Stormwater Funding Feasibility Analysis

Prepared for:

Fayette County
Georgia

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ACRONYMS/DEFINITIONS

BMPs	Best Management Practices
BOC	Board of Commissioners
CCSU	Columbia County Stormwater Utility
CID	Community Improvement District
COE	Army Corps of Engineers
EOS	Extent of Service
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
ERU	Equivalent Residential Unit
FEMA	Federal Emergency Management Agency
GESA	Georgia Erosion & Sedimentation Act
GIS	Geographic Information System
HMGP	Hazardous Mitigation Grant Program
ISE	Integrated Science & Engineering
LOS	Level of Service
MNGWPD	Metropolitan North Georgia Water Planning District
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PIP	Public Involvement Plan
SWAC	Stormwater Advisory Committee
SWMP	Stormwater Management Program
TIA	Tax Injunction Act

1. EXECUTIVE SUMMARY

1.1. INTRODUCTION

Fayette County is located 30 minutes from downtown Atlanta and is one of the most favored communities in America. This coveted quality of life has been accomplished through a long history of strategic and comprehensive planning efforts by public officials, business and community leaders and Fayette citizens. This strategic long-term planning has provided a high level of water quality preservation seldom attained in the region.

Over the past 20 years stormwater management has been considered a water-quantity control component of development addressing exclusively drainage and flood control. It has since evolved to incorporate water and resource management, environmental protection and regulatory compliance, and a multi-dimensional water-quality management system. It is necessary for stewards of Fayette County to understand that if not managed properly the County's most valuable natural resource, its streams and watersheds may be negatively impacted as a result of past and future urbanization congruent with poorly-maintained, degraded, and un-repaired stormwater systems.

> *The stormwater function is no longer a basic capital construction and maintenance program able to be funded by local taxes, but a program providing integrated water-resource management, environmental enhancement and recreation services requiring a multi-faceted benefit-based funding mechanism.*

Given that large portions of the County's stormwater drainage systems and associated infrastructure lies under the County's roads, these assets are a critical component of how citizens are able to move about Fayette County. Failure to maintain these assets will seriously impact the citizens' abilities to conduct their day-to-day business.

1.2. CURRENT STORMWATER MANAGEMENT PROGRAM

Identifying and assessing the current condition of any Stormwater Management Program (SWMP) is essential to establishing the water quality, quantity and infrastructure priorities for the future. Currently, the Fayette County Stormwater Management Department has concluded a preliminary assessment and inventory of approximately 25 miles (of an estimated 100-125 miles) of stormwater pipes and all associated structures located within the unincorporated County. In order to address current and future

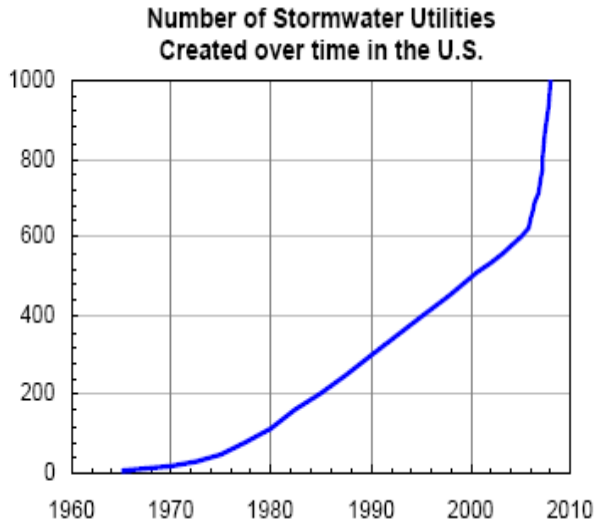
maintenance needs of these pipes and associated structures an expanded SWMP should be developed.

Fayette County's current Extent of Service maintenance policy for these pipes/structures consists of the Public Works Department maintaining all stormwater structures within County right-of-way as well as those on Fayette County properties. Structures outside the right-of-way are maintained by the property owner; however, the Stormwater Management Department may expand the Extent of Service maintenance policy (right-of-way), on a case-by-case basis, under specific conditions. The current stormwater maintenance policy provided to the unincorporated areas of Fayette County is complaint driven, with the exception for mowing of rights-of-ways and ditches. Residents contact the Stormwater Management Department and/or the Public Works Department with their complaints. Then Stormwater Management staff determines if the issue is located in the County's right-of-way easement Extent of Service. If the problem is an operation and maintenance one in the Extent of Service, a work order is sent to Public Works. If the problem cannot be corrected within the allocated Public Works funds it is placed on a Stormwater Improvement Project list. Since the list inception in 2009 approximately 45 stormwater improvement projects have been listed and only two completed.

In addition to managing infrastructure assessments, stormwater operations/maintenance, and enforcing development regulations, the Stormwater staff ensures compliance with mandated regulatory programs. These include the National Pollutant Discharge Elimination System (NPDES) Phase II program, and the Metropolitan North Georgia Water Planning District (MNGWPD)-Wide Watershed Management Plan. Both programs have extensive and regimented best management practices (BMPs) and goals the County is mandated to achieve without state or federal funds. Currently, all stormwater management staff, operation and maintenance, and stormwater improvement projects are funded though the general fund at an annual approximated cost of $436,000.

1.3. PRELIMINARY FINANCIAL ANALYSIS

As part of this feasibility study, the project team conducted a thorough review of funding options for the County's current and future SWMP needs. Fayette County's general funds, primarily generated from property and sales tax revenues, now fund the SWMP. An option for funding a SWMP is establishing a user fee. This type of funding is becoming more common across Georgia and the United States.



This feasibility analysis identifies why a user fee system is the best alternative means of funding to replace aging infrastructure and protect critical water resources. User fee

systems are known to be more equitable of assessing costs to the users.

A stormwater user fee is typically assessed on the amount of stormwater that leaves a property. As stormwater runoff from development increases, the demand placed on the County's current infrastructure system also increases. Unlike the general fund source, this user fee is more equitable to property owners since all parcels that contribute to increased stormwater (including exempt entities) pay a fee. The user fee is a dedicated fund ONLY utilized for Fayette County SWMP.

Supplemental funding opportunities to address Fayette County's aging infrastructure include:

- Special Service Areas
- Grants
- Bonds for Capital Improvements
- State Revolving Fund Loans
- In-Lieu Construction Fees
- System Development Charges
- Impact Fees
- Developer Extension/Latecomer Fees

Many well-prepared SWMPs across the nation now use a combination of an equitable user fee system and supplemental funding allowing the programs to have a dedicated and flexible funding source for staff, maintenance projects, improvement projects, etc. As a result of this feasibility analysis, it is the Project Team's conclusion and recommendation that a Stormwater Utility user fee and supplemental funding approach be utilized in Fayette County.

In order to determine if this user fee method is equitable, a preliminary land use analysis followed by a rate structure evaluation was conducted. This analysis measures impervious areas in square feet on single family residential parcels and non-single family residential parcels

Table 1 – Impervious Area

	Number of Parcels	Estimated Impervious Area (sq. ft.)	Percent Parcels	Percent Impervious Area
Single Family Residential	16,300	104,320,000	80%	77%
Non-Single Family Residential	600	30,720,000	3.0%	23%
Vacant	3,500	0	17%	N/A

A preliminary rate-structure analysis was conducted to identify a rate structure that would be fair and equitable to all property owners. Three methodologies used throughout the United States were evaluated in this report. The impervious area (total impervious area per lot) model best fits unincorporated Fayette County.

Many utilities throughout the state use the impervious area fee with a base equivalent residential unit (ERU). An ERU is the median amount of impervious area on the single family residential parcels. Measurements of impervious area for a representative sample of unincorporated Fayette County were taken from aerial photographs. In 2007, two

surveys were conducted in the United States that compared and contrasted stormwater utilities. The following table is a comparison of surrounding community's stormwater utilities and the results from the recent surveys.

Table 2 – Stormwater Utility Survey Comparison

	Unincorp. Fayette County	Peachtree City	F'ville	2007 Black & Veatch Survey[1]		2007 SESWA Survey[2]	
				High	Average	High	Average
ERU (sq. ft)	6,400	4,600	3,800	4,000	2,477	4,906	3,253

1 71 utilities across the nation represented from 22 states

2 45 utilities responded across Region 4 of the EPA

Notice the large single family residential impervious footprint demonstrating unincorporated Fayette County's unique disposition. For instance, in the Cherry Blossom Ridge subdivision the impervious area ranges from 9,432 square feet to 21,527 square feet, a difference of approximately 12,000 sf. as shown above.

Due to the large variation of impervious area among single family residential parcels it is recommended to base the user fee on the impervious rate model. To be more equitable, the impervious area for each parcel should be measured for the user fee. The same model will be applied to non-single family residential parcels.

1.4. BILLING DATABASE ASSESSMENT

Section 7 of this document assesses three possible billing systems that can be utilized to collect stormwater user fees. These billing systems have advantages and disadvantages as shown below:

Table 3 – Billing System Comparison

Billing Mechanism	Advantages	Disadvantages
Water Bill	• Monthly billing cycle • User fee services are combined into a single bill	• Administration fee • Only reaches 80% of the developed parcels
Annual Tax Bill	• Distributed to all parcels	• Perceived as a tax
Stand-Alone Stormwater	• Can be monthly, quarterly, or annually • Support of other SWMP functions	• High start up costs

Based on this assessment two billing options are viable:

- Option 1: Utilize the water system's database and billing system for most properties and utilize an in-house County billing system for non-water systems parcels and potentially large bills that would be billed monthly / quarterly (typically for very large accounts).

- Option 2: Implement an in-house stormwater billing system for all properties.

The County must continue to evaluate the advantages and disadvantages for the various options as well as undertake discussions with the Fayette County Tax Commissioner's Office regarding their willingness to include the stormwater user fee on the annual property tax bill.

1.5. PUBLIC INVOLVEMENT

If a Stormwater Utility user fee is established, it should be emphasized that a comprehensive and purpose-driven public involvement and educational program be established.

Successful stormwater utilities in Georgia have implemented education campaigns that give residents knowledge of the services they are being provided. A Stormwater Utility has many benefits; however, these benefits may not always be tangible. Education will assist residents in making the connections between the user fee and the services provided by the Stormwater Utility. A successful public involvement program educates the resident on how the County will:

- Make capital improvements related to flooding;
- Improve water quality;
- Effectively operate and maintain drainage systems;
- Regulate land development activities; and
- Comply with current and future regulatory mandates.

1.6. CONCLUSIONS & RECOMMENDATIONS

Fayette County and the Towns of Tyrone, Brooks and Woolsey will face significant challenges in the years ahead addressing stormwater management challenges with regard to maintaining the current quality of life and level of service that Fayette County citizens expect. Aging and failing infrastructure and Federal/State regulatory issues will continue to exert ever increasing levels of pressure on the County's institutional and financial resources. Failure to adequately fund and implement an expanded SWMP will result in a likely reduction of the quality of life for Fayette County citizens. This would likely result in some or all of the following:

- Closure of roadways;
- Decreases in water quality;
- Increased water treatment costs;
- Increased costs to the General Fund.

As a result of these potential issues, we considered several options to increase funding for the SWMP which included:

- Transfer of funding from other existing programs to the SWMP;
- Increasing the tax millage rate to generate additional revenues for the SWMP; and
- Implementing a stormwater user fee system to fund the SWMP.

After looking at each option, ISE felt that implementation of a user fee system provided the best and most equitable option for funding the future SWMP. As such, it is our recommendation that the County begin to transition to a Stormwater Utility via a dedicated enterprise fund with funding from a stormwater user fee and other secondary funding options as appropriate. As part of a move towards development and implementation of a Stormwater Utility and associated user fee system, we recommend that the following actions be taken as part of this effort:

- Follow the legal precedents established in Columbia County's development of their stormwater utility and legal victories in their defense of that utility;
- Create a Stormwater Advisory Committee to recommend policies for the Board of Commissioners to consider for adoption;
- Develop a detailed cost of service plan and corresponding rate tied to the cost of service;
- Create a detailed GIS based rate model for identifying the rate and corresponding financial impacts on the customers of policies considered;
- Develop a policy and procedure for allowing customers to reduce their bills based on actions taken by the customer to reduce demand for County provided stormwater services;
- Develop a procedure to allow customers to review their bills and verify the accuracy of their data;
- Explore opportunities with the various jurisdictions in Fayette County to develop a multi-jurisdictional approach to stormwater management to achieve cost savings.

Following implementation of a Stormwater Utility, we recommend that the County implement the following enhancements to the SWMP:

- Develop a comprehensive GIS based stormwater drainage system inventory and condition assessment as soon as feasible.
- Develop a comprehensive work order system to better improve Customer Service tracking and asset management.
- Following completion of the inventory above, create a Stormwater Infrastructure Management Plan, to organize and plan future maintenance and infrastructure replacement.

- Identify a staff member that will coordinate future stormwater drainage system capital improvements and to serve as construction manager for these projects.
- Hire a GIS analyst / technician for data management and infrastructure system updates including drainage system inspections and other regulatory support services.
- Hire a dedicated stormwater drainage system maintenance crew funded via the user fee system to work exclusively on stormwater maintenance issues.
- Establish a capital improvement project emergency reserve fund to provide for fiscal reserves for unplanned infrastructure replacement and storm damages to the County's assets.

Based on these recommendations, we believe that Fayette County will have the institutional and financial tools necessary to address many of the challenges facing the County both now and in the future via the implementation of a Stormwater Utility.

2. INTRODUCTION & PURPOSE

2.1. HISTORY & BACKGROUND

Encompassing about 199 square miles, Fayette County is one of the smallest counties in the State in terms of land area (142nd out of 159). Fayette County is geographically located in the northwestern part of Georgia. More precisely, it is situated about 15 miles south of the city limits of Atlanta and is considered an integral part of the Metro Atlanta area. Since all counties in Georgia are required to be a member of a regional planning and development agency for long-range planning and services coordination, Fayette County is a member of the Atlanta Regional Commission.

Development in Fayette County is diverse with differences throughout the various areas of the community. Fayetteville, the county seat, is the traditional small town; though now home to about 12,000 people, and is a certified Georgia Main Street City. Peachtree City is considered the nation's most successful planned community. In the Towns of Brooks and Woolsey, in the southern portion of Fayette County, most residences are on large tracts of five acres or more. The Town of Tyrone, in the northeast part of the county, home to about 3,800 people, is a blend of rural and suburban residential homes anchored by a small business district.

Water resources are an important part of Fayette County. Unlike many other counties in the metro region, Fayette County does not withdraw water from the federally operated reservoirs at Lake Chattahoochee and Lake Allatoona or the Chattahoochee River. Drinking water supplies for Fayette County are primarily drawn from the Flint River on the eastern border of the County, Line Creek on the western border of the County and Whitewater Creek running through the middle of the county. Water is stored in Lake Horton and Lake Kedron / Peachtree and the soon to be constructed Lake McIntosh. Due to the proximity of the water sources (being in Fayette County) and the fact that the lakes serve as recreational facilities, the County has a high degree of commitment to maintaining its water resources in order to ensure that County residents have a long-term water supply.

2.2. PURPOSE OF THE STORMWATER FUNDING FEASIBILITY STUDY

Fayette County wishes to develop a more proactive Stormwater Operations and Maintenance Program and Capital Improvement Program to address aging infrastructure and a growing backlog of work orders and projects. Given that large portions of the

County's stormwater drainage systems and associated infrastructure lies under the County's roads, these assets are a critical component of how citizens are able to move about Fayette County. Failure to maintain these assets will seriously impact the citizens' abilities to conduct their day-to-day business. Additionally, as mandated regulatory compliance requirements related to the NPDES Phase II MS4 Permit and the MNGWPD increase, so do the associated costs. The County currently has limited financial and manpower resources to implement a proactive SWMP. Available funding from the General Fund (i.e. property tax and sales tax) is often split between competing County programs, and stormwater often ranks as a lower priority than other County programs such as public safety and emergency management services.

Accordingly, Fayette County initiated a SWMP Funding Feasibility Study to:

1. Assess future SWMP needs and priorities;
2. Evaluate current and future SWMP costs;
3. Investigate the viability of implementing various funding options to provide additional financial resources into the existing SWMP;
4. Evaluate the legal implications of implementing the various funding methods;
5. Develop a recommendation related to the most fair, equitable and stable funding method(s) for the future SWMP;
6. Formulate a strategy to implement the recommended funding method (or combination of methods); and
7. Educate the public on various funding options and solicit feedback to provide to County officials.

In an effort to evaluate the potential for cooperation between the Towns of Tyrone, Brooks and Woolsey and Fayette County (i.e. unincorporated Fayette County), this feasibility analysis also evaluates initiating a multi-jurisdictional stormwater agency / effort to address common needs. The Cities of Fayetteville and Peachtree City choose not to participate in this evaluation due to the fact they both had already implemented stormwater more advanced SWMPs and dedicated funding sources via Stormwater Utility user fee programs.

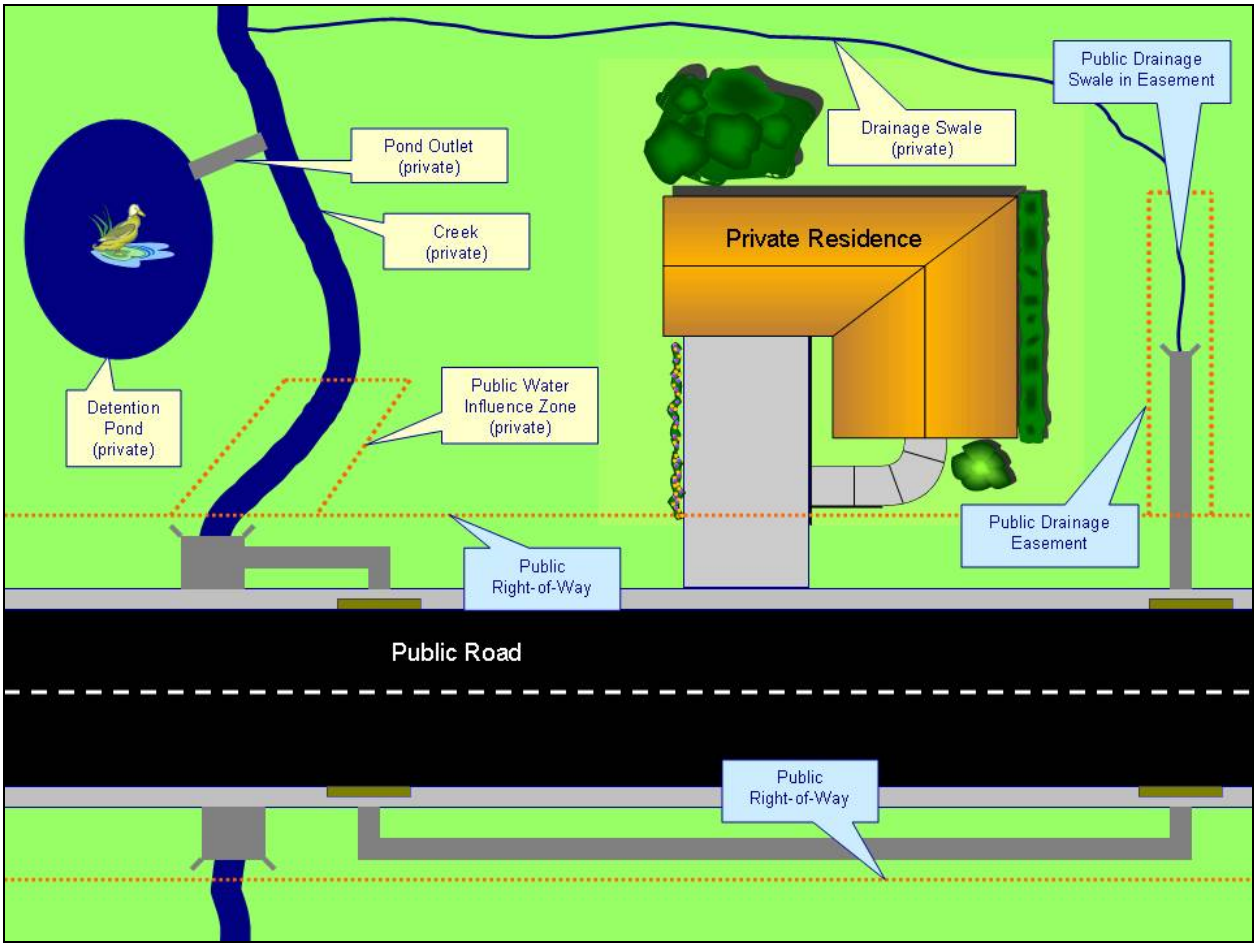
This report outlines the current Stormwater Management Extent and Level of Service provided within the study area (unincorporated Fayette County, Tyrone, Brooks, and Woolsey). It is essential to establish an Extent and Level of Service for the municipal stormwater system in order to define the County's responsibilities. After the County identifies an Extent of Service, the Level of Service for each element of the system is defined and resources to implement the proposed SWMP are identified.

