MEETING
NOVEMBER 6, 2023, 6PM
CITY HALL - COUNCIL CHAMBERS
5 E. BUTLER ROAD

Committee Members: Jason Kraeling (Chair), Carol King, Michael Reynolds

1. **Call to Order** — Chairperson Jason Kraeling
2. **Public Comment** — Chairperson Jason Kraeling
3. **Reading and Approval of Minutes** — Chairperson Jason Kraeling
   a. Public Works Committee- September 5, 2023 [Pages 3-5]
4. **Reports or Communications from City Officers** — Chairperson Jason Kraeling
   a. PW Director Matthew Fleahman
      Sidewalk Update
5. **Unfinished Business** — Chairperson Jason Kraeling
   There is no unfinished business.
6. **New Business** — Chairperson Jason Kraeling
   a. Discussion on Stormwater Fee Report [Pages 6-34]
7. **Public Comment** — Chairperson Jason Kraeling
8. **Committee Concerns** — Chairperson Jason Kraeling
9. **Adjournment** — Chairperson Jason Kraeling

MINUTES
PUBLIC WORKS COMMITTEE MEETING SEPTEMBER 5, 2023, 6PM
CITY HALL - COUNCIL CHAMBERS 5 E. BUTLER ROAD
1st committee meeting

Committee Members: Chairman Jason Kraeling and Committee Member Michael Reynolds. Councilwoman King joined during the department report.

Others present: PW Director Matthew Fleahman and City Administrator Seth Duncan

1. Call to Order- Chairman Kraeling

2. Public Comment- None

3. Reading and Approval of Minutes
a. Public Works Committee- August 7, 2023

Motion: Councilman Reynolds made a motion to approve the minutes with Chairman Kraeling seconding.

Vote: The vote was unanimous (2-0).

4. Reports or Communications from City Officers
a. PW Director Matthew Fleahman

Mr. Fleahman reported $46,250 has been made so far on the sale of vehicles and other older assets.

All of the City vehicle's GPS units have been updated.

5. Unfinished Business- There is no unfinished business.

6. New Business
a. Resolution- Transfer of Assets from ReWa to City of Mauldin

Authorization is requested to execute the Right-of-Way (ROW) Assignment of Facilities and the Quit-Claim Deed for the transfer of assets from Renewable Water Resources (REWA) to the City of Mauldin.

During the design phase of the Indigo Pointe Subdivision, REWA required that the developer upsize the associated pump station to accommodate the flow from approximately 100 homes in the Pine Forest Subdivision. This upsizing allowed REWA to decommission a pump station in the Pine Forest Subdivision once a gravity connection to the Indigo Pointe was made.

During the 2021 calendar year REWA worked with MetroConnects and the City of Mauldin to design a series of new gravity mains and manholes to redirect flow into the City's collection system network. Construction activities began in 2022 and finished by the end of the year. Approximately 290 linear feet of new sewer main and one manhole was installed to connect to the City's system.

All appropriate sewer system tests were conducted and passed under the supervision of City staff. The City's system started accepting flows at the end of 2022 and no issues have been noted to date. The final step in the process is to transfer ownership of these assets from REWA to the City of Mauldin. The new line bisects two individual parcels, so two separate documents are necessary for the ROW assignment.

Motion: Councilman Reynolds made a motion to send this item to Council with Councilwoman King seconding.

Vote: The vote was unanimous (3-0).

b. Discussion- Recycling Program Change

The City of Mauldin began its implementation of side arm trucks into the Sanitation Division in March 2020. Initially, the plan was only to replace trash trucks; however, the plan evolved, and recycling trucks were added to the replacement plan. During the 2021 fiscal year, City Council approved the purchase of two side arm trucks to replace the rear loading recycle trucks. Delivery dates for the trucks continued to be pushed back due to several issues; however, they are now part of the City's fleet.

Unlike trash, recycling services have been provided in more than one container. Both a roll out can and a small bin have been utilized for curbside services. Side-arm trucks cannot serve the small bin, so in anticipation of the transition, Public Works discontinued the sale of small bins in 2021.

In order to minimize confusion over the transition to side-arm recycling service, the Public Works Department intends to generate and distribute a door hanger to every Sanitation customer in the City which will include the cost of blue cans, the start date of the trucks, locations to place blue cans, materials accepted in blue cans, and notice that blue bins will no longer be served. In addition to the door hangers, the Public Works Department intends to initiate a 45-day public outreach campaign on both the City's Website and social media, sharing the same information presented on the door hangers. In both cases, it will be clearly identified that the City will not be providing blue cans for free and it will be the responsibility of the homeowner to purchase a can if recycling services are desired. Recycling bins are $50.00 each, which is the City's cost. This is not a revenue-generating program.

Councilman Reynolds suggesting offering the cans at a discount. Mr. Duncan said there are new neighborhoods purchasing the new bins now, and it would not be fair to discount some of the cans but not all.

Councilwoman King thanked Mr. Fleahman for including information on what can be recycled for citizens' education.

Chairman Kraeling said it could be added to the door hanger wording that the City is picking up additional cans without a tax increase.

This item was for information only.

7. Public Comment- None

8. Committee Concerns-Chairman Kraeling thanked the department for promptly taking care of a damaged garbage can complaint.

Councilman Reynolds expressed his condolences for the loss of a Public Works employee over the weekend.

9. Adjournment- Chairman Kraeling adjourned the meeting at 6:18 p.m.

Respectfully Submitted,
Cindy Miller
Municipal Clerk

PUBLIC WORKS COMMITTEE
AGENDA ITEM

MEETING DATE: November 6, 2023

AGENDA ITEM: 6a

TO: Public Works Committee

FROM: Public Works Director, Matthew Fleahman

SUBJECT: Stormwater Fee Analysis and Evaluation

REQUEST

For discussion purposes, the Public Works Committee asked to review the 2023 Stormwater Fee Analysis and Evaluation prepared by KCI and provide feedback on the contents of the report.

HISTORY/BACKGROUND

The City of Mauldin is part of Greenville County's MS4 Stormwater permit. As part of the permit, the City is responsible for drainage structures within City-Owned rights-of-way (ROWs). The Public Works Department inspects and maintains these drainage systems so that stormwater will be properly conveyed to drainage outfalls. The existing system includes 3,103 catch basins, 8 stormwater detention ponds, and approximately 58 miles of stormwater pipes in sizes varying from 6-inch to 96-inches. The City allocated $34,000 in funding to maintain City-owned rights-of-way related to stormwater in FY2024.

The City had identified a need to fund stormwater capital improvement projects where the project costs and scope exceed the budget and abilities of the Public Works Department. It was determined that design and construction could be contracted and potentially paid for through a Capital Improvement Plan and/or enterprise fund. In June of 2023, the Public Works Committee and City Council authorized KCI to conduct a Stormwater Fee Analysis and Evaluation. The intent of the report was to determine a potential funding source and identify the operating budget based on the revenues from the potential funding source. The report was presented to Council in September 2023, and staff from KCI were present at the October 2023 Council meeting to present the findings of the report.

