TRI-COUNTY REGIONAL PLANNING COMMISSION

Stormwater Utility Feasibility Study




April 23, 2014

ACKNOWLEDGEMENTS

This report is a product of the regional Stormwater Utility Feasibility Study which was funded in part by a Special Appropriation Act Project Grant from the United States Environmental Protection Agency to Peoria County, Illinois (Agreement No. XP-00E01183). Peoria County made a portion of the grant funds available to local governmental units in Peoria and Tazewell Counties for the purposes of this regionally-focused study. The project was a collaborative effort of the selected consultant, the regional planning commission, and thirteen units of local government. Each of the local government units participated throughout the study and each provided matching funds in sponsorship of the study. The participants were:

The participating units of local government

City of Peoria
City of East Peoria
City of West Peoria
City of Pekin
Village of North Pekin
Village of South Pekin
Village of Bartonville
Peoria County
Limestone Township
Cincinnati Township
Hollis Township
Washington Township
Morton Township

The regional planning commission

Tri-County Regional Planning Commission

The consultants

AMEC Environment & Infrastructure, Inc.
Patrick N. Meyer & Associates, Inc.

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STORMWATER UTILITY FEASIBILITY STUDY

EXECUTIVE SUMMARY

Stormwater runoff is a natural process. When it rains the water is captured by vegetation, evaporates, soaks into the ground, or runs off the land surface to nearby creeks and ponds. As development occurs the land surface changes, whether the development be for urban or agricultural purposes. As development occurs in urban areas the natural land cover is replaced by hard surfaces which increase the fraction of the rainfall that runs off; it increases the rate of runoff, it increases the volume of runoff, it alters the quality of the runoff, and it alters the time it takes for runoff to reach the local drainage system. The results of these changes include increased flooding, increased land surface erosion, increased channel erosion, increased pollution in the streams, public health issues related to insects and viruses, and an impact on the overall quality of life in the community.

In 2009 the Tri-County Regional Planning Commission adopted the "Honoring our Water: A Regional Stormwater Plan for Peoria, Tazewell, and Woodford Counties of Illinois[1]" plan. This plan established the objectives and policies for regional stormwater management in the Tri-County Area. Since the adoption of this plan, the Stormwater Management Planning Committee has overseen the development and implementation of the Tri-County County Regional Stormwater Management Program.

Since the inception of the program, it has been funded by a grant. The program has developed to include regional watershed planning, regional flood control facility operation and maintenance, flood plain mapping, water quality programs and countywide stormwater regulation. To date, grants have been sufficient to develop and maintain these programs; however, other demands of the stormwater management programs in the region, such as aging infrastructure and unfunded federal/state mandates has strained the available funds and alternative sources of funding are

[1] Tri-County Regional Planning Commission, Peoria, Il, May 2009, 78p

needed. While the plan framework is regional, the responsibility for its implementation remains largely with the individual participating entities within their respective jurisdictional areas.

Peoria County received a United States Environmental Protection Agency (USEPA) Special Appropriation Act Project Grant and in 2013 committed portions of that grant to undertake a regional stormwater utility feasibility study. Thirteen governmental agencies within the Tri-County area participated in the study whose objective was to evaluate the stormwater utility concept and to determine whether it is capable of bringing an adequate, stable, dedicated, and equitable method of funding stormwater management to the participating entities. The thirteen participants were: the Cities of Peoria, East Peoria, West Peoria, and Pekin; the Villages of North Pekin, South Pekin, and Bartonville; Peoria County; and Limestone, Cincinnati, Hollis, Washington and Morton Townships.

The Tri-County Regional Planning Commission (TCRPC) was asked to take the lead role in facilitating and managing this process. As a part of this process the TCRPC solicited consultant assistance to perform the feasibility study. AMEC Environment & Infrastructure, Inc. was selected to assist the group in this process.

Approach

The creation of a stormwater utility is typically a two-phased process. The first phase is a feasibility study that collects information to determine whether or not there is a compelling case for implementing utility fee funding for stormwater management. The second phase is the implementation of the stormwater utility and supporting activities.

The feasibility study process that was used in this study included six steps: the development of a stormwater management expenditure plan; data analysis; review of billing options; development of a revenue plan; development of a public education and outreach plan outline; and development of a general draft ordinance.

A proposed stormwater management expenditures plan was developed by each of the study participants utilizing a template stormwater program document and a template cost of service

spreadsheet that were provided by the consultant. The expenditure plans were developed in three steps. The first step was an assessment of the existing program and the program costs. The second step was the identification of the goals and objectives of the program and the program's needs, the elements that allow it to transform from its existing content to a program that would meet the identified goals and objectives. The third step was to add detail to the program goals by identifying staff requirements, equipment needs, program modifications, a timeline, and costs. The program definition and costs were provided for each of these seven areas of stormwater management:

1. Administration
2. Engineering and planning
3. Operations & maintenance
4. Capital improvements
5. Regulations and enforcement
6. Water quality
7. Public education and involvement

The data analysis included a review of the existing information within the geographic information systems (GIS) of the two counties. The focus of the review was the accuracy and type of information from which to develop a master stormwater utility account file for delivery to a selected billing agent. In this process AMEC reviewed GIS data, including aerial photography, parcel information, and property data. The results of the data analyses were used in estimating the size of the potential stormwater utility rate base for each participant.

The revenue plan development included all of the financial components for the development of an estimated rate. The proposed rate basis, impervious surface area, was selected through discussions with study participants. Very preliminary policy assumptions were made for the billing of a fee based on recommendations of the participants. The next step was the development of a preliminary rate model for each participating entity. The rate model was used to predict the preliminary rates that would be necessary to fund the proposed stormwater management programs.

The billing option review was a broad-brushed look at the options available to each participant for delivery of stormwater utility bills and the approximate cost of providing that service. Due to the preliminary nature of the study the cost of billing services was estimated as a percentage of the gross annual billings.

Each participant received a public education and outreach plan outline to be used as a guide for the development of a communication plan for a stormwater utility. The messages to be conveyed to the community include discussion of the need for a dedicated funding source, definition of the utility concept, and the impact the fee would have on the property owners, including how to reduce the fee through responsible on-site stormwater management practices. The activities proposed in the plan include both immediate and longer range actions.

The ordinance template that was developed for the study participants is a generic, editable ordinance that establishes a stormwater management enterprise fund, the rate, and the administrative structure of the stormwater utility.

Results

Table i illustrates which of the seven program areas each of the participants indicated should be enhanced as part of their future stormwater management programs. Some of the participants described their proposed programs in detail while others considered activities such as ditch maintenance to be part of a larger program, such as roadway maintenance. It should be noted that the jurisdictional areas of the townships and the counties overlap and therefore many of the program components that are not infrastructure related are not included in the townships' enhanced stormwater programs.

Table i. Proposed Stormwater Management Program Areas

Study Participant \ Stormwater Program Areas	Administrative	Engineering & Planning	Operations & Maintenance	Capital Improvements	Regulation & Enforcement	Water Quality	Public Education & Involvement
Peoria	●	●	●	●	●	●	●
West Peoria	●	●	●	●	●	●	●
Bartonville	●	○	●	○	○	○	○
Peoria County	●	●	●	●	○	●	●
East Peoria	●	●	●	●	●	●	●
Pekin	●	●	●	●	○	●	●
North Pekin	●	●	●	●	●	●	○
South Pekin	●	○	●	○	○	○	○
Limestone Township	●	○	●	○	○	○	○
Hollis Township	●	○	●	○	○	○	○
Morton Township	●	○	●	○	○	○	○
Washington Township	●	○	●	○	○	○	○
Cincinnati Township	●	○	●	○	○	○	○

Program Key: ○ No change ● Enhanced

Early in the process the study participants agreed that impervious surface area would be the basis of the rate structure. It was also decided that the rate structure would assume a single flat rate would be billed to all single family residential properties. In rate structures like this a sample of single family residential properties is analyzed and either the mean or median level of impervious area on the sampled properties becomes the "equivalent residential unit", or "ERU". Evaluation of the GIS data for Peoria and Tazewell Counties resulted in estimated ERU values. In Peoria County impervious surface information was available for all single family residential properties and the sample size was almost 38,000 properties. The measured ERU was calculated and rounded to 2,600 square feet of impervious area. In Tazewell County impervious surface data were not available therefore a randomly selected sample of 175 properties were digitized from aerial photography yielding an estimated ERU size of 3,360 square feet of impervious area. For billing purposes it was decided that each single family residential property would be billed a flat rate equivalent to 1.0 ERUs. All non-single family residential properties would have their

actual impervious areas measured and expressed in terms of ERUs (in Peoria County 5,200 square feet of impervious area would be expressed as 2.0 ERUs for billing purposes).

The rate study, or "Revenue Plan", is a plan for generating the revenue required to implement the proposed stormwater management program. The rate study utilized the 5-year cost of service, the rate base size, and a variety of policy recommendations and/or assumptions to estimate the rate that must be charged in order to provide coverage for the cost of service. The rate base size is the total number of ERUs that was estimated for each participant. A spreadsheet rate model was developed for each of the thirteen participants in order to estimate the rate that would be charged per ERU for a stormwater utility fee to fund their programs. The first year's cost of service, the size of the rate base, and the initial monthly rate estimate for each participant are shown in Table ii.

A key assumption in the study was that the five townships (two in Peoria County, three in Tazewell County) and Peoria County would be considering the urban fringe as their study areas. The urban fringe is defined as the area outside of and within 1.5 miles of the corporate limits of

Table ii. Estimated Stormwater Utility Rates

Participant	Program Cost (1st Year)	Rate Base (Total ERUs)	Rate Per ERU (Per Month)
Peoria	$ 4,830,000	96,040	$ 4.55
West Peoria	$ 179,000	3,092	$ 5.25
Bartonville	$ 360,000	8,738	$ 3.85
Peoria County – urban fringe	$ 2,654,000	19,374	$ 12.65
Peoria County - unincorporated	$2,654,000	34,671	$7.10
East Peoria	$ 1,334,000	24,309	$ 4.92
Pekin	$ 1,280,000	22,802	$ 4.90
North Pekin	$ 318,000	1,415	$ 14.10
South Pekin	$ 32,000	565	$ 5.10
Limestone Township	$ 445,000	7,729	$ 5.20
Hollis Township	$ 63,000	794	$ 7.10
Morton Township	$ 63,000	70	$ 83.00
Washington Township	$ 43,000	1,547	$ 2.57
Cincinnati Township	$ 116,000	2,975	$ 3.50

the participating municipalities. This assumption would have allowed any of the six to implement a utility in the urban fringe area through an intergovernmental agreement with the adjacent city(s) provided that the municipality elected to implement a stormwater utility also. The intergovernmental agreement between Peoria County or a township and the adjacent municipality would only be valid within the municipality's extraterritorial jurisdiction, which is within 1.5 miles of its corporate boundaries.

During the course of the study it was determined that townships have the statutory authority to implement a stormwater management program and fund it with a user fee without entering in to an agreement with a municipality. This authority is granted within Article 205 of the Township Code in the Illinois Compiled Statutes (60 ILCS). Analysis of this option was not performed.

For Peoria County an analysis of implementing a stormwater utility throughout the unincorporated area, as authorized by 55 ILCS 5/5-1062.3, was also performed. Under this authorization Peoria County may create a county-wide stormwater program if approved by the County Board, and can charge fees to generate the needed revenue for the program pending approval by a county-wide voter referendum.

Recommendations and Conclusions

Based on the results of the regional stormwater utility feasibility study the following recommendations and conclusions were made:

1. The stormwater utility approach to funding local stormwater management programs appears to be a viable option for most of the thirteen entities that participated in the study.
2. Rate structures that include a fee component related to the gross area of property should be investigated by the participants that have substantial amounts of rural property within their study areas.
3. The components of the expenditure plans (stormwater management program and the cost of service documents) that were developed by the study participants should be updated and finalized for public distribution if a stormwater utility is to be pursued.

4. Assumptions made in developing the rate models should be revisited and changed where need be. The rate models should be updated periodically to reflect changes in rate base and priorities.
5. The public education and outreach plans that were developed by the study participants from the distributed outlines should be updated and implemented if a stormwater utility is to be pursued.

STORMWATER UTILITY FEASIBILITY STUDY

1. INTRODUCTION

Stormwater runoff is a natural process. When it rains the water is captured by vegetation, evaporates, soaks into the ground, or runs off the land surface to nearby creeks and ponds. As development occurs the land surface changes, whether the development be for urban or agricultural purposes. As development occurs in urban areas the natural land cover is replaced by hard surfaces which increase the fraction of the rainfall that runs off; it increases the rate of runoff, it increases the volume of runoff, it alters the quality of the runoff, and it alters the time it takes for runoff to reach the local drainage system. The results of these changes include increased flooding, increased land surface erosion, increased channel erosion, increased pollution in the streams, public health issues related to insects and viruses, and an impact on the overall quality of life in the community.

Stormwater management is a service of local government that has been around for centuries. As development has occurred there has been a need to manage the runoff, whether by directing it to ditches, underground pipe networks, to lakes and ponds, or directly to streams. A great deal of infrastructure has been put in and on the ground to manage stormwater runoff.

Stormwater management systems are taken for granted by many. They are "on-call" systems that get little or no use for long periods of time but provide a valuable service to the community when needed if they are properly sized and maintained. A large portion of this infrastructure was put in place prior to the adoption of local drainage standards and may not have been sized appropriately for developed conditions. In many cases this infrastructure receives attention only when there are problems. Sometimes the problem becomes a "to-do" list item unless the problem is a complete failure, such as a pipe collapse, and then the solutions are typically site-specific and not systematic. In the Peoria and Tazewell County area the incidence of both performance and structural failures of the stormwater infrastructure are increasing. The root

causes of the failures are twofold; aging infrastructure that is at or past its "useful life"[2], and a lack of inspection and maintenance to maintain or extend the useful life of the infrastructure. The remedy to both of these problems is adequate funding for inspection and maintenance as well as for infrastructure repair and replacement.

The quality of stormwater runoff is also a focus of stormwater management programs locally and nationally. In order to deal with the pollution of lakes and streams that is caused by stormwater runoff in urban areas Congress authorized the USEPA to develop a national stormwater program. That program was implemented under the National Pollutant Discharge Elimination System (NPDES) and regulates the quality of stormwater runoff by requiring regulated communities to develop locally tailored stormwater management programs that meet minimum requirements in six program areas that can lead to improvements in the quality if the nation's streams. These urban stormwater runoff permits became effective in the Peoria and Tazewell County area in 2003. Compliance with these minimum measures includes plan review, inspection, and enforcement at construction sites, maintaining storm drainage systems, education and outreach, and implementation of best practices for managing the quality of runoff from developed areas. The cost of implementing these programs can range from tens of thousands of dollars per year for small regulated entities to hundreds of thousands annually for large cities, depending on program content.

In 2009 the Tri-County Regional Planning Commission adopted the "Honoring our Water: A Regional Stormwater Plan for Peoria, Tazewell, and Woodford Counties of Illinois" plan. This plan established the objectives and policies for regional stormwater management in the Tri-County Area. Since the adoption of this plan, the Stormwater Management Planning Committee has overseen the development and implementation of the Tri-County County Regional Stormwater Management Program.

Since the inception of the program, it has been funded by a grant. The program has developed to include regional watershed planning, regional flood control facility operation and maintenance,

[2] "Useful life" is the design lifetime of infrastructure that is properly installed and maintained

flood plain mapping, water quality programs and countywide stormwater regulation. To date, grants have been sufficient to develop and maintain these programs; however, other demands of stormwater management programs in the region, such as aging infrastructure and un-funded federal/state mandates have strained the available funds and alternative sources of funding are needed. While the plan framework is regional, its implementation responsibilities remain largely with the participating entities within their respective jurisdictional areas.