3. EXTENT & LEVEL OF SERVICE

3.1. CURRENT EXTENT & LEVEL OF SERVICE

3.1.1. Extent of Service

A local Extent of Service policy classifies the "responsibility" of the various drainage infrastructure components based upon system component location and ownership. The image below is an example of the public Extent of Service in a typical residential street. Please note that the text boxes in blue show where a local government would provide maintenance services and the beige boxes show where a private homeowner would be responsible.



3.1.1.1. <u>Unincorporated Fayette County</u>

The County currently recognizes responsibility for drainage systems within the rights-of-way for County owned and operated roads. This responsibility is generally restricted to culverts and pipe systems conveying stormwater under roads and lateral systems not

associated with private driveways and access drives. Ditches parallel to the roadways within the rights-of-way are also recognized as being within the County's Extent of Service. The County's Extent of Service policy also extends to pipe systems within publically recorded drainage easements dedicated to the County for maintenance purposes. It should be noted that the County has a number of unpaved roads (approximately 56 miles of road) for which no recorded right-of-way is defined. In these cases, the right-of-way is prescriptive and extends from ditch to ditch. Finally, the County also recognizes responsibility for drainage systems located on properties owned and / or operated by the County.

The County does not accept operations and maintenance responsibility for drainage systems located on private property or drainage systems not contained within the County's Extent of Service policy. Any services related to these facilities would be performed on an emergency basis where public health or safety is threatened or where required by regulatory mandates for inspections and reporting purposes.

3.1.1.2. Town of Tyrone

Tyrone currently recognizes responsibility for drainage systems within the rights-of-way for Town owned and operated roads. This responsibility is generally restricted to culverts and pipe systems conveying stormwater under roads and lateral systems not associated with private driveways and access drives. Ditches parallel to the roadways are also recognized as being within the Town's scope of responsibility. The Town's Extent of Service policy also extends to pipe systems within publically recorded drainage easements dedicated to the Town for maintenance purposes. Finally, the Town also recognizes responsibility for drainage systems located on properties owned and / or operated by the Town. It should be noted that many of the detention ponds within the Town of Tyrone have been dedicated via easement to the Town. Based on conversations with staff, these detention ponds are located within both residential and commercial properties.

3.1.1.3. Towns of Brooks & Woolsey

Brooks and Woolsey currently recognizes responsibility for drainage systems within the rights-of-way for Town owned and operated roads. Additionally, this responsibility is generally restricted to culverts and pipe systems conveying stormwater under roads and lateral systems not associated with private driveways and access drives. Ditches parallel to the roadways are also recognized as being within the Town's scope of responsibility. The Town's Extent of Service policy also extends to pipe systems within publically recorded drainage easements dedicated to the Town for maintenance purposes. Finally, the Town also recognizes responsibility for drainage systems located on properties owned and / or operated by the Town.

3.1.2. Level of Service

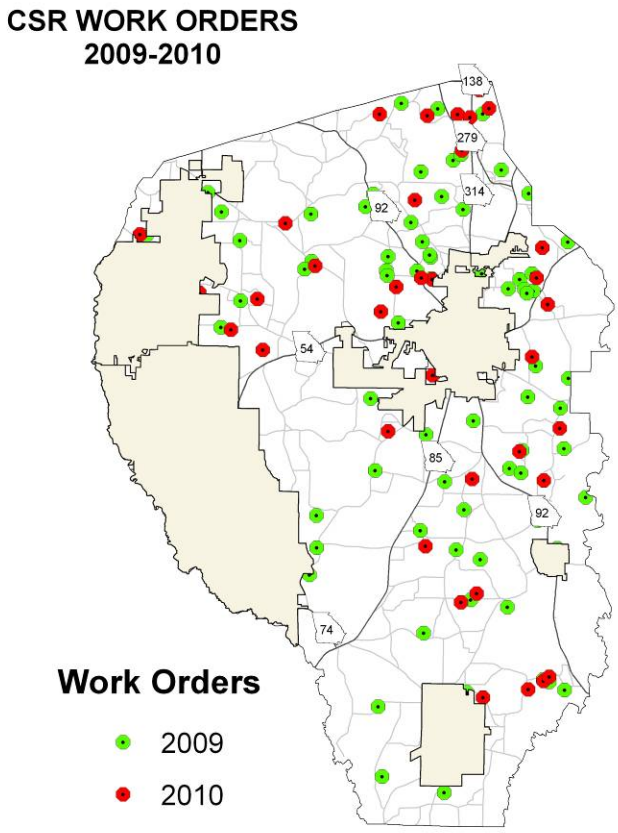
The Level of Service defines activities or services the jurisdiction will provide for the drainage system components within an Extent of Service policy. An example of a Level of Service policy might be that the jurisdiction will replace all failed pipes following loss of 10 percent of the invert of the pipe within rights-of-way.

3.1.2.1. Operations & Maintenance

Operations and maintenance activities maintain the physical stormwater management assets of the jurisdiction and vary from jurisdiction to jurisdiction. These assets include ditches, pipes, headwalls, catch basins, junction boxes, detention ponds, etc. For example, a smaller community may classify operations and maintenance as cleaning out debris and mowing in the right-of-way only, where a larger community with greater resources may repair and / or replace small systems as part of its operation and maintenance program. As a result, communities will vary significantly between what is defined as maintenance and capital improvement / replacement. Larger communities may use funding requirements (i.e. the amount of money spent on the project) as the differentiation between these programs.

Unincorporated Fayette County

Fayette County's Operation and Maintenance Program is primarily run through the Public Works Department with support from the Stormwater Management Department in identifying work orders and coordinating initially with property owners. Maintenance issues are addressed on a complaint driven basis with exception to mowing of rights-of-way and ditches. Currently, the Stormwater Management Department receives approximately 400 customer service requests per year. Resources within the Public Works Department allow for ditch cleaning and general maintenance. It was noted



that pipe systems are difficult to maintain due to the County's lack of equipment such as jet-vac trucks, etc. Given this lack of specialized equipment, most pipe systems are cleaned by hand with basic tools such as shovels, etc. that significantly decrease efficiency increasing the time necessary to perform the task and diverting crews from other work orders.

The County does not currently maintain detention ponds that are not located on County owned property. Although not utilized, the County does have provisions within subdivisions constructed since 2005 to maintain detention ponds and charge the maintenance costs back to the homeowners if they fail to maintain the detention ponds. However, to date, these provisions have not been utilized.

Town of Tyrone
Similar to Fayette County, the Town of Tyrone's operations and maintenance program is primarily complaint driven. The Town receives approximately two to three stormwater complaints per week that are handled by the Public Works Department. Based on estimated workloads during periods of typical rainfall, it was estimated that approximately 50 percent of Public Works resources are stormwater related. Currently, there are 3 Town employees dedicated to Public Works. Of special note, summertime operations involves an almost full time dedication to grass cutting and landscape maintenance by the Public Works Department with limited time remaining for other Public Works functions. As such, most non-emergency stormwater repairs are completed in the winter time. Given the limited resources, larger maintenance projects with the Town are typically placed on the Capital Improvement Program backlog and then contracted out as funds become available.

Towns of Woolsey & Brooks
Currently, all operation and maintenance issues are addressed by the County within the Towns of Woolsey and Brooks. During the course of research for this report, it was noted that several of the inlets within the Town of Brooks were clogged and needed to be added to the County's backlog.

3.1.2.2. Capital Construction & Replacement

Typically, capital construction and system replacement programs consist of a series of projects placed on a jurisdiction's long-term planning horizon since financial requirements typically exceed an operation and maintenance program's annual budget. Often referred to as Capital Improvement Projects, these infrastructure improvements typically emphasize upgrading undersized drainage systems or replacing drainage systems that have exceeded their service life. Cost thresholds and policies for inclusion of a project on a Capital Improvement Program vary significantly from community to community.

Unincorporated Fayette County
The County currently defines a capital expenditures as financial outlays of at least $5,000 that result in the acquisition, construction, or addition, to a capital asset. Fayette

County's capital projects for the purposes of the County's financial budget are defined as acquisition of any asset or construction project with an anticipated cost of $5,000 to $49,999 and an estimated useful life of three or more years. Capital Improvement Projects are major capital projects with an anticipated cost of at least $50,000.

The Stormwater Management Department recently began to track needed Capital Projects and Capital Improvement Projects and has identified approximately 41 projects. Based on data provided for this report, it was noted that the County has partially inventoried the stormwater drainage systems within the County's Extent of Service with regard to condition assessment. Stormwater Management Department staff indicated that it is likely given the age of parts of the system, significant numbers of capital projects and Capital Improvement Programs exist within the County that have not been yet identified. An example of such a project was found in January 2006 when the County had to divert approximately $144,000 from the County's contingency fund to implement emergency repairs to a culvert system under Wagon Wheel Circle.

Town of Tyrone
Tyrone maintains a limited Capital Construction List that is published annually in the budget. For the purposes of budgeting the Town defines a Capital Improvement Program project as a project exceeding $10,000 in cost with a useful life of at least 1-year. Currently, the Town had 9 projects identified on its Capital Improvement Programs list that have a drainage component associated with the project.

Towns of Woolsey & Brooks
There are no known capital projects within the Towns of Brooks and Woolsey.

3.1.2.3. Regulatory Compliance

Stormwater management regulatory compliance programs in Fayette County cover a variety of mandated local, state and federal regulatory laws. Examples of these regulatory programs include the NPDES Phase II Municipal Separate Storm Sewer System (MS4) permit, the NPDES Industrial Stormwater Permit, and the MNGWPD Watershed Management Plan, and the Georgia Erosion Control and Sedimentation Act.

Unincorporated Fayette County
The County's NPDES Phase II compliance strategy focuses on the implementation of several SWMP programmatic measures as defined in their NPDES Phase II Notice of Intent (NOI).

The NOI outlines specific activities known as Best Management Practices (BMPs) in six areas of the SWMP known as Minimum Control Measures and include:

- Public Education & Outreach
- Public Involvement & Participation
- Illicit Discharge Detection & Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development & Redevelopment
- Pollution Prevention/Good Housekeeping in Municipal Operations

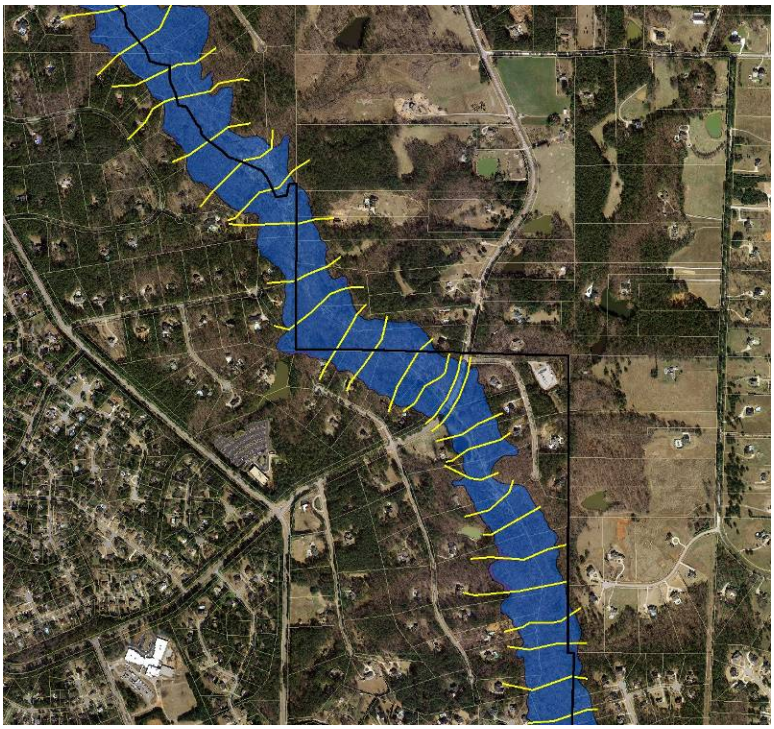
The program also requires adoption of three specific ordinances related to construction site stormwater runoff, post-construction stormwater runoff, and illicit discharge prohibitions. The County is currently in compliance with the NPDES Phase II Permit and regulations. However, it was noted that some of the County's measures are coordinated with the Fayette County 4-H program (administered and funded through the University of Georgia) and if this program were cut or reduced by the State, then additional responsibilities would need to be taken on by the County.

In addition to the NPDES Phase II permit, the County also maintains compliance with the NPDES Industrial Stormwater Program. The NPDES Industrial Stormwater Program was put in place to regulate stormwater discharges from select industrial activities as defined in the permit. At this time, the County maintains coverage under this permit for the County's Public Works facility on McDonough Road.

The County is also in compliance with the requirements of State Mandated Georgia Erosion & Sedimentation Act (GESA). The provisions of GESA are administered through the County's erosion control ordinance as well as the State's NPDES Construction Site Runoff Permit. The fee structure in the ordinance calls for a State mandated a fee of $80 per disturbed acre to perform the plan review process and to issue the Land Disturbance Permit. Furthermore, the fee structure calls for the fee to be split equally between the local issuing authority and the Georgia Environmental Protection Division (EPD). The stated purpose of the fee is to fund the local government's plan review, site inspection and enforcement efforts as well as the EPD's statewide enforcement efforts.

At the local level, the County is required to comply with the provisions of the MNGWPD Watershed Management Plan. The Watershed Management Plan requires a series of activities to be implemented related to stormwater management. The County is in general compliance with the program, however, it was noted that without additional resources, it was considered unlikely that the County would be able to maintain compliance with the floodplain mapping requirements of the MNGWPD. These provisions require that the County identify the extent of the 100-year floodplain for all streams with a drainage area of at least 640-acres by 2013. At this time, the County has completed approximately 10% of these streams through cooperative efforts with

Peachtree City and Coweta County. Additionally, the County must either identify the extent of floodplains for all streams with a drainage area of at least 100-acres or require that a developer identify them as part of the development process.



Floodplain Mapping on Camp Creek at Redwine Road

Town of Tyrone

Tyrone currently must comply with the same requirements as the County. The Town was in compliance with the NPDES Phase II program, the provisions of GESA, and the MNGWPD Watershed Management Plan. The only exception to this is the floodplain mapping that is partially complete.

Towns of Woolsey & Brooks

Currently, the Towns of Woolsey and Brooks have limited regulatory requirements imposed on them. Due to the fact that neither Town is located within an urbanized area, the NPDES Phase II program is not applicable. Additionally, neither Town has any regulated facilities under the NPDES Industrial Stormwater Program. Given the fact that the State has not designated the Towns as Local Issuing Authorities, the provisions of GESA are maintained by the State. The County currently implements all local regulations for the Towns, and as such, the MNGWPD provisions are currently addressed by the County.

3.1.3. Stormwater Management Program Expenditures

Historically, jurisdictions have not tracked stormwater management expenses as a separate line item budget. This has been quite common in our experience across the state given the multi-departmental nature of SWMPs. Cost expenditures included below were compiled based on discussions with staff, reviews of budgets and estimated percentages of operating budgets/staff salaries. It is the assumption of this analysis that the expenditures related to SWMP implementation provide an accurate representation of the annual costs for each jurisdiction's current efforts.

3.1.3.1. Unincorporated Fayette County

The majority of costs incurred by the County related to SWMP implementation are currently born by the Stormwater Management Department (regulatory compliance, development plan review and limited operations and maintenance support) and Public

Works (operations and maintenance and capital construction). Based on a review of the annual budget and estimates of Public Works expenditures, it has been estimated that the County currently expends approximately $436,000 per year. These costs are divided as follows:

- Stormwater Management Department - $326,000
- Public Works Department - $110,000

It should be noted that some capital expenditures have been incurred as part of on-going capital construction and capital improvement programs however; these costs have been incidental to on-going road projects underway.

3.1.3.2. Town of Tyrone

The majority of costs incurred by Tyrone related to SWMP implementation are currently born by the Public Works Department (operations and maintenance) with some support from the Administrative Department (regulatory compliance). Based on a review of the annual budget and estimates of Public Works expenditures, it has been estimated that the Town currently expends $200,000 per year divided as follows:

- Public Works Department - $155,000
- Administrative Department - $45,000

3.1.3.3. Towns of Brooks & Woolsey

The Towns of Woolsey and Brooks do not appropriate any significant funds to stormwater management given that there are no significant regulatory compliance demands and the County provides virtually all operation and maintenance support to the Towns.

3.2. FUTURE EXTENT & LEVEL OF SERVICE

3.2.1. Future Extent of Service

As discussed earlier, a local Extent of Service policy classifies the "responsibility" of the various drainage infrastructure components based upon system component location and ownership. In simpler terms, it defines where the local government will provide services related to the drainage system and SWMP. It should be noted that the Extent of Service will often change based on the nature of the service. For example, the local government may provide inspection services for all detention ponds within the jurisdiction in order to achieve regulatory compliance requirements but may only provide for physical maintenance of those detention ponds located within government owned properties and dedicated easements.

At this time, it is our recommendation that the County, Tyrone, Brooks, and Woolsey limit their Extent of Service policies to their current limits with regard to operations and maintenance. Based on the fact that the jurisdictions have not completed a detailed stormwater inventory and infrastructure assessment, it is our recommendation that they not significantly expand their service areas until such time as this effort has been completed and funding levels to maintain the current infrastructure are better determined and forecast.

3.2.2. Level of Service

3.2.2.1. Operations & Maintenance

Unincorporated Fayette County

It is anticipated that as the County continues to age, infrastructure repair and replacement needs with regard to stormwater drainage systems will continue to increase. Many of the stormwater drainage pipe systems in Fayette County have been installed within the last 20-30 years, using corrugated metal pipe. Corrugated metal pipe is typically a steel pipe which is rolled with corrugations to enhance the strength of the pipe. Corrosion prevention of the pipe is usually accomplished utilizing a galvanization process and / or coating with a bituminous material. These pipes can be identified by their dull grey finish with a black tar-like substance coating the pipe. Corrugated metal pipes typically have an estimated life span of between 20 to 25 years, depending on soil conditions, alkalinity, flow velocities, presence of standing water, etc. Failure of these pipes typically results from rusting of metal within the invert (i.e. lowest portion of the pipe that water encounters), which eventually rusts through to the soil underneath. Once this occurs, failure can occur by undermining of the soils resulting in collapse of the pipe into the void underneath or by collapse of the pipe via crushing since there is no structural support in the lower portion of the pipe. As shown in the Section 4 of this report, we have illustrated several examples of needed maintenance projects that are located within the County's current Extent of Service policy. While a more proactive Operation and Maintenance Program will not offset the need for capital replacement of drainage systems, it will allow the County to realize the maximum useful life of existing drainage systems thereby reducing the financial impact of early system replacements.