ANALYSIS or STAFF FINDINGS

The 2023 Stormwater Fee Analysis and Evaluation prepared by KCI compared four cities of similar size and population and presented the stormwater fee associated with each. This comparison illustrated that the City of Mauldin's residents pay less than 50% of the lowest fee associated with the comparable cities. In the report, KCI made several considerations for determining the potential fee and generated five potential alternatives. Each alternative was evaluated, and a potential revenue stream was identified for each. These revenue streams varied from $257,000 to $725,000 annually. In all but one of the five alternatives, the majority (approximately 66%) of the potential revenue stream is funded from non-residential entities.

As part of the report, KCI proposed the utilization of this revenue stream to create an independent Stormwater Division in Public Works. The proposal identified Capital needs, staffing needs, and a recommendation on the amount of work proposed annually. The revenue stream was also presented to fund a Capital Projects Budget, where contracted design and construction services could be obtained to work on large scale projects.

FINANCIAL IMPACT

The financial impact will be determined based upon the approach adopted by Council. If this program proceeds, a stormwater fee would be assessed on property tax bills (as current) and remitted to the City by the County. Funding could become first available in FY2025 with most work and projects beginning FY2026.

ADMINISTRATOR COMMENTS

The only way to improve or remediate stormwater issues beyond the public right-of-way is through the implementation of a stormwater capital fund. This fund should be comprised of revenue generated for specific purposes and segmented from other activities.

