City of CHAMPAIGN

Public Works Department • 702 Edgebrook Drive • Champaign IL 61820
(217) 403-4700 • fax (217) 403-4755 • www.ci.champaign.il.us

MEMORANDUM

TO: Stormwater Utility Fee Advisory and Technical Committee Members

FROM: Dennis Schmidt, Public Works Director

DATE: March 9, 2011

SUBJECT: MARCH 14, 2011, COMMITTEE MEETING

For the above referenced meeting, the following items are attached:

1. Agenda
2. Minutes – February 14, 2011, Meeting
3. March 14, 2011, PowerPoint Presentation
4. Service Fee Rate Methodologies
5. Western Kentucky University Stormwater Utility Survey – 2009
6. Summary of Stormwater Utility Fee Credit Programs in Illinois – Survey
7. Stormwater Utility Fee Survey – Questions
8. Expenditure Plan – Tables 1, 2, 3, and 4

The assignment that City Council gave staff and the Stormwater Utility Fee Advisory and Technical Committees was to develop a Expenditure, Revenue, and Billing Plan for the stormwater utility fee. The Expenditure Plan has been basically completed by the committee and staff will review the $2M and $3M Expenditure Plans with Council at the March 29 Study Session. The next step is to develop of the Revenue Plan for both the $2M and $3M Expenditure Plans.

Work on the Revenue Plan will start at the March 14 meeting with AMEC Earth and Environmental, Inc. (the City's stormwater utility fee consultant) PowerPoint presentation on rate structures and simplifiers. Attached is a document titled "Service Fee Rate Methodologies" which is a great introduction to stormwater utility fee rate structures.

Also attached are the Western Kentucky University Stormwater Utility Survey that was updated in 2009 and a survey completed by City staff on stormwater utility fee credit programs in

Illinois. City staff is also working on a utility fee survey of Illinois communities with stormwater fees. The survey should be completed by the April meeting. The questions for the survey have been attached.

Finally, Tables 1, 2, 3, and 4 for the $2M and $3M Expenditure Plans have been attached for the committees' use and review.

If you have any questions, please do not hesitate to contact me.

Dennis Schmidt, Director
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Champaign, Illinois 61820
Telephone: 217.403.4700
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DJS/dfw

City of
CHAMPAIGN

STORMWATER UTILITY FEE
ADVISORY COMMITTEE
City of Champaign, Illinois

TO: Stormwater Utility Fee Advisory and Technical Committee Members

FROM: Vic McIntosh, Chair

DATE: March 9, 2011

SUBJECT: NOTICE OF MEETING

The Stormwater Utility Fee Advisory Committee will meet on Monday, March 14, 2011, at 4 p.m. in the City of Champaign Council Chambers, 102 North Neil Street, 61820.

AGENDA

1. Minutes (February 14, 2011)
2. Member Inquiries / Staff Follow-up
3. Stormwater Management Revenue Plan
   a. Base Structure
   b. Residential Rate Simplifiers
4. Public Participation
5. Next Meeting (April 11, 2011)
6. Adjourn

The City of Champaign strives to ensure that its programs, services and activities are accessible to individuals with disabilities. If you are planning on attending this meeting and would like to request special accommodations, please contact the Public Works Department at 217/403-4700 at least 72 hours prior to the start of the meeting with your specific request.

City of Champaign, Illinois
Minutes of Meeting

Stormwater Utility Fee Advisory & Technical Committees Meeting

February 14, 2011

Advisory Committee Members Present: Eliana Brown, Clif Carey, Steve Cochran, Karen Foster, Jim Jesso, Vic McIntosh, Jim Spencer, Anna Maria Watkin

Advisory Committee Members Absent: Donald Agin, Charles Allen, Jim Bustard, James Creighton, Chris Hamelburg, David Tomlinson

Technical Committee Members Present: Lorrie Pearson, Andrew Proctor, Mark Toalson

Technical Committee Members Absent: Shawn Luesse, Leslie Lundy

City Staff Present: Dennis Schmidt, Jamie Vermillion, Roland White

Consultants Present: Greg Kacvinsky – Foth Infrastructure & Environmental

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Call to Order
The meeting was called to order at 4:01 p.m.

Minutes
The minutes from January 10, 2011 were approved.

Member Inquiries/Staff Follow-up
On January 12, Brown made an email inquiry to staff regarding the Stormwater Unfunded Needs Survey. On January 14, Brown made another email inquiry to staff regarding the costs of Washington Street West, Phinney Branch Channel Improvements and Boneyard Creek Improvements – Phase 3. The responses to both inquiries are included in the February 14, 2011 Advisory Committee Meeting packet.

Stormwater Management – Expenditure Plan
Schmidt made a presentation describing two possible expenditure plans. Tools used to develop these plans include the list of funded stormwater needs, survey results from the funded stormwater needs survey, the list of unfunded stormwater needs, survey results from the unfunded stormwater needs survey and three expenditure plan selection criteria including ranking by the majority of advisory/technical committee as top or moderate priority, activities that would benefit the majority of property owners and activities that fell within the $2 million to $3 million expenditure range established by Council.

Foster asked what "Blue and Orange Drainage Problems" represent as described on Slide 23, Section A. Schmidt explained that Blue represents areas with storm sewers with drainage problems that have not been studied yet. Orange areas are those areas without storm sewers with drainage problems present.

Proctor asked if there is estimated funding for Criteria 1 and 2 or if there is only estimated funding for Criteria 3. Schmidt explained that the estimated funding referred to in Criteria 3 is what remained after all the criteria were applied. Criteria 1 was applied and some activities were eliminated, Criteria 2 was applied and more activities were eliminated, finally Criteria 3 was applied resulting in a $2 million expenditure plan and a $3 million expenditure plan.

Carey asked what the relationship is between the activities that would be funded by the $2 million expenditure plan and those already funded by the $5.1 million. Schmidt explained that there are thirteen activities funded by the $5.1 million, the three activities funded by the $2 million are three of the thirteen. Carey then asked if the $5.1 million would decrease to $3.4 million. Schmidt indicated that $1.7 million decrease is correct. Carey asked if $5.1 million figure or the $1.7 million figure is constant. Schmidt explained the $1.7 million could be used for other projects (not necessarily stormwater activities) or the sales tax could be reduced by $1.7 million or the property taxes could be reduced by $1.7 million.

Carey asked if the line on the table titled "Dollars Available for Other Uses" presumes that funding could be over and above the $5.1 million. Schmidt stated that going over $5.1 million is a possibility. Carey then asked if the funds could be used to reduce sales and property taxes if a fee was enacted. Schmidt indicated that also is a possibility.

Foster asked if the $1.7 million "Available for Other Uses" would have to be used to fund stormwater activities if a stormwater utility fee is collected. Schmidt explained that the $1.7 million is acquired through sales and property taxes, so the funding does not have to stay in stormwater. Taxes can be used for any activity, while money acquired by collecting a stormwater utility fee would have to be used for the stormwater related activities.

The $2 million and $3 million expenditure plans show expenditures through FY22. Proctor asked what the funding would be used for after FY22. Schmidt said there will always be a need for money and there will be projects and activities that need to be completed. Vic further explained that the expenditures will be utilized for stormwater activities only and there are plenty of stormwater needs that need to be addressed.

Jesso asked if the City has any information on what other communities charge for their stormwater utility fees. Schmidt indicated this information can be provided at a future meeting.

Carey asked if Council adopted the $3 million expenditure plan, could Council take away the $2.6 million available for other uses and fund an unrelated activity, such as an arterial

street construction project. Schmidt indicated that could happen, but he has not heard any discussion of this. Thus far, Council has shown major interest in funding other capital projects such as Washington Street West.

Proctor asked if the Phinney Branch project has a 20% cost share agreement. Schmidt explained that the City has an agreement with the Phinney Branch Drainage District where they will pay for 20% of the cost for the Phinney Brach Channel Improvement Project. The figures on the tables in the presentation reflect that agreement.

McIntosh noted that with the $3 million expenditure plan, the City would not have to bond projects such as Washington Street West because the funding would already be available. By the time all engineering studies are complete, projects could begin. Once, a project is complete, the City would be able to move into other projects considered Blue or Orange without having to bond.

Foster asked how long it takes to start a project. Schmidt explained that it depends upon the complexity of the project, i.e. whether easements or property acquisitions are required. Using Washington Street West as an example, the project will require property acquisition in addition to the typical project design. It would not be unusual for construction in Washington Street West to not begin for two years. Boneyard would be less complicated than Washington Street West, but Phinney would be very complex because easements will be required.

Proctor asked how many households are in Washington Street West. White indicated there are approximately 1,500 households in that particular area. Foster added that she believes there are approximately 3,000 residents.

Carey asked why $2 million and $3 million expenditure plans were developed. Schmidt explained that these figures were based upon the user fees of $5 to $7 per month or $60 to $80 per year for single family properties. Carey then asked if all properties will be charged the same user fees (i.e. not for profits, etc.). Schmidt explained that Council would make that decision. Currently, there are other fees in place (sanitary sewer and multiple family recycling) and both of these fees apply to tax exempt properties, so he thinks the same would hold true for a stormwater utility fee.

Jesso asked if there would be difficulty gaining support for a $7 single family property fee over a $5 single family property fee. Schmidt stated that 70% of Champaign properties are residential and 30% are commercial. He believes that the cost to commercial users, the Park District, School District, etc. will really determine what the fee will be.

Watkin commented that in order to gain support from residents, publicity will have to be extremely good with clear explanations. If the money could be used for other projects such as installing sidewalks, street lights, curbs, gutters, etc., residents in underserved areas would be more likely to support. Watkin further commented that money needs to be put into the infrastructure and buildings that we already have instead of encouraging

people to move out to new subdivisions on the fringe of the City boundaries. Schmidt noted that the operation, maintenance and rehabilitation, storm sewer cleaning and televising and storm sewer pipe and manhole repair activities are not completed in Watkin's neighborhood because there are no storm sewers. McIntosh pointed out that residents in Watkin's neighborhood have been paying real estate taxes longer than most other residents, however, those citizens have the smallest amount of services.

McIntosh explained that the $2 million and the $3 million expenditure plans are somewhat speculative. These plans are currently structured in a way which assumes the City and all other property owners will pay. If properties are eliminated, i.e. non-profits, churches, etc., the revenues will decrease. Revenues will also decrease if it is decided to give credits to property owners for improvements such as rain gardens or a rain barrel.

Brown commented that a stormwater utility fee program must have credits in order for the fee to be legal. Schmidt further explained that if credits are not offered the fee becomes a tax.

Carey asked if a credit program is typically a recurring program. Schmidt explained that some communities give a credit each year, but others do not. Carey commented that a benefit of a stormwater utility fee is making stormwater a responsibility of the property owner. This will generate a better thought process by encouraging residents to build rain gardens or use rain barrels. Carey thinks if we adopt a $3 million expenditure plan over a $2 million expenditure plan, more money should be spent on incentives.

Brown asked if budgeting $100,000 for incentives is proportionate to programs other communities have. Schmidt indicated that figure is probably high. Brown asked if it is true that many communities do not offer credits or incentives for single family properties. Schmidt said that some communities offer properties in subdivisions with detention basins a credit. Brown asked if properties with a rain barrel typically receive continuous credits. Schmidt indicated that usually rain barrels and rain gardens are operated as an incentive to encourage the use of the practices. It is a one-time payment and not a reoccurring credit. White explained that it is administratively difficult to track the rain gardens and rain barrels. The City would need to visit properties to ensure the rain gardens are being maintained properly or inspect a property to ensure the rain barrel is installed.

Watkin asked how other communities compensate property owners who have purchased rain barrels or built a rain garden prior to the adoption of a stormwater utility fee. Kacvinsky explained in Rock Island, the only subsidy is the initial cost share. If a rain garden or a rain barrel is established prior to adoption of the fee, he would presume they would not be eligible for any rebate.

Schmidt asked for reaction from the group regarding an alternate expenditure plan where the stormwater utility fee would be used to fund only capital projects. Therefore, there would be no funding of operation or maintenance type activities that are already being completed.

Spencer asked if spending money now on capital would save the City money in the long run. Schmidt responded that he does not believe there would be any savings. Spencer then asked if maintenance costs would rise with inflation. Schmidt indicated the costs would go up at a rate that coincides with the increase in sales tax revenues.

Jesso indicated that he prefers the $3 million expenditure plan without capital improvements.

White asked the group which plan the committee feels more comfortable with. Schmidt explained he was comfortable taking a $2 million to $3 million range to Council, so he's not asking the group to pick between the plans, unless there are strong feelings for one over the other. Schmidt is mainly interested in whether or not the plans should be based on capital or on operation and maintenance activities.

Carey commented that he felt it was more complex if an expenditure plan based upon capital is adopted. Schmidt noted if the plan is based on capital it becomes more of a problem deciding on how to work credits. It is less complicated to base the fee on operations and maintenance activities. It would be easier to give someone a credit if they do something to reduce their stormwater runoff. Basing the fee on operations and maintenance activities will also help with calculating what the University of Illinois' share of the fee should be.

Jesso asked if Schmidt thinks the University of Illinois will strongly oppose this fee. Schmidt does not think they will "put up a fight," but they will seek a program where they are paying their fair share. The City of Champaign does not provide any stormwater services to some areas owned by the University of Illinois. The University operates and maintains their own storm sewer system and operates their own stormwater quality program. However, there are areas the University owns that do receive and benefit from the City's stormwater system.

Jesso asked if there are any other nuances similar to the University of Illinois. Schmidt indicated that he is sure there will be. For example, Humko and Kraft have their own storm sewer system that discharges directly into the Copper Slough. One of the thirteen activities covered under the $3 million expenditure plan is stormwater management where the City helps property owners. The City never provides assistance to Humco, Kraft or the U of I to help solve their drainage problem. If stormwater management becomes part of our program, U of I, Kraft and Humko probably should not have to pay for that.

Jesso asked if politically the difference between the $5 and $7 for residential properties will be a tough sell. Schmidt explained he has not tested that well enough with Council. Those figures were shared with Council in the March Study Session and Council instructed staff to look at $2 million to $3 million plan. McIntosh noted that if the public believes they will benefit from the program, they will be less likely to fight the program, regardless of whether the cost is $5 or $7 per month. Schmidt added there will be plenty

of notification for property owners. If a stormwater utility fee is adopted it will be eighteen months before a bill goes out.

Proctor asked if we adopt the expenditure plan based upon capital, would that provide relief to current system. Schmidt indicated there would not be relief because maintenance costs would go up because there will be maintenance cost for the new projects that will need to be paid for. Proctor then asked if the City had a cost estimate to maintain the capital projects, if they are built. Schmidt indicated staff could provide those figures at a future meeting.

Proctor commented that he would feel more comfortable looking at revenue model before making any decision on which expenditure plan he prefers.

Cochran asked if a lot of the Orange and Blue areas were outside the City limits when they were built and then later annexed into the City. Schmidt indicated that many of them were outside of the City when originally constructed.

Watkin commented that in order to gain support for the stormwater utility fee, part of the publicity should focus on the societal benefits of good infrastructure.

Schmidt summarized the information he is going to present to Council. He will inform Council that the Committee feels comfortable with an expenditure plan with a range of $2 million to $3 million.

Spencer asked the group if there was a consensus that the $1.7 million should go back to stormwater. Carey noted that coming into this, he did not realize that the adopting a stormwater utility fee could result in funds being redirected to subsidize a parking lot. Spencer again asked the group if the there was a consensus about where the money available for other uses should be directed. Schmidt indicated making that sort of decision may be premature. During future meetings a revenue and billing plan will be presented and maybe at that time, more folks would be more comfortable sharing their recommendations.

Carey asked what topics will be covered in next month's meeting. Schmidt indicated there will be discussions concerning a revenue plan, billing structures, residential property rate structures and information about what other communities are paying for stormwater utility fees.

Proctor asked if the expenditure plan is the only item going before Council. Schmidt stated that he would only be presenting the expenditure plan.

Carey asked if a poll could be added to next month's agenda to obtain an idea about how members of the Committee are feeling about the stormwater utility fee.
Brown asked if basement backups should be paid for by sanitary sewer user fee. White explained that the main cause of backup is a stormwater issue. When you see flooding problems there are also problems with sanitary sewer backups. Brown then asked if there

is any money coming from the sanitary sewer fee addressing that issue. Schmidt answered that funds from the sanitary sewer fee are being used to alleviate sanitary sewer problems.

Public Participation

Pattsi Petrie from the John Street Watershed addressed the Committee. Petrie indicated that she believed the return rate on the Committee's surveys was rather small and she considered it a weak foundation to base an expenditure plan on. She recommended placing the surveys on the City's website to obtain more feedback. She also indicated that in her experience with John Street, the cost estimates were much lower than actual costs. Therefore she is not very confident in the numbers utilized in Schmidt's presentation. Petrie indicated green solutions should be stressed with credits or grants for rain barrels, cisterns, rain gardens, etc. In order to maintain the green solutions, a continuing incentive program should be developed. She also stated that the City is very resistant to adopt an ordinance that would require any property owner who covers a pervious surface to mitigate that coverage by doing something so runoff from site is no greater than it was before the pervious surface was covered. Petrie also mentioned that the City of Urbana is currently working on a stormwater utility fee, as well. Finally, Petrie shared that Philadelphia instituted a stormwater utility fee which started with the larger properties first and then moved down to single family properties. She encourages members of this Committee to read how their program was instituted.

Next Meeting

McIntosh announced the next meeting will be held March 14, 2011 at 4 p.m. in Council Chambers of the City Building.

Adjourn

The meeting was adjourned at 5:40 p.m.

Stormwater Utility Fee Advisory / Technical Committee Meeting

March 14, 2011

4 – 5:30 p.m.

