AECOM

Final Report

Storm Water Utility Study
City of Greenfield, Wisconsin

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EXECUTIVE SUMMARY

Storm water management has historically developed around a reactive system designed to respond to flooding. As storm water programs have matured, the emphasis was modified to include the operation and maintenance of those systems and new capital improvement projects to proactively respond to flood potential for new development and in areas of existing development. More recently the EPA has required states to address the level of polluted storm water runoff.

The Wisconsin Department of Natural Resources (WDNR), in turn, promulgated NR 216 and NR 151, both unfunded state mandates, to address storm water quality issues. As a NR 216 community, the City of Greenfield no longer has the right to discharge polluted storm water to area streams without meeting certain requirements as dictated by NR 216 and NR 151 and the city now operates under a storm water discharge permit. One permit requirement is to achieve a 20 percent reduction in total suspended solids (TSS) (as compared to no controls) for "existing" development areas by 2008, and a 40 percent reduction by 2013. In response to this new water quality responsibility, the City of Greenfield recently developed a Storm Water Quality Management Plan. The plan is designed to understand current levels of storm water pollution (measured primarily TSS) and develop an approach to meet the mandated water quality requirements. That analysis concluded that the city is short of meeting the TSS reduction requirements and may have to expend in excess of $8 million dollars to achieve the required results.

Currently, the City of Greenfield's storm water management program consists of activities for engineering, sewer and drain repair and maintenance, ditch maintenance, street sweeping, equipment maintenance/rentals, capital improvements, and other related projects. As a result of new regulations, storm water costs are increasing. The city is projected to spend almost $600,000 on storm water related services in 2009 as detailed in Section 2 of this report. The challenge now is to develop a reliable funding mechanism to meet state and Federal requirements and improve storm water quality. The City utilizes several revenue streams to support their storm water management needs including grants, intergovernmental revenue sharing programs, general taxes, and to a limited extent fees and fines. Unfortunately, grants have become more competitive and available at lower funding limits and intergovernmental revenues have decreased significantly since 1995, thus putting more emphasis on taxpayers to fund the public service activities of the City. New tax levy limits further restrict the City's ability to add new costs to the tax levy.

An alternative to fully relying on these funding sources is a storm water utility. A storm water utility (user fee system) is an alternative funding mechanism being implemented throughout the State of Wisconsin. The strength of a utility is the shift from heavily relying on parcel assessments, which has no correlation to the storm water services provided, to a user fee system that fairly and equitably relates charges to each parcel based in their relative impact on the storm water system. A storm water utility operates similarly in many ways to other utilities, such as water and sanitary sewer/wastewater, where estimated use of the system is correlated to the cost of providing each parcel with a service. Storm water utility methodology and discussion is included in Section 3 of this report.

After reviewing the various rate methods available in a storm water utility, the current recommendation is to create a user fee that has two rate components, a base charge (BC) and an equivalency charge (EC). The BC would be charged to all properties within the City of Greenfield and is estimated to result in a quarterly charge of approximately $5.00. The EC would be charged only to properties within the City of Greenfield that are developed. The charge would vary depending on the extent of development as guided by the Equivalent Runoff or Residential Unit method. This method establishes the value of one (1) ERU as equivalent to the average impervious area of single-family residential properties within the City of Greenfield (established in this study as 3,630 square feet). Single-family residential properties are therefore allocated 1 ERU. The quarterly single-family residential charge would be approximately $10 per ERU, therefore, $10 per quarter. Duplexes as analyzed during this study would be allocated a slightly higher value of 1.1 ERUs, and all other developed properties have a unique ERU value established for them based on measured impervious area from aerial photographic measurement. Details on the methodology are contained in Section 4 of this report.

The authority to establish a storm water utility in the City of Greenfield is specifically identified in the State of Wisconsin Statues and does not require approval of the Wisconsin Public Service Commission. To enact these authorities, the city must adopt an ordinance that establishes the details of the utility. A rate resolution and credits resolution typically accompany the local adopting legislation. The user fee is then incorporated into an existing billing system such as the city sewer bill. Additional rate analysis and implementation details are included in Sections 5 and 6 of this report.

1.0 STORM WATER MANAGEMENT ISSUES

Storm water management issues can be generally grouped into two areas; water quantity and water quality. Each is impacted by regulations that are both internal to the city and external. Fortunately, flooding and conveyance related water quantity issues, are generally minor in the city. City of Greenfield Ordinances include local storm water management requirements for new development and redevelopment and also include requirements imposed by the Milwaukee Metropolitan Sewerage District through their Chapter 13 Rule governing storm water and watercourse management in their regulatory charge.

Water quality is regulated by the State of Wisconsin through State Statute NR 216 in the form of a storm water discharge permit and often referred to as an "NR 216" permit in reference to the State Statute enumeration. The program is administered by the Wisconsin Department of Natural Resources (WDNR).

1.1 Flooding and Conveyance Issues

The city staff keeps a log sheet of concerns from residents and business owners. Between 2000 and 2005, 118 storm water concerns were brought to the attention of the city. Many of these issues have been corrected, while others remain uncorrected. In some instances, it is not appropriate for the city to take action on drainage complaints that are not their direct responsibility.

1.2 Water Quality

Water quality problems occupy an increasingly prominent role in the public's awareness and in environmental legislation. Storm water discharges and other factors have a direct impact on the level of pollution in the rivers and lakes and can result in beach closings and degraded water quality of surface and ground water which is the source of drinking water. Recent studies have shown that runoff from urban and industrial areas typically contain pollutants that are harmful to humans and, at times, toxic to the environment. Pollutant levels in storm water have sometimes been found to exceed those in wastewater. Pollutants typically contained in storm water runoff include heavy metals, fertilizers, pesticides, herbicides, bacteria, nutrients, oils, and grease. Storm water from the City of Greenfield drains to the Kinnickinnic River, Menomonee River, Oak Creek, and the Root River.

The storm water permit from the WDNR (detailed in the following section) requires municipalities to implement best management practices (BMPs) that will improve water quality. In addition to this regulation, NR 151, which contains a set of water quality performance standards applicable to the majority of the State of Wisconsin, includes an additional provision for permitted municipalities that requires municipalities to estimate their contribution of nonpoint source pollutants to receiving waters and implement a system of BMPs that will provide a reduction in pollutants, measured through computer modeling as total suspended solids (TSS), of 20 percent by the year 2008, and 40 percent by the year 2013. This can require significant increases in operation and maintenance and most likely capital costs to achieve, especially for older urbanized areas such as Greenfield.

1.3 Storm Water Permit

In Wisconsin, the WDNR is responsible for carrying out the federal storm water management program (40 CFR, part 122) based on the 1987 amendment to the Clean Water Act. The WDNR developed an administrative code to implement the program (commonly referred to as "NR 216"). In addition to the larger cities (populations greater than 100,000), the state program includes other communities to be regulated by NR 216. Other categories of communities to be regulated under the NR 216 programs are those cities in the "Great Lakes Areas of Concern", and communities within priority watershed areas with populations greater than 50,000.

The WDNR has allowed communities to apply for their NR 216 permits as individuals or under a group permit. The City of Greenfield elected to be part of the Menomonee River Watershed Group permit

application with seven other communities as listed in Table 1-1. Some of the advantages of the group permit were cost savings (e.g. shared monitoring expenses) and time considerations (the WDNR has given group applicants an additional year to submit applications). The Southeastern Wisconsin Regional Planning Commission (SEWRPC) took the lead in preparing the group application. The permit was submitted by SEWRPC on February 11th, 2000 and permit coverage was implemented the first permit coverage period set to expire at Midnight on February 28, 2012.

TABLE 1-1
MENOMONEE RIVER WATERSHED GROUP APPLICANTS

MENOMONEE RIVER WATERSHED NR 216 APPLICATION MEMBERS
City of Greenfield
City of Wauwatosa
City of West Milwaukee
City of Brookfield
City of Germantown
City of Menomonee Falls
City of Butler
City of Elm Grove

Conditions of the storm water permit are listed in Table 1-2 as adapted from page 17 of the permit. In addition to the specified requirements, a community may be required to implement both nonstructural and structural BMP's necessary to achieve the required TSS reductions. Nonstructural BMP's include adoption and enforcement of erosion control, development and enforcement of construction and post-construction storm water management ordinances, development and implementation of a public information and education program, and can also include increased catch basin cleaning and street sweeping. Additional structural BMPs such as the construction or modification of detention basins or other water quality devices will also likely be required to achieve the TSS reductions.

TABLE 1-2
STORM WATER PERMIT COMPLIANCE SCHEDULE SUMMARY

PERMIT CONDITION	ACTIVITY	RESPONSIBLE PERMITEE(S)	DUE DATE
Public Education and Outreach - Part II.A	Submit public education and outreach program proposal	Individual / Group	September 30, 2008
Storm Water Monitoring - Part II.B	Submit monitoring project proposal	Individual / Group	March 31, 2008
Public Involvement and Participation - Part III.A	Submit public involvement and participation program proposal	Individual	September 30, 2008
Illicit Discharge Detection and Elimination - Part III.B	1. Submit illicit discharge ordinance	Individual	March 31, 2008
	2. Complete initial field screening	Individual	December 31, 2008
	3. Submit illicit discharge response procedures	Individual	September 30, 2008
Construction Site Pollutant Control - Part III.C	1. Submit construction site pollutant control ordinance	Individual	March 31, 2008
	2. Submit construction site inspection and enforcement procedures	Individual	September 30, 2008
Post-Construction Storm Water Management - Part III.D	1. Submit post-construction storm water management ordinance	Individual	March 31, 2008
	2. Submit long-term maintenance procedures	Individual	September 30, 2008
Pollution Prevention - Part III.E	Submit pollution prevention program proposal	Individual	June 30, 2008
Storm Water Quality Management - Part III.F	1. 20% reduction in total suspended solids, to the maximum extent practicable	Individual	March 10, 2008
	2. Submit evaluation of flood control structures	Individual	March 10, 2008
	3. Submit assessment of compliance	Individual	September 30, 2008
Storm Sewer System Map - Part III.G	Submit updated storm sewer system map	Individual	March 31 each year
Annual Report - Part III.H	Submit annual reports	Individual	March 31, 2008-2012

2.0 STORM WATER MANAGEMENT PROGRAM

The City of Greenfield has a number of program elements in place to properly manage storm water. Greenfield has five functional program elements that provide storm water management services: Administration, Engineering, Inspection Services and Zoning, Planning and Economic Development, and the Department of Public Works. The Department of Neighborhood Services (DNS) oversees these departments.

In the 2009 City of Greenfield budget, a Special Revenue Funds Budget titled the "Storm Sewer Fund" was identified with revenues and expenditures for the second half of the 2009 calendar year. Table 2-1 presents a summary of anticipated 2009 Storm Water Management Program Expenditures with both the itemized expenditure budget information as specified in the Storm Sewer Fund Adopted Budget and in the context of the whole calendar year.

Neither the Inspection Services and Zoning nor the Planning and Economic Development Departments were scheduled to receive any direct funding through the Storm Sewer Fund budget. Additionally, neither storm water discharge permit (NR 216) compliance activities nor storm water capital expenditures were specifically identified. Cost estimates for permit compliance and capital projects for 2009 presented in Table 2-1 are based on previous years' activities.

TABLE 2-1
STORM WATER MANAGEMENT PROGRAM EXPENDITURES

	PROGRAM ELEMENT	BUDGETED 2009 EXPENDITURE (1/2 YEAR)	PROJECTED 2009 FULL YEAR EXPENDITURE
2.1	**Administration**	**$ 19,277**	**$ 38,554**
	Accounting Charges	$ 8,347	$ 16,694
	Data Processing Charges	$ 5,349	$ 10,698
	Treasurer's Charges	$ 2,931	$ 5,862
	Postage and Printing	$ 2,650	$ 5,300
2.2	**Engineering**	**$ 26,928**	**$ 53,856**
2.3	**Inspection Services and Zoning**	**$ 0**	**$ 0**
2.4	**Planning and Economic Development**	**$ 0**	**$ 0**
2.5	**Department of Public Works**	**$183,515**	**$367,030**
	Storm Sewer Maintenance	$138,587	$124,000
	Equipment Rentals	$ 30,000	$ 60,000
	DPW (Admin)/DNS Charges	$ 13,928	$ 27,856
	Storm Sewer Misc. Expense	$ 1,000	$ 2,000
2.6	**Storm Water Discharge Permit (NR 216) Compliance**	**$ 0**	**$ 70,000**
2.7	**Capital Improvement**	**$ 0**	**$ 50,000**
	TOTAL PROGRAM EXPENDITURES	**$229,720**	**$579,440**

The following sections present more detailed information on the current and future storm water management program elements as summarized in Table 2-1.