Stormwater Utility Fee Evaluation

City of Mauldin Public Works

October 16th, 2023

RISE TO THE **CHALLENGE**

ISO 9001:2015 Certified | Employee-owned Since 1988

Background

City of Mauldin

Population increased 8.8% from 2020-2022

Current population roughly 27,500

Rising concerns of flooding along with increased costs

KCI

Background

Greenville County Stormwater

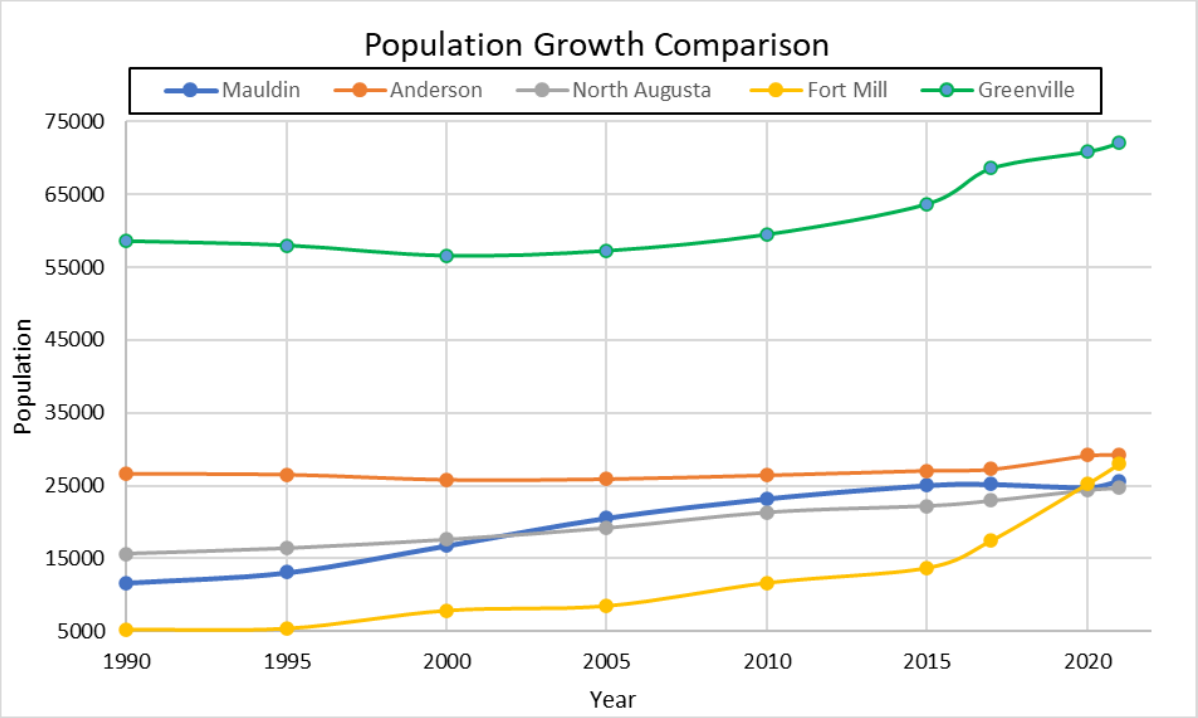
Charges between $22.80-$25.65 annually

Annually the County collects roughly $707,000 from the City's property owners

City of Mauldin does not receive any of these funds

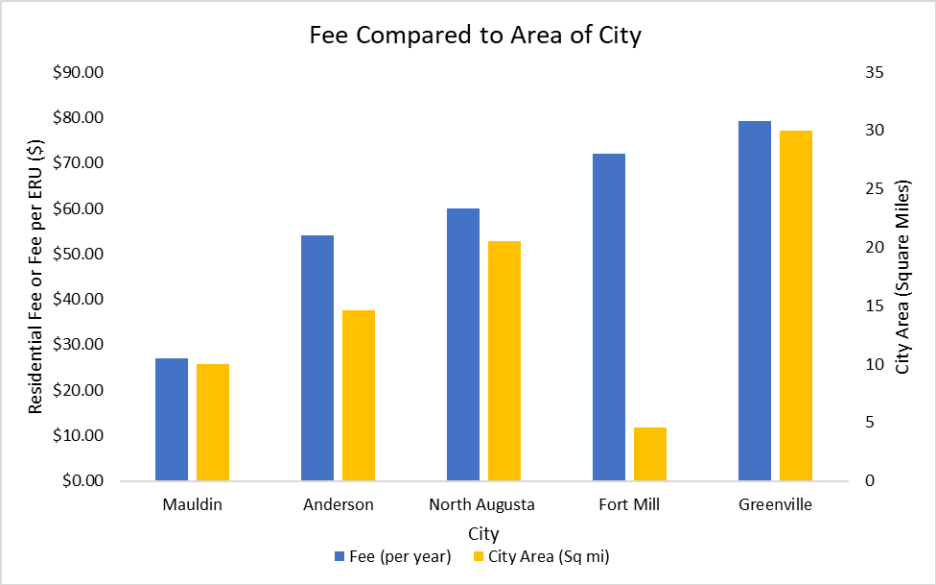
KCI

Analysis and Comparison of Similar Cities

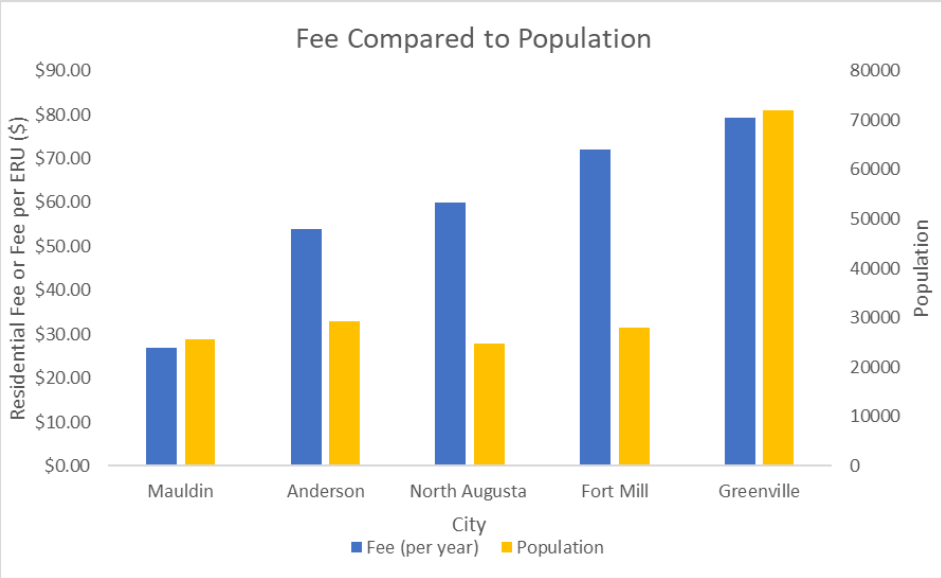


- Comparison to cities of similar size and/or population
- Cities Used for Comparison
  - City of Anderson
  - City of North Augusta
  - Town of Fort Mill
  - City of Greenville

Analysis and Comparison of Similar Cities



Comparison of average annual residential fee to area of the city



Comparison of average annual residential fee to population of the city

Overview of Fee Structure Analysis

Considerations

- Flat or Variable Fee
- Equivalent Residential Units (ERUs)
- Minimum charge
- Fee Credits

KCI

Overview of Fee Structure Analysis

Fee Structure Alternatives

Alternative	Flat or Variable Fee (Residential)	Flat or Variable Fee (Non-residential)	Minimum Charge	Fee Credits
1	Flat Fee	Flat Fee	Yes	No
2	Variable Fee	Variable Fee	No	No
3	Variable Fee	Variable Fee	Yes	Yes
4	Flat Fee	Variable Fee	No	No
5	Flat Fee	Variable Fee	Yes	Yes

KCI

Analysis

Fee Structure

Alternative	Residential Fee	Non-residential Fee	Minimum Charge	Fee Credits
1	$25 developed or undeveloped	$45 for developed $25 for undeveloped	Yes	No
2	$25 - <1,000 sq ft and developed or undeveloped $28 - >1,000 sq ft and developed	$27 per ERU for developed $25 for undeveloped	No	No
3	$25 - <1,000 sq ft and developed or undeveloped $28 - >1,000 sq ft and developed	$27 per ERU for developed $25 for undeveloped	Yes	Yes
4	$25 developed or undeveloped	$27 per ERU for developed $25 for undeveloped	No	No
5	$25 developed or undeveloped	$27 per ERU for developed $25 for undeveloped	Yes	Yes

Alternative	Residential Fees Collected	Non-residential Fee	Total Fee	Minimum Charge	Fee Credits
1	$225,000	$32,000	$257,000	$25	None
2	$245,000	$484,000	$725,000	None	None
3	$245,000	$476,740	$717,740	$25	$7,260
4	$226,500	$484,000	$710,000	None	None
5	$226,500	$476,740	$702,740	$25	$7,260

KCI

Analysis

Fee Structure

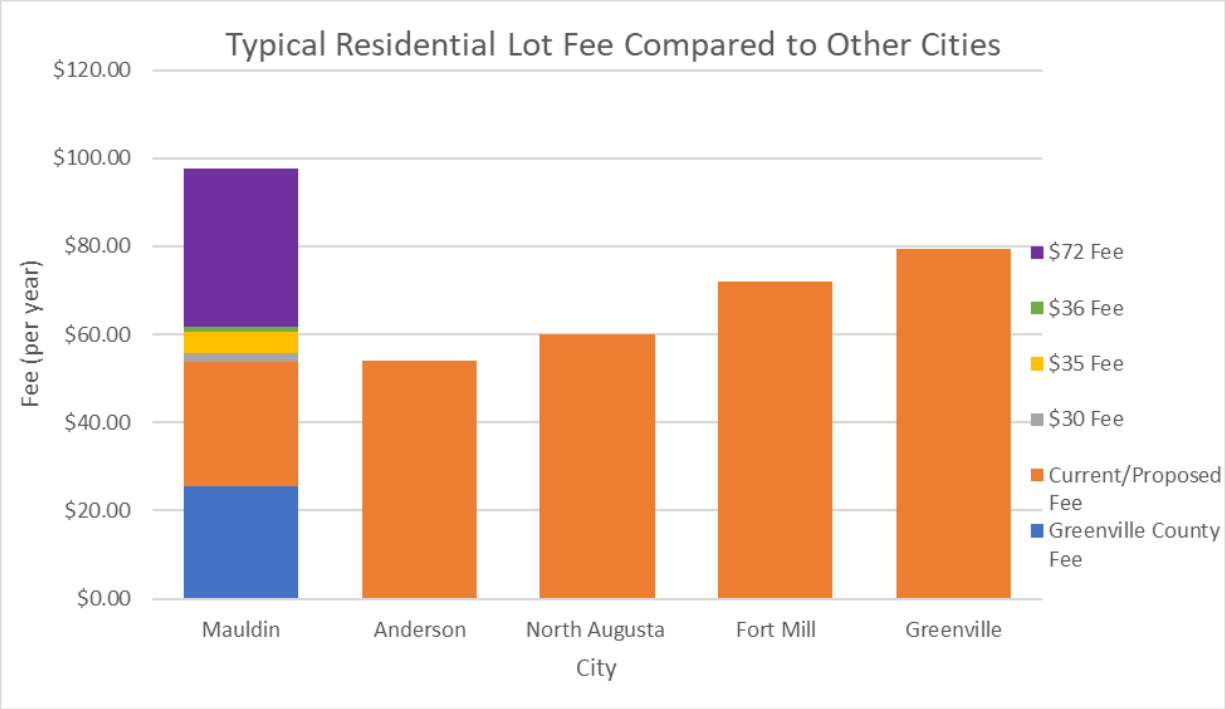
Residential Fee	Non-residential Fee	Total Fee Collected Annually
$25.65 (Greenville County Existing Fee)	$27 per ERU for developed $22.80 for undeveloped	$707,000
$28 (Alternative 2 fee)	$27 per ERU for developed $25 for undeveloped	$725,000
$30	$32 per ERU for developed $30 for undeveloped	$848,000
$35	$37 per ERU for developed $35 for undeveloped	$983,000
$36	$37.50 per ERU for developed $36 for undeveloped	$1,000,000
$72	$74.50 per ERU for developed $72 for undeveloped	$2,000,000