As such, it is our recommendation that the County increase its capabilities and level of service with regard to infrastructure management within the operations and maintenance function of the County's SWMP. We recommend that a Construction Manager be designated to an existing employee such as the Assistant Road Director in the Public Works Department. This position will be responsible for coordination of routine maintenance assignments (ditch cleaning, mowing, street sweeping, etc.) as well as oversight of more construction intensive rehabilitation projects.

During the initial implementation of an expanded SWMP, it is anticipated that Public Works will continue to provide manpower via a limited maintenance crew. However, it is our recommendation that the County staff a full-time maintenance function with three to four full time equivalent employees within the initial 3-year period to provide additional maintenance capabilities. The County should also allocate additional resources during the initial two years for outsourced maintenance support to support Public Works until the aforementioned dedicated crew is added. We would envision that this support (minimum $100,000 per year) would consist of a force account with a construction firm that would be assigned work on a task order basis for projects that Public Works cannot perform either due to schedule availability or nature of the work to be performed (i.e. complex or requiring special skills / equipment). Examples of the types of work that would be performed might include catch basin repair, small drainage system replacements and ditch shaping and cleaning.

We also recommend that additional funds be reserved for specialized services related to cleaning and investigation of stormwater drainage systems. Examples of these types of services include jet/vac trucks (removal of sediment and debris from pipes), video inspection (identify corrosion / damage to pipe systems), etc. We recommend that the County contract these services to a private company to avoid the high capital and maintenance costs associated with this type of equipment.

Finally, we recommend that the County consider adding additional GIS / GPS resources to be for use in drainage system investigations. Given the size of the County's stormwater drainage system, it is our recommendation that the County add a GIS technician to the Stormwater Management Department to improve the County's ability to accurately identify, map, assess and track drainage system needs as well as provide data for regulatory program compliance.

Town of Tyrone

Similar to the County, Tyrone's infrastructure continues to age but does not pose as significant a challenge to Tyrone due primarily to the relatively small geographic area that it covers. Public Works staff spends a significant portion of their time maintaining the existing amenities, especially during summer, maintaining and mowing the various parks and rights-of-way. However, it was felt that the drainage system while needing additional maintenance attention, did not warrant adding a full time maintenance crew with their associated costs (i.e. $200,000 to $300,000 per year). As such, it is our recommendation that the Town develop a priority list of maintenance projects each year and then hire outside resources to perform these tasks. Additionally, we recommend that the Town consider bidding a force account agreement with a maintenance company to handle unforeseen projects that may arise due to stormwater drainage system failures and / or storm damage. An example of this type of maintenance that would be bid out might include detention pond maintenance, jet/vac services, etc.

Additionally, we recommend that the Town consider adding additional GIS / GPS equipment to be utilized by the Town's environmental technician for use in drainage system investigations. Currently, the Town has limited GIS capabilities and the addition

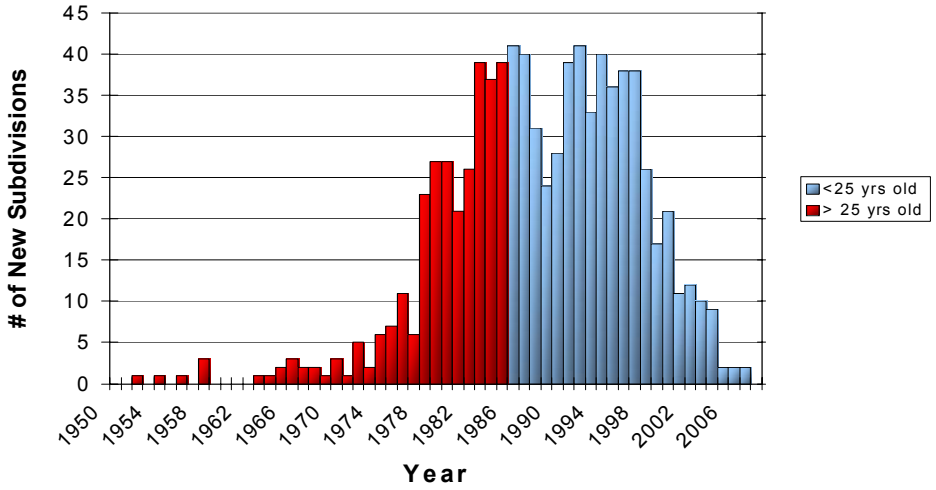
of a field tablet computer would improve the Town's ability to accurately identify, map, assess and track stormwater drainage system needs and assets.

GPS Capable Field GIS Tablet Computer

Towns of Brooks & Woolsey
It is our recommendation that the Towns of Brooks & Woolsey begin establishing a capital improvement reserve fund for any potential capital improvement projects. Should the County elect to move forward with a Stormwater Utility, it is our recommendation that the two Towns move forward with the County and allow the County to operate the stormwater drainage systems in those Towns as part of their overall utility.

3.2.2.2. Capital Construction & Replacement

Fayette County
As discussed earlier, the County currently does not possess a detailed stormwater drainage system inventory and condition assessment of all of the various pipes, inlets, etc. for which the County has responsibility. As such, the County does not have a complete list of anticipated construction projects beyond identifying those systems for which citizens have complained. The chart shown below illustrates the number of subdivisions (including roads with stormwater drainage systems maintained by the County) built within unincorporated Fayette County since 1950. The County has experienced two significant growth periods, the first peaked around 1985 and the second approximately 10 years later around 1995. Given that metal drainage pipes have a typical life expectancy of 25 to 30 years, it is reasonable to expect that many of the pipes systems in the County are nearing or are at their design life expectancy. As such, we anticipate that the amount of capital projects will increase in the next 10 to 15 years as the County is forced to replace these systems as they begin to fail. Examples of projects anticipated as part of this effort, the reader is directed to Section 4.



Given the anticipated need for additional capital projects in the future, we recommend that the County begin setting aside additional funding for drainage system replacement. Until such time as additional assessments can be made and a detailed capital replacement plan can be developed, it is our recommendation that the County allocate a minimum of $150,000 to $250,000 per year for unscheduled stormwater drainage system replacements.

Town of Tyrone

Tyrone has a number of capital projects previously identified but are relatively small in nature compared to those seen in the County. However, due to previously enacted policies in the Town, one of the Town's most challenging efforts with regard to stormwater management is the rehabilitation of the Town's detention ponds. Most of the ponds constructed in the residential developments of the Town have been deeded to Tyrone for perpetual operation and maintenance (in a manner similar to the roads). As such, it is imperative to the long-term operation of these facilities that they be maintained on a regular basis. We recommend that each pond be assessed for maintenance needs and then prioritized for rehabilitation and long-term routine maintenance.

We recommend that the Town set aside a minimum of $70,000 to $100,000 per year to address detention pond maintenance and capital projects. Once a full inventory and condition inspection of the Town's drainage system has been completed, it is recommended that a capital maintenance and replacement plan be developed to better project funding needs for drainage system repair and replacement.

Towns of Brooks & Woolsey

As discussed earlier, it is our recommendation that the Towns of Brooks and Woolsey begin establishing a small capital reserve fund to allow for unforeseen capital improvements. Should the County establish a Stormwater Utility, it is our recommendation that the two Towns turn over maintenance responsibility to the County as part of their Utility operations.

3.2.2.3. Regulatory Compliance

Based on a review of the regulatory compliance programs for the participating jurisdictions in this study, we have found no significant gaps in current regulatory demands. The only need that was seen which will impact Fayette County and the Town of Tyrone is related to MNGWPD Watershed Management Plan future conditions floodplain mapping requirements. At present, the County has completed approximately 20 percent of the mapping requirements through cooperative efforts with the City of Peachtree City (Camp Creek on the west side of Peachtree City) and Coweta County (Line Creek). As such, significant mapping efforts still remain in each jurisdiction. We recommend that the County set aside $150,000 to $300,000 (to be expended over a period of three to four years depending on the mapping methodologies to be utilized) and the Town of Tyrone set aside $15,000 to $30,000 to complete these requirements.

4. STORMWATER INFRASTRUCTURE EVALUATION

4.1. CURRENT INVENTORY STATUS

As part of the scope of this project, Integrated Science & Engineering (ISE) performed a limited review and evaluation of the County's Geographic Information Systems (GIS) data related to stormwater infrastructure as well as a small sample of the County's currently mapped 4,000 drainage components. Currently, the County has mapped approximately 30% to 40% of the unincorporated portion of the County. Based upon a review of the County's GIS data, it is estimated that 90 percent of the pipes within the County are constructed of corrugated metal pipe. As detained in Section 3, corrugated metal pipe has an estimated life span of approximately 20 to 25 years. Approximately 13 percent of the infrastructure currently mapped included a condition assessment of fair to poor.

Drainage System Mapping in the Glen Grove Subdivision

Based on discussions with staff and review of the data, it was noted that much of the data lacks consistency from one area to the next. Approximately two years ago Stormwater Management Department staff initiated a more comprehensive and consistent inventory and assessment program. Given limited staff availability the new protocols have only been utilized to inventory approximately 5 to 10 percent of the unincorporated County. We recommend that the County initiate a comprehensive inspection and mapping program to identify and evaluate the County's entire stormwater management infrastructure to include evaluating the following attributes:

<u>Structures</u>

- Structure Type (catch basin, headwall, junction box, etc.)
- Structural Damage (lid cracked, inlet collapsed, headwall detached from pipe, etc.)
- Structure Construction (pre-cast concrete, brick construction, metal, etc.)
- Presence of Debris (full of logs, sediment, etc.)
- Presence of Water (standing water, flowing creek, lake backed up in structure, etc.)

- Location (subdivision name, road, right-of-way, easement, etc.)
- Depth of Structure (10-feet from top of lid to pipe invert, etc.)
- Approximate Age of Structure (years)
- Presence of Illegal Connections (septic system tied to storm drain, roof drains, etc.)
- Maintenance Needs & Recommended Maintenance Priority

Pipes

- Pipe Type (corrugated metal pipe, concrete pipe, concrete box culvert, pipe arch, etc.)
- Pipe Diameter (18-inches, 48-inches, etc.)
- Sedimentation in Pipe (25% full of sediment, completely full of sediment, etc.)
- Corrosion in Pipe (invert of pipe rusted through, rusty, invert intact, none, etc.)
- Presence of Water (i.e. standing water, flowing creek, lake backed up in structure, etc.)
- Pipe under Pavement (pipe under roadway, pipe in easement, pipe adjacent to roadway, etc.)
- Location (subdivision name, road, right-of-way, easement, etc.)
- Pipe Length (feet)
- Approximate Age of Pipe (years)
- Presence of Illegal Connections (i.e. septic system tied to storm drain, roof drains, etc.)
- Maintenance Needs & Recommended Maintenance Priority

Prior to initiating any additional work with the County's GIS infrastructure inventory, it is recommended that the County develop a field procedures manual to ensure consistent data collection. We recommend that the County invest in a GIS field tablet computer with GPS mapping technology to better develop and utilize the data. Finally, we recommend that a single point of management be established for the inventory effort to ensure consistency and quality control / assurance through the inventory process and eventual re-inspection process in future years.

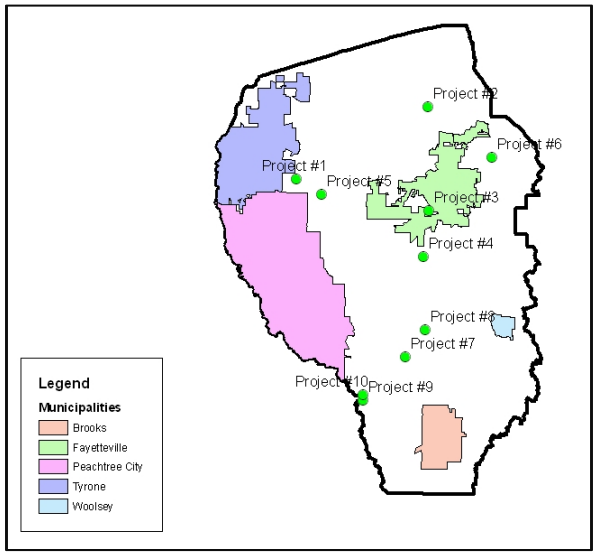
Following completion of the inventory for a project area (subdivision, watershed, etc.), we recommend that the data be utilized to develop an infrastructure management plan. The purpose of the infrastructure management plan would be to evaluate but not be limited to the following:

- Identify priority capital projects (near term, 5-year, 10-year, funding available, etc.)
- Identify and categorize infrastructure elements based on their priority usage / need
  - System is under arterial County road
  - System serves subdivision with single point of access
  - System conveys large drainage basin
  - System serves as outlet works of lake, etc.

- Establish re-inspection protocols / schedules (every 5-years, annual, as-needed, etc.)
- Establishes proactive maintenance schedule for select systems

4.2. EXAMPLES OF EXISTING DRAINAGE SYSTEMS WITH DOCUMENTED CONCERNS

In an effort to better illustrate some of the more problematic systems, ISE field representatives visited ten known drainage systems with deficiencies. The following discussion outlines in broad strokes the nature of the problems and potential cost implications to the County. Please note that we have not conducted any engineering studies as part of this effort and the costs shown herein are estimated based on experience with similar projects.



Project*	Project Location	Cost Implication
Project #1	Vicinity of 328 Dogwood Trail	$150,000 – $300,000
Project #2	Vicinity of 105 Northwind Trail	Minimal
Project #3	Vicinity of 130 North Mourning Dove Drive	$100,000 – $200,000
Project #4	Vicinity of the Sam's Lake wetlands mitigation site	$100,000 – $200,000
Project #5	Vicinity of 1105 Brittany Way	$75,000 – $125,000
Project #6	Vicinity of 131 Deer Forrest Trail	$50,000 – $100,000
Project #7	Grooms Road @ creek crossing (tributary to Haddock Creek)	$75,000 – $150,000
Project #8	Kari Glen Subdivision (off Old Greenville Road)	$125,000 – $250,000
Project #9	Lone Oak Drive (off Padgett Road)	$75,000 – $125,000
Project #10	Starrs Mill Drive (off Padgett Road)	$50,000 – $75,000
	Total	**$800,000 – $1,725,000**

**Projects are not prioritized*

4.2.1. Example Project #1

Project Location: Vicinity of 328 Dogwood Trail

Project Description: The Dogwood Trail crossing (over Flat Creek) is conveyed by a pair of estimated 84-inch (7-foot diameter) corrugated metal pipes. The date of installation is unknown, but our estimate is that the pipes were installed in the late 1980s or early 1990s by the County. The pipes are bolted plate arches, and as the photograph shows, there is progressive deterioration of both pipe inverts (rusting and worn by scour). With time, or in the event of a significant flood, the structural integrity of the culverts will likely be compromised, and a major road failure could ensue. Without proactive replacement, eventual failure would close Dogwood Trail to through traffic, an inconvenience while the system is replaced, and could create public safety service complications. The drainage basin for this culvert system is estimated to be greater than 2,400 acres (approximately 4-square miles), and significant development in both the Tyrone and North Fayette area has taken place since the culvert system was installed. A hydrology/hydraulic analysis will likely conclude that the metal pipes should be replaced with a concrete culvert(s) sized to pass the higher flows resulting from upstream development.

Cost Implications: The cost range to replace this system could range from $150,000 to $300,000.

4.2.2. Example Project #2

Project Location: Vicinity of 105 Northwind Trail (at the intersection with Brogdon Road).

Project Description: This drainage system consists of a pair of catch basins which were designed to intercept street drainage from Northwind Trail. The location of the outfall pipe for this system is unknown, and has likely been buried, perhaps during utility or roadway maintenance. As a result of the outfall being buried, sediment and debris has accumulated in the riser sections of the catch basin. In moderate storm events, it is our opinion that drainage backs up within the catch basin and potentially causes localized flooding which could pose a significant hazard to passing traffic on Brogdon Road. Ponding on arterial roads can cause hydroplaning and/or traffic hazards. Remediation of this system should be fairly simple by locating the buried outfall pipe and replacing it or simply removal of debris and sediment with a jet-vacuum truck in order to restore the flow of water from the system.

Cost Implications: The cost to perform this minor replacement and/or maintenance function on this pipe should be fairly minimal. This system should be scheduled for maintenance as soon as practical for public safety reasons.

4.2.3. Example Project #3

Project Location: Vicinity of 130 North Mourning Dove Drive.

Project Description: This aging large culvert system in Partridge Point Subdivision is deteriorating, and will likely need replacement within the next five years. The pipe inverts are rusted through and separation between the pipe joints were also noted. During our investigation, a neighbor reported that he was continually adding dirt to a small sink hole in the road shoulder, indicative of a greater problem. The photos below show the two 60-inch diameter metal pipes. Failure of this pipe system would lead to loss of access to approximately 18 homes until a temporary access route could be restored; public safety services during that time would be restricted or limited. Additionally, the residents in the area would also be stranded from leaving their neighborhood as well.

Cost Implications: Replacement of the system would likely cost the County between $100,000 and $200,000.

4.2.4. Example Project #4

Project Location: Vicinity of the Sam's Lake wetlands mitigation site.

Project Description: The inverts of three 72-inch corrugated metal pipes have begun rusting as shown on the photo below. Without replacement, eventual failure would close Old Senoia Road to through traffic, an inconvenience while the system is replaced, and could pose public safety service complications.

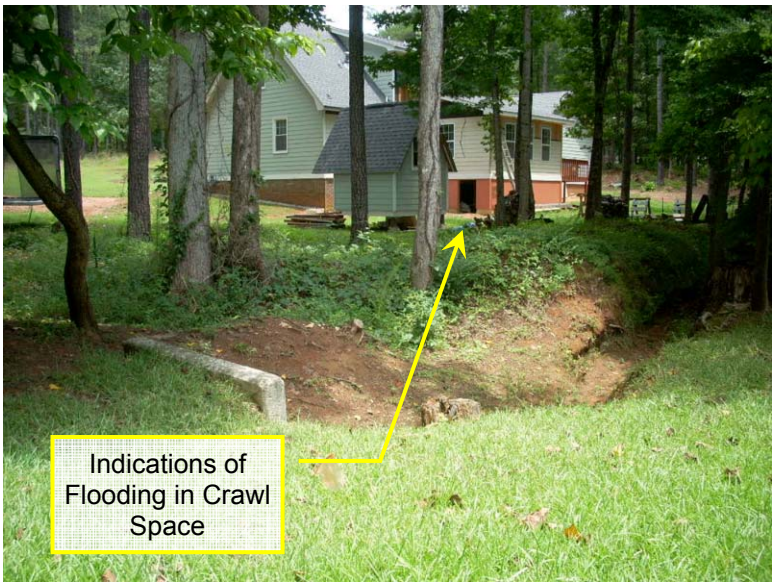
Cost Implications: Replacement of the system would likely cost the County between $100,000 and $200,000.

4.2.5. Example Project #5

Project Location: Vicinity of 1105 Brittany Way.

Project Description: This pipe system is in reasonable condition given its age. However, there have been complaints from the adjoining neighbors regarding localized flooding during heavy rainstorms. The pictures below show where one of the homeowners has constructed a wall at his basement door to block the flooding waters. It appears that the other adjacent homeowner also experiences frequent flooding of his crawl space.

Cost Implications: The cost range to replace this pipe system would range from $75,000 to $125,000.



4.2.6. Example Project #6

Project Location: Vicinity of 131 Deer Forrest Trail.

Project Description: The invert of this pipe system appears to be completely rusted, and the compromised structural integrity could result in a partial collapse of the roadway at any time. As there are alternative access points for this neighborhood, a collapse of this section of Deer Forrest Trail will be an inconvenience for local traffic while the system is repaired, and create public safety service complications.

