2012:

Village of Poynette Stormwater Master Plan

VILLAGE OF
POYNETTE
on
ROWAN CREEK

Prepared By:

GEC
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EXECUTIVE SUMMARY

Introduction

The purpose of the Village of Poynette's Stormwater Master Plan is to establish a plan to minimize the potential for stormwater impacts on the community by addressing both water quantity and quality. A stormwater utility was established in the Village in 2005 and the Stormwater Master Plan is an implementation of improvements and maintenance of the stormwater facilities within the Village.

The study area for the plan covers approximately 1,040 acres of varying land use. Stormwater runoff in the Village is generally collected by storm sewer, ditches, and the greenways. Stormwater is discharged from the Village's collection system either to Rowan Creek or ultimately to wetland areas. Figure 1-1 shows the delineation of the watersheds included in the plan.

Goals

The goals of the Village of Poynette's Stormwater Master Plan fall into two main categories:

I. **Improve the quality of stormwater runoff to Rowan Creek.**

II. **Reduce the risk of potential damage caused by stormwater runoff to public and private property.**

The Village is located on Rowan Creek a Class 1 trout stream. To maintain the quality of the habitat in the creek and the creek designation water quality discharged from the Village's stormwater collection system should be cleaned to the extent practical prior to discharge into the creek. Therefore improving the water quality to the creek has been incorporated in the plan's goals.

The plan also analyzes stormwater quantity to minimize the potential for damage caused by stormwater runoff.

Analysis

Data was collected and modeled to address both stormwater quantity and quality concerns with computer modeling and physical observations.

The information was collected and compiled for the existing storm sewer collection system throughout the Village by topographic survey. The collected information for the location, size, and elevation of the storm sewer was entered into a computer database for analysis and display on the Village's GIS. Soils information obtained from the NRCS and land uses from the Future Land Use maps in the Comprehensive Plan were used to model the quantity and quality of stormwater for selected watersheds throughout the Village. The stormwater system was modeled using both Autodesk Storm &

Sanitary Analysis 2012 and WinSLAMM V9.4 to model stormwater quantity and quality respectively.

The models and observations were used to make recommendations for stormwater improvements.

Flooding and Drainage Recommendations

After review of the data collected, analysis of the modeling results, and consultation with Village staff ten areas were selected for remediation. The ten locations are shown on Figure 4.2-1 and have been ranked in the following table based on frequency of flooding, severity of flooding, number of homes affected by flooding, and a cost estimate.

Flooding Area Priority Ranking

Rank	Drainage Area	Description	Est. Cost
1	Area 2-Colby Park	Curb cut and swale construction	$2,200
2	Area 4-Sanderson St	Street replacement with the addition of storm sewer	$72,100
3	Area 3-Pearl St	Full street replacement including (does not include water and sewer)	$51,700
4	Area 10-Lincoln St	Extend storm sewer and construct a rain garden	$34,000
5	Area 6-E Seward St	Extend storm sewer east on Seward St (requires addition of street and other utility improvements	$70,500
6	Area 8-W Thomas St	Addition of curb and gutter and storm sewer (does not include watermain)	$48,500
7	Area 9-Traceway Ct	Install concrete gutters and create a ditch.	$14,950
8	Area 5-E Grant St	Add curb and gutter and storm sewer	$92,000
9	Area 1-W Seward St & Colby Blvd	Install concrete gutter	$2,750
10	Area 7-W Washington St	Replace large storm sewer connected to the greenway discharge.	$78,700

Water Quality Recommendations

Stormwater runoff is not clean water. It was determined that the efforts for stormwater quality improvements would be concentrated on discharges to Rowan Creek. A goal of the removal of 40% of the total suspended solids in stormwater runoff was established for the Village in accordance with WDNR practices.

The Village has five main point discharges of the stormwater conveyance system to the creek which include;

- The greenways
- Lincoln Street discharge
- Main Street discharge at Pauquette Park

- Main Street discharge from south of the bridge
- Walking bridge discharge from the south side of the Village

The existing greenways and the Lincoln Street discharge currently reduce sediment loading for their respective watersheds. It was determined that the discharge at Pauquette Park and the discharge near the walking bridge would be targeted for the installation of a facility to remove sediments from the runoff. The two locations have been named the Main Street Facility and the Southside Facility respectively.

Through modeling of different options for water quality improvement it was determined that the most cost effective solution including long term maintenance was the construction of underground detention units. While achieving the removal goal of 40% the units are also relatively easy to maintain. The underground facility would be constructed of a series of connected aluminized steel pipes that function similar to a wet pond.

Future Development

The Village's ordinances regulate future development and require proper installation of conveyance and treatment facilities. There are two locations where regional facilities for the treatment of stormwater runoff should be considered for future development. One location is in the southwest corner of the Village near a large culvert that crosses under McMillan Road and the other is in the County owned property south of Valley View Park.

Maintenance

Ongoing maintenance is required of the existing and proposed stormwater facilities within the Village. Both the Village owned components and private facilities need to be inspected and maintained on a regularly schedule basis. Figure 6.0.1 shows the locations of the existing and proposed stormwater facilities.

Recommended Plan

It is our recommendation that the improvements to address flooding and drainage and also water quality be included in the Village's future improvement projects. A draft of a budget is attached for reference for the improvements. Note the attached budget is only a draft of potential stormwater improvements and all improvements shall be subject to approval by the Village Board.

The current balance of the stormwater utility fund is $317,000 and the Village has averaged $63,400 in net gain per year since the utility was established. The budget timeline could be adjusted so as the improvements correspond with the available dollars in the utility fund or alternate sources including grants can be used to complete the projects. The budget will need to reviewed in further detail with the Village Board and staff.

CHAPTER 1
INTRODUCTION

1.0 Project Background

Stormwater management is a critical responsibility of all municipalities. The purpose of this report is to provide a framework for stormwater management and master planning for stormwater runoff within the Village of Poynette. The goals of the Village of Poynette Stormwater Master Plan fall into the following areas:

I. Protect the water quality of Rowan Creek, local wetlands, groundwater, and other nearby surface water.

II. Reduce the risk of potential damage caused by stormwater runoff to public and private property.

III. Identify locations of existing drainage concerns.

IV. Provide long term planning solutions for reduction in pollutant loading to Rowan Creek.

V. Provide planning for alleviation of areas of insufficient drainage conveyance.

The Village of Poynette study includes an area of approximately 1,040 acres. Stormwater from the Village generally discharges to either wetland areas or Rowan Creek. Figure 1.1-1 shows the delineation of the overall study area included in the plan.

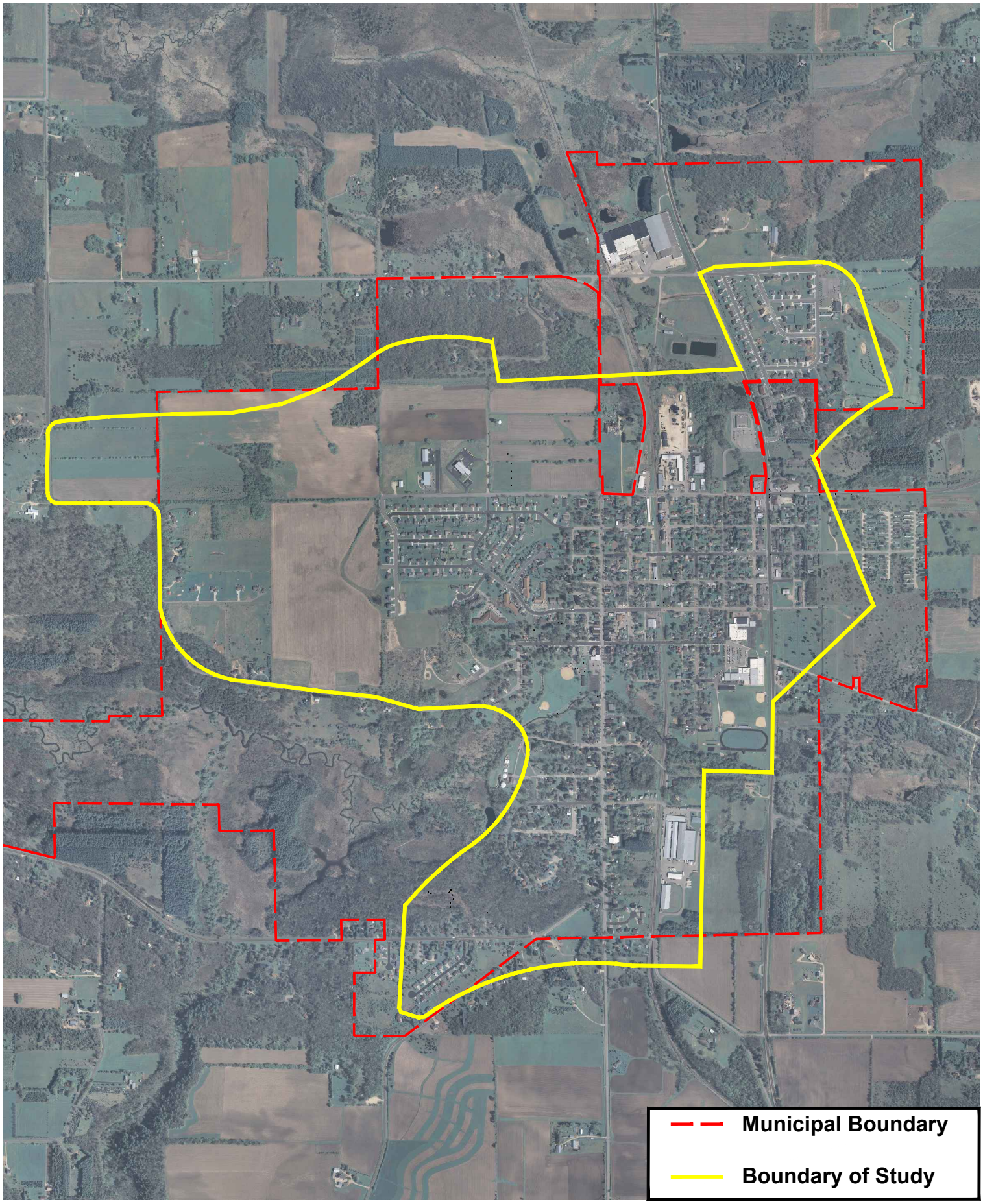

FIGURE 1.1-1
OVERALL STUDY AREA

DATE April 2012

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0 750 2250
375 1500 3000

GEC FILE NO. 0111–30E

Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

1.1 Planning Process

The Poynette Stormwater Master Plan included the following major steps in completion of the plan:

- Field data collection of the existing municipal storm sewer system
- Storm sewer data entry into GIS and modeling software
- Model existing watersheds, land use, and soil types
- Model of existing storm sewer system to analyze the capacity and ability to convey specific design storm peak flows
- Identification of areas of stormwater runoff concerns via the model and cross reference the severability and frequency with Village staff
- Model pollutant loading in stormwater runoff for selected discharge points
- Provide potential solutions to stormwater runoff problem areas
- Provide water quality enhancement capital improvement options
- Development of maintenance schedules for specific components of the Village's stormwater system
- Complete Draft Village of Poynette Stormwater Master Plan
- Present plan and obtain public feedback
- Complete final Village of Poynette Stormwater Master Plan

1.2 Organization of the Plan

The report is structured as follows:

Executive Summary	
Chapter 1	Introduction
Chapter 2	Project Goals and Objectives
Chapter 3	Project Setting
Chapter 4	Stormwater Quantity Analysis
Chapter 5	Stormwater Quality Analysis
Chapter 6	Maintenance Plan
Chapter 7	Recommended Plan
Chapter 8	Public Comment

CHAPTER 2
PROJECT GOALS AND OBJECTIVES

2.0 Introduction

A stormwater master plan is a water resource management strategy that identifies problem areas within the existing system and develops solutions. The plan addresses water quantity(volume and peak flow), the ability of the existing storm sewer system to handle stormwater runoff in a safe manner and water quality(the pollutant loading) that stormwater produces and delivers to the receiving waters. The control of stormwater runoff directly affects the quality of living for residents within the Village. Chapter 8 of the Village's ordinances notes the following findings of fact in regards to uncontrolled post-construction stormwater runoff:

1. Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature.
2. Diminish the capacity of lakes and streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens and other urban pollutants.
3. Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
4. Reduce the quality of groundwater by increasing pollutant loading.
5. Threaten public health, safety, property and general welfare by overtaxing storm sewers, drainage ways, and other minor drainage facilities.
6. Threaten public health, safety, property and general welfare by increasing major flood peaks and volumes.
7. Undermine floodplain management efforts by increasing the incidence and levels of flooding.

Without stormwater controls and proper planning, stormwater can decrease the standard of living for residents of the Village. The following section outlines the goals and objectives of the plan and gives the basis for why stormwater improvements are essential for the Village.

2.0.1 Existing Water Quality Concerns

As development occurs and populations increase so can the strain that's placed on our local waters. Stormwater discharged from the Village's collection system can directly affect the water quality of Rowan Creek and other neighboring waters. Generally, stormwater runoff is not clean water.

Stormwater runoff can contain contaminants such as; sediment, microorganisms, phosphorus, and toxic chemicals such as oils and greases. Sediment can create cloudy or turbid waters that affect the aquatic habitats and can destroy spawning areas. Sediment loading can also accumulate over time changing the depths of the waters. Microorganisms such as bacteria and viruses contaminate stormwater runoff from sources such as pet waste, bird droppings, and sanitary sewer overflows and can make waters unsafe for recreational uses. Phosphorus enters stormwater from lawn fertilizers, pollen, leaves, and grass clippings. Phosphorus provides fuel for the growth of algae and other aquatic plants affecting the ecosystem of the receiving waters. Toxic chemicals including motor oil, gasoline, grease, antifreeze and other chemicals can destroy existing plant and animal life.

There are currently no state or federal requirements for a Village the size of Poynette to include any village-wide storm water management facilities. Many storm sewers in the Village collect water from the streets and discharge it directly to Rowan Creek without any treatment. Rowan Creek is classified as a Class 1 and 2 trout stream by the Wisconsin DNR and is known throughout the state as a premiere trout fishing location. The creek passes through the Townships of Dekorra, Arlington, and Lowville but Poynette has the only urbanized area bordering the creek along its approximate twelve mile length.

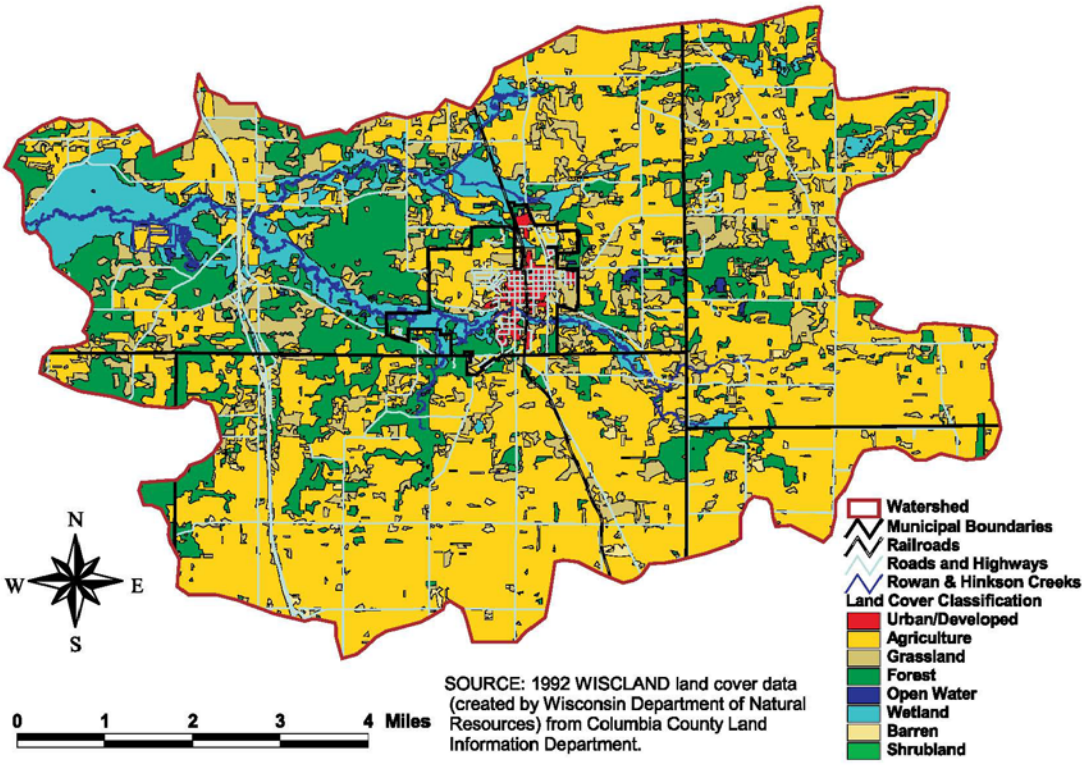
The Wisconsin DNR's *Wisconsin Trout Streams* describe a Class 1 trout stream as:

These are high quality trout waters, have sufficient natural reproduction to sustain populations of wild trout at or near carry capacity. Consequently, streams in this category require no stocking of hatchery trout. These streams or stream sections are often small and may contain small or slow-growing trout, especially in the headwaters.

Another good source of information regarding protection of Rowan Creek is *The Future of Rowan Creek Watershed: Connecting Land Use and Management with Water Quality 2003* as completed by the Water Resources Management Workshop 2002, Gaylord Nelson Institute for Environmental Studies, University of Wisconsin-Madison.

Figure 2.1-1 below is an excerpt from that publication showing the watershed area for Rowan and Hinkson Creeks. The area contains nearly 36,000 acres with the majority (57%) being agricultural. Poynette is the only urbanized area located in the watershed.

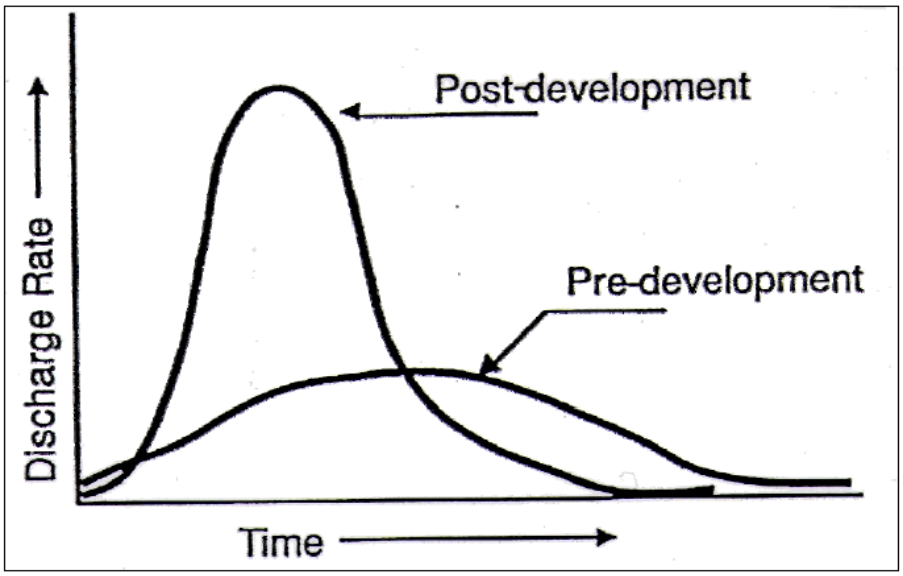
Figure 2.1-1
Land Use Data for Watershed Boundary



2.0.2 Existing Water Quantity Volume Concerns

As development occurs and landscape changes from the woods and prairie of the past to buildings, roads, sidewalks, and other impervious surfaces, the water quantity volume discharged from the land surfaces increases. In the past under undeveloped conditions a larger quantity of stormwater runoff was infiltrated into the groundwater or trapped in wetland areas rather than being collected into storm sewers and discharged to the receiving waters. Figure 2.1-2, from the Minnesota Pollution Control Agency, shows the relationship between the stormwater discharge rate over time for Pre- and Post-Development. Pre-Development referring to pre-urbanization of the landscape and Post-Development referring to after an area has been built up with roads and the other impervious surfaces.