KCI

Analysis

Fee Structure

City	Residential Fee
City of Anderson	$54
City of North Augusta	$60
Town of Fort Mill	$72
City of Greenville	$79.33
Greenville County Existing	$25.65
City of Mauldin ($725,000 collected annually)	$25.65 + $28
City of Mauldin ($848,000 collected annually)	$25.65 + $30
City of Mauldin ($983,000 collected annually)	$25.65 + $35
City of Mauldin ($1,000,000 collected annually)	$25.65 + $36
City of Mauldin ($2,000,000 collected annually)	$25.65 + $72



Analysis

Stormwater Utility Fee Use Scenarios

Option 1

- Bid out work to various contractors annually

Option 2

- In-house crew to include 4 employees & equipment

Option 3

- Hybrid of In-house crew and bidding out work annually

	Annual Cost
3 Crew @ $20/hr w/ benefits	$195,000
1 Crew Leader @$25/hr w/ benefits	$80,000
Equipment (truck, trailer, dump truck, mini ex)	$40,000
Fuel & Maintenance	$10,000
Total	**$325,000**

KCI

Analysis

Stormwater Utility Fee Budgeting Scenarios

Using option 3 –hybrid approach

With an annual revenue of $725,000

- $550,000 annually for in-house construction
- $175,000 annually for contracted work

	Annual Cost
4-Man Crew	$325,000
7,800 LF of 18-in installed over 13 weeks	$93,600
2,600 LF of 24-in installed over 13 weeks	$52,000
Structures and Misc. Stone	$79,400
26 weeks of repairs, maintenance, emergencies	No additional Cost
Total	**$550,000**

KCI

Analysis

Stormwater Utility Fee Projects

Knollwood Drive

$200,000

Holly Springs

$500,000

Bishop Heights

$2,050,000

Year 1 - Bid Knollwood Drive

Year 4 - Bid Holly Springs

Year 11 - Bid Bishop Heights

KCI

Conclusions & Recommendations

Recommended Fee Structure

Residential

< 1,000 sq ft, developed or undeveloped = $25

Residential

> 1,000 sq ft & developed = $28

Non-residential developed

= $27 * ERU

Non-residential undeveloped = $25

Stormwater Improvement Project Funding	
In-House	**Contracted**
$550,000	$175,000

KCI

Design Report

Stormwater Utility Fee Evaluation

Prepared for:

City of Mauldin

Prepared by:

KCI Technologies Inc.

8.22.2023

SOUTH CAROLINA
KCI TECHNOLOGIES INC.
No. C0651
CERTIFICATE OF AUTHORIZATION

Background

In recent years, the City of Mauldin (the **City**) has experienced significant growth coinciding with population increases throughout the Upstate of South Carolina. Along with new development, the City has also annexed previously unincorporated portions of Greenville County into the City. Census records show that the City's population has increased 8.8% from 2020 to 2022 alone. The current population for the City is roughly 27,500 people. Along with this growth has come rising concerns of flooding and stormwater management within the City. As infrastructure has aged and costs for construction have increased, the overall cost to maintain a stormwater system has become an increased concern that requires the City to look at various funding options.

The purpose of this evaluation is to assess funding options for the City to develop and fund a capital improvements program with the goal of maintaining their existing stormwater infrastructure. The City has tasked KCI with evaluating the best way to fund a capital improvements budget and determine what a reasonable stormwater improvements budget would be for the City based on a 10-year cycle. The fee collected would be in addition to the current fee landowners pay to Greenville County, but the funds would go directly into the City's special revenue fund for stormwater. The additional fee assessment would be applied to the incorporated areas of the City.

Greenville County currently charges a stormwater utility fee across the entire county, including all incorporated cities, such as the City of Mauldin, with the exception of the City of Greenville which charges citizens its own fee. Greenville County also collects stormwater permitting fees for new developments throughout the County. These fees are used to fund Greenville County's MS4 Land Development Department. Although landowners within the City pay fees to Greenville County each year, the City does not directly receive any funding from those fees to fund repair or improvement projects within the city limits.

Greenville County currently charges between $22.80 to $25.65 per year for single family residential properties, agricultural properties, and vacant properties zoned as commercial. For all other properties, such as multi-family residential properties and commercial or industrial properties, an equivalent residential unit (ERU) is calculated based on the property's impervious area. The total impervious area is then divided by 2,477 square feet to determine the ERU for the property. This ERU is multiplied by $27 to calculate the total fee for the property. Greenville County lists specific properties that are exempt from this stormwater fee. A breakdown of *Greenville County's Fee and Billing Polices* is shown in *Appendix A*. Based on data received from Greenville County, the County collects roughly $707,000 annually in fees from landowners within the City.

Analysis and Comparison of Similar Cities

As a point of reference, several cities similar in size and circumstance to the City were evaluated to determine how other entities collect fees to maintain their stormwater infrastructure. Figure 1 shows the comparison of population and growth rate for each city that was compared.

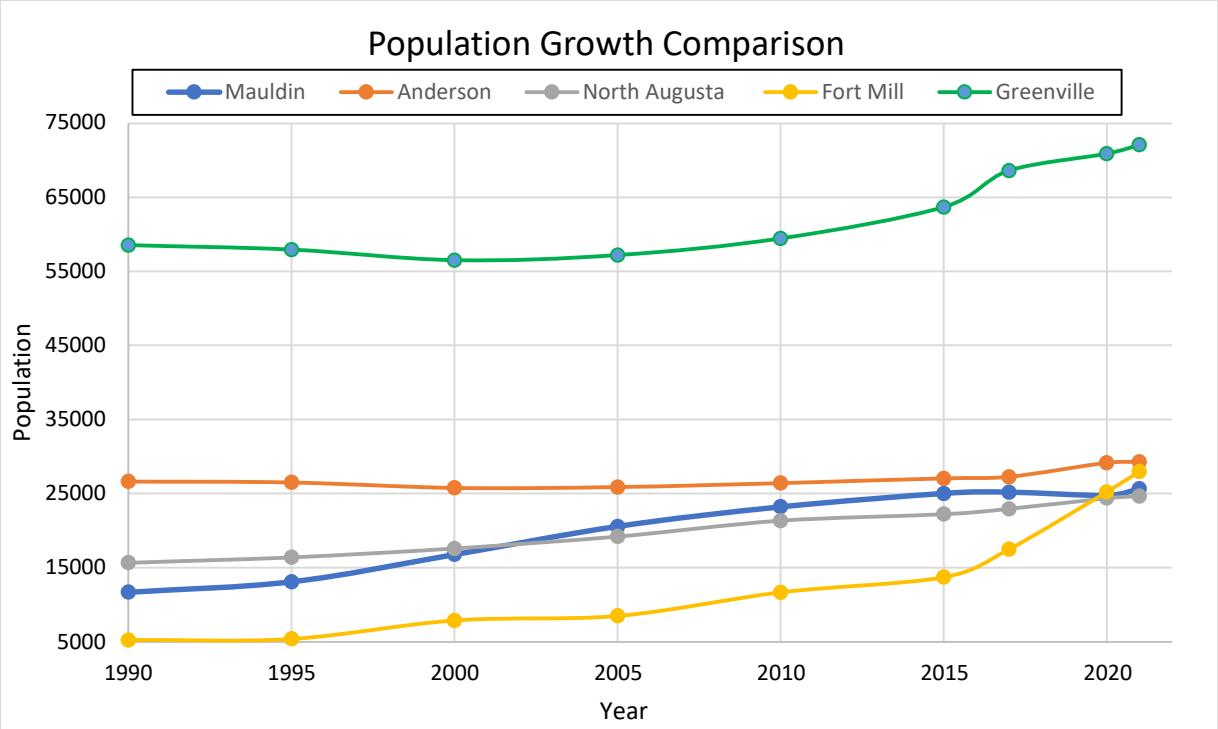


Figure 1 - Population Growth Comparison

City of Anderson, South Carolina

The City of Anderson is similarly located within the Upstate of South Carolina and has a comparable population size to the City of Mauldin with an estimated population of roughly 29,500 residents. The City of Anderson is roughly 15 square miles. The City of Anderson stormwater fee is based on an Equivalent Residential Unit (ERU) and is broken down into two types, residential and non-residential properties.