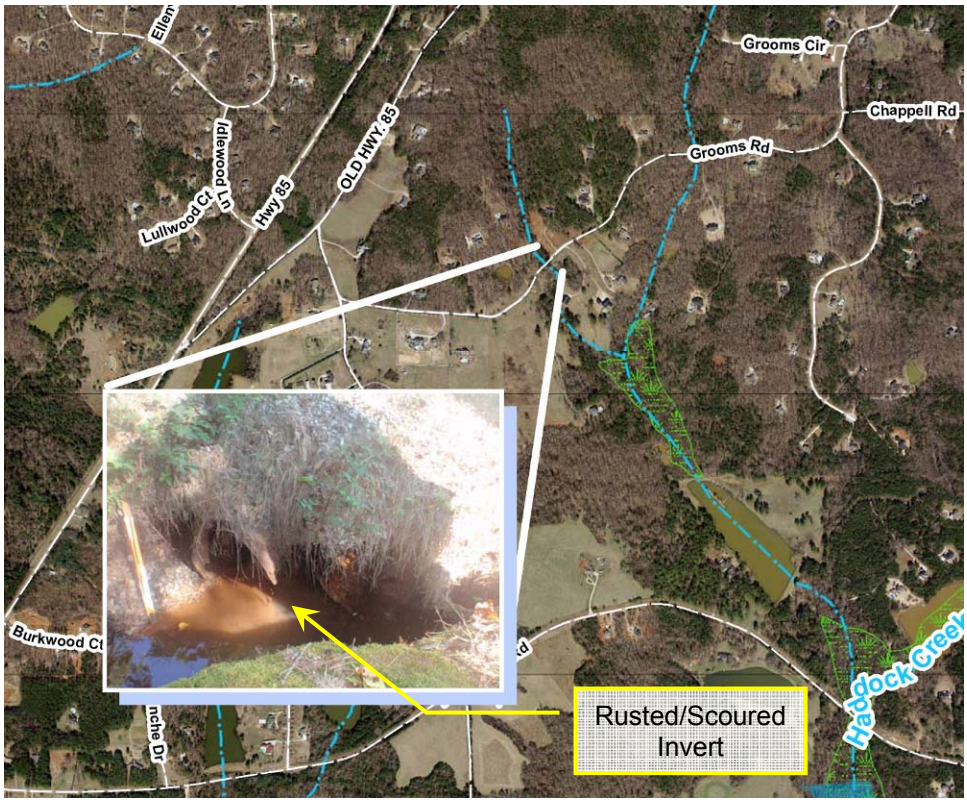
Cost Implications: The cost to replace this system would range from $50,000 and $100,000.

4.2.7. Example Project #7

Project Location: Grooms Road at creek crossing (tributary to Haddock Creek).

Project Description: A pair of corrugated metal pipes (24-inch pipe and 36-inch pipe) are severely rusted and partially collapsed. The age of the pipes are unknown, and their capacity to convey even small storms is suspect (i.e. the pipes are likely not large enough to pass the required level of service). A washout of the road or collapse of the pipes would cause inconvenience to local traffic, and a public safety service complication.

Cost Implications: The estimated cost range to replace this system could range from $75,000 to $150,000, depending on the results of a hydrology/hydraulic analysis.



4.2.8. Example Project #8

Project Location: Kari Glen Subdivision (off Old Greenville Road).

Project Description: Two separate drainage systems in the rear of the one entry subdivision are showing early signs of deterioration. Both systems are relatively deep (20 to 25 feet of earthen fill from the pipe invert to roadway), and replacement costs would therefore be expensive. Failure of either system would block access to four to six homes, prohibiting public safety service access and preventing the residents from leaving their homes. Prior to replacement, a hydrology/hydraulic assessment should be completed to verify pipe sizing.

Cost Implications: The estimated cost range to replace both systems is between $125,000 and $250,000.

4.2.9. Example Project #9

Project Location: Lone Oak Drive (off Padgett Road).

Project Description: The invert of this 36" corrugated metal pipe has been scoured and rusted completely. It also appears that the pipe is undersized, and the capacity should be assessed prior to replacement. As there are alternative access points for this neighborhood, a collapse of this section of Lone Oak Drive will be an inconvenience for local traffic while the system is repaired, and create public safety service complications.

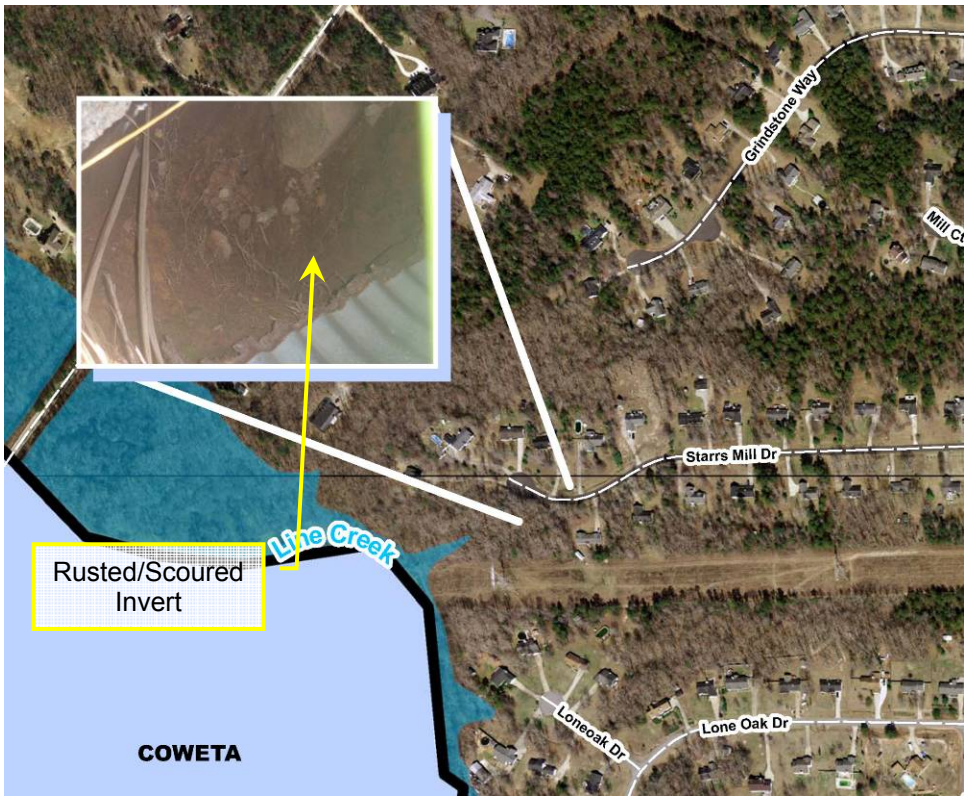
Cost Implications: The cost to replace this system would range from $75,000 to $125,000.

4.2.10. Example Project #10

Project Location: Starrs Mill Drive (off Padgett Road).

Project Description: The invert of this 24-inch diameter corrugated metal pipe has completely rusted and the pipe no longer has structural integrity. Collapse of the pipe is eminent, and will block access to three homes in the event of failure, restricting public safety service access.

Cost Implications: The cost to replace this system would range from $50,000 to $75,000.



5. PRELIMINARY FUNDING OPTIONS ASSESSMENT

5.1. FUNDING OPTIONS

There are ten generally accepted funding mechanisms available to local governments to fund a SWMP. These can be grouped into two major categories – Primary and Supplemental. Primary funding methods would have the potential to fully fund all components of the SWMP. Supplemental funding methods can typically only fund specialized components of a comprehensive program.

Primary Funding Methods

- Stormwater User Fees
- General Fund Appropriations

Supplemental Funding Methods

- Special Assessments
- Special Service Fees
- Bonds for Capital Improvements
- In-lieu of Construction Fees
- System Development Charges
- Impact Fees
- Developer Extension/Latecomer Fees
- Federal and State Funding

5.1.1. Primary Funding Methods

5.1.1.1. Stormwater User Fees

Georgia law does not have a specific section for mandating how local governments are to structure a SWMP, nor the methods to use for funding stormwater management. However, the Georgia Constitution does specifically enable local governments to conduct stormwater management as a "supplementary power." Georgia legislature provides broad power to local governments under "home rule" provisions. Under these broad rules, it appears feasible and legal for the cost of stormwater management to be distributed across a municipality as deemed appropriate by a jurisdiction. Throughout the United States, stormwater user fee programs have been operated as an enterprise fund. They are legally and organizationally patterned after the most common utilities – water and sewer.

Generally, stormwater user fees are based on the relationship of impervious area and the amount of rainfall that runs off a parcel. This runoff creates a demand on the stormwater drainage system that is beneficially utilized to convey the flows away from the parcel. Simplified rates have been used to help implement the program that in some cases have been based on a flat-rate charge for single family residential properties. Non-residential properties generally pay higher fees since they are comprised of highly impervious

surfaces and generate large quantities of runoff. Their use of the stormwater drainage system is greater and, consequently, their fees are greater.

Revenues generated by a stormwater user fee is a function of the design of the rate structure and the land use characteristics of the community. In establishing a Stormwater Utility with associated stormwater user fee system, the basic principles of public utility operation and funding are followed. This would involve the formation of an enterprise fund. One of the greatest benefits is that funds raised by this approach are legally dedicated to being spent for stormwater management. This new source of revenue is directly linked to the program that demands the funds.

Stormwater user fees may be applied to non-taxable (public) as well as privately owned properties. Taxable (private) properties are thus relieved of a portion of the cost of stormwater management. Credits can be given against stormwater user fees to encourage and reward responsible stormwater management such as on-site detention of runoff, and to compensate for activities performed by the property owners that are beneficial to the SWMP. The stability of revenue from a stormwater user fee ensures that long-range scheduling of capital improvements and operations can be done with reasonable assurance that funding will be available. Another advantage of a stormwater user fee would be to free up general fund resources previously used for stormwater management for other purposes such as other departments or millage rate reductions.

The largest potential obstacle to implementing a stormwater user fee is its high visibility and the "newness" of the approach. Regardless of technical distinctions between taxes, exactions, assessments, and service charges, any form of government funding will be viewed by a majority of citizens and property owners as a "tax" and thus might be unpopular.

Stormwater Utility Overview

A Stormwater Utility – or user fee system – is typically a charge assigned to a property and its owner to recover the cost for impacts to publically owned infrastructure to the local government entity of managing the stormwater runoff generated by that parcel or customer. Throughout the country, more than 400 Stormwater Utility programs have been established. Each has been and must be established to meet the unique needs of the community it serves. The establishment of the utility provides that the costs (including expenses and depreciation) of providing SWMP related services to the utility customers on a continuing basis are to be financed or recovered through user fee charges that are fair and equitable to all property owners utilizing the local government's drainage system and facilities.

The amount of runoff generated by a parcel represents that parcel's proportionate share of the cost of service delivery provided by the County. The amount of runoff from a parcel is largely determined by the amount of impervious surface areas (i.e. concrete, asphalt, roof tops, etc.) that are present on a particular parcel. The amount of impervious area for a parcel is directly related to the increased quantity of runoff and the potential for an increase in non-point source pollutants to be discharged into the County's drainage

system. This increased burden or demand (water quantity and quality) placed on the County's drainage system results in a higher cost to provide stormwater management services for that parcel. The increased demand associated with impervious surface related impacts to the County's drainage system is the basis for the user fee charge to the parcel owner. As such, one can deduce that larger parcels with greater amounts of impervious surface area will be charged a higher fee based on the relative demand placed on the County's drainage system. This is in direct contrast to property taxes which are tied to the taxable value of the property. The images below illustrate the fundamental difference between Stormwater Utility user fees and property taxes:

Tax Exempt Property
Property Tax Burden – None
Stormwater Demand – Significant

Undeveloped Commercially Zoned Property
Property Tax Burden – Moderate to Significant
Stormwater Demand – Minor

Residential Lots
Property Tax Burden – Moderate
Stormwater Demand – Minor

Commercial Property
Property Tax Burden – Moderate to Significant
Stormwater Demand – Significant

As you can see, in this example, the property tax burdens are not proportional to the stormwater demands that the properties place on the system.

Structural Characteristics of Stormwater Utilities

Like all utilities and enterprise funds, a Stormwater Utility has two fundamental structural characteristics:

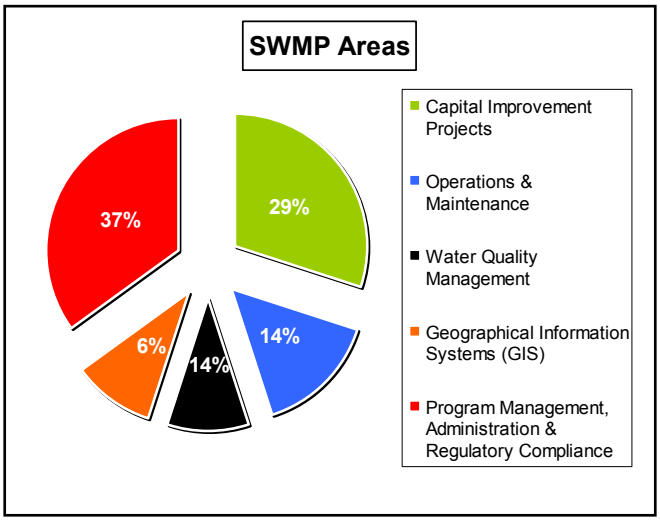
1. A Stormwater Utility is a defined *organizational entity* charged with accountability for the execution of a defined SWMP and specific service delivery to its customers, and
2. It is a stand-alone, self-contained *accounting entity* with defined revenues and restricted expenditures, such as an enterprise fund. The enterprise fund accounts for operations that are financed and operated in a manner similar to private business enterprises.

Organizational Entity

As an organizational entity, a Stormwater Utility has a defined mission or purpose – to provide a defined level of stormwater management service to the community and its customers. It is provided financial resources and charged with the management of human resources and the support equipment necessary for those personnel to accomplish the mission effectively and efficiently.

As an organizational entity, stormwater utilities can pursue one of two general courses in providing services: it can contract with other units within the local government's organizational structure (i.e. Utilities Department) to provide services; or it can acquire its own resources and provide the required services directly. In either event, the fundamental objective of the organizational aspect of a utility is the clear assignment of accountability. All final responsibility for performance in achieving the stormwater program objectives lies with the utility structure. The full range of stormwater management services provided by a full service utility would include:

- SWMP Administration
- Operations & Maintenance
- Capital Improvement Program
- Stormwater Masterplanning
- Public Education & Information
- Water Quality Management
- Geographic Information System (GIS)
- Regulatory Compliance
- Billing, Collections & Customer Service



While all of the SWMP elements itemized above may be funded through a utility, it

is not necessary that all costs be so recovered. The County may elect to fund any portion of eligible costs at its discretion and to fund the remaining portion through non-utility sources.

Financial (Accounting) Entity
The second fundamental characteristic of a utility is its stand-alone accounting entity status. Consistent with Generally Accepted Accounting Practices, the Stormwater Utility must be structured as either a special revenue fund or as an enterprise fund. These fund designations require that revenues generated by (or transferred to) the utility must be spent solely for legitimate stormwater management functions. This classification segregates revenues and expenditures associated with the special purpose for which the enterprise fund was established. By design, it prohibits the co-mingling of fund balances. In contrast to general funds, an enterprise fund operates similar to a private business venture, and sometimes it generates an excess fund balance. The enterprise fund concept allows for excess fund balances to be easily rolled over to future years for use in various SWMP related projects and functions.

5.1.1.2. General Fund

Stormwater management has been funded from the County's general fund allocations (i.e. property tax and sales tax). The historical problem associated with allocating funding from the General Fund is the nature of competing priorities. As public services have been funded, each program (public safety, recreation, community development, etc.) competes for limited money. Stormwater management has typically been one of the lowest priorities. Partially because of this, as well as a growing understanding of stormwater management's impact on the overall water quality, water resources management – and stormwater in particular – has been the subject of increasing federal and state environmental management programs. When combined with the greater need for stormwater management infrastructure maintenance and replacement issues, the SWMP will continue to exert pressure on the General Fund.

Because stormwater management is growing in its importance, there is a widespread understanding that comprehensive actions must be undertaken and historical spending levels must be increased to match the new program efforts. Even if stormwater management continued to be funded with General Fund money, more funding is needed. Therein lies the problem with using General Fund money – no one wants to raise taxes or cut existing programs.

Based on our review of the County's FY 2010 budget, increasing stormwater management funding by $1,250,000 in order to address the 10 capital projects shown in Section 4 would require an approximate 0.23 millage increase in property taxes.

5.1.2. Supplemental Funding Methods

These funding methods cannot individually completely fund the SWMP. However, they do provide excellent means of partially funding portions of a stormwater management program, and are presented with that in mind.

5.1.2.1. Special Assessments

Special assessment districts have been used across the United States for many years to finance capital improvements. While not specifically limited in application to stormwater infrastructure, they have been used to finance improvements such as street landscaping, street lighting, traffic signals, and parks and recreation. A unique aspect of special assessments is the need to identify the specific benefit that properties receive. Project costs are assessed within the boundaries of the designated benefit area. Then the overall cost of the project is weighed against the individual properties within the benefit area to determine the benefit each area or parcel will receive from the public improvement.

Property owners are usually offered the opportunity to pay the assessment amount in cash or allow a lien to be placed on their property. Then, payments are submitted over a predetermined 10-year to 20-year period to pay for the bonds issued to finance the improvement.

The difficulties in applying this approach to stormwater management are numerous. In practice, it is easier to apply this approach to capital improvements rather than maintenance and operations. The major disadvantage is that the costs must be distributed in proportion to the direct and special benefit received by each parcel. It is not sufficient to merely show the general benefit received by the assessment area.

5.1.2.2. Special Service Fees

Special service fees are fees collected for providing special services. Examples include plan check fees, building inspection fees, and special permit fees. These are services that are provided to limited users of the service. An example of these types of fees would be development plan review fees and application fees.

Special services fees could be combined with other programs to help pay for the operational aspects of stormwater management. However, it would be limited to relatively few activities. One could charge a fee for providing field inspections in addition to the current application fees and plan check fees.

Generally these fees can range from nominal to very high fees in urban areas that have sufficient development to support the use of this system at higher funding levels. If implemented for stormwater services, the fees would only be assessed to applicants for the special service. The County would need to identify the special service being provided, and then determine the cost of that service in order to fully recover the costs. Consequently, it would only be of limited value, since it is limited in how it is applied (i.e. only applicants for a Development Plan review would be paying for the service). While this might be useful in paying for administrative review costs, it is not appropriate for funding maintenance and construction activities. Additionally, with the recent downturn in the economy, it has been shown that these fees can not be relied upon to provide a consistent revenue source for internal operations.

5.1.2.3. Bonds for Capital Improvement

Bonds are not a revenue source but simply a method of borrowing. Bonds are typically used for capital-intensive projects. The chief advantage of bonding is that it allows construction of major improvements to be expedited in advance of what could be funded from today's current revenue, sources. The County has used bonds to finance the construction of larger projects in the past, most recently in the construction of Lake McIntosh.

There are two types – general obligation bonds and revenue bonds. General obligation bonds are backed by the full faith and credit of the local government (i.e. County, Town, etc.). Georgia law limits a jurisdiction's bonding capacity to 10 percent of the total assessed value as set for property tax purposes. All revenues, including various taxes, may be used to service a general obligation debt. It requires voter approval. Revenue bonds are backed by revenue – such as user service fees. It, therefore, does not require voter approval. The revenues obtained through the user service fees are then utilized for paying the debt service. If the County were to establish a stormwater management enterprise fund, once the revenue history became predictable, then it would be able to pursue obtaining revenue bonds for construction projects. Both Fayetteville and Peachtree City have secured revenue bonds via their stormwater utilities to fund capital construction programs.

5.1.2.4. In-lieu of Construction Fees

Instead of constructing on-site facilities to meet development requirements, developers may be given the option of paying a comparable fee to be used by the County to build regional facilities that are designed to meet the same objectives as the developer-constructed on-site mitigation. The major disadvantage is that the fees paid are generally less than the entire cost of the regional facility. Also, the regional facility is needed to be built before all the fees are collected – requiring some additional funding mechanism to pay for the initial construction. A high level of master planning is usually required to prove that that the regional facility is an acceptable substitution for the developer's on-site facility. One of the advantages is that regional watershed based approaches to solving stormwater impacts are generally more effective than small, local, on-site facilities. Having developer's participate in the total solution is generally better than a 'checkerboard' approach. However, the County has not experienced a development trend that is conducive to this approach.