2.1 Administration

Administrative staff provides support, on policy development, legal inquiries, and financial issues (accounting, auditing) affecting storm water management. Administrative staff is also responsible for utility billing and collection, budget review, grant administration, and issuing and administering licenses. Administration expenditures for 2009 were itemized for Data Processing, Treasurer, Accounting, and for postage and printing as shown in Table 2-1.

2.2 Engineering

The City Engineer's office provides the city with a full range of storm water related engineering activities including the engineering, management and inventory of streets and infrastructure networks (including storm water) throughout the city. In addition, Engineering also administers the Solid Waste/Recycling program, as well as Erosion Control permitting and inspecting. The Engineering Department is responsible for the administration of the infrastructure capital improvement activities of the city. The department also incurs program management costs to administer contracts, respond to complaints, apply for grants, schedule maintenance activities, coordinate solid waste and recycling collection, and various storm water review and related engineering activities. The Engineering Department is also responsible for storm water discharge permit (NR 216) compliance, discussed later in Section 2.6.

The Engineering Department has a staff of five (5). The positions include:

- City Engineer
- Administrative Assistant
- GIS Technicians(2)
- Engineering Technician

2.3 Inspection Services and Zoning

The Inspection Department is responsible for the inspection and enforcement of Building, Electrical, Plumbing, and HVAC State and Municipal codes. The responsibilities of this department include field inspections, issuance of the necessary permits, and educating the public. The inspections department conducts inspections to protect the property and personal safety of property owners and their neighbors. It assures that necessary and appropriate standards are met regarding the quality and safety of new building construction. The inspections department also works with Engineering to supply updates and building plans to include in the city's geographic information system (GIS).

On average for the last five (5) years, about 50 Erosion Control Permits were filed, generating approximately $5,000 in revenues per year. Most practices are inspected during the course of other necessary building inspections. Public concerns regarding storm water and drainage can be filed at City Hall in the Engineering Department. Since the Inspections Department receives fees for these services, no direct cost to the storm water program is included at this time.

2.4 Planning and Economic Development

The Planning and Economic Department encompass the activities of the Planning Commission. Private site development is coordinated through the Planning Department. As their assistance with storm water related services is minimal, no estimated cost to the utility is included at this time.

2.5 Department of Public Works

The Department of Public Works is responsible for cleaning, maintenance and repair of the city's storm sewer system. The Forestry Division works within the Department of Public Works with guidance from the Greenfield Tree Commission. The Director of Public Works is responsible for coordinating storm water management planning and activities such as scheduling and execution of street sweeping, solid waste/composting/leaf collection, and the maintenance and repair of the storm sewer system.

The Department of Public Works is staffed by twenty-seven (27) employees as follows:

- Director of Public Works
- Administrative Assistant to the Director of Public Works
- Assistant Director of Public Works
- Asset Coordinator
- Mechanics (2)
- Crew Leaders (3)
- Operator I (4)
- Operator II (14)

The administrative assistant within the DPW coordinates calls from the public and supports all department operations while writing over 4,400 work orders from a review of one year's activities. Out of these 4,400 work orders, 98 were for storm water related services. It was estimated that storm water services comprise approximately 20 percent of the DPW budget.

The Department of Public Works has a staff of about 27 of which approximately 20 percent work on tasks related to storm water including storm sewer cleaning, maintenance, and repair. This represents about 11,200 man hours per year. In addition, street sweeping/cleaning, catch basin cleaning, and leaf collection indirectly benefit storm sewer maintenance. The level of effort and staff required is outlined by task in Table 2-2.

TABLE 2-2
OPERATION AND MAINTENANCE
LEVEL OF EFFORT AND STAFFING REQUIREMENTS

TASK	CREW SIZE	PERCENT FULL-TIME EFFORT	FULL-TIME EQUIVALENT
Catch Basin Cleaning	2	50%	1
Storm Sewer Repairs	2	50%	1
Street Sweeping	1	50%	0.5
Leaf Collection	18	10%	1.8
Total			4.3

Various operation and maintenance efforts within the Department of Public Works related to storm water management are described in the following sections.

2.5.1 Maintenance of Storm Sewer System

The Department of Public Works is responsible for maintaining and repairing the city's storm water system. This includes the repair and maintenance of storm sewer mains, culverts, outfalls, manholes, catch basins, ditches, waterways, and other assorted features.

Storm sewers in the city vary from 6 to 91 inches in diameters. There are approximately 142.9 miles of storm sewer, including gravity mains and yard drains, in the city. Of the 142.9 miles of storm sewer, the city is responsible for approximately 93.7 miles (92.4 miles of gravity main and 1.3 miles of yard drain

sewers). The remaining 49.2 miles fall under the jurisdiction of the State, County or other private entities. The city performs storm sewer inspections on an annual basis. Storm sewer main line cleaning is performed as needed. Due to the advanced age and design of many city streets the DPW performs ditch cleaning services almost every work day between April and October.

There are a total of 9.5 miles of large box culverts, road culverts and driveway culverts in the City of Greenfield. Of the 9.5 miles, the city is responsible for 7.1 miles (1.7 miles of box culvert, 1.3 miles of road culvert and 4.1 miles of driveway culverts). The remaining 2.4 miles fall under the jurisdiction of the State, County or other private entities. Additionally, there are approximately 158 miles of ditches/waterways in the City of Greenfield.

The city is currently responsible for one storm water retention basin at Pondview Park. This basin is approximately three (3) acres in size.

Maintenance and repairs are completed as needed. In a review of one year's activities, eight (8) culverts and three (3) waterways/ditches were repaired and/or cleaned. A 5-person crew required 104 days to complete this work, which represents about two (2) full time employees.

2.5.2 Discharges, Inlets, Catch Basin and Manhole Cleaning and Repair

There are approximately 334 storm sewer discharges in the City of Greenfield. Of the 334 discharges, 152 of these are under the jurisdiction of the city.

There are approximately 739 inlet points in the City of Greenfield. These include pipe end sections, pipe ends, saddle inlets, yard drains, headwalls, and pipes with rip-rap. Of the 739 inlet points, 576 are under the jurisdiction of the city (30 pipe ends, 184 pipe end sections, 68 saddle inlets, 259 yard drains, 13 headwalls, and 22 pipes with rip-rap.

There are 3,700 catch basins in the City of Greenfield. Of the 3,700 catch basins, 2,611 are under the jurisdiction of the city.

There are 8,084 storm manholes in the City of Greenfield. Of the 8,084 storm manholes, 3,084 are under the jurisdiction of the city.

There are 95 junction chambers in the City of Greenfield. Of the 95 junction chambers, 82 are under the jurisdiction of the city.

The maintenance of the storm water system includes repairs to manholes including cover replacement and repair, catch basin cleaning and replacement. In a review of one year's activities, the city repaired approximately 48 catch basins and 6 manholes. Repairs average approximately two (2) days in length and are performed as needed during the construction season. A 2-person crew required 108 days to complete the repair work, which is the equivalent of almost one (1) full time employee.

2.5.3 Street Maintenance Garage

The street maintenance garage is where all DPW vehicles are parked and stored. The city has 50 vehicles of which a portion are partially to fully dedicated to storm water related functions. The Department of Public Works maintains all vehicles and also manages the city's Centralized Fueling Facility, which provides fuel for all municipally owned and operated vehicles.

The total vehicular worth of all DPW vehicles is approximately $3 million. The budget applied to storm water management was estimated based on a prorated valued developed by applying the vehicle value to the percent dedicated to storm water work. Table 2-3 lists the vehicles used, age, value, the percent time they are dedicated to storm water work, and the total value of all vehicles of a particular kind. Vehicles used for storm water in some capacity are valued at $1,181,000 based on the prorated value shown in

Table 2-3. Currently an annual equipment depreciation (rental) amount of $60,000 is budgeted for storm water related services.

TABLE 2-3
STORM WATER RELATED VEHICLE LIST

VEHICLE TYPE	NUMBER OF VEHICLES	AGE OF VEHICLES	ESTIMATED VALUE PER VEHICLE	PERCENT OF STORM WATER RELATED USE	PRORATED STORM WATER VALUE
Street Sweeper (36)	1	1993	$ 85,000	100%	$ 85,000
Vacuum Truck (56)	1	1990	$150,000	100%	$ 150,000
Tandem Dump Truck	4	1995, 2001	$120,000	40%	$ 192,000
Single Axle Dump Truck	12	1993-2001	$100,000	40%	$ 480,000
Back Hoe (69)	1	2003	$ 65,000	60%	$ 39,000
Utility Trucks (46, 58)	2	1988, 2000	$ 25,000	75%	$ 37,500
Gradall Excavator (47)	1	2000	$170,000	75%	$ 127,500
Volvo Excavator (39)	1	2000	$170,000	75%	$ 127,500
Total					$1,181,000

2.5.4 Street Sweeping/Cleaning

The Department of Public Works is responsible for the sweeping of Greenfield owned streets within the city limits. The goals of this activity are improved safety, economy, water quality, and community appearance. Discussions with city staff noted that street sweepers reach each curbed street three (3) times per year and each non-curbed street twice per year. In general, sweeping commences in late March and continues through October though climatic factors greatly influence the exact length of the street cleaning period.

On average a street sweeper covers one (1) mile per hour. There are approximately 48.2 miles of curbed streets and 76.5 miles of non-curbed streets. Each street sweeper requires a single operator. One (1) vehicle is used on a periodic basis to accomplish street sweeping/cleaning. Street sweeping costs about $50,000 per year including salaries, vehicles, and daily operational costs with scheduled replacement of vehicles every 15 years.

Based on the new storm water regulations there is the potential that this frequency may need to be increased in the future to aid in reducing total suspended solids (TSS) to meet required WDNR nonpoint source pollutant discharge reduction amounts. Estimated annual cost for this level of service could reach $300,000 annually or higher depending on the rate of operation. This may require additional staff and equipment and would likely need to be phased in over time.

2.5.5 Leaf and Yard Waste Disposal/Removal

Yard waste is prohibited from being placed in landfills due to changes in State law in 1991. This material is now diverted from municipal solid waste (MSW) sites and is being recycled. The term "yard waste" was defined to mean: leaves, grass clippings, brush, and miscellaneous yard waste.

Between April and November, the City of Greenfield solid waste contractor collects yard waste biweekly while collecting curbside recyclable materials. The Department of Public Works also administers a curbside leaf collection program in the fall, generally in October and November. Residents may also drop leaf waste at drop-off sites on specific dates in November and December. The city currently receives some grant funding from the State to offset the recycling costs and no recycling expenditure is currently allocated to the storm water budget.

2.5.6 Household Chemical Recycling

The Milwaukee Metropolitan Sewerage District allows Greenfield residents to utilize their Household Hazardous Waste Disposal Program. No portion of the cost of this program is currently allocated to the storm water budget.

2.6 NR 216 Compliance Costs

The city's storm water discharge (NR 216) permit includes a schedule of submittals and activities that require city resources to comply with this relatively new program. The focus of this permit program is to improve receiving water and ultimately drinking water quality by reducing pollution from storm water discharges in the city. Some current city activities such as catch basin cleaning and street sweeping provide a water quality benefit and have been funded by the city for years. Other items such as development of an information and education program, development and implementation of wet weather and dry weather (illicit discharge) monitoring programs are newer activities and require funding beyond what was traditionally expended by the city. The projected impact of these items on the city's storm water budget is detailed in the Cash Flow Analysis in Table 5-1.

2.7 Capital Improvements

The city is responsible for an extensive system of sewers, ditches, inlets, and other devices that convey store, and treat storm water runoff. No capital improvement program expenditures were directly identified in the 2009 Storm Sewer Fund Budget. New capital expenses directed towards water quality improvement such as streambank stabilization projects, detention facilities, and other related projects will likely need to be implemented in future years to meet the WDNR mandated 20 percent and 40 percent TSS reductions required under NR 151 as discussed previously in this report. Over $8 million of new potential water quality detention projects was identified in the recent City of Greenfield Storm Water Quality Management Analysis project. Because the city has yet to complete the an implementation plan associated with further these identified projects, a capital expenditure budget of $50,000 was estimated for 2009 to initiate further investigation and design of the identified projects, and is projected to grow in subsequent years to cover the cost of designing and constructing these projects. As these projects are ultimately designed and implemented, a program component will need to be identified to fund annual and periodic maintenance efforts (such as dredging of sediments). Future estimated capital improvement expenditures are shown in Table 5-1.