All residential properties are equal to one (1) ERU and are billed $4.50 monthly for a total fee of $54 each year. This is also considered the minimum charge per parcel regardless of parcel size or runoff coefficient (C).

The City of Anderson uses a runoff coefficient (C) to relate the impervious area to the density of development or land use of the parcel. The ERU for each parcel is determined using a formula that accounts for the parcel area, the runoff coefficient, an average residential parcel area and an average residential runoff coefficient. This ERU is then multiplied by the same $4.50 monthly fee to calculate the total monthly fee for each non-residential parcel. The City of Anderson's full *Stormwater Utility Fee Manual* is provided in *Appendix B*.

The City of Anderson also offers a stormwater fee credit to non-residential undeveloped or vacant lots based on their reduced impact of development and reduced water quality impairment on the drainage area. Several examples of this fee credit calculation are shown in the City of Anderson Stormwater Utility Fee Manual.

Town of Fort Mill, South Carolina

The Town of Fort Mill is similar in population size to the City of Mauldin with a population of roughly 28,000. The Town of Fort Mill is roughly 5 square miles. The Town of Fort Mill is a suburb of Charlotte, North Carolina.

The Town of Fort Mill's most recent stormwater utility fee credit manual was released in October 2014. The Town of Fort Mill bases its stormwater fee on an ERU for both residential and non-residential properties. The ERU is based on a calculated average impervious area for a single-family parcel in the town limits. The town charges $72 per ERU. The Fort Mill system does not differentiate between property types and is based solely on size of parcel. If a parcel is equivalent to 4 ERUs, then the fee of $72 is multiplied by 4 ERUs and the fee for that property would be $288 yearly.

The Town of Fort Mill also provides utility credits for citizens who help mitigate both pollution and stormwater flow. The maximum reduction a property owner can receive is 50%. Credits are given for mitigation efforts, such as rain barrels, rain gardens, and vegetated filter strips. The Town of Fort Mill's *Stormwater Utility Fee Facts* sheet and the *Stormwater Utility Fee Credit Manual* are provided in *Appendix C*.

City of North Augusta, South Carolina

The City of North Augusta is similar in size to the City of Mauldin with a population of roughly 24,500. The City of North Augusta is roughly 20 square miles. It is a smaller, growing city that surrounds the larger City of Augusta, Georgia.

The property owner is charged $5 per ERU per month for a total of $60 per ERU per year. Single-family residential properties are charged one ERU, while multi-family residential properties are charged 0.75 ERU for each dwelling.

Non-residential properties are charged based on a calculated ERU for each property. The fee is based on the impervious area and a runoff coefficient which is determined by the property use. For example, a hotel would have an ERU of 5.71 per acre while a shopping center would have an ERU of 6.58 per acre. Properties with less than 25% of pervious surface are charged at a rate of 8.66 ERU per acre, which is the maximum rate that the City of North Augusta charges. The guidance for the City of North Augusta's stormwater utility fee is shown in detail in their municipal code, provided in *Appendix D.*

The City of North Augusta also offers exemptions and credits based on the property type and stormwater management used on site. The minimum charge was set at one ERU, regardless of credits or exemptions granted. The City of North Augusta's *Stormwater Management Service Charge Credits Technical Manual* is provided in *Appendix D*.

City of Greenville, South Carolina

Although the City of Greenville is larger in population than the City of Mauldin, it is the only other City within Greenville County that currently charges a stormwater utility fee separate from the fee charged by Greenville County. The population of the City of Greenville is around 72,000 and is roughly 30 square miles.

Greenville County's stormwater utility fee is broken down between residential and non-residential properties. Developed residential property with less than 1,640 square feet of livable space are charged

$45.17 yearly and developed residential property with greater than 1,640 square feet of livable space are charged $79.33. Undeveloped residential properties are charged $45.17.

Developed commercial/industrial properties and undeveloped commercial/industrial properties are each charged $79.33 annually per ERU. The *City of Greenville's Stormwater Utility Fee Chart* is shown in *Appendix E*.

The City of Greenville also offers deductions from the stormwater utility fee for non-residential properties where owners implement stormwater quantity and quality control measures. The *City of Greenville's Credit Fee Deductions Manual* is shown in *Appendix E.*

Additional Comparison of Similar Cities

The graphs that follow sumamrize data regarding each city and town. Figure 2 compared the residential fee or fee per ERU and the population of each city. Figure 3 compared the residential fee or fee per ERU and the area of the city.