Figure 2.1-2
Pre- and Post-Development Hydrographs



The volume of water is depicted by the area under the graph. As shown in the figure, both the rate and the volume increase in the post-development scenario verses the pre-development scenario. Prior to urbanization it may have taken stormwater runoff from an area days to reach the creek or wetland where now with the urban development it may only take hours. This results in higher creek flows during rainfall events.

Increased runoff from developed areas can also pose a potential risk to public safety and property damage if not handled or conveyed appropriately. Proper planning for future developments is essential and generally covered under the Village's ordinances. There are some select areas throughout the Village where stormwater runoff quantity is a concern for public safety and the protection of property. These areas are further discussed in Chapter 4.

2.1 Goals and Objectives

The goals of the Village of Poynette's Stormwater Master Plan fall into two primary categories:

I. **Improve the quality of stormwater runoff to Rowan Creek.**

II. **Reduce the risk of potential damage caused by stormwater runoff to public and private property.**

The following objectives have been established to meet the goals of the Stormwater Master Plan.

Goal I: Improve the quality of stormwater runoff to Rowan Creek.

1. Reduce the discharge of pollutants from surface runoff in the Village.

    a. The Department of Natural Resources Chapter NR 151 requires that all new development disturbing an area greater than one acre shall reduce the total suspended solids by 80%, all redevelopment disturbing greater than one acre shall achieve a 40% reduction in total suspended solids from parking areas and roads, and an infill area less than 5 acres requires an 80% reduction.

    b. Village ordinance Chapter 8 requires an 80% reduction in total suspended solids for new land disturbing activities, a 40% reduction for redevelopment, and a 40% reduction for infill areas less than 5 acres.

    c. Identify areas in the Village to construct best management practices to reduce the discharge of pollutants in existing uncontrolled runoff.

2. Reduce the discharge of hazardous substances into the storm water drainage system.

    a. Educate the public on the potential harmful environmental impacts the discharge of lawn care chemicals and vehicle fluids can have on Rowan Creek and nearby wetlands.

    b. Develop and enforce ordinances that prohibit the purposeful discharge of hazardous substances to the storm drainage system.

Goal II: Reduce the risk of potential damage caused by stormwater runoff to public and private property.

1. Upgrade existing storm sewers and/or construct new storm water conveyance systems to reduce the risk of causing damage to property or pose a risk to public health.

    a. Design all minor storm water conveyance systems with the capacity to safely convey the 10-year storm event.

    b. Use streets and ditches for the conveyance of storm events larger than the 10-year storm event.

    c. Provide safe conveyance of the 100-year storm event to minimize the potential risk of damage to buildings.

2. Promote the detention of stormwater runoff prior to discharge or release from a site.

    a. Village ordinance states: "By design, BMPs shall be employed to maintain or reduce the peak runoff discharge rates, to the maximum extent practicable, as compared to pre-development conditions for the 2-year, 10-year, 25-year, and 100-year 24-hour design storm applicable to the post-construction site."

    b. Stormwater utility credits are available for business and residents who detain stormwater above the criteria of the stormwater ordinance.

3. Promote infiltration for recharge of groundwater.

    a. Both Village ordinance and DNR code requires that new developments disturbing greater than one acre require a portion of the overall stormwater volume to be infiltrated.

    b. Stormwater utility credits are available for infiltration of stormwater.

4. Address existing stormwater runoff volume issues throughout the Village.

    a. Complete a hydraulic model of the existing storm sewer system capacity to identify existing problem areas.

    b. Meet with Village staff to identify areas within the Village where runoff issues are present.

    c. Cross reference the hydraulic model with staff recommendations to prioritize deficient areas.

    d. Field inspect existing areas of stormwater runoff issues.

    e. Provide design solutions to address areas of concern.

5. Provide maintenance of the stormwater conveyance system and stormwater best management practices to preserve the design integrity of the components.

    a. Develop a routine inspection schedule for storm sewer inlets, pipes, ditches, and other stormwater facilities.

    b. Provide an inlet and ditch cleaning schedule.

CHAPTER 3
OVERVIEW OF STUDY AREA

3.0 Introduction

The Village of Poynette was established on Rowan Creek, a Class 1 and 2 trout stream. Due to this unique public natural resource, an emphasis on protecting the creek from pollutants in stormwater should become an integral part of the Village's development. In response for the need to protect the creek and analyze existing drainage issues to focus on for future projects, the Village had authorized the creation of the Stormwater Master Plan. This chapter is an overview of the area covered in the master plan including the total study area, the existing land use, soil types and the overall stormwater collection system in the Village.

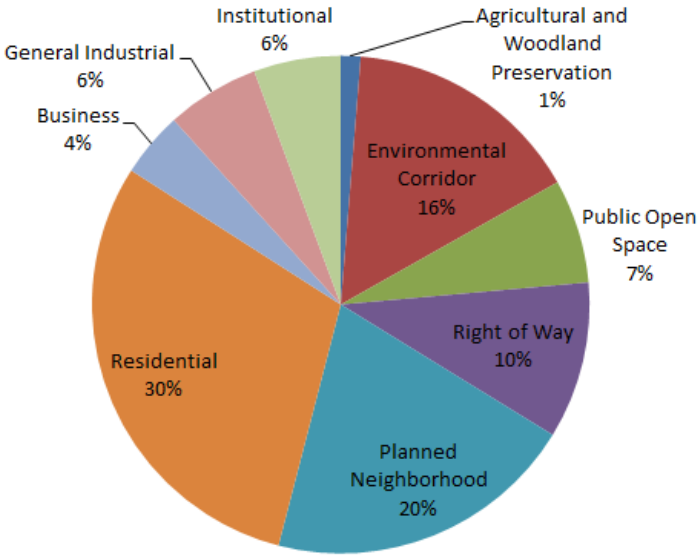
3.1 Study Area

The study area incorporates approximately 1,040 acres and covers all areas that drain to or through the Village's existing storm sewer collection system. The study area is generally broken into two watersheds, one that ultimately flows to Rowan Creek and one that flows north and eventually to Hinkson Creek. The watershed south of Rowan Creek stretches nearly to the Village of Arlington. The study of the area to the south of the creek only includes the areas that are collected by the existing Village storm sewer collection system. See Figure 1.1-1 for the study area.

3.2 Land Use

Land use affects both the quantity and quality of stormwater runoff. Impervious surfaces such as roads, sidewalks, and roofs produce a larger quantity of runoff than pervious surfaces. The land surface also directly influences the types of pollutants that may be in the runoff. The land use utilized in the modeling was from the Planned Land Use Map in the Village of Poynette Comprehensive Plan, Amended 10/24/2011. Figure 3.2-1 is a graph depicting the land use percentage from the Comprehensive Map. Figure 3.2-2 shows the land uses in the Comprehensive Plan.