March 14, 2011 Meeting Agenda

1. Minutes (February 14, 2011)
2. Member Inquiries / Staff Follow-up
3. Stormwater Management – Revenue Plan
4. Public Participation
5. Next Meeting (April 11, 2011)
6. Adjourn

City of CHAMPAIGN

Stormwater Utility Fee Advisory Technical Committee Meeting

March 14, 2011

Agenda Item 3

Revenue Plan

Rate Structure

City of CHAMPAIGN

Background Information

- Revenue Plan defines how the costs of the Expenditure Plan will be allocated
- Rate structure contains the specifics of the plan

	Program Costs	*(from Expenditure Plan)*
-	Other Revenues	*(various fees, interest, etc)*
+	Revenue Reductions	*(bad debt, credits, etc)*
=	Revenue Needed from Fee	
÷	Rate Base	*(total number of billing units)*
=	Rate	

Stormwater Utility Fee Advisory Technical Committee Meeting

March 14, 2011

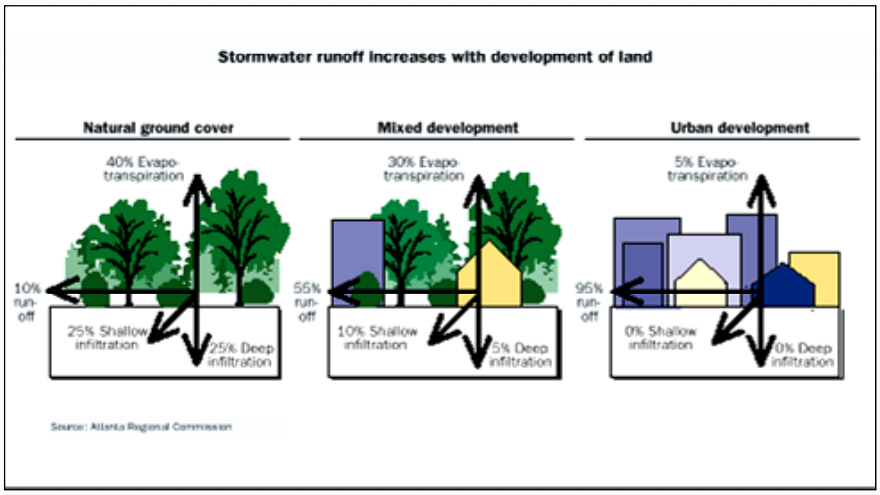
Agenda Item 3

Rate Structure

Base Structure

City of CHAMPAIGN

Impacts of Development on Runoff



Impact of development on runoff peak

Rational Formula

Q = C • i • A

where Q = discharge rate
C = ***runoff coefficient***
i = rainfall intensity
A = drainage area

"C" increases with increasing intensity of development *(imperviousness)*

Impact of development on runoff volume

Simple Method

V = P • Rv • A / 12

where V = runoff volume
P = rainfall depth
A = drainage area
Rv = runoff coefficient
= 0.05 + 0.009 • **i**
i = ***impervious percentage***

Impact of development on runoff quality

Simple Method

L = V • EMC
L = (P • Rv • A / 12) • EMC

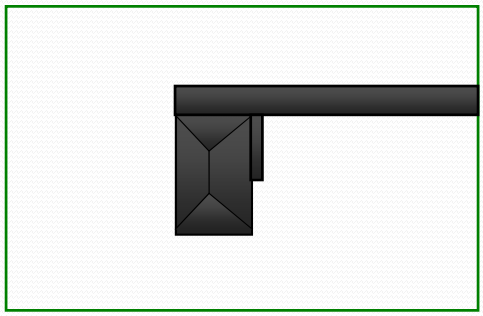
where
L = pollutant load
V = runoff volume
EMC = event mean concentration
P = rainfall depth
Rv = runoff coefficient
= 0.05 + 0.009 • **i**
i = ***impervious percentage***

Imperviousness as a rate method

- Imperviousness is utilized in hydrology as the measuring stick for intensity of development
- Multiple ways to include imperviousness in fee calculations:
  - Straight imperviousness (actual or incremental blocks)
  - Equivalent Runoff Units, ERUs (single family flat rate)
  - Impervious plus gross area
  - Impervious plus pervious area
  - Intensity of development
- Each method has pros and cons

Rate Bases

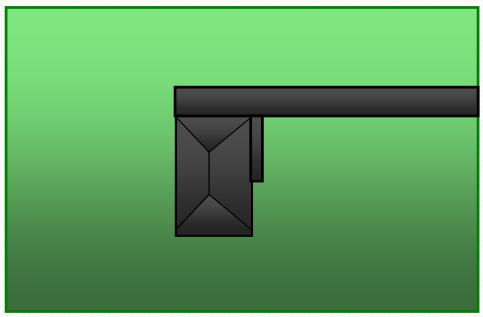
Impervious Area



- Imperviousness is the only physical parameter per parcel
- Direct correlation to runoff and thus to demand
- Easily measured and verified

Rate Bases

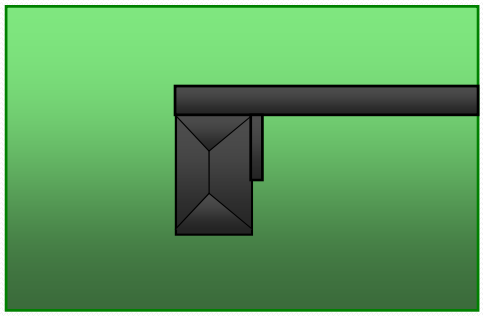
Impervious plus Gross Area



- Compound rate structure
  - Imperviousness for development
  - Gross area component for entire property
- Applies some costs to undeveloped properties
- Can set minimum threshold for billing

Rate Bases

Impervious Plus Pervious Area (Effective Hydraulic Area)



- Based on the runoff potential of impervious and pervious areas
- Directly compute billing units per parcel
- Can apply program costs to undeveloped properties

Rate Bases

Intensity of Development

Land Use

Parking

Commercial

Institutional

Multi-Family

Single Family - small lot

Single Family - large lot

Vacant

- Utilizes the average runoff potential by land use
  - Gross area
  - Land use
  - IOD factor
- Directly compute billing units per parcel
- Typically not accurate enough for billing

How A Fee Is Calculated

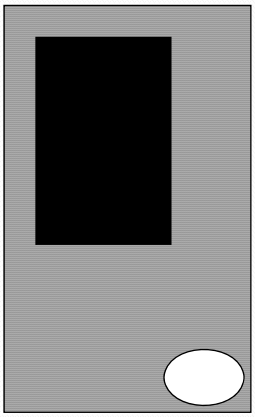
Significant aspects of rate bases

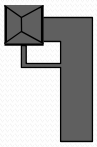
- Single family residential
  - Typically flat rates
  - Some use tiers to add equity
  - Some (very few) measure every parcel
  - Determines (typically) the base rate unit
- Other parcels
  - Measure impervious area and compute billing units

How A Fee Is Calculated

Impervious Only
(Equivalent Residential Unit, ERU)

Quarter acre lots
1 ERU = 3,000 square feet of impervious area





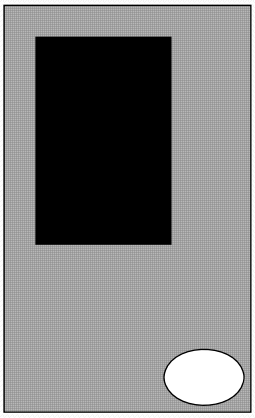
Single family residential
= 3,000 sq ft impervious
= 1 ERU

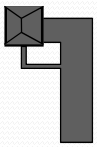
Non-single family
= 10,000 square feet impervious
= 3.33 ERUs - credit

How A Fee Is Calculated

Impervious Plus Gross Area

Quarter acre lots
IAU = 3,000 sq ft impervious area
GAU = 1 acre of pervious area





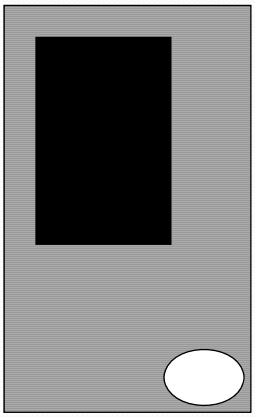
Single family residential
= 3,000 sq ft impervious
= 1 IAU + 0.25 GAU

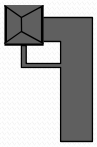
Non-single family
= 10,000 square feet impervious
= 3.33 IAUs + 0.25 GAU - credit

How A Fee Is Calculated

Impervious Plus Pervious Area (Effective Hydraulic Area, EHA)

Quarter acre lots
EHA = 95% of impervious area
+ 10% of pervious area





Single family residential
= 3,000 sq ft impervious
= 0.065 + 0.018 units
= 0.083 units

Non-single family
= 10,000 square feet impervious
= 0.218 + 0.002 – credit
= 0.220 – credit

Rate Base Discussion

Do you have questions / comments about any of the rate base concepts? What did you like / not like about the various methods and their approaches?

- Impervious only
- Impervious plus gross area
- Impervious plus pervious area
- Intensity of development

Stormwater Utility Fee Advisory Technical Committee Meeting

March 14, 2011

Agenda Item 3

Rate Structure

Residential Rate Simplifiers

City of CHAMPAIGN

Imperviousness in Champaign

- Imperviousness is a significant part of all stormwater rate structures
- For the initial phase of the project an estimate of total imperviousness was needed:
  - Identified primary land uses
  - Determined the statistically significant sample sizes for each land use
  - Digitized the appropriate number of samples for each
  - Estimated rate base size based on the product of gross area and measured *intensity of development* by land use

Imperviousness by Land Use

Land Use	No. of Parcels	Gross Area	Impervious %	Impervious Area
Single Family	18,050	167,040,210		62,777,900
Duplex	317	2,804,024		1,102,526
Multi-Family	824	19,471,798	51%	12,250,300
Condo	333	2,281,497	66%	1,514,686
Industrial	62	7,347,754	68%	4,973,695
Commercial	1,811	108,411,645	71%	76,636,192
Churches	149	6,449,735	53%	3,437,064
Government	757	65,589,695	32%	20,785,374
University	160	24,825,203	39%	9,785,206
Misc	204	25,202,975	32%	1,337,392
Agriculture	79	71,417,617	1%	857,011
Total Area	**22,746**	**500,842,152**		**195,457,346**

Approximate Areas in Square Feet

"Bundling" Imperviousness

- Issue: How do you bill the proposed $2.25M (or $3.21M) annual program cost?
- Billing per square foot of impervious area (195M) results in a fee of $0.0115 / sq ft / yr **(not modeled)** and thousands of units to be billed per ratepayer
- Other utilities "bundle" the units of service
  - Electric utilities measure in kilowatt hours
  - Water utilities sell water in thousands of gallons
- Imperviousness is typically "bundled" in one of two ways:
  - In increments of 500 or 1000 square feet
  - In "equivalent" units, such as based on the average imperviousness on a single family residential property

Numbers are Approximate

"Bundling" Imperviousness

Land Use	Impervious Area*	500 Sq Ft Units	1000 Sq Ft Units	3478 Sq Ft Units
Single Family	62,777,900	125,556	62,778	18,050
Duplex	1,102,526	2,205	1,103	317
Multi-Family	12,250,300	24,501	12,250	3,522
Condo	1,514,686	3,029	1,515	436
Industrial	4,973,695	9,947	4,974	1,430
Commercial	76,636,192	153,272	76,636	22,035
Churches	3,437,064	6,874	3,437	988
Government	20,785,374	41,571	20,785	5,976
University	9,785,206	19,570	9,785	2,816
Misc	1,337,392	2,675	1,337	385
Agriculture	857,011	1,714	857	246
Total Rate Base	**195,457,346**	**390,915**	**195,457**	**56,201**

*Approximate Area in Square Feet

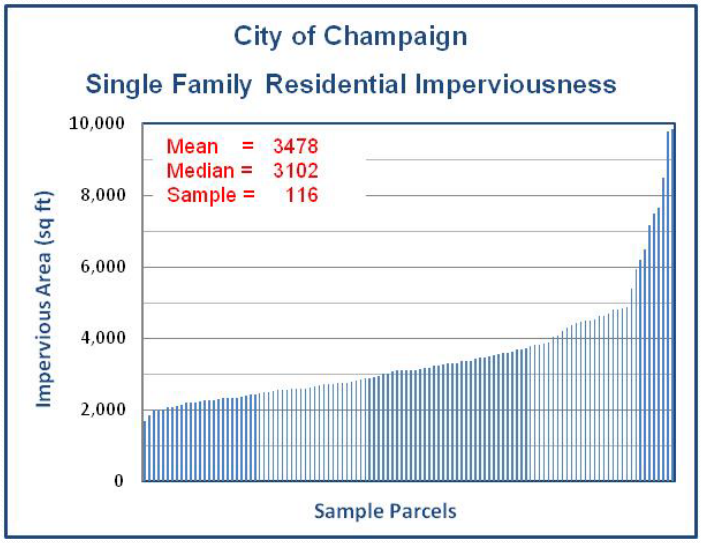
"Bundling" Imperviousness

- Therefore, $0.0115 / sq ft / yr could be billed as:
  - $ 5.75 / 500 sq ft / yr $0.44 / 500 sq ft / mo
  - $11.50 / 1000 sq ft / yr $0.88 / 1000 sq ft / mo
  - $40.00 / 3478 sq ft / yr $3.33 / 3478 sq ft / mo
- The number of billing units for single family residential properties under a flat rate method would be:
  - 7.0 units at 500 sq ft bundles
  - 3.5 units at 1000 sq ft bundles
  - 1 unit at 3478 sq ft bundles, or

    1 equivalent residential unit (ERU)

Numbers are Approximate

Single Family Imperviousness



Residential Rate Simplifier

Is there a need to further refine the billing within the single family residential properties?

- Why some communities do add detail;
  - decreased fees for less imperviousness
  - increased fees for more imperviousness
- Illinois communities with tiered single family rates:
  - Bloomington, Moline, Rock Island

Residential Rate Simplifier

Is there a need to further refine the billing within the single family residential properties?

- Why some communities do not add detail;
  - increased cost of master account file creation
  - increased cost of master account file maintenance
  - increased uncertainty in account calculation
  - variations within flat rate typically low (± $1.00/mo)
- Illinois communities with one rate for all single family:
  - Morton, Normal, Highland Park

Questions?

City of CHAMPAIGN

Service Fee Rate Methodologies[1]

Rate Design

Conventions are emerging as stormwater utility service fees become increasingly common. Impervious area, gross area, percentage imperviousness, and land use are the most frequently used parameters.

Service Fees

In most instances, service fees are cost-based, i.e., they are designed to reflect the impacts that each property has on stormwater service demands and thus the cost of providing facilities and operational and support activities. Such costs are primarily a function of peak stormwater runoff rate, total volume of discharge, and pollutant contributions, but design practices for stormwater service fees have yet to settle upon a single common standard or even a generally-accepted best model for calculating charges.

Empirical studies have demonstrated that impervious surface area on a property is the single most significant factor influencing all of these impacts. Impervious area is also relatively easy to identify and quantify numerically and is the most common parameter used in stormwater service fee calculations. However, the impact of a given area of impervious surface may also be influenced by its shape, slope, surface condition, vegetation, and nature of its discharge to a conveyance conduit or channel.

Location of impervious and pervious areas on a given site is also important in determining the degree of runoff mitigation that results due to the presence of pervious areas. Runoff from an impervious parking area draining across a broad grass slope of permeable soil to a roadside ditch may be significantly less compared to that of a similar impervious area collected and drained by storm sewers. This has led some to focus on "directly-connected impervious area" in their stormwater rate structures.

Percentage of imperviousness is also significant because pervious surfaces may mitigate runoff impacts from a given property. Relatively few stormwater service fee methodologies employ impervious percentage directly in the calculation of service fees, but it is indirectly accounted for in methodologies that use a combination of gross area and impervious area or gross area and intensity of development.

Permeability of soil and vegetative conditions may also influence the mitigation effects attained from pervious areas. However, soil and vegetative conditions are rarely considered because they can vary dramatically, even across a single site. There are very few reliable and accurate soil inventories, soil conditions may be altered in the course of development, and vegetative effects vary significantly from season to season.

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[1] From **Guidance Manual for Municipal Stormwater Funding**, 2006, USEPA and NAFSMA, 140 pp

Uniform and Tiered Charges

A majority of rate structures currently in force employ uniform (flat-rate) or tiered fees for some or all customers rather than a calculated charge based on conditions on each property. The most common form is a flat-rate for detached single-family residential properties, coupled with discrete rates applied to non-residential properties. Two or three tiers of residential rates are common in communities that have a diverse housing stock. Some rate methodologies also apply uniform or tiered rates of various sorts to other classes of customers. For example, individual mobile home parks, condominiums and townhouses are sometimes billed flat rates per unit.

Rate structures that classify and group properties by development intensity or land use and apply a fixed rate to the classes are a form of tiering. For example, gross area/intensity of development rate structures commonly group properties into five to ten descriptive classes ranging from undeveloped or very lightly developed to very heavily developed. Such rate methodologies also typically group customers into gross area increments, so dual tiers of area and development intensity are used in the fee calculation formulae. A few communities have adopted very simply rate structures that charge residential properties one flat rate and all other properties another. Given the diversity of non-residential development conditions, this approach does not attain a high degree of equity in apportionment of costs of service.

Service and Equivalency Units

Many communities have opted to use various service units or equivalent unit values in their utility rate methodologies. For example, water rates are often based on metered use of gallons or cubic feet of water, which are units of service. Solid waste charges are frequently based on service units such as the size and number of bins or the tonnage of waste dumped at a transfer station. Stormwater service units or equivalency unit values are usually based on impervious area or gross area, and are most commonly derived from the typical or average condition on a single-family residential property. Terms like “equivalent residential unit” or “equivalent service unit” are commonly used to describe these values.

Service units or equivalency units are typically applied as “block charges”, where customers are billed for increments of use. Water customers may be billed in increments of 1000 gallons or 100 cubic feet, rather than for a precise number. Such practices have been adapted to stormwater service fees. For example, Columbia County, Georgia uses an impervious area stormwater rate structure and charges each customer a fixed rate for each 100 square feet of impervious coverage.

Some communities have opted to use a combination of flat rates for single-family residential customers with an equivalency unit applied to other types of properties. For example, an average residential property in a given community might be determined to

have 3,000 square feet of impervious area (including roofs, drives, walks, patios, etc), and this value might be used as a service or equivalency unit for other customers. All single-family residential properties might be charged for one equivalent unit, or two or more tiers of that increment might be applied to residential properties. The impervious area on other types of properties would be measured and that figure divided by 3,000 to determine the number of equivalent units that each should be charged. It is common practice to bill for each equivalent unit or fraction thereof, effectively rounding up to the next full unit.

Water and sewage rate structures often include increasing or declining fee schedules to encourage or discourage consumption, in which incremental “blocks” are defined. For example, in water and sewer rates the first 10,000 gallons used or discharged in a month would be charged at one rate, the next 10,000 gallons at another, and so on. This practice is not common in stormwater rates, though a few jurisdictions that bill undeveloped as well as developed properties employ declining rates to moderate the charges on large undeveloped tracts of land.

One of the benefits of a service or equivalency unit value is that it allows easy comparisons of charges among dissimilar customers. For example, under the assumptions used in describing an impervious area rate methodology previously, a commercial or other non-residential property with ten times as much impervious area as a typical residence (assumed to be 3,000 square feet) would be charged for ten units of use. A “big-box” retail store (or small shopping center or industrial site) with 600,000 square feet of impervious coverage (about fourteen acres) would be billed for 200 units.

Classification and Grouping of Like Customers

Classification and grouping of like customers having similar characteristics and/or service demands is a common practice in utility service fee rates. For example, wastewater treatment demands and costs are related not only to the volume of the waste to be treated, but also to the type of constituents found in the wastewater and their strength or concentration. Some users discharge wastes to public sewers that are radically different than a typical residence. Therefore, wastewater rates for some commercial and industrial customers may include both a volume component and a strength component.

This particular wastewater rate practice has not been directly adapted to stormwater rates, but a comparable classification or grouping of like customers based on their impacts on stormwater services and facilities has been incorporated into some rate structures. For example, all single-family detached residential properties are often grouped in a single user class or into tiers and each class is then billed a common rate. In a gross area/intensity of development rate methodology, properties having like land use may be grouped in a single intensity of development classification, e.g., all commercial office properties might be deemed heavily developed for rate calculation purposes. Industrial properties or those undergoing land disturbance activities might be grouped for NPDES impacts and erosion/sediment control service demands.

Service Fee Credits

Many communities have modified basic stormwater rate design practices to accommodate local circumstances. Perhaps the most widely-used modification to basic rate structures is application of a credit adjustment to service fees. Credits are typically conditional, i.e., they are premised on continuing specified performance by the customer. If the specified performance is not maintained, credits may be rescinded. The concept is similar to industrial pre-treatment credits commonly provided wastewater customers to reduce strength of sewage discharged into public systems.

Stormwater service fee credits are most commonly provided for properties that have on-site detention or retention facilities. In most cases detention or retention systems are designed to approximate pre-development conditions or to meet capacity limitations of downstream facilities. Such controls reduce capacity requirements (and cost) of downstream systems and may, if properly designed and maintained, enhance water quality. Credits have also been given for facilities or activities that assist in provision of services or reduce the public cost of providing services.

Credits have also been adopted in some jurisdictions for properties subject to and in compliance with National Pollutant Discharge Elimination System (NPDES) permits and for public and private schools providing approved water quality education programs. The rationale for the latter credit is that education is a minimum control measure in NPDES Phase 2 stormwater discharge permits. If not provided by local schools educational programs would have to be performed by the stormwater management entity at additional cost to the ratepayers.

The primary intent of credits is to recognize reductions in the cost of public stormwater services and facilities that can be attributed to private systems or activities. Credits only partially compensate developers who install and properly maintain facilities. Rarely do they offset loss of space such facilities occupy or the degree to which on-site systems disrupt the layout of commercial properties and subdivisions. Nor do most credits consider water quality impacts of on-site systems, or their influence on the cost of stormwater quality management. However, they do marginally improve equity of service fee cost allocations.

Example Stormwater Rate Methodologies

The rate structure concepts used as examples in this guidance are typical of those adopted in the more than five hundred communities that have established stormwater utilities or special districts. Direct comparison with rate methodologies used in specific communities is not productive, however, since the general approaches examined in this guidance should be viewed in the specific context of the local needs, priorities, and circumstances of each community.