3.0 STORM WATER USER FEES

3.1 Introduction

The accumulated runoff from all parcels within the city must be managed in an organized and systematic manner if owners are to enjoy the full-expected use of their property. The burden of the management of storm water discharged to public infrastructure is the responsibility of the city. Construction and maintenance of facilities to properly manage storm water is an expensive and long-term obligation. Each parcel that is tied to this system benefits from this investment.

Storm water management efforts do not usually compete well with other important programs for city funds, resulting in budget competition for the money that is available through the tax revenue structure. In addition, recent concerns over the potential reduction or elimination of the state shared revenue and tax levy controls will further hurt the city's efforts to meet the growing obligations of storm water management. The city will have to increase expenditures for storm water in order to meet the city's storm water management obligations and responsibilities. These include:

- First, perform the activities that will be required to comply with the NR 216 storm water permit.
- Second, purchase land and implement capital projects to further manage storm water quality to meet WDNR TSS reductions.
- Third, continue to maintain the existing infrastructure of the drainage system and mitigate flooding and water quality concerns.

The existing system of funding storm water management with property taxes has little to no relationship to storm water problems created by a parcel or the costs associated with the services to safely collect, convey, treat, and dispose of storm water runoff. Storm water user fees are a funding alternative developed to allocate the cost of storm water management based on:

- The relative cost of services received, and
- The impact of storm water runoff from each land parcel in the storm water management service area.

In addition, a user fee system provides a dedicated long-term funding that is necessary for community-wide control and management of storm water.

The concept of the storm water utility was developed in the western U.S. in the mid 1970's. Since this time, over 300 municipalities (Bellevue, WA; Miami, FL; Louisville, KY; Denver, CO; Sacramento, CA; and Austin, TX, are just a few examples) have adopted ordinances to initiate a storm water utility. User charge systems for funding storm water management programs are relatively new in Wisconsin. In 1994, the City of Lake Delton approved legislation establishing the first storm water utility in Wisconsin. Since that time, the Cities of West Allis, New Berlin, Milwaukee, and Greendale and the Village of Hales Corners are a few of the more than sixty Wisconsin communities that have established utilities to date.

3.2 Effects of Impervious Cover

Several factors influence the amount, rate, and quality of storm water runoff generated by a particular parcel of land including:

- parcel size,
- soil type,
- topography,
- land use,
- position in the watershed, and
- the density (intensity) of parcel development.

Homes where we live, roads that we drive on, businesses where we shop, and places where we work, create impervious area that increases the volume and speed of storm water runoff and often is contaminated with pollutants that are washed off impervious surfaces. Urbanized growth within the city replaces permeable soil and vegetative cover with impervious surfaces, such as homes, businesses, industries, sidewalks, parking lots, and roads. This increases the volume of storm water runoff and decreases infiltration.

Because impervious area is one of the most important parameters used in storm water planning and design, rate structures developed for storm water utilities typically focus on the amount of impervious area to determine the relative contribution to the storm water management problem for each utility customer. In addition, impervious area is easily quantified. Therefore, it has become accepted as a means to equitably allocate the cost of storm water management. A parcel's impervious area is made up of surfaces that have either been compacted or covered with a material (including structures) that is highly resistant to the infiltration of water.

Impervious area not only increases the volume of storm water runoff, but it also increases the rate (cubic feet per second) at which runoff leaves the site if unmitigated. Impervious areas such as concrete and asphalt are very efficient at moving runoff. They are hydraulically smooth. Grassed or otherwise vegetated areas resist the movement of water (hydraulically rough), holding back runoff from leaving the site and allowing it to infiltrate into the soil.

Research in flood/storm water analysis used in storm water planning and design has shown that the amount of impervious area is one of the most important parameters determining runoff characteristics. Research indicates that streams generally show the adversity of development when impervious area in the watershed reaches ten (10) percent. This is equivalent to a watershed with residential development of two-acre lots. Most indicators of stream quality shift to poor once the impervious area in the watershed reaches around 25 to 30 percent, which is equivalent to medium density residential lots. It is the amount of impervious area that is the primary driving factor for storm water facilities such as storm sewers, ditches, and detention ponds. Therefore, the city's storm water management program has been developed around the planning, designing, construction, and maintenance of infrastructure for managing the runoff from impervious areas.

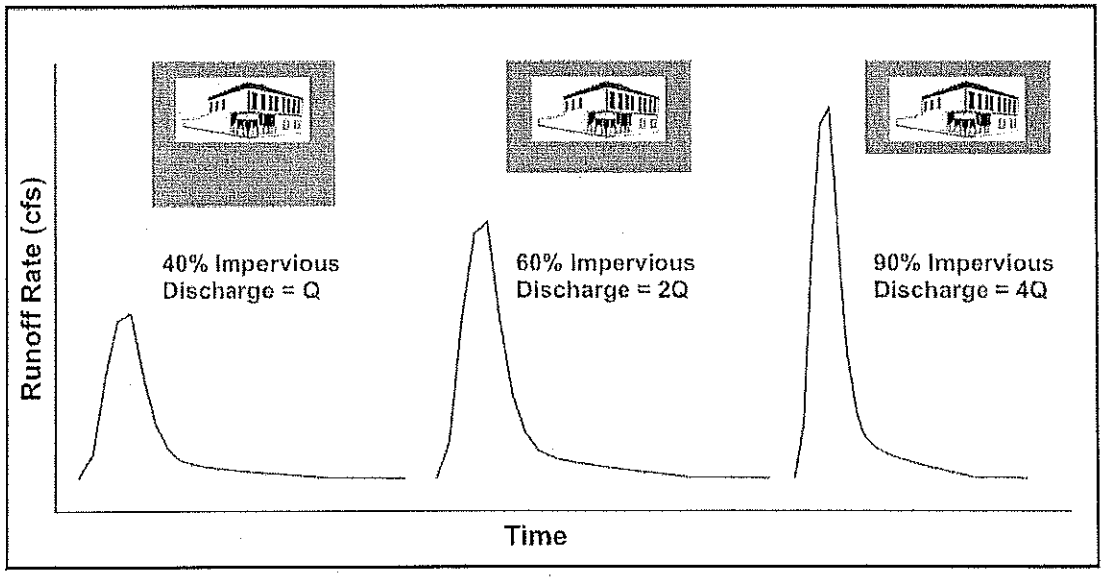
3.3 Effects of Parcel Density

The increase in impervious area and the effect of parcel density (measure of how intensely the parcel is developed) can result in the total annual runoff volume increasing by as much as 200 to 300 percent for residential development to over 500 to 600 percent for commercial/industrial development. With more intense the development comes greater the runoff. Increased impervious area reduces the amount of rainfall soaking into the ground to replenish the groundwater. One of the many affects is the "drying up" of small streams fed by groundwater.

This concept is illustrated with three (3) lots, each with the same amount of impervious area, as shown in Figure 3-1. The lots vary in the amount of grassed (pervious) area. Moving from left to right, the percent of impervious area increases as the amount of pervious grassed surfaces goes down. As runoff discharges from each lot, the grassed areas slow down the runoff from the impervious areas down, lowering the rate at which it leaves the site and enters the City's storm water management system. It is not uncommon for the changes in discharge rates to be twice, four (4) times, or more for sites with high percentages of impervious areas over those with more grassed pervious areas.

Most storm water management facilities are designed to handle a certain peak discharge rate of storm water runoff. Therefore, the intensity of development can be an important factor in determining the impact on the city. Greater amounts of impervious area mean greater volume of storm water runoff, and greater percent of impervious area means higher runoff peaks. Both result in the demand for a higher level of services to properly collect, convey, store, treat, and dispose of storm water runoff from these sites.

FIGURE 3-1
IMPACT OF THE INTENSITY OF DEVELOPMENT ON PEAK RUNOFF RATES



3.4 Unit of Measure

The unit of measure used to determine the relative impact to the storm water management system of a parcel of land is the Billing Unit. The Billing Unit is often referred to as an Equivalent Runoff or Equivalent Residential Unit (ERU). An ERU is typically defined as the average impervious area of a single-family (or other residential based dwelling unit) and includes impervious surfaces such as patios, driveways, sheds, and the like. The ERU base unit is often chosen for the user fee system because it contains the largest group of customers and one that is fairly uniform in size. Additionally, the cost of maintaining storm water facilities for single-family parcel does not vary significantly. Therefore, this group provides a good base for comparing the runoff potential for other developed parcels. Some municipal storm water utility rate structures modify the ERU by incorporating factors such as land area, percent of impervious area, pollutant factors, slope, and other parameters.

3.5 Fairness and Equity

Fairness and equity of the storm water user fee system is an advantage to all rate payers. Historically, communities have paid for storm water management with ad valorem tax revenues. Ad valorem taxes are based on property value and the tax status of the parcel owner (exempt/nonexempt), neither of which is related to storm water runoff or the water quality of runoff. Storm water user fees, on the other hand, are generally based on a parcel's relative storm water contribution but can be composed of multiple charge components.

The storm water customers who generate larger amounts of storm water runoff pay proportionally more than other customers. There is a high correlation between the impervious area used to establish the rate structure for a storm water user fee system, and the quantity and often quality of storm water runoff. This correlation is measurable and therefore, to some extent, easier to understand and more controllable for the customers and illustrates the concept of an equivalency charge (EC) where equal areas of imperviousness are charged the same (unless mitigated – see the discussion on credits later in this report). Decisions to add new impervious areas (or to remove areas) can now be weighed against the capital costs to develop those areas and the long term fee impact associated with those areas.

When accounting for storm water management costs, equity is achieved among the rate payers by basing the storm water utility fee on the user's relative runoff contribution and the cost associated with the established level of service provided by the city. This approach is consistent with other types of user fees in that the fee is based on the rate of use (potable water), or generation rate (solid waste or sanitary sewerage). Like other user fees, the rate is independent of the user's distance from the facility providing the service such as a well, treatment plant, landfill, or detention pond.

In many utilities (water, wastewater, and storm water), there is a base charge (BC) for all customers and in some cases, another rate structure for users with additional services. For example, a parcel owner may be charged a flat base charge for the first 6,000 gallons of water consumed or the first 32-gallons of garbage picked up or merely to reflect the availability of a service or a base level of service regardless of the quantity of service provided. Or a base charge may be implemented to recover administrative and other costs that are not as directly impacted by activities on a parcel. The base charge is one method to simplify rate structures while balancing complete equity with the need to keep the administration costs to a minimum.

Additional services are often reflected by a special charge (SC) to only specific properties that are impacted by a particular set of circumstances that deem it necessary to include an additional rate component. For storm water, this could be an additional charge to an area that has exceptionally great needs or cost when compared to the revenue generated from the service area. An example of this could be a regional storm water management facility that is implemented to serve a specific area where it is felt that it is more equitable to allocate some or all of the cost only to those served and benefited by the facility. The SC can be based on the same methodology used to develop the EC, or in a different manner if it is considered more equitable.

3.6 Expected Benefits

The user fee system strives to allocate program costs to each of these classes equitably according to: 1) a user's relative impact (quantity, quality, or both factors) on the storm water management system; and 2) the services received. The many services received by both developed and undeveloped landowners in a comprehensive storm water management program results in a variety of direct and indirect benefits including:

- Compliance with the conditions of the NR 216 storm water permit.
- Reduced non-point source runoff pollution.
- A community that is more informed on the problems caused by storm water runoff.
- Enhanced water quality in area rivers, streams, and lakes.
- Improved health of stream biology.
- Improved maintenance of existing infrastructure.
- Maintenance of environmentally sensitive lands.
- A community-wide approach to flood control and drainage.

Under the storm water user fee system, some of the costs of storm water management are typically redistributed from the single family residential homeowner to the commercial, industrial, and tax exempt customers when compared to an equivalent level of service based on financing through taxation. This more accurately reflects the second group's greater contributions to the problems and costs of providing storm water management.

4.0 RATE STRUCTURE DEVELOPMENT

The rate structure must be developed in a fair and equitable manner. Charges levied against the customer must be representative of the cost the city incurs in providing services to that customer. The city is given the authority to levy storm water charges by state statute. The Wisconsin Public Service Commission (PSC) is not involved in the review or approval during the development of a storm water utility, unlike many other utilities, but can become involved in challenges to the utility.