5.1.2.5. System Development Charges

One-time charges assessed at the time of development to recover a proportionate share of the cost of existing facilities and planned future facilities. They are not specifically provided for by the General Assembly. They differ from both in-lieu of construction fees and impact fees primarily in terms of:

- the fundamental purpose of the charges;
- their relationship to the point in time when improvements are made versus when the charges are collected; and

- their relationship to specific facilities which are funded through service charges.

System Development Charges are usually designed to recover a fair share of the previous public investment in excess infrastructure capacity from a developer who makes use of the additional system capacity (Cyre 1999).

The proportionate share concept has traditionally been utilized by water and sewer departments for the construction of new water and sewer lines to connect special facilities such as schools or hospitals. New users are charged a one-time sewer proportionate share fee to cover cost of construction of the water / wastewater treatment facilities based on their usage of capacity.

To apply this approach to stormwater management would require identification of the system, and a detailed analysis of the system capacity. Based on the system age and a review of the development history, the system most likely has components that are undersized. Given that there is no excess capacity, it will be difficult to legally support its application for stormwater management.

5.1.2.6. Impact Fees

Impact fees are charges imposed against new development to provide for the costs of capital facilities necessitated by that growth. Existing residents find them popular since it shifts the cost of new facilities to new developers. Obviously, developers do not favor their use and have exerted political pressure to limit their application. There are several administrative steps and limitations codified by Georgia Code (36-71-1 Georgia Development Impact Fee Act) that make impact fees difficult to utilize. Local Governments have taken action to utilize impact fees for parks, roads, and public safety facilities. The difficulty in following this same approach with stormwater management is that most of the needed capital improvements are related to "fixing the deteriorated system" rather than building new facilities caused by new development. As stated earlier, impact fees can only be imposed for capital improvements necessitated by new growth. Certainly there might be a situation where an impact fee system could apply, but it would not apply countywide.

5.1.2.7. Developer Extension/Latecomer Fees

Developer extension/latecomer fees are a means of distributing capital investment costs among several properties. The practical application is commonly seen for extending water and sewer service into adjacent areas. One developer builds the facility with excess capacity to accommodate adjacent or nearby properties that are to be developed subsequently. It is difficult to apply this type approach to stormwater infrastructure because the existing system in many cases was only constructed to adequately convey the existing demand. A master plan, based on full build-out and expansion, would be needed to guide the sizing of downstream facilities. Practically, this methodology does not provide funds – limiting its usefulness as a revenue source. However, in some limited situations, it could be used to help provide infrastructure construction funds.

5.1.2.8. Federal & State Funding

Most of the federal and state funding programs are in the form of grants and loans and often require matching funds from local jurisdictions. Monetary amounts are generally small, and the process competitive. With the exception of the funding available from the State of Georgia's revolving loan fund for water quality management, there are few federal and state funding mechanisms for local SWMPs. The following paragraphs outline some of the programs that are available for funding components of a SWMP.

- Federal Emergency Management Agency (FEMA); Hazardous Mitigation Grant Program (HMGP) – During periods of natural disaster such as floods, hurricanes and tornadoes; the Federal Emergency Management Agency releases funds to the state emergency management agencies to aid local governments in disaster relief and reconstruction. Occasionally, when funds are left after relief efforts are completed, the emergency management agencies will utilize these funds to complete more proactive flood control projects. Limited primarily to purchasing homes that have been damaged, the HMGP has on occasion been utilized to improve stormwater infrastructure projects such as detention facilities and roadway culverts. Financially, the program is structured as a reimbursement program designed to pay out 75 percent of the cost of a project. Fayette County has utilized this type of funding in the past to acquire homes in flood-prone areas that had been flood damaged.

- Environmental Protection Agency (EPA); Section 319(h) Grant Program – Funded as part of the Federal Clean Water Act, the 319(h) program focuses on mitigating non-point source pollution in surface waters. The program funds two basic types of projects: 1) non-point source pollution control practices as a demonstration project and 2) watershed restoration projects. Financially, the program is designed to reimburse communities 60 percent of the project cost.

- Georgia Environmental Facilities Authority; State Revolving Loan Program – Designed originally to aid local governments with the costs of construction and improvements to publicly owned water and wastewater treatment plants, the state revolving loan program has expanded into collection and distribution systems as well as stormwater infrastructure improvements. A local government that applies for and receives a loan under the State Revolving Loan Program pays a 2 percent closing cost and then pays the loan back with 3 percent interest over a typical 20-year period.

- Federal Highway Administration; Transportation Equity Act for the 21st Century (TEA-21) Grant Program – Used typically for road and sidewalk improvement projects, some communities have had success with implementing stormwater improvement projects as related to urban roadway corridors for both water quantity and quality. The TEA-21 program will reimburse a community for approximately 80 percent of the project cost.

- United States Army Corps of Engineers (COE); Various Grants – With a long history of water resources management, the COE provides local assistance in several areas of flood and environmental mitigation. Typical financial assistance is provided for small flood control projects, emergency stream bank protection, dredging for flood control, environmental improvement projects, aquatic ecosystem restoration and floodplain management and planning support services. The COE has various matching contributions for each type of project that range from 25 percent to 50 percent of the project cost. In many cases contributions of land and other in-kind services can be utilized against needed matching local contributions.

5.2. LAND USE ANALYSIS

The amount of development on a property affects how much of a demand the property puts on the stormwater drainage system infrastructure and in some cases the amount of regulatory responsibility that the jurisdiction must take on due to federal, state and regional regulatory requirements. This can best be described by looking at the amount of rainfall that a property can absorb or infiltrate before development and then the amount of infiltration after development. As the property is developed, houses, buildings, driveways, parking lots, etc. are placed on the property and soil/vegetation that once absorbed rainfall is now removed or blocked. Infiltration is thus decreased and the amount of rainfall that flows from the property is now increased in the form of additional stormwater runoff.

Experience has demonstrated that in many cases, the more intense the development of the property, the amount of stormwater generated is increased. As such, single family residential properties tend to have the least amount of impact and various developments in the non-single family residential category typically have the greatest impact on runoff volume increases. This is due to the fact that the amount of impervious area can be directly tied to the increase stormwater runoff. Additionally, because the impervious area is relatively minor when comparing single family residential properties to non-single family residential properties, the assumption of single family residential properties having less impact than non-single family residential properties is valid in most cases.

5.2.1. Unincorporated Fayette County

The unincorporated portion of Fayette County covers an area of approximately 145 square miles based the County GIS data. Current property data obtained from the GIS indicates that the County has a varied mix of land development that includes large tracts of residential single family detached housing, and commercial development in select areas of the County. These developments were classified into three types of properties: 1) single family residences detached housing single family residential; 2) non-single family residence properties; and 3) properties that have not been developed (i.e. vacant). The reader should note that the non-single family residential classification can include all types of property usage including attached housing (duplexes, triplexes, apartments, townhomes, etc.), commercial development, industrial complexes, etc. and in common

use is the "catch-all" category for all developments that are not single family residential properties. Based on review and analysis of available GIS data, the following table is a summary of the makeup of properties in the County.

Table 5-1. Property Classifications in Unincorporated Fayette County

Classification	Count of Properties	Average Area of Properties (acre)	Total Area of Classification (acre)
Single Family Residence	16,327	2.2	35,919
Non-Single Family Residence	596	7.8	4,613
Vacant (undeveloped)	3,368	8.0	27,079

5.2.1.1. Single Family Residential Properties

The County GIS data indicates there are approximately 16,327 single family residential properties within the County. The typical residential property size within the County is approximately 2.2 acres based on a preliminary single family residential analysis. This accounts for approximately 35,919 acres, or 38.7 percent of the gross area of unincorporated County. This projection does not take into account vacant properties that could be developed in the future.

5.2.1.2. Non-Single Family Residential or Non-Residential Properties

The non-single family residential properties within the County consist of commercial, industrial, recreational, institutional, not-for-profit, and other non-residential properties. The total number of non-single family residential properties is approximately 596 with a total area of approximately 4,613 acres. These properties make up 13.3 percent of the gross area of the County. The majority of commercial non-single family residential properties centered on the major arterial roadways in the northern portions of the County.

Impervious area for non-single family residential parcels is not typically averaged due to the wide variance found in property size and development intensity. This can be best exemplified by examining the differences between large golf courses and smaller commercial developments. While golf courses make up very large property sizes, these properties tend to have smaller impervious areas associated with them. Conversely, smaller commercial properties tend to have relatively small property sizes and significant impervious areas associated with the development relative to the lot size.

5.2.2. Town of Tyrone

Tyrone covers an area of approximately 13 square miles based on data derived from the County GIS. Current property data obtained from the GIS indicates that Tyrone has a varied mix of land development that includes large tracts of residential single family detached housing, attached residential housing and commercial development in select areas of the Town.

Table 5-2. Property Classifications in Tyrone

Classification	Count of Properties	Average Area of Properties (acre)	Total Area of Classification (acre)
Single Family Residential	2,178	1.6	3,559
Attached Residential	44	0.7	29
Non-Single Family Residential	231	8.3	1,918
Vacant	642	3.2	2,048

5.2.2.1. Single Family Residential Properties

Based upon the GIS data of Tyrone, there are approximately 2,178 single family residential properties within Tyrone. The typical residential property size within Tyrone is approximately 1.6 acres based on a preliminary single family residential analysis. This accounts for approximately 3,559 acres, which is 47 percent of the gross area of Tyrone. This projection does not take into account vacant properties that could be developed into residential homes in the future.

5.2.2.2. Non-Single Family Residential or Non-Residential Properties

The non-single family residential properties within Tyrone consist of commercial, industrial, recreational, institutional, not-for-profit, and other non-residential properties. The total number of non-single family residential properties was found to be approximately 231 with a total area of approximately 1,918 acres. These properties make up 25 percent of the gross area of Tyrone.

5.2.3. Town of Brooks

Brooks covers an area of approximately 4.4 square miles based on data derived from the County GIS. Current property data obtained from the GIS indicates that Brooks has a varied mix of land development that includes large tracts of residential single family detached housing, and commercial development in select areas.

Table 5-3. Property Classifications in Brooks

Classification	Count of Properties	Average Area of Properties (acre)	Total Area of Classification (acre)
Single Family Residential	220	7.8	1,724
Non-Single Family Residential	33	3.1	104
Vacant	79	12.1	954

5.2.3.1. Single Family Residential Properties

Based upon the GIS data of Brooks, there are approximately 220 single family residential properties within Brooks. The typical residential property size within Brooks is approximately 7.8 acres based on a preliminary single family residential analysis. This accounts for approximately 1,724 acres, which is 62 percent of the gross area of Brooks. This projection does not take into account vacant properties that could be developed into residential homes in the future.

5.2.3.2. Non-Single Family Residential or Non-Residential Properties

The non-single family residential properties within Brooks consist of commercial, recreational, institutional, not-for-profit, and other non-residential properties. The total number of non-single family residential properties was found to be approximately 33 with a total area of approximately 104 acres. These properties make up 3.7 percent of the gross area of Brooks.

5.2.4. Town of Woolsey

Woolsey covers an area of approximately 0.8 square miles based on data derived from the County GIS. Current property data obtained from the GIS indicates that Woolsey has a varied mix of land development that includes large tracts of residential single family detached housing and commercial development in select areas. Based on review and analysis of available GIS data, the following table is a summary of the makeup of properties in the Woolsey.

Table 5-4. Property Classifications in Woolsey

Classification	Count of Properties	Average Area of Properties (acre)	Total Area of Classification (acre)
Single Family Residential	67	4.6	307
Non-Single Family Residential	12	0.8	9.6
Vacant	28	7.5	210

5.2.4.1. Single Family Residential Properties

Based upon the GIS data of Woolsey, there are approximately 67 single family residential properties within Woolsey. The typical residential property size within Woolsey is approximately 4.6 acres based on a preliminary single family residential analysis. This accounts for approximately 307 acres, which is 58 percent of the gross area of Woolsey. This projection does not take into account vacant properties that could be developed into residential homes in the future.

5.2.4.2. Non-Single Family Residential or Non-Residential Properties

The non-single family residential properties within Woolsey consist of commercial properties. The total number of non-single family residential properties was found to be approximately 12 with a total area of approximately 9.6 acres. These properties make up 1.8 percent of the gross area of Woolsey.

5.3. PRELIMINARY RATE STRUCTURE ANALYSIS

If any of the jurisdictions in this study were to move forward with a Stormwater Utility user fee system, the design of the rate structure is a key component of the setup a Stormwater Utility. The most common approach in funding a Stormwater Utility enterprise fund is through a user fee system based on a legally defensible rate

methodology. Use of the government owned and maintained drainage system can be defined by utilizing two methods. The first and most common method is to define the "demand" that a property places on the storm drainage system. The demand is directly related to the amount of runoff, calculated as the peak flow rate, leaving the property (i.e. the larger the impervious area and corresponding volume of runoff, the greater the demand that is placed on the drainage conveyance system). As the flow volume increases and the demand on the stormwater drainage system increases, the user fee becomes larger. The stormwater drainage system and facilities assist in protecting the property, downstream properties and safely conveying the flows into the receiving waters.

The second method for defining use of the drainage system is to determine the benefit received by the property. Each property generates stormwater runoff that flows into the stormwater drainage system and each property owner benefits, in some way, from reduced flooding, erosion control, improved water quality, etc.

The total property area and the total impervious area are the two major parameters that are related to defining the demand that a property places on the drainage system. Accordingly, large properties with large impervious area generate large volumes of runoff. An example of a large parcel generating a significant amount of runoff would be a shopping center. Clearly, a shopping center should pay a higher user fee as compared to a single-family residence since the shopping center generates significantly more runoff.

Creation of the rate methodology must follow several legal parameters. It must have a detailed and sound SWMP cost of service as its basis. In adopting a rate methodology, the County must be fair and equitable. The rate methodology is typically divided into three modules:

1. The method for defining and calculating the rate,
2. Rate modification factors to enhance equity, reduce costs and meet other objectives, and
3. The secondary funding methods that support funding the program

There are three basic rate methodology approaches, all based around the two principle factors – impervious area and gross area. Variations of the three rate methodologies exist and should be researched in more detail if the County elects to move forward with setting up a Stormwater Utility. Each approach has advantages and disadvantages. However, the relationship between the runoff (demand) and the corresponding user fee charge needs to be maintained (i.e. the greater the demand the higher the fee). Furthermore, the established rate structure must be able to demonstrate that there is a nexus between the user fee charge to a specific parcel and the SWMP services provided to that parcel. The three basic rate methodologies consist of the following:

- Impervious Area*
- Impervious Area plus Pervious Area

- Land Use

** NOTE: The impervious area methodology is the most common method utilized throughout the United States as well as the methodology used by the vast majority of the active Stormwater Utilities in Georgia.*

No single stormwater service charge rate structure is likely to be judged "perfect." For practical reasons however, the perception of equity by the customers is clearly one of the most important factors. Both public and judicial acceptance will be predicated primarily on whether the basic rate concept is perceived by the customer as a fair and equitable means of distributing the costs of stormwater management. In order to be perceived as equitable, the preferred rate methodology should be easy to understand, as well as technically defensible.

The impervious area methodology utilizes a set charge per unit of impervious surface area to assess the charge to the property. The impervious area plus pervious area is similar to the impervious area method except that in addition to the impervious surface area, a charge is also charged to account for the remaining pervious portion of the property. This method has been utilized to account for less developed properties which have large areas of non-impervious surfaces. The land use methodology is the least utilized method and assesses a charge based on the existing land use employed on the property. As stated previously, the majority of the operating utilities in Georgia utilize the impervious area methodology. The City of Covington initially utilized a modified form of the impervious area plus pervious area. However, due to customer dissatisfaction with the method, they recently changed the method to impervious area only. Atlanta attempted to utilize the land use method but was ultimately unsuccessful in their attempts to establish a utility. As a result, this method has been not been utilized by others for some time.

Table 5-5. Rate Methodology Comparison

Model	Customer Perspective		Considerations	
	Equity	Understanding	Data	Applicability
Impervious Area	A+	A	Moderate	Most Common
Pervious + Impervious	A-	B	High	Occasional
Land Use	B	C	Very High	Least Common

Secondary funding methods and modification factors are used to enhance equity or improve ease of Stormwater Utility implementation and management without unduly sacrificing equity. Typical modification factors might include:

- A flat rate charge for single family residential customers,
- A base rate for certain costs that are fixed per account,
- Tiered single family residential flat rate structures to ensure equity where the single family residential impervious area footprints dictate,
- Intensity of development factor,
- Impervious percentage considerations,

- Basin-specific surcharges for major capital improvements, and
- Credits against the monthly service charge for properties which have on-site detention/retention systems or BMPs

The County should thoroughly review the various rate methodologies before selecting the one that best fits their situation. It is important to base the service charges on the impact that individual properties have on the County's cost of providing stormwater services and facilities. This approach to rate structure design is consistent with the technical and legal defense tests that are usually applied to utility service charges.

5.3.1. Unincorporated Fayette County

Columbia County has successfully utilized the impervious area methodology, and this rate methodology was upheld by both the Columbia County Superior Court and Georgia Supreme Court. As such, it is recommended that an impervious area rate methodology be utilized if the County decided to implement a Stormwater Utility. The ensuing sections constitute a cursory level analysis of the County implementing an impervious area methodology with appropriate modification factors incorporated into the final rate structure.

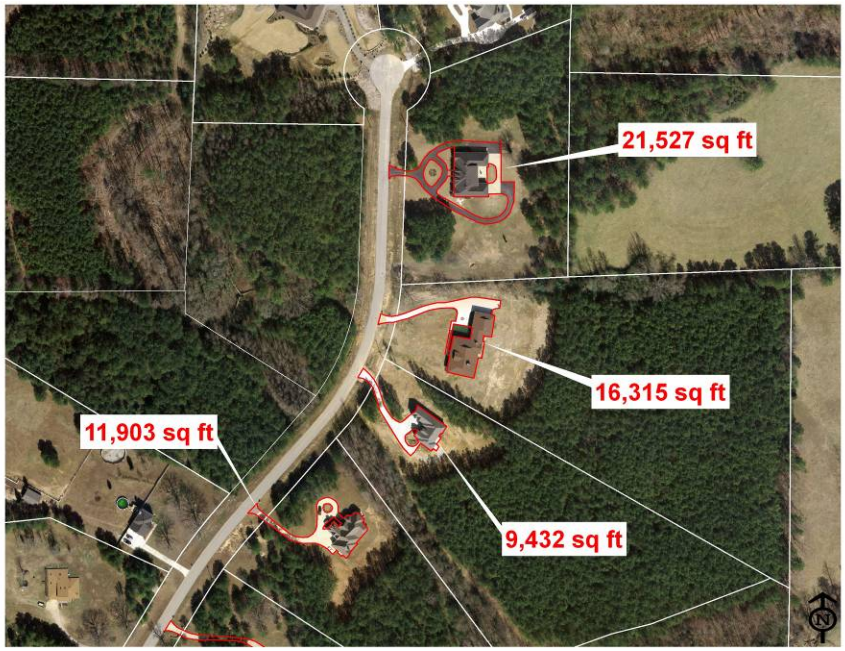
5.3.1.1. Impervious Area Methodology

Stormwater rate structures employing impervious area as the sole parameter have been widely used for nearly 20 years. A majority of the existing SW Utilities in Georgia have utilized an impervious rate methodology as its rate methodology foundation. The first Stormwater Utility in Georgia was set up in Griffin in 1998 and the City utilized a single family residential rate modifier, applying a flat-rate charge for all single family residential properties with two single family residential tiers. Griffin established parcel specific charges for non-single family residential non-single family residential properties based on calculated impervious area data obtained from aerial photography and field verification. The CCSU took an approach that was based on calculating the parcel specific impervious area for each property (i.e. no flat rate charge for single family residential parcels) and generating a customer bill for each property.