Figure 3.2-1



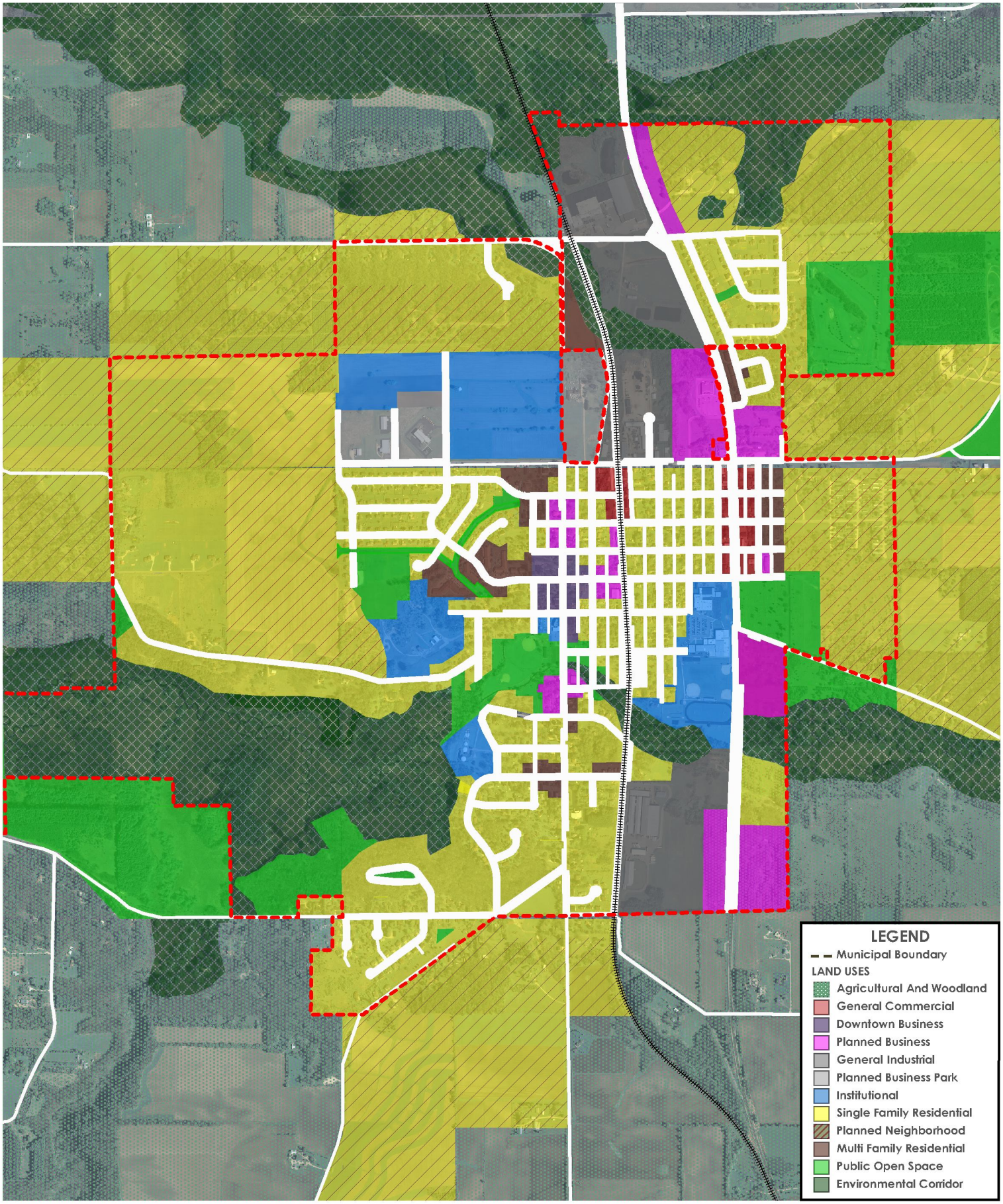


FIGURE 3.2-2
POYNETTE PLANNED LAND USES

DATE April 2012

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375 1500 3000

GEC FILE NO. 0111-30E

Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

3.3 Soil Types

The soil type of pervious surfaces also directly affects the quantity of water runoff during a storm event. Sandier soils tend to infiltrate stormwater more readily while soils composed of more clay material do not infiltrate as much stormwater thereby creating more surface runoff. Soils are classified according to this level of infiltration with hydrologic soil groups (HSG) A, B, C, and D. There are also three dual classes A/D, B/D, and C/D which are areas that act like D soils as they are located in low areas saturated with water (typically wetlands). Soil group A has a high permeability and promotes the infiltration of runoff (such as sand) while HSG D soils have a very low infiltration rate and promote runoff(such as clay). The majority of the soils in the Village are classified as HSG B. According to the Natural Resource Conservation Service, HSG B soils are noted as; "Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have the moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission." According to the NRCS Web Soil Survey the soils within the Village limits are listed in Table 3.3-1 and Figure 3.3-1 illustrates the HSGs in the study area.

Table 3.3-1
Hydrologic Soil Groups in Village of Poynette

Hydrologic Soil Group	Area (acres)	Percent of Total Area
A	292.6	17.0
A/D	88.3	5.1
B	1,154	67.1
B/D	148.9	8.7
C	18.2	1.1
C/D	0	0
D	9.3	0.5
Open Water	9.3	0.5
Total	**1,721**	**100**

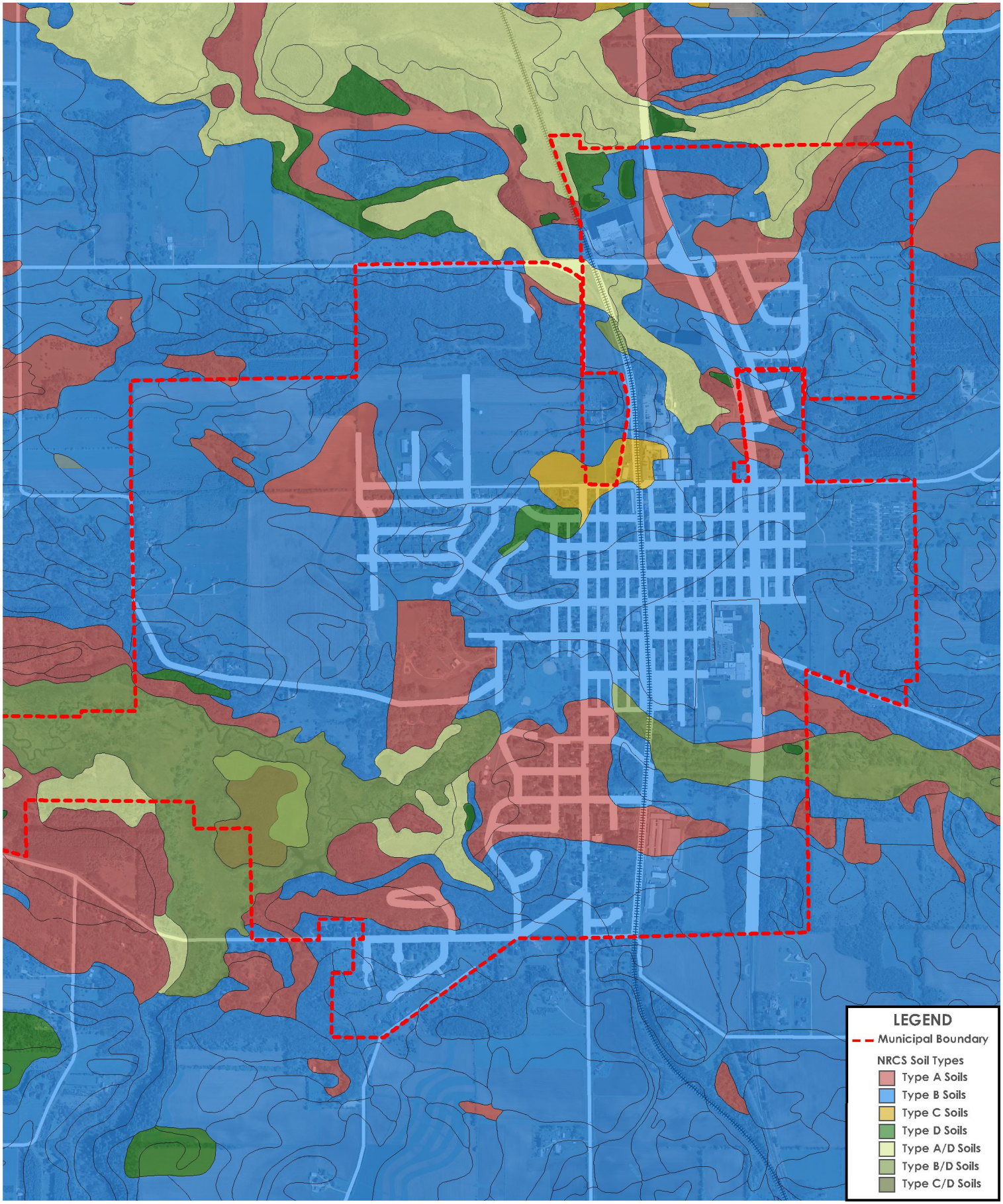

FIGURE 3.3-1
NRCS SOIL CLASSIFICATIONS

DATE April 2012

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0 750 2250
375 1500 3000

GEC

GEC FILE NO. 0111-30E

Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

3.4 Overall Stormwater Collection System

The Village of Poynette collects and conveys stormwater runoff through a series of curb and gutters, storm sewer inlets, storm sewer pipes, ditches, and greenways. The main components of the stormwater collection system are illustrated on Figure 3.4-1. The system is analyzed in detail in Chapter 4.

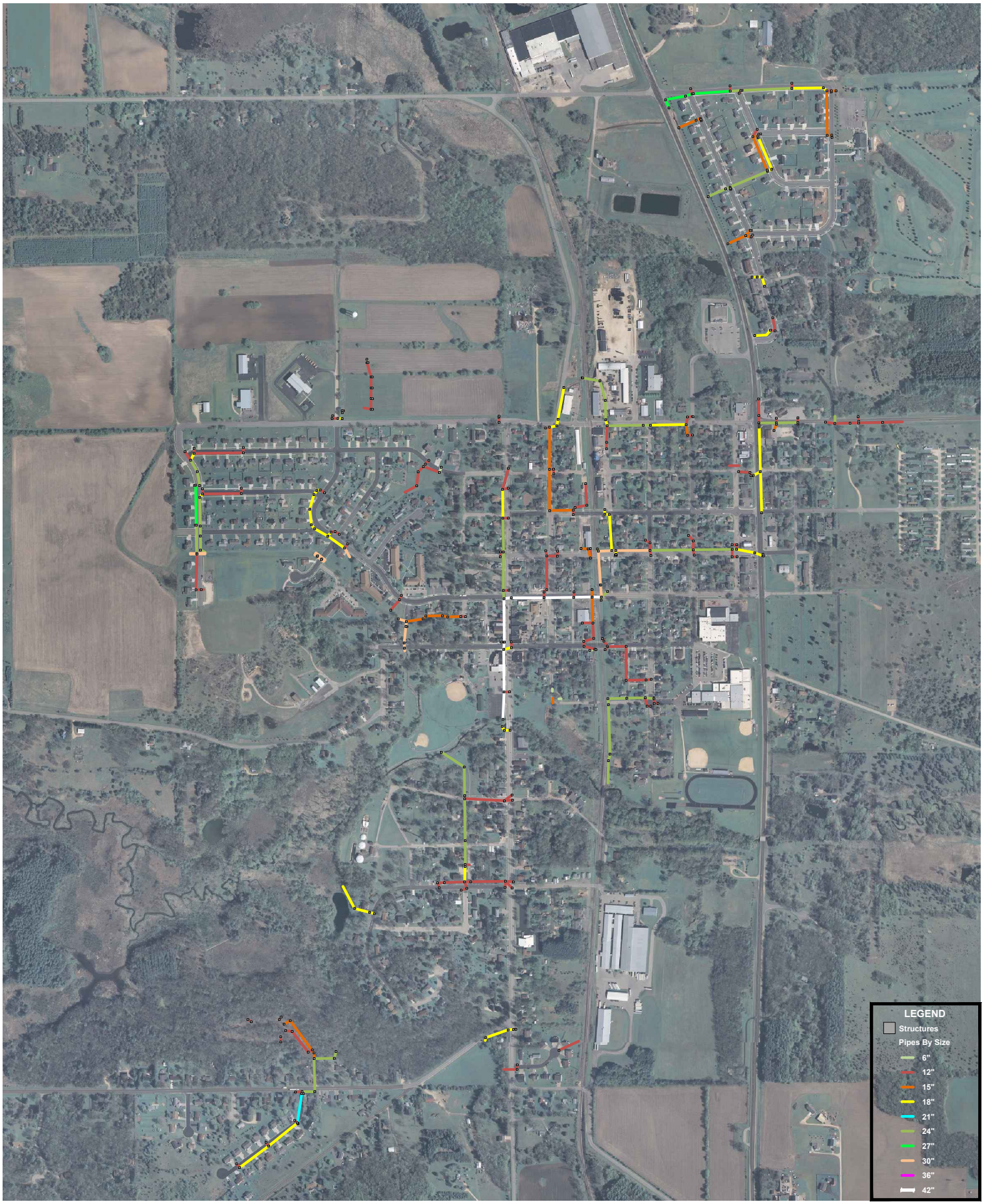

FIGURE 3.4-1
EXISTING STORM SEWER

DATE April 2012

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W E
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0 500 1500
250 1000 2000