Peoria County received a USEPA Special Appropriation Act Project Grant and in 2013 committed portions of that grant to undertake a regional stormwater utility feasibility study. Thirteen governmental agencies within the Tri-County area participated in the study to evaluate the stormwater utility concept and to determine whether it is capable of bringing an adequate, stable, dedicated, and equitable method of funding stormwater management to the participating entities. The thirteen participants were: the Cities of Peoria, East Peoria, West Peoria, and Pekin; the Villages of North Pekin, South Pekin, and Bartonville; Peoria County; and Limestone, Cincinnati, Hollis, Washington and Morton Townships.

The TCRPC was asked to take the lead role in facilitating and managing this process. As a part of this process the TCRPC solicited consultant assistance to perform the feasibility study. AMEC Environment & Infrastructure, Inc. was selected to assist the group in this process.

This document, the *Stormwater Utility Feasibility Study*, describes the process and results of that investigation.

2. STORMWATER FUNDING

The goal of this study was to examine the practicality of moving the revenue base for stormwater management in the Tri-County area from the current tax-based systems to fee-based programs. The need for an alternative source of funding is obvious for most of the study's participants. It is not a matter of flooding and infrastructure problems being "worse" in the Tri-County area than elsewhere in the region, it's that the problems are growing because stormwater management issues have not been elevated to a level of priority that is high enough to generate the necessary level of funding.

In a feasibility study the ultimate goal is to determine whether or not a compelling case can be made for a change in direction, policy, or some other aspect of the program under review. In order to make the "Can we do it?" and "Should we do it?" determinations with respect to a stormwater utility, one must first ask four questions:

1. Where do the funds for stormwater management come from now, and are they adequate?
2. What other funding methods can be used to finance stormwater management?
3. How are stormwater utility rates typically structured?
4. What is the statutory basis for the establishment of a utility fee in Illinois?

In the following pages we will answer each of these questions. The question "Should we do it?" can only be answered after completing all of the steps of the feasibility study.

2.1. Where Does Our Current Stormwater Management Funding Come From?

Stormwater management funding for each of the participants in the stormwater utility feasibility study comes primarily from tax and fee revenue sources such as property taxes, motor fuel tax revenue, utility taxes, and fees paid by private companies to provide community-wide services, such as telephone or cable television services (franchise fees).

Are the funding sources in use today adequate? Stormwater management and transportation funding are two of many public programs that vie for these tax dollars. The problem stormwater management systems have in general is public perception. Even though the systems are on-call

24 hours a day, 7 days a week, they are not a daily use system and unless there is a large runoff event their importance and needs wane in the mind of most citizens, and unfortunately, in the minds of many decision makers.

2.2. What Funding Methods Are Used For Stormwater Management Programs?

There are a number of revenue sources and funding mechanisms that are used to fund stormwater management programs. Even though stormwater utility fees are the stated focus of the study, other funding methods could eventually be part of a funding approach. These other funding methods, if added to the rate structure, would add equity to the funding program. The funding methods include:

- General Fund appropriations
- Stormwater utility fees
- Special assessments
- Bonding for capital improvements
- In lieu of construction fees
- System development charges
- Plan review, development inspection, and special inspection fees
- Impact fees
- Developer extension/latecomer fees
- Federal and state funding opportunities (grant programs)

Even though any of the funding methods listed above may be available to fund a specific portion or portions of the local stormwater management program, only the first two, General Fund appropriations and stormwater utility fees, are capable of funding the entire program. These two funding sources are described below.

2.2.1. General Fund Appropriations

As mentioned above, the General Fund is the primary source of tax-based funding in the Tri-County area. There are a lot of demands on the General Fund of each participant in this study and those demands grow annually.

The demands placed on the stormwater systems that result in needs for operational programs and capital investment in systems and other assets have no relationship to salaries and wages, property values, or business activity levels. They are a function of the peak rate and the total volume of stormwater runoff that must be carried safely through the community and what must be done to meet NPDES stormwater discharge permit conditions and other environmental regulations to reduce pollution of receiving waters. However, the revenue sources that support the General Fund are based on a "taxation" philosophy. The purpose of taxes is simply to raise revenue, and there need not be a relationship between the source of revenue and the purpose to which it is applied. Equity, the basic fairness of how and from whom those funds are generated, is not a consideration.

The greatest inequity in using General Fund appropriations for stormwater management is that many properties that place demands on the stormwater systems are exempt from property taxes. These properties include government properties, churches, and others who do not generate property tax revenue. As a result, they do not participate in funding stormwater management through the General Fund. Even some private properties, such as parking lots and warehouses that have large expanses of impervious coverage, do not pay property or occupational taxes commensurate with the demands they impose on the stormwater systems. Conversely, those parties that have little impact on stormwater runoff but pay property and occupational taxes are paying more for stormwater management through the General Fund than they would through funding methods based on the demands placed on the stormwater program and systems.

General Fund appropriations are also highly uncertain from year to year. Revenues within the General Fund are not dedicated to any specific purpose, and allocations shift with perceived priorities. Stormwater management needs are likely to receive better treatment in the budget in a year following severe storms and drainage problems than in a year following a drought. This makes it difficult to plan and consistently carry out a long-term program plan that depends on a reliable level of funding year after year.

2.2.2. Stormwater Utility Fees

Stormwater utility fees, or service charges, are part of an increasing trend in local government toward charging fees for services for which the demand for service is easily quantifiable. Over the last 40 years, several types of demand-based services have been migrated from tax-based funding to fees in order to ensure that the funding level provided to the programs would be adequate, stable, and equitable. Examples of local government programs that have made this migration include water, sewer, solid waste, recycling, and in many locations, stormwater.

Stormwater utilities have been in existence since the early 1970s. The rate of growth of utility fee programs for stormwater management is increasing over time, and not surprisingly the increases tend to coincide with new water resources regulations. There are currently more than 1400 stormwater utilities in the United States, and many hundreds more that fund all or part of their stormwater programs using special fees. As can be seen in Figure 1, the trend does not appear to have peaked yet.

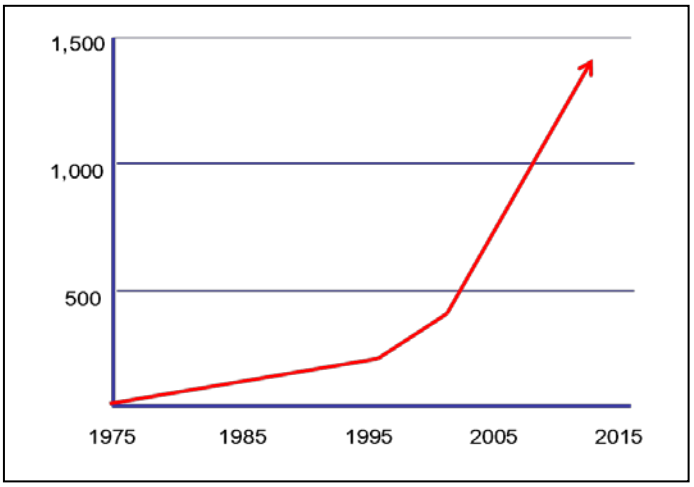

Figure 1. Growth of Stormwater Utilities

The Illinois Compiled Statutes (ILCS) provide Illinois municipalities, townships, and certain counties the authority to create fee-based funding programs for stormwater management as will be discussed in Section 2.4.

In most communities that have implemented stormwater utility fees the rates have been based on the physical conditions of properties that affect the peak rate of runoff, total runoff volume discharged, and pollutant loads delivered to receiving waters. The most common stormwater service charge rate structures are based on the amount of impervious area (roofs, paved areas, etc.) is on a property. Impervious coverage dramatically increases the proportion of rainfall that runs off the land in urban areas, particularly for events that occur at frequencies utilized for

infrastructure design. Impervious area rate methodologies are used in Rock Island, Normal, Bloomington, Morton, Champaign and Urbana, Illinois, and more than 700 other cities and counties around the country. The revenue generated by a stormwater utility fee is a function of the design of the rate structure and the land use make up of the community. Example single family residential rates from around the state of Illinois are shown in Table 1.

Table 1. Single Family Residential Stormwater Rates in Illinois

City	Monthly Rate*
Aurora	$ 3.45
Bloomington	$ 4.35
Highland Park	$ 4.00
Moline	$ 3.75
Champaign	$5.24
Downers Grove	$8.94
Morton	$ 5.03
Normal	$ 4.60
Richton Park	$ 5.63
Rock Island	$ 3.72
Rolling Meadows	$ 2.76
Urbana	$4.94

*Based on average single family property

Equity of funding is enhanced through the rate structure design process. For example, stormwater service charges may be applied to non-taxable as well as privately owned properties. Taxable properties are thus relieved of a portion of the cost of stormwater management. Credits can be given against stormwater service charges to encourage and reward stormwater best management practices (BMPs) and to compensate for activities performed by the property owners which are beneficial to the community's stormwater management program.

A stormwater utility fee could also be coordinated with other funding methods to create a rate structure that exhibits increased equity over funding based on a single source. For example, revenue from other types of fees, such as in-lieu of detention or plan review and inspection fees

can reduce the revenue needed from utility fees by assigning specific costs to the sectors of the community that benefit from the service.

The stability of revenue from a stormwater service charge ensures that long-range scheduling of capital improvements and operations can be done with reasonable assurance that funding will be available.

2.3. How Is A Stormwater Utility Fee Program Structured?

The common components of a stormwater utility include: a fee as the primary revenue producer, a rate basis dependent on the intensity of development, a rate structure that may include secondary funding mechanisms for the purpose of enhancing the equity of the system, a billing system, a public outreach program, a customer service program, an appeals process, and a master account file maintenance program.

When establishing a utility fee based funding program for stormwater management there are a number of policy decisions that must be made. These policy decisions address such issues as the rate structure, stormwater fee credits or incentives, the frequency of rate reviews, rate modeling parameters, exemptions from the fee, etc.

The basic component of a utility fee program is the fee itself. The fee is determined by distributing the cost of the services that will be provided over the computed rate base[3]. Most stormwater user fee programs use some measure of development intensity as the rate basis. Some use only the amount of impervious surface[4] as the rate base, while others utilize a combination of impervious and pervious areas. Most of the stormwater utility rates around the country are based only on the imperviousness of properties because basing the fee on a single

[3] The rate basis is the physical parameter that billing of the fee is based on, such as impervious area. The rate base is the total number of billing units represented by all ratepayer properties

[4] Impervious surfaces are surfaces that block or slow the infiltration of stormwater into the ground, such as rooftops, driveways, and roads

parameter simplifies the rate structure and because imperviousness has been shown to be the dominant parameter influencing runoff peak, volume, and quality in urban areas.

After selecting the rate basis a decision must be made as to how it will be incorporated into the rate structure. In the case of imperviousness, the decision must be made whether the total impervious area on each parcel will be measured and incorporated into the rate base, or if the data analysis process will be based on some incremental amount of imperviousness. Most stormwater utility communities have chosen to utilize flat rates for single family residential properties because the cost and time involved in developing an impervious area database for residential properties is considerable, and the variability of the impervious area on single family residential properties is somewhat limited. For this study the impervious area for approximately 38,000 single family residential properties in the urbanized area of Peoria County was evaluated and showed that the typical single family residential property in Peoria County has approximately 2,600 square feet of impervious area. In Tazewell County the impervious area data were not available therefore a sample of 175 residential properties (1% of the total single family properties) in the participating communities was randomly selected, the impervious areas digitized, and the typical single family residential property characterized as being approximately 3,360 square feet of impervious area. In an impervious area based billing program these measurements are known as an "equivalent residential unit" (ERU) and become the billing unit that the utility rate would be based on. All properties would pay based on the number of ERUs on the property.

In a rate structure that includes flat rates for single family residential properties there are two rate structure approaches; a single flat rate for all single family properties, or flat rate tiers that establish a second and/or a third flat rate for single family properties. The tiered approach adds equity to the rate structure in communities where impervious area on single family residential properties has significant variability. Both approaches were examined in the feasibility study and are described in Section 7.1.

Once the method of incorporating the rate basis into the rate structure is selected and the total number of impervious units is known, the utility's annual rate can be determined by dividing the

cost of service by the rate base after the costs have been adjusted for any other sources of revenue or other costs. The sources of additional revenue may be from the collection of specialty fees, such as plan review and inspection fees, detention variance fees, and the like. Additional costs may include estimated bad debt or delinquencies, stormwater fee credits, etc. This calculation, expressed in simple terms, can be represented by the equation below:

$$R_A = \frac{(COS + O_C - O_R)}{Base}$$

where:
- R_A = annual rate, in dollars
- COS = annual cost of service, in dollars
- O_C = other costs, annualized, in dollars
- O_R = other revenues, annualized, in dollars
- Base = Rate base, total, in ERUs

Equation 1. Generalized Stormwater Utility Rate Equation

In addition to the fee structure itself, there are a number of supporting services that are part of a user fee program. These services, mentioned earlier, include public outreach, billing and cash management, customer service, maintenance of the master account file, an appeals process for ratepayers that wish to contest their fees, and periodic updates to the cost of service and rate.

2.4. What Is The Statutory Basis For The Establishment Of A User Fee?

This report is focused on the feasibility of funding local stormwater management programs with a user fee based revenue source. The legality of user fee based funding is a key consideration in this process. In Illinois both the Home Rule Powers and the Public Works Statutes empower municipal government to establish programs to own and operate stormwater management and flood control systems and facilities. Townships are enabled by a Public Works Statute. Peoria County has been enabled by special legislation to adopt a fee in support of countywide stormwater management. These statutes also provide the authority necessary to fund the

programs. The County and townships are also able to enter into intergovernmental service agreements with local municipalities.

2.4.1. What Are Home Rule Powers?

As defined by the 1970 Illinois Constitution[5], Home Rule powers shift decision making from the state level to the local level enabling communities to find local solutions to local problems. Home Rule communities are granted a broad range of powers for the local good unless specifically exempted by the State. Home Rule communities are exempted from meeting requirements mandated by state legislation.

Home Rule provides communities with the flexibility to explore new funding sources, such as licensing fees for service businesses (banks, landscapers, etc.), restaurant taxes, real estate transfer taxes, etc. Home Rule status also allow a city to use fees to finance infrastructure and related program needs (streets, sewers, storm drainage, etc.) instead of limiting revenue sources to numerous types of tax levies.

2.4.2. What Are Public Works Statutes?

The Public Works Statutes are sections of the ILCS that specifically address the powers granted to divisions of local government to own and manage and fund various public works infrastructure and programs. These statutes address streets, public buildings, sanitary sewers, water, and for some, stormwater, among other services.

The municipal Public Works Statutes are a subset of the Corporate Powers and Functions statutes[6] that specifically address the powers granted to municipalities to own and manage public works infrastructure and programs. Of particular significance in these statutes are the definition of a municipal sewerage system (65 ILCS 5/11-139) and the discussion on how municipal sewerage systems can be funded (65 ILCS 5/11-139 & -141). Sewerage systems are defined to include separate storm drainage systems and all aspects of the stormwater management program

[5] Illinois Constitution, Article VII, Section 6, "Powers of Home Rule Units"

[6] ILCS Chapter 65, Article 11

that supports them. The statutes specify that either taxes or service charges, or both may be used to fund the program, and that the service charge revenues may be used to service debt for bonds that may be issued for capital projects.

During the course of the study it was determined that similar statutory definitions and powers for funding sewerage systems exist for townships in the Township Code at 60 ILCS 1/205. Previously it had been assumed that the townships and the county would be limited to setting up stormwater utilities only in the "urban fringe" which is the area within a mile and a half of corporate limits of a municipality. These utilities would require an intergovernmental agreement with the adjacent municipality and could possibly be contingent on the establishment of a utility by the municipality. The assumption that a county or township stormwater utility could exist only in the urban fringe was the basis for the evaluations for those participants in this study.

There are also Public Works Statutes for counties at 55 ILCS, Article 5. In Division 5-15, which authorizes counties to manage water and sewer systems and describes how revenue may be generated to fund them, the definition of sewer systems (55 ILCS 5/5-15002) does not include separate storm sewer systems.