5.3.1.2. Equivalent Residential Unit (ERU) Billing Unit Modifier

An ERU is based upon the median amount of impervious area for single family residential properties. This number is used to calculate the charges for the non-residential properties by equating the non-single family residential properties as an equivalent number of residential homes. The non-residential units are then typically charged based on this equivalent number of homes. For example, if a commercial development has the same amount of impervious area as 20 homes then the bill would be 20 times the amount of a residential bill.

Many communities that currently operate stormwater utilities or user fee charges have ERUs within the 2,500 to 5,000 square foot range. A sample of 1,338 single family residential properties throughout the County was selected in order to give a preliminary estimate of the median impervious area for single family residential properties. The impervious area range for a single family residential property in the County was found to be between 2,544 and 41,589 square feet, based on preliminary review of parcel and impervious area data from the aerial photos. Based on the initial evaluation, the ERU for the County was found to be approximately 6,400 square feet.



Cherry Blossom Ridge Subdivision off of Rivers Road

After evaluating the data, we have found that there are statistically significant variations in the residential parcels in the County. By evaluating the upper and lower 20% portions of the sample (1,338 parcels), we determined that on average the largest homes in the sample are approximately 2½ times the size of the smallest homes. As such, a flat rate residential fee modifier is not recommended given that it would be likely viewed as unfair for the parcels with the smaller impervious surface areas. Additionally, it was noted that the housing stock in much of the County is not uniform in nature leading to questions about the use of multiple tiers. The figure on the previous page illustrates an example of the distribution of impervious surface areas within some of the residential developments of the County.

As noted above, it would be difficult to justify to a homeowner with 9,432 square feet of impervious surface area that they should pay the same fee as the home two doors down with over 21,000 square feet. Additionally, creating a tiering system would require that virtually all of the homes be delineated to assign them to a tier. As such, it is our preliminary recommendation that the County not consider adopting an ERU based approach, but rather a traditional impervious surface area methodology. By utilizing a sufficiently large billing unit (say 1,000 square feet), then an equitable rate can be established within the reasonable constraints of the GIS to determine the total impervious surface area for each parcel.

5.3.1.3. Gravel Surfaces

During our evaluation of the data, it was noted that a number of parcels, both single family residential and non-single family residential, contained large amounts of graveled surfaces on the properties. Examples include some of the larger residential parcels where the driveways were not paved and some of the vehicle salvage yards off of Highway 314 for example. Given that these surfaces often approach the same hydrologic characteristics of asphalt, it is recommended that these surfaces be included in the rate structure with some level of credit (i.e. size reduction) to recognize that they are not completely impervious. For example, the rate for gravel surfaces may be 85% of the base rate for impervious surfaces.

5.3.1.4. Stormwater User Fee Credits

Several existing Stormwater Utilities across the country have established a service fee credit if a customer properly designs, constructs and maintains an on-site stormwater detention pond or a BMP facility (or facilities) on their property to mitigate the stormwater runoff impacts from the site. The typical process is that the Stormwater Utility would develop a credit mechanism whereby the customer could apply for the credit by meeting certain eligibility criteria and then maintaining compliance with the criteria over time. The process could involve the property owner hiring a professional engineer on a periodic basis (say every five years) to certify that the detention facility or stormwater BMP was constructed and continues to be maintained in accordance with the design plans approved by the County. Examples of other credits commonly utilized are education credits, stream cleanup credits (Adopt-a-Stream, Great American Clean-Up Campaign, etc.) and low impact parcel credits. It is our recommendation that the County develop and adopt a credit policy manual if a Stormwater Utility is implemented with a user fee system.

5.3.2. Town of Tyrone

5.3.2.1. Impervious Area Methodology

As with the unincorporated County, it is our recommendation that Tyrone also utilize an impervious area methodology for the aforementioned legal and equity issues.

5.3.2.2. Equivalent Residential Unit (ERU) Billing Unit Modifier

A sample of 398 single family residential properties throughout Tyrone was selected in order to give a preliminary estimate of the median impervious area for single family residential properties. The impervious area range for a single family residential property in Tyrone was found to be between 1,865 and 13,912 square feet, based on preliminary review of parcel and impervious area data from the aerial photos. Based on the initial evaluation, the ERU for Tyrone was found to be approximately 5,800 square feet.

After evaluating the data, we have found that there are statistically significant variations in the residential parcels in Tyrone. By evaluating the upper and lower 20 percent portions of the sample (398 parcels), we determined that on average the largest homes in the sample are approximately 2¼ times the size of the smallest homes. As such, a flat rate residential fee modifier is not recommended given that it would be likely viewed as unfair for the parcels with the smaller impervious surface areas. However, unlike the County, it was found that a significant portion of the sample fell between 3,900 and 7,000 square feet. As such, creating a two tier residential rate structure would likely be possible with a break point in the neighborhood of 7,000 square. Additionally, the residential housing was found to be more consistent and as such would lend itself better to tiering.

5.3.2.3. Gravel Surfaces

During our evaluation of the data, it was noted that a number of parcels, some single family residential and a notable significant numbers of non-single family residential parcels, contained large amounts of graveled surfaces on the properties. Given that these surfaces often approach the same hydrologic characteristics of asphalt, it is recommended that these surfaces be included in the rate structure with some level of credit (i.e. size reduction) to recognize that they are not completely impervious. For example, the rate for gravel surfaces may be 85% of the base rate for impervious surfaces.

5.3.2.4. Stormwater User Fee Credits

As with the County, it is our recommendation that a credit manual be adopted as part of the implementation process of any future Stormwater Utility.

5.3.3. Town of Brooks

5.3.3.1. Impervious Area Methodology

As with the County, it is our recommendation that Brooks also utilize an impervious area methodology for the aforementioned legal and equity issues.

5.3.3.2. Equivalent Residential Unit (ERU) Billing Unit Modifier

A sample of 60 single family residential properties throughout Brooks was selected in order to give a preliminary estimate of the median impervious area for single family residential properties. The impervious area range for a single family residential property in Brooks was found to be between 1,763 and 16,500 square feet, based on preliminary

review of parcel and impervious area data from the aerial photos. Based on the initial evaluation, the ERU for Brooks was found to be approximately 7,100 square feet.

After evaluating the data, we have found that there are statistically significant variations in the residential parcels in Brooks. By evaluating the upper and lower 20 percent portions of the sample (60 parcels), we determined that on average the largest homes in the sample are approximately 4½ times the size of the smallest homes. As such, a flat rate residential fee modifier is not recommended given that it would be likely viewed as unfair for the parcels with the smaller impervious surface areas. Additionally, it was noted that the housing in much of Brooks is not uniform in nature leading to a recommendation that a similar methodology as the County be adopted (i.e. billing per 1,000 square feet of impervious surface area).

5.3.3.3. Gravel Surfaces

During our evaluation of the data, it was noted that a number of parcels, mostly single family residential parcels, contained large amounts of graveled surfaces on the properties (typically long driveways). Given that these surfaces often approach the same hydrologic characteristics of asphalt, it is recommended that these surfaces be included in the rate structure with some level of credit (i.e. size reduction) to recognize that they are not completely impervious. For example, the rate for gravel surfaces may be 85% of the base rate for impervious surfaces.

5.3.3.4. Stormwater User Fee Credits

As with the County, it is our recommendation that a credit manual be adopted as part of the implementation process of any future Stormwater Utility.

5.3.4. Town of Woolsey

5.3.4.1. Impervious Area Methodology

As with the County, it is our recommendation that Woolsey also utilize an impervious area methodology for the aforementioned legal and equity issues.

5.3.4.2. Equivalent Residential Unit (ERU) Billing Unit Modifier

Given the size of Woolsey, all 67 single family residential properties throughout Woolsey identifiable in the aerial photography were selected in order to give a preliminary estimate of the median impervious area for single family residential properties. The impervious area range for a single family residential property in Woolsey was found to be between 1,478 and 30,770 square feet, based on preliminary review of parcel and impervious area data from the aerial photos. Based on the initial evaluation, the ERU for Woolsey was found to be approximately 7,600 square feet.

After evaluating the data, we have found that there are statistically significant variations in the residential parcels in Woolsey. By evaluating the upper and lower 20 percent portions of the data (67 parcels), we determined that on average the largest homes are approximately 8½ times the size of the smallest homes. As such, a flat rate residential

fee modifier is not recommended given that it would be likely viewed as unfair for the parcels with the smaller impervious surface areas. Additionally, it was noted that the housing in much of Woolsey is not uniform in nature leading to a recommendation that a similar methodology as the County be adopted (i.e. billing per 1,000 square feet of impervious surface area).

5.3.4.3. Gravel Surfaces

During our evaluation of the data, it was noted that a number of parcels, mostly single family residential parcels, contained large amounts of graveled surfaces on the properties (typically long driveways). Given that these surfaces often approach the same hydrologic characteristics of asphalt, it is recommended that these surfaces be included in the rate structure with some level of credit (i.e. size reduction) to recognize that they are not completely impervious. For example, the rate for gravel surfaces may be 85 percent of the base rate for impervious surfaces.

5.3.4.4. Stormwater User Fee Credits

As with the County, it is our recommendation that a credit manual be adopted as part of the implementation process of any future Stormwater Utility.

5.4. MULTI-JURISDICTIONAL RATE STRUCTURES

Should the County elect to move forward with a Stormwater Utility in partnership with one or more of the municipalities listed above in a true multi-jurisdictional combined Stormwater Utility, it is our recommendation that a rate structure similar to that recommended for the County be adopted for the entire service area.

5.5. REVENUE PROJECTIONS

Should a Stormwater Utility be implemented in Fayette County or the participating municipalities, ISE has performed a preliminary revenue calculation for each jurisdictional area to evaluate anticipated net revenue for various rates. The following table illustrates projected revenues that could be generated by a Stormwater Utility in each jurisdiction. Please note that these are preliminary revenue projections and would be influenced by a number of issues including but not limited to rate structure, credit policies, delinquency rates, service areas, etc.

Residential Rate	Fayette County	Tyrone	Brooks	Woolsey
$1 per Typical Home per Month ($12/year)	$239,000 / year	$43,000 / year	$5,400 / year	$1,500 / year
$2 per Typical Home per Month ($24/year)	$478,000 / year	$86,000 / year	$10,800 / year	$3,000 / year
$3 per Typical Home per Month ($36/year)	$717,000 / year	$129,000 / year	$16,200 / year	$4,500 / year
$4 per Typical Home per Month ($48/year)	$956,000 / year	$172,000 / year	$21,600 / year	$6,000 / year
$5 per Typical Home per Month ($60/year)	$1,195,000 / year	$215,000 / year	$27,000 / year	$7,500 / year
$6 per Typical Home per Month ($72/year)	$1,434,000 / year	$258,000 / year	$32,400 / year	$9,000 / year

5.6. CONCLUSION

Based on our review of the data and understanding of the funding needs of the County, our recommendations are outlined below:

- Implement a stormwater utility enterprise fund to finance the future SWMP
- Institute a user fee system to provide revenues to the enterprise fund
- Utilize an impervious surface methodology with a base billing unit of 1,000 sq ft
- Develop a credit manual to provide for methods of reducing the customers' fees for appropriate actions taken by the customer to offset costs to the SWMP

6. STORMWATER UTILITY OVERVIEW

6.1. HISTORY OF USER-FEE CHARGES IN GEORGIA

The first governmental entity to institute a stormwater user-charge in Georgia was the City of Griffin, where a Stormwater Utility was created in 1998. Using an ERU of 2,200 square feet of impervious area, each property is assigned a Stormwater Utility charge that is collected on the City's monthly utility bill (i.e. water, sewer, electricity, solid waste and stormwater).

The City of Decatur, Georgia adopted an ordinance implementing a stormwater user-charge in December 1999 following the work of a task force of stakeholders who studied the issue. The Decatur fee is billed as a line item on the City's property tax bill. The billing unit value or ERU is 2,900 square feet of impervious area and the monthly fee was adopted at $5.00/billing unit.

In Columbia County, Georgia flooding and water quality issues within the Reed Creek Basin led to the adoption of a Stormwater Utility ordinance in that jurisdiction. The fee was to be charged to all parcels within the basin and collected on the County's water and sewer utility bill. Initial capital project costs in the Reed Creek Basin have been estimated between $15 and $20 million. The *Legal Considerations* section of this document provides additional insight regarding the Columbia County Stormwater Utility (CCSU) and its operation.

6.2. LEGAL CONSIDERATIONS OF A STORMWATER UTILITY

As part of this report, the following summary of legal considerations is presented by ISE. The considerations are presented from an engineering perspective only, and should be further researched by the County's legal staff before reaching conclusions that have legal implications.

Creation of an enterprise fund program to finance a SWMP is still an emerging concept in Georgia. Currently, there are no state laws that specifically address formulation of a Stormwater Utility like present in Florida where over 100 utilities currently exist. As such, we recommend that the County staff work closely with the County Attorney to develop the required ordinances and other legal documents. To date, over 35 cities and counties have successfully established and implemented a Stormwater Utility in Georgia. Numerous other counties and cities in Georgia are in the process of evaluating and/or implementing a Stormwater Utility in their community.

One example of a "failed" attempt to establish a Stormwater Utility in Georgia was the City of Atlanta who attempted to form a utility in an unconventional manner and was challenged in Superior Court. They unsuccessfully defended their rate methodology and approach. The CCSU was also challenged and the Superior Court and Georgia Supreme

Court rulings are summarized below. As well, the following sections summarize the court rulings for the Atlanta Case.

6.2.1. Atlanta Case Study

The City of Atlanta approached the utility formation process without having completed a SWMP cost of services analysis or a rate analysis. It appears that the city was looking for a way to balance the budget and they reflected Stormwater Utility fees to assist with the process. Several staff meetings were focused on creating an interim Stormwater Utility. An initial rate methodology was developed and an ordinance establishing the interim utility was enacted on March 1, 1998.

The interim rate methodology did not follow the pattern most successful utilities have utilized. They chose to develop a method based on gross property size and an intensity of development (land use from zoning records) factor. Money raised from this interim rate was to be spent specifically on a detailed cost of service analysis as well as establishment of a permanent rate methodology and rate structure. Other start-up costs would be paid from the initial revenues. Additionally, the revenue would be used to pay for some stormwater management needs; however, the details of various program elements that would be funded via the user fee were absent from any published documents.

The city staff did not hire a consultant to assist them. Instead, they undertook primary responsibility for creating the utility, developing the master account file, calculating the bills and implementing a limited public awareness campaign. They chose to issue a single bill for the annual amount of the fee. The average single-family resident received a bill of approximately $48.00; however many residents received bills greater – some in excess of $150.00.

By mid-February 1999, the city had collected over $3 million in stormwater fees. A lawsuit was filed in March 1999 in Fulton County Superior Court that effectively ended collection activities. In October 1999, Judge Rowland W. Barnes ruled against the city and instructed all the money to be refunded with interest. The Court offered the following: “Clearly, the city has the authority to provide stormwater services to its citizens and expect the citizens to pay for this service.” The ruling further states, “… the question before the Court is not whether the city has the power to assess a charge for providing stormwater maintenance services, the question is whether the city followed the appropriate steps to exact this charge from the owners of parcels of property in the City of Atlanta.” Please refer to the Columbia County rulings (which are attached as an Appendix) for additional details on the Atlanta Case.

6.2.1.1. Atlanta Approach vs. Griffin & Decatur Approach

The approach taken by the City of Griffin and the City of Decatur differed significantly from Atlanta. They hired consultants to lead them and to perform the necessary due diligence steps to avoid the likelihood of losing a legal challenge. The process that they followed (which is our recommendation as well) was to employ a multi-step process.

The multi-step process ensures that the applicable due diligence efforts are considered and addressed as a part of the overall process.

The initial step undertaken by Griffin and Decatur involved analysis of the existing and future stormwater program followed by development of a detailed cost of service analysis. Questions and issues regarding the future Stormwater Utility enterprise fund were addressed including how it is organized and staffed, what the stormwater program priorities will encompass, and establishment of the level of service and Extent of Service policies. The effort culminated in development of an ordinance that legally codifies the formation of the Stormwater Utility enterprise fund. The City of Decatur also utilized a local task force committee in the initial stages of developing their utility while the City of Griffin did not. It is ISE's opinion that a methodical multi-step approach is most appropriate for the Fayette County with regard to establishment of a Stormwater Utility.

The next step implemented by Griffin and Decatur addressed the financial aspects of the Stormwater Utility enterprise fund. During this step, details concerning the rate structure analysis, cash flow considerations, master account file development, creation of the billing system, and customer service functions were established. A second ordinance was created that codifies the rate methodology/rate structure including the utility credit program.

The process outlined in this report offers several advantages for Fayette County. First, it provides the general public an opportunity to provide comment and input for consideration by the County Council as they make important policy decisions regarding the future Stormwater Utility. Secondly, it separates the stormwater program and cost of service development process from the master account and billing database aspects of the future stormwater program.

6.2.2. Columbia County Case

In 2003, two legal rulings were issued with respect to the existing CCSU. The first ruling was issued by the United States District Court, Augusta, Georgia Division on March 31, 2003, and the second ruling was issued by the State of Georgia Superior Court for Columbia County on July 29, 2003. The Federal Court ruling in March 2003 was issued as a result of the plaintiffs filing a class action lawsuit against the Columbia County Board of Commissioners (BOC) challenging the stormwater service charge. The State Superior Court ruling in July 2003 was issued as a result of the previous Federal Court ruling in March 2003, which as part of its March 2003 ruling remanded the case to the State Superior Court of Columbia County. In June 2004, the Georgia Supreme Court issued their ruling following an appeal of the Superior Court decision in Columbia County.

6.2.2.1. United States District Court Ruling – March 31, 2003

The primary issue put before the Federal Court was whether the Stormwater Utility charge was a tax or a fee. The Court evaluated several details related to the CCSU and

offered its opinion on several of these issues. The primary issue addressed by the Court related to the Tax Injunction Act (TIA) and the Court's ability to adjudicate the case under Federal Law. The TIA imposes restrictions on the jurisdiction of Federal Courts with respect to the administration of state/local tax systems. As such, the Federal Court had to first determine if it had jurisdiction under the TIA. In order to determine whether it was vested with the subject matter jurisdiction, the Court had to determine whether the Stormwater Utility charge in Columbia County was tax or a fee. If the charge was a tax, the Federal Court was without jurisdiction to hear the case.

The Three-Factor Test. To distinguish a tax from a fee, for the purposes of the TIA, the Court considers: 1) the entity that imposed the fee; 2) the parties that are being assessed the fee; and 3) whether revenue generated by the fee is expended for general public purposes or used for regulation and benefit of parties upon whom assessment was imposed. Please note that the CCSU service charge is imposed on customers located within five main watersheds, not the entire county. The five watersheds represent the most urbanized areas of the county.

> *Question 1: Who imposed the charge?* In Columbia County, the BOC created the stormwater charge, established the rate methodology, established the amount of the stormwater charge, and maintained the authority to set/adjust the charge. The Court concluded that the BOC imposes the charge, not the CCSU.
>
> *Question 2: Who assessed the fee?* In Columbia County the charge is billed to properties located within a certain service district whose property meets certain criteria for imperviousness without regard to use. The Court concluded that the charge is assessed against a wide variety of property owners with varying uses and the imposed charge includes a majority of the county's population.
>
> *Question 3: Whom does the revenue benefit?* The county held the position that the funds are segregated into an enterprise fund account so the charge is a fee not a tax. The Court contended that segregation of the collected monies in a separate account is not reason enough to conclude that the charge is a fee and not a tax.