Rate structures for the storm water utility are developed around two (2) themes. The first theme is the "user pays" concept and the second theme involves the balancing of simplicity and equity.

As a user fee system, the rate structure for the storm water utility asserts that the fairest rate structure is one that recovers costs incurred from the burden placed upon the system by the user. Burden is measured in terms of the magnitude of the runoff volume, rate, and quality from a user's parcel into the city's system. The rate structure must reflect the concept that the greater the burden imposed on the system, the more the individual customer pays.

One possible rate structure would consider every conceivable factor that might be found to influence the volume, rate, or water quality of runoff generated by a parcel. However, such a design would be expensive to develop and administer due to the data requirements. The key is to strike a balance so that enough factors are considered to be fair, while simplifying the administration to make it practical to maintain.

4.1 Steps for Developing Rate Structure Components

Rate structures for storm water utilities are tailored to reflect the characteristics of the parcels within a community and the services provided. The City maintains parcel information in a database managed by the City Assessor. Information in the database includes Parcel Tax ID, parcel address, owner address, assessment data (land value, improvements value, sale price and date, etc), parcel description, and other information such as building square footage. The City Assessor provided existing parcel counts and valuations for this utility analysis.

Developing rate structure components is a 2-step process. Step one (1) asks which group of customers should pay for what services. This is called the "cost apportionment" step. The second step is the "parcel apportionment" step, where the basis for allocating the cost to each parcel is determined.

Storm water utilities offer a wide range of services: flood mitigation, water quality protection, and system maintenance, just to name a few. Not all of these services are necessarily provided evenly throughout the service area of the storm water utility. Rate structures should consider the variation in costs of services one area might have over another (cost apportionment). For instance, in less developed, more rural areas, the storm water system is relatively simple, being comprised of a network of ditches and culverts discharging into lakes and streams. In contrast, more urban areas may have a more complex network of ditches, culverts, storm sewers, and detention ponds. However, the greater distance between customers may result in a longer system to be maintained per customer, making it just as costly as it is to maintain the smaller but more complex urban system or, when reviewing the revenue generation of each area, it may be that the amount of revenue generated is equitable when compared to the need. This method of apportionment is often referred to as "Service Areas". Service Areas can be managed through use of a special charge (SC) designation or as a rate modifier to the equivalency charge (EC). Based on a review of city services, growth patterns, and other factors, the use of service areas and the SC rate component does not appear necessary at this time.

Conversely, some services may be more system-wide, such as administration, engineering, and compliance with the city's permit requirements and are more removed from parcel based activities and therefore more equitably shared equally throughout the municipality and are often reflected in a base

charge (BC). Several of the City of Greenfield's storm water management expenditures appear to fit this situation.

Parcel apportionment focuses on developing a standard billing unit for determining each customer's share of recoverable costs that are more impacted by parcel based activities and is often reflected in the establishment of the equivalency charge (EC). The EC is typically based on the standard Equivalent Residential or Runoff Unit (ERU) developed for each municipality. An ERU is a measure that serves as a common index to compare runoff generated by each utility customer, as discussed in section 3.

4.2 Base Charge (BC) Rate Component

Reviewing the current and proposed expenditures of the City of Greenfield for storm water management services, a base charge (BC) rate component would be appropriately applied to all parcels within the City of Greenfield regardless of the level and type of development. The BC is designed to reflect the fact that all parcel owners benefit from the storm water management activities of the city, that all parcels contribute some level of storm water runoff (quantity burden) and pollution (quality burden), and that some city storm water management expenditures such as administrative, permitting, and other components are more removed from parcel based activities (and impervious area) and therefore more equitably shared equally throughout the municipality.

The BC for any parcel would be 1.0 times the rate established for the BC (in other words, all customers receive the same charge). Reviewing five (5) year projected expenditures applicable to this rate component, the estimated BC rate is approximately $5 per quarter.

4.3 Equivalency Charge (EC) Rate Component

Many of the services that are currently provided by the city increase in direct response to the amount of impervious area. Impervious area, more than other parameters (soil, topography, etc.), influences the volume of storm water runoff leaving the site. Unless mitigated, as the amount of impervious area increases and the percent of impervious area increases, the peak discharge rate of storm water also increases. Both of these factors result in larger facilities, increased demand for maintenance, and generally increased pollution. Therefore, the recommended rate structure for the EC should be based on the impervious area of an individual parcel.

The billing unit used to estimate a parcel's relative impact (burden) on the city's storm water management program is the ERU. An ERU is defined as the average impervious area of a single-family home in the City of Greenfield. The single-family parcel (or customer) is the basis of comparison because: 1) this customer class is fairly uniform as to the magnitude of the burden to the city's storm water management program; and 2) it is the largest single customer class. Assigning each single-family customer the equivalent of one ERU greatly simplifies the administration of the program and reduces operating costs. The analysis of the amount of impervious area on a single-family parcel in the City of Greenfield included the measurement of a statistically significant number of single-family residential parcels to determine an average square footage of impervious area. The measurement includes roofs, driveways, patios, walks, and other like surfaces within the parcel. It does not include sidewalks, alleys, and roadways within the city right-of-way (Figure 4-1).

Impervious area is obtained from measuring aerial photography in a geographic information systems (GIS) environment. Impervious area is defined as any area covered with a layer of material that significantly reduces or completely impairs the ability to absorb rainfall. This includes areas paved with concrete, asphalt, compacted gravel or earth, and areas covered with a structure. The actual ERU was determined to be 3,630 square feet by measuring 375 single-family parcels.

There were 11,740 parcels in the City of Greenfield comprising 6,140 acres of land (not including right-of-way areas) at the end of 2008 per tax records and other informational sources. Of the 11,740 parcels in the city, there are approximately 11,481 developed parcels in the city. Table 4-1 summarizes the results

of an analysis of the parcels in the City of Greenfield using available data and assuming an impervious area ERU of 3,630 square feet.

The rate structure can be simplified for administrative purposes by treating customers as groups rather than individuals. However, this only works when customers within the same classification have similar runoff impacts and for whom the cost of providing services is similar.

Three generalized customer classifications are proposed at this time and include:

- Single-family
- Duplex
- Other Developed

4.3.1 Single-Family Parcels

Parcel records from the end of 2008 report 8,233 single-family residential parcels in the City. Based on a sample set of 375 parcels, an average ERU value of 3,630 square feet has been calculated. All single-family customers are therefore assigned 1.0 ERU to their parcel by definition. Therefore, there are 8,233 ERUs attributed to single-family customers.

The EC charge for any single-family parcel would be 1.0 ERU times the rate established for the EC. Reviewing five (5) year projected expenditures applicable to this rate component, the estimated EC rate is approximately $10 per quarter.

4.3.2 Duplex Parcels

There are 448 duplexes in the City of Greenfield. The average impervious area of a duplex is typically slightly larger than a single-family home. A sample set of duplex properties was measured for impervious area and compared to the value established by the single-family developed ERU value. The average impervious area of a duplex based on a statistically significant sample set of 136 duplex parcels is 3,967 or approximately 110 percent the value of a single family home. Using this analysis, duplex customers would be assigned 1.1 ERUs to their parcel. Therefore, there are about 493 ERUs attributed to duplex customers.

The EC for any duplex parcel would be 1.1 ERUs times the rate established for the EC. Reviewing five (5) year projected expenditures applicable to this rate component, the estimated EC rate is approximately $10 per quarter and therefore the full equivalency charge would be 1.1 times $10 per quarter or $11 per quarter.

4.3.3 Other Developed Parcels

Other developed parcels include all other developed parcels, businesses, industries, schools, hospitals, churches, and government facilities. For the purposes of this study, large residential properties (apartments and development of 3 or more units) are included in the non-residential parcel analysis. Additionally, based on a recent challenge to an existing utility, it is recommended that condominium properties be treated in the same manner. This methodology develops a unique storm water charge for each parcel based on the total impervious area of the development. This algorithm calculates the storm water charge by taking the total impervious area on the parcel and dividing it by the equivalent impervious area of an ERU (where one ERU is equivalent to 3,630 square feet). For example, as shown in Figure 4-2, a commercial development with a 18,770 square foot building and 28,494 square feet of parking has a total of 47,264 square feet of impervious area. This development would be charged 13.0 ERUs (47,264/3,630). The EC for this example would be 13.0 ERUs times the rate established for the EC. Using the same projected $10 per quarter results in a charge of 13.0 ERUs x $10 per quarter per ERU = $130 per quarter.

Three Family
As there are only six (6) three-family properties in the city, all six parcels were measured directly. They range in size from about 1,500 square feet to over 9,000 square feet. Given this wide variability and the small number of total parcels these customers would be charged directly based on their impervious area (similar to commercial and other developed parcels). There are about seven (7) ERUs attributed to three (3) family customers.

Commercial
There are 563 developed commercial and multi-family residential parcels in the City of Greenfield comprising of just over 1,027 acres. Four (4) family and larger multi-family residential parcels are considered by the City of Greenfield to be commercial in nature. Characteristics of these properties vary widely across the City in the type and size of the development. There are about 7,530 ERUs attributed to commercial customers.

Condominiums
Condominium developments generally have similar impervious area and runoff characteristics as multi-family residential developments. The main difference between a condominium parcel and a multi-family parcel is the method of ownership. Multi-family parcels generally have only one (1) owner, while condominiums are owned by the occupant/owner of each dwelling unit in the development and have common areas under shared ownership. Therefore, the method of calculating the storm water charge for the condominium customer is recommended to be the same as the other developed customers, but with one variation. The variation is that each owner will be charged an equivalent share of the total ERUs calculated for the entire development. For example, assuming a 10-unit condominium complex, each condominium unit would be charged one-tenth of the total number of ERUs measured for the entire complex.

There are 2,140 condominium owners on 101 condominium complexes in the City of Greenfield comprising of 262 acres. Condominium complexes comprise about 1,382 ERUs.

Manufacturing
Using the same method described for the commercial properties, there are seven (7) industrial parcels that comprise 10 acres. Manufacturing parcels comprise about 75 ERUs.

Tax Exempt and Institutional
Tax-exempt parcel includes churches, schools, parks and other governmental parcels, and other institutional parcels. There are 84 developed tax-exempt parcels of varying sizes. The tax-exempt and institutional parcels make up about 1,668 ERUs collectively.

TABLE 4-1
ERU ESTIMATES

LAND USE DESCRIPTION	NO. OF PARCELS	AREA (ACRES)	PERCENT IMPERVIOUS	IMPERVIOUS AREA (SQ. FT.)	ERUS
Residential					
Single family	8,233	2,955		-	8,233.0
Two family	448	119		-	492.8
Other Developed					
Three Family	6	2	25.9%	25,521	7.0
Condominium	2,140	262	44.0%	5,017,095	1,382.1
Commercial/Multi-family (4 units & up)	563	1,027	61.1%	27,335,529	7,530.4
Manufacturing	7	10	61.2%	272,768	75.1
Tax Exempt					
Exempt local	18	69	18.6%	557,419	153.6
Exempt county	4	179	9.7%	754,361	207.8
Exempt state	1	29	13.9%	178,757	49.2
Exempt federal	1	1	89.5%	40,735	11.2
Exempt other	60	714	14.5%	4,522,441	1,245.9
Total Tax Exempt	**84**	**993**	**14.0%**	**6,053,713**	**1,667.7**
Undeveloped Land	259	771	0.0%	0	0.0
Other(undefined) & Vacant Land					
Total All Parcels	**11,740**	**6,140**		**38,704,625**	**19,388.2**