Generally speaking, any rate methodology that incorporates gross area tends to reduce the proportion of the service costs allocated to commercial and other intensely developed properties and increase the proportion of costs assigned to residential and less intensively developed properties.

Example stormwater rate methodologies examined in this guidance base stormwater fees on:

- impervious area;
- a combination of impervious area and gross area;
- impervious area and the percentage of imperviousness; and

Impervious Area

Stormwater rate structures based solely on impervious area have been widely used. They are simple, the concept is easily understood by the general public, and is generally perceived as equitable. Impervious area rate methodology reflects a philosophy of allocating costs based on each property's contribution of runoff to the system. Large expanses of roofs and paving in shopping centers and other commercial and industrial business areas are highly visible to the general public, and most people understand the hydrologic impact of covering natural ground with paving and rooftops. The approach is generally consistent with local service fee rate practices for wastewater services, wherein fees are based on the amount of water used and strength of effluent discharged to the public treatment works.

Numerous technical studies, references, and citations in engineering literature technically validate the equity of an impervious area rate methodology. The coefficient of runoff value in hydrologic engineering tables closely approximates the percentage of impervious coverage. Empirical evidence gathered in the field by monitoring changes in runoff before and after development verifies that impervious coverage is the key factor influencing peak stormwater runoff. Data gathered during the National Urban Runoff Program (NURP) in the 1970's and subsequent research showed that impervious area is the most dominant factor in pollutant loadings conveyed by stormwater runoff.

The impervious area approach may introduce a "timing" problem in the acquisition of capital assets. Impervious area service fees typically are applicable only to developed properties, but stormwater capital improvements are designed to accommodate future growth. Present ratepayers may be paying for capacity provisions far beyond their own use, and undeveloped properties (not subject to an impervious area fee) would not be charged for their future needs. Other funding mechanisms, such as development impact fees or system development charges, can be used in concert with an impervious area rate methodology to ensure that undeveloped properties ultimately participate in the cost of capital improvements designed with capacity to serve them.

An impervious area rate methodology is highly stable and insensitive to property alterations by ratepayers. The rate of revenue growth using an impervious area methodology would more or less correspond to the pace of development. Economic downturns would tend to diminish the addition of new impervious area and the stormwater revenue growth, while rapid growth would add to it. Reductions in impervious coverage on individual properties are rarely justified merely to reduce stormwater fees. Alterations that would reduce stormwater fees are essentially infeasible under all the rate structure scenarios examined in this guidance.

Most impervious area rate structures include simplified single-family residential service fees, often applied as flat-rate charges. Charges to non-residential properties may be structured in a variety of ways under an impervious area methodology. In some cases the single-family residential property, “equivalent unit” value, or ranges of impervious area (100, 500, or 1,000 square feet) are used as a billing unit.

Impervious area service fees are usually calculated by dividing the amount of impervious area on each parcel by an equivalent unit or a range value to determine the number of billing units and multiplying a charge per unit. Very few use the exact amount of impervious area on each property because the accuracy of the impervious area data typically available does not support such a precise calculation.

The following example illustrates how service fees based on impervious area might be calculated. Assume that a typical single-family residential property is determined to have 3,000 square feet of impervious area including driveway and patio area as well as roof coverage. An annual rate of $.02 per square foot of impervious coverage would result in a typical residence being charged $60.00 per year, or $5 per month.

If a flat-rate fee were applied to all single-family residences, an equivalency value equal to the impervious area of the typical single-family residence might be used to determine charges to other properties, including multi-family apartments. The 3,000 square foot increment might also be used as a range value in the rate structure, with all non single-family residential properties grouped into impervious area ranges of 3,000 square feet which serve as a billing unit.

All properties in a given range are typically charged the same fee even though they might have slightly different impervious area. For example, using an equivalency unit of 3,000 square feet of impervious coverage, two commercial properties with 21,000 square feet of impervious area would be charged for seven equivalent units (7 X $60 = $420/year) even if their gross property areas differed. A large shopping center or discount store with 600,000 square feet of impervious coverage would be charged $ 12,000.

An impervious area rate methodology is not highly flexible or subject to judgment in its application to specific properties. It is based on a single parameter that can be accurately measured, although modifying factors might be applied to the basic rate calculation. Approaches based on parameters like intensity of development allow

substantially more judgment to be applied, both in the design of the rate methodology and in its application to specific properties.

Other funding mechanisms can be blended with an impervious area service fee. For example, a system development charge could be adopted to recapture a system capitalization component from properties as they are developed. Other revenue sources can be used to supplement service fees, such as general revenue support for an NPDES stormwater quality program.

Impervious Area and Gross Area

Both total property area (gross area) and impervious coverage of properties influence amount, peak rate, and make up of stormwater discharged to public drainage systems. A combined impervious area and gross area rate methodology can account for both factors. Most stormwater rate methodologies utilize one or the other parameter in calculation of fees. A few (including Denver, Colorado) use both parameters to derive percentages or ratios used in rate calculations.

The concept underlying an impervious/gross area rate methodology is relatively easy to explain and grasp. It is consistent with the public's general understanding of hydrology and the impact that both gross area and impervious coverage have on stormwater runoff. This type of rate methodology tends to allocate more of the cost burden to lightly developed and undeveloped properties than methodologies that are based strictly on impervious area. Depending on the weighting factors and/or cost allocations, however, smaller properties that are almost entirely covered with impervious surfaces could conceivably be charged more than larger properties that are undeveloped or very lightly developed with little impervious coverage.

An impervious/gross area rate methodology requires that the mix of impervious and gross area in the service fee calculation be “tuned” to properly reflect the significance accorded to each parameter. This can be achieved in at least two ways: 1) by applying weighting factors to gross and impervious area; or, 2) by allocating certain costs of service to each parameter. Weighting assigned to gross and impervious area should be consistent with the local hydrologic conditions, patterns of development, program requirements (e.g., operating versus capital needs), balance of stormwater quantity and quality program costs, and the community's perceptions.

Rates could be structured in a variety of ways under this approach to reflect the importance assigned to each parameter. Units of gross area might be charged a basic rate, with a surcharge applied to units of impervious coverage. Alternatively, cost of service might be apportioned between impervious area and gross area instead of assigning specific costs to each parameter. For example, eighty (80) percent of total stormwater cost of service might be allocated to impervious area and twenty (20) percent to gross area.

Coefficients of runoff used in hydrologic engineering suggest that gross area to impervious area ratios in a service fee calculation might be as low as 1:4 or as high as 1:40. If costs are allocated to the two parameters, the significant influence of impervious coverage on peak runoff and pollutant loading suggests that seventy-five (75) percent or more of the costs should be assigned to the impervious area component of the rate.

Solely for the purpose of illustrating how fees might be calculated using an impervious/gross area methodology, assume that each 100 square feet of gross area might be charged $.10 (ten cents) per year. A surcharge of $1.60 per year might be applied to each 100 square feet that is covered by impervious area. This would yield an effective ratio of 1:17 between areas that are pervious and those that are impervious (i.e., areas covered by impervious surfaces would be charged seventeen times as much as areas that are not). That ratio is generally consistent with the difference in peak runoff between undeveloped and developed properties.

Applying the example values cited above to a twelve thousand (12,000) square foot residential property with 3,000 square feet of impervious coverage would result in a total service fee of $60 per year or $5 per month. The charge for the gross area of the property (12,000/100 @ $.10 = $12/year) would be added the charge for the impervious coverage (3,000/100 @ $1.60 = $48/year). An undeveloped 12,000 square foot property would be charged $12/year in this scenario.

Applying the same values to a small commercial property of 30,000 square feet having 21,000 square feet impervious (70 %), the annual service fee would be $366 per year (30,000 sq ft / 100 x $0.10 = $30/year for the gross area and 21,000 sq ft / 100 x $1.60 = $336/year for the impervious coverage). Thus, the stormwater service fee would be more than six times as much as that for the example 12,000 square foot residential property even though the example commercial property is only two and one-half times larger in gross area. The proportionately greater increase reflects more intense development of the larger parcel in this example (70 % impervious coverage versus 25 % for the residential example).

Using the same formula, if it is assumed that a 600,000 square foot shopping center is completely covered with impervious rooftops and paving, the annual service fee would be $10,200 (600,000 sq ft / 100 x $0.10 = $600 for the gross area plus 600,000 sq ft / 100 x $1.60 = $9,600 for the impervious coverage). In both of commercial examples cited, the gross area/impervious area rate methodology results in slightly lower fees for the non-residential properties than does the impervious area methodology examined previously, but that is purely a function of assigned values and is subject to modification.

A gross area/impervious area rate methodology facilitates charging undeveloped properties a service fee. Charging undeveloped properties would broaden the rate base, especially if extensive rural areas were included in the utility service area. It would also enable some operating and capital expenses to be distributed among all properties, although system development charges or other funding methods to

recapture financial participation in infrastructure capitalization may still be needed. Using the above example values, an undeveloped 12,000 square foot property might be charged $ 12 per year (12,000 sq ft / 100 x $0.10), an undeveloped 30,000 square foot property would be charged $ 30 per year (30,000 sq ft / 100 x $0.10), and an undeveloped 600,000 square foot would be charged $600 (600,000 sq ft / 100 x $0.10). Because charges to very large undeveloped acreages quickly escalate, such rate methodologies might need to have a schedule of incrementally declining charges as the size of properties increases.

A residential flat-rate charge could also be used with this methodology, using a sample of residences to determine how much gross and impervious area is typical in a given community. The residential rate could constitute equivalent unit values for both parameters. Obviously, different rates for gross area and impervious area might be applied in all of the above examples to meet the cost of services and facilities or apportion costs differently.

Both gross area and impervious area data are needed for this methodology, adding to the cost of developing a master account file, although fee calculations could be relatively simple. The gross area on each property might be divided by a billing unit increment (100 square feet in example above) and multiplied times a charge per unit. The same could be done for impervious area, with the two sub-totals added together to generate service fee amounts. Adjustments and credits might be applied to either or both of the parameters.

Cost of implementation and upkeep of this type of rate methodology is influenced by the cost of assembling data for a master account file and the computer programming associated with billing/collection and billing inquiry processes. Using a flat-rate charge for one or more classes of properties would substantially reduce costs. Maintenance of information might also be simplified by requiring data from developers' engineers and/or architects when plans are submitted.

Potential revenue capacity of this type of rate structure is somewhat greater than the impervious area approach because it could conceivably charge both undeveloped and developed properties. For the residential component, the revenue stream would probably be equal to or greater than other methods described in this guidance, depending on weighting factors and rates assigned and/or allocation of costs.

This approach is comparable to the other rate structure options in its stability and insensitivity to external influences. Being based on gross area and impervious area, there is little that can be done by a property owner to reduce parameters that drive the service fee.

Applying weighting factors or allocating costs to gross area and impervious area makes this approach especially flexible. A broad range of weights could be assigned to gross area and impervious area to account for unusual conditions, presence of modifying considerations like on-site detention or water quality impacts, or runoff mitigation

normally realized on large undeveloped tracts. System development charges and other secondary funding methods could also be coordinated with parameters used in this type of rate structure.

Impervious Area and Percentage of Impervious Coverage

This type of rate methodology is currently used by the City/County of Denver, Colorado. Under this rate structure amount of impervious area and impervious percentage are both used to calculate service fees, dictating that data on both impervious and gross area be used. Gross area is not relevant to the service fee calculation, except that it is needed to determine the percentage of imperviousness. Under this approach impervious area of each property is charged at varying rates depending on the percentage of imperviousness of the subject property. Each square foot of impervious area is typically charged more as the percentage of imperviousness increases. Because this rate methodology is based on impervious area, undeveloped lands are often not charged.

Some anomalies may occur in service fees that result from this type of rate methodology. Consider two properties of different sizes with the same amount of impervious coverage. Because its percentage of imperviousness could be a lot higher, the smaller property could be charged more than the larger property.

The key determinant of charges to individual properties (and of overall revenue capacity) under this rate concept is the schedule of charges per unit of impervious coverage. Properties may be divided into several classes based on their percentage of imperviousness (referred to as “ratio groups” or “imperviousness classes”), and a varying rate per impervious area unit might be applied to each class. For example, properties having ten (10) percent imperviousness or less might be charged $.06 per year for each 100 square feet of impervious coverage, while properties with eleven to twenty percent imperviousness might be charged $.15 per year for each 100 square feet. Proportionately higher values are usually applied as the percentage of impervious coverage increases.

Being based on two parameters which are accurately measurable, impervious area and gross area, from which the percentage of imperviousness is calculated, this approach gives an impression of greater accuracy than some other options. Judgment is introduced to the service fee calculation in the form of different charges for various imperviousness classes.

A community’s perception of equity resulting from this rate methodology may be mixed, and may depend on the number of classes or ranges used for percentage imperviousness and schedule of rates assigned to them. To the extent that a shift in the distribution of costs toward heavily developed properties benefits single-family residences, homeowners would likely see a lower bill than under other rate structures. They might view the balance of services and charges favorably. However, charges for

intensely developed commercial properties would not be as favorable as they would bear a much higher proportion of cost of service.

Table 2-1, below, presents a schedule that is typical of what might be applied under this approach.

Table 2-1
Example Schedule of Rates
(per 100 square feet of Impervious Coverage)

Impervious Percentage	***Annual Rate/100 Sq. Ft. of Impervious Area***
1 to 10 %	$.50
11 to 20 %	$1.35
21 to 30 %	$2.00
31 to 40 %	$2.70
41 to 50 %	$3.35
51 to 60 %	$4.00
61 to 70 %	$4.70
71 to 80 %	$5.40
81 to 90 %	$6.00
91 to 100 %	$7.70

A typical residential property has between twenty and forty percent impervious coverage. Some houses are much larger but have a much lower percentage of imperviousness because they are on very large lots or acreage. Recent trends toward very large residential subdivisions with smaller lots and larger structures are resulting in much more intense residential development and increased stormwater runoff. This is being mitigated to some extent by the use of green design practices, such as retention of stormwater in rain gardens and detention ponds.

Both the size and density of residential development are common reference points in the design of impervious/gross area stormwater rates. An average residence in an urban community might have a 12,000 square foot lot and 3,000 total square feet of impervious area (25 %) including driveways and patios. When an impervious area methodology is used, an annual service fee for such a residence under the example schedules of charges might be $60/year (3,000 sq ft/100 x $2), or $5.00/month. The previously-cited example of a commercial property of 30,000 square feet with 21,000 square feet of impervious coverage, 70 % imperviousness, would be billed $987/yr under this methodology with the schedule of rates shown in the table (21,000 sq ft/100 x $4.70 = $987). The 600,000 square foot commercial shopping center example property (100 % impervious) would be charged $46,200/yr. (600,000 sq ft / 100 x $7.70 = $46,200).

This example illustrates just one approach to a schedule of rates for different percentages of impervious coverage. With the same residential service fee as in the impervious and gross area/impervious area rate methodology examples ($60/year), the service fee both for the small commercial and the large retail shopping center would be much greater. It is entirely a function of the rate assigned to each range of imperviousness.

Obviously, care must be taken in designing the schedule of rates to ensure that appropriate allocations of cost of service result. It must also be recognized that this methodology can create anomalies relative to service fees as compared to other rate methods. These calculations are a function of specific schedule of rates used in this example and could be changed by adjusting the schedule.

This rate concept would require that both gross area and impervious area data be gathered. Incorporating a simplified charge for single-family residences could significantly reduce the number of properties requiring specific data. Future maintenance of data for developing properties could be accomplished by requiring that gross area and impervious area data is supplied by each developer's engineer or architect as part of project plans.

This approach would require that the file record be larger than for some other options in order to accommodate use of two parameters. A rate methodology could be written to calculate percentage of imperviousness and assign a property to a classification, or ratio group, based on the data. Some specialized programming might be required for this, but programming expenses would not be significantly greater than for other options.

Revenue capacity of this type of rate structure is greater than most of the other options examined in this guidance, especially if a highly progressive schedule is used. In Denver, Colorado this methodology generates perhaps twice as much revenue per square mile as some of the other rate methodologies because the very heavy weighting applied to the percentage of imperviousness results in much higher charges for intensely developed properties.

The stability and sensitivity of this rate methodology is consistent with the other options considered. Even using a highly progressive schedule of rates, the level of service fees would probably not induce property owners to remove impervious area from their properties. It simply is not cost-effective for most property owners to reduce the impervious area just to reduce a stormwater service charge.

Despite being based on two parameters, this rate concept retains a fair degree of flexibility. Flexibility is directly related to how classes of imperviousness are defined and the schedule of rates assigned. By tailoring number and size of the classes and schedule of rates, flexibility comparable to the other rate structures is achievable. Modifying factors and secondary funding methods such as system development charges can also be used.

Western Kentucky University Stormwater Utility Survey 2009

C. Warren Campbell

Preface to the 2009 Survey

The 2009 survey is a landmark in many ways. First, we now know that there are more than 1,000 stormwater utilities in the U.S. Secondly, I have spent some time looking more at the implications of inaccurate determinations of Equivalent Residential Units (ERUs). Finally, because of inquiries into the survey, I have added more information on court challenges to stormwater utilities.

In the past year, I have received many positive comments on the survey, and the initial skepticism appears to have died down. Either the survey is gaining acceptance or the skeptics figure it won't do any good now. We have had inquiries from reporters for the *Philadelphia Inquirer* and from the *Birmingham News*. The survey was quoted in testimony in the development of the Oldham County, Kentucky stormwater utility. Proponents and potential opponents of the stormwater utility in Lexington, Kentucky have contacted me.

Though we seem to be making some headway, more is possible. Please spread the word and encourage friends and colleagues to download the free survey.

As a former local official, I began this survey to help my community develop a stormwater utility. The goal of these surveys has always been to help communities develop stormwater utilities that will both meet the needs of the community and withstand court challenges. However, this data is in the public domain and is free to both proponents and opponents of stormwater utilities. As you use the data herein, please keep this in mind. Also, keep in mind that I am an engineer and not a lawyer.

As the disclaimer below says, the methods used to obtain the data are prone to error. It is particularly difficult to find data on SWUs in small communities that don't have the resources to support a comprehensive web page. I have made every effort to both scrub the data and keep it updated. However, with more than 1000 SWUs currently this is an enormous task. If you are aware of mistakes or omissions in the data, please contact me at 270-745-8988 or by email at warren.campbell@wku.edu. If you use email, please put a clear subject in the email. I receive more than 100 emails a day, and if there is not a recognizable subject line, I may miss your input. As always, thanks in advance for your help.

Warren Campbell
Bowling Green, Kentucky
May 30, 2009

DISCLAIMER

The main goal of this survey was to identify as many U.S. Stormwater Utilities (SWUs) as possible. Because many stormwater professionals do not have the time to respond to questionnaires, our primary method of identification was Internet searches. We searched on key terms such as "stormwater utility", "stormwater fee", and "drainage fee". We scoured on-line municipal codes such as Municode, AmLegal, LexisNexis, and others. We went through many city web sites trying to find utilities. The approach used is prone to errors and we hope the readers of this document will help us correct them.

In some cases, it is difficult to tell whether the community has a stormwater utility or not. Some communities have enacted the right to charge a stormwater user's fee, but have not actually enacted a fee. If the right to charge a recurring fee dedicated to stormwater was enacted, we counted it as a SWU. When one of our students contacted a community official, she said they did not have a SWU but wished they did. However, they did charge a stormwater fee of $ 0.55 per month. This raises the question of the definition of a SWU. By our definition, a SWU is a funding approach requiring residents to pay a recurring charge that supports community stormwater initiatives. The fee is dedicated to the maintenance, design, construction, and administration of the stormwater system.

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Catie Gay, CFM
Sean O'Bryan, CFM
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Jeremy Rodgers, CFM
Matt Stone, CFM
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The author is grateful to all of these students who have participated in the survey over the past years. They have worked diligently at a somewhat tedious job, but one that should have taught them something about stormwater financing, municipal codes, and websites.