Special Legislation

In 2013 special legislation was signed by the governor of Illinois that established the ability for Peoria and DuPage Counties to fund countywide stormwater management programs by the implementation of stormwater utility fees. This statute, 55 ILCS 5/5-1062.3, requires that a countywide stormwater management program be developed and approved by the Department of Natural Resources, that the stormwater management program be established by the County Board, that a voter referendum be held to approve a plan for either funding by a tax levy or user fee, that there be two years public notice of a fee before it becomes effective, and that the total revenue to be collected by a fee or tax levy be limited to 0.2% of the total assessed value of the properties in the respective counties. The statute also specifies that a fee must be used to address urban stormwater runoff issues.

2.4.3. Have The Courts Weighed In On The Concept?

The service charge approach to funding stormwater management has been tested in the court systems of several states and the federal courts. In those cases the complaints were generally distilled down to the simple question, "Is this a tax or a fee?" The federal courts have defined three basic criteria to distinguish a service charge from a tax. These criteria are;

1. The service being charged for must have a regulatory nature.
2. There must be a rational relationship between the fee charged and the service provided.
3. There must be a voluntary nature to a fee.

The regulatory nature of a stormwater utility fee would be accomplished by the adoption of an ordinance establishing a stormwater enterprise fund, which is a fund that is dedicated to pay for stormwater management services, and the adoption of a stormwater utility rate ordinance that establishes the fee and dedicates its proceeds to the stormwater enterprise fund.

The rational relationship between the service provided and the fee charged for the service (*rational nexus*) is a fundamental of any user fee or service charge. This basically means that the fee is being imposed to support all or part of the cost of providing the community with stormwater management services, but that no unrelated programs or costs are to be paid for using the stormwater fee revenues. Each ratepayer does not have to receive the same amount of each service from the utility in order for the fee to be legitimate. For example, telephone customers or cable television subscribers pay a flat monthly fee for basic service regardless of the number of local calls made or the number of hours of television watched. In the case of stormwater, the customer at the top of the hill may not need or receive the same level of flood protection as the customer at the bottom of the hill, but the customer at the top of the hill uses much more of the drainage system than the customer at the bottom of the hill.

"Voluntary nature" has two meanings as it applies to stormwater utility fee. The service charges can be said to have a voluntary nature if the mechanism exists to allow the ratepayer to reduce his or her service charge if the ratepayer can significantly lessen the burden of the community to provide stormwater management services to his or her property. This is typically accomplished

by including a credit program that is based on meeting specific threshold criteria for on-site stormwater management as defined by the municipality.

In the lone stormwater utility litigation in the state of Illinois to date, the Church of Peace v. City of Rock Island lawsuit, the Appellate Court[7] ruled that the voluntary nature test was satisfied by the fact that the plaintiffs elected to discharge to the drainage system that is owned and operated by the City of Rock Island rather than retain and manage their stormwater runoff on-site. In this case of first impression[8] in Illinois, both the district and appellate courts found in favor of the City of Rock Island that the stormwater utility fee is indeed a fee and not a tax.

Another important clarification that was derived from Church of Peace v. City of Rock Island was that the courts agreed with other case law that stormwater utility funding programs are fees , not taxes, because they are compensation for a specific service, in this case stormwater management, rather than for the generation of revenue for the general purposes of government.

Stormwater utilities have been implemented in Illinois by Champaign, Urbana, Downers Grove, Moline, East Moline, Rantoul, Aurora, Freeport, Rolling Meadows, Bloomington, Normal, Highland Park, Morton and Rock Island. It is important to note that while any of the fourteen could have been established under the municipal public works statutes, only Morton and East Moline specifically used this authority as the other twelve are all Home Rule cities.

[7] Third District Appellate Court, Ottawa, Illinois, May 1, 2005, Case 3-04-0480

[8] A case of first impression is the first court challenge of a particular issue that is seen to set legal precedence

3. FEASIBILITY STUDY PROCESS

The regional stormwater utility feasibility study had thirteen participants. For the seven municipal participants the study area for the feasibility study was all property within the municipal corporate boundaries. For the five townships and Peoria County the study area was assumed to be the 1.5 mile "urban fringe", that being the unincorporated area adjacent to the corporate boundaries of the municipalities participating in the study. This limitation was selected due to an assumption prior to the start of the study that both the townships and Peoria County would have to enter into intergovernmental agreements with municipalities in order to set up stormwater utilities and this 1.5 mile area is the statutory limit to which the municipal authorities would be able to enter into such an agreement. As stated in Section 2.4.2, this assumption was found to be false for the townships during the course of the study who actually can implement a stormwater management funding program throughout their unincorporated area.

Peoria County has the option to create a countywide stormwater management program as mentioned in the discussion of 55 ILCS 5/5-1062.3. As part of the study the strategy wherein the county might pursue a stormwater utility in the entire unincorporated area of the county was also considered.

The creation of a stormwater utility is typically a two-phased process. The first phase is a feasibility study that collects information to determine whether or not there is a compelling case for implementing utility fee funding for stormwater management. The second phase, implementation, would occur only if the Board / Council feels that a utility fee is both feasible and desirable. The implementation process that would be followed at the end of the feasibility study is defined in Section 12.3.

The feasibility study process that was used in this study included six steps; the development of a stormwater management expenditure plan, data analysis, review of billing options, development of a revenue plan, development of a public education and outreach plan outline, and development of a general draft ordinance.

A proposed stormwater management expenditures plan was developed by each of the study participants utilizing a template stormwater program document and a template cost of service spreadsheet that were provided by the consultant. The expenditure plans were developed in three steps. The first step was an assessment of the existing program and the program costs. The second step was the identification of the goals and objectives of the program and the program's needs, the elements that allow it to transform from its existing content to a program that would meet the identified goals and objectives. The third step was to add detail to the program goals by identifying staff requirements, equipment needs, program modifications, a timeline, and costs. Each of the three steps was discussed during the first two group meetings (see Section 8 for meeting agenda information). The results are the proposed 5-year stormwater management programs and the associated cost of service for each participant. Five years is a typical planning period that is used in stormwater management expenditure plan and rate development. The stormwater management program development process is described in more detail in Section 4. Individual consultations were scheduled with the participants to discuss their specific expenditure plans, billing options, and the cost of service information would be used in the rate modeling process by the consultant.

The data analysis step included a review of the existing information within the geographic information systems (GIS) of the two counties. The focus of the review was the accuracy and type of information from which to develop a master stormwater utility account file for delivery to a selected billing agent. In this process AMEC reviewed GIS data, including aerial photography, parcel information, and property data. In addition, statistical sampling of the amount of impervious area on representative single family residential parcels was performed in Tazewell County as described in detail in Section 5. The results of the data analyses were used in estimating the size of the potential stormwater utility rate base for each participant.

The billing option review was a broad-brushed look at the options available to each participant in the study. Specifically, the ability to deliver stormwater utility bills and the approximate cost of providing that service were examined. The options that were reviewed included the possibility of adding a stormwater fee line item to existing bills sent by the participants and by third parties

such as the Greater Peoria Sanitary District (GPSD), or some combination thereof. The results of the billing review are discussed in Section 6.

The revenue plan includes all of the financial components for the development of a rate and had several steps. First, the program cost of service was derived from the stormwater management expenditure plan. The proposed rate basis was determined through discussions with study participants. The GIS data was queried to determine how many billing units exist for each participant. Very preliminary policy assumptions were made for the billing of a fee based on recommendations of the participants. The next step was the development of a preliminary rate model for each participating entity. The rate model was used to predict the preliminary rates that would be necessary to fund the proposed stormwater management programs. The preliminary rate development is discussed in more detail in Section 7 and the deliverable billing database is described in Section 10.

The public information and outreach plan outline is a framework for educating the community about stormwater funding. The plan includes a variety of action items that could assist the staff of the various entities participating in the study in targeting messages and audiences that need to be informed of the stormwater program, its needs, its direction, its funding options, and how a stormwater utility fee might impact the public. Selection of the actual plan content from this outline and the development of an implementation schedule are responsibilities of the study participants.

The general stormwater utility ordinance is a template that can be easily modified by the legal staff of any entity. The general ordinance includes language that both establishes a stormwater management enterprise fund and the stormwater utility and rate. Included in the later section is the definition of the rate structure, establishment of the initial rate, the administration of the utility, and the appeal and collection processes.

The final step in the study is the preparation of the feasibility study report.

4. STORMWATER MANAGEMENT EXPENDITURE PLANS

One of the basic characteristics of stormwater utility fees is that the stormwater program drives the cost of service, and therefore there is a direct relationship between the service to be provided and the cost of providing the service. This is one of the characteristics of a fee that distinguish it from a tax in the eyes of the courts. It is therefore crucial to determine the program strategy, or business plan, that is most appropriate for an agreed upon planning period. The program strategy is the culmination of a multi-step process. The steps involved in the process include:

1. Assessment of the existing program.
2. Identification of the problems, needs and goals facing the program.
3. Determination of the program elements or enhancements that would satisfy the problems, needs, and goals.
4. Identification and prioritization of the steps necessary to take the existing program from where it is today to the strategic levels identified in step 3.

In the following sections the process that was followed in the development of the stormwater management program will be described.

4.1. Stormwater Management Programs

Stormwater management has been a function of the local governments in the Tri-County area for more than one hundred and fifty years. As in many cities around the country, the programs' focus has changed over time from moving water to the side of roads, to moving it underground (in urban areas), to conveying it quickly to the nearest stream, to managing its impact on the streams, to managing its quality. Along the way a great deal of infrastructure has been created that makes up the stormwater drainage systems.

The very nature of storm sewer systems makes it hard for the average citizen to understand the resources required to manage it. Storm sewer systems are often referred to as the "forgotten utility". They are out of sight (and out of mind) for the most part and rarely become noticeable

to the public unless there is a significant storm event. For most storms the system will live up to its intended purpose and collect and convey the water to its receiving water body. The capacity of the system has been designed to convey a certain amount of stormwater runoff. When this design capacity is exceeded, water is either conveyed to the next drainage system inlet, or stored on the street surface, or in yards, or in basements. Sanitary sewer system backups and combined sewer overflows are often the result of poorly managed or under-designed stormwater collection systems.

As infrastructure ages it can lose capacity if not inspected on a regular basis and maintained or repaired as necessary. The capacity loss can be a function of failure of the pipes or inlets, or of clogging of the pipes and inlets by sediment and debris. Failed infrastructure can also result in sinkholes or damaged sections of street pavement resulting in lane closures and traffic delays to the transportation network. The cost for emergency repair or replacement is always more expensive than it would have been to maintain the system on a regular basis.

For the Tri-County regional stormwater utility feasibility study each of the participants prepared a document describing their stormwater management program using a template document prepared by the consultant. The templates were provided in an effort to ensure that all necessary items were addressed in the previously identified program assessment, needs analysis, and priority setting. The participants were also provided a cost of service template into which existing stormwater management costs were to be entered as well as the 5-year program costs. The 5-year program costs were to reflect the participants' perception of program priorities by defining which program budgets would change, when, and by how much.

There were seven program areas of stormwater management that were evaluated for this study. These program areas are:

1. Administration
2. Engineering and planning
3. Operations & maintenance
4. Capital improvements
5. Regulations and enforcement

6. Water quality
7. Public education and involvement

The following paragraphs will define what stormwater management services each of these areas was assumed to encompass.

Administration

The administrative portion of the stormwater management program is generally made up of support services that are provided to all local (or many) government services and programs, including; human resource services, legal services, financial services, utility billing, etc.

Engineering and Planning

The engineering and planning services that are provided in support of stormwater management programs include, but are not limited to; complaint response, site plan review, NPDES permit compliance, erosion control inspection, storm sewer and manhole replacement design, floodplain management, community rating system coordination, construction management, project management, GIS services and support, watershed and drainage basin master planning, and day-to-day management of the stormwater management program.

Operations & Maintenance

Stormwater drainage operation and maintenance includes such services as inspections of storm sewer infrastructure, cleaning and televising of storm sewers, manhole/inlet cleanout, street sweeping, ditch grading and mowing, pond and BMP inspections and maintenance, levee maintenance, and record keeping and reporting on activities. Figure 2 shows a storm sewer failure photographed by inspectors.

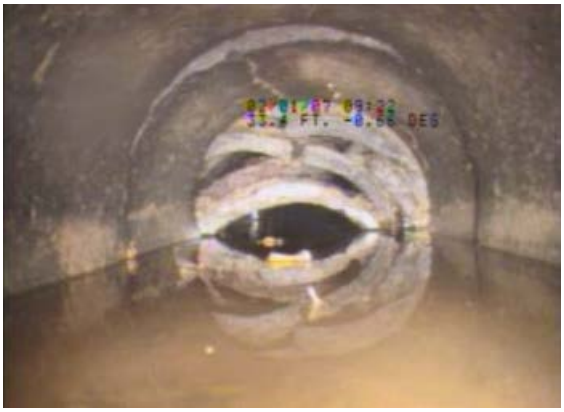

Figure 2. Collapsing Storm Sewer

Capital Improvement Program

The capital improvement program includes all aspects of storm sewer system infrastructure repair, rehabilitation, and replacement projects, development and updating of storm water master plans, stormwater system analysis, planning and design, construction management, street repair (when incidental to drainage system repair), utility relocations, and meeting regulatory commitments. Major equipment purchases, such as a vactor or a dump truck, are also included in this program segment. Inclusion of these programs and equipment purchases is subject to threshold values that qualify the cost as a capital expense. Expenses that do not meet the threshold for capital expenditures cannot be capitalized as expenses or paid for from bond revenue.

Regulation and Enforcement

Services that are included in the regulation and enforcement component of local stormwater management programs are services that must be performed to implement regulatory programs promulgated by local government. Plan review and inspection, codes enforcement, sediment and erosion control inspections, enforcement of floodplain ordinances, development of design standards, and similar services are part of this program segment.

Water Quality

The water quality program includes activities that are performed in order for the local governmental entities to be in compliance with the regulations of others, such as state and federal government regulations. Examples of these services are compliance activities for the NPDES municipal separate storm sewer system (MS4) permit, compliance with total maximum daily load (TMDL) requirements, compliance with consent decrees, etc. Total maximum daily loads are wasteload allocations for pollutants that may (or may not) be related to stormwater runoff. Once a TMDL implementation plan has been developed and approved by the state and USEPA part or all of a community may need to implement additional stormwater management programs and controls in order to comply. Compliance may mean additional stormwater program costs.

Public Education and Involvement

The public education and involvement and outreach component of local programs includes all activities that are intended to inform and engage the public in stormwater management and related water quality issues. Typical activities would include media releases, public meetings, advisory committees, planned activities such as storm drain marking or stream clean-up events, or participation in regional planning and compliance activities with other regional entities, such as the Central Illinois Committee on NPDES Phase II Stormwater Regulations (CICN). The CINC are the local MS4s that are working together to achieve maximum efficiency in meeting and/or exceeding the requirements of the NPDES stormwater rule.

Not every entity provides all of the identified services. For example, while the townships provide infrastructure maintenance services and capital improvements for township roads, they do not have their own design standards and other guidance documentation but rely on the counties for those services. Similarly, for budgeting purposes many local governments may aggregate regulation and enforcement, water quality, and the public education and involvement programs into a single line item.

4.2. The Proposed Programs

The approach that was taken in the feasibility study was for the participants to have an active role in the process. The program description and needs assessment step is typically the part of a stormwater utility feasibility study that requires substantial interaction between the local staff and the consultant and therefore was the part of the study where it made the most sense for the participants to take a larger role. The study consultant provided a template stormwater management program document as a guide for how the existing and future program descriptions and needs analyses should look. The template was discussed in two of the group meetings (see Section 8) to answer questions from the participants. The results of the individual efforts were discussed with each participant during the one-on-one meetings that were held in August, 2013. A template was provided for documenting the existing cost of service and the anticipated changes in the costs over the 5-year planning period of the study.