FIGURE 4-1
IMPERVIOUS AREA ERU CALCULATION FOR SINGLE – FAMILY PARCELS

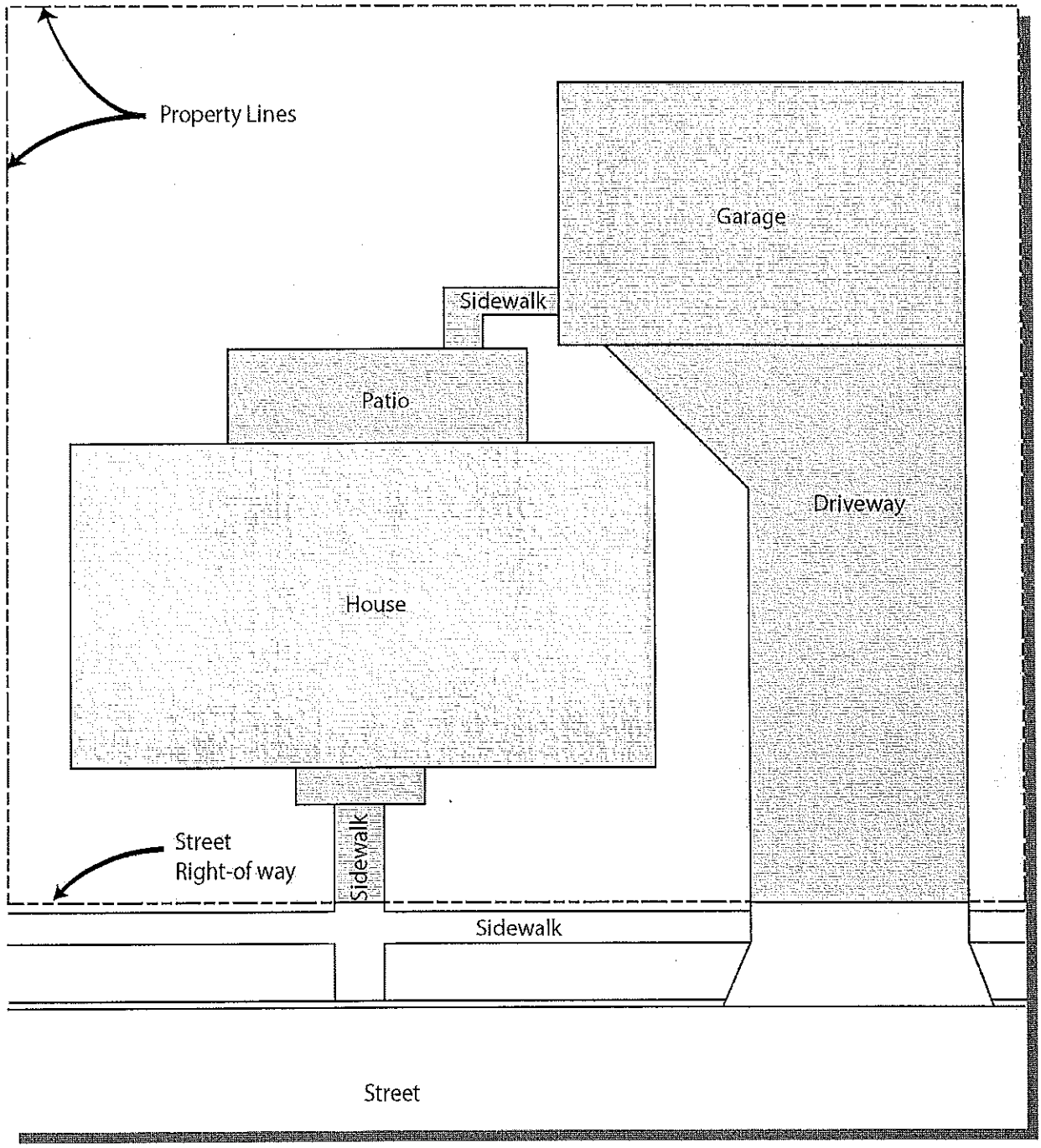
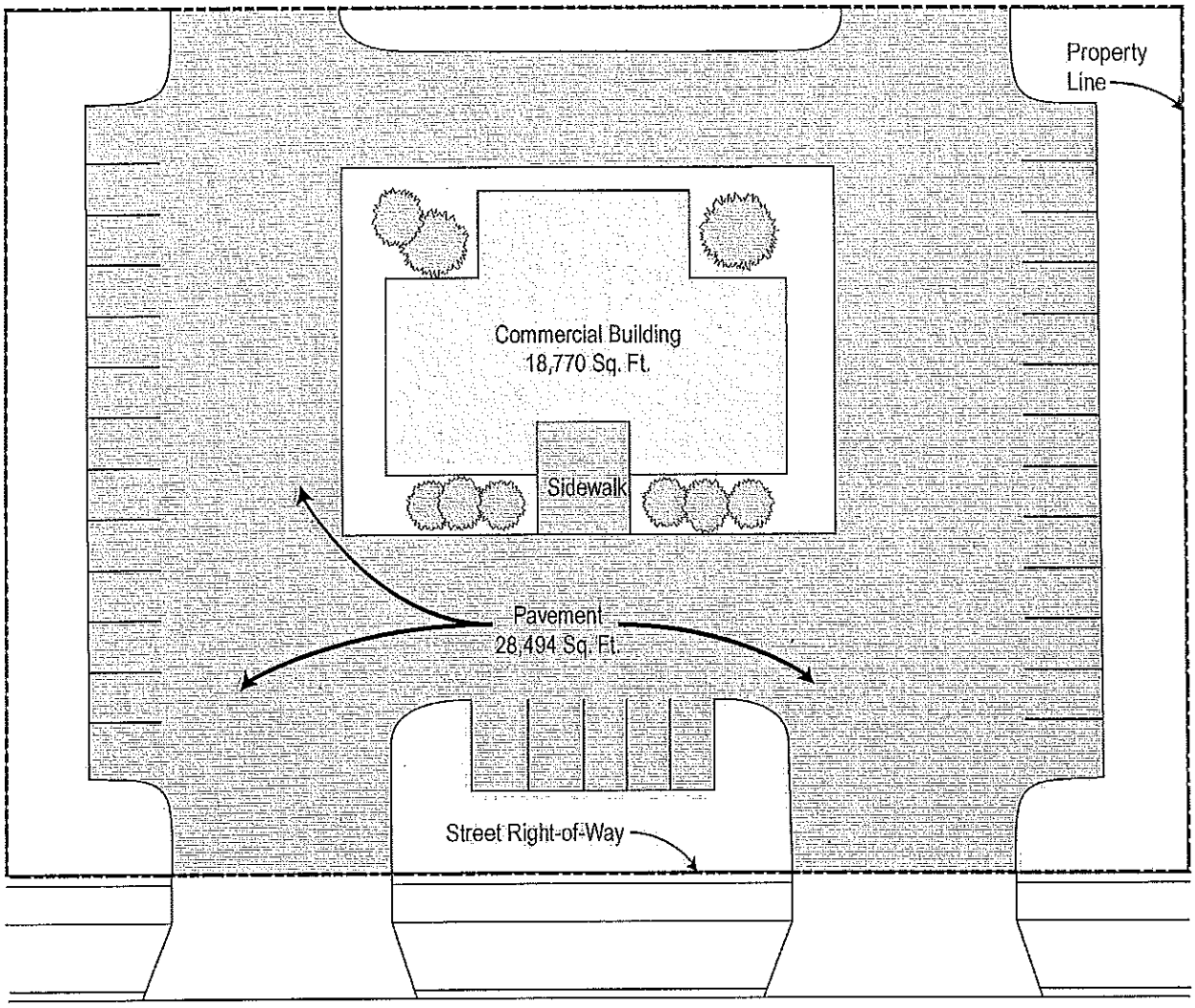


FIGURE 4-2
IMPERVIOUS AREA ERU CALCULATION
FOR OTHER DEVELOPED PARCELS



4.3.4 Undeveloped Parcels

Undeveloped
Undeveloped lands include open space, undeveloped commercial/residential parcels, and other (undefined) parcels. There are 259 parcels comprising 771 acres. These lands were not included in the EC analysis as they did not have any significant impervious areas.

4.4 Special Charge (SC) Rate Components

As discussed previously, rate structures should consider the variation in costs of services one area might have over another. Examples such as rural areas versus urban areas that may receive considerably different levels of service or areas that require atypical expenditures (such as a major detention basin or project to serve a particular area where sharing the full cost city-wide does not seem appropriate). These situations can be managed through use of a special charge (SC) designation or as a rate modifier to the equivalency charge (EC). Based on a review of city services, growth patterns, and other factors, the use of service areas and the SC rate component does not appear necessary at this time.

4.5 Exemptions/Exclusions

To maintain fairness and equity, municipal (city, state, county) parcels and any other parcel in the city should be included in the storm water utility to the extent possible. In the past, the Wisconsin Department of Transportation has made it known that they can receive (and pay) for services to their buildings and other areas where services are provided except for the Interstate Highway system, where they are not given any authority to pay for any fees associated with the roadway system.

Drainage facilities associated with road right-of-ways are major components of the city's storm water management system. During heavy rain events, the road helps to safely convey storm water and in-fact temporarily becomes part of the city's storm water management system. However, because these are publicly held properties, they are not included in direct impervious area measurements associated with individual parcels.

4.6 Credits

Credits could be given in those situations where the actions of a customer result in a savings to the city, where the city wants to create an incentive for customers to behave in a certain way, or where site specific conditions result in a customer not receiving all of the available services.

Private water quality ponds paid for and maintained privately may get partial credit for a portion of their storm water fee. Any credit will require that the owner sign a maintenance agreement with the city to assure that the facility will function as designed.

Site specific conditions can include riparian land owners where some or all of their parcel drains directly to a waterway not owned or maintained by the city, and therefore that customer is not receiving all the services of the city and may receive partial credit for a portion of their storm water fee. Additional discussion about credits is presented in Chapter 6, Implementation.

4.7 Potential Annual Revenue Projections

As it currently stands, the City of Greenfield appears to be in a position to develop a storm water utility (user fee) that would initially be composed of a base charge (BC) component that would be allocated equally to all properties in the City of Greenfield and an equivalency charge (EC) component that would be allocated to all developed properties based on their amount of impervious surface where one (1) ERU in the City of Greenfield is equivalent to 3,630 square feet of impervious area. The special charge (SC) component is initially planned for use.

The current estimated BC charge rate is $5 per quarter per parcel. Revenue generated by the BC would range from about $48,500 to $58,500 per quarter. This is equivalent to $194,000 to $234,000 per year. The variance is because there are two (2) ways that the BC can be applied to condominium owners. On the low end of the range, the assumption is that the condominium development would be charged a single $5 per quarter and on the high end of the range, the assumption is that every OWNER (individual Tax ID) would receive the a $5 per quarter base charge. The final methodology could be a mix of

methods depending on how the sewer utility bills are sent (assuming the charge is placed on the city sewer bill).

The current estimated EC charge rate is $10 per quarter per ERU where ERUs are assigned to each developed parcel as discussed in Section 4.3. The 19,388 ERUs identified in Table 4-1 representing all customer classes in the City of Greenfield is based on an analysis that is a few years old. It is reasonable that this value will have grown as a result of new development and re-development in the city. For the purpose of the following analysis, it will be assumed that the current number of ERUs available is 19,500. It is also reasonable to assume that some amount of these units will not ultimately generate full revenue for the storm water utility because of credits or other conditions. Assuming that roughly about ten percent of the potential billable units (say 2,000 ERUs) are ultimately unavailable for revenue generation, it is reasonable to assume that a potential range of billable ERUs would be between 17,500 and 19,500 (in round numbers).

Table 4-2 illustrates the potential revenue that could be generated for EC rates ranging from $1.00 per ERU per month ($12.00 per year) to $5.00 per ERU per month ($60.00 per year) for the estimated range of 17,500 to 19,500 projected available ERUs. The average monthly ERU rate in the State of Wisconsin is approximately $51.50 (APWA August 29, 2008).

TABLE 4-2
ESTIMATED ANNUAL EC REVENUE

MONTHLY EC RATE ($/ERU/MO)	QUARTERLY EC RATE ($/ERU/QUARTER)	ANNUAL EC RATE ($/ERU/YEAR)	ESTIMATED ANNUAL EC REVENUE (17,500 – 19,500 ERUS)
$1.00	$3.00	$12.00	$ 210,000 - $ 234,000
$2.00	$6.00	$24.00	$ 420,000 - $ 468,000
$3.00	$9.00	$36.00	$ 630,000 - $ 702,000
$4.00	$12.00	$48.00	$ 840,000 - $ 936,000
$5.00	$15.00	$60.00	$ 1,050,000 - $ 1,170,000
$6.00	$18.00	$72.00	$ 1,260,000 - $ 1,404,000

5.0 RATE ANALYSIS

5.1 User Fee Calculation

The components of a storm water management utility program that must be funded are: 1) administration; 2) planning and engineering; 3) operation/maintenance; 4) regulatory/enforcement; and 5) capital improvements. A five-year phased implementation plan and cash flow analysis is presented in Table 5-1 based on the estimated storm water management program costs.

There are three (3) potential rate components to fund the program as presented previously in Section 4. These three (3) rate components are the base charge (BC), equivalency charge (EC), and Special Charge (SC). At this time, only the BC and EC are proposed for use and initial rates would be established through a Common Council Resolution. The SC can be established as needed at anytime through a Common Council Resolution.