We are also indebted to AMEC for sharing their list of stormwater utilities with us. In 2008, Scott Embry had the foresight to ask them for it and they obliged. We continue to have a good relationship with AMEC.

We thank Tricia Harper for proofreading this document. Any remaining errors and typos occurred because we overwhelmed her with them. These errors are the responsibility of the author.

Finally, we have borrowed data from the other stormwater utility surveys cited in the references. In some cases, we have updated data such as fees, and any mistakes should be considered primarily the fault of the lead author of this document.

Introduction

As this is written, our survey contains data on 1022 stormwater utilities (SWUs). Based on our current find rate, my best guess would be that there are between 1200 and 1500 SWUs in the U.S. More are being formed all the time and we are aware of several that will form within the next few months. Figure 1 shows a map of the U.S. and the location of the SWUs found to date.

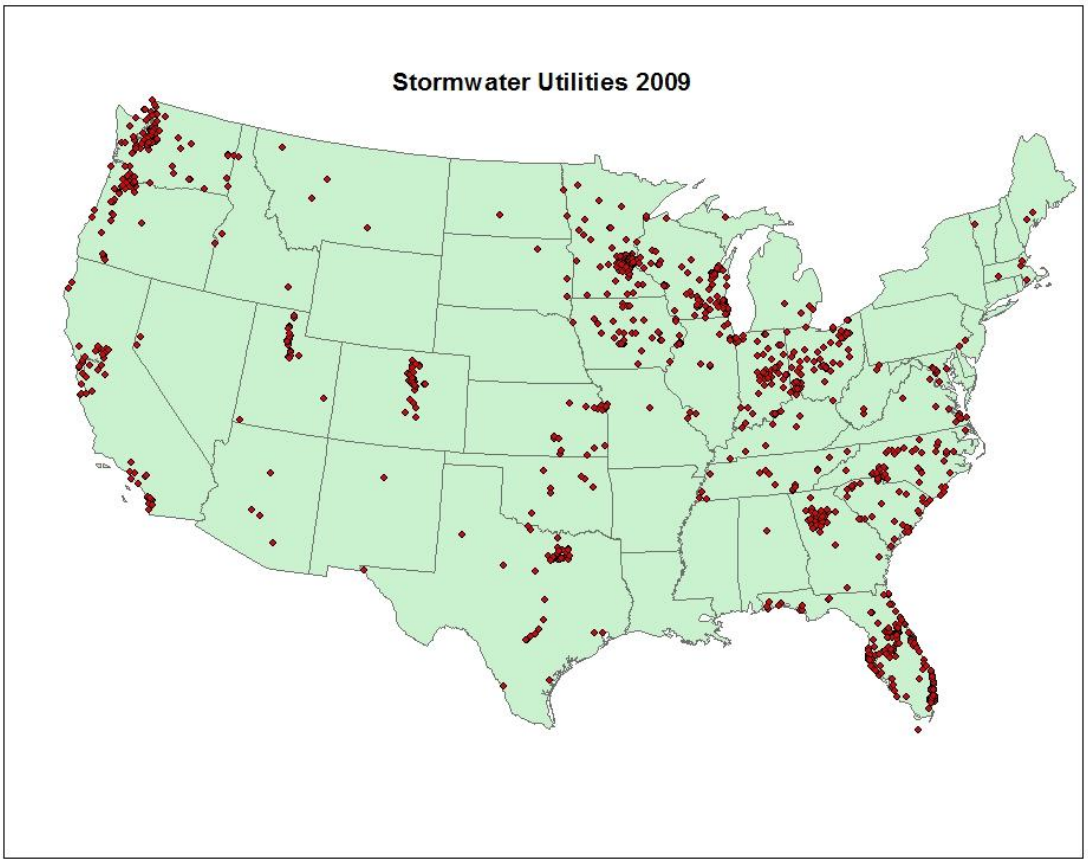

Figure 1. U.S. stormwater utilities (SWUs)

Our database is maintained in both spreadsheet and GIS format so we can analyze patterns of formation. Two states, Florida and Minnesota have more than 100 SWUs (Figure 2). These states will probably soon be joined by Washington (91) and Wisconsin (82). Figure 2 shows the number of SWUs contained in the three WKU surveys. In the figure, you will note that the number of SWUs in Oregon was reduced by one from the 2008 to the 2009 survey. We removed one SWU from Oregon. Though we had a clear citation in an Internet source, the Census Bureau knows of no such place. Our belief is that the citation was an error.

We have analyzed the data to obtain averages for fees and Equivalent Residential Units (ERUs). An ERU is the average impervious area on a single family residential parcel. It includes the footprint of buildings, sidewalks, driveways, and decks. An ERU is used as the basis for determining fees for commercial properties for hundreds of communities.

The average U.S. SWU monthly fee is $4.06 and the median fee is $3.50. The average ERU is 2974 sq ft, and the median is 2700 sq ft impervious. The importance of an accurate ERU is discussed in detail in the following sections.

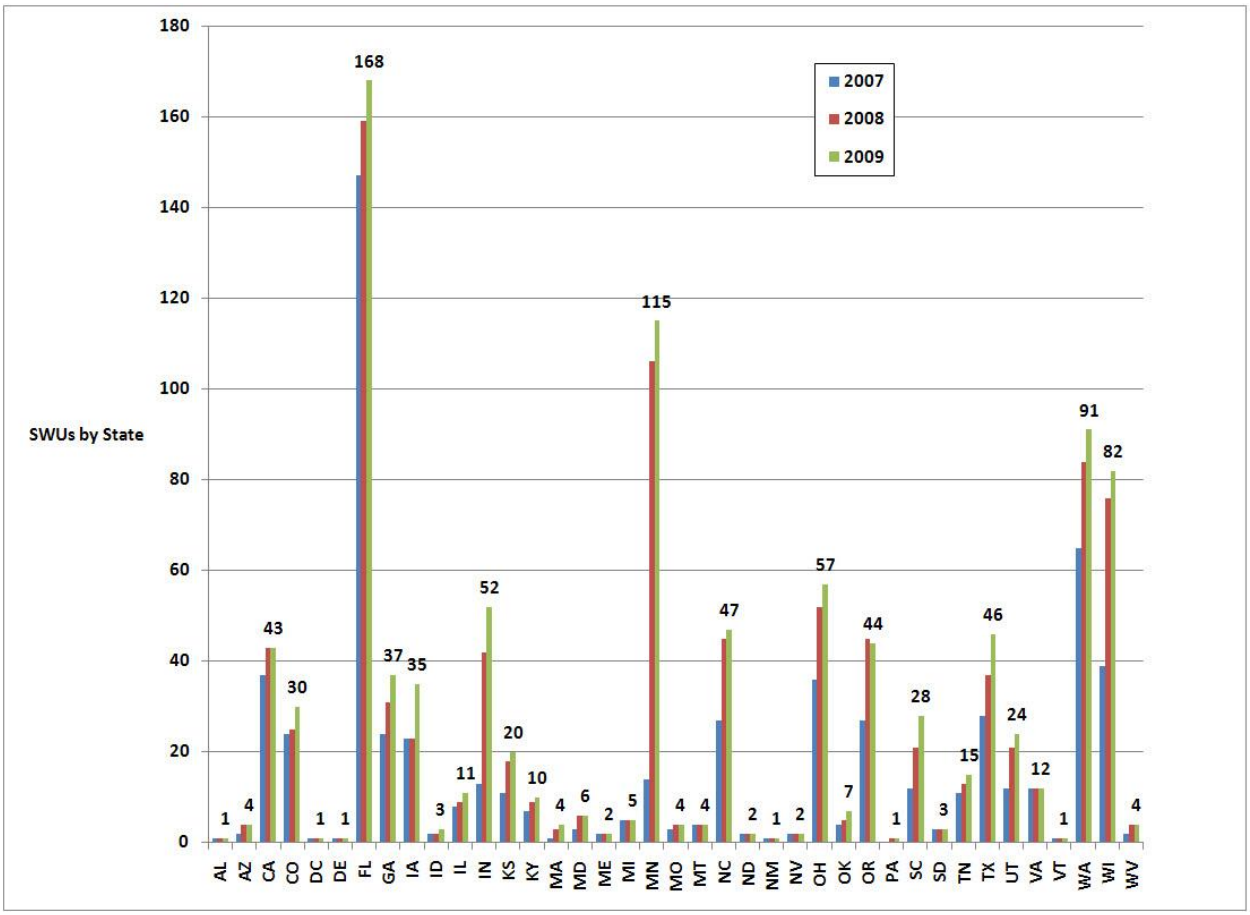

Figure 2. Stormwater utilities by state in the 2007, 2008, and 2009 WKU surveys.

Recently, Mulcahy (2006) addressed the issue of effectiveness of a stormwater utility using a set of metrics developed for that purpose. While one can argue with her choice of metrics, the idea of gauging a SWU's effectiveness quantitatively is a good one. The 2008 survey (Campbell and Back [2008]) addressed this qualitatively. A good stormwater utility in my opinion is one with the following characteristics:

1. Provides adequate funding to meet the legitimate stormwater needs of the community
2. Is fairly apportioned according to the amount of stormwater burden produced by a parcel
3. Has a fee system that is simple enough to be readily administered
4. Can stand up in court
5. Can withstand political challenges

Characteristic 1 is important but many community officials often feel pressure to enact a system of fees they know will not meet community needs because of political considerations. When an inadequate fee is enacted, expectations are often not met. Political support can evaporate and a SWU ordinance can be repealed. A well-structured fee system will meet community needs and expectations and yet not be excessive. The culture in some communities will support a stormwater fee more easily than in other communities. Unfortunately, political realities or perceived realities often govern the setting of a fee. While it is desirable to have elected officials show the character to set an appropriate fee, a politician who cannot be re-elected will be unable to be a champion for stormwater causes.

Failure to create a SWU ordinance with Characteristic 2 embedded can lead to legal exposure. At least one community (Arvada, Colorado) calculates a different fee for every property based on the amount of impervious area on the parcel. Because of the nexus between impervious area and the amount of stormwater produced, this is a very fair way to assess a fee. However, problems of billing complexity make this approach infeasible for many communities. For them, a fee system is a compromise between fair apportionment and ease of administration. There is some conflict between Characteristics 2 and 3 above.

Characteristic 4 is a question of great concern to every one of the stormwater utility communities. There are many aspects of the ability to withstand a legal challenge, and these vary according to state law. More information is provided in the following section.

Characteristic 5 is a rising concern and politicians and citizens in some communities are attempting to repeal SWU ordinances. Strategies take at least three forms: 1) repeal of the ordinance, 2) creation of ordinances or statutes that make it harder to enact a SWU, and 3) opposition to enabling legislation.

Some in Florida tried to pass a state law that required any new fee or tax to be voted on by the citizens of the affected community. This would make it much more difficult and expensive to pass a SWU since instead of educating a committee of prominent citizens, the education would have to be extended to the whole community, many of whom are not inclined to listen to someone asking for another fee.

Challenges to Stormwater Utilities

The court of final appeal for challenges to stormwater utilities is almost always the appropriate state Supreme Court. No one strategy will suffice since enabling statutes vary from state to state. In North Carolina, in the case Smith Chapel Baptist Church v. City of Durham (1999), the North Carolina Supreme Court ruled that Durham had exceeded the authority granted in the enabling legislation. This decision forced Durham to refund some fees already collected, but the court did uphold basing the amount of stormwater fees on the amount of impervious area of the property as rational, reasonable, and within the statutory authority. In response to the decision, the North Carolina legislature revised the ordinance so that all costs of administering a comprehensive stormwater program could be covered by a SWU.

Stormwater utilities have been frequently challenged in court and Black and Veatch (2007) indicate that 2 of the 71 utilities in their survey were challenged between 2005 and 2007. Another strategy by SWU opponents is emerging. Opportunistic politicians are running on platforms of promising to repeal stormwater utilities. Recently, Colorado Springs has had to face this kind of challenge. Some of these politicians may prosper until the next major flood.

The poster child for SWU community nightmares is that of Atlanta, Georgia. Fulton County taxpayers challenged the city's stormwater utility and the decision was a landmark for SWUs. The court ruled that the fee based on parcel area and on development intensity, was assessed more like a tax. As such, the proper procedure for enacting a tax was not followed by the city. Further, the benefit derived from the utility was not proportional to the fee and was calculated to raise money as opposed to addressing the real stormwater needs of the community. From this decision, the recommended approach for developing a SWU is to determine the legitimate stormwater needs of a community and to set the fee accordingly. Atlanta had to refund all stormwater fees collected to that point.

Figure 3 shows the map of utilities challenged and the outcomes to date that we were able to identify. The map includes court cases when a SWU community was either a defendant or a plaintiff. In some cases, a community must sue to obtain payment from a state agency or a tax-exempt organization such as a church or a school district. An example of this is provided both by the Durham, North Carolina case and in the *City of Clearwater vs. the School Board of Pinellas County, Florida* (Case No. 2D04-3260). Often, administrators of school districts feel that they have funds that they apply to teaching and if required to pay thousands of dollars of fees each year, the money would have to come out of instructional programs. The 2nd District Court of Appeals ruled in favor of Clearwater.

The map of Figure 3 is by necessity simplified. For example, the classifications "upheld" or "struck down" may not be clear. In the case of Durham, though the city had to refund some fees collected, the court affirmed the use of an ERU system as a valid and fair method of assessing fees. So was the fee upheld or struck down? I elected to show it on the map as upheld.

Usually, the people who are likely to challenge stormwater utilities come from one of the following groups.

1. Tax-exempt organizations
2. Residential home owners
3. Business owners
4. People on fixed income
5. State or Federal agencies

The grounds for these challenges are most often one of the following.

1. The fee is actually a tax.
    a. Some states require that taxes be approved by the voters and this wasn't.
    b. Since it is a tax, tax-exempt organizations should not have to pay.
2. Some states require that a fee be voluntary. For example, you can choose to have electricity or water service. If the fee is not voluntary, then it looks like a tax (see above). In some states, the use of a credit system is very important. If no credit is given even if a parcel has constructed stormwater measures that reduce outflow from the property significantly, a SWU can face legal exposure.
3. The use of the fee exceeds the authority granted in state law.
4. The fee is not fairly apportioned according to burden placed on the stormwater system.
5. The City does not really need that much money to take care of stormwater needs.

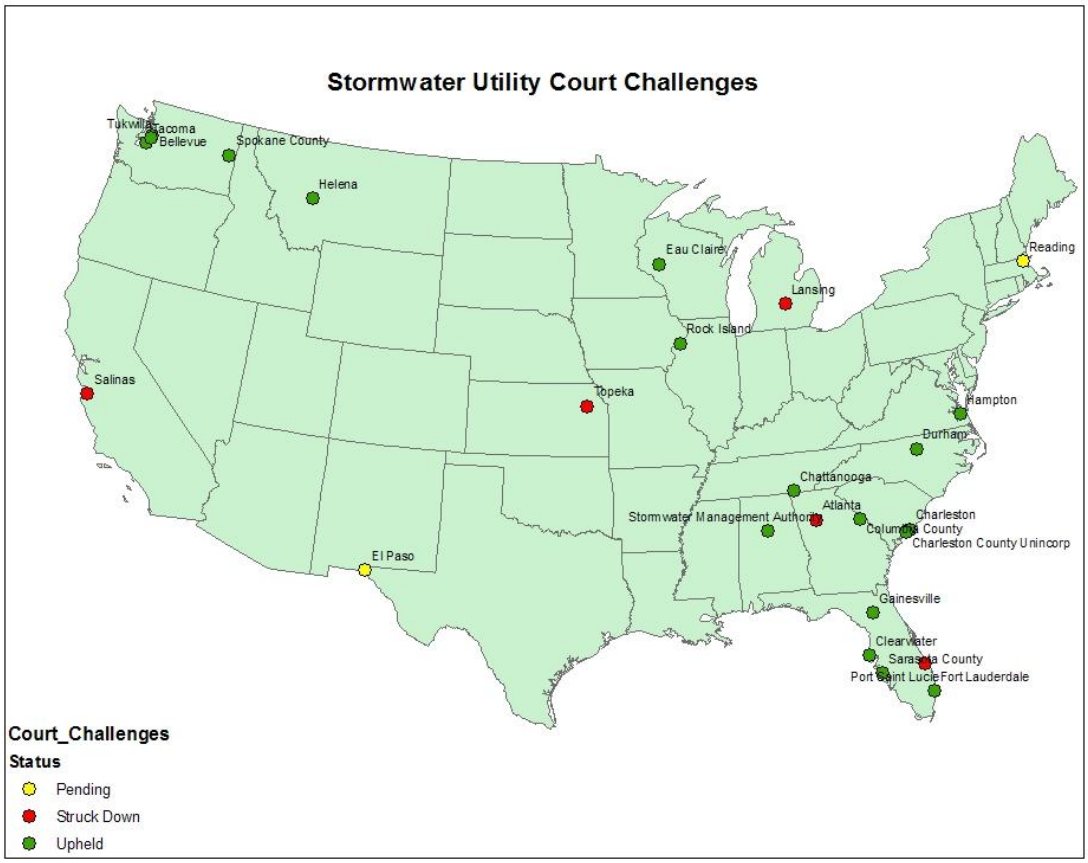

Figure 3. Stormwater utility court challenges and outcomes.

Of the utilities in the 2007 Black and Veatch Survey, (B&V, 2007) 24 % had been challenged in court. Of those challenged, 62 % had the fee sustained, and only 4 % had the challenge sustained. The remainder are either pending or a settlement was reached. In the Florida survey (FSA 2005), 15 % of fees were challenged in court. Of those challenged, 45 % were sustained and 9 % were not sustained. In the southeast survey (Southeast Stormwater Association, 2007) 18 % faced a legal challenge. 62 % had the fee sustained, and none had their fee not sustained.

Legal challenges have been the primary problem for maintaining SWUs, but political challenges occur as well. Politicians running on a platform of repealing the "rain tax" can endanger the fee. Legally, a stormwater utility fee for a given parcel should be based on the burden placed on the stormwater system by that parcel (New England Environmental Finance Center, 2005). This begs the question of how a burden should be measured. Depending on whether a SWU is set up predominantly to handle stormwater quality or quantity, burden could be related to flooding, to water pollution, or to both. For SWUs concerned with flooding, typically it is taken as the volume of runoff from a parcel. However,

most stormwater systems are based on the peak flow for a design storm or storms. Further, most damage to stormwater systems occurs during floods. This might imply that burden should be measured as peak flow, but peak flows vary from point to point. The effects of a large shopping center can be felt in storm sewers and streams for miles downstream and calculating the impact on all of these downstream systems could be prohibitively expensive. For smaller parcels, the runoff burden would be significant only in the storm sewer or curb and gutter immediately downstream. Debo and Reese (1992) address the issue and conclude that downstream effects should be determined to a point downstream in the watershed where the size of the development comprises only 5 – 10 percent of the watershed area. Similar information is provided by Debo and Resse (2003) in a more accessible form.

Ultimately, the use of volume of runoff as a measure of water quantity burden may be most appropriate. The assumption is that volume is correlated with the economic impact of designing, constructing, and maintaining stormwater management systems. For water quality burden, there are measures of the impact of different land uses on water quality that correlate watershed impervious percentage to stream water quality impairment. The part of the SWU fee devoted to water quality should be apportioned according to the pollution burden caused by a given land use.

Analysis

The preceding section discussed the methods being used by opponents of stormwater utilities. This section is devoted to the analysis of SWU data. We update the 2008 survey to include data from the additional SWUs that were identified this year.

We were able to identify 506 SWUs that use the Equivalent Residential Unit (ERU) method. An ERU is usually defined as the average number of square feet of impervious surface for a single family residential parcel in the SWU community. Other properties (commercial, industrial, institutional, etc.) have fees proportional to the number of ERUs on the parcel. We identified 177 SWUs that used a method other than the ERU such as tiers based on the land use or on the number and size of water meters for a property. The methods used by the remaining 319 SWUs have not yet been identified.