The needs assessments of the participants pointed to a common theme; that the participants feel that their programs are underfunded. This is borne out by the needs assessment of the program descriptions that were created. Many of the participants feel that their programs are reactionary: that they respond to failures of the systems and to complaints to the extent that their budgets allow. When the 5-year proposed programs are reviewed and compared to the existing programs the biggest change is in the amount of effort that would go into inspections and maintenance of the system, and for repairs to and replacement of storm drainage infrastructure.

A second theme that became obvious was that almost all of the participants identified the need for funding a stormwater capital program. A lot of the existing capital program is event driven, such as by a pipe collapse. There are known capital improvement needs that require funding and suspected needs that must be quantified by engineering analyses or by capital improvement master plans.

The stormwater program assessments and priorities show that some of the participants feel that they would like to do more in the areas of regulation and enforcement and water quality programs, such as expanding street sweeping programs as a good housekeeping best management practice.

Table 2 illustrates which of the seven program areas each of the participants indicated should be enhanced in their future stormwater management programs. Some of the participants described their proposed programs in detail while others considered activities such as ditch maintenance to be part of a larger program, such as roadway maintenance and estimated the costs rather than provide detailed costs. It should be noted that the jurisdictional areas of the townships and the counties overlap and therefore many of the program components that are not infrastructure related are not included in the townships' enhanced stormwater programs.

Table 2. Proposed Stormwater Management Program Areas

Study Participant \ Stormwater Program Areas	Administrative	Engineering & Planning	Operations & Maintenance	Capital Improvements	Regulation & Enforcement	Water Quality	Public Education & Involvement
Peoria	●	●	●	●	●	●	●
West Peoria	●	●	●	●	●	●	●
Bartonville	●	○	●	○	○	○	○
Peoria County	●	●	●	●	○	●	●
East Peoria	●	●	●	●	●	●	●
Pekin	●	●	●	●	○	●	●
North Pekin	●	●	●	●	●	●	○
South Pekin	●	○	●	○	○	○	○
Limestone Township	●	○	●	○	○	○	○
Hollis Township	●	○	●	○	○	○	○
Morton Township	●	○	●	○	○	○	○
Washington Township	●	○	●	○	○	○	○
Cincinnati Township	●	○	●	○	○	○	○

Program Key: ○ No change ● Enhanced

5. DATA ANALYSIS

An analysis of the existing physical information from which to develop a stormwater utility rate structure was performed as part of the study. In this process AMEC reviewed data from both the Peoria and the Tazewell County geographic information systems, including aerial photography, parcel information, property data, and impervious feature polygons that had been created for the assessors' offices. As will be described in the subsections below, this GIS information was used in estimating the size of the potential stormwater utility rate base for each participant.

During the first two group meetings it was determined that because of the relationship between imperviousness and stormwater runoff, the rate structure of the all the participants would be assumed to be based solely on the impervious surface area on parcels. It was further determined that impervious area for all parcels would be billed in equivalent units based on the mean amount of impervious area on single family residential properties. This mean level of impervious area is referred to as an "equivalent residential unit", or "ERU". The participants agreed that 1.0 ERU would be assigned to each single family residential property rather than measuring the actual imperviousness on each single family residential parcel.

5.1. Peoria County Data Evaluation

The Peoria County GIS data was obtained from the Peoria County Division of Information Technology Services (Peoria County GIS). The general assessment of the data quality for the purposes of implementing a stormwater utility is that the data is good. The aerial photography is very good for the purposes of this study. The aerial photography has a 12 inch pixel resolution and was delivered to the County in 2011, so it is relatively current. The metadata, or attribute data that describes the GIS coverages, will allow characterization of land uses and assignment of property owners to each parcel. Street name spelling, particularly abbreviations, appears to be consistent.

There are GIS coverages that include digitized polygons for improvements on parcels. These polygons were created and updated by Peoria County GIS staff by digitizing selected features

from the most current aerial photography. The features include building outlines, driveways, parking lots, etc. Missing from the digitized polygon coverages are sidewalks and patios. These missing features are a small fraction of the total impervious area on the parcels. Because these features are missing from all properties regardless of use class it was decided during one of the group meetings that for the purposes of the feasibility study that the impervious surface information was satisfactory for the study.

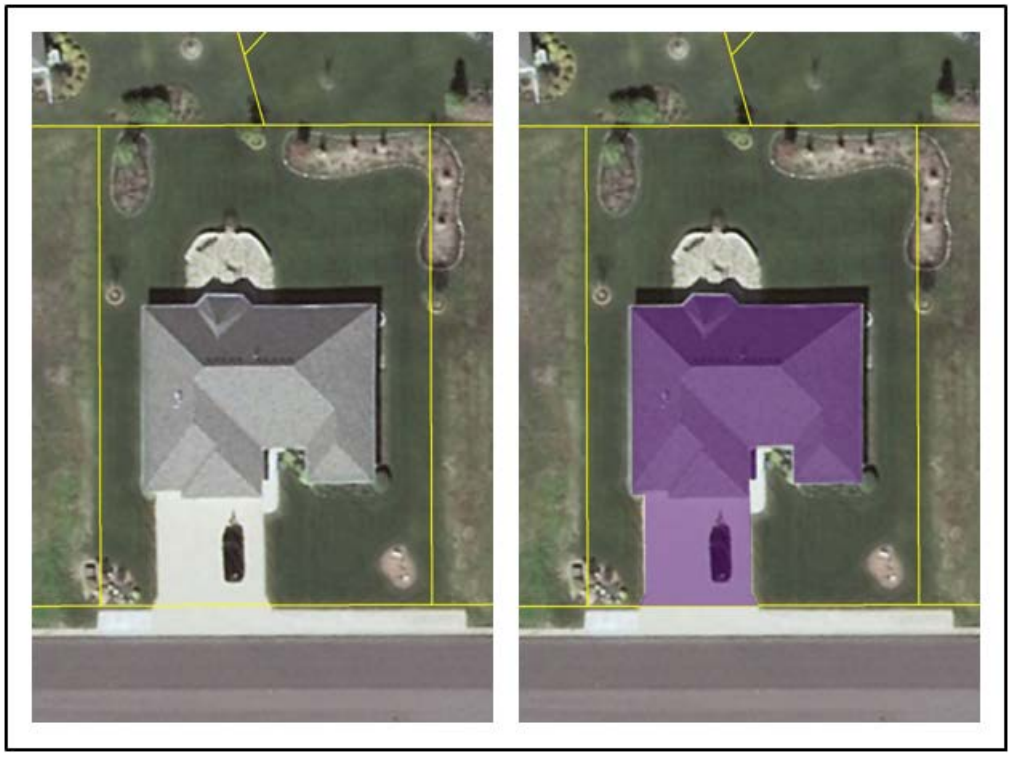

Figure 3. Example of Digitized Impervious Area

The biggest problem observed with the information in the GIS is the location of some parcel boundaries. Parcel boundaries would ideally be at the edge of the public right-of-way. The public right-of-way typically includes the street and the adjacent area to the backside of sidewalks (on streets that have sidewalks). There are several locations throughout the County where older parcel boundaries still extend through what should be the right-of-way to the centerline of the adjacent streets. In this circumstance the location of the property lines could result in significant amounts of impervious area that should be part of the public right of way being attributed to a parcel. These occurrences should be investigated and adjustments made to

correct the impervious area calculations. The stormwater utility ordinance should identify procedures to address these issues if rate payers contest their bills.

Because impervious surface data were available for each single family residential property the number of square feet of impervious area on every property in the use class was summed and the total impervious area divided by the total number of single family residential properties. For the County this number, the ERU, rounded to the nearest 10 square feet is 2,600 square feet of impervious area.

For the remaining properties in the county the total impervious area by use code was computed and divided by 2,600 square feet to determine the number of billing units (ERUs) for each. The total number of billing units for each of the participants in Peoria County was determined from this information. Table 3 provides the number of single family parcels, the total impervious area for all non-single family residential properties, and the number of ERUs for each of the participants in Peoria County. The urban fringe area is unincorporated area and therefore is a subset of the total unincorporated area of the County.

Table 3. ERU Determination for Peoria County Participants

Participant	Number of Single Family Parcels	Non-Single Family Impervious Area	Rate Base (in ERUs)
Bartonville	2,555	16,075,456	8,738
Peoria	35,926	156,295,329	96,040
West Peoria	1,869	3,179,459	3,092
Peoria County – urban fringe	5,387	36,366,248	19,374
Peoria County – unincorporated	12,190	58,451,646	34,671
Hollis Township	235	1,459,191	794
Limestone Township	2,983	12,339,612	7,729

ERU = 2,600 square feet of impervious area

It should be noted that public rights of way, agricultural and railroad line parcels were not included in the computations. Public rights of way were not included because they typically contain the public drainage system and serve as a part of the stormwater collection system that is operated and maintained by local government.

Agricultural properties are treated in a number of different ways. They can be billed as single family residential if there is a farmhouse, they can be treated as commercial, or they may more appropriately be dealt with using a rate structure that is not simply based on impervious area. For these reasons the decision on how to deal with agricultural property was determined to be one that should involve elected officials and was therefore deferred to an implementation phase decision.

Railroad lines were exempted because railroads beds are constructed using ballast which has a much higher porosity that gravel used in driveways and parking lots, and does not retard stormwater infiltration like compacted gravel driveways and parking areas.

5.2. Tazewell County Data Evaluation

The Tazewell County GIS data was obtained from the TCRPC through a data sharing agreement. The general assessment of the data quality for the purposes of implementing a stormwater utility is that the data is good. The aerial photography is very good for the purposes of this study. The aerial photography has a six inch pixel resolution and was delivered to the County in 2012, so it is relatively current. The metadata will allow characterization of land uses and assignment of property owners to each parcel. Street name spelling, particularly abbreviations, appears to be consistent.

While data in the GIS were considered to be good for creating a stormwater utility, part of the data in the GIS in May 2013 was not adequate for immediate use. The problem was that the GIS layers that included digitized polygons for improvements on parcels (building outlines, driveways, parking lots, etc.) were both incomplete and out of date. This was because very little updating had been performed by either the County or its users since the original creation of the

data in 1999. In order to rectify this situation for the regional stormwater utility feasibility study, the GIS staff at TCRPC digitized those features for all non-single family residential properties inside the project's footprint in Tazewell County. The digitizing was done by tracing the impervious feature boundaries from the aerial photography. To be consistent with the information that already existed in both counties, the digitizing did not include sidewalks or patios. As with Peoria County, it was decided that for the purposes of the feasibility study the impervious surface information was satisfactory for the purpose of this study.

Because little or no impervious surface data were available for single family residential properties the decision was made to digitize impervious surface areas on a statistically significant sample of single family properties from within the study area in Tazewell County. In all the impervious areas of approximately 175 single family residential properties selected at random from the approximately 23,800 in the participants' jurisdictions were digitized. Due to the variability in the amount of impervious area in the sample and the distribution it was determined that the median value of the sample would be more representative than its mean. For Tazewell County the computed ERU, rounded to the nearest 10 square feet is 3,360 square feet of impervious area.

For the remaining properties in the county the total impervious area by land use was computed and divided by 3,360 square feet to determine the number of billing units (ERUs) for each. The total number of billing units for each of the participants in Tazewell County was determined from this information. Table 4 provides the number of single family parcels, the total impervious area for all non-single family residential properties, and the number of ERUs for each of the participants in Tazewell County. Public rights of way, agricultural parcels, and railroad line parcels were not included in the computations.

As was the case in Peoria County, one of the problems observed with the information in the GIS is the location of some parcel boundaries. These issues will need to be addressed to the extent possible before billing for stormwater and/or in the utility ordinance sections that address customer appeals.

Table 4. Rate Base Determination for Tazewell County Participants

Participant	Number of Single Family Parcels	Non-Single Family Impervious Area	Rate Base (in ERUs)
East Peoria	8,878	51,846,919	24,309
Pekin	11,401	38,308,921	22,802
North Pekin	674	2,488,862	1,415
South Pekin	431	450,243	565
Cincinnati Township	1,083	6,357,055	2,975
Washington Township	1,253	987,823	1,547
Morton Township	70	0	70

ERU = 3,360 square feet of impervious area

6. BILLING OPTIONS

A general review of the billing options available to the study participants for delivering a stormwater utility bill was performed. The options that seemed most viable were in-house utility billing programs, contracting with the GPSD, and contracting with another third party.

- The GPSD, if interested, would be a good billing choice because of the coverage of their service area within the urbanized areas in Peoria County.
- Existing in-house billing programs are primary billing options for Tazewell County municipalities and would be a second choice for Peoria County participants as long as a stormwater line item can be added to the billing system.
- New in-house billing programs will be least favored option due to the costs associated with billing system software, master account file development, training in billing system use and maintenance, coordination with banking systems, and the training and stand-up of a customer service program.
- Third party billing providers are the least desirable because costs will be higher due to the high incidence of new accounts and higher debt collection costs than local government entities.

Two entities that would typically come to mind as billing agents are the Illinois American Water Company (IAWC) and the County Treasurers. The IAWC comes to mind because they provide water services in the area and have a customer base that covers much of the area. The IAWC however no longer provides third party billing services. The tax data base has all properties in the database, both taxable and tax exempt. But special legislation may be required in Springfield in order to place a fee on the property tax bill so it was not considered to be a viable option. At the time this report was prepared the available options were as shown in Table 5.

Table 5. Stormwater Utility Billing Options

Participant	First Option	Second Option
City of Peoria	Greater Peoria Sanitary District	In-house
City of West Peoria	Greater Peoria Sanitary District	In-house
Village of Bartonville	Greater Peoria Sanitary District	In-house
Peoria County	Greater Peoria Sanitary District	In-house
Hollis Township	Greater Peoria Sanitary District	In-house
Limestone Township	Greater Peoria Sanitary District	In-house
City of East Peoria	City Utilities Billing	Third Party
City of Pekin	City Utilities Billing	Third Party
Village of North Pekin	City Utilities Billing	Third Party
Village of South Pekin	City Utilities Billing	Third Party
Washington Township	Third Party	
Cincinnati Township	Third Party	
Morton Township	Third Party	

When a biller is selected a billing agreement may need to be negotiated. The terms to be negotiated with the biller would include:

- how frequently ratepayers are billed
- who receives the bills (owner or occupant)
- how delinquencies, short pays, and bad debt are handled (penalties, when do delinquencies become bad debt, who provides collection services, what is the recourse for failure to pay (i.e. liens, water shut off, other))
- the fee for billing services (flat fee per account, percent of billed total, etc)
- how the master account file and periodic updates for billing stormwater will be delivered to the billing entity.

The billing agreement will typically include print / mail services for delivering the bills to ratepayers and lock box / cash management services for receiving and handling payments.

7. THE REVENUE PLANS

As part of the Stormwater Utility Feasibility Study a preliminary rate analysis was performed for each of the thirteen participants in the study. For each of the municipalities the study was confined to the corporate limits of the municipality and addressed only the proposed stormwater management program costs that pertain to that entity's proposed stormwater management program as described in Section 4. For the five townships the study was confined to the 1.5 mile urban fringe immediately adjacent to the corporate boundaries of the participating municipalities. For Peoria County the study evaluated both the urban fringe and the total unincorporated area strategies.

The consensus recommendation of the participants early in this process was that that a single, simple, equitable stormwater utility rate structure be considered so that it can be easily explained to and understood by the community. The recommended rate structure relies on a utility fee to provide the program funding for all costs identified in the stormwater management program. An as yet undefined credit and incentive program would be incorporated into most of the programs to enhance the overall equity to the ratepayers. The following sections provide detail on the proposed rate structure, the rate basis, and the preliminary rates.

7.1. Rate Structure

The recommended rate structure relies on a stormwater utility fee to generate the program funding. This rate structure was the recommendation of the participating staff who advised the consultant that the initial rate structure should be simple to implement and easy to understand. In the case of the recommended rate structure, the impervious surfaces on parcels, the proposed utility fee rate basis is extremely simple and straightforward.