The Court also concluded that stormwater management was, and is, the type of service that is often funded by general tax revenue. Furthermore, the Court found that Columbia County had previously owned, operated and maintained drainage systems and facilities throughout the county and used general tax revenues to manage/maintain the systems prior to formation of the CCSU. Finally, all of the "threshold or base level" stormwater services are funded via general tax revenues throughout the entire county.

Conclusions of Law – United States District Court (March 31, 2003). Based on the aforementioned information, the Federal Court ruled that the stormwater charge in Columbia County was a tax because it was:

1. Imposed by the BOC;
2. Imposed upon many citizens who own property of various uses, sizes, etc.;

3. Resulted in a benefit to all the citizens of the county; and
4. Prior to formation of the CCSU, the county general tax revenues funded (and continue to fund) stormwater management services within the county.

The Federal Court concluded that it lacked jurisdiction (under the TIA) to adjudicate the issue given that the charge was ruled a tax. As a result, the case was remanded to the Superior Court of Columbia County, Georgia.

Discussion. In review of the March 2003 ruling, the Court's opinion that the stormwater charge in Columbia County was a tax and not a fee was detrimental to the overall Stormwater Utility concept in Georgia. It is our understanding that the efforts of several communities that were contemplating the Stormwater Utility concept were impacted by this ruling, and some of the communities reevaluated their plans to issue stormwater bills while they awaited the Superior Court decision.

6.2.2.2. Superior Court of Columbia County Ruling – July 29, 2003

As a result of the Federal Court ruling summarized above, the case was heard before the Superior Court of Columbia County on June 24, 2003. In this case, the plaintiffs challenged the CCSU (and associated ordinance) under the Georgia and United States Constitutions. Columbia County outlined the administrative, operational and financial responsibilities and components of the CCSU to the Court. The CCSU stated that:

- The utility provides a drainage system to safely collect and properly dispose of stormwater runoff within the designated service area.
- The utility provides a specific service to property owners/customers within the service area by reducing flooding, erosion and water pollution caused by stormwater runoff.
- The utility serves as a mechanism whereby customer complaints related to stormwater management issues can be taken and addressed by the CCSU.
- The utility assists property owners with the management and control of runoff originating from, and traveling through, private property such that downstream damage/impacts are minimized.
- The utility provides incentives for non-residential property owners to effectively manage runoff through the construction and maintenance of on-site stormwater facilities so that the property owner can capitalize on available credits to their stormwater fee.
- The utility assists the County in achieving compliance with their NPDES Phase II Stormwater Permit by regulating various aspects of stormwater management which are also required under the Permit.
- The utility charges are utilized for the maintenance and repair of existing stormwater facilities as well as the construction of new stormwater facilities.

- The utility funds are placed in a separate enterprise fund account dedicated solely to the management, maintenance, protection, control, regulation, use and enhancement of stormwater management services within the county.
- The utility does not have the power to impose liens directly against the property of those that do not pay the fee and must seek to collect delinquent fees by filing suit to obtain a judgment.

The CCSU also elaborated on the rate methodology (i.e. impervious surface) and the stormwater runoff related impacts (i.e. increased volume and velocity) that higher amounts of impervious surface can have on the watershed.

Conclusions of Law – Superior Court of Columbia County (July 29, 2003). The Court found that Columbia County has the constitutional and statutory authority for the Stormwater Utility service charge. In general, the Court cited the Georgia Constitution which grants any county in the state the power to provide stormwater and sewage collection services {GA Const. Art 9, §2, ¶3(a).}. The Court further stated that the county was authorized to collect "rates, fees, tolls, or charges" for services made available by the county {O.C.G.A. §36-82-62(a)(3). It was the opinion of the Court that these constitutional and statutory provisions permit Columbia County to provide stormwater management services and to fund these services by charging fees. The Court also issued opinions on several other matters related to the CCSU:

- The Court ruled that the county need not establish a community improvement district (CID) to impose the CCSU fee.
- The Court ruled that the Stormwater Utility service charge is a fee, not a tax.
- The Court ruled that the Stormwater Utility fee is not a taking under the Georgia or United States Constitution.
- The Court ruled that the CCSU was entitled to payment of any and all unpaid stormwater charges incurred by the plaintiffs.
- The Court ruled that the stormwater management ordinance and Stormwater Utility service charge are constitutional.

Discussion. Review of the Superior Court ruling from July 2003 was very favorable/supportive of the Stormwater Utility concept, and this ruling should serve as the foundation for many communities to build upon.

6.2.2.3. Georgia Supreme Court Ruling – June 28, 2004

Following the ruling by the Superior Court of Columbia County, the case was appealed to the Georgia Supreme Court for review and consideration. The Supreme Court stated the following in their ruling dated June 28, 2004:

- Pursuant to the Home Rule section of the Georgia Constitution and general statutory law, the County was authorized to establish the Stormwater Utility and

to impose a utility charge for the provision and delivery of stormwater management services.

- The constitutional CID provisions of the Georgia Constitution were not applicable to this case; therefore it was not required that the county establish a CID to implement the user fee. In accordance with the Georgia Constitution, CIDs may levy taxes, fees and assessments "only on real property used non-residentially, specifically excluding all property used for residential, agricultural or forestry purposes…" {GA Const. of 1983, Art IX, Sec. VII, Par III (c)}. Therefore, the Court concluded that the CID provisions of the State of Georgia did not furnish the county an opportunity to create a CID which, like a Stormwater Utility, would charge residents for stormwater management services.
- The utility charge is not an invalid tax and cited case law from throughout the United States regarding the issue of tax versus fee. The Georgia Supreme Court has defined a tax as "an enforced contribution exacted pursuant to legislative authority for the purposes of raising revenue to be used for public or governmental purposes, and not as payment for a special privilege or service rendered." The Court went on further to state that a charge (presumably a user fee charge) is not a tax if its object and purpose is to provide compensation for services rendered. The ruling then went into extensive detail regarding their case law research on this issue to support their conclusion that the stormwater user fee is not an invalid tax. We suggest that the reader review the June 28, 2004 Supreme Court ruling to gain additional insight into this very important aspect of the ruling.
- The County's "method of apportioning the costs of the stormwater services is not arbitrary and bears a reasonable relationship to the benefits received by the individual developed properties in the treatment and control of stormwater runoff."
- The Trial Court was correct in granting summary judgment in favor of the County with all justices concurring.

Discussion. Review of the Supreme Court ruling from June 2004 essentially upheld (from a legal perspective) the utility setup and implementation methodology utilized by Columbia County. The Supreme Court's action serves as a landmark ruling with respect to Stormwater Utility setup and implementation in the State of Georgia. Adherence to the ruling, and the associated conclusions set forth by the Court, should serve as the legal foundation from which a community should establish a Stormwater Utility in Georgia.

7. BILLING & DATABASE DEVELOPMENT ASSESSMENT

The purpose of the billing database development assessment is to provide a preliminary recommendation regarding the delivery of a future Stormwater Utility bill to County properties.

7.1. MASTER ACCOUNT FILE DEVELOPMENT

It has been our experience that master account file development is best completed using GIS data collection techniques. The data requirements depend upon the rate methodology selection. For example, an impervious area based approach would require individual parcel information and impervious surface data tied to the specific parcel in GIS. The rate methodology would create a usage factor, demand factor or benefit ratio which is the basis for the stormwater user fee charge.

In this scenario, parcel-based charges taken from the GIS must be converted to account-based bills before billing can be accomplished. A policy decision will need to be made regarding whom to bill (i.e. tenants, property owners, etc.). Regardless of the decision, it will be important to be able to logically explain the decision and have an implementation program which is fair, equitable and easy to maintain.

As stated previously, the amount of impervious surface is the most significant factor in estimating peak runoff volume from individual parcels. The final decision on a rate methodology and structure might require that other factors be considered in determining stormwater user fee charges for each parcel. Given that the two most common factors are impervious area and gross area, parcel lines and impervious site features are required inputs for development of the master account database.

GIS based processes will be the most efficient method for developing the initial billing data set and for maintaining the database over time. Based on our research, the Fayette County GIS program has this information readily available or can develop it. This type of GIS based system would best serve Fayette County and an approach supporting this method is recommended.

Typically, parcels would have impervious areas determined through aerial photo interpretation and delineation methods. The computation may not be exact due to parcel line and aerial photograph inaccuracies, as well as the inherent error associated with accurately interpreting some features. This inherent inaccuracy is not expected to cause large numbers of billing errors, assuming the billing unit is set sufficiently large, say 1,000 square feet or greater. Fayette County's aerial photography has sufficient resolution to identify impervious areas on individual parcels. The City of Fayetteville and the City of Peachtree City were able to utilize the County's aerial photography to identify and delineate impervious surfaces throughout their jurisdictions for use in their utilities. It is our understanding that the County's most recent aerials were flown in 2006,

however, new aerial photography was flown in the winter of 2010 and anticipated delivery of the data was scheduled for mid 2010.

7.2. EXISTING BILLING SYSTEMS

Discussions with the County staff indicate that two billing systems currently exist that could be utilized to partially or wholly generate a future stormwater user fee bill. The Fayette County Water System and the Fayette County Tax Commissioner operate the two existing billing systems.

7.2.1. Fayette County Water System Billing System

The County provides for water service to a large portion of the County via the Fayette County Water System. As such, the Fayette County Water System issues a bill to approximately 80 percent of the properties within the County. This system could be utilized to provide for a vehicle to bill for stormwater services as well. It should be noted however, that this system does not cover every property in the County due to the fact that Fayetteville's water service district extends into the County and not all County residents utilize the water system (i.e. they are on private wells or systems). Additionally, it should be noted that careful evaluation of the customers of the water system will be necessary since the Fayette County Water System serves at least portions of residents of the various municipalities in the County. For example, virtually all of the residents of Peachtree City receive water service from the Fayette County Water System but would not be subject to a County Stormwater Utility.

7.2.2. Fayette County Property Tax Billing System

The Fayette County Tax Commissioner manages the tax billing and collections process for the County and all of the municipalities in the County. However, we are not aware of any connection that exists between the parcel information and the corresponding land coverages (i.e. impervious surfaces, gravel surfaces, etc.) that would be necessary for billing. Finally, it is our understanding that tax bills are not developed for tax exempt properties which would be necessary for a Stormwater Utility.

7.3. FUTURE STORMWATER USER FEE BILLING OPTIONS

Based on conversations with County staff, as well as review of existing billing systems, we have identified three potential options to generate and issue stormwater user fee bills for a potential Fayette County Stormwater Utility.

7.3.1. Utilize Existing Fayette County Water System Billing System

The County could utilize the Fayette County Water System bills as the surrogate for the future stormwater user fee bills. At this time, the greatest advantage to this option is the fact that a majority of the residents and businesses receive a bill from Fayette County

Water System for water. It would seem practical that a stormwater user fee charge line item could be added to the existing water under a new "stormwater fee" section.

The most predominant disadvantages to utilizing this option relates to the administrative billing cost per bill and the makeup of the existing billing database. It is likely that the Fayette County Water System will levy an additional administrative charge to the existing water and sewer bill for the new stormwater user fee line item which may or may not be more expensive than the other options discussed herein. Currently, the Fayette County Water System issues utility bills to Peachtree City customers on behalf of Peachtree City Water & Sewerage Authority (WASA) for sanitary sewer service and levies a $1 per bill charge back to Peachtree City WASA. It is assumed that the Fayette County Water System would levy a similar charge back to a County Stormwater Utility for administrative costs associated with the stormwater user fee bills.

It may be difficult to match existing Fayette County Water System water billing account numbers with parcel information and land use data for some accounts. For the most part, Fayette County Water System bills the occupant/tenant of the home or business for water service. The existing Fayette County Water System billing database is an "address based" system tied to water and sewer service for that customer and not necessarily a "parcel based" system where impervious surface data and land use information could be tied in easily. As such, a comprehensive analysis of the existing address billing database, parcel database and land use information would have to be performed.

Finally, it should be noted that while the Fayette County Water System does serve a majority of the County's properties, there are notable areas where a new bill would have to be generated with a stormwater only charge. These areas include portions of the County served by the Fayetteville Water System (notably areas east of the City of Fayetteville) as well as those areas where residents are served by private wells or community water systems (12 systems currently).

7.3.2. Utilize Existing County Tax Commissioner's Billing System

The County could utilize the Fayette County Tax Commissioner's existing billing database as the surrogate for the future stormwater user fee bills. Utilization of this option does not offer significant advantages since the Tax Commissioner's database is parcel and address based and does not include land coverage data (i.e. impervious surface and gravel surfaces) information. As such, the County would have to develop land use and parcel data to tie in with the Tax Commissioner's existing parcel and address information.

The advantage to utilizing this approach is based on the fact that virtually all parcels in the County currently receive an annual property tax bill from the Tax Commissioner. The stormwater user fee charge could be billed once per year and be included as an additional line item on the property tax bill. Another advantage to this approach would be the expected high collections rate since a majority of the annual property tax bills are sent directly to the mortgage escrow company for direct payment.

The primary disadvantage to using this billing surrogate is the perception that the stormwater user fee charge is a "rain" tax since it appears on the annual tax bill. The City of Decatur has successfully utilized the annual property tax bill as the surrogate for their stormwater user fee charge since 1999 as well as Gwinnett County. As such, it will be important for the County to implement a comprehensive public education campaign in advance of the property tax bills being sent to the future Stormwater Utility customers. Based on the information outlined herein, it would appear that utilization of the County Tax Commissioner's billing database would be a viable method in which to generate a future stormwater user fee bill provided their office was amenable to the concept. Please note however, that a number of stormwater only bills would still need to be developed for tax exempt properties that do not currently receive tax bills.

7.3.3. Develop New Stormwater Utility Billing System

The County could elect to develop and implement a new jurisdiction-wide utility billing system to serve as the surrogate for the future stormwater user fee charge. The primary advantage of implementing this option is that the County would not be charged an administrative fee by the Fayette County Water System or Tax Commissioner for managing the stormwater user fee billing and collections process. The billing database could be built from existing databases such as the Tax Commissioner's property tax billing database, the County business license, existing water utility customer information, etc.

The primary disadvantage to this option is potential start-up costs that would likely be associated with such an undertaking. It should also be noted that a billing clerk would likely be needed to assist in the management of the system as well.

7.4. RECOMMENDATION

Based on the research and analysis performed at this time, we have established that two billing options seem viable to serve the future needs of a future Fayette County Stormwater Utility.

Option 1: Utilize the Tax Commissioner's database and billing system for most properties and utilize an in-house County billing system for tax exempt and potentially large bills that would be billed monthly / quarterly (typically for very large accounts).

Option 2: Develop and utilize an in-house stand-alone County billing system for all properties.

Given that the water system serves approximately 80% of the properties within the unincorporated County, we believe that it does not provide a sufficiently adequate base of customers to justify use of this billing system. The remaining 20% of the County would have to be sent a bill with a stormwater only fee which would essentially result in a reduced version of Option 2 for those customers. Additionally, tracking of these

customers on a monthly basis would also be problematic resulting in some customers (water system customers) receiving monthly stormwater bills while others (non-water system customers) would likely receive an annual bill. Finally, use of the water system bill would also potentially result in billing of tenants whereas non-water system customers would only receive the bill if they were the owner of the property.

The County must continue to evaluate the advantages and disadvantages for the various options as well as undertake discussions with the Fayette County Tax Commissioner's office regarding their willingness to include the stormwater user fee on the annual property tax bill. Consideration costs and labor expenditures should be carefully evaluated within these discussions.

8. PUBLIC INVOLVEMENT PLAN

The County is considering the merits of an expanded SWMP to assist with meeting growing stormwater system demands. In addition to the technical feasibility of funding, public education and input is also important to the decision making process. The County should commit to implementing an effective public education and involvement program to ensure the County's citizens and property owners fully comprehend the needs for a SWMP and how it will affect them. This Public Involvement Plan (PIP) is intended to provide a guideline and framework for public involvement activities conducted to provide information and obtain feedback on a possible SWMP and associated funding options, including a Stormwater Utility.

The PIP is a set of messages, communication methods, educational activities, and evaluation approaches designed to educate the public. The PIP describes in full detail the overall goals of the public involvement program and the strategies to be employed throughout the process. The objective of the plan is to promote, publicize, and educate stakeholders on the need for an expanded SWMP and for implementation of a Stormwater Utility and user fee system to assist with those efforts.

8.1. OBJECTIVES

The preparation of this PIP is an important first step in providing an outreach mechanism to educate and engage the public about an expanded SWMP. This Plan, and the conduct of the activities described herein, are designed to accomplish the following objectives:

1. Seek to obtain meaningful public participation
2. Inform and educate residents
3. Provide opportunities for the public to discuss their views and issues
4. Establish and maintain a high level of visibility and credibility with the public

8.2. STORMWATER UTILITY/USER FEE SYSTEM MESSAGE

When people have to pay a fee for a service, they want to be knowledgeable of the service they are being provided. A Stormwater Utility has many benefits; however, these benefits may not always be tangible. Education will assist in helping customers make the connection between the user fee paid and the services that they will be receiving from the local SWMP and the Stormwater Utility. The enhanced SWMP and the Stormwater Utility will provide a mechanism for the County that will allow it to:

- Make capital improvements related to stormwater drainage systems;
- Regulate land development activities;
- Improve water quality;
- Effectively operate and maintain drainage systems; and
- Comply with current and future regulatory requirements.

The future enhanced SWMP and Stormwater Utility concept will enable the County to achieve compliance with applicable stormwater regulatory requirements, address priority drainage system maintenance issues and to assist with funding drainage improvement projects. Above all else, the County and its citizens will see how the development and implementation of an enhanced SWMP will address current and future stormwater runoff issues within the County and its watersheds.

8.2.1. Key Messages

It is most important that any and all messages developed as part of the PIP, stress the following: 1) the County's SWMP issues are real and unresolved; 2) implementation of the future, expanded SWMP will effectively address these issues and benefits will result; and 3) government must lead and develop a strategy to address all the pertinent issues related to the SWMP. The following key messages should be emphasized:

- Quality of Life. Throughout each of the key messages, the underlying theme is maintaining the quality of life for the citizens and property owners of Fayette County. This should be threaded throughout the text, website, and presentations as the overall goal for creating an expanded/enhanced SWMP and Stormwater Utility.

- Aging Infrastructure. There are drainage system maintenance issues that are not currently being met by the current SWMP. Convey the importance of replacing the aging infrastructure with the comparison of cost benefit analysis of the no action alternative (i.e. the cost implication of deferred maintenance).

- Clean Water. Everyone wants clean water for drinking and recreational use. Emphasize the fact that funds from the Stormwater Utility will be used on projects that will address stormwater runoff quality. Emphasize that clean water is both an economic issue and a quality of life issue.

- Customer Service. There is a growing backlog of stormwater projects (maintenance and capital related) that need to be addressed in a well thought out and prioritized manner. The creation of a Stormwater Utility will assist in this effort by providing additional resources. This will better enable the County to develop maintenance and capital project plans to improve responsiveness to project issues and customer requests.

- Balance of Cost. The planned method to generate funding for stormwater management via a user fee charge is fair, equitable and stable. The customer pays for the "burden of stormwater runoff volume" that the property puts on the drainage system and the services provided by the County to efficiently convey the runoff from the property. The cost to an individual homeowner is proportionate to the amount of runoff generated by their property as compared to a commercial property with extensive parking and building areas. Explain what impervious surface is and what that means with regard to the user fee concept. Help the

customer understand that the Stormwater Utility concept is a user fee system similar to the water, sewer and solid waste that are currently paid for by the citizens of Fayette County.

- Regulatory Compliance & Safety. The County is required to comply with regulatory requirements as part of the County's wastewater treatment plant permits and associated Watershed Protection Plan. Furthermore, the County is designated as a NPDES Phase II Stormwater Permit community. The enhanced SWMP and Stormwater Utility will enable the County to cost effectively put in place a structure to address stormwater runoff issues in order to meet these requirements.