An initial BC rate of $5 per parcel per quarter ($20 per parcel per year) is suggested based on an evaluation of five (5) years of expenditures for administrative, management (engineering and public works/DNS), street sweeping, and storm water discharge permit related services.

An initial EC rate of $10 per ERU per quarter ($40 per ERU per year) is suggested based on an evaluation of five (5) years of expenditures for the other storm water management expenditures, including capital improvement projects.

5.2 Rate Analysis

The cash flow analysis presented in Table 5-1 uses the aforementioned BC and EC rates of $5 and $10 quarterly. This would result in a combined rate of $15 per quarter, $60 per year, for single-family residential customers to cover the costs of the City's storm water management program. Rates in the cash flow analysis were set so that there would be no fluctuation in either rate component charge for the five (5) years of the program. The net balance at the end of each year will be carried over to the next year. Table 5-1 conservatively assumes no growth in the city's total number of ERUs and includes an estimated amount of ERUs deducted for credits.

5.3 Inflation and Costs

Annual expenditures are shown to have a growth of three percent (3%) per year to account for inflation. The City may finance the cost of capital improvements each year as an annual borrowing (bonding) and spread the cost of those capital projects out over a multi-year period or "pay as you-go", reflecting actual cost as they occur an building cash reserves for larger projects. Table 5-1 reflects only a 'budget' amount for water quality related capital projects and does not name any specific project. At this time, there is no impact based on bonding for capital projects where debt service payments would be paid for out over a number of years from revenue generated by the user fees.

5.4 Other Revenue Sources

Common sources of additional funds include grants, tax incremental financing (TIF), special assessments, general funds (taxes), interest, fines, and fees. Many utilities continue to rely on these and other sources of funding to defray the cost of capital improvements and other storm water elements. It is recommended that the City continue to explore and utilize these additional funding methods, especially grants, to supplement the revenue generation potential of a storm water utility. Table 5-1 assumes some small interest from cash reserves and delinquent bills. The only other revenue sources (other than annual carry-over) are grant revenue and general fund revenue in 2009.

6.0 IMPLEMENTATION

Implementation and integration of a storm water user fee system would require the following five (5) actions:

1. Adopt an ordinance establishing the user fee system.
2. Establish procedures to bill and collect the user fee revenues.
3. Establishing a credit program.
4. Integrate the new storm water funding mechanism into the existing city systems.
5. Public Education Program Implementation.

6.1 Storm Water User Fee Ordinance

A storm water user fee ordinance establishes the user fee system as the principal funding mechanism for the city's storm water management program. Establishing a storm water utility does not require approval by the Public Service Commission. The ordinance outlines the structure for computing the fees for each of the customer classifications and specifies procedures for collecting fees and dealing with delinquent bills.

Nonpayment must be addressed in the ordinance. In most communities, the unpaid balance becomes a lien against the parcel in the same way that unpaid water bills become a lien against the parcel. It is important to have and enforce a policy on the non-payment of fees. A fair method for customers to appeal the fee charged against them must accompany this policy.

The responsibilities and authorities of staff that would run the fee system and related services are specified in the ordinance. Certain duties and authorities, such as setting the Billing Unit charge rate or adjustment of fees, may also be described in the ordinance but rates are typically set by an accompanying resolution.

6.2 Billing and Collection

The storm water fee is typically added to existing utility bills issued for water and wastewater/sanitary sewer service charges. The City of Greenfield has an established sanitary sewer billing system. It is currently the intent of the city to add any approved storm water utility fee to the city's existing sewer/water billing system. Customers not currently receiving a sewer bill would receive a bill with only a storm water fee assessed.

6.3 Utility Credit Program

The city's storm water management system has been constructed and maintained for the health and safety of everyone in the city. The city's storm water management program is a city-wide responsibility. Credits, if awarded, should be based on the avoided cost (direct cost savings) to the city's storm water management program or in those cases where a customer is not receiving all/some of the services. Credit should be awarded on a case-by-case basis.

Utility rates are established to cover the following component costs of the city's storm water management program:

- Administration
- Engineering and Planning
- Operation/Maintenance
- Regulatory Conformance and Enforcement
- Capital Improvements

The fact that storm water systems are constructed in fulfillment of a regulatory requirement is typically not sufficient justification for granting credit. This includes the storm water discharge requirements of the City of Greenfield and storm water permitting required under the WDNRs NR 216 storm water permitting program and Milwaukee Metropolitan Sewerage District's Chapter 13 rule. However, these factors can be considered when establishing a credit program.

In communities where ordinances require the construction of storm water facilities (usually ponds), the intent is to maintain the status-quo and not to correct existing drainage problems that would reduce the capital improvements required by the city.

Credit should be considered only if the system constructed results in:

- The city having to perform maintenance less frequently, or
- The city being able to avoid/downsize construction of a city-identified capital improvements project, or
- Private facilities are oversized by either managing storm water runoff to city standards from off-site properties or are more restrictive than required by the city's storm water ordinance (with prior approval of the city).

The city should adopt a system of granting credits following the criteria and procedures listed below:

1. The applicant must provide documentation that demonstrates that the credit is warranted.
2. Existing or proposed storm water management systems must be properly designed, constructed, and maintained in accordance with all appropriate regulations.
3. There should be a maintenance agreement between the city and the applicant/owner.
4. The amount of the credit should be relative to the corresponding service to the maximum extent practicable. Guidance on credit limits and requirements should be established at the onset of the program.
5. Continuing credit should be based on a periodic demonstration on the part of the applicant that the private storm water management system is being operated and maintained properly.
6. Credits should be considered for riparian owners (based on recent court cases in the State of Wisconsin) only for cases within the city where receiving waters do not include maintenance or other expenditures within the storm water management program.
6. Credits should be considered for customers who are served by sewer systems that are not owned or managed by the city.

6.4 Maintenance of Utility

A storm water database requires continual updating. New development, redevelopment, and changes in a non-residential parcel's impervious area must be recorded in a timely manner. In many communities, the tracking of this information starts when a building permit is issued or other events take place. The confirmation of the information should be included as a normal part of the city's inspections.

A logical place to track changes and store the supporting documentation for the storm water fee would be in the city's GIS. The city's GIS can maintain more detailed information than is typically available within utility billing software programs. The City Engineering Department can have the GIS coverages and databases updated at the time that a project comes in for a building permit/site plan review or other event. Reports can be generated from GIS and passed on to the utility billing division that is responsible for maintaining the utility billing records. This gives control of the information to those in city government who are responsible for it. It also makes all of the detailed information for any given customer's parcel available to anyone needing it.

As the storm water user fee system is put into place, each of the involved departments will have to familiarize its staff with the concepts, procedures, and practices of the utility. Some communities have found a "dry run" of the new tasks useful. For inspections, this may involve defining a quick checklist for impervious area changes and familiarizing staff with the checklist and how the information is to be

communicated. The city should decide how to allocate account numbers to storm water-only accounts, if necessary. The city will need to develop the data structures and data rules for the new storm water fee database to ensure all the necessary data is obtained and tracked properly. The initial establishment of this data should involve test runs and procedure refinement. The city must determine the person, entity, or department ultimately responsible for overseeing the exchange of information to ensure that the new system is properly maintained.

6.5 Public Education

Implementing any new program or procedure requires good communication among staff, elected officials, and the public at large (both citizens and commercial businesses). This is especially true when discussing storm water services which largely go unnoticed in communities and is largely misunderstood, if understood at all. It is essential that the issues concerning storm water and the need to adequately fund this program are clearly conveyed to the community.

Fairness and equity of a storm water utility needs to be stressed and it needs to be recognized that this type of funding mechanism affects a shift in how and who is charged for storm water related services. While in general and in a very real sense, this is economically beneficial to individual residents who generally see a decrease in their allocation of storm water charges under this new system, they currently are not fully aware of what they are paying because it is buried in their overall tax bill. And if many residents benefit in a reduction in fee, that means that others will see an increase. This needs to be recognized and conveyed. Businesses with large impervious areas will pay proportionally more for these services. Tax exempt properties (churches, government, and schools) will now pay a fee where no fee was paid before since these charges are currently on the tax bill. This is similar to what happened to sanitary sewer services when they came off the tax bill and went to a user fee format in the past.

Table 5-1
City of Greenfield: Storm Water Management Program
Storm Water Utility Cash Flow Analysis

Category							2009 Storm Sewer Fund - Partial Year	2009 (2) Year 1	2010 Year 2	2011 Year 3	2012 Year 4	2013 Year 5	5-year Total Annual Cost	5-Year (09-13) Average Annual Cost
REVENUE														
Base Charge (BC) Billing Units (Based on Road Imp. Area and Parcels)	ERUs =	5,345	Parcels =	9,836			9,836	9,836	9,836	9,836	9,836	9,836		
	Quarterly BC Rate (per Parcel)				$	5.00								
Annual BC Stormwater Fee($/Parcel)	Annual inflationary increase multiplier:					0%	$10.00	$10.00	$20.00	$20.00	$20.00	$20.00		
Billing Units (ERUs based on ERU value of 3,630)	Annual ERU growth factor					0%	19,500	19,500	19,500	19,500	19,500	19,500		
Credits							2,000	2,000	2,000	2,000	2,000	2,000		
Available Billing Units (after Credits)	Quarterly ERU Rate				$	10.00	17,500	17,500	17,500	17,500	17,500	17,500		
Annual EC Stormwater Fee ($/ERU)	Annual inflationary increase multiplier:					0%	$20.00	$20.00	$40.00	$40.00	$40.00	$40.00		
Storm Sewer Service (Stormwater Utility) Revenue (Assumes 1/2 year in 2009)							$448,360	$448,360	$896,720	$896,720	$896,720	$896,720		
General Fund							$0	$229,720	$0	$0	$0	$0		
Interest Income							$3,263	$3,263	$6,500	$6,500	$6,500	$6,500		
Interest - Delinquent Bills							$500	$500	$1,000	$1,000	$1,000	$1,000		
Bad Debt - Unpaid Bills							$0	$0	$0	$0	$0	$0		
Grant Revenue							$0	$35,000	$0	$0	$0	$0		
Total New Annual Revenue							$452,123	$716,843	$904,220	$904,220	$904,220	$904,220		
Carry Over From Previous Budget							$0	$0	$137,403	$274,352	$309,470	$227,514		
Total Available Annual Revenue (1)							**$452,123**	**$716,843**	**$1,041,623**	**$1,178,572**	**$1,213,690**	**$1,131,734**		
EXPENSES														
Administration														
Accounting Charges							$6,349	$10,698	$21,396	$11,350	$11,690	$12,041	$67,174	$13,435
Treasurer's Charges							$2,931	$5,862	$11,724	$6,219	$6,406	$6,598	$36,808	$7,362
Data Processing Charges							$8,347	$16,694	$33,388	$35,421	$36,484	$37,578	$159,566	$31,913
Postage & Printing							$2,650	$5,300	$10,600	$11,246	$11,583	$11,930	$50,659	$10,132
Subtotal							$19,277	$38,554	$77,108	$64,235	$66,162	$68,147	$314,207	$62,841
Engineering														
Engineering Charges							$26,928	$53,856	$55,472	$57,136	$58,850	$60,615	$285,929	$57,186
Subtotal							$26,928	$53,856	$55,472	$57,136	$58,850	$60,615	$285,929	$57,186
Inspection Services and Zoning														
(Not Currently Planned for Funding)							$0	$0	$0	$0	$0	$0	$0	$0
Subtotal							$0	$0	$0	$0	$0	$0	$0	$0
Planning and Economic Development														
(Not Currently Planned for Funding)							$0	$0	$0	$0	$0	$0	$0	$0
Subtotal							$0	$0	$0	$0	$0	$0	$0	$0
Department of Public Works														
DPW (Admin)/DNS Charges							$13,928	$27,855	$28,692	$29,552	$30,439	$31,352	$147,891	$29,578
Storm Sewer Maintenance (3)							$113,587	$227,174	$233,989	$241,009	$248,239	$255,686	$1,206,098	$241,220
Storm Sewer Misc Expense							$1,000	$2,000	$2,060	$2,122	$2,185	$2,251	$10,618	$2,124
Street Sweeping/Cleaning							$25,000	$50,000	$51,500	$53,045	$54,636	$56,275	$265,457	$53,091
Equipment Rentals							$30,000	$60,000	$61,800	$63,654	$65,564	$67,531	$318,548	$63,710
Subtotal							$183,515	$367,030	$378,041	$389,382	$401,064	$413,095	$1,948,612	$389,722
NR 216 Permit Required Stormwater Management														
Education Program								$7,000	$7,210	$7,426	$7,649	$7,879	$37,164	$7,433
Public Involvement and Participation Program								$3,000	$3,090	$3,183	$3,278	$3,377	$15,927	$3,185
Illicit Discharge Program (assumes 38 major outfalls)								$25,000	$25,750	$26,523	$27,318	$28,138	$132,728	$26,546
Wet Weather Monitoring								$15,000					$15,000	$3,000
Pollution Prevention Program													$0	$0
Stormwater Quality Management (SLAMM, Pond Retrofit Analysis, Riparian Property Analysis)													$0	$0
Stormwater Pond Inspection and Maintenance								$10,000	$10,300	$10,609	$10,927	$11,255	$53,091	$10,618
Permit and annual report costs								$10,000	$10,300	$10,609	$10,927	$11,255	$53,091	$10,618
Subtotal							$0	$70,000	$56,650	$58,350	$60,100	$61,903	$307,002	$61,400
Capital Improvement														
Principal and Interest Payments													$0	$0
Road Project Stormwater Elements								$0	$0	$0	$0	$0	$0	$0
Street Sweeper													$0	$0
New Water Quality Related Projects								$50,000	$200,000	$300,000	$400,000	$500,000	$1,450,000	$290,000
													$0	$0
													$0	$0
Subtotal							$0	$50,000	$200,000	$300,000	$400,000	$500,000	$1,450,000	$290,000
Annual Totals							$229,720	$579,440	$767,271	$869,103	$986,176	$1,103,761	$4,305,751	$861,150
End of Year Balance								**$137,403**	**$274,352**	**$309,470**	**$227,514**	**$27,972**		