7.1.1. Recommendations of the Study Participants

As a part of the Stormwater Utility Feasibility Study the participants met a number of times to learn about municipal stormwater management funding and stormwater utility rate structures,

including the options available and the strengths and weaknesses of each, national and regional trends, and the experience of the consultants. An overview of the content of these meetings is presented in Section 8.

During the course of the study the participants were asked to comment on what they thought the priorities should be for a possible stormwater utility rate structure. The following recommendations were made:

1. A stormwater utility rate structure should be both equitable and simple to understand by its ratepayers.
2. The method for distributing the stormwater program's costs should be based on the impervious area of each property because there is a direct relationship between the intensity of development and stormwater runoff.
3. A stormwater utility should have a single flat rate method for billing single family residential property. Tiers, if desired, can be added later by any or all participants.
4. A stormwater utility rate structure should include programs of both incentives and stormwater utility fee credits.

The recommendation to assume a single flat rate for single family residential property was made because the group preferred to keep the rates structure as simple and easy to understand as possible.

The group discussed but made no recommendation on the following credit program issues:

- Should participation be limited to qualifying non-single family residential properties only?
- Should credits only be available to those properties that exceed local stormwater management standards?
- What practices should credits be available for?
    - Peak discharge rate reduction? This type of credit is given for reducing the post development peak for a drainage area to a specified level, such as the pre-development peak for a specific design storm.

- Total runoff volume reduction? This type of credit is given for reduction of the total volume of runoff by a specified amount. Most common now is to retain through infiltration practices the runoff from the first inch of rainfall.
- Reducing water quality impacts of stormwater runoff? This type of credit is given for practices proven to meet a water quality management goal, such as reduction of total suspended solids in runoff by 80% on an annual basis.
- Other?

7.1.2. Rate Basis

The rate basis is the parameter used for distributing the cost of service over all of the properties that are receiving stormwater management services from the utility. The rate basis is the indicator of the demand that a property places on the stormwater management program and drainage system for service. The recommended rate basis for a stormwater utility resulting from this feasibility study is the impervious area of each property that is outside the public right-of-way. As was mentioned in Section 5 and above, impervious area was the recommended rate basis. To satisfy technical standards, the rate basis must be a fair and reasonable approach that results in service fees that bear a substantial relationship to the cost of providing stormwater services and facilities to the ratepayers. The impervious area methodology satisfies these requirements. Impervious area is widely cited in engineering literature as the single most important factor influencing the peak rate of runoff, the total volume of stormwater discharged, and key pollutant loads typically found in stormwater runoff from developed properties in urban areas. This is particularly true for storms occurring at or near the design storm frequencies[9] for storm sewer infrastructure. It is also the most commonly used stormwater service fee rate parameter for stormwater utilities nationwide. A national survey found that 58% of all stormwater utility rate methodologies are based solely on impervious area.[10]

[9] Stormwater infrastructure design standards require that different types of infrastructure safely convey or retain or detain runoff from a storm that is seen on a specific interval, such as once every 10 years, and that lasts a specified period of time, such as a two hour long storm.

[10] *Stormwater Utility Survey; 2012*. Black & Veatch Management Consulting

Most communities that use an impervious area rate basis choose to implement a flat rate for all single family residential properties. This flat rate is based on either the statistical average or median amount of imperviousness on a single family residential lot and is referred to as an ERU. This process results in a system in which there appear to be inequities in the amount that owners of small homes pay relative to the amount the owners of larger homes pay because the amounts are the same while the demand for service, or runoff potential, may not be. The issue is not actually as simple as it seems. Most small lot residential areas have a higher impervious cover percentage than larger lot residential properties thus mitigating the difference in demand on a unit area basis. Another misconception is that each ratepayer is paying only for the immediate impact of his or her property's runoff. Though that is partly correct, each property owner is also paying for the elements of the City's stormwater program that benefit the entire community. For example, each property owner has routes he or she takes shopping, to work, to school, to church, etc., and stormwater runoff along all of those routes must be managed too in order to insure public safety.

As previously mentioned in Section 5, some communities have elected to broaden the equity of the flat rate billing by creating small, medium, and large tiers within the single family residential property classification. In Illinois only four of the first eleven stormwater utilities adopted rate structures with multiple single family residential tiers. It was recommended by the participants in this study that multiple tiers not be considered as a rate structure component at this time.

The number of billing units, or ERUs, for each of the participants was provided in Section 5.

7.1.3. Rate Structure Recommendations

Based on the input of the study participants, the analysis of GIS data, and the consultant's experience in establishing stormwater utilities it was recommended that the proposed rate structures have the following characteristics:

- The preliminary level and cost of service will be defined by the stormwater management business plans, or expenditure plans.
- The rate basis is impervious area.
    - The billing unit is the ERU.

    - The ERU size is 2,600 square feet of impervious area in Peoria County.
    - The ERU size is 3,360 square feet of impervious area in Tazewell County.
- All single family residential and duplex properties will pay a flat rate of 1.0 ERU.
- All other properties will have their impervious area measured and will be billed based on the number of ERUs on the parcel, rounded to the nearest one tenth (1/10).
- A currently undefined credit and/or incentive program should be part of the rate structure.
- There are no secondary revenue sources included in the rate structure.

7.2. Preliminary Rate Study

The primary purpose of the preliminary rate study is to identify the approximate range of utility fee rates that would meet the funding requirements of the proposed program strategy, or business plan. The concept is clear and simple; funding needs to be sufficient to meet operating, non-operating, and capital expenditures throughout the period of time addressed in the study, in this case five years.

7.2.1. Rate Model

A cash-flow analysis was necessary to evaluate the adequacy of the revenue stream and to plan for stormwater fee rates and other funding in the context of the projected expenditures. A rate model was used to organize the information and perform the calculations. The rate model is a compartmentalized financial model used to evaluate stormwater management program costs and the utility fee rate that would be charged in order to cover those costs. An example rate model used for the City of Peoria rate analysis is presented in Table 6.

The modules that make up the rate model are described below:

- Program Expenses. This module is comprised primarily of the preliminary cost of service that was created with the Stormwater Management Program. When appropriate, contingency or emergency fund contributions could be included.

Table 6. Example Rate Model

City of Peoria Preliminary Stormwater Utility Rate Model					
	Year 1	Year 2	Year 3	Year 4	Year 5
Program Expenses					
Administration and Overhead	309,750	313,299	316,916	320,602	324,358
Engineering and Planning	535,000	547,125	559,553	572,292	585,349
Operations and Maintenance	1,000,000	962,500	925,313	888,445	851,906
Capital Improvements	2,510,000	2,572,750	2,637,069	2,702,995	2,770,570
Regulation and Enforcement	100,000	102,500	105,063	107,689	110,381
Water Quality	150,000	153,750	157,594	161,534	165,572
Public Education & Involvement	225,000	230,625	236,391	242,300	248,358
Subtotal: Annual Operating Expense	**4,829,750**	**4,882,549**	**4,937,897**	**4,995,857**	**5,056,496**
Bond Expense / Debt Service	0	0	0	0	0
Subtotal: Program plus Debt Service	**4,829,750**	**4,882,549**	**4,937,897**	**4,995,857**	**5,056,496**
Operating Reserves	0	0	0	0	0
Emergency Reserves	0	0	0	0	0
Total: Expenses	**4,829,750**	**4,882,549**	**4,937,897**	**4,995,857**	**5,056,496**
Other Revenues					
Funds Carried Forward	0	99,385	170,618	211,271	218,857
Other Fees and Charges	0	0	0	0	0
Interest Income	0	0	0	0	0
Recovered Delinquencies	0	0	0	0	0
Other Resources	0	0	0	0	0
Total: Other Revenues	**0**	**99,385**	**170,618**	**211,271**	**218,857**
Utility Fee Revenue Requirement	4,829,750	4,783,164	4,767,279	4,784,586	4,837,639
Revenue Reduction Allowances					
Delinquencies	0	0	0	0	0
Bad Debt	104,875	105,400	105,927	106,456	106,989
Offsets and Credits	209,750	210,799	211,853	212,912	213,977
Total: Revenue Reduction Allowances	**314,626**	**316,199**	**317,780**	**319,369**	**320,966**
Adjusted Total Utility Fee Revenue Requirement	5,144,376	5,099,363	5,085,059	5,103,955	5,158,604
Estimated Number of Rate-weighted ERUs	96,040	96,520	97,002	97,487	97,975
Estimated Escalation Rate for ERUs	0.50%				
Recommended Monthly Rate per ERU	4.55	4.55	4.55	4.55	4.55
Recommended Annual Rate per ERU	54.60	54.60	54.60	54.60	54.60
Total Estimated Annual Fee Revenue (Billed)	$5,243,762	$5,269,980	$5,296,330	$5,322,812	$5,349,426
Year-end Revenue Surplus (Deficit)	$99,385	$170,618	$211,271	$218,857	$190,822
Fund Balance Allowance Test	1.90%	3.24%	3.99%	4.11%	3.57%

- Other Revenues. The Other Revenues module captures all of the revenue sources not related to the stormwater utility fee. These revenues include funds carried forward from the previous year; fees and charges assessed for activities such as plan review, in-lieu of detention fees, etc.; interest income generated from unspent funds; recovered delinquencies; grant funds; and transfers from other funds.
- Revenue Reduction Allowances. Revenue Reduction Allowances are adjustments that determine how much revenue will be needed to meet the stormwater fee revenue requirement. For example, the utility will not receive full payment of all fees it bills. Some payments will be delayed (delinquent) and some may never be paid (bad debt). Credits, or recurring reductions in the fee charged a property, will also be included in most rate structures. Each of these allowances is estimated as a percentage of the amount

of stormwater utility fee revenue billed. It is estimated that the delinquency rate will be negligible. This is because the rate modeling is done on an annual time step and delinquencies are only "delinquent" for 60 or 90 days before they become bad debt and are turned over for collection. Any recovered delinquent funds show up as a comparable amount of revenue in the following billing cycle.

- ERUs. The ERUs line is the estimated size of the rate base (total billing units).
- Recommended Monthly Rate per ERU. The rate is determined by use of an iterative process in which the rate is increased/decreased in increments that make the fund balance test meet a desired metric, such as a minimum 3% or 5% year end revenue surplus.
- Year End Revenue Surplus (Deficit). This is the estimated year end fund balance for each year in the model.

7.2.2. Rate Model Assumptions

Several iterations of the rate model were run to refine the cost, rate base, and cash flow and eventually arrive at a stormwater utility rate for each participant. The following paragraphs list the assumptions made in the rate modeling process. The headings below refer to sections of the rate model working from top to bottom.

Operating and Capital Expense

In this section a compounding annual inflation factor of 2.5% is applied to all variable annual operating expenses over the analysis period and is built into the total operating expense from the cost of service analysis.

Since no billing agreements have either been negotiated or are in place a blanket assumption was made that for a third party billing agency the fees for print, mail, lockbox and cash management services will be 4% of the total billings. For two of the Tazewell County municipalities this amount was set to 1% when in-house billing resources were available.

Debt Service

Debt service expense as a rate model parameter was not included by the participants even though most had a placeholder amount for capital projects in their cost of service. Debt service was

included as a cost of service line item by one participant that plans to bond capital projects right away.

Total Expenses

For the initial five years it was assumed that no contingency or emergency funds would be included in the modeling. This assumption was made based on the consultant's experience that communities looking at stormwater fees feel better specifying costs for line items with known costs and observing the initial rate model results before adding contingencies. Each of the participants had the opportunity to add one, the other, or both during the rate model meetings with the consultant but no one added the funds.

Other Revenues

The only amounts that show up as revenue in this section of the model are the funds carried forward from the previous year-end fund balances. We kept fund balances low so it was assumed that interest on the funds would be kept at 0%. Because we performed the rate modeling on an annual basis rather than monthly delinquencies and their recovery were not modeled. No additional revenue sources, such as fees and grants are being considered.

Revenue Reduction Allowances

The revenue reduction allowances for delinquencies, credits, and bad debt are estimated as a percentage of the amount of stormwater service fee revenue billed. It was estimated that the bad debt rates will be 2% annually based on other central Illinois rates studies performed recently in which stormwater bills were added to existing utility billing programs. Each participant had the opportunity to change this number and three or four did.

The participation in credit programs was assumed to be 4% as a starting point. The assumption of 4 % was made to conservatively estimate dollar-weighted (total dollars of credit divided by total billed revenue) participation in the program. The consultant's observation is that most communities see less than 2% participation. Some of the participants lowered that estimate during the one-on-one meeting during which the rate models were reviewed.

As mentioned above, since the modeling was performed on an annual basis we did not consider delinquencies in the model.

ERUs

The rate model value for the beginning number of ERUs comes from the worksheets described in Section 5, which are included in each participant's rate model. For each participant a discussion was held during the review of the rate models regarding expected growth / new development expectations. The default assumption was set at 0.5% growth of imperviousness annually based on recent central Illinois rate studies in which permit data was used to estimate the rate. Several of the participants wanted a lower, more conservative growth rate of 0.25%, while 3 opted for no growth at all.

Monthly Rates

Using the cost of service and the assumptions above the rate model calculates the revenue generated by the service fee rate. It is an iterative process in which the monthly rate is adjusted up and down in an effort to achieve not just a positive fund balance each year, but to meet or exceed a predetermined target, such as below some level or no lower than another level. For the purposes of the feasibility study the rate modeling was performed with a target fund balance of 3-5% for most of the participants. The target was allowed to be reduced on request.

7.2.3. Modeled Rates

The rate models for the participants were developed and calibrated based on the assumptions that were listed in Section 7.2.2. During the one-on-one meetings that were held in November 2013 the results were reviewed and the participants were given the opportunity to test alternatives in the models to see the impact on their rates.

Table 7 provides the initial 5-year rate that the model predicted would be required to cover the cost of service estimates provided by each participant.

For Peoria County the same cost of service was analyzed for both the urban fringe strategy and the countywide unincorporated area strategy in order to gauge the relative merits of entering into

intergovernmental agreements versus pursuing a voter referendum to implement the countywide strategy.

The Morton Township rate is extremely high due to the presence of very little urbanized development inside the urban fringe of the township. As seen in Table 4 there were only 70 ERUs for this township's rate base. In order to have a lower rate the entire unincorporated area of the township would need to be included in the analysis.

Table 7. Stormwater Utility Rates

Participant	Rate Per ERU (Per Month)
Peoria	$ 4.55
West Peoria	$ 5.25
Bartonville	$ 3.85
Peoria County – urban fringe	$ 12.65
Peoria County – unincorporated	$7.10
East Peoria	$ 4.92
Pekin	$ 4.90
North Pekin	$ 14.10
South Pekin	$ 5.10
Limestone Township	$ 5.20
Hollis Township	$ 7.10
Morton Township	$ 83.00
Washington Township	$ 2.57
Cincinnati Township	$ 3.50

7.2.4. Example Applications of Recommended Rates

Figure 4 shows the digitized impervious area of a representative small commercial property and provides an example computation of utility fees based on the recommendations of the previous section.

Figure 4. Example User Fee Determination - Small Business

The small business shown is located in the City of Pekin. The property has a measured impervious surface (purple shading) of 12,700 square feet. Dividing total impervious area by 3,360 square feet and rounding to the nearest tenth of an ERU, there are 3.8 billing units on the parcel. Applying an assumed rate of $4.90 per ERU per month the monthly and annual stormwater fees would be $18.62 and $223.44, respectively.

8. STORMWATER UTILITY FEASIBILITY STUDY MEETINGS

This stormwater utility feasibility study approach included a formal process to interact with and solicit input from the participants in the form of a series of meetings. The meetings included 4 in which all participants were invited to attend for discussion of general aspects of stormwater utility funding programs and to discussion aspects of the utility structure that could possibly be common, or similar, among the participants. There were also two months during which the consultant was scheduled to meet with each of the thirteen participants individually to discuss specifics of their particular program.