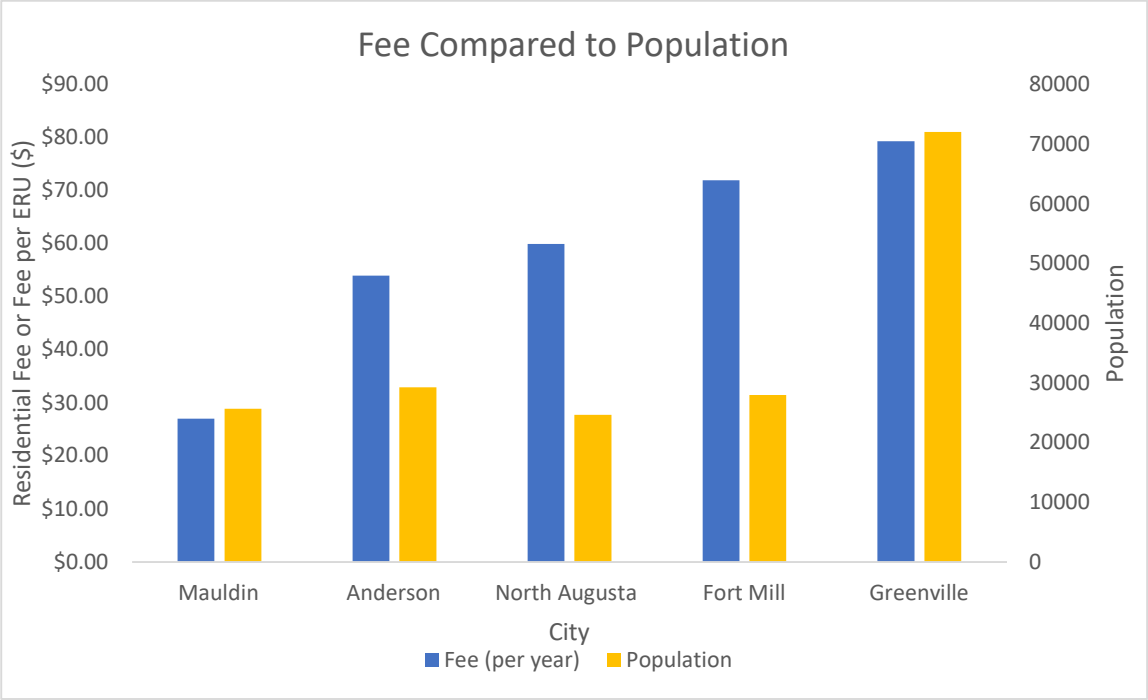


Figure 2- Fee Compared to Population

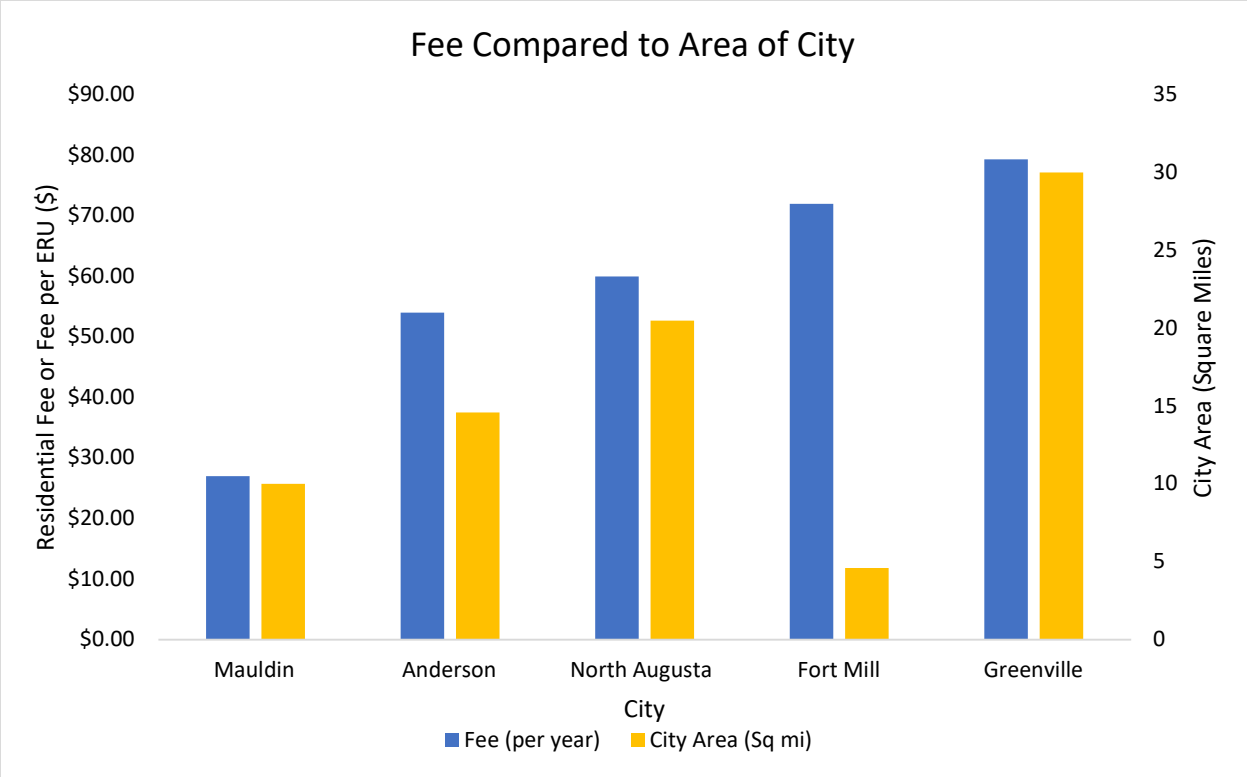


Figure 3 - Fee Compared to Area of City

Overview of Fee Structure Analysis

In reviewing and analyzing the stormwater utility fee structure for the cities summarized, it was quickly apparent that each community has a different fee structure and applied different formulas that may have been established based on special circumstance or for political reasons. The narrative that follows provides the potential advantages and cautions of note related to the various fee structure components.

Flat or Variable Fee

A flat fee for each property would be a set fee charged to each property owner regardless of the property type or use. Although this is a simple way to distribute fees, it may not account for the impact each property has on the overall stormwater drainage issues within the City in an equitable manner.

A variable fee can be determined by two methods:

1. Based on property's total impervious area
    - Determine an ERU for each property
2. Based on a calculated runoff coefficient
    - assigned by property use
    - ERU calculated for each acre of property

This varying fee helps account for the variable impact that each property has on the overall stormwater drainage system and is a more equitable way to account for the amount of stormwater flow each parcel of land will contribute.

Equivalent Residential Units (ERUs)

Based on the previous year's fee collection data for the City, Greenville County currently calculates ERUs such that the percentage of fees collected from residential properties versus non-residential properties is proportional to the amount of impervious area that each contributes. The fees are based on impervious area, with residential properties accounting for roughly 30% of the fees and impervious area, while non-residential properties accounts for roughly 70% of the fees and impervious area. Greenville County's method applied to the City appears to have an equitable way to allocate fees for residential and non-residential properties. This breakdown of fees is similar to what other cities and counties use but does not take into account runoff coefficients that smaller cities may also consider.