GEC FILE NO. 0111–30E

Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

CHAPTER 4
STORMWATER QUANTITY ANALYSIS

4.0 Introduction

This chapter describes the methods used for modeling the storm sewer collection system and its existing capacity in regards to stormwater runoff. The chapter includes the means and methods used in the hydrologic model, observed locations of existing drainage concerns, and potential solutions.

4.1 Hydrologic Modeling

The first stage in producing the hydrologic model required the field collection of data for the structures and storm sewer pipes throughout the Village. The location and elevations of all the inlets, manholes, and endwalls were collected by survey crews on the Columbia County coordinate system so the structures could be located on a map and ultimately imported into the Village's GIS (Global Information System) database. The covers on all inlets and manholes were then removed to record the invert elevations of the pipes and note the size of the pipes entering and exiting each of the structures.

The data collected in the field was then entered into AutoCAD Civil 3D, a drafting and 3D pipe modeling software. The collection system was broken down into eight networks, designated as Networks A-H, with each network being a collection of pipes with a common discharge point. The networks are shown in Figure 4.1-1.

The storm sewer networks were then exported to Autodesk Storm & Sanitary Analysis 2012 or SSA, an industry accepted hydrologic computer modeling software. The model is used to analyze each subbasin that is collected by the storm sewer system and determine the hydraulic capacity for each component. As an example, Figure 4.1-2 is the SSA model for Network A.

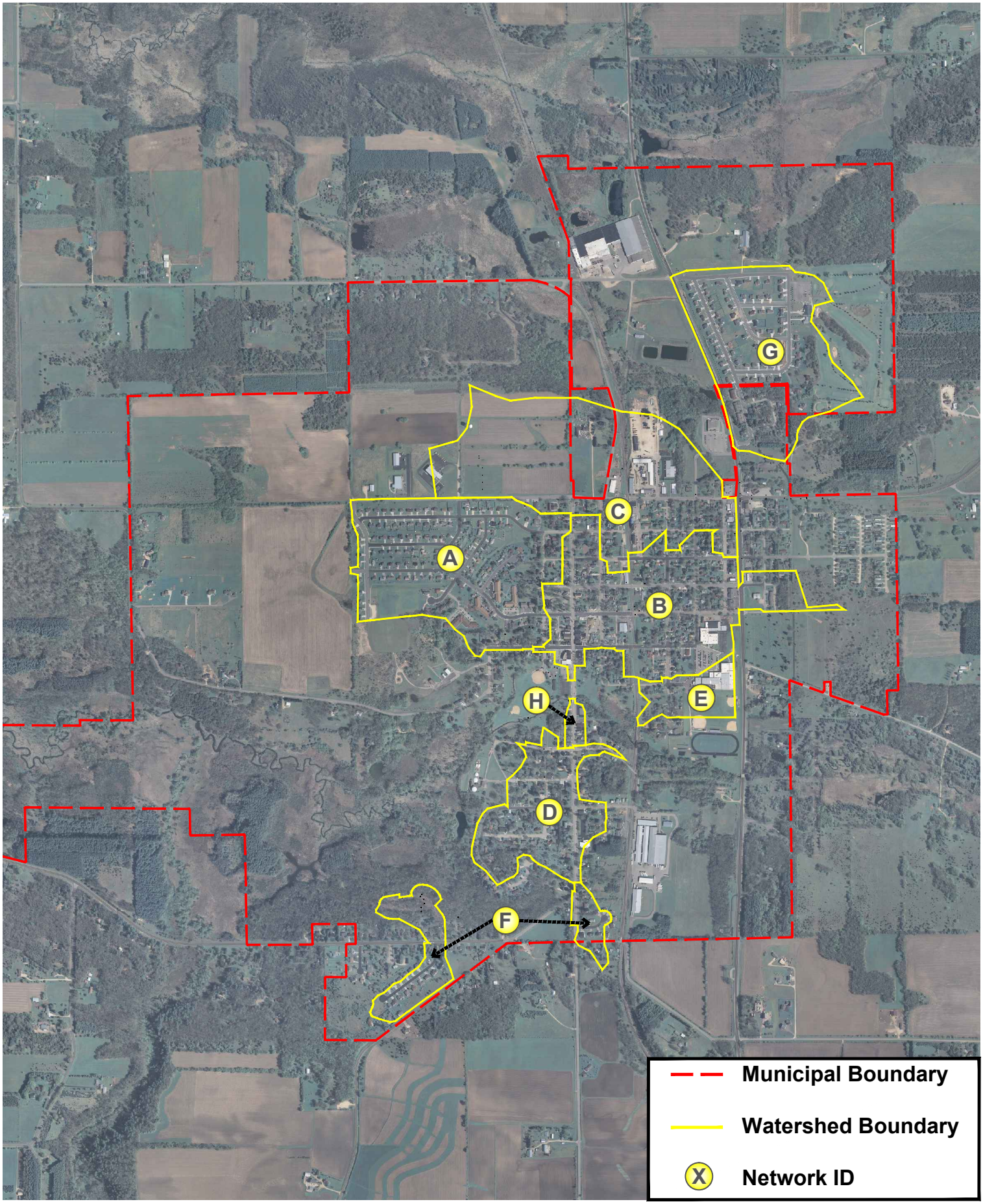

FIGURE 4.1.1-1
INDIVIDUAL NETWORK WATERSHEDS

DATE April 2012

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GEC

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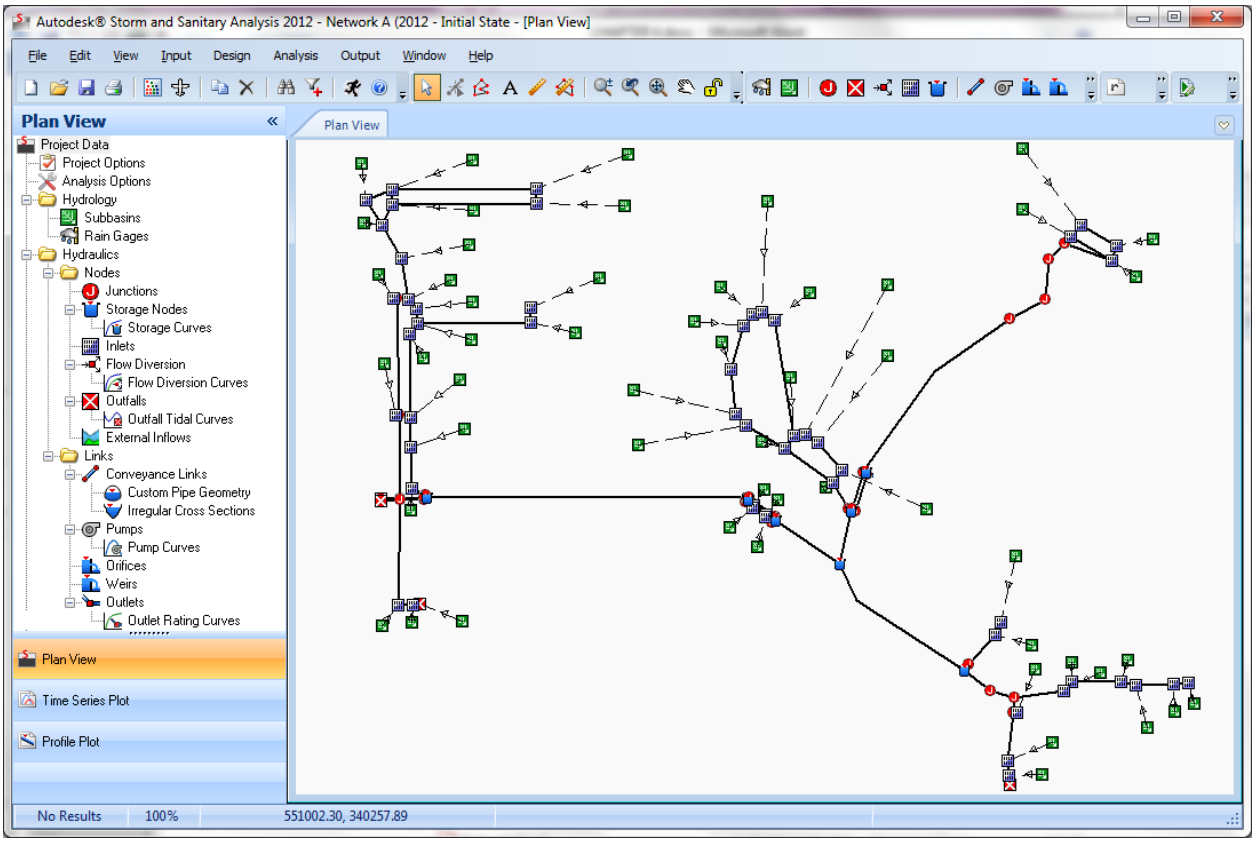
Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

Figure 4.1-2
SSA Model for Network A



4.1.1 Modeling Parameters

Precipitation – The storm sewer collection system was modeled using a 10-year 24-hour storm event. The 10-year event is evaluated as being a storm that has a 10% chance of occurrence and is the required design parameter of storm sewer reviewed by the Department of Safety and Professional Services. The WDNR does not regulate storm sewer design or construction. The 10-year 24-hour storm event using the SCS Type II distribution produces a rainfall depth of 4.20 inches.