In June 2013 the first group meeting / project kickoff meeting was held. This meeting included a review of the study objectives, a primer on what stormwater utilities are and their popularity for local government, a review of the study scope/approach, a discussion on the expectations of the participants in completing the stormwater program self-assessment template and the cost of service templates.

In July 2013 the second group meeting was held. The primary focus of this meeting was to provide more detailed instruction and assistance in what was expected from the participants in their efforts to complete the stormwater program and cost of service templates prior to the first round of one-on-one meetings. Also discussed during this meeting were basic stormwater utility policies and which might be well-suited as regional policy guidelines. A discussion of the Public Education and Outreach Plan Outline's content was also included in the meeting.

In August 2013 the first round of one-on-one meetings was held. These meetings were focused on review of the stormwater management program analyses and cost of service analyses that each participant prepared for his/her municipality, county, or township.

In September 2013 the third group meeting was held. In this meeting we reviewed the one-on-one meetings from August, we discussed policies, we provided an update on the status of the TCRPC GIS digitizing efforts for Tazewell County, we discussed billing options, and we discussed the need for participants to consider getting started with public education and outreach.

In November 2013 the one-on-one meetings were held for the second time. This series of meetings was focused on review of the rate modeling results and the assumptions that were incorporated into the rate models.

In January 2014 the final group meeting was held. The goal of this meeting was to present the findings of the process, including an overview of project deliverables, general comparisons of the content of the stormwater programs, comparisons of the program costs of service and projected rates, and a summary of "next steps" for those participants that elect to move forward with stormwater utility implementation.

The meeting format allowed discussion of issues at any time, though the format was generally old business, new business, and discussion. The meetings were open to the public.

9. PUBLIC EDUCATION AND OUTREACH PLAN OUTLINE

Public education and outreach is a key component of the successful rollout of a stormwater funding program. A potential stormwater utility must reach out to its residents, businesses, and institutions to explain what a stormwater utility fee is, why it is under consideration, how the fees will be determined, and why the concept is right for the community. While the actual development of a public education and outreach plan was not included in the scope of the feasibility study, an outline of an outreach plan was provided to the participants and it was recommended that any participant considering the adoption and implementation of a stormwater utility should complete and begin to implement such a plan as soon as possible.

The plan outline was divided into lists of typical activities that were termed either “immediate” or “longer term” tactics. The outline included such potential education and outreach activities as:

- Public meetings
- Development of speakers bureau materials
- Identification of community proponents for fixing stormwater problems
- Citizens stakeholder / advisory group meetings
- Key ratepayer outreach
- Media releases on stormwater issues
- Interviews with local media
- Web-site based dissemination of information

10. BILLING DATA

Each participant in the study received a spreadsheet that shows the billable impervious area for each parcel within its study area. The spreadsheet includes basic parcel data, such as owner name, parcel address, and owner address, parcel area, measured impervious area, the number of billing units, and the expected monthly fee for each parcel based on the number of billing units and the rate estimated for that participant in the rate modeling task. The number of billing units (ERUs) is based on the ERU sizes of 2,600 square feet on impervious area in Peoria County and 3,360 square feet in Tazewell County. An example of the billing data is shown in Table 8.

It should be recognized that the billing database information is a snapshot in time based on the GIS data for Peoria and Tazewell Counties Geographic Information Systems in November 2013. A maintenance plan for the impervious surface coverage and this data file will be needed in order to keep the billing data current.

Table 8. Billing Database Example

City of Xxxxxxxx Stormwater Fee Table

ERU (sq ft) 2600
Rate/ERU $5.00

Parcel No	Owner Name	Owner Address	Parcel Area	Impervious Area	Single Family	Parcel ERUs	Monthly Fees
123456789	ABC Florist	1000 Elm St	32000	9000	N	3.5	$ 17.50
123456790	Dollar Store	8888 Nolan Ave	49000	33000	N	12.7	$ 63.50
123456791	123 Accountants	2120 Main St	17300	12000	N	4.6	$ 23.00
123456794	Gene's Grocery	3321 Oak St	100000	90000	N	34.6	$ 173.00
123456797	Willie's Grill	2119 Front St	33500	10000	N	3.8	$ 19.00
123456800	Ace Hardware	1770 Eddie Rd	83000	43560	N	16.8	$ 84.00
123456803	Bill's Big Box	102 Broad St	500000	450000	N	173.1	$ 865.50
123456810	Hi-Oct Gas	7721 Edna St	45000	21800	N	8.4	$ 42.00
123456814	Sally's Seamstress	10075 Saints Way	10000	2575	N	1.0	$ 5.00

The billing database files do not yet include functionality to adjust the fee charged to properties that apply for and receive credits as the credit program(s) has yet to be defined.

11. STORMWATER UTILITY ORDINANCE

A decision to adopt and implement a stormwater utility will require the adoption of an ordinance that establishes a stormwater enterprise fund and that establishes the rate structure of the utility. For this project AMEC has prepared a general stormwater utility ordinance template that can be modified for use by any of the study participants. The template ordinance: 1) establishes a stormwater enterprise fund; 2) obligates the revenues generated by a stormwater utility fee to the enterprise fund; and 3) defines the stormwater utility fee rate structure. The template ordinance includes the following:

- Purpose
- Definitions
- Creation of the enterprise fund (includes use of fund)
- Stormwater utility rate structure (define fee structure, dedicate fee to enterprise fund)
- Billing
- Power to enforce
- Power of Director
- Appeal process

The template ordinance is provided as an attachment at the end of the report.

12. SUMMARY AND RECOMMENDATIONS

The *Stormwater Utility Feasibility Study* is an evaluation of fee-based funding of local stormwater management programs by thirteen local governmental entities. Facilitated by the TCRPC, the study utilized a combination of staff and consultant input and research of other stormwater utility programs to evaluate available options. The following sections summarize the results of the feasibility study, followed by the consultant's conclusions and recommendations and a list of the activities that will be required to implement the recommendation should any participants elect to adopt and implement a stormwater utility.

12.1. Summary of Feasibility Study

The *Stormwater Utility Feasibility Study* included a number of specific reviews pertinent to the potential adoption of a utility fee to fund stormwater management. These activities included:

- Assessing the current stormwater management program and its needs
- Developing a proposed 5-year stormwater management business plan, including estimation of the program's annual revenue requirements
- Evaluating the legal authority to implement a utility fee for stormwater management
- Multiple meetings to discuss issues related to the programs and their funding
- Evaluating available GIS data from which to base a utility rate structure
- Investigating billing options
- Designing a basic framework of a rate structure
- Rate modeling to identify a range of possible rates for the recommended stormwater programs
- Discussing the importance of public education and outreach for utility implementation
- Producing billing spreadsheets for each participant
- Developing an ordinance template

Each participant proposed a stormwater management program plan and cost of service. The annual costs for the first year of each plan are shown in Table 9. Most costs were assumed to increase over the 5-year planning period at a rate of approximately 2.5% per year. The rate study showed a wide range of monthly rates per ERU based on the program cost of service and rate base (number of ERUs) for each participant. The estimated initial rates for each participant are also shown in Table 9.

Table 9. Program Costs and Utility Rates

Participant	Program Cost (1st Year)	Rate Per ERU (Per Month)
Peoria	$ 4,830,000	$ 4.55
West Peoria	$ 179,000	$ 5.25
Bartonville	$ 360,000	$ 3.85
Peoria County – urban fringe	$ 2,654,000	$ 12.65
Peoria County – unincorporated	$ 2,654,000	$7.10
East Peoria	$ 1,334,000	$ 4.92
Pekin	$ 1,280,000	$ 4.90
North Pekin	$ 318,000	$ 14.10
South Pekin	$ 32,000	$ 5.10
Limestone Township	$ 445,000	$ 5.20
Hollis Township	$ 63,000	$ 7.10
Morton Township	$ 63,000	$ 83.00
Washington Township	$ 43,000	$ 2.57
Cincinnati Township	$ 116,000	$ 3.50

Compared to other stormwater utility rates in the State of Illinois (see Table 10), this range is consistent with the other utilities. The comparison of rates is provided for the sole purpose of looking at the amounts being charged for stormwater management from one city to the next. The stormwater management programs, costs, and rate bases are different for each and looking only at the rates can lead one to draw potentially erroneous conclusions.

Based on these analyses it would appear that the adoption of a stormwater utility funding by several of the study's participants is feasible. For others the projected rates may be deemed too high. The concept is a cost effective, equitable approach for providing dedicated program funding for infrastructure that is in need of attention.

Table 10. Single Family Residential Rates in Illinois

City	Monthly Rate*
Aurora	$ 3.45
Bloomington	$ 4.35
Highland Park	$ 4.00
Moline	$ 3.75
Champaign	$5.24
Downers Grove	$8.94
Morton	$ 5.03
Normal	$ 4.60
Richton Park	$ 5.63
Rock Island	$ 3.72
Rolling Meadows	$ 2.76
Urbana	$4.94

*Based on average single family property (ERU)

12.2. General Recommendations

The following recommendations summarize the funding approach that the consultant feels best meets the needs of participants in the Stormwater Utility Feasibility Study. The recommendations are based on programs proposed by the participants, the rate modeling performed for each participant, and the one-on-one meeting discussions with the participants, The recommendations are grouped into three categories; level of service, preliminary rate structure, and credit program.

12.2.1. Level of Service Recommendation

For any participant that elects to adopt stormwater utility funding, it is the recommendation of the consultant that the participant adopt the level of service for its stormwater management program that is defined in the *Stormwater Management Program* document. The proposed levels of service are not overly aggressive but will allow the participants to upgrade their current level of service to one that allows more efficient and complete management of aging infrastructure and a heightened level of NPDES compliance. The *Stormwater Management*

Program should be revisited in the fourth program year to benchmark the program's progress and to coordinate with the selected rate review cycle. At that time the impact of possible new stormwater regulations that are expected to be promulgated by USEPA and implemented by the IEPA will be known and can be incorporated into the *Stormwater Management Program*. These regulations are expected to require runoff volume reduction by retention of the runoff from the first inch of rainfall from developing properties.

12.2.2. Preliminary Rate Structure Recommendations

Based on the feasibility study's results the consultant makes the following general recommendations related to the preliminary definition of stormwater utility rate structures:

1. Any entity that elects to move forward with the adoption and implementation of a stormwater utility should create an enterprise fund for stormwater management, and the primary source of revenue for that fund should be a stormwater utility fee specifically dedicated to the fund. Utility fee-based funding of infrastructure programs, particularly stormwater management programs, has been shown to be both a successful and a legal method of funding stormwater management nationally and in the State of Illinois. By establishing such an enterprise fund all revenues collected for stormwater will remain in the stormwater fund and be expended on elements of the *Stormwater Management Program*.
2. The stormwater utility rate should be based on the demand for service that each property in the service area places on the entity. The demand for service should be approximated by the developed density of each property, as measured by the impervious surfaces on the property. The actual distribution of program costs should be based on billing units equal to 3,360 square feet of impervious area in Tazewell County and 2,600 square feet of impervious area in Peoria County. The number of billing units should be rounded to the nearest tenth. The billing units should be referred to as "Equivalent Residential Units", or ERUs.
3. All single family residential and duplex properties should be billed a single flat rate of 1.0 ERUs per month.
4. All other property classes should be billed per measured ERU.

5. All properties should be charged the fee, with the exception of streets and sidewalks within the public right-of-way or its equivalent (public streets are designed to provide storage, conveyance, and drainage system access for stormwater runoff).
6. Each entity should decide how agricultural properties will be treated within its community. The options include:
   a. no bill
   b. bill as single family (1.0 ERU)
   c. treat as commercial property and have the number of ERUs computed

   In the existing rate modeling the no bill option was used in order to keep from possibly overestimating revenue potential of the fee.

12.2.3. Credit and Incentive Program Recommendation

In order to maximize the equity of the rate structure it is recommended that a credit and/or incentive program be defined and implemented. The credit and/or incentive program would recognize the beneficial impact of on-site stormwater management efforts of individual property owners based on criteria established by the community and approved or adopted by the Council/Board. This program should be defined by policy early in the implementation phase. Special emphasis should be placed on providing either credits or incentives for the use of sustainable practices in stormwater management.

12.3. Stormwater Utility Feasibility by Participant

The consultant has developed recommendations on the feasibility of implementing a stormwater utility for each of the participants. The recommendations are limited to whether, in the consultant's judgment, a stormwater utility fee is a feasible alternative to tax-based funding of stormwater management for a specific participant. They are not recommendations to proceed with implementation of a stormwater utility as those decisions rest solely with the elected officials of each participating entity.

The recommendations are based on the consultant's subjective analysis of three indicators:

1. The level of effort expended in developing the description of the future stormwater management program and cost of service. In order to make a compelling case for implementing a user fee type funding program the participating entities must be able to fully describe and defend the proposed stormwater management program and its costs.
2. The expected acceptance of the preliminary rate estimate. The three highest rates in the state are more than $8.50. The average rate is between $4.50 and $5.50. The consultant's evaluations are based on the projected rate, the level of service, and the extent of service (service area, within corporate bounds or the urban fringe) of the program.
3. Other issues that may have been identified during the course of the study.

For those participants for who the recommendation is that a stormwater utility is very feasible, the steps in Section 12.3 should be reviewed, the ordinance template should be completed, a public education and outreach plan should be finalized, and an implementation plan and schedule created prior to going to the elected decision makers for approval and authorization to go forward.

City of Peoria

The implementation of a stormwater utility is very feasible for the City of Peoria. The stormwater program assessment is detailed and the cost of service is well constructed. The rate is very consistent with other rates for similar programs in the region. There is a need to coordinate a potential stormwater utility with the Consent Decree for the combined sewer program, but that coordination will only serve to fine tune the stormwater program content and cost.

Peoria County

The implementation of a stormwater utility is feasible for Peoria County, but there are issues to be considered in order to settle on a program strategy. For the unincorporated area option the rate is above the average range in the state, but not unreasonable considering that it would be funding a countywide program that includes a lot of rural area. This program strategy is

contingent on the County Board first adopting a countywide stormwater management plan and a successful countywide voter referendum to authorize a fee.

For the urban fringe option the preliminary rate is too high in the opinion of the consultant and the issue appears to be the geographic extent of services. This makes a stormwater utility less feasible for this strategy. Consideration should be given to segregation of the stormwater program into "urban" and "rural" components, adjusting the cost of service accordingly, and re-evaluating the preliminary rate.

Under both strategies coordination of all relevant costs of service in the County and both Hollis and Limestone Townships is highly recommended.

City of East Peoria

The implementation of a stormwater utility is very feasible for the City of East Peoria. The stormwater program assessment is detailed and the cost of service is well constructed. The preliminary rate is very consistent with other rates for similar programs in the region.

City of Pekin

The implementation of a stormwater utility is very feasible for the City of Pekin. The stormwater program assessment and the cost of service have very good detail. The rate is very consistent with other rates for similar programs in the region.

Village of North Pekin

The implementation of a stormwater utility in North Pekin is not recommended without some revisions to the stormwater program and cost of service. The preliminary modeling results show that the rate would be high with the program as proposed. The Village needs to consider an alternative plan that was discussed during November one-on-one meeting.

Village of South Pekin

The implementation of a stormwater utility is feasible for the Village of South Pekin. The stormwater program assessment needs additional detail, as does the cost of service. The preliminary rate is in line with average rates for similar programs in the region.

Village of Bartonville

The implementation of a stormwater utility is very feasible for the Village of Bartonville. The stormwater program assessment needs some additional detail, as does the cost of service. The preliminary rate is lower than most other rates for similar programs in the region.

City of West Peoria

The implementation of a stormwater utility is feasible for the City of West Peoria. The stormwater program assessment is detailed but needs to be updated to reflect changes made to the cost of service. The preliminary rate is falls within the range of average rates for similar programs in the region.