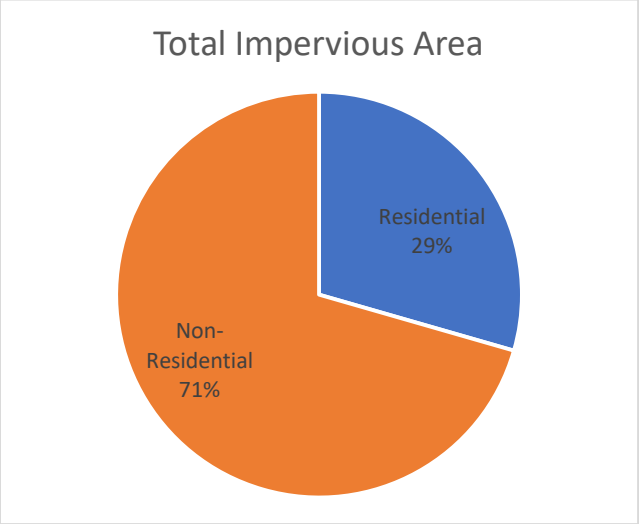


Figure 4 - Total Impervious Area

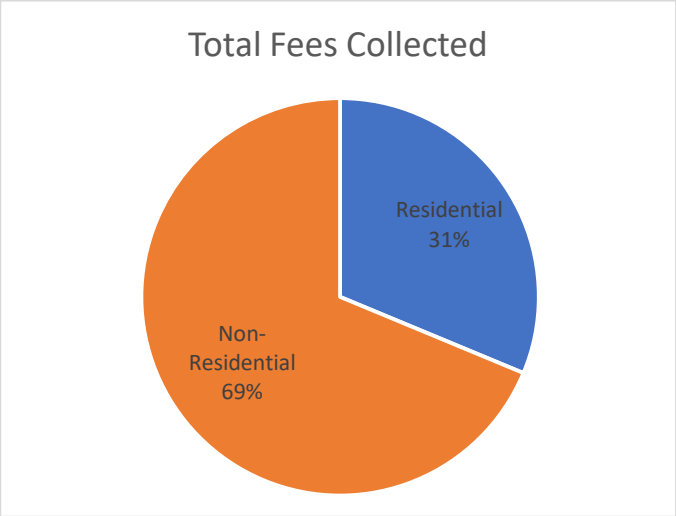


Figure 5 - Total Fees Collected

Minimum Charge

Setting a minimum charge ensures that the City meets its yearly funding goals and that every property owner, except for those exempt, is contributing to the continued maintenance of the stormwater infrastructure that they benefit from.

Fee Credits

Fee credits allow for homeowners to receive reimbursement for stormwater management measures they implement that will benefit the stormwater system as a whole. It also helps to incentivize property owners to implement stormwater management measures. Below are some examples of credits that the City could offer to their residents.

Table 1 - Fee Credit Reductions

Stormwater Control Measures (SCM)	Fee Reduction
Structural SCM	
Retention pond	Up to 50%
Retention ditch	Up to 30%
Rain Barrel	Up to 25%
Rain Garden	Up to 25%
Vegetation filter strip	Up to 25%
Non-Structural SCM	
Low impact Parcel Credit	Up to 20%
Education Credit	Up to 25%
Watershed Stewardship Credit	Up to 10%

One drawback of offering fee credits is the additional costs required for the City to process applications, review them and then maintain a database of the fee credits awarded each year. Also, the public's misunderstanding of these fee credits could be a factor.

Fee Structure Alternatives

After analyzing the various fee structures, five (5) alternatives were developed for consideration. The alternatives are summarized below:

- 1 - Flat fee for all residential, industrial, and commercial properties; minimum charge set; no fee credits
- 2 - Variable fee for residential and non-residential based on impervious area/ERUs; no minimum charge set; no fee credits allowed
- 3 - Variable fee for residential and non-residential based on impervious area/ERUs; minimum charge set; fee credits allowed
- 4 - Fee broken down between residential and non-residential properties; flat fee for residential and calculated fee for non-residential based on impervious area; no minimum charge set; no fee credits
- 5 - Fee broken down between residential and non-residential properties; flat fee for residential and calculated fee for non-residential based on impervious area; minimum charge set; fee credits allowed

Table 2 below provides a summary of the five alternatives to include whether a flat or variable fee is used for the residential and non-residential properties, if there is a minimum charge and if there are fee credits offered.

Table 2 - Stormwater Utility Fee Alternatives

Alternative	Flat or Variable Fee (Residential)	Flat or Variable Fee (Non-residential)	Minimum Charge	Fee Credits
1	Flat Fee	Flat Fee	Yes	No
2	Variable Fee	Variable Fee	No	No
3	Variable Fee	Variable Fee	Yes	Yes
4	Flat Fee	Variable Fee	No	No
5	Flat Fee	Variable Fee	Yes	Yes

Analysis

The tables below show various fee alternatives that were evaluated and approximate fees that would be collected yearly based on each alternative. An approximation was used to calculate the fee credits that could be awarded. KCI assumed that 15% of the non-residential properties would qualify for an estimated 10% fee credit. Table 3 below provides a summary of the input values for calculating the expected revenue for each alternative. Table 4 summarizes the expected revenue for each alternative.

Table 3 - Stormwater Utility Fee Breakdown

Alternative	Residential Fee	Non-residential Fee	Minimum Charge	Fee Credits
1	$25 developed or undeveloped	$45 for developed $25 for undeveloped	Yes	No
2	$25 - <1,000 sq ft and developed or undeveloped $28 - >1,000 sq ft and developed	$27 per ERU for developed $25 for undeveloped	No	No
3	$25 - <1,000 sq ft and developed or undeveloped $28 - >1,000 sq ft and developed	$27 per ERU for developed $25 for undeveloped	Yes	Yes
4	$25 developed or undeveloped	$27 per ERU for developed $25 for undeveloped	No	No
5	$25 developed or undeveloped	$27 per ERU for developed $25 for undeveloped	Yes	Yes

Table 4 - Stormwater Utility Fees Collected Yearly

Alternative	Residential Fees Collected	Non-residential Fee	Total Fee	Minimum Charge	Fee Credits
1	$225,000	$32,000	$257,000	$25	None
2	$245,000	$484,000	$725,000	None	None
3	$245,000	$476,740	$717,740	$25	$7,260
4	$226,500	$484,000	$710,000	None	None
5	$226,500	$476,740	$702,740	$25	$7,260

KCI evaluated the effects of a $5 and $10 increase to the fees for alternative 2 in Tables 3 and 4 to determine the magnitude of funds collected each year. KCI also calculated what fee would be required to achieve a $10 million and $20 million ten-year budget, shown below in Table 5.

Table 5 - Stormwater Fee Analysis

Residential Fee	Non-residential Fee	Total Fee Collected Annually
$30	$32 per ERU for developed $30 for undeveloped	$848,000
$35	$37 per ERU for developed $35 for undeveloped	$983,000
$36	$37.50 per ERU for developed $36 for undeveloped	$1,000,000
$72	$74.50 per ERU for developed $72 for undeveloped	$2,000,000