8.3. STRATEGIES

The most successful SWMPs solicit and obtain support from the community early in the process, and keeps the public involved at some appropriate level throughout. Additionally, successful public education and involvement processes are inclusive of all aspects of the public; particularly for a program that affects the majority of the County. The strategies to be employed will involve County staff, elected officials, community leaders, citizens, businesses, institutions and property owners. A variety of strategies will be employed to maximize awareness and participation from all perspectives. Particular focus will be placed on public educational strategies. Feedback from the public will be used to inform decisions on an expanded SWMP. All information provided and input received will be captured in a set of deliverables as identified with each strategy below.

8.3.1. Stakeholder Committee

A group composed of appointed boards, homeowner association representatives, business owners, institutional leaders, community leaders, and environmental groups will be identified for consideration of membership in the stakeholder committee. For Fayette County, the committee will be a forum to present proposed plans, technical information and progress. For the community, the committee will be an educational and informational arena where they may provide ideas, ask questions and clarify information. The stakeholder committee represents Fayette County's commitment to public involvement and creates a common ground for problem solving and consensus-building.

The initial membership will be developed through soliciting the recommendations of elected and public officials, and community leaders to identify a diverse group of individuals representing various perspectives. Once the committee membership is identified, an initial meeting will be conducted to identify roles and responsibilities, and develop a master meeting schedule. The committee meeting schedule will be based on key milestones. The outcome of the meetings will be summarized and documented and used to inform final decisions.

Deliverables: Meeting Agendas and Handouts, Presentations, Meeting Summaries

8.3.2. Stakeholder Interviews

A stakeholder interview is a one-on-one discussion with an individual with a key perspective relative to a project's decisions. Large business/land owners and institutional leaders will be interviewed for the purpose of sharing information relative to the affect of the SWMP on large properties. The primary purpose of a stakeholder interview is an early exchange of information and feedback.

Deliverables: Discussion Summaries, Common Themes Report

8.3.3. Public Meetings

A public meeting is a special gathering to inform people and solicit input on specific project issues. Meetings will be held periodically to provide information and encourage dialogue between the project team and community. Meetings will allow participants to see other viewpoints and provide the project team with a snapshot of community concerns and reactions to program concepts. The meeting format will allow for intense participation in a collaborative, informal atmosphere. Various maps and graphics depicting important project elements will be on display. Informational packets and comment cards will be distributed to receive additional input. Meetings will be held in convenient locations throughout the County to maximize participation.

Deliverables: Meeting Notifications, Agendas and Handouts, Presentations, Meeting Summaries

8.3.4. Collateral Materials

A variety of written materials (newsletters, fact sheets, brochures and FAQs) will be developed to educate and inform the Fayette County public regarding the SWMP. These materials will reflect issues of importance to the public and will be written in formats that are easily understood. Illustrations will also be used to further provide an understanding of key issues. Materials will be widely distributed in public locations, by mail and e-mail. Some of the features will include:

- SWMP Message & Vision
- Current SWMP Extent & Level of Service
- Current Needs & Issues Related to the County's SWMP
- Justification for Expanded SWMP Funding
- Benefits from an Expanded SWMP Level of Service

In addition to written materials prepared for distribution through this process, other sources of information will be provided to assist in educating the Fayette public about stormwater impacts and affects. Some of these sources include the Atlanta Regional Commission, the Clean Water Campaign and the Water Environment Federation. Display boards may also be developed and used at standing meetings and in public locations for further education and awareness.

Deliverables: Newsletters, Fact Sheets, Brochures, Display Boards

8.4. METHODS OF COMMUNICATION

8.4.1. Website

The Fayette County website will serve as a primary repository for information on the status of the SWMP including collateral materials, public meeting notifications and online feedback. The website enables people to give and get information when they want it – reading and commenting online at the time of their choice. Through the website, Fayette County will foster education, participation and greater information sharing as well as supplement its other public involvement activities.

Deliverables: Document Postings, Public Comments

8.4.2. Media Relations

Working with the media, Fayette County will take an active role in disseminating information to the general public about the intent, progress and recommendations for the SWMP. By proactively framing the media message, the County will focus the public's attention, avoid the spread of misinformation and build understanding on the need and benefits of an expanded SWMP. The media will be an important resource for people who have little time to attend meetings or participate in other public events. The public will be informed and educated via articles and profiles. Public meetings will also be advertised in local newspapers, locally popular radio stations and cable television programming.

Deliverables: Press Kits, Press Releases, Articles

8.4.3. Database

A database of names of residents, business and property owners, elected officials, neighborhood associations and others will be compiled and also used as a tool for communicating with the public. The list will include the name, address, email and other contact information to assist the County in readily contacting people with announcements of upcoming events, meeting invitations, newsletters, meeting summaries and other important project information. During the course of the project, the mailing list will be updated with contact information provided by sign-in sheets from public meetings, phone calls, emails and other correspondence. In addition to the mailing database, a list of public locations will also be compiled to be used to hand deliver written materials. These locations will include libraries, recreation centers, schools, churches, government centers, and commercial establishments.

Deliverables: Mailing List, E-mail List, Distribution List

8.4.4. Water Bill Insert

To ensure that all customers receive the same information, an insert in the monthly water bill may be used to disseminate information. In order for this direct communication to be successful, the first bill insert must communicate the need for change in the County's SWMP. The subsequent inserts might explain specific information related to an expanded SWMP and associated user fee structure.

Deliverables: Bill Insert Document/Text

9. STORMWATER UTILITY IMPLEMENTATION PLAN & SCHEDULE

9.1. STORMWATER UTILITY POLICIES

We recommend that a number of policies be enacted as part of any future Stormwater Utility / User Fee if the County were to move forward with this concept. The following discussion outlines these policies in broad strokes.

9.1.1. Multi-Jurisdictional Cooperation

As discussed throughout this report, several of the jurisdictions have expressed interest in "partnering" with the County regarding their future SWMPs by agreeing to participate in this feasibility study. The County and those jurisdictions will move forward in a cooperative manner and could achieve this goal in a number of ways.

9.1.1.1. Multi-Jurisdictional Stormwater Utility

A multi-jurisdictional Stormwater Utility would consist of a single management structure whereby the lead organization would be responsible for all stormwater management activities within the jurisdiction. For example, the County currently provides the bulk of the stormwater management services within the Towns of Brooks and Woolsey. As such, for all intents and purposes, the County operates the SWMPs for these Towns even though they are separate jurisdictions outside of the political boundaries of the County with respect to stormwater management. Examples of such services include plan review, ditch maintenance, etc.

9.1.1.2. Coordinated Activities

An alternative to a full multi-jurisdictional Stormwater Utility in Fayette County would likely take the form of a series of coordinated activities whereby the County would take responsibility for select portions of the SWMP while not accepting full responsibility. For example, the County could address all of the MNGWPD's future conditions floodplain mapping requirements including those areas within the Town of Tyrone. Funding for these activities would be addressed in an Inter-Governmental Agreement. These types of activities typically allow communities to band together to reduce duplication of efforts where both jurisdictions are providing the same service.

9.1.1.3. Contracted Services

Finally, another alternative for providing multi-jurisdictional cooperation would be for one jurisdiction to contract another jurisdiction to provide a service to the first jurisdiction. For example, if Fayette County were to hire a contractor to provide pipe video services for inspections of drainage systems, then the Town of Tyrone could hire the County to video specific systems for an agreed to price. This concept is similar to the coordinated activities concept outlined above except that the County would not be "responsible" for compliance with a mandate rather only for providing a specific service.

9.1.2. Public Education

As discussed earlier, we recommend that a robust public involvement plan be developed during the implementation phase of any future Stormwater Utility in Fayette County. Additionally, we also recommend that the County convene a Stormwater Advisory Committee (SWAC) following establishment of a Stormwater Utility. The purpose of the SWAC would be to review SWMP policies and aid in public confidence through effective oversight. We recommend that the SWAC provide a yearly update to the Board of Commissioners as part of this effort.

9.1.3. Exemptions from the Stormwater Fee

Should the County elect to move forward with a Stormwater Utility user fee system, it is our recommendation that the user fee be applied to the entire jurisdiction and that no exemptions and/or exclusions be granted to the fee. Please note that undeveloped properties will likely not receive a bill, however it should be noted that these properties are not exempt but rather are not being sent a bill due to the fact that there are no impervious surfaces on the property. The only exception to this rule would be for public rights-of-way which are typically integral parts of the public drainage system conveying water to or from streams and rivers.

9.1.4. Account Review / Dispute Policies

Given the fact that it is likely that each customer will receive a user fee charge based on the amount of impervious surface area on their property, it is recommended that the County develop a procedure whereby the customer can review and/or dispute the fee. It has been our experience that few property owners realize the amount of impervious area on their property and their initial reaction is to believe that the County would be in error on this amount. By creating a simple map with aerial photography as the background and the impervious surface area shaded illustrating this assessment, it has been our experience that many of these disputes can be resolved quickly. Alternatively, the County could investigate the possibility of utilizing their GIS website (www.fayettecountymaps.com) to include this information.

9.1.5. Credit Manual

As discussed earlier, we recommend that a Stormwater Utility Credit Manual be developed and implemented as part any future Stormwater Utility user fee system. At a minimum, we recommend that the County evaluate the following credit opportunities for customers to take advantage of in reducing their bill:

- Low Impact Parcel Credits (i.e. low impervious percentage parcels)
- No Impact Parcel Credits (i.e. impervious surface zero discharge parcels)
- Detention Pond Operation & Maintenance Credits
- Stormwater Education Credits (primarily for educational facilities)

- Water Resources Conservation / Stewardship Credits
- Impervious Surface Reduction Credits
- Septic Tank Maintenance Credits

By implementing the credits above, the Stormwater Utility increases equity by recognizing specific conditions and/or activities taking place on a property to reduce the demand on the drainage system. The credit manual is also a key distinction between a user fee and a tax given that it allows a customer to reduce their bills through specific actions which is typically not possible under a property tax scenario.

9.1.6. Budget Tracking

Fayette County citizens have historically been very sensitive to costs increases in government expenditures but also place high levels of value on services that perceived to provide a benefit to the community. Examples of such services include the County's recreation program and the Fayette County Board of Education. As such, it is critical in the implementation of any future Stormwater Utility that the public be able to identify how costs are distributed within the SWMP. To that end, we recommend that rate resolutions be divided into an operating budget and capital budget and separate rates be adopted as such. For example, if the rate were set at $5.00 per year, per 1,000 square feet of impervious surface area, then we recommend that the rate be divided into $2.00 for operating expenses and $3.00 for capital construction. Please note that these rates are for discussion purposes only.

9.2. IMPLEMENTATION PLAN

It is our opinion that the County should consider taking the next step in the formation of an enterprise fund (Stormwater Utility) to manage the County's future SWMP. It appears that formation of a Stormwater Utility will be the most viable and equitable option for the County to fund its future SWMP needs (as opposed to property taxes). An enterprise fund offers the greatest flexibility to meeting the anticipated costs associated with the future SWMP objectives and challenges discussed in the previous sections of this report.

The previous sections of this report have discussed the complexity of development and implementation of a Stormwater Utility. There are a number of actions/decisions that must be made by the elected officials that, when combined with local stakeholder input, should result in successful Stormwater Utility implementation. Based on the legal opinion rendered by the Georgia Supreme Court, it is imperative that the Stormwater Utility development and implementation steps be undertaken in the appropriate manner and in the appropriate sequence. As such, it is our opinion that the best approach for the County to follow is to place heavy emphasis on making certain that the future SWMP level of service and funding considerations are consistent with the specific needs of the County and its future customers. Shown below are the key actions and a schedule that we recommend be followed in order to develop and implement a successful SWMP funded through a Stormwater Utility user fee system and enterprise fund.

9.2.1. Key Actions

The following key actions are examples of the steps and actions typically completed in the development of a Stormwater Utility.

Step 1 – Stormwater Utility Data Development

- Perform a detailed cost of service analysis defining in detail future expenditures for the SWMP
- Define customer database information (parcel classification, impervious areas, etc.)
- Develop a detailed rate model to facilitate discussions analyzing specific linkage between proposed cost of service and resultant Stormwater Utility rates.

Step 2– Implement a Public Education & Stakeholder Involvement Program

- Convene a Stormwater Advisory Committee/Community Stakeholder Group and use the group to guide the development of a SWMP strategy (goals, priorities, funding, etc); provide input to the County Commission on policy decisions; and review and provide comments concerning studies and analysis prepared as part of the Stormwater Utility development process (cost of service, rate methodology study, etc.).

Step 3 – Stormwater Utility Implementation

- Establish enterprise fund and rate ordinances
- Educate future customers regarding SWMP and utility
- Establish customer service programs and credit manual
- Create master billing account database
- Populate billing account database
- Compare initial rate study information to final billing database
- Compare initial rate structure data to final billing database
- Finalize ERU and revenue projection information
- Prepare and issue Stormwater Utility bill

9.2.2. Estimated Stormwater Utility Formation Cost

Based on ISE's experience in setting up Stormwater Utilities in other communities, we have estimated that the cost to set up the County's future Stormwater Utility would likely range between $105,000 and $155,000.

- Step 1 – Stormwater Utility Data Development – $60,000 to $75,000
- Step 2 – Implement a Public Education & Stakeholder Involvement Program – $15,000 to $30,000
- Step 3 – Stormwater Utility Implementation – $30,000 to $50,000

Note that incurred costs with respect to establishment of a Stormwater Utility user fee system can be recovered by the County as part of the start up costs for the Utility.

9.3. SCHEDULE

Based on our experience, the County can expect an approximate 10-month to 19-month period to implement the required tasks to move forward with Steps 1 through 3. The tasks listed below encompass the required work effort to develop an enterprise fund and user fee system that would result in the first Stormwater Utility bill being issued.

- Step 1 – Stormwater Utility Data Development – 3 to 4 months
- Step 2 – Implement a Public Education & Stakeholder Involvement Program – 3 to 4 months
- Step 3 – Stormwater Utility Implementation – 3 to 6 months

10. CONCLUSION & RECOMMENDATIONS

10.1. CONCLUSIONS

Fayette County and the Towns of Tyrone, Brooks and Woolsey will face significant challenges in the years ahead addressing stormwater management challenges with regard to maintaining the current quality of life and level of service that Fayette County citizens expect. Aging and failing infrastructure and Federal/State regulatory issues will continue to exert ever increasing levels of pressure on the County's institutional and financial resources. It is our opinion that Stormwater Management must become a dedicated and funded organizational entity in order to address the significant challenges that lay ahead, and that it is unreasonable to expect the General Fund to continue to provide adequate funding at current tax millage rates, given the anticipated funding requirements will likely increase in the near future due to aforementioned challenges.

Failure to adequately fund and implement an expanded SWMP will result in a likely reduction of the quality of life for Fayette County citizens. This would likely result due to some or all of the following:

- Closure of roadways due to structural collapse of drainage culverts and pipe systems;
- Decreases in water quality resulting in increased water treatment costs for customers of the Fayette County Water System;
- Reduced customer services as unanticipated stormwater management issues begin to reduce the discretionary budget of the County;
- Potential fines and other regulatory repercussions due to unmet regulatory permit requirements;
- Loss of access to grants and low interest loan State and Federal programs due to non-compliance with regulatory mandates.

Based on these scenarios, we considered several options to increase funding for the SWMP which included:

- Decreasing funding for existing non-stormwater related programs in order to transfer funding to an expanded SWMP;
- Increasing the tax millage rate in order to generate additional revenues to be dedicated to an expanded SWMP; or
- Implementing a user fee system to generate additional revenues based on usage of the stormwater system for an expanded SWMP.

Ultimately, we concluded that there were limited options to reduce existing funding in other areas to transfer funding to the SWMP. Approximately 76% of the County's budget is dedicated to Public Safety, the Judicial System, Debt Service and Public Works functions; we believe that without significant and detrimental cuts in the other functions

of government, insufficient funding would be available for future expanded SWMP needs.

Increases in the tax millage rate could in theory provide the necessary funding to address future expanded SWMP needs. However, it is our opinion that it is unlikely that this concept is sustainable in the long term given the history of maintaining lower millage rates at the expense of long term infrastructure needs.

10.2. RECOMMENDATIONS

ISE recommends that the County begin to transition to a Stormwater Utility via a dedicated enterprise fund with funding from a stormwater user fee and other secondary funding options as appropriate as outlined in Section 5.1.2. Implementation of a Stormwater Utility will create a dedicated organizational entity for the sole purpose of providing stormwater related services to the citizens of Fayette County. This is similar in concept to the County's Water Utility which is dedicated to providing clean potable water via a dedicated collection, treatment and distribution infrastructure and associated support components to Fayette County. In the same way, a Fayette County Stormwater Utility will be dedicated to managing stormwater infrastructure, floodplain management, regulatory compliance and other support components.

As part of a move towards development and implementation of a Stormwater Utility, we recommend that the following actions be taken as part of this effort:

- Implement a Stormwater Advisory Committee to evaluate the current program and give a stakeholders' perspective and recommendation regarding implementation of an expanded SWMP and Stormwater Utility
- Implement a comprehensive pubic involvement plan to solicit input from the citizens and business community and provide for public education for the proposed changes to the SWMP
- Explore opportunities with the various jurisdictions in Fayette County to develop a multi-jurisdictional approach to stormwater management to achieve cost savings

We recommend as part of the development of the Stormwater Utility, the County also create a user fee system to fund the Stormwater Utility. The user fee will provide a revenue source segregated from the General Fund and will be legally dedicated to stormwater management via an enterprise fund.

As part of the development of the user fee system, we recommend:

- Follow the Columbia County, Georgia rate model and Georgia Supreme Court ruling as a guiding principal in the development of a future user fee system.

- The Board of Commissioners (BOC) create a Stormwater Stakeholder Committee to provide citizen / stakeholder recommendations on policies to the BOC that will guide the development of the expanded SWMP.
- Based on the recommendations of the Stormwater Stakeholder Committee as adopted by the BOC, a detailed cost of service and corresponding user fee system be developed to guide implementation of the SWMP.
- Develop a GIS based impervious surface layer and preliminary revenue model early in the process to allow stakeholders to evaluate the financial impact of any proposed user fee on their properties. This model will also allow the stakeholders to evaluate the impacts of policy decisions on the revenue stream in support of a SWMP and its corresponding impacts to the Level of Service.
- Develop a comprehensive credit manual to recognize activities that property owners undertake to reduce the demand on the stormwater drainage system and reduce their user fee charges.
- Utilize a stand-alone billing system that charges property owners for stormwater user fees on a periodic basis (annual for residential customers and monthly or quarterly for non-residential customers)
- Develop a procedure that allows customers to review their bills and verify the accuracy of the data

Following implementation of a Stormwater Utility, we recommend that the County implement the following enhancements to the SWMP:

- Develop a comprehensive GIS based stormwater drainage system inventory and condition assessment as soon as feasible.
- Develop a comprehensive work order system to better improve Customer Service tracking and asset management.
- Following completion of the inventory above, create a Stormwater Infrastructure Management Plan, to organize and plan future maintenance and infrastructure replacement.
- Identify a staff member that will coordinate future stormwater drainage system capital improvements and to serve as construction manager for these projects.
- Hire a GIS analyst / technician for data management and infrastructure system updates including drainage system inspections and other regulatory support services.
- Hire a dedicated stormwater drainage system maintenance crew funded via the user fee system to work exclusively on stormwater maintenance issues.
- Establish a capital improvement project emergency reserve fund to provide for fiscal reserves for unplanned infrastructure replacement and storm damages to the County's assets.

Based on these recommendations, we believe that Fayette County will have the institutional and financial tools necessary to address many of the challenges facing the County both now and in the future via the implementation of a Stormwater Utility.