Subbasin Area – The Village is divided into two main watersheds, one that discharges to Rowan Creek and one that ultimately reaches Hinkson Creek. These main watersheds were then divided into eight smaller networks each with unique stormwater collection systems and discharge locations. The networks are broken down into smaller subbasins that are land areas that drain to a specific storm sewer inlet or drainage culvert. Each subbasin is unique in size, land cover, and soil type. Among the eight different networks there are 232 subbasins. The networks are represented by the eight subareas shown on Figure 4.1-1.

Soil Type – The hydrologic soil groups (HSG) for the modeling were based on digital data received from the National Resource Conservation Service (NRCS). Within the Village limits there are thirty two different soil types covering all hydrologic soil groups with predominantly HSG type B. The soils in the study area are further described in Chapter 3.

Runoff Curve Number – The runoff curve numbers were based on the soil types received from NRCS and the Planned Land Use Map, Amended 10/24/2011 as part of the Village's Comprehensive Plan. The curve number is based on TR 55, June 1986 methodology.

Time of Concentration – The time of concentration or T_C as defined by TR 55 is "the time for runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. T_C is computed by summing all the travel times for the consecutive components of the drainage conveyance system." Instead of designating a T_C unique to each of the 232 subasins we used a minimum standard T_C of six minutes for each subbasin. This is a very conservative method of modeling as this will model all stormwater runoff from each one of the subbasins reaching the stormwater collection system at the same time. In reality, this is not true, but this will provide slightly larger peak flows and a level of conservancy in the system.

All of these modeling parameters were entered into SSA to produce a hydraulic model of the existing stormwater collection system. This model helps to identify potential drainage areas of concern and provides a database for use in stormwater planning for future developments throughout the Village.

4.2 Existing Drainage Concerns

There are areas throughout the Village that have been established by personnel as having existing drainage concerns that occur during reasonably frequent rain events. Ten such areas have been identified in the Village and are noted on Figure 4.2-1 and described below. This section will review the ten locations identified and provide a proposed solution to the drainage concern.

4.2.1 Area 1 – Northwest Corner of West Seward St. and Colby Blvd.

Description - The northwest corner of West Seward Street and Colby Boulevard is locally a low spot and does not drain. The area will pool up a couple of inches prior to draining south across the intersection. The general drainage of the area runs south along West Seward Street until it is collected in storm sewer inlets at Meadow Lane.

Remediation – There are no existing storm sewer lines in the immediate area as all surface runoff is directed south to the storm sewer inlets at Sunset Drive. The recommended improvement would be to construct a concrete gutter across the intersection running from the northwest corner to the southwest corner. The stormwater would then travel down the curb and gutter along West Seward St. and ultimately to the storm sewer on Sunset Drive.

Benefits – Over time, the pooling of water in the area will cause the pavement and curb to deteriorate faster than the proposed design life due to the saturation of the subgrade and repeated traffic loading. Completing the improvements will extend the life of the street. Standing water can also pose risks to driver's safety.

Cost Estimate – A cost estimate has been completed using information from recent construction projects.

Item	No. of Units	Units	Unit Cost	Total
Street Excavation	1	Lump Sum	$1,000	$1,000
Concrete Gutter	45	Lineal Ft	$30.00	$1,350
			Contingencies	$400
			Total	**$2,750**

No engineering was included in this cost estimate as it is assumed this work will be completed as part of a larger project or completed by the Village and engineering will not be required.

See Figure 4.2.1-1 showing the location of the improvements.

FIGURE 4.2-1
EXISTING DRAINAGE ISSUES

DATE April 2012

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Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

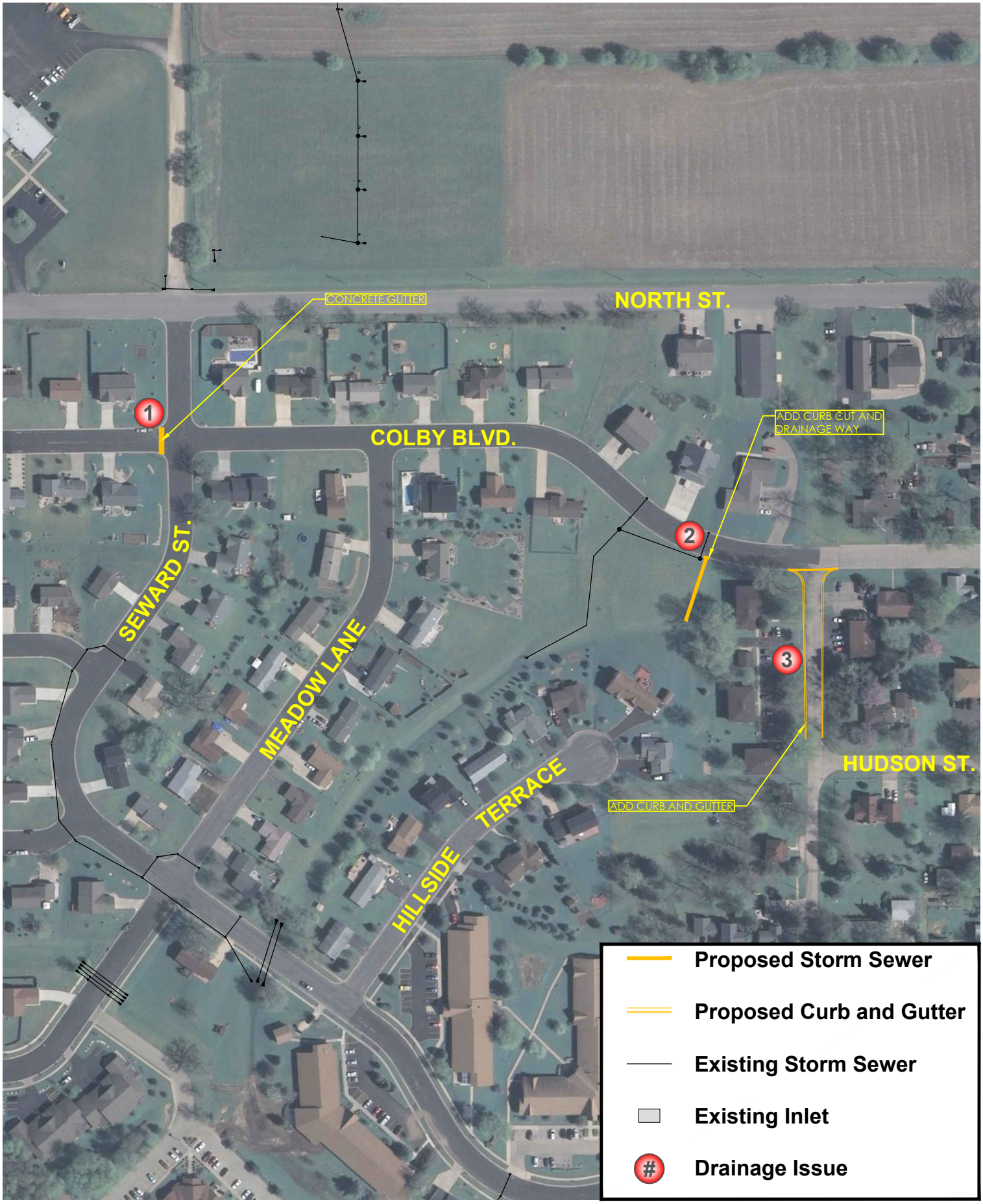

FIGURE 4.2.1-1
EXISTING DRAINAGE ISSUES, 1-3

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Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

4.2.2 Area 2 – Colby Park Drainage

Description – Near Colby Park along Colby Boulevard there is a localized low area that does not drain down in a timely manner. The area has four storm sewer inlets but due to the amount of drainage area and ultimately surface water that reaches the low point, the area frequently requires barricades during heavy rains. The stormwater does eventually drain down but the area needs to drain down faster.

Remediation – The solution will be to provide a curb cut located at the existing inlet and grade a new grassed swale leading to the existing greenway. The curb cut should be approximately half way down the curb. This will allow water to overflow from the street to the greenway in larger storm events but keep the smaller events contained in the existing storm sewer pipes. The swale should only be approximately six inches deep in order to maintain usable area of the park space.

Benefits – Being able to drain the area quicker will prevent the pooling of water that creates a safety hazard for motorists.

Cost Estimate – This project would require minimal work and could be incorporated into other improvements to Colby Park.

Item	No. of Units	Units	Unit Cost	Total
Curb Cut	1	Each	$500	$500
Swale Construction	1	Lump Sum	$1,000	$1,000
			Contingencies	$200
			Engineering	$500
			Total	**$2,200**

See Figure 4.2.1-1 showing the location of the improvements.

4.2.3 Area 3 – Pearl Street

Description – There is a localized area where water does not drain and it pools creating a mud pool near the Prairie 1 and 2 Apartments. The standing water has no place to drain as the street does not have curb and gutter but rather a rural type street section. Typically streets will either have a ditch system to convey stormwater or curb and gutter and storm sewer, Pearl Street has neither.

Remediation – The addition of curb and gutter along the street would direct the stormwater out of the low area where it can be collected into the storm sewer system. The stormwater would be directed north to Colby Boulevard and eventually enter into the storm sewer inlet. Additional grading might be required on the apartment property to ensure water drains in the area.