ERUs ranged from 500 square feet of impervious surface up to 25,000 square feet. The average ERU was 2974 square feet and the median was 2700 square feet. The size of the ERU is very important to the distribution of cost to different land uses. Single family residential properties typically pay a base fee. Commercial properties pay the base fee multiplied by the number of ERUs on the parcel. If the ERU is very small, then commercial properties would supply a larger percentage of the annual revenue from the SWU. Conversely, large ERUs place a larger burden on residential properties. Figure 4 shows the distribution of ERUs across the U.S. The small, red symbols in the figure indicate that either an ERU-based fee structure was not used, or that an ERU could not be determined for the community. ERUs greater than 10,000 square ft. impervious seem highly unlikely except in very wealthy communities. A large ERU places a large burden on residential properties, and if the community is not comprised of very large homes, it seems that these communities might be vulnerable to court challenges by residents. Conversely, communities with very low ERUs might be challenged by commercial and industrial interests because they may be bearing a disproportionately large percentage of the SWU fee burden. It seems that the best policy is to accurately measure the average impervious area of single family residential properties and use this as the ERU. Attempts to placate either commercial interests or residential voters may be legally misguided.

The monthly fee for a single family residential property ranged from $0.00 to $35 dollars per month. At least one community appears to have enacted a stormwater utility without a fee. Fees were determined for 871 SWUs. The average of these monthly fees was $4.06 and the median was $3.50. Figure 6 shows that high or low fees do not appear to congregate and each state with more than a few SWUs has both high and low monthly fees. In this figure, the small, red symbols are used if the fee is below $1.00 or if no fee has been determined for the utility.

We were able to identify 1022 SWUs in this survey. Adding up the populations served according to the 2000 census, approximately 84,0000,000 Americans live in SWU communities. This means that approximately 28 percent of Americans currently pay a stormwater fee. Stormwater utilities serve 56 percent of the residents of Minnesota and 60 percent of Floridians. Though it is difficult to estimate because of overlapping city and county SWUs, our current best estimate is that 95 percent of the residents of the state of Washington pay stormwater fees. These estimates may be slightly high, but all

three states surely have more stormwater utilities than we were able to find so these actually may be low.

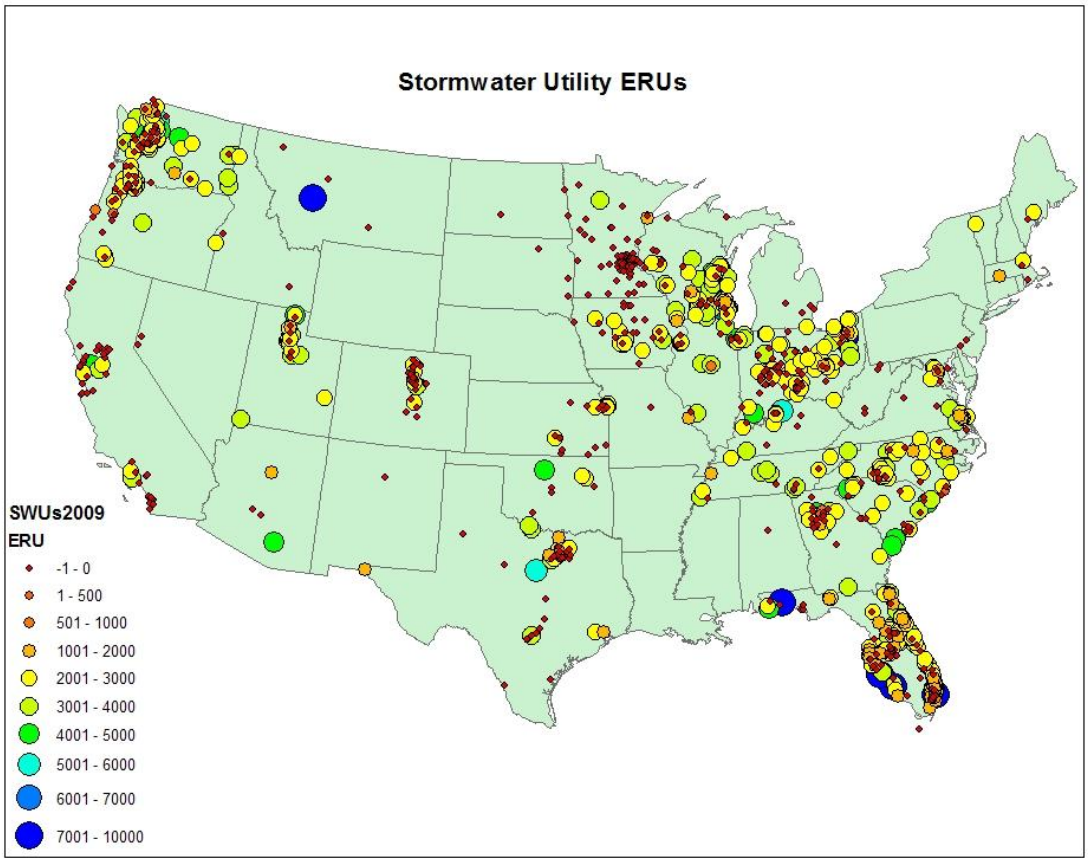

Figure 4. Distribution of monthly Equivalent Residential Units (ERUs) across the U.S.

From Figures 1 and 4, it is apparent that stormwater utilities have a tendency to cluster. This is particularly apparent in the Minneapolis-St. Paul area and around Seattle. As one community develops a utility, other nearby communities can easily observe the benefits causing a desire to create a SWU of their own. It is interesting that there is a belt of stormwater utilities across the center of the Florida peninsula, which is the area of the U.S. that experiences the highest number of thunderstorms. SWUs also cluster around coastal areas for obvious reasons. Also, Florida has the highest number of SWUs partly because of a very high flood risk. However, the role played by the Florida Stormwater Association cannot be overlooked. By serving as a clearinghouse of information on stormwater utilities, it has encouraged the development of SWUs in that state. Part of the purpose of this document is to provide information that will be useful to U.S. community officials trying to develop stormwater utilities.

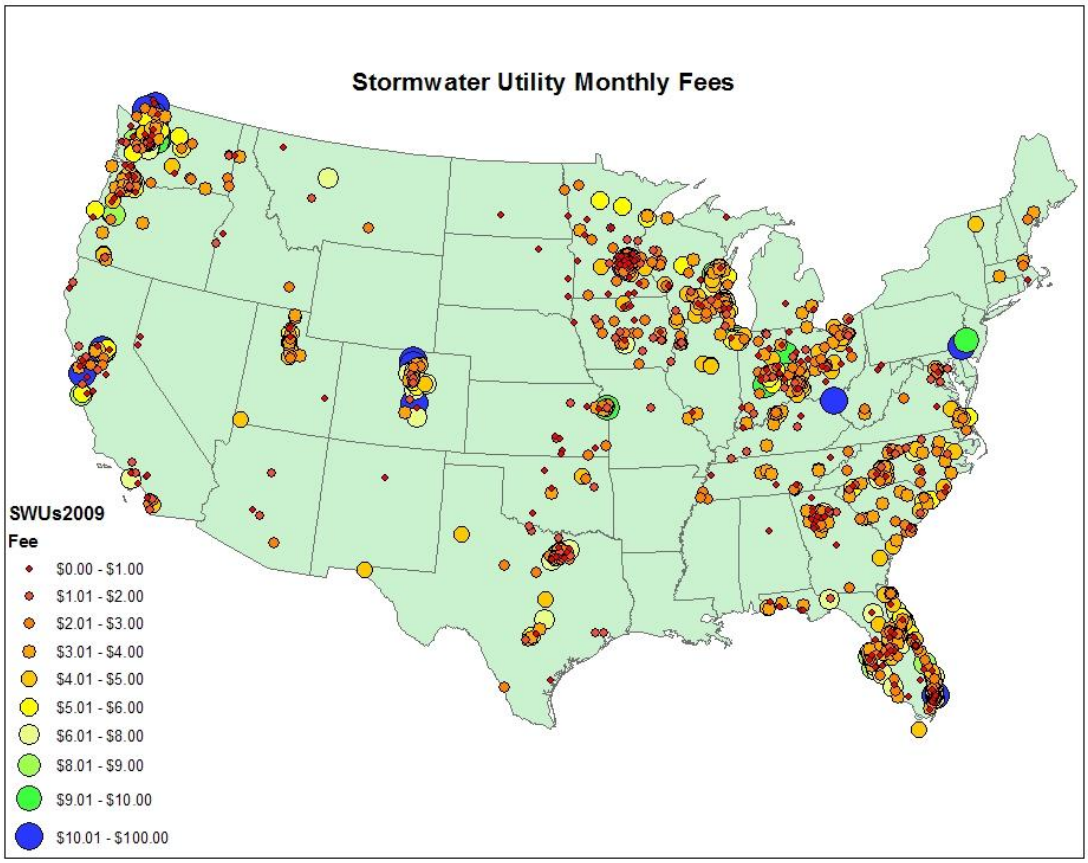

Figure 5. Distribution of stormwater utility fees across the U.S.

Figure 6 shows the growth in the number of SWUs by year. Local peaks in growth rate occur in 1993 and in 2003. Figure 7 shows the peaks more clearly. The peak in 1993 may be related to the Midwest flooding and Hurricane Andrew in 1992. The peak in 2003 shows growth in SWUs in smaller communities and is influenced by the effective date of EPA Phase II rules. Figure 7 shows a decline in the rate of formation of SWUs in 2009. This decline is probably not real and occurs for two reasons: 1) the survey is being published in June, and 2) recent SWUs are more difficult to find.

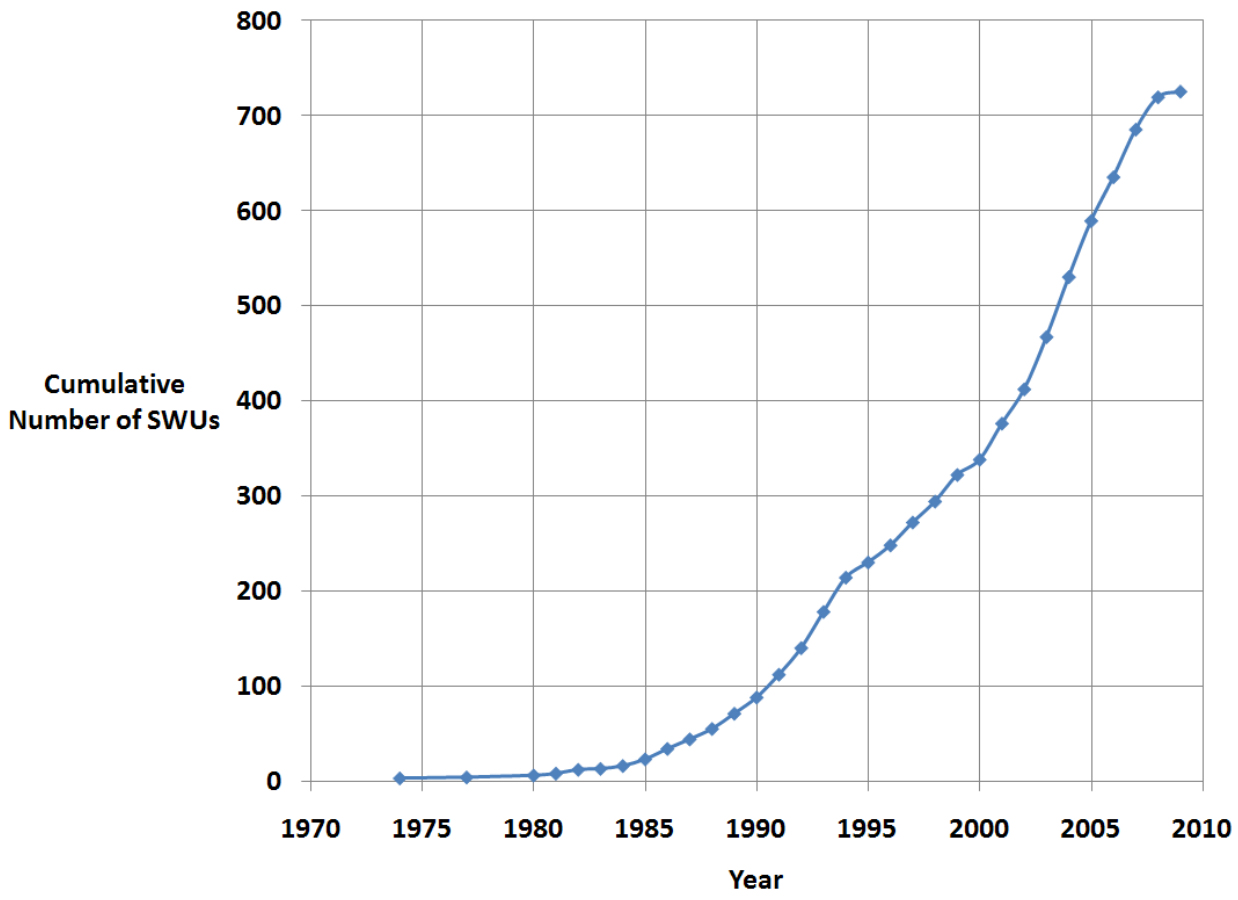

Figure 7. Cumulative number of stormwater utilities by year

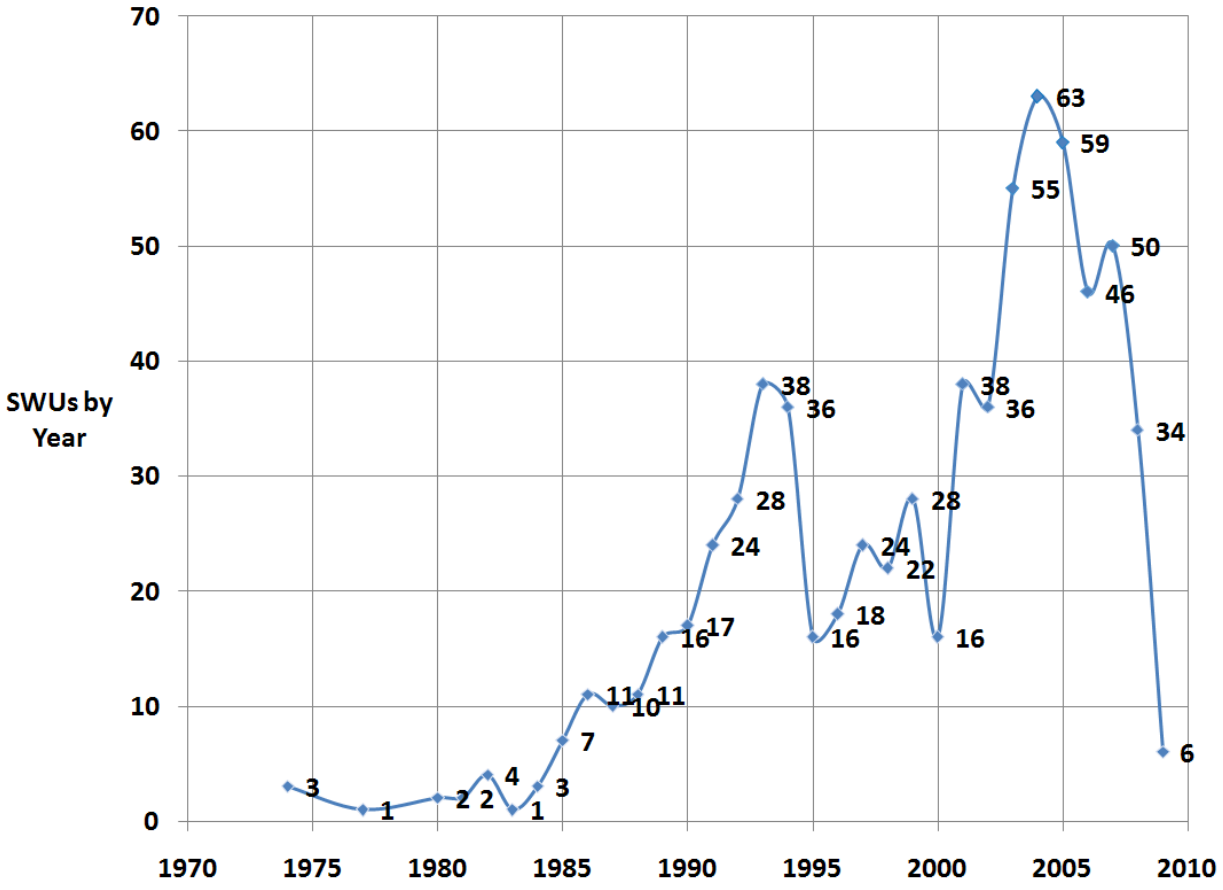

Figure 8. Formation of stormwater utilities by year.

Summary

The 2008 Survey (Campbell and Back, 2008) identified 923 stormwater utilities. This survey identified 1022. Thirty-eight states and the District of Columbia have at least one stormwater utility. Two states (Florida and Minnesota) now have more than 100 SWUs, 6 have more than 50, and 16 states have 20 or more stormwater utilities. More and smaller communities are forming utilities to deal with more stringent water quality requirements. The growth in the number of stormwater utilities continues and today, our best guess is that that there are 1,200 to 1,500 stormwater utilities in the U.S. alone. Communities in Canada are also beginning to form them, though these are not covered here.

Stormwater utilities continue to face legal and political challenges. Politicians are elected on the promise of repealing the "rain tax." SWUs are challenged in court by parties who assert the fee is a tax, or that the fee is not fair, or for other reasons given here. An ideal stormwater utility has the following characteristics:

1. Provides adequate funding to meet the legitimate stormwater needs of the community
2. Is fairly apportioned according to the amount of stormwater burden produced by a parcel
3. Has a fee system that is simple enough to be readily administered
4. Can stand up in court
5. Can withstand political challenges

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Raw Data Tables

The following data tables provide the information collected on 1022 stormwater utilities. Communities with an “x” in the ERU column use the tier or REF or another fee system so that no ERU is used. The ERU column is blank when neither an ERU nor a determination can be made if an alternate system was used.