Notes:

(1) Estimated 2009 Partial Year Storm Sewer (Utility) Fund revenue is lower than the initally budgeted amount of $525,763 because of Rate Charge Methodology Recommended Changes made by City Staff.
(2) Full Year 2009 storm water program shown for comparison to future years. Future year expenditures include an annual inflationary increase of 3%
(3) New Budget for 2009 for Storm Sewer Maintenance assumed to include 50% of annual street sweeping costs. This would then equal the $138,587 shown in Storm Sewer Fund Budget line item.

APPENDIX A

Draft Storm Water Utility Ordinance

Ordinance No. _____

AN ORDINANCE TO CREATE THE CITY OF GREENFIELD STORM WATER UTILITY

WHEREAS, the Common Council of the City of Greenfield has determined that it is necessary and appropriate to create a storm water utility; and

WHEREAS, the Common Council is vested with authority to create such a utility by Chapters 62 and 66 of the Wisconsin Statutes, including, but not limited to the following statutes: Sections 66.0621, 66.0627, 66.0809, and 66.0821; and this ordinance is adopted pursuant to that authority; and

WHEREAS, the Common Council has found that the management of storm water and other surface water discharges within and beyond the City of Greenfield is a matter that affects the health, safety and welfare of the City, its citizens and businesses, and others in the surrounding area. Failure to effectively manage storm water affects surface water runoff, creates erosion of lands, damages businesses and residences, and creates sedimentation and other environmental damage in the City Greenfield. In addition, storm water management can affect the sanitary sewer utility operations of the City by, among other things, increasing the infiltration and inflow to the sanitary sewer.

NOW THEREFORE, at a regular/special meeting of the Common Council of the City of Greenfield, held on the _____ day of _____, 2009, a quorum of the members of the Common Council being present and a majority voting in favor thereof, the Common Council does hereby ordain as follows:

(1) Chapter 31 of the Municipal Code of Ordinances is created to read as follows:

Chapter 31: STORM WATER UTILITY

31.00 Findings and Necessity.

The City Council finds that the management of storm water and other surface water discharges within and beyond the City of Greenfield is a matter that affects the health, safety and welfare of the City, its citizens and businesses, and others in the surrounding area. Failure to effectively manage storm water affects the sanitary sewer utility operations of the City by, among other things, increasing the infiltration and inflow to the sanitary sewer. In addition, surface water runoff creates erosion of lands, damages businesses and residences, and creates sedimentation and other environmental damage in the City Greenfield. In order to protect the health, safety and welfare of the public, the City of Greenfield is exercising its authority to establish a Storm Water Utility for storm water management services. The City is acting under the authority of Chs. 62 and 66, Wis. Stats., including, but not limited to the following [State] statutes: §§ 62.04, 62.11, 62.16, 62.18, 66.0621, 66.0627, 66.0809, 66.0811, and 66.0821.

31.01 Operation and Director.

The Storm Water Utility will be operated as part of the Engineering Department. The operation of the Storm Water Utility shall be under the supervision of the Common Council. The director of the Storm Water Utility will be the City Engineer.

31.02 Authority.

The City, acting through the storm water utility, may without limitation due to enumeration, do all those acts permitted to a storm water utility under Wis. Stats. Sections 66.0621, 66.0627, 66.0809, and 66.0821 including the following:

(1) Acquire, construct, lease, own, operate, maintain, extend, expand, replace, clean, dredge, repair, manage and finance such facilities as are deemed by the City to be proper and necessary for storm and surface water management. These facilities may include, without limitation due to enumeration, surface and underground drainage facilities, sewers, watercourse, retaining walls, ponds, streets, roads, ditches and such other natural or manmade facilities as will support a storm water management system.

(2) Undertake operations or activities, or provide any services deemed by the City to be proper and necessary for storm and surface water management; and

(3) Maintain compliance with all regulatory requirements for storm and surface water management.

31.03. Definitions.

For the purpose of this Ordinance, the following definitions shall apply: words used in the singular shall include the plural; words used in the present tense shall include the future tense; the word "shall" is mandatory and not discretionary: the word "may" is permissive. Words not defined herein shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster's Dictionary.

Appropriate Fee. Any or all of the fee components as established by the Common Council.

Director. The City Engineer or his/her designee.

Developed Parcel. A parcel shall be considered developed pursuant to this Ordinance if it has measurable impervious surfaces of at least 182 square feet.

Dwelling Unit. Any residential space identified for habitation by the City Building Code.

Equivalent Runoff Unit (ERU). The statistical average horizontal impervious area of a representative sample of developed "single-family" properties within the City of Greenfield.

Impervious Area or Impervious Surface. A horizontal surface that has been compacted or covered with a layer of material so that it is highly resistant to infiltration by rainwater. This includes, but is not limited to streets, roofs, sidewalks, parking lots and other similar surfaces as well as semi-impervious surfaces such as compacted gravel, stone or clay.

Multifamily Parcel. Any residential lot or parcel identified for habitation with three or more dwelling units under single ownership including manufactured home parks and apartments.

Other Developed Parcel. Any developed lot or parcel that is not a single-family or two-family (duplex) parcel including, but not limited to, transient rentals (such as hotels and motels), commercial, industrial, institutional, governmental, parking lots, and other properties containing impervious surfaces.

Residential Development. Any developed lot or parcel exclusively for residential purposes including, but not limited to, single-family homes, two-family (duplex) homes, manufactured homes, condominiums, and multifamily apartment buildings.

Single-Family Parcel. Any residential lot or parcel identified for habitation with exactly one dwelling unit.

Two-Family (Duplex) Parcel. Any residential lot or parcel identified for habitation with exactly two dwelling units.

Undeveloped Parcel. Any lot or parcel that has not been altered from its natural state by the addition of impervious surfaces of not more than 182 square feet.

31.04. Applicability.

This ordinance is applicable to all lands, lots or parcels within the City of Greenfield and lands outside the City of Greenfield by written agreement approved by the Common Council which include the acceptance of storm water utility fees as established from time to time pursuant to the terms of this ordinance.

31.05. Customer Classification.

For purposes of imposing the storm water charges, all applicable lands, lots and parcels shall be assigned a customer classification by the Director.

(1) *Customer Classification Establishment.* The following four (4) customer classifications are established:

(a) Single-Family
(b) Two-Family (Duplex)

(c) Other Developed
(d) Undeveloped

(2) *Customer Classification Modification.* The City Common Council may, by ordinance, modify the aforementioned customer classifications or establish additional customer classifications to provide a fair and reasonable distribution of the costs of the Storm Water Utility.

31.06. Charge Methodology.

The following Charge Methodology is established for the purpose of imposing storm water charges:

(1) *Charge Component Establishment.*

There shall be three charge components that may be used to share the costs of the storm water Utility. These charge components are:

(a) Base Charge (BC). The BC may be imposed on all lands, lots and parcels in the City. The Base Charge will be designed to reflect the fact that all parcels benefits from the storm water management activities of the City and/or that all parcels contribute storm water runoff (quantity burden) and pollution (quality burden) that must be managed by the City. The BC may be designed to collect the administrative costs and other appropriate expenses of the storm water utility operations and maintenance. The BC may be based on the size of a parcel, impervious area, or other method.

(b) Equivalency Charge (EC). The EC may be imposed on all parcels with impervious area. The EC will be designed on an ERU comparative basis.

(c) Special Charge (SC). The SC may be imposed on parcels that are in an area specially benefited and served by a particular storm water management facility or service. This charge will be developed to reflect the relative burden of each parcel in a particular area that may not be appropriate to allocate to all parcels throughout the City. The SC will be calculated on an ERU comparative basis unless dictated otherwise by resolution or ordinance.

(2) *Charge Component Modification.* The City Common Council may, by ordinance or resolution, modify the aforementioned charge components or establish additional charge components to provide a fair and reasonable distribution of the costs of the Storm Water Utility.

(3) *ERU Establishment.* The value one (1.0) ERU is established to be equivalent to 3,630 square feet of impervious area.

(4) *Impervious Area Determination.* The Director shall be responsible for determining the impervious area of parcels as necessary to establish and maintain this storm water utility, based on the best available information, including, but not limited to, data supplied by the City Assessor, aerial photography, the parcel owner, tenant or developer. The Director may require additional information as necessary to make the determination.

(5) *Storm Water Fees.* The City Common Council may, by resolution, set or adjust the Base Charge, Equivalent Charge and the Special Charge fees to recover the cost of the

storm water management program. Storm water fees will be kept on file with the City Clerk and the Director. The fee for any individual parcel shall be the sum of all applicable charge components.

(6) *Billing Methodology.* The fee applicable to a parcel as established hereunder shall be billed to the parcel owner in the same manner as the sanitary sewer fees. The parcel owner shall be responsible for payment of the Storm Water Utility fee. A bill may be sent to a parcel that is not receiving other services from the City of Greenfield. Late payment, failure to pay, and checks returned for insufficient funds shall be subject to the same penalties as established and documented by the City of Greenfield for other fees. Unpaid charges may be assessed as a lien against the parcel pursuant to Sections 66.0821(4)(d) and 66.0809, Wisconsin Statutes.

31.07. Adjustments and Credits.

The City Common Council shall adopt, by resolution the criteria for providing adjustments and credits.

(1) *Adjustments.* Adjustments may be considered at the request of parcel owners to correct the amount of impervious area upon which the bill is based, correct or update the parcel customer classification, or other items of consequence, upon the presentation of better information.

(a) *Adjustment Procedure.* Any parcel owner may apply for an adjustment to update or correct the information assigned to the parcel if the parcel owner believes there to be some information that is inaccurate. The following procedure for applying for an adjustment is established.

1. A request for an adjustment may be submitted at any time. All such requests shall be submitted to the Director on forms provided by the City, together with all supporting information and an application fee.

2. The Director may require the parcel owner, at parcel owner's expense, to provide supplemental information.

(b) *Granting of Adjustments.* When an application for an adjustment is deemed complete by the Director, the Director shall have sixty (60) days from the date that the complete application is accepted to:

1. Grant the adjustment in whole;
2. Grant the adjustment in part; or,
3. Deny the adjustment.

Adjustments applied for and granted in whole or in part, shall apply from the first day of the calendar month immediately following the date on which a complete application for the adjustment has been filed with the City of Greenfield. The Director shall provide a letter to the owner documenting the award or denial of the adjustment as well as the grounds upon which the decision was based. The applicants may appeal such determination following the appeals process described in Sec. 31.08.

(2) *Credits.* Credits may be considered for parcels that either receive a reduced level of storm water management service or result from privately owned and properly constructed and maintained storm water mitigating measures that allow the City of Greenfield to realize a cost savings in some portion of their storm water management program.

(a) *Technical and Procedural Criteria.* The Director shall establish specified technical and procedural criteria by which credits will be granted. Copies of such technical and procedural criteria will be maintained by and be available from the Engineering Department.