Benefits – The addition of the curb will keep traffic in the roadway and out of the grassed shoulder area and alleviate existing water pooling.

Cost Estimate – There are multiple items that should be considered in the reconstruction of the roadway beyond the stormwater concerns. The sewer on the northern end of the street was installed after 1980 and is pvc but should be inspected to determine the current condition. Approximately 130' of the southern end of the sanitary sewer is clay tile and should also be inspected. The watermain in this area of the street was installed in the 60's or 70's and is most likely cast iron. If the sewer is replaced the watermain should also be replaced. The estimate below assumes water and sewer will need to be replaced as part of the project.

Item	No. of Units	Units	Unit Cost	Total
Street Improvements	1	Lump Sum	$39,800	$39,800
Sanitary Sewer Improvements	1	Lump Sum	$24,600	$24,600
Watermain Improvements	1	Lump Sum	$19,500	$19,500
			Contingencies	$12,600
			Engineering	$12,600
			Total	**$109,100**

The Street Improvements include removal of the existing street and replacement with a new aggregate base, asphalt, and curb and gutter. The street improvements do not include the addition of sidewalk. The cost for the storm improvements is only $51,700.

See Figure 4.2.1-1 showing the location of the stormwater improvements.

4.2.4 Area 4 – Sanderson Street

Description – The south block of Sanderson Street is a localized low area and does not drain. The block from Grant Street to Hudson Street is approximately 300' long and has only a couple of inches of slope from one end to the other. The area is a commercial business district that has a history of poor drainage and the asphalt is in need of replacement.

Remediation – A couple of options were reviewed with the Village Board for replacement and repair of the street. To alleviate the stormwater drainage it was suggested that either a driveway type curb be installed along the western edge of the right-of-way or an inverted crown be installed to collect the runoff and direct it into a storm sewer inlet. In an effort to save costs, the inverted crown was selected.

Benefits – Collection of the stormwater will aid in the expected life of the street repairs required due to the deterioration of the pavement. The updates will provide the businesses along the street a safe travel route for employees and customers.

Cost Estimate – This project was competitively bid in March 2012 to replace the pavement on the two blocks of Sanderson Street and add storm sewer on the southern block. Four bids were received and the totals were between $59,300 and $64,700. An estimate for construction costs of $65,000 will be used.

Item	No. of Units	Units	Unit Cost	Total
Street Improvements	1	Lump Sum	$65,000	$65,000
			Contingencies	$3,100
			Engineering	$4,000
			Total	**$72,100**

See Figure 4.2.1-2 showing the location of the stormwater improvements.

FIGURE 4.2.1-2
EXISTING DRAINAGE ISSUES, 4-5

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4.2.5 Area 5 – East Grant Street

Description – East Grant Street from Sanderson Street to Highway 51 does not have curb and gutter. At the time the street is reconstructed, curb and gutter is recommended for the entire street length. The area that currently has drainage concerns is the block between North Lincoln Street and North Cleveland Street. Water pools in this area with no drainage facilities available.

Remediation – To collect the stormwater runoff, curb and gutter should be added to the one block stretch of street and storm sewer will be extended to the existing storm sewer on North Cleveland Street.

Benefits – Alleviating the low area and the pooling of stormwater will aid in the expectant life of the roadway. The standing water poses a potential hazard for motorists and pedestrians traveling the street, and the proposed improvements would eliminate the hazard.

Cost Estimate – There is no watermain or sewer lines along Grant Street but both the mains for water and sewer along North Cleveland Street are the original mains installed in 1948. If all of North Cleveland Street is in need of reconstruction the water and sewer should be included. This cost estimate assumes that only the area above the installed storm sewer on North Cleveland Street will be replaced.

Item	No. of Units	Units	Unit Cost	Total
Inlet	3	Each	$2,500	$7,500
Storm Sewer	430	Lineal Ft	$40.00	$17,200
Street Improvements	1	Lump Sum	$41,100	$46,100
			Contingencies	$10,600
			Engineering	$10,600
			Total	**$92,000**

The Street Improvements includes removal of the existing street and replacement with a new aggregate base, asphalt, and curb and gutter. No sidewalk is included in the estimate.

See Figure 4.2.1-2 showing the location of the stormwater improvements.

4.2.6 Area 6 – East Seward Street

Description – East Seward Street from the railroad tracks east to Cleveland Street does not have any existing storm sewer. The storm sewer begins at the tracks and continues west to Main Street. The area east of the tracks takes a large quantity of water from the school district property and surrounding streets. The surface stormwater travels along the curb and gutters until it reaches the inlets near the railroad tracks. During larger rainfall events, stormwater depths make pedestrian traffic difficult. Seward Street is a main thoroughfare for children walking to and from the school property.

Remediation – The recommended solution to the drainage issue is to add storm sewer east along Seward Street to collect the stormwater in pipes rather than the surface drainage. Four storm sewer inlets are proposed at each intersection with Seward Street (Cleveland Street and Lincoln Street). The storm sewer would then be connected to the existing storm sewer inlet on the south side of Seward Street immediately east of the railroad tracks.

Benefits – The quantity of water flowing along the curb and gutter can create both a health and safety hazard for pedestrians and motorists. Collecting the water in the storm sewer pipes will create a safer route for children walking to and from school.

Cost Estimate – The cost estimate assumes that the stormwater improvements will be part of a larger street reconstruction project. The reconstruction of the street is not included in the cost estimate as it assumes this will be included in the overall project costs.

Item	No. of Units	Units	Unit Cost	Total
Inlet	8	Each	$2,500	$20,000
Storm Sewer	910	Lineal Ft	$40.00	$36,400
			Contingencies	$5,600
			Engineering	$8,500
			Total	**$70,500**

See Figure 4.2.1-3 showing the location of the improvements.

FIGURE 4.2.1-3
EXISTING DRAINAGE ISSUE, 6

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Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

4.2.7 Area 7 – West Washington Street

Description – The greenways in the northwestern residential area of the Village are all directed to a storm sewer crossing of West Washington Street. The existing crossing is a 42-inch elliptical storm sewer pipe. If stormwater from future developments is directed to the greenways and ultimately to the storm sewer crossing the existing 42-inch elliptical pipe will be undersized. If future developments are directed to a regional detention area on the County property the upsizing of the pipes will be less significant.

Remediation – The existing storm sewer pipe will need to be replaced with a larger culvert crossing and inlets. The size of the future development area that is directed to the crossing will dictate the size required.

Benefits – The replacement of the culvert will minimize the backup of stormwater up the existing greenway. The properties that are around the end of the greenway and near the crossing of West Washington Street could have the potential to flood without the pipe replacement.

Cost Estimate – The project costs do not include any replacement of water or sewer mains.

Item	No. of Units	Units	Unit Cost	Total
Inlet	3	Each	$3,500	$10,500
Storm Sewer	300	Lineal Ft	$150	$45,000
Street Repair	1	Lump Sum	$5,000	$5,000
			Contingencies	$9,100
			Engineering	$9,100
			Total	**$78,700**

See Figure 4.2.1-4 showing the location of the improvements.

FIGURE 4.2.1-4
EXISTING DRAINAGE ISSUE, 7

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4.2.8 Area 8 – West Thomas Street

Description – There is a portion of West Thomas Street that does not drain and holds stormwater located between South Main Street and Cross Street. Standing water will remain in the low area for days after a rainfall. The standing water is a nuisance for the residents, saturates subgrade which affects the pavement and poses a health and safety hazard.

Remediation – Curb and gutter will be added from South Main Street to Cross Street. The area generally drains to the west and the proposed street grades will follow the existing grades. There is existing storm sewer that runs to the north along Cross Street that will be connected for the collection of the stormwater off of the curb.

Benefits – Eliminating the low spot and draining the stormwater will provide a safer, healthier environment for the residents along West Thomas Street.

Cost Estimate –There is no sanitary sewer main located in the area of the proposed repairs but the watermain for this block of West Thomas Street is the original main installed in 1948 and should be replaced at the time of construction.

Item	No. of Units	Units	Unit Cost	Total
Street Improvements	1	Lump Sum	$37,300	$37,300
Watermain Improvements	1	Lump Sum	$22,600	$22,600
			Contingencies	$9,000
			Engineering	$9,000
			Total	**$77,900**

The Street Improvements include removal of the existing street and replacement with a new aggregate base, asphalt, and curb and gutter. No sidewalk is included. Watermain Improvements include replacement of the main, laterals, valve, and hydrant. The cost for storm improvements only is $48,500.

See Figure 4.2.1-5 showing the location of the stormwater improvements.

FIGURE 4.2.1-5
EXISTING DRAINAGE ISSUE, 8

DATE April 2012

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Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

4.2.9 Area 9 – Traceway Court

Description – Stormwater pools at the intersection of Traceway Court and County Highway CS. The standing water decreases the proposed lifespan of the asphalt and creates a nuisance.

Remediation – The area generally drains to the west along County Highway CS but there is no established ditch in the area. A concrete gutter is proposed to cross Traceway Court and a shallow ditch will be added west of the intersection until it connects to the existing ditch west of Hillpoint Court. The end of Traceway Court will also have to be regarded to ensure water drains to the concrete gutter. Concrete gutters will also be required at two driveway crossings.

Benefits – Eliminating the low spot and draining the stormwater will provide a safer, healthier environment and increase the lifespan of the pavement.

Cost Estimate –The cost estimate includes only improvements outside of the pavement of County Highway CS and no disturbance of the roadway is expected.

Item	No. of Units	Units	Unit Cost	Total
Concrete Gutter	65	Lineal Ft	$30	$1,950
Ditch Improvements	1	Lump Sum	$4,000	$4,000
Street and Driveway Repairs	1	Lump Sum	$2,000	$4,000
			Contingencies	$2,000
			Engineering	$3,000
			Total	**$14,950**

Because there is no existing drainage provided along County Highway CS some of the costs associated with the improvements could be the responsibility of the County.