No.	Community	State	ERU	Monthly Fee
1	Stormwater Management Authority	AL	x	$0.42
2	Flagstaff	AZ	1500	$1.84
3	Mesa	AZ	x	$1.50
4	Oro Valley	AZ	5000	$2.90
5	Peoria	AZ		$0.75
6	Albany	CA		$3.47
7	Arcata	CA		$1.96
8	Berkeley	CA		
9	Carlsbad	CA		$1.95
10	Carmel	CA	4000	$8.77
11	Chino	CA		
12	Citrus Heights	CA		$5.54
13	Contra Costa County	CA	5,000	$2.50
14	Davis	CA		$4.83
15	Del Mar	CA		$3.00
16	Dixon	CA		$3.77
17	Elk Grove	CA	x	$5.84
18	Escondido	CA		$2.10
19	Folsum	CA		
20	Fortuna	CA		$0.55
21	Galt	CA		$2.43
22	Hollister	CA		
23	Los Angeles	CA		$1.92
24	Modesto	CA		
25	Monterey	CA		$5.44
26	Oceanside	CA		$1.00
27	Ontario	CA		
28	Palo Alto	CA	2,500	$10.55
29	Poway	CA		$4.36
30	Rancho Palos Verdes	CA	3,804	$7.17
31	Richmond	CA		
32	Sacramento	CA		$11.31
33	Sacramento County	CA		$5.85
34	Salinas	CA		
35	San Bruno	CA		$3.85
36	San Diego	CA		$1.95
37	San Jose	CA		$4.53
38	San Marcos	CA		$1.77
39	Santa Clarita	CA		$2.00
40	Santa Cruz	CA		$1.77
41	Santa Monica	CA	x	
42	Santa Rosa	CA		$1.96
43	South San Francisco	CA		

No.	Community	State	ERU	Monthly Fee
44	Stockton	CA	2,347	$2.10
45	Tracy	CA	3,140	$1.20
46	Vallejo	CA		$1.97
47	Vista	CA		$1.80
48	Woodland	CA		$0.48
49	Arapahoe County	CO		$5.00
50	Arvada	CO		$4.30
51	Aurora	CO		$7.70
52	Berthoud	CO		$2.50
53	Boulder	CO		$6.55
54	Canon City	CO		$4.00
55	Castle Rock	CO	2,458	$6.61
56	Colorado Springs	CO	3,845	$10.15
57	Denver	CO		$5.81
58	Englewood	CO	3,000	$1.39
59	Evans	CO		$3.00
60	Federal Heights	CO	1,944	$3.15
61	Fort Collins	CO	x	$14.26
62	Fountain	CO		
63	Frederick	CO	2,500	$6.23
64	Golden	CO		$3.20
65	Greeley	CO		$4.90
66	LaFayette	CO		$4.27
67	Lakewood	CO		$1.98
68	Littleton	CO		$2.00
69	Longmont	CO		$7.13
70	Louisville	CO		$2.00
71	Loveland	CO		$10.39
72	Northglenn	CO		$2.00
73	Parker	CO	3,738	$6.00
74	Pueblo	CO		$6.25
75	Southeast Metro Stormwater Authority	CO	x	$6.83
76	Westminster	CO	x	$1.50
77	Windsor	CO		$3.98
78	Woodland Park	CO		$2.00
79	Washington	DC	x	$0.58
80	Wilmington	DE		$11.94
81	Alachua County	FL		
82	Altamonte Springs	FL	x	$6.25
83	Anna Maria	FL	2,254	$3.75
84	Apopka	FL		
85	Atlantic Beach	FL	1,790	$4.00
86	Auburndale	FL	x	$0.75

No.	Community	State	ERU	Monthly Fee
87	Aventura	FL	1,548	$2.50
88	Bartow	FL	2,520	$3.75
89	Bay County	FL		$3.33
90	Bay Harbor Islands	FL		
91	Belle Glade	FL		
92	Belle Isle	FL	4,087	$4.00
93	Boca Raton	FL	2,837	$2.90
94	Boynton Beach	FL	1,937	$5.00
95	Bradenton	FL		
96	Bradenton Beach	FL		$8.33
97	Brevard County	FL	2,500	$3.00
98	Callaway	FL		
99	Cape Canaveral	FL	2,074	
100	Cape Coral	FL		$6.25
101	Casselberry	FL	2,309	$2.90
102	Charlotte County	FL	x	$3.00
103	Clearwater	FL	1,830	$8.65
104	Clermont	FL	3,154	$5.00
105	Cocoa	FL	2,166	$3.00
106	Cocoa Beach	FL	2,900	$5.00
107	Coconut Creek	FL	2,070	$2.65
108	Collier County	FL		
109	Coral Gables	FL		
110	Daytona Beach	FL	1,661	$6.00
111	DeBary	FL	2,560	$7.00
112	De Land	FL	4,900	$6.00
113	Delray Beach	FL	2,502	$4.50
114	Deltona	FL	2,495	$5.00
115	Dundee	FL		$1.00
116	Dunedin	FL	1,708	$4.50
117	Eagle Lake	FL		$4.00
118	Edgewater	FL	2,027	$6.00
119	El Portal	FL		
120	Eustis	FL	2,187	$3.00
121	Florida City	FL	1,250	
122	Fort Lauderdale	FL	x	$2.90
123	Fort Meade	FL	x	$4.25
124	Fort Myers	FL	2,931	
125	Fort Pierce	FL	2,186	$2.50
126	Fort Walton Beach	FL		
127	Frostproof	FL		$3.00
128	Gainesville	FL	2,300	$6.95
129	Golden Beach	FL	8,000	$35.00
130	Grant-Valkaria	FL	2,500	$3.00

No.	Community	State	ERU	Monthly Fee
131	Griffin	FL	2,200	$2.95
132	Gulf Breeze	FL	4,450	$3.50
133	Gulfport	FL	2,300	$2.87
134	Haines City	FL	1,935	$2.00
135	Hallandale Beach	FL	958	$2.17
136	Hernando County	FL		
137	Hialeah	FL	1,664	$2.50
138	Hialeah Gardens	FL	1,267	$2.00
139	Hillsborough County	FL	1,800	$1.00
140	Holly Hill	FL	2,050	$6.00
141	Hollywood	FL		
142	Homestead	FL	2,000	$3.18
143	Indian Creek Village	FL		
144	Indian Harbor Beach	FL	2,500	$3.00
145	Jacksonville	FL	2,443	$5.00
146	Jacksonville Beach	FL	1,541	$5.00
147	Jupiter	FL	2,651	$4.37
148	Key Biscayne	FL	1,083	
149	Key West	FL	1,400	$5.00
150	Kissimmee	FL	2,400	$6.50
151	Lake Alfred	FL		$2.00
152	Lake Mary	FL	4,576	$3.00
153	Lake Worth	FL	1,748	$2.90
154	Lakeland	FL	5,000	$6.00
155	Largo	FL	2,257	$3.57
156	Lauderdale-by-the-Sea	FL	4,472	$3.50
157	Lauderdale Lakes	FL	2,133	
158	Leesburg	FL	2,000	$3.00
159	Leon County	FL	2,723	$1.67
160	Longwood	FL	2,898	$3.00
161	Maitland	FL	2,532	$7.25
162	Malabar	FL	2,500	$3.00
163	Manatee County	FL		
164	Marathon	FL		$5.00
165	Margate	FL	2,328	$2.30
166	Martin County	FL		
167	Medley	FL		
168	Melbourne	FL	2,500	$1.50
169	Melbourne Beach	FL	2,500	
170	Miami Beach	FL	791	$5.80
171	Miami Shores	FL	2,466	$3.25
172	Miami Springs	FL		
173	Miami-Dade County	FL	1,548	$4.00
174	Milton	FL		

No.	Community	State	ERU	Monthly Fee
175	Minneola	FL		
176	Miramar	FL	3,619	$2.00
177	Mount Dora	FL	2,500	$4.25
178	Mulberry	FL		
179	Naples	FL	1,934	$11.40
180	Neptune Beach	FL	3,164	$3.00
181	New Port Richey	FL	2,629	$3.36
182	New Smyrna Beach	FL	1,818	$5.00
183	Niceville	FL	7,500	$3.65
184	North Bay Village	FL	2,415	$2.25
185	North Lauderdale	FL	2,138	$3.00
186	North Miami	FL	1,760	$4.65
187	North Miami Beach	FL	1,800	$3.70
188	North Redington Beach	FL	1,687	
189	Oakland Park	FL	1,503	$6.00
190	Ocala	FL	1,948	$5.00
191	Ocoee	FL	2,054	$5.00
192	Oldsmar	FL	2,550	$3.50
193	Opa-Locka	FL		
194	Orlando	FL	2,000	$6.88
195	Ormond Beach	FL	3,000	$6.00
196	Oviedo	FL	2,464	$4.00
197	Palm Bay	FL		
198	Palm Coast	FL	3,432	$8.00
199	Palmetto	FL	1,342	$7.06
200	Panama City	FL		
201	Pasco County	FL	2,890	$3.92
202	Pembroke Park	FL	1,548	$5.50
203	Pensacola	FL	2,575	$4.40
204	Pinecrest	FL	1,548	$3.00
205	Plant City	FL	2,280	$4.12
206	Polk City	FL	x	$1.50
207	Pompano Beach	FL	2,880	$3.00
208	Port Orange	FL	3,050	$6.25
209	Port Saint Lucie	FL	2,280	$8.51
210	Redington Beach	FL		$2.50
211	Riviera Beach	FL		$4.50
212	Rockledge	FL		$3.00
213	Safety Harbor	FL	1,865	
214	Saint Augustine	FL	2,000	$5.00
215	Saint Cloud	FL	2,664	$6.50
216	Saint Johns County	FL		
217	Saint Petersburg	FL	2,719	$6.45
218	Sanford	FL	2,126	$4.00

No.	Community	State	ERU	Monthly Fee
219	Sarasota	FL		$7.55
220	Sarasota County	FL	3,153	$6.70
221	Satellite Beach	FL	3,000	$3.00
222	Sebastian	FL		$4.00
223	South Daytona	FL	2,000	
224	South Miami	FL		
225	Stuart	FL	3,707	$2.65
226	Sunny Isles Beach	FL	1,548	
227	Sunrise	FL	1,884	$2.32
228	Surfside	FL	1,300	
229	Sweetwater	FL		
230	Tallahassee	FL	1,990	$6.93
231	Tamarac	FL		
232	Tampa	FL	x	$3.00
233	Tarpon Springs	FL	1,945	$5.65
234	Tavares	FL	x	$3.00
235	Tequesta	FL		
236	Titusville	FL	3,300	$5.85
237	Treasure Island	FL		$3.36
238	Umatilla	FL	3,000	$4.00
239	Venice	FL	9,489	$2.98
240	Volusia County	FL	2,775	$2.50
241	West Melbourne	FL	2,500	
242	West Miami	FL		
243	West Palm Beach	FL	2,171	$6.35
244	Wilton Manors	FL	3,460	$3.50
245	Winter Garden	FL	4,077	$4.00
246	Winter Haven	FL		$2.62
247	Winter Park	FL	2,324	$4.00
248	Winter Springs	FL	2,123	$3.25
249	Athens - Clarke County	GA	2,682	$3.50
250	Atlanta	GA		
251	Austell	GA		$1.00
252	Barrow County	GA	3,478	$1.50
253	Braselton	GA		
254	Canton	GA		
255	Cartersville	GA	3,000	$3.75
256	Chamblee	GA	3,000	
257	Clayton County	GA		$3.75
258	Columbia County	GA	x	$2.63
259	Conyers	GA	x	$3.33
260	Covington	GA	2,600	$3.23
261	Decatur	GA	2,900	$5.00
262	DeKalb County	GA	3,000	$4.00

No.	Community	State	ERU	Monthly Fee
263	Doraville	GA	3,000	$4.00
264	Douglasville-Douglas County	GA	2,543	$4.00
265	Evans	GA		$3.50
266	Fairburn	GA		
267	Fayetteville	GA	3800	$2.95
268	Gilmer County	GA		
269	Griffin	GA	2,200	$3.57
270	Gwinnett County	GA		$6.15
271	Henry County	GA	4,779	$3.32
272	Hinesville	GA	2,635	$4.25
273	Loganville	GA	3,000	$4.00
274	Norcross	GA	100	$5.43
275	Peachtree City	GA	4,600	$3.95
276	Rockdale County	GA	3,420	$3.39
277	Roswell	GA	4,100	$3.95
278	Smyrna	GA	3,900	$2.20
279	Snellville	GA		
280	Stockbridge	GA	2,000	$2.92
281	Stone Mountain	GA		
282	Sugar Hill	GA	1,000	$3.00
283	Valdosta	GA	3,704	$2.50
284	Warner Robbins	GA		
285	Woodstock	GA		$4.20
286	Ackley	IA		
287	Ames	IA		$2.60
288	Ankeny	IA	4,000	
289	Bettendorf	IA	2,500	$1.50
290	Boone	IA	3,000	$2.00
291	Buffalo	IA	x	$2.00
292	Burlington	IA	25,000	$2.00
293	Carroll	IA	x	$3.00
294	Cedar Falls	IA		$3.00
295	Cedar Rapids	IA		$3.19
296	Centerville	IA	x	$3.00
297	Clear Lake	IA		$1.60
298	Clive	IA	3,667	$3.25
299	Coralville	IA	x	$1.25
300	Davenport	IA	2,600	$1.60
301	De Witt	IA		$2.50
302	Des Moines	IA	2,349	$7.29
303	Dubuque	IA	2,917	$4.00
304	Forest City	IA		$5.00
305	Fort Dodge	IA	2,533	$3.00
306	Garner	IA		

No.	Community	State	ERU	Monthly Fee
307	Hiawatha	IA		$1.00
308	Iowa City	IA	3,129	$2.00
309	Marengo	IA		$1.50
310	Marshalltown	IA		$2.16
311	Mason City	IA		$1.00
312	Oskaloosa	IA	2,750	$2.00
313	Perry	IA		$2.00
314	Sac City	IA		$3.00
315	Sioux City	IA		
316	State Center	IA	x	$3.00
317	Storm Lake	IA	2,750	$2.00
318	Waukee	IA	2,973	$2.75
319	West Des Moines	IA	4,000	$2.75
320	Windsor Heights	IA		$3.50
321	Coeur D'Alene	ID	3,000	$4.00
322	Lewiston	ID	4,000	$3.00
323	Pocatello	ID		$2.44
324	Aurora	IL	x	$3.45
325	Bloomington	IL	1,000	$4.35
326	Highland Park	IL	x	$4.00
327	Moline	IL		$3.75
328	Morton	IL	3,300	$4.74
329	Normal	IL	3,200	$4.60
330	O'Fallon	IL	3,650	$3.45
331	Richton Park	IL	x	$5.63
332	Rock Island	IL	2,800	$3.72
333	Rolling Meadows	IL	3,604	$2.76
334	Tinley Park	IL	x	
335	Albany	IN		$12.40
336	Anderson	IN	2,500	$3.50
337	Bargersville	IN		$9.46
338	Batesville	IN	x	$2.00
339	Berne	IN		$10.00
340	Bloomington	IN		$2.70
341	Brownsburg	IN		$5.00
342	Cedar Lake	IN	2903	$5.00
343	Centerville	IN		$8.50
344	Chandler	IN		$4.00
345	Chesterton	IN	3,585	$5.00
346	Cicero	IN		
347	Clarksville	IN		$2.95
348	Connersville	IN	2,662	
349	Crown Point	IN	x	$6.00
350	Cumberland	IN		$5.20

No.	Community	State	ERU	Monthly Fee
351	Dyer	IN	4,343	$6.00
352	Elkhart County	IN	2,800	$1.25
353	Fishers	IN	3,318	$4.95
354	Floyd County	IN		$3.25
355	Fort Wayne	IN	2,500	$3.65
356	Fortville	IN		$8.00
357	Goshen	IN	2,800	$1.25
358	Greendale	IN	3,000	$4.39
359	Greenfield	IN	2,250	$2.00
360	Griffith	IN	x	$7.50
361	Highland	IN		$6.43
362	Indianapolis	IN	2,800	$2.25
363	Jasper	IN	5,000	$2.00
364	Jeffersonville	IN		$3.50
365	Lebanon	IN	3,000	$3.00
366	Logansport	IN		
367	Marion	IN		$5.00
368	McCordsville	IN	2,250	$7.50
369	Merrillville	IN	2,784	$5.00
370	Middletown	IN		$6.00
371	Muncie	IN	x	$0.95
372	Munster	IN		$10.00
373	New Albany	IN	2,500	$3.17
374	New Castle	IN	x	$6.00
375	New Haven	IN	2,534	
376	North Manchester	IN		
377	Peru	IN	3,497	$4.00
378	Plainfield	IN		$4.00
379	Plymouth	IN	12,000	$2.05
380	Richmond	IN	2,980	$3.00
381	Shelbyville	IN		$6.00
382	Valparaiso	IN	3,500	$3.00
383	Vincennes	IN		
384	Washington	IN	2,558	$3.00
385	Westfield	IN	x	$2.75
386	Yorktown	IN		$2.00
387	Andover	KS		
388	Arkansas City	KS		$3.00
389	Bonner Springs	KS	x	$2.50
390	Coffeyville	KS	x	$2.50
391	Eudora	KS		
392	Fairway	KS	3,200	$5.00
393	Lawrence	KS	2,366	$4.00
394	Lenexa	KS		$5.00

No.	Community	State	ERU	Monthly Fee
395	Manhattan	KS		$1.10
396	Mission	KS	2,485	$4.00
397	Olathe	KS		$3.75
398	Overland Park	KS	2,485	$2.00
399	Parsons	KS	x	$1.00
400	Pittsburg	KS		$2.97
401	Prairie Village	KS		$9.75
402	Shawnee	KS		$3.00
403	Topeka	KS	2,018	$3.62
404	Valley Center	KS	x	$1.00
405	Wichita	KS	2,139	$2.00
406	Winfield	KS		$1.00
407	Danville	KY		$1.50
408	Henderson	KY	3,000	
409	Hopkinsville	KY	3,350	$2.00
410	Lexington/Fayette County	KY		
411	Louisville/Jefferson Co.	KY	2,500	$5.02
412	Murray	KY	3,000	$1.50
413	Oldham County	KY	6,000	$3.43
414	Radcliff	KY	2,800	$4.00
415	Sanitation District 1	KY	2,600	$4.02
416	Warren County	KY	x	$4.00
417	Chicopee	MA	2,000	$3.33
418	Fall River	MA		
419	Newton	MA	3,119	$2.08
420	Reading	MA	2,552	$3.32
421	Annapolis	MD		$1.83
422	Charles County	MD	x	$2.00
423	Montgomery County	MD	2,406	$1.06
424	Rockville	MD	2,330	$4.65
425	Silver Spring	MD		$3.93
426	Takoma Park	MD	1,228	$2.39
427	Augusta	ME	2,700	$3.44
428	Lewiston	ME		$2.50
429	Ann Arbor	MI	x	$6.92
430	Berkley	MI	2,600	$3.35
431	Detroit	MI		
432	Lansing	MI		
433	Marquette	MI		$4.18
434	Albert Lea	MN		
435	Alexandria	MN		$2.50
436	Andover	MN		$2.06
437	Anoka	MN		$1.76
438	Apple Valley	MN		$3.98

No.	Community	State	ERU	Monthly Fee
439	Arden Hills	MN		$2.88
440	Ashby	MN	x	
441	Austin	MN		
442	Baxter	MN		$2.00
443	Belle Plaine	MN		$2.75
444	Bemidji	MN	3,750	$5.62
445	Bird Island	MN	x	$5.00
446	Blaine	MN	x	$1.75
447	Bloomington	MN		$4.53
448	Brainerd	MN	x	
449	Brooklyn Center	MN	x	$4.29
450	Brooklyn Park	MN	x	$8.00
451	Buffalo	MN	x	
452	Burnsville	MN	x	$5.90
453	Cambridge	MN		$3.85
454	Carver	MN	x	$3.33
455	Centerville	MN		$1.67
456	Champlin	MN	x	$2.50
457	Chanhassen	MN		
458	Circle Pines	MN		$3.00
459	Columbia Heights	MN	x	$2.46
460	Coon Rapids	MN		$2.85
461	Cottage Grove	MN	x	$3.50
462	Crystal	MN	x	$3.10
463	Deephaven	MN		$5.00
464	Delano	MN		
465	Duluth	MN	x	$3.75
466	Eagan	MN		$2.55
467	Eden Prairie	MN	x	$1.00
468	Edina	MN	x	$4.80
469	Elko-New Market	MN		$4.50
470	Excelsior	MN	x	$2.66
471	Fairmont	MN	x	
472	Falcon Heights	MN		$3.25
473	Faribault	MN		
474	Farmington	MN	x	$2.83
475	Fergus Falls	MN	x	$4.00
476	Forest Lake	MN	REF	$0.55
477	Frazee	MN		
478	Fridley	MN	x	$1.12
479	Golden Valley	MN	x	$7.33
480	Grand Rapids	MN	x	$5.35
481	Hopkins	MN		$4.50
482	Hutchinson	MN		$1.75