(b) *Credit Procedure.* Any parcel owner may apply for credit if, based on a review of available Technical and Procedural Criteria, the parcel owner believes there to be grounds for receiving credit to their storm water fee. The following procedure for applying for credit is established.

1. Parcel owners must make application to the Director on forms provided by the Director for such purpose.

2. Parcel owners must apply for any credits that they believe are applicable.

3. The application for any credit must be in writing and must include the information necessary to document the eligibility for the credit, accompanied by any application fee, and be in the format established by the Director. Incomplete applications will not be accepted by the Director.

4. Where applicable as a condition for granting credits, applicants must have an approved maintenance agreement on file with the Director.

(c) *Granting of Credits.* When an application for a credit is deemed complete by the Director, the Director shall have sixty (60) days from the date that the complete application is accepted to:

1. Grant the adjustment in whole;
2. Grant the adjustment in part; or,
3. Deny the adjustment.

Credits applied for and granted in whole or in part, shall apply from the first day of the calendar month immediately following the date on which a complete application for the credit has been filed with the City of Greenfield. The Director shall provide a letter to the owner documenting the award or denial of the adjustment as well as the grounds upon which the decision was based. The applicants may appeal such determination following the appeals process described in Sec. 31.08.

(d) *Regular Review of Credit.* The Director may review the credit and the basis thereof periodically, and may terminate the credit if grounds are found to do so. If such credit is terminated, the parcel owner will be notified in writing of the grounds for revoking the credit. The owner may appeal such determination following the appeals process or, may, if possible, correct the deficiencies that caused the termination and reapply for the credit.

(e) *Application Fees.* The application fee schedule for Adjustments and Credits will be established the City Common Council through resolution.

31.08. Appeals.

Appeals regarding the sewer service charges levied herein or any Adjustment or Credit requests shall be made to the Board of Public Works of the City. The Board of Public

Works shall make the determination of the charges within the scope of this chapter after considering all the facts in each case.

31.09. Budget Excess Revenues.

The City shall separately account for the Storm Water Utility finances. The Storm Water Utility shall prepare an annual budget, which is to include all operation and maintenance costs, costs of borrowing, capital costs and other costs related to the operation of the sewer utility. The budget is subject to approval by the City Common Council. Any excess storm water revenues over expenditures in a year will be retained by the Fund for subsequent years' needs of the storm water utility.

31.10. LIBERAL INTERPRETATION.

This ordinance shall be interpreted liberally to secure the ends sought hereby.

31.11. SEVERABILITY.

If any provision of this ordinance is found to be unlawful or unenforceable, the remaining provisions shall remain in effect.

(2) All ordinances or parts of ordinances conflicting with the provisions of this ordinance are repealed to the extent of such conflict.

(3) This ordinance shall take effect on and after its passage and publication.

Passed and Adopted by the Common Council of the City of Greenfield _____, 2007.

_____
Michael J. Neitzke, Mayor

_____
Jennifer Goergen, City Clerk

Date published: _____.

Appendix B

Draft Storm Water Utility Rate Resolution

RESOLUTION NO. 07-___

RESOLUTION ESTABLISHING STORM WATER UTILITY RATES

WHEREAS, the Common Council has established a Storm Water Utility within the City of Greenfield pursuant to Ordinance No. ___; and

WHEREAS, in the establishment of the aforementioned Storm Water Utility, three charges have been established, including the Base Charge (BC), the Equivalency Charge (EC), and the Special Charge (SC); and

WHEREAS, the initial rate has not been set by the Ordinance.

NOW, THEREFORE, BE IT RESOLVED, that effective **July 1, 2009**, the quarterly rates shall be as follows:

1) Base Charge (BC) = $5.00 per parcel

2) Equivalency Charge (EC) = $10.00 per ERU

3) Special Charge (SC) = $0.00

The number of ERUs on a parcel is determined as follows:

A. Developed Single-Family Residential Parcels
   1. Are set to equal one (1.0) ERU except in the following:
      a) In the instance where a Developed Single-Family Residential Dwelling is situated on more than one parcel, a single parcel shall be identified as the primary parcel and set equal to one (1.0) ERU and the remaining parcel(s) shall be set to zero (0.0) ERUs.
      b) In the instance where a Developed Single-Family Residential Parcel does not contain a dwelling unit and is not associated with an adjacent parcel under common ownership that does contain a dwelling unit, but does contain other impervious surfaces of 182 square feet or greater, the parcel shall be treated in the same manner as Other Developed Parcels as described below.

B. Developed Two-Family (Duplex) Residential Parcels
   1. Are set to equal one and one-tenth (1.1) ERUs except in the following:
      a) In the instance where a Developed Two-Family (Duplex) Residential Dwelling is situated on more than one parcel, a single parcel shall be identified as the primary parcel and set equal to one and one-tenth (1.1) ERUs and the remaining parcel(s) shall be set to zero (0.0) ERUs.
      b) In the instance where a Developed Two-Family (Duplex) Residential Parcel does not contain a dwelling unit and is not associated with a adjacent parcel under common ownership that does contain a dwelling unit, but does contain other impervious surfaces of 182 square feet or greater, the parcel shall be treated in the same manner as Other Developed Parcels as described below.

C. All Other Developed Parcels that are not either Single-Family or Two-Family (Duplex) Residential Parcels
   1. Are calculated by dividing the total square footage of measured impervious area on the parcel by the square footage of one (1.0) ERU which equals 3,630 square feet as defined in the Storm Water Utility Ordinance. The number of ERUs shall be rounded to the nearest one-tenth (0.1).

   2. In the instance where more than one parcel share common interest in impervious area (such as with some condominium developments), the impervious areas on all related parcels shall be evenly divided amongst all property owners unless another distribution is established by ownership.

D. Undeveloped Parcels (parcels with less than 182 square feet of impervious surface)
   1. Are assigned zero (0.0) ERUs

The Storm Water Utility Fee imposed on available customer classes as defined in the Storm Water Utility Ordinance is as follows:

A. Developed Single-Family Residential Parcel Quarterly Fee

The Storm Water Utility Fee imposed on single-family residential parcels shall be 1.0 times the BC rate plus 1.0 ERUs times the EC rate.

Single-Family Residential Quarterly Fee = 1.0 x $5.00 + 1.0 x $10.00 = $15.00 per quarter

B. Two-Family (Duplex) Residential Quarterly Fee

The Storm Water Utility Fee imposed on two-family (duplex) residential parcels shall be 1.0 times the BC rate plus 1.1 ERUs times the EC rate.

Two-Family (Duplex) Residential Quarterly Fee = 1.0 x $5.00 + 1.1 x $10.00 = $16.00 per quarter

C. Other Developed Parcels Quarterly Fee

The Storm Water Utility Fee imposed on other developed parcels shall be 1.0 times the BC rate plus the assigned number of ERUs times the EC rate.

Other Developed Parcel Quarterly Fee = 1.0 x $5.00 + Assigned ERUs x $10.00 = (Rate Varies) per quarter

D. Undeveloped Fee

The Storm Water Utility Fee imposed on undeveloped parcels shall be 1.0 times the BC rate.

Undeveloped Parcel Quarterly Fee = 1.0 x $5.00 = $5.00 per quarter

Introduced and adopted at a regular meeting of the Common Council of the City of Greenfield, this _____day of _____, 2009, a quorum of the Common Council being present.

_____
Michael J. Neitzke, Mayor

ATTEST:

ADOPTED:

_____
APPROVED: Jennifer Goergen, City Clerk

Appendix C

Draft Storm Water Utility Credits

RESOLUTION NO. ___

RESOLUTION ESTABLISHING STORM WATER UTILITY CREDITS

WHEREAS, the Common Council has established a Storm Water Utility within the City of Greenfield pursuant to Ordinance No. ____; and

WHEREAS, in the establishment of the aforementioned Storm Water Utility, available credits need to be established; and

WHEREAS, available credits have not been defined by the Ordinance.

NOW, THEREFORE, BE IT RESOLVED, that effective **July 1, 2009**, credits shall be available under the following conditions:

A. If a parcel owner can show that one or more of the following conditions apply to the parcel in question, the parcel owner may be eligible for a credit to the storm water utility equivalency charge (EC) portion of their fee.

   1. If storm water runoff from a parcel is treated by a properly constructed and maintained storm water quality best management practice (BMP) such as a retention or detention basin or other applicable water quality facility. (BMP Credit)

   2. If storm water runoff from a parcel discharges directly into the Root River, Menomonee River, Kinnickinnic River or a tributary to the aforementioned waterways without crossing another parcel under different ownership or entering any portion of the City's municipal separate storm sewer system (MS4); and the discharge does not result in exceeding federal, state or local water quality standards. (Riparian Credit)

   3. If storm water runoff from a parcel infiltrates into the ground without crossing another parcel under different ownership or entering any portion of the City's municipal separate storm sewer system (MS4); and the discharge does not result in exceeding federal, state or local water quality standards. (Isolated Area Credit)

B. In considering a request for credit, the Director may, at his or her discretion, separately examine multiple drainage areas on one parcel, or conversely aggregate parcels under the same ownership, and may recommend allowing a credit for a portion of a parcel or for a number of parcels if the characteristics of one or more drainage areas meets the criteria for obtaining credit.

C. In certain situations, the Director may, at his or her discretion, allow credits to parcel owners with BMPs that treat land areas not under common ownership.

D. No credits shall be considered for any "natural" features such as, but not limited to, rivers, wetlands, lakes, floodplains, or water impoundments.

E. No credits shall be given towards the base charge (BC) portion of their fee.

F. Considerations for providing BMP Credits include:

   1. Credit for constructed storm water BMPs may equal up to fifty percent (50%) of the parcel storm water utility equivalency charge (EC) portion of their fee for BMPs that reduce total suspended solids (TSS) by at least eighty percent (80%).

   2. BMPs treating less than the entire parcel may be considered when assigning the credit percentage.

   3. BMPs treating multiple parcels may be considered when assigning the credit percentage.

4. BMP efficiency may be factored into the credit provided and shall be based on total suspended solids (TSS) removal of the BMP using the Source Loading and Management Model (SLAMM) or other methodology accepted by the Wisconsin Department of Natural Resources (WDNR).
5. Maintenance Plans are required for BMPs approved for credit.
6. The City may require periodic inspection or proof of continued operation/maintenance to maintain credit status.

G. Considerations for providing Riparian and Isolated Area Credits include:

a) Credit for riparian land owners may equal up to fifty percent (50%) of the parcel storm water utility equivalency charge (EC) portion of their fee.

b) The credit may be prorated linearly by the amount of impervious area that is identified as riparian compared to the total amount of impervious area on the parcel.

H. Considerations for providing BMP Credits on parcels that also qualify for Riparian or Isolated Area Credits include:

a) Credit for constructed storm water BMPs within Riparian or Isolated Areas may equal up to one hundred percent (100%) of the parcel storm water utility fee for BMPs that reduce total suspended solids (TSS) by at least eighty percent (80%).

b) Other considerations are as noted above for receiving BMP and Riparian and Isolated Area Credits.

I. Credits applied to any given parcel are not cumulative unless otherwise noted.

J. In considering a request for credit, the Director shall consider whether and to what extent the City's storm water management program cost has been lessened by the condition presented by the parcel owner. If the City's storm water management program cost has not been lessened, the request for a credit may be denied. If the City's storm water management program cost has been lessened, the customer may be eligible for a credit.

K. The Director shall develop guidance for providing credits to parcel owners that shall be consistently and fairly applied to all applicants for credit.

L. Credits are applicable to Single-Family, Two-Family (Duplex), and Other Developed parcels.

M. The City of Greenfield is not required to identify parcels or situations where credit eligibility may apply.

N. The Director, at his or her discretion, may recommend allowing a credit that may result in the storm water utility equivalency charge portion of the fee to be as low as zero for a parcel for reasons other than as specifically set forth in this section provided that the credit is reasonable and not unjustly discriminatory.

O. An application fee must be submitted with appropriate forms and data as required by the City at the time of any Credit request unless waived by the Director or other City entity in responsible charge. The initial application fee is hereby set at $200, but is subject to change by resolution of the Common Council or other normal means of setting fees.

Introduced and adopted at a regular meeting of the Common Council of the City of Greenfield, this _____day of _____, 2009, a quorum of the Common Council being present.

_____
Michael J. Neitzke, Mayor

ATTEST:

ADOPTED:

_____
APPROVED: Jennifer Goergen, City Clerk