See Figure 4.2.1-6 showing the location of the stormwater improvements.

FIGURE 4.2.1-6
EXISTING DRAINAGE ISSUE, 9

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Poynette Stormwater Master Plan
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4.2.10 Area 10 – Lincoln Street

Description – The backyard of the property located at 128 South Lincoln Street does not drain. The area is lower than the alleyway and the street with no relief for the stormwater.

Remediation – Unfortunately the storm sewer located in the vicinity of the area where water pools is not deep enough to drain the area. Storm sewer had been improved on Lincoln Street in 2007 increasing the amount of runoff that is collected into the storm sewer and not allowing it to reach the low area. This will be expanded by the addition of storm sewer in the alleyway to collect the surface runoff on the alley thereby not allowing it to reach the yard space. A rain garden will also be installed to promote infiltration of the stormwater runoff in the yard area. It should be noted that the work will improve the current condition but will not fully resolve it, the area is low and unable to drain.

Benefits – Eliminating the low spot and draining the stormwater will provide a safer, healthier environment and decrease the potential for property damage..

Cost Estimate – There is water and sewer located in the alley that is part of the original system installed in 1949. If stormwater improvements are added additional improvements to the other utilities and the ally shall also be replaced.

Item	No. of Units	Units	Unit Cost	Total
Project Costs	1	Lump Sum	$51,500	$56,500
			Contingencies	$8,500
			Engineering	$8,500
			Total	**$73,500**

A complete cost estimate is included in Appendix A. The cost for storm improvements only including some street reconstruction is approximately $34,000.

See Figure 4.2.1-7 showing the location of the stormwater improvements.

FIGURE 4.2.1-7
EXISTING DRAINAGE ISSUE, 10

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Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

CHAPTER 5
STORMWATER QUALITY ANALYSIS

5.0 Introduction

Stormwater quality is also an important aspect of stormwater runoff that should be reviewed to protect local natural waterways and in the case of Poynette a Class 1 trout stream, Rowan Creek. As described in Chapter 2, stormater runoff is not "clean water" and can contain materials that are harmful to the receiving waters. The stormwater runoff from the Village was modeled to determine the pollutant loading being discharged along with the stormwater and to present plans for regional treatment of the stormwater. This plan is primarily focused on the removal of suspended solids or sediment. Removal of other pollutants will also occur with the removal of sediment.

5.1 Modeling

The modeling for water quality focused on areas of the Village that discharge directly to Rowan Creek via a point discharge. A point discharge is a pipe or ditch discharge that collects stormwater from a watershed and then discharges at a single point. There are areas all along the creek that discharge into the creek such as Pauquette Park that are not point discharges. This chapter focuses on the point discharges collected from streets rather than the areas similar to the park.

Multiple watersheds are located throughout the Village but five point discharges to Rowan Creek were modeled using WinSLAMM V9.4.0, a Windows based Source Loading and Management Model. WinSLAMM models stormwater pollutant runoff for different land uses and soil types. WinSLAMM is widely used throughout the stormwater modeling industry and is an accepted model by the WDNR. The five areas modeled are Watesheds 3, 6, 8, 9, and 10 shown on Figure 5.1-1.

5.1.1 Modeling Parameters

Source Area Modeling – The area modeled for each of the watersheds was based on the land use and soil type as described in Chapter 3 and the areas as described in Chapter 4. The model uses field collected data for the different source areas for different types of land cover as shown on Figure 5.1.1-1. WinSLAMM has *Standard Land Use Files* that were used to model the specific source areas. *Standard Land Use Files* are setup to model land uses such as Medium Density Residential, Commercial Downtown, Misc. Institutional, etc. that breaks down into specific source areas shown in Figure 5.1.1-1.

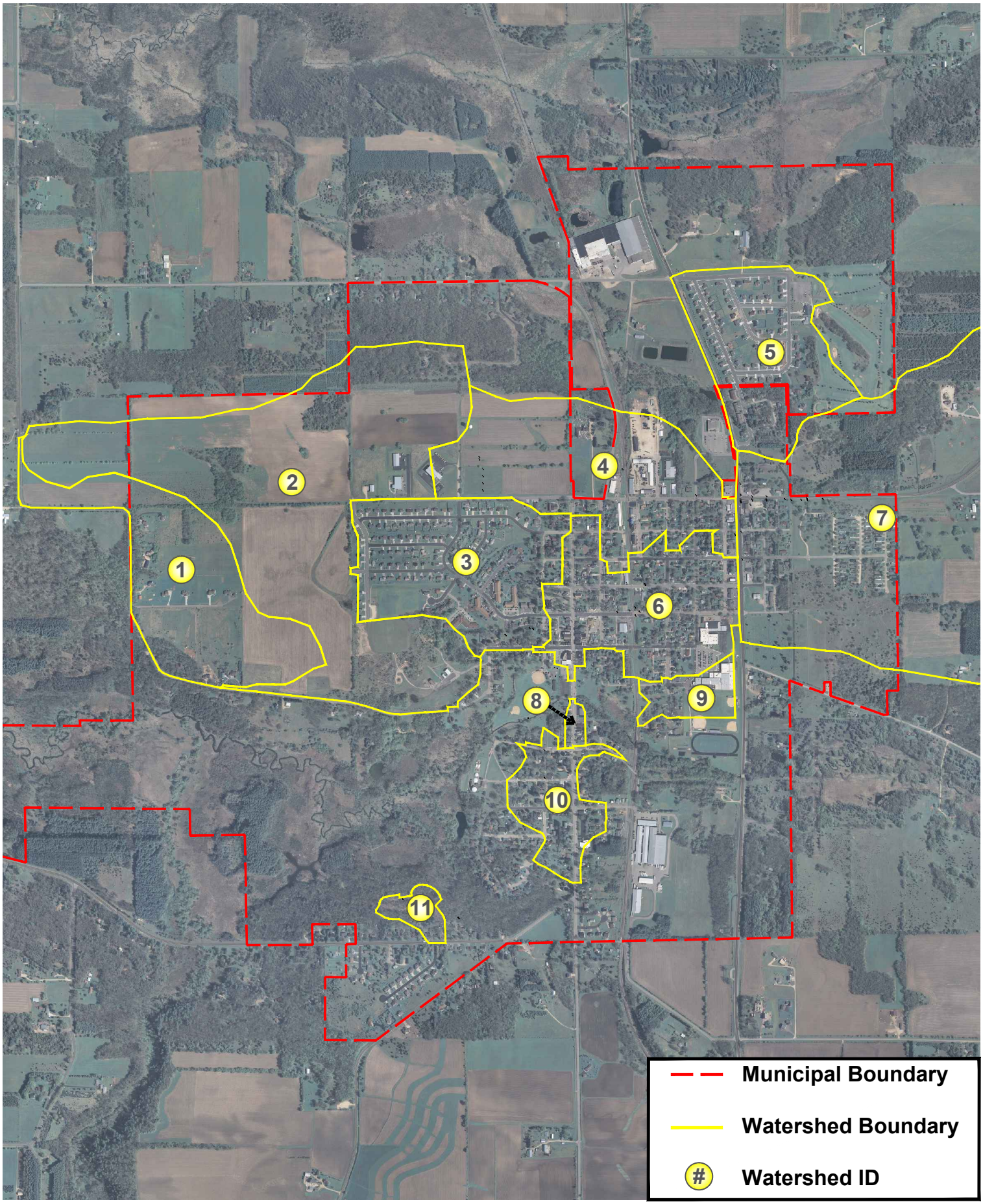

FIGURE 5.1-1
REGIONAL WATERSHEDS

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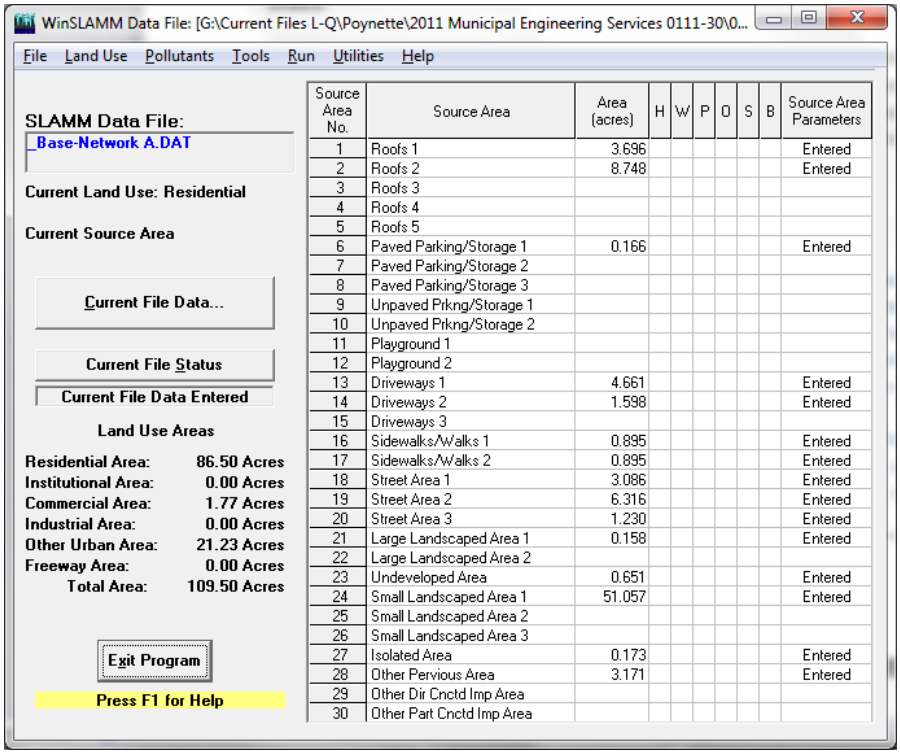