No.	Community	State	ERU	Monthly Fee
483	Jordan	MN		$3.09
484	Kasson	MN		
485	Lake Elmo	MN	x	$2.50
486	Lakeville	MN	x	$5.25
487	Lauderdale	MN		$2.50
488	Long Lake	MN		$3.60
489	Loretto	MN		$5.50
490	Madison	MN	REF	
491	Mahtomedi	MN	x	$3.51
492	Mankato	MN	x	$3.00
493	Maple Plain	MN	x	$2.97
494	Maplewood	MN		$4.12
495	Mayer	MN	x	$0.67
496	Medina	MN	x	$2.02
497	Mendota Heights	MN	x	$1.67
498	Minneapolis	MN	1,530	$10.77
499	Minnetonka	MN		$5.10
500	Minnetrista	MN	x	$3.00
501	Moorhead	MN	x	
502	Mora	MN	x	$1.25
503	Mound	MN	x	$2.16
504	Mounds View	MN	x	$2.75
505	New Brighton	MN	x	$4.88
506	New Hope	MN	x	$6.11
507	New Prague	MN	x	$2.64
508	North Saint Paul	MN		$5.35
509	Northfield	MN	x	$4.75
510	Norwood Young America	MN		$1.00
511	Oak Park Heights	MN	x	$1.00
512	Oakdale	MN	x	$1.67
513	Orono	MN		$3.43
514	Osseo	MN	x	$3.00
515	Plymouth	MN	x	$4.33
516	Prior Lake	MN		$12.00
517	Ramsey	MN		$2.60
518	Richfield	MN	x	$3.30
519	Robbinsdale	MN	x	$3.95
520	Rochester	MN		$3.00
521	Rogers	MN	x	$3.15
522	Rosemount	MN	x	$3.75
523	Roseville	MN	x	$5.05
524	Saint Anthony	MN	x	$4.33
525	Saint Bonifacius	MN	x	$5.00
526	Saint Cloud	MN	x	$2.10

No.	Community	State	ERU	Monthly Fee
527	Saint Louis Park	MN	x	$3.83
528	Saint Michael	MN	x	$2.00
529	Saint Paul	MN		$4.82
530	Saint Paul Park	MN		$2.67
531	Savage	MN		$5.88
532	Shakopee	MN	x	$2.81
533	Shoreview	MN	x	$3.63
534	Shorewood	MN	x	$6.72
535	South Saint Paul	MN		$2.50
536	Stillwater	MN	x	$1.50
537	Thief River Falls	MN	x	$2.50
538	Tonka Bay	MN	x	$1.13
539	Vadnais Heights	MN	x	$3.00
540	Vadnais Lake Water Management Organization	MN	x	$2.20
541	Victoria	MN	x	$3.33
542	Waconia	MN	x	$5.47
543	Watertown	MN	x	$1.75
544	Wayzata	MN		$3.33
545	West Saint Paul	MN		$3.08
546	White Bear Township	MN	x	$2.00
547	Woodbury	MN		$5.50
548	Worthington	MN		$3.00
549	Arnold	MO	1,750	$3.75
550	Columbia - Boone County	MO	x	$1.15
551	Kansas City	MO	3,000	$3.00
552	Saint Louis	MO		$0.24
553	Billings	MT		$2.69
554	Great Falls	MT		$7.26
555	Helena	MT	10,000	$1.84
556	Whitefish	MT		
557	Asheville	NC	2,442	$2.34
558	Bessemer City	NC	x	$2.07
559	Burlington	NC	x	$2.00
560	Carolina Beach	NC	500	
561	Chapel Hill	NC	2,000	$6.50
562	Charlotte	NC	2,613	$5.51
563	Clemmons	NC	3,952	$3.70
564	Concord	NC	3,120	$4.30
565	Cornelius	NC	2,613	$4.03
566	Cumberland County	NC	2,266	$1.00
567	Dallas	NC	x	$2.08
568	Davidson	NC	2,613	$1.85
569	Durham	NC	2,400	$4.50
570	Elizabeth City	NC	x	$3.00

No.	Community	State	ERU	Monthly Fee
571	Fayetteville	NC	2,266	$1.00
572	Forsythe County	NC		
573	Gastonia	NC	2,650	$2.75
574	Greensboro	NC	2,543	$2.70
575	Greenville	NC	2,000	$5.70
576	High Point	NC	2,588	$2.00
577	Huntersville	NC	2,613	$4.03
578	Indian Trail	NC	x	$3.50
579	Jacksonville	NC	2,850	$4.00
580	Kannapolis	NC	3,250	$4.00
581	Kernersville	NC	2,980	$3.29
582	Kinston	NC	3,059	$4.00
583	Lowell	NC		
584	Lumberton	NC	x	$2.50
585	Matthews	NC	2,613	$4.03
586	Mecklenburg County	NC	2,613	$4.03
587	Mint Hill	NC	2,613	$4.03
588	Monroe	NC	2,618	$4.00
589	Mount Holly	NC	x	$2.50
590	Oak Island	NC	x	$2.50
591	Oxford	NC	2,368	$2.00
592	Pineville	NC	2,613	$4.03
593	Raleigh	NC	2,260	$4.00
594	Rocky Mount	NC	2,519	$3.75
595	Spring Lake	NC	2,266	$2.50
596	Stallings	NC		
597	Washington	NC	x	$4.20
598	Whitakers	NC	x	$3.25
599	Wilmington	NC	2,500	$5.00
600	Wilson	NC	2,585	$2.94
601	Winston-Salem	NC	x	$4.25
602	Winterville	NC	2,000	$2.00
603	Wrightsville Beach	NC	x	$0.00
604	Bismarck	ND		
605	Grand Forks	ND	x	$2.90
606	Sante Fe	NM		
607	Carson City	NV	x	
608	Sparks	NV		
609	Ada	OH	x	$1.50
610	Amberly	OH		
611	Ashland	OH	3,052	$3.50
612	Barberton	OH	8,668	$5.00
613	Bellefontaine	OH	2,400	
614	Broadview Heights	OH	4,000	$4.00

No.	Community	State	ERU	Monthly Fee
615	Butler County	OH	4,000	$1.08
616	Canal Winchester	OH		$1.00
617	Celina	OH	3,083	$2.00
618	Chillicothe	OH		$1.00
619	Cincinnati	OH		$2.70
620	Columbus	OH	2,000	$3.32
621	Cuyahoga Falls	OH	3,000	$2.00
622	Dayton	OH	x	$4.28
623	Delaware	OH	2,773	$2.50
624	Forest Park	OH		$3.00
625	Gahanna	OH	3,064	$3.42
626	Galion	OH	2,650	$3.00
627	Greenville	OH	2,800	$2.95
628	Hamilton	OH	2,536	$5.50
629	Hamilton County	OH		
630	Hudson	OH	x	$3.00
631	Ironton	OH	3,000	$14.55
632	Kent	OH	1,963	$2.30
633	Lake County	OH	3,050	$0.80
634	Lancaster	OH	2,600	$4.64
635	Lebanon	OH	2,615	$3.50
636	London	OH	2,766	$4.00
637	Loveland	OH	2,500	$4.50
638	Marion	OH	2,778	$4.16
639	Marysville	OH	2,700	$2.75
640	Mason	OH		$3.00
641	Medina	OH	2,716	$2.25
642	Middletown	OH	2,814	$3.25
643	Milford	OH	2,400	$5.50
644	Monroe	OH	x	$3.00
645	Montpelier	OH		
646	Muskingum Watershed Conservancy District	OH	3,300	$1.00
647	Newark	OH	2,600	$4.50
648	Painesville	OH	2,500	$2.75
649	Pickerington	OH	2,530	$1.50
650	Ravenna	OH	2,750	$3.00
651	Reynoldsburg	OH	2,530	$1.25
652	Sheffield	OH	2,500	$2.50
653	Sheffield Lake	OH	2,275	$4.85
654	Sidney	OH	2,752	$0.83
655	Spencerville	OH		
656	Stow	OH	3,060	$3.00
657	Tallmadge	OH		$2.00
658	Toledo	OH	2,500	$3.16

No.	Community	State	ERU	Monthly Fee
659	Trenton	OH	x	$2.60
660	Troy	OH	3,000	$3.50
661	Union	OH		$3.00
662	Upper Arlington	OH		
663	Wadsworth	OH		$4.50
664	Wooster	OH		$4.80
665	Zanesville	OH		
666	Broken Arrow	OK	2,650	$3.00
667	Edmond	OK		
668	Enid	OK	5,000	
669	Lawton	OK		$1.00
670	Muskogee	OK		$2.00
671	Oklahoma City	OK		$3.40
672	Tulsa	OK	2,650	$4.63
673	Adair Village	OR		
674	Ashland	OR	3,000	$3.68
675	Beaverton	OR	2,640	$6.00
676	Bend	OR	3,800	$4.00
677	Cannon Beach	OR		$3.50
678	Central Point	OR	3,000	$5.00
679	Clackamas County	OR		
680	Clatskanie	OR		$2.50
681	Corvallis	OR	2,750	$4.98
682	Cottage Grove	OR		$3.20
683	Dundee	OR	2,500	$5.00
684	Estacada	OR	2,500	$5.15
685	Eugene	OR	1,000	$8.69
686	Fairview	OR	2,500	$6.42
687	Florence	OR	1,000	$6.00
688	Forest Grove	OR	2,640	$4.00
689	Gresham	OR	2,500	$7.65
690	Hillsboro	OR	2,640	$4.00
691	Hood River	OR	x	$2.50
692	Hubbard	OR		$4.25
693	Keizer	OR	3,000	$2.70
694	Lake Oswego	OR	3,030	$6.64
695	Medford	OR	3,000	$4.40
696	Milwaukie	OR	2,706	$9.15
697	Newberg	OR	2,877	$3.29
698	Ontario	OR	2,500	$1.16
699	Oregon City	OR		$2.00
700	Philomath	OR	x	$0.75
701	Portland	OR	2,194	$16.82
702	Reedsport	OR		

No.	Community	State	ERU	Monthly Fee
703	Roseburg	OR	x	$3.35
704	Saint Helens	OR	2,500	$4.54
705	Salem	OR		
706	Sandy	OR	2,750	$3.00
707	Scappoose	OR		
708	Sheridan	OR		$3.50
709	Springfield	OR		$8.63
710	Talent	OR		$1.41
711	Tigard	OR		$4.00
712	Troutdale	OR		$3.24
713	Tualatin	OR		$4.00
714	Washington County	OR		
715	West Linn	OR	2,914	$3.25
716	Wilsonville	OR	2,750	$4.00
717	Philadelphia	PA		$9.12
718	Aiken County	SC	2,500	$3.22
719	Anderson	SC	x	$4.00
720	Beaufort County	SC	4,906	$3.70
721	Bluffton	SC	4,906	$4.08
722	Charleston	SC	2,200	$6.00
723	Charleston County	SC		$3.00
724	Columbia	SC	2,454	$3.95
725	Conway	SC	2,700	$5.25
726	Dorchester County	SC	14,520	$2.43
727	Easley	SC	5,000	$2.00
728	Florence	SC	2,500	$3.50
729	Folly Beach	SC		$3.00
730	Georgetown	SC	x	$2.00
731	Georgetown County	SC	3,770	$4.33
732	Greenville	SC	2,389	$5.18
733	Greenville County	SC	2,466	
734	Greer	SC	2,500	$1.80
735	Hartsville	SC		$4.00
736	Horry County	SC	x	$2.45
737	Mount Pleasant	SC		$1.50
738	Myrtle Beach	SC	5,000	$3.50
739	North Augusta	SC	x	$4.00
740	North Charleston	SC	x	
741	North Myrtle Beach	SC	3,500	$6.00
742	Rock Hill	SC	x	$2.40
743	Spartanburg County	SC	x	$4.00
744	Summerville	SC	x	$3.00
745	Tega Cay	SC		$8.00
746	Aberdeen	SD	x	

No.	Community	State	ERU	Monthly Fee
747	Brookings	SD	x	
748	Sioux Falls	SD		
749	Alcoa	TN		$4.00
750	Chattanooga	TN	x	$3.00
751	Collierville	TN		$2.25
752	Dyersburg	TN	1,500	$1.00
753	Franklin	TN	3,350	$3.65
754	Hamilton County	TN	3,500	$3.00
755	Johnson City	TN	3,315	$2.25
756	La Vergne	TN	3,181	$3.50
757	Maryville	TN	2,400	$3.97
758	Memphis	TN	3,147	$2.18
759	Millington	TN	3,000	$2.50
760	Morristown	TN	2,400	$1.00
761	Murfreesboro	TN	3,470	$3.25
762	Signal Mountain	TN	x	$2.50
763	Tullahoma	TN		$0.00
764	Abilene	TX	x	$2.45
765	Allen	TX	x	$2.75
766	Arlington	TX	2,800	$2.75
767	Austin	TX	x	$7.15
768	Azle	TX	1,500	$3.00
769	Baytown	TX	1,979	$1.71
770	Bedford	TX	2,727	$3.50
771	Benbrook	TX	3,186	$6.50
772	Bexar County	TX		$1.10
773	Burkburnett	TX	3,500	$1.50
774	Colleyville	TX	x	$7.00
775	Colony	TX	3,406	$2.50
776	Corinth	TX	3,900	$5.00
777	Corpus Christi	TX		
778	Dallas	TX		
779	Denton	TX		
780	El Paso	TX	2,000	$4.75
781	Euless	TX	x	$2.50
782	Fairview	TX		$7.75
783	Flower Mound	TX	x	$1.50
784	Fort Worth	TX	2,600	$2.90
785	Gainesville	TX	1,895	$2.00
786	Garland	TX		$2.40
787	Grand Prairie	TX		$2.50
788	Haltom City	TX		$4.89
789	Highland Village	TX	1,000	$4.91
790	Houston	TX	2,400	$2.00

No.	Community	State	ERU	Monthly Fee
791	Irving	TX		$2.16
792	Killeen	TX		$5.00
793	Laredo	TX	x	$2.25
794	Live Oak	TX	3,007	$5.50
795	Lubbock	TX		$4.99
796	McKinney	TX	2,343	$1.00
797	Mesquite	TX		$3.00
798	New Braunfels	TX	x	
798	North Richland Hills	TX		
799	Plano	TX		
800	Rowlett	TX		$2.00
801	Saginaw	TX	x	$3.00
802	San Antonio	TX		$3.68
803	San Marcos	TX		$3.21
804	Southlake	TX		$8.00
805	Stephenville	TX	6,000	$3.00
806	Universal City	TX	x	$3.08
807	White Settlement	TX	x	
808	Wichita Falls	TX	3,500	$1.75
809	Bountiful	UT	3,828	
810	Centerville	UT	3,600	$4.00
811	Draper	UT	3,000	$4.00
812	Elk Ridge	UT		$3.00
813	Farmington	UT	x	$6.00
814	Logan	UT	3,000	$3.50
815	Midvale	UT	3,000	$3.25
816	Moab	UT	3,000	
817	Murray	UT		$3.55
818	Nibley	UT		$4.00
819	North Logan	UT	4,700	$4.00
820	North Ogden	UT		
821	Ogden	UT	1,500	$2.14
822	Orem	UT	2,700	$4.50
823	Payson	UT		$5.00
824	Provo	UT		$4.10
825	Riverdale	UT	2,600	
826	Salt Lake City	UT	2,500	$3.00
827	Sandy	UT	2,816	$5.00
828	Santa Clara	UT	3,500	$4.51
829	Spanish Fork	UT	3,800	$3.00
830	Springville	UT	3,500	$3.96
831	Taylorsville	UT	3,800	$4.00
832	West Valley	UT	2,830	$4.00
833	Arlington County	VA	2,762	$2.17

No.	Community	State	ERU	Monthly Fee
834	Chesapeake	VA	2,112	$2.55
835	Hampton	VA	2,429	$3.60
836	James City County	VA	3,235	$4.90
837	Newport News	VA	1,777	$3.10
838	Norfolk	VA	2,000	$7.85
839	Portsmouth	VA	1,877	$5.00
840	Prince William County	VA	2,059	$1.50
841	Richmond	VA		
842	Staunton	VA	2,600	$2.70
843	Suffolk	VA	3,200	$3.95
844	Virginia Beach	VA	2,269	$5.43
845	South Burlington	VT	2,700	$4.50
846	Aberdeen	WA	x	$6.08
847	Algona	WA	x	$4.75
848	Anacortes	WA	2,000	$3.00
849	Arlington	WA	6,000	$3.45
850	Auburn	WA	2,600	$11.50
851	Battle Ground	WA	3,000	
852	Bellevue	WA		
853	Bellingham	WA	3,000	$14.00
854	Black Diamond	WA	3,000	$10.00
855	Blaine	WA		$4.16
856	Bonney Lake	WA		$6.00
857	Bothell	WA	x	$6.46
858	Bremerton	WA		$7.45
859	Burlington	WA		$3.10
860	Camas	WA	3,218	$4.71
861	Centralia	WA		$6.00
862	Chehalis	WA	3,000	$5.47
863	Chelan County	WA	4,600	$5.50
864	Clark County	WA		$2.75
865	Des Moines	WA	2,400	$6.82
866	Douglas County	WA	2,750	$2.92
867	Duvall	WA	x	$16.92
868	East Wenatchee	WA	2,750	$2.92
869	Edgewood	WA	x	$3.33
870	Edmonds	WA	3,000	$7.78
871	Everett	WA		$10.50
872	Federal Way	WA		$6.59
873	Ferndale	WA		
874	Fife	WA	x	$2.00
875	Friday Harbor	WA	2,000	$10.25
876	Gig Harbor	WA	2,000	$7.20
877	Issaquah	WA	2,000	$14.08

No.	Community	State	ERU	Monthly Fee
878	Jefferson County	WA	3,000	
879	Kelso	WA	x	$3.10
880	Kent	WA	2,500	
881	King County	WA	x	$9.25
882	Kitsap County	WA	4,200	$4.78
883	Lacey	WA	x	$6.75
884	La Conner	WA	2,100	$11.55
885	Liberty Lake	WA	3,160	$0.51
886	Longview	WA	2,500	$2.25
887	Lynnwood	WA	2,900	$4.25
888	Marysville	WA	3,200	$8.00
889	Mason County	WA		$0.00
890	Mercer Island	WA	3,471	$13.00
891	Mill Creek	WA	3,000	
892	Milton	WA		$15.50
893	Monroe	WA	2,500	$9.00
894	Montesano	WA		$2.00
895	Mountlake Terrace	WA	2,282	$5.83
896	Mukilteo	WA	2,500	$7.85
897	Normandy Park	WA	3,100	$10.00
898	North Bend	WA	2,920	$12.36
899	Oak Harbor	WA	2,500	$7.70
900	Olympia	WA	2,528	$3.00
901	Orting	WA	2,500	$9.00
902	Pacific	WA	2,500	$7.00
903	Pierce County	WA	2,640	$6.67
904	Port Angeles	WA	4,000	$3.00
905	Port Orchard	WA		
906	Port Townsend	WA	3,000	$7.20
907	Pullman	WA	3,500	$3.00
908	Puyallup	WA	2,800	$10.24
909	Redmond	WA	2,000	$16.56
910	Renton	WA	x	$5.72
911	Richland	WA	3,000	$2.60
912	San Juan County	WA	x	$2.19
913	Seattle	WA	x	$11.34
914	Sedro-Woolley	WA		
915	Shelton	WA	x	$8.50
916	Skagit County	WA	x	$3.06
917	Snohomish	WA	2,500	$3.25
918	Snoqualmie	WA	2,600	$4.00
919	Spokane	WA		$1.75
920	Spokane County	WA	3,160	$1.75
921	Steilacoom	WA		$13.75

No.	Community	State	ERU	Monthly Fee
922	Sultan	WA	4,519	$5.75
923	Sumner	WA	2,400	$2.50
924	Tacoma	WA	6,000	$11.59
925	Thurston County	WA	3,600	$1.67
926	Toppenish	WA	2,000	$1.00
927	Tukwilla	WA	x	$5.17
928	Tumwater	WA	3,250	$5.70
929	University Place	WA	x	$6.00
930	Vancouver	WA	2,500	$4.00
931	Walla Walla	WA	3,000	$3.77
932	Wenatchee	WA	3,000	$5.50
933	West Richland	WA		$2.80
934	Woodinville	WA		$7.09
935	Yakima	WA	3,600	$4.17
936	Yelm	WA	x	$2.50
937	Allouez	WI	3,663	
938	Altoona	WI	x	$3.00
939	Appleton	WI	2,368	$9.07
940	Baraboo	WI	2,379	$3.91
941	Barron	WI	10,850	$2.00
942	Bellevue	WI	3,221	$4.00
943	Beloit	WI	3,347	$3.00
944	Brown Deer	WI	3,257	$7.65
945	Butler	WI	3,032	$5.50
946	Cambridge	WI		$2.33
947	Chetek	WI		$2.25
948	Chippewa Falls	WI		$3.00
949	Cudahy	WI	2,700	$4.00
950	De Forest	WI	2,900	$5.00
951	Delafield	WI		$2.42
952	Denmark	WI		$4.00
953	De Pere	WI		$3.33
954	Eau Claire	WI	3,000	$3.92
955	Elm Grove	WI	4,660	$5.46
956	Fitchburg	WI	3,700	$4.35
957	Fox Point	WI	2,988	
958	Franklin	WI	2,964	$3.00
959	Garner's Creek	WI	3,623	$8.00
960	Glendale	WI	2,609	$3.50
961	Grand Chute	WI	3,283	$4.00
962	Grantsburg	WI		$1.50
963	Green Bay	WI	3,000	$4.60
964	Greendale	WI	3,941	$6.00
965	Greenville	WI	4,510	$5.00