Morton Township

The implementation of a stormwater utility in Morton Township is not practical as evaluated in this study. The proposed stormwater management plan and cost of service need to be reviewed and coordinated with Tazewell County (not a participant in this study). The rate is very high due to the low number of ERUs in the urban fringe. It appears that a more reasonable rate could be achieved by opting for a service area that includes all of the unincorporated township rather than only the urban fringe. This would mean becoming the first township in the state to utilize the statutory authority of Townships (see Section 2.4.2) to create a stormwater fee.

Washington Township

The implementation of a stormwater utility would require significant additional work in order to be feasible for Washington Township. The stormwater management plan needs additional detail, as does the cost of service that was developed for the study. The rate is very reasonable but the program and cost of service should be coordinated with Tazewell County before moving any further forward.

Cincinnati Township

The implementation of a stormwater utility would require significant additional work in order to be feasible for Cincinnati Township. The stormwater management plan needs additional detail, as does the cost of service that was developed for the study. The rate is very reasonable but the program and cost of service should be coordinated with Tazewell County before moving any further forward.

Hollis Township

The implementation of a stormwater utility would require significant additional work in order to be feasible for Hollis Township. The stormwater management plan needs additional detail, as does the cost of service that was developed for the study. The rate is high and would be unreasonable when combined with Peoria County rates (both scenarios). There needs to be coordination with the Peoria County program before moving any further forward.

Limestone Township

The implementation of a stormwater utility could be feasible for Limestone Township with some additional planning and coordination. The stormwater management plan needs additional detail, as does the cost of service that was developed for the study. The rate is reasonable but may be too high when combined with Peoria County rates (both scenarios). There needs to be coordination with the Peoria County program before moving forward.

12.4. Stormwater Utility Implementation

The implementation phase of the stormwater utility includes a number of tasks that will take the stormwater utility fee from the feasibility stage to the adoption of the rate ordinance to the mailing of the first bill. The tasks included in the stormwater utility implementation process are described in the following sections.

12.4.1. Stormwater Utility Implementation Plan

Each participating entity that elects to implement a stormwater utility fee will need to develop and finalize a plan that prioritizes and schedules the implementation steps described in the following sections. Peoria County, if it elects to move forward, will need to select the basic framework of its utility. The options include entering into intergovernmental agreements with the cities or with the townships, or pursuing the countywide stormwater management option as set forth in 55 ILCS 5/5-1062.3.

12.4.2. Stormwater Program Finalization

Each participating entity that elects to implement a stormwater utility fee will need to review the program level and cost of service that has been defined for the feasibility study and get buy in from the elected officials that will be responsible for enacting the stormwater utility and utility rate ordinances. The assumptions made in the rate structure and/or modeling will also need to be confirmed, particularly if this task results in any changes to the level of program funding or its timing. Rate structure changes that may result in changes would include decisions such as implementation of a multi-tiered single family rate.

12.4.3. Billing System Selection / Coordination

Each participating entity will need to make a decision as to how it intends to deliver the stormwater utility bills to the ratepayers. The options that were identified for each of the study participants (August 2013) are provided in Section 6 of this report.

If the selected billing program includes expansion of the in-house capability the actual billing method, including software, must be determined. The selected billing option will also impact the level of effort required to put the stormwater charge on the bills. Those with in-house billing may decide to manually enter a stormwater fee into each account while those that use a third party system, such as GPSD, will have to format a data file to match the existing billing software for bulk upload to the billing system. This process would be determined during coordination with the biller. Contract or intergovernmental agreement development and negotiation may also be required.

Depending on the decision(s) made this task could impact the implementation schedule and cost.

12.4.4. Stormwater Utility Outreach

A key component of the successful roll-out of a stormwater utility will be a strong public education and outreach process. The outreach plan should include a number of activities to explain the reason for implementing a utility, how the revenues will be used, how to interpret information in the bill, and where to look or who to call to get more information. A Public Education and Outreach Plan outline was provided during the feasibility study that included a cross section of possible activities, such as public meetings, one-on-one meetings with key ratepayers, bill inserts, council briefings, etc.

12.4.5. Stormwater Utility Enterprise and Rate Ordinances

The adoption of the stormwater utility will require the creation of a stormwater enterprise fund. The enterprise fund will be dedicated to funding of the stormwater management program only and will have the stormwater utility fee as a dedicated revenue source, thus prohibiting the use of the stormwater utility fee revenues for any purpose other than stormwater management. This fund will be a protected special fund like a sanitary sewer fund whose dedicated revenue is available only for wastewater related expenses.

A rate ordinance will also be needed that defines the rate structure and the appeals process, and that dedicates the revenue collected from the fee to the enterprise fund. The actual rate amount(s) may be included in the ordinance or may be part of a master fee schedule or annually adopted rate/fee ordinance for all utilities.

12.4.6. Master Account File

The master account file is the billing database for the stormwater utility. Depending on the billing method this file may be as simple as the billing spreadsheet that is a deliverable of the study or it may be a more complex database that tracks billing units, credits, residential tiers, rates, and other metrics of the billing system. As development occurs impervious area and billing unit updates will be provided to the billing agent on a regular basis.

The first step in the master account file development is to insure that the data to be exported from this database is an exact match to the billing databases of the billing entity. This will require providing information on stormwater only accounts to the billing entity so that the customer accounts can be set up. The next step is to compute the number of billing units per parcel by dividing the impervious surface of each parcel by the appropriate ERU. This will be accurate to the nearest tenth of a billing unit.

The last step in the creation of the master billing account file is to apply the fee reductions to those parcels' billing unit totals that have applied for and received credits. (In most situations credits will be applied for and approved after the master account file has been created)

Once the master account file is complete it will be provided to the billing entity to test the upload of the billing file. Once the master account file upload is found to be compliant with the billing program, the billing file will be migrated into the billing system. The billing system operator will generate sample bill prints for the quality control review of the billing program.

The information in this database will not change from year-to-year for most properties. A long term maintenance plan for the master account file should be developed.

12.4.7. Credit Program Development

The credit program can be a key element of the overall rate structure as it is widely considered to be the element of a rate structure that allows the user fee to meet the "voluntary nature" test of a user fee. The credit program consists of a credit policy, a credit manual, and sometimes training for local engineers and developers on the proper computation of credit amounts. The credit policy defines issues such as who can apply for credits, how much credit they can get, and how they qualify for credits. The credit manual defines the process for applying for credits, including policies, conditions, step by step instructions, application forms, information on how the owner retains his or her credit from year to year, and information on how to appeal credit decisions. The training program is an outreach effort intended to reduce the incidence of credit application revisions and repeat submittals.

A database of credits applied for and approved should be kept that provides information that can be used in the master account file maintenance process.

12.4.8. Program Support

When a new municipal program, such as a stormwater utility, is initiated there are a variety of items that need to be in place to support a smooth introduction. The implementation of a new fee will require that customer service representatives provide answers to a wide range of questions for callers in varying moods about their bills. Consistency in answering the more routine questions is essential to an effective customer service program. Consistency is enhanced by the development of a Frequently Asked Questions (FAQ) guide and a training program for the customer service representatives.

A stormwater utility must also have a plan to maintain its master account file. A common component of these plans is the modification of standard operating procedures for development review and permitting to trigger creation of new accounts or modification of existing accounts. In some communities new water accounts automatically result in new stormwater and wastewater accounts. Many utilities identify update needs by panning new aerial photography when it is flown.

12.4.9. Council / Board Action

There are typically several points in the development and implementation of a stormwater utility at which interaction with elected officials occurs, including both periodic status updates and official Council/Board actions. The official Council/Board actions are typically required both when the decision is made to move into implementation once the feasibility study/planning of the stormwater utility is complete and again to approve any changes to the initial rate or to the rate ordinance when the utility is ready to begin billing. What is actually expected during the Council/Board approval of the ordinance varies by entity, but typically includes a summary review of the draft enterprise and rate ordinances, example applications of the ordinance to representative properties showing the number of billing units and projected charges for each, and an overall revenue projection for the stormwater utility.

ATTACHMENT A. STORMWATER UTILITY ORDINANCE TEMPLATE

The following ordinance has been formatted as a template with terms that can be replaced globally. These terms are defined as follows:

XX	article number in local code of ordinances
YY	division number in local code of ordinances
<entity name>	city, county, township or village name
<managing department>	department, division, agency where utility resides
<governing body>	council, board or other elected governing body
<chief financial officer>	treasurer, finance director, comptroller, etc.
<billing entity>	department or third party providing billing services
<chief executive officer>	mayor or equivalent

Other terms in the document should be supplied as approved by the local elected officials, such as ERU size and starting rate per ERU.

ARTICLE XX. STORMWATER UTILITY

DIVISION 1. STORMWATER UTILITY ESTABLISHED

Sec. YY-1. - Stormwater utility and stormwater enterprise fund established.

(a) <entity name> hereby establishes a stormwater utility within the <managing department> to provide for the management, protection, control, regulation, use, construction, and enhancement of the stormwater systems and facilities owned or operated by the <entity name>.

(b) The management and supervision of the stormwater utility shall be under the direction of the Director of <managing department>.

(c) The <entity name> hereby establishes a stormwater enterprise fund. All revenues of the stormwater utility shall be deposited into the stormwater enterprise fund and used only for purposes of the stormwater utility as deemed appropriate by the <governing body>.

(d) The management and supervision of the stormwater enterprise fund shall be under the direction of the <chief financial officer>.

Secs. YY-2 – YY-10. - Reserved.

DIVISION 2. DETERMINATION OF CHARGES

Sec. YY-11. - Stormwater utility fee created.

A stormwater utility fee is hereby created to generate revenue to fund <entity name>'s stormwater operations and capital programs. The revenue generated by the fee will be obligated exclusively to the stormwater utility enterprise fund.

Sec. YY-12. - Stormwater utility fee rate structure.

The stormwater utility fee will be determined by distributing the stormwater utility costs as approved by the <governing body> among real properties in <entity name> based on the demand for service that is determined for each property.

(a) Demand for service will be indicated by the amount of impervious area on each property.

(b) The stormwater utility fee billing unit shall be based on the mean level of imperviousness on single family residential properties. This billing unit is known as an "Equivalent Residential Unit" or "ERU" and has been determined to be ____ square feet of impervious surface in <entity name>.

(c) The minimum stormwater utility fee charged for any property in the City will be <one half (0.5) of an ERU/ no (0.0) ERUs>.

(d) Single family residential and duplex properties shall be billed one (1.0) ERU each.

(e) All other properties in <entity name> shall be billed based on the measured number of ERUs on the property. Fractional ERUs shall be rounded to the nearest tenth (0.1) of an ERU.

(f) Fees to qualifying properties may be adjusted if stormwater utility fee credits are approved by <entity name> for on-site stormwater management (see Sec. YY-15).

Sec. YY-13. - Stormwater utility fee applicability.

(a) The stormwater utility fee shall be charged to all (real) properties in <entity name>.

(b) The stormwater utility fee would not be charged to streets and sidewalks that are inside the public right-of-way.

(c) The stormwater utility fee will not be charged to railroad main lines.

(d) Agricultural properties with owner-residents will be billed 1.0 ERUs. Other agricultural properties will be billed as non-residential.

Sec. YY-14. - Stormwater utility rate.

(a) The initial stormwater utility fee rate shall be $____ per ERU per month.

(b) The <chief financial officer> shall review the stormwater utility fund and make rate recommendations to the <governing body> annually thereafter. The <governing body> shall review the recommendations and may adjust the stormwater utility fee rates accordingly.

Sec. YY-15. - Stormwater utility fee credits.

(a) Parcels shall be eligible to receive a stormwater utility fee credit based upon the requirements of the <entity name> Stormwater Credit Manual.

(b) Any credit allowed against the stormwater utility charge is to be conditioned upon continuing compliance with the <entity name> Stormwater Credit Manual. Proof of compliance as defined in the credit manual will be required.

Secs. YY-16 – YY-17. - Reserved.

DIVISION 3. BILLING

Sec. YY-18. - Agreement for billing with <billing entity>.

(a) The <chief financial officer> is hereby authorized to enter into an Intergovernmental Agreement ("Billing Agreement") with the <billing entity> to provide stormwater utility fee billing services to property owners in the <entity name>.

(b) The <chief financial officer> is authorized to execute addendums to any Billing Agreement which has been previously approved by the <governing body> for the purpose of making the billing arrangements contained in the Billing Agreement more efficient or for the purpose of adjusting the fees paid by the <entity name> to the <billing entity>.

(c) To the extent that any provision of this article is superseded, amended, or changed by the terms of the Billing Agreement, then the provisions of this article shall not be effective or controlling while the Billing Agreement is in effect.

(d) To the extent the adopted procedures of the <billing entity> contradict the provisions of this article, the procedures in the Billing Agreement shall apply while the Billing Agreement is in force and effect.

Sec. YY-19. - Billing address.

The bill for a property shall be sent to the owner of the property as shown by the records of the supervisor of assessments within the last ninety (90) days before the statement date at the address shown in said records.

Sec. YY-20. - Payment periods and due dates.

The stormwater utility fee for each property shall be computed monthly and billed on a monthly basis. Payment is due in full on the statement date of the bill from the <billing entity>.

Sec. YY-21. – Stormwater utility fee amounts.

(a) The monthly stormwater utility fee for all properties shall be based on the number of ERUs as determined in Sec. YY-12 and the current monthly stormwater utility rate. The fee may be adjusted by previously approved stormwater utility fee credits (Sec. YY-15).

(b) The stormwater utility fee for any property will remain constant from month to month unless one of the following changes occur:

(1) A physical modification to the property that changes its level of imperviousness;

(2) A credit for on-site stormwater management is either awarded or revoked;

(3) The stormwater utility fee rate is changed by the <governing body>; or

(4) Any other billing adjustment as described in Sec. YY-34 – YY-35 is applied to the account.

Sec. YY-22. - Penalties for delinquent payments.

In the event the stormwater utility fee for a property remains unpaid in whole or in part after the due date, the charge shall then be delinquent and a late penalty in the amount of ten (10) percent of the amount of the fee for which payment is unpaid rounded up to the nearest cent shall be added to the bill as a late penalty.

Sec. YY-23. - Information included with bill.

The stormwater utility fee bill for each property shall contain such information as the Comptroller shall prescribe by rule or regulation and shall include:

(c) The amount of the monthly stormwater utility rate that is applied;

(d) The number of net billing units (measured ERUs reduced by approved credits);

(e) The amount of the payment for which the bill is rendered;

(f) The period for which the bill is rendered;

(g) The name and address of the property owner as shown on the records of the supervisor of assessments;

(h) The permanent parcel number of the real property;

(i) When and where the stormwater utility fee is payable;

(j) The total amount due for this payment including penalties;

(k) If any delinquency exists, the amount of delinquency and penalties due;

(l) A statement that if the amount billed remains unpaid for more than thirty (30) days a lien for said amount may be recorded against the property in addition to other remedies; and,

(m) The customer service phone number for questions about the stormwater utility bill.

Sec. YY-24. - Application of payments in the event of delinquency.

Payment received for a property shall be applied first to any outstanding penalties, then to any delinquent stormwater utility fee charged to the property and then to any outstanding current stormwater utility fee for the property. Any payments in excess of the amount outstanding shall be credited to the property's future liability when it becomes due or, if requested by the owner of the property in writing, refunded to the owner.

Secs. YY-25 – YY-26. - Reserved.

DIVISION 4. COLLECTIONS

Sec. YY-27. - Lien for delinquent stormwater utility fee.

Whenever the stormwater utility fee for a property becomes delinquent as set forth in this article, the delinquent fee together with outstanding penalties shall become and constitute a lien upon the property.

Sec. YY-28. - Notice of lien.

Statements rendered for such delinquent stormwater utility fee shall be deemed notice of the lien to the owner of the property if such statement is mailed to the owner of the real property as shown in the records of the supervisor of assessments by first class mail. No additional notice of lien is required to be sent to the owner nor is a copy of the claim of lien required to be sent to the owner.