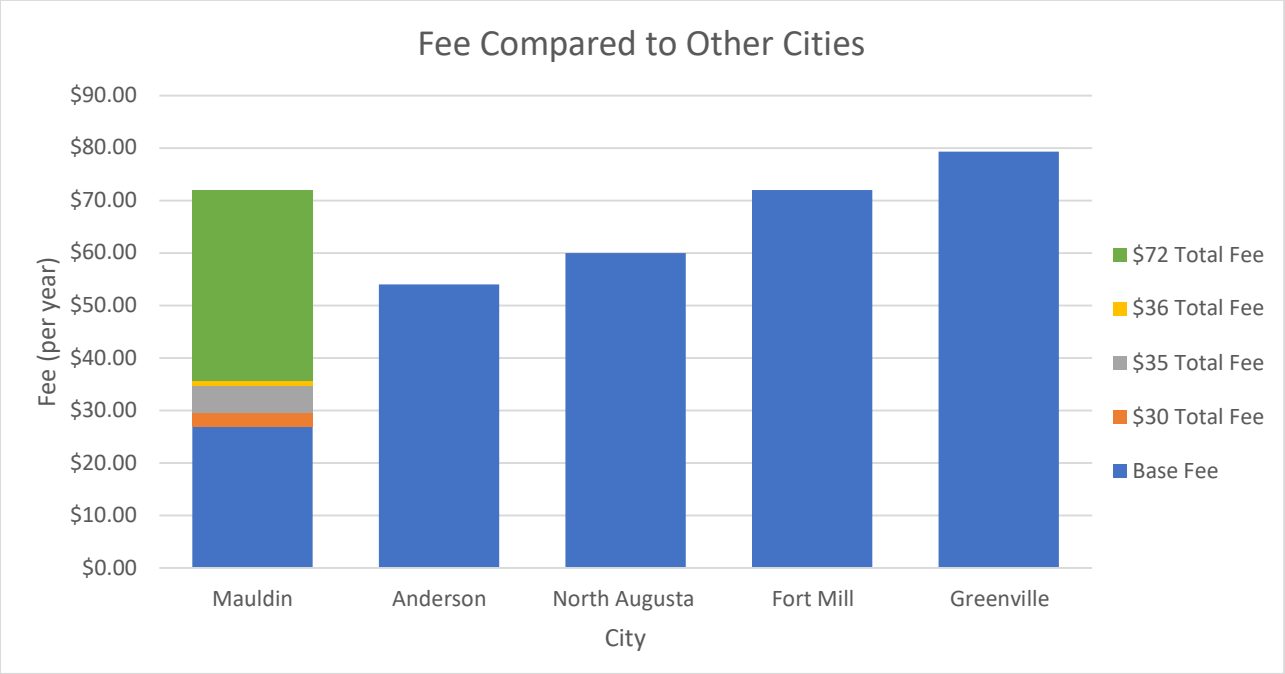


Figure 4 - Fee Comparison to Other Cities

Stormwater Utility Fee Use Scenarios

KCI provided three scenarios for using the stormwater utility fee to consider. The first option is to spend each year's budget bidding out work to a contractor in order to repair or maintain as much of the stormwater system as possible.

The second option is for the City to have an "in-house" crew that would be tasked with the repair, maintenance, and improvement of the City's stormwater system. The staff would likely consist of 4 full-time employees and their salary would come from the special revenue fund created by the stormwater utility fee. In addition to the employees, the crew would require a truck, trailer, dump truck and skid steer for maintenance use. The employee's annual pay and an annualized payment for the equipment would cost the City roughly $325,000 per year. This would leave $400,000 of the budget for purchasing the necessary material and renting equipment as needed for the stormwater projects for that year.

Table 6 - Annual In-House Costs

	Annual Cost
3 Crew @ $20/hr w/ benefits	$195,000
1 Crew Leader @$25/hr w/ benefits	$80,000
Equipment (truck, trailer, dump truck, mini ex)	$40,000
Fuel & Maintenance	$10,000
Total	**$325,000**

The final option is for the City to partially perform in-house labor and bid out the larger construction work. This would allow the City to continue using staff for smaller repairs and maintenance while bidding out larger construction work.

Stormwater Utility Fee Budgeting Scenarios

KIC has developed a scenario in which the City would take a hybrid approach to using the stormwater utility fee by establishing a 10-year stormwater improvement plan. A proposed capital improvements budget for the City would be based on a 10-year funding cycle. This budget would be used to fund small to medium scale projects. Examples of these projects would be culvert replacement of pipes under 36" in diameter, maintenance of existing failing culverts, maintenance of streams and ditches, or replacements of storm drain pipes.

Based on the recommended stormwater utility fee, the City would collect approximately $725,000 annually in fees. This would ensure that the City has a 10-year budget of $7,250,000.

KCI analyzed how much linear feet of stormwater could be replaced yearly with the 4-man crew and equipment described above. It was assumed that the crew could complete construction of 600 linear feet of 18-inch pipe or 200 linear feet of 24-inch pipe each week. A summary of construction cost is shown below. Based on an annual cost of $550,000 for in-house construction, the remaining $175,000 could be used annually for contracted work.

Table 7 - Annual In-House Construction Costs

	Annual Cost
4-Man Crew	$325,000
7,800 LF of 18-in installed over 13 weeks	$93,600
2,600 LF of 24-in installed over 13 weeks	$52,000
Structures and Misc. Stone	$79,400
26 weeks of repairs, maintenance, emergencies	No additional Cost
Total	**$550,000**

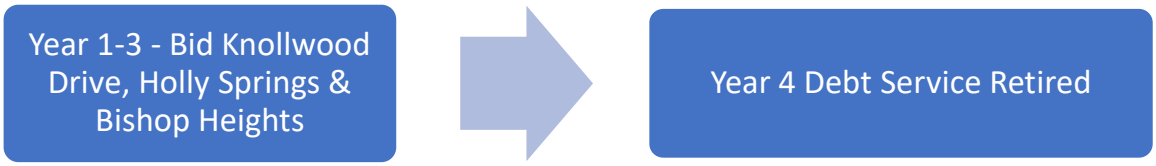
Stormwater Utility Fee Projects

The City would use funds collected for both small maintenance issues as well as medium sized construction projects to address flooding and drainage problems. Several potential capital improvements projects are listed below. These projects are recommended based on conversations with the City staff.

- Knollwood Drive: This project was previously recommended to the City as a result of a design study. The proposed solution would be to crown Knollwood Drive and add ditches and driveway pipes along the road to convey stormwater runoff to the designed outfall. It is estimated that this project would cost approximately $200,000.
- Holly Springs: This project was previously recommended to the City as a result of a design study. The proposed solution would be to move the stormwater conveyance system to the right-of-way along Springvale Drive and remove the existing storm drainpipes from private property. The project would cost approximately $500,000.
- Bishop Heights: The project was previously recommended to the City as a result of a design study. This project solution would be to construct a curb and gutter system throughout the neighborhood. It would also include a storm drain network throughout the neighborhood. All stormwater infrastructure currently on private property would either be abandoned in place or demolished. The project would cost approximately $2,050,000.

Using the hybrid approach of an in-house crew and contracting out work, the projects above could be bid out in the order shown below as contracted work without any revenue anticipation bonds.

If no in-house work were done and revenue anticipation bonds were issued, the three projects above could be completed within the next three years and debt service retired in year four.



Conclusions and Recommendations

Based on KCI's understanding of the City's needs and our research as summarized in this report, an annual Stormwater Utility Fee Budget of $725,000 should be adequate. The revenue to generate this annual budget would be $25 for residential properties, less than 1,000 square feet and $28 for larger residential properties. The fee for undeveloped non-residential properties would be $25. The fee for non-residential developed properties would be $27 times the ERU for the property.

Residential > 1,000 sq ft & developed $28	Residentail < 1,000 sq ft, developed or undeveloped $25
Non-residential Developed $27 x ERU	Non-residential Undeveloped $25

The annual expenses would balance doing projects with staff, equipment, materials and supplies for doing **In-House** stormwater improvement projects and contracting out the services needed to design, permit and construct **Contracted** stormwater improvement projects.

Table 8 - Stormwater Improvement Project Funding

Stormwater Improvement Project Funding	
In-House	**Contracted**
$550,000	$175,000

Based on the above revenue and expenses, 3 of the Projects KCI has already provided Feasibility Studies on, could be funded in the first 11 years (Knollwood Dr, Holly Springs, and Bishop Heights).