No.	Community	State	ERU	Monthly Fee
966	Harrison	WI		$8.00
967	Hobart	WI	4,000	$6.00
968	Holmen	WI	3,550	$4.08
969	Howard	WI	3,301	$3.67
970	Janesville	WI	3,200	$2.28
971	Kenosha	WI	2,477	$5.00
972	Kimberly	WI	2,762	$8.00
973	Lake Delton	WI	1,685	$1.50
974	Lancaster	WI	3,400	$2.00
975	Little Chute	WI	2,752	$8.00
976	Madison	WI		$3.75
977	Manitowoc	WI	3,167	$6.00
978	Marshfield	WI		$5.50
979	McFarland	WI	3,456	$3.90
980	Menasha	WI	2,980	$5.42
981	Menomonie	WI	3,000	$2.67
982	Milwaukee	WI	1,610	$6.85
983	Monona	WI	x	$5.00
984	Monroe	WI	2,728	$5.00
985	Neenah	WI	3,138	$4.67
986	New Berlin	WI	4,000	$5.00
987	New Richmond	WI	12,632	$2.39
988	North Fond du Lac	WI	3,123	$4.67
989	Oak Creek	WI	2,964	$3.00
990	Onalaska	WI	x	$2.17
991	Oshkosh	WI	2,817	$4.07
992	Pleasant Prairie	WI		$1.25
993	Poynette	WI	3,550	$4.17
994	Racine	WI	2,844	$6.00
995	Raymond	WI		
996	Reedsburg	WI		$4.25
997	River Falls	WI	x	$1.96
998	Saint Francis	WI	2,500	$4.00
999	Salem	WI		$5.00
1000	Sheboygan	WI	2,215	$3.00
1001	Shorewood Hills	WI	2,941	
1002	Silver Lake	WI	3,870	
1003	Slinger	WI	4,300	
1004	South Milwaukee	WI	2,964	$3.00
1005	Sun Prarie	WI		$5.00
1006	Superior	WI	1,907	$5.90
1007	Sussex	WI	3,897	$5.00
1008	Vernon	WI	6,904	$2.67
1009	Washburn	WI		$4.00

No.	Community	State	ERU	Monthly Fee
1010	Watertown	WI		$1.33
1011	Waupun	WI	3,204	$6.46
1012	Wauwatosa	WI	2,174	$3.50
1013	West Allis	WI	1,827	$4.95
1014	West Salem	WI	2,400	
1015	Weston	WI	3,338	$3.98
1016	Whitewater	WI	3,850	$3.33
1017	Wind Point	WI	3,857	
1018	Wisconsin Rapids	WI	2,620	$2.33
1019	Beckley	WV	x	$3.75
1020	Fairmont	WV		
1021	Morgantown	WV		$5.00
1022	Oak Hill	WV		$2.50

SUMMARY OF SWUF CREDIT PROGRAMS IN ILLINOIS					
	Credit Program Available	Runoff Quantity Credit	Water Quality Credit	Education Credit	Direct Discharge Credit
Normal	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Moline	*Yes*	*Yes*	*No*	*No*	*Yes*
Highland Park	*Yes*	*No*	*No*	*No*	*Yes*
Rolling Meadows	*No*	-	-	-	-
Rock Island	*Yes*	*Yes*	*Yes*	*No*	*Yes*
Morton	*Yes*	*Yes*	*No*	*No*	*Yes*
Bloomington	*Yes*	*Yes*	*No*	*No*	*Yes*
Tinley Park	*No*	-	-	-	-
East Moline	*No*	-	-	-	-
Freeport	*No*	-	-	-	-
Aurora	*No*	-	-	-	-

STORMWATER UTILITY FEE CREDIT PROGRAMS IN ILLINOIS

Normal

The maximum credit that can be received for an individual property is 50% except for those who qualify for the 100% Direct Discharge Credit as described below.

Types of Credits:

Runoff Quantity Credit – Level 1 (20% Credit) for new and existing properties which provide storm water detention for a 100-year storm event meeting these criteria:

- 100-year recurrence interval post-development peak flow shall not exceed the 3-year recurrence interval pre-developed peak flow.
- One vertical foot of freeboard for the design (100-year) high water level.
- Emergency spillway for storms exceeding the 100-year design.

Partial Level 1 Credit (50 year detention pond design) (10% Credit) for new and existing properties which provide storm water detention for a 50-year storm event meeting these criteria:

- 50-year recurrence interval post-development peak flow shall not exceed the 3-year recurrence interval pre-developed peak flow.
- One vertical foot of freeboard for the design (50-year) high water level.
- Emergency spillway for storms exceeding the 50-year design.

Runoff Quantity Credit – Level 2 (15% Credit) for properties that provide wet or dry detention facilities to address more frequent storm events meeting these criteria:

- Provide detention volume for the runoff produced by 0.75 inches of rainfall (first flush storm) and release this volume over a period not less than twenty-four hours.
- Provide detention volume for a 2-year recurrence interval 24-hour duration rainfall event and release this volume over a period not less than 36 hours. This volume shall be determined by calculating the runoff volume from a 2-year 24-hour hydrograph as calculated using the SCS Unit Hydrograph Method.
- For storms exceeding the 2-year magnitude, provide a defined outlet to the receiving drainage facility.

Properties draining to public storm water detention facilities are NOT eligible for a Runoff Quantity Credit.

Water Quality Credit (15% Credit)for properties that provide measures to improve the storm water quality that leaves the property:

- 10% BMP Credit for applicants who discharge a portion or all of their parcel runoff to structural or non-structural best management practices. Must demonstrate that the BMPs are designed to provide a minimum of 75% reduction in Total Suspended Solids as measured on an annualized basis.
- 5% NPDES Compliance Credit for industrial property owners who can demonstrate ongoing compliance with their NPDES Industrial Storm Water Discharge Permit.

Education Credit

- Public and private elementary schools will be allowed a credit of $2.50 per 3rd grade child each year. Schools must develop a lesson plan and teach their students about storm water

management issues. This satisfies the Town's requirement in their NPDES permit to provide a storm water quality education program to elementary school children.

Direct Discharge Credit

50% Direct Discharge Credit for developed properties within the Town of Normal that discharge their storm water directly to unincorporated areas.

100% Credit for Direct Discharge Credit applicants who discharge their storm water directly to unincorporated areas and who also hold an Industrial NPDES Stormwater Permit issued by the IEPA.

Moline

- Properties consisting of 100% vacant land do not have to pay stormwater utility fee.
- Properties which discharge to an approved stormwater retention system or which discharge 100% into Mississippi River or Rock River do not have to pay stormwater utility fee.
- A rate discount equal to the % you retain on your property is available with documentation provided by a P.E., topographical maps, etc.

Highland Park

Credits are awarded on an individual basis only to property owners whose properties do not impact the City's stormwater utility system.

Rolling Meadows

No credit system.

Rock Island

Direct Discharge Credit – 100% Direct Discharge Credit for properties which discharge all or a portion of their runoff directly to the Rock or Mississippi River.

Rate Reduction Credit – 25% Rate Reduction Credit for properties that control post-developed runoff rates for the two, ten and one-hundred year design storms to pre-development levels.

Additional Rate Reduction Credit – 10% Additional Rate Reduction Credit for properties which achieve further reduction of post-developed runoff rates for said design storms at least 20% below pre-development levels.

Additional Volume Credit – 5% Additional Volume Credit for those properties which provide at least 20% additional storage beyond what is required for the one-hundred year design storm.

Quality Credit – 10% Maximum Credit to be granted at a rate of 5% per use of approved Best Management Practices. Acceptable use of 2 or more approved BMPs will receive the maximum credit of 10%

NPC - $200 annual credit for properties which obtain/maintain a National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit. Proof of compliance is required.

Morton

No credits available for detached single family residential property.

The following credits are available to properties whose land use is other than detached single-family residential, including, but not limited to duplexes, multi-family with 3 or more units, institutional, commercial or industrial:

50% Rate Reduction Credit if no storm water runs off the site, up to and including the one hundred year design storm

40% Rate Reduction Credit for those properties that control the post-development peak rate of storm water runoff for the one hundred year design storm with a release rate less than or equal to a two year pre-developed runoff in accordance with the Village of Morton's storm water detention ordinance.

20% Rate Reduction Credit for those properties that control the post-development peak rate of storm water runoff for the fifty year design storm with a release rate less than or equal to a two year pre-developed runoff in accordance with the Village of Morton's storm water detention ordinance.

*This credit is not intended to be extended to single-family residential properties with their own individual or subdivision detention facility as required by the Village or Morton's storm water ordinance.

*Maximum aggregate credit for any individual property is 50% of its gross billing amount for the Storm Water Service Charge.

Bloomington

50% Rate Reduction Credit is available for those properties that control the post-development peak rate of storm water runoff for the one hundred year design storm with a release rate less than or equal to a three year pre-developed runoff in accordance with the City of Bloomington's Manual of Practice for the Design of Public Improvements.

25% Rate Reduction Credit is available for those properties that control the post-development peak rate of storm water runoff for the fifty year design storm with a release rate less than or equal to a three year post-developed runoff in accordance with the City of Bloomington's Manual of Practice for the Design of Public Improvements.

These credits are created for properties whose land use is other than single family residential, such as, but not limited to, multifamily with 3 or more units, institutional, commercial, business or industrial.

Single family residential properties served by a privately maintained regional detention facility may be eligible for a Rate Reduction Credit. It is not intended that this credit be extended to Single Family Residential properties with their own individual on-site detention facility.

Any entity which directly discharges to Sugar Creek, Skunk Creek, Pheasant Creek, Goose Creek or Kickapoo Creek without flowing through any portion of the Municipal Sewer System, and is arranged in such a manner that no surface flow from said property is discharged from it without first undergoing an NPDES permitted water treatment process approved by the Director of Engineering shall be eligible for a 100% Rate Reduction Credit.

Maximum aggregate credit for any individual property is 100% of its gross billing amount for the Storm Water Service Charge.

Tinley Park

No credit system.

East Moline

No credit system.

Freeport

No credit system.

Aurora

No credit system.

Stormwater Utility Fee Survey

Staff research indicates there are 11 Illinois communities with stormwater utility fees. The goal is to contact each of them to obtain the following information:

1. Stormwater Utility Fee Structure:
    - What does a property owner of a single-family dwelling unit pay monthly for the stormwater utility fee?
    - Is the fee for a single-family property a flat amount, i.e. does every single-family property owner pay the same amount? If not, what is rate and method used to calculate the fee for a single-family property?
    - What is the rate and method used to calculate the stormwater fee for a non-single-family property? If there are different rates and methods for each property use, that information will be collected and summarized.
2. Are the following property uses required to pay the stormwater utility fee?
    - Tax exempt / non-profits
    - Parks
    - Schools
3. What activities does the stormwater utility fee pay for?
    - Operation & Maintenance
    - Rehabilitation
    - Capital Improvements
    - Stormwater Quality Programs
    - Others
4. How much revenue does the stormwater utility fee generate on an annual basis?
5. What is the population of the community – 2010 census?
6. Once the stormwater fee was established, was "traditional" funding for stormwater reduced? (was the fee used to stabilize funding, or used to provide additional funding?)

Table 1
STORMWATER UTILITY FEE
EXPENDITURE PLAN
$2M RANGE

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
STORMWATER EXPENSES										
1. Operation, Maintenance and Rehabilitation (City Crews)	$ 694,000	$ 714,820	$ 736,265	$ 758,353	$ 781,103	$ 804,536	$ 828,672	$ 853,532	$ 879,138	$ 905,513
2. Storm Sewer Cleaning and Television (Contractual)	$ 556,000	$ 572,680	$ 589,860	$ 607,556	$ 625,783	$ 644,556	$ 663,893	$ 683,810	$ 704,324	$ 725,454
3. Storm Sewer Pipe and Manhole Repair (Contractual)	$ 506,000	$ 521,180	$ 536,815	$ 552,920	$ 569,507	$ 586,593	$ 604,190	$ 622,316	$ 640,986	$ 660,215
ADMINISTRATIVE EXPENSES										
1. Utility Fee Implementation Cost Recovery	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000		$ -	$ -	$ -	$ -
2. Billing Costs	$ 150,000	$ 154,500	$ 159,135	$ 163,909	$ 168,826	$ 173,891	$ 179,108	$ 184,481	$ 190,016	$ 195,716
3. Administrative Fees	$ 150,000	$ 154,500	$ 159,135	$ 163,909	$ 168,826	$ 173,891	$ 179,108	$ 184,481	$ 190,016	$ 195,716
4. Utility Fee Credits and Incentives	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477
TOTAL	**$ 2,256,000**	**$ 2,320,680**	**$ 2,387,300**	**$ 2,455,919**	**$ 2,526,597**	**$ 2,499,395**	**$ 2,574,377**	**$ 2,651,608**	**$ 2,731,156**	**$ 2,813,091**
$'s Available for Other Uses	$ 1,756,000	$ 1,808,680	$ 1,862,940	$ 1,918,829	$ 1,976,393	$ 2,035,685	$ 2,096,756	$ 2,159,659	$ 2,224,448	$ 2,291,182

NOTES:
1. Fiscal Years FY14 through FY22 assumes a 3% inflation.
2. Single Family - $58.66 per year

Table 2
STORMWATER UTILITY FEE
EXPENDITURE PLAN
$3M RANGE

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
STORMWATER EXPENDITURES										
1. Operation, Maintenance and Rehabilitation (City Crews)	$ 694,000	$ 714,820	$ 736,265	$ 758,353	$ 781,103	$ 804,536	$ 828,672	$ 853,532	$ 879,138	$ 905,513
2. Storm Sewer Cleaning and Television (Contractual)	$ 556,000	$ 572,680	$ 589,860	$ 607,556	$ 625,783	$ 644,556	$ 663,893	$ 683,810	$ 704,324	$ 725,454
3. Storm Sewer Pipe and Manhole Repair (Contractual)	$ 506,000	$ 521,180	$ 536,815	$ 552,920	$ 569,507	$ 586,593	$ 604,190	$ 622,316	$ 640,986	$ 660,215
4. Channel Maintenance	$ 339,000	$ 349,170	$ 359,645	$ 370,434	$ 381,547	$ 392,994	$ 404,784	$ 416,927	$ 429,435	$ 442,318
5. JULIE	$ 47,000	$ 48,410	$ 49,862	$ 51,358	$ 52,899	$ 54,486	$ 56,120	$ 57,804	$ 59,538	$ 61,324
6. Stormwater Quality (NPDES Permit Compliance)	$ 188,000	$ 193,640	$ 199,449	$ 205,433	$ 211,596	$ 217,944	$ 224,482	$ 231,216	$ 238,153	$ 245,297
7. Service Requests (Private Property Drainage Problems)	$ 131,000	$ 134,930	$ 138,978	$ 143,147	$ 147,442	$ 151,865	$ 156,421	$ 161,113	$ 165,947	$ 170,925
8. Master Plan Subdivision Detention Basins	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
ADMINISTRATIVE EXPENDITURES										
1. Utility Fee Implementation Cost Recovery	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ -	$ -	$ -	$ -
2. Billing Costs	$ 200,000	$ 206,000	$ 212,180	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
3. Administrative Fees	$ 200,000	$ 206,000	$ 212,180	$ 218,545	$ 225,102	$ 231,855	$ 238,810	$ 245,975	$ 253,354	$ 260,955
4. Utility Fee Credits and Incentives	$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551	$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477
TOTAL	**$ 3,211,000**	**$ 3,149,830**	**$ 3,241,325**	**$ 3,317,019**	**$ 3,407,530**	**$ 3,500,756**	**$ 3,496,778**	**$ 3,595,682**	**$ 3,697,552**	**$ 3,802,479**
$'s Available for Other Uses	$ 2,611,000	$ 2,534,830	$ 2,610,875	$ 2,689,201	$ 2,769,877	$ 2,852,973	$ 2,938,563	$ 3,026,720	$ 3,117,521	$ 3,211,047

NOTES:
1. Fiscal Years FY14 through FY22 assumes a 3% inflation.
2. Single Family - $83.49 per year

Table 3
ADDITIONAL STORMWATER MAINTENANCE & CAPITAL PROJECTS ($2M Range)

		FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
$'s Available for Other Uses		$ 1,756,000	$ 1,808,680	$ 1,862,940	$ 1,918,829	$ 1,976,393	$ 2,035,685	$ 2,096,756	$ 2,195,659	$ 2,224,448	$ 2,291,182	
ADDITIONAL PROJECTS	COST											
1. Additional Channel Maintenance (e.g. Boneyard 2nd St. Reach, Phinney Branch - Mattis to Scotsdale, etc.)	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,000,000
2. Washington Street West - Drainage Improvements	$ 8,700,000	$ 1,556,000	$ 1,608,680	$ 1,662,940	$ 1,718,829	$ 1,776,393	$ 377,158					$ -
3. Kaskaskia Watershed Master Plan	$ 200,000						$ 200,000					$ 200,000
4. Phinney Branch Channel Improvements (Windsor to Crescent)	$ 4,300,000						$ 1,258,527	$ 1,896,756	$ 1,144,717			$ -
5. Boneyard Creek Improvements - Phase 3	$ 7,300,000								$ 850,942	$ 2,024,448	$ 2,091,182	$ 4,966,572
TOTAL EXPENDITURES		**$ 1,756,000**	**$ 1,808,680**	**$ 1,862,940**	**$ 1,918,829**	**$ 1,976,393**	**$ 2,035,685**	**$ 2,096,756**	**$ 2,195,659**	**$ 2,224,448**	**$ 2,291,182**	
BALANCE		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	

NOTE:
1. Assumption was made that capital projects would be "pay as you go".

Table 4
ADDITIONAL STORMWATER MAINTENANCE & CAPITAL PROJECTS ($3M Range)

		FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	TOTAL
$'s Available for Other Uses		$ 2,611,000	$ 2,534,830	$ 2,610,875	$ 2,689,201	$ 2,769,877	$ 2,852,973	$ 2,938,563	$ 3,026,750	$ 3,177,521	$ 3,211,047	
ADDITIONAL PROJECTS	COST											
1. Additional Channel Maintenance (e.g. Boneyard 2nd St. Reach, Phinney Branch - Mattis to Scotsdale, etc.)	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,000,000
2. Washington Street West - Drainage Improvements	$ 8,700,000	$ 2,411,000	$ 2,334,830	$ 2,410,875	$ 1,543,295							$ -
3. Kaskaskia Watershed Master Plan	$ 200,000				$ 200,000							$ 200,000
4. Phinney Branch Channel Improvements (Windsor to Crescent)	$ 4,300,000				$ 745,906	$ 2,569,877	$ 984,217					$ -
5. Boneyard Creek Improvements - Phase 3	$ 7,300,000						$ 1,668,756	$ 2,738,563	$ 2,826,750	$ 65,931		$ 7,300,000
TOTAL EXPENDITURES		**$ 2,611,000**	**$ 2,534,830**	**$ 2,610,875**	**$ 2,689,201**	**$ 2,769,877**	**$ 2,852,973**	**$ 2,938,563**	**$ 3,026,750**	**$ 265,931**	**$ 200,000**	
BALANCE		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,911,590**	**$ 3,011,047**	

NOTE:
1. Assumption was made that capital projects would be "pay as you go".