Sec. YY-29. - Contents of lien claim.

The claim of lien for delinquent stormwater utility fee shall be made in the form of a sworn statement by the <chief financial officer> setting forth the following information:

(a) A description of the property, sufficient for identification;

(b) The amount or amounts of money due including outstanding penalties and interest charges;

(c) The date or dates when such amount or amounts became delinquent; and

(d) The owner of record of the property as disclosed by the records of the supervisor of assessments within ninety (90) days before the last statement date.

(e) Said claim shall be recorded in the Office of the Recorder for <Peoria/Tazewell> County.

Sec. YY-30. - Additional lien charge.

In all cases where the stormwater utility fee has become delinquent and the <entity name> elects to file a claim for lien as set forth in this article, there shall be added to the amount due prior to recording, in addition to other charges and penalties then due, such charges and expenses as are necessary and required to verify the legal description of the property and ownership information and to prepare and record the claim of lien and release the claim for lien. Such additional charge shall be included in the amount claimed due by the lien claim. The amount of the additional charge shall be established by rule or regulation of the <chief financial officer>.

Sec. YY-31. - Other remedies.

In addition to the recording of a lien, the <entity name> may seek payment for delinquent stormwater utility fees and penalties, including any additional lien charges due, by filing suit to collect the same or by disconnecting the property from _____ or both.

Secs. YY-32 – YY-33. - Reserved.

DIVISION 5. ADJUSTMENTS

Sec. YY-34. - Adjustments to stormwater bills.

A property's stormwater utility rate and/or computed number of ERUs may be adjusted by the Director of <managing department> to an amount which more properly represents the impervious surfaces on a property. This may be done upon presentation by the property owner of factual evidence which, in the Director's sole discretion, establishes that the impervious area used to determine the property's stormwater utility tier or the computed number of ERUs was incorrect.

Sec. YY-35. - Responsibility for initiating adjustment process.

The owner of the property is responsible for initiating any review of the impervious area computation for a property and presenting factual evidence in support of a change in the impervious area if the owner wishes to have the property's stormwater utility rate or computed number of ERUs adjusted.

Sec. YY-36. – Application for adjustment.

The owner of the property must file an application for an adjustment on forms provided by the <entity name>and file the application and factual evidence in support of the adjustment with the Director of

<managing department>. The process to be followed for review of the application for adjustment will be as is described for resolution of appeals in Sec. YY-44.

Sec. YY-37. – Effective date of adjustment.

If an application for an adjustment is approved by the <entity name> the adjustment will be effective for the month in which a complete adjustment application form was received by the Director of <managing department>.

Sec. YY-38. - Responsibility of owner.

The failure of any owner of property to receive a bill or statement for the stormwater utility fee shall not be grounds for nonpayment or grounds to extend or defer the date upon which payment is due or avoid the inclusion of penalties. Owners of property which are subject to the stormwater utility fee and the recording of a claim of lien pursuant to the terms of this article shall be charged with notice of the existence of the charge and are responsible for ascertaining from the <entity name> all amounts, if any, due as provided in this article.

Sec. YY-39. - Corrected bill.

If it is shown that the <entity name> mailed the bill to an address other than the one required under this article, no late payment or penalty charges shall be assessed, if the stormwater utility fee is in fact paid within thirty (30) days after the <entity name> mails a statement of the fee to the correct address or otherwise delivers such a statement to the owner.

Secs. YY-40 – YY-41. - Reserved.

DIVISION 6. UTILITY ADMINISTRATION

Sec. YY-42. - Accounts.

The <chief financial officer> shall establish a proper system of accounts and shall keep proper books, records and accounts in which complete and correct entries shall be made of all transactions relative to the stormwater fund. An annual audit by an independent audit firm will be procured.

In addition to the financial statements, the statistical section of the Comprehensive Annual Financial Report shall also reflect the revenues and operating expenses of the stormwater fund. The financial information to be shown in the audit report shall include the following:

1) Billing data to show total number of billing units per fiscal year.

2) Debt service for the next succeeding fiscal year.

3) Number of stormwater utility ratepayers.

Sec. YY-43. - Access to records.

The <entity name> shall allow any relevant agency of the state of Illinois or their authorized representative to have access to any applicable books, documents, paper and records of the stormwater

utility fee for the purpose of making audit, examination, excerpts and transcriptions thereof to ensure compliance with the terms of loan agreements and rules of any state loans.

Sec. YY-44. - Appeals.

The method for determination of stormwater utility fee in Section YY-12 shall be made available to a user within fifteen (15) days of receipt of a written request by the property owner. Any discrepancy over the method used or in the computations thereof shall be remedied by the Director of <managing department> or his/her designee within thirty (30) days after notification of a formal written appeal outlining the discrepancies. The appeals process is structured as follows:

(a) The property owner files an appeal requesting reconsideration of the fees charged to the owner's property. The appeal shall be provided in the form required by <entity name> and factual evidence in support of the adjustment must be provided.

(b) The initial appeal of a fee determination will be reviewed by <managing department> staff. Upon completion of this review a recommendation will be made to the Director of <managing department> regarding the resolution of the appeal. The written response to the property owner will be mailed within thirty (30) days of receipt.

(c) If a second appeal of the determination is requested the request will be heard and a decision will be rendered by the Director of <managing department>. The written response to the second appeal of the property owner will be mailed within fifteen (15) days of its receipt by the Director.

(d) If a third appeal of the determination is requested the that request will be heard by the <chief executive officer> of <entity name>. The written response to the third appeal of the property owner will be mailed within fifteen (15) days of its receipt by the <chief executive officer>.

Sec. YY-45. - Authority of Directors to issue rules and regulations.

The <chief financial officer> and the Director of <managing department> may issue rules and regulations necessary to implement this article provided that a copy of each rule or regulation is filed with the <City/County> Clerk and distributed to the <chief executive officer> and each <governing body> member at least fifteen (15) days before the rule or regulation becomes effective.

Secs. YY-46 – YY-47. - Reserved.

DIVISION 7. DEFINITIONS

Sec. YY-48 : Definitions.

<entity name> means the <entity name>, Illinois, a municipal corporation.

Credit means a conditional reduction to the amount of a stormwater service charge to an individual property based upon the provisions of the <entity name>Stormwater Credit Manual.

Direct Discharge means the conveyance of stormwater runoff directly to a receiving stream (water of the State of Illinois) without entering the <entity name>'s stormwater drainage system. For the

purposes of the stormwater utility, these discharges also do not pass through <entity name>-owned or operated culverts or bridges once in the receiving stream.

Duplex Property means any residential property containing a single structure designed with two dwelling units for occupancy by one family in each unit. Each dwelling unit shall contain at least one bedroom, a kitchen, and a bathroom.

Equivalent Residential Unit (ERU) shall be used as the basis for determining the storm water service charge to a parcel. _____ square feet of impervious area shall be one ERU.

<chief financial officer> means the Director of the Department of Finance of the <entity name>.

Gross Area means the entire area of a parcel, including both the impervious and pervious areas.

Impervious Area or Impervious Surface means those areas that prevent or impede the infiltration of storm water into the soil. Common impervious areas include, but are not limited to, rooftops, sidewalks, walkways, patio areas, driveways, parking lots, storage areas, compacted aggregate and awnings.

Incentive means a onetime disbursement that fully or partially compensates a property owner for partnering with the city to achieve a stormwater management objective.

Property means real property, or parcels that are partially or wholly inside the corporate limits of the <entity name>.

Publicly-Owned means owned by a city, village, town, county, township, the State of Illinois, or the United States of America.

Single Family Residential (SFR) means developed land containing one dwelling structure which contains one or more bedrooms, with a bathroom and kitchen facilities, designed for occupancy by one family. SFR units may include houses, manufactured homes, and mobile homes located on one or more individual lots or parcels of land.

Stormwater System shall mean a conveyance or system of conveyances and include sewers, storm drains, curbs, gutters, ditches, retention and/or detention ponds or basins, dams, man made channels or storm drains and flood control facilities and appurtenances thereof which is designed or used for the collection, control, transportation, treatment or discharge of stormwater.

Stormwater Utility means a stormwater management program that may include all or part of the following; administration, engineering, planning, operations, enforcement, and capital programs. A stormwater utility often includes a dedicated funding program, such as a user fee, that covers all or part of the costs of the costs of stormwater management.

Attachment B

Tri-County Regional Planning Commission

Stormwater Utility Feasibility Study

Public Education and Outreach Plan Outline

Prepared by AMEC

July 1, 2013

Tri-County Regional Planning Commission
Regional Stormwater Utility Feasibility Study
Public Education and Outreach Plan

Overview

As is the case in many locations across the nation, the communities in the Tri-County area are having issues with the funding of their stormwater management programs. These communities have instances of recurring flooding, stormwater capital program needs, and stormwater infrastructure operation and maintenance problems that result from aging and in some cases under-designed drainage systems. The stormwater problems are rarely life threatening, but they do impact the quality of life, create potential dangers, and at times cause residents and businesses irritating and costly damages and disruptions. In addition, the communities have National Pollutant Discharge Elimination System (NPDES) stormwater permits for their municipal separate storm sewer systems (MS4s) that require the execution of a number of compliance tasks annually, an unfunded mandate that results in additional expenses that must be covered.

In April 2013 the Tri-County Regional Planning Commission began a regional stormwater utility feasibility study. The purpose of the study is to determine whether user fee-based funding is appropriate and practical in the Tri-County area. One component of the feasibility study is the development of the framework of an outreach plan that would communicate the local stormwater management problems and funding issues, what a fee-based program might accomplish, and its impact on individual properties. The framework for that outreach plan is presented in the following pages.

Public Education and Outreach Plan

A Public Education and Outreach Plan has been developed that will assist the communities in the Tri-County area in the process of increasing awareness of their stormwater management programs and needs, particularly for adequate, sustainable, equitable sources of funding. The following sections of the plan identify the goals and objectives of the Public Education and Outreach Plan and the recommended short and long-term strategies for accomplishing the goals and objectives.

Goals and Objectives

The goals and objectives of the Public Education and Outreach Plan are based on the experience of the local communities' staff and includes the following:

1. Build greater community-wide understanding of the scope and causes of the local drainage problems and needs, and the impact of the program on:
   a. The safety of citizens
   b. The protection of property

c. The quality of life
d. The future economic health of the community

2. Achieve on-going input and consensus among key stakeholders and citizens about stormwater problems, the need for increased services and funding, and future program and infrastructure needs.

3. Build understanding that all stormwater problems and issues will not be resolved immediately. Rather, emphasize that the program and annual budgets to be considered are an equitable and affordable way to better address a basic service.

4. Transparency and simplicity; the overall goal of the design of the stormwater utility is for it to be simple in design and easily comprehended by the citizens. The Public Education and Outreach Plan should further this fundamental goal.

Approach

The implementation approach of the Public Education and Outreach Plan includes both short- and long-term tactics that are based on goals and objectives stated above.

Recommended Immediate Tactics

This stage of the program should occur over the period of time beginning with Council / Board action to proceed with the implementation of the stormwater utility and ending four to nine months later. The communities should focus educational information and outreach on the community as a whole and on neighborhoods with stormwater problems. The immediate tactics should include some combination of the following activities:

1. Implement a citizens' stakeholder process with representatives of a broad cross section of the community. Engage this group over the course of 6 or 7 months in discussions of the stormwater program, problems, and funding issues and solicit input on how a fee might be structured that would garner as much support from the group as possible.

2. Identify neighborhood leaders who support improved stormwater management and involve them in the on-going education and outreach program.

3. Form a "Speakers Bureau" and develop a targeted list of neighborhood groups to host / coordinate stormwater management program informational meetings. Alternatively, consider well-advertised public meetings in central locations.

4. Create a communication "tool kit" for neighborhood meetings. The kit should contain materials required for a successful meeting, including:
   a. Presentation about the community's stormwater needs and proposed solutions
   b. Meeting agenda
   c. Stormwater information fliers, brochures
   d. Neighborhood action item instructions (i.e., "You Can Help By …)

A commercial / industrial / institutional version of the kit's contents should also be on hand.

5. Stage periodic neighborhood events that are designed to show volunteer effort around a stormwater need, and as a result, focus attention on the large stormwater needs. Activities such as stenciling drains, clearing debris from drains and ditches, and other "field" activities could be pursued.

6. Develop a targeted direct mail newsletter about stormwater needs and the recommended solutions as neighborhood outreach gets underway. This will keep interested citizens abreast of what action may be required of them as well the changing priorities and proposed services of the stormwater management program.

7. Distribute stormwater information materials (the brochures, fliers and/or newsletters to be developed) to the neighborhood leaders and others as identified in your plan.

8. Plan and hold a series of Key Rate Payer meetings to insure that larger and otherwise significant ratepayers are familiar with the stormwater utility concept and its potential financial impact. These meetings should be a top priority and should happen as soon as possible after key metrics of a potential stormwater fee rate structure have been estimated and communicated to elected officials.

Recommended Longer Range Tactics

The longer range strategy begins with assigning a manager for the approved short range tactics and insuring that those tactics are implemented. Involving neighborhood leaders early is crucial to achieve the objectives of this plan. The manager should assess additional outreach/education needs as the immediate program is carried out and make recommendations for additional action to build on the momentum created. The following should be considered among the possible longer term activities:

1. Prepare a media information/background kit about the stormwater system and program, the short- and long-term needs, and the key actions planned under a new program. Contents may include:
   a. Fact sheets
   b. Comparison of the proposed utility fee with other cities
   c. How funds will be used
   d. Program priorities
   e. A list of the known locations of high priority projects and their costs

2. Visit TV and radio stations to conduct briefings with reporters, editors, and public affairs staff about the needs, the program, the new fee, and the program priorities.

3. Schedule reporters to tour top priority areas with a staff member and an elected official. Arrange for interviews with homeowners and/or business owners in these areas to give reporters a personal view of the impact of drainage problems.

4. Prepare a fact sheet that discusses the credits and incentives that may be available to property owners and the guidelines required to qualify for each.

5. Schedule meetings with key property owners involving Council / Board representatives, staff and / or consultants.

6. Produce stormwater program fact sheets for distribution in utility bills.
   a. Each fact sheet would reinforce the key messages and provide details of the community's plans and projects. Fact sheets may include:
      - "Storm Water at a Glance" – the needs, the need for change, and the benefits
      - "Frequently Asked Questions" (FAQ) about the new stormwater program
      - "Stormwater Fees "– the community is instituting a new fee; how it will work, what it will fund
      - "Your Stormwater Monthly Fee" – what to expect, the basis for the fee, what it will accomplish, annual budget, who to call with questions
   b. Assess the need for additional fact sheets for distribution. For example, a flyer about repair criteria and the process for repairs to be scheduled will most likely be needed as people receive bills.

7. Seek news articles about the program and specific projects in the months leading up to and following the mailing of the first bill. Topics for stories would be similar to the above flyer topics. In addition, interviews with the Mayor and Council / Board members about the enhanced program will be important in building support and understanding.

8. Establish a stormwater telephone "hotline" number for people to call with questions about the fees, report drainage problems, and get more information about the program. This number should continue on as the customer service number for the utility.
   a. Ensure the hotline is operational by the distribution of the first utility bill insert.
   b. Maintain a database of callers and their requests.

9. Evaluate the public education and outreach program and activities through:
   a. Tracking response and attendance at community presentations
   b. Tracking citizen requests for information and presentations following various communication tactics (i.e., flyer distribution, news stories, civic group meetings)
   c. Tracking calls following flyer distributions
   d. Tracking reaction to the public hearings
   e. Tracking news media coverage – frequency and accuracy of stories
   f. Tracking calls and/or reports from citizens about stormwater problems

Note: many of these education and outreach activities may meet requirements for outreach and education under MCMs 1 & 2 of NPDES MS4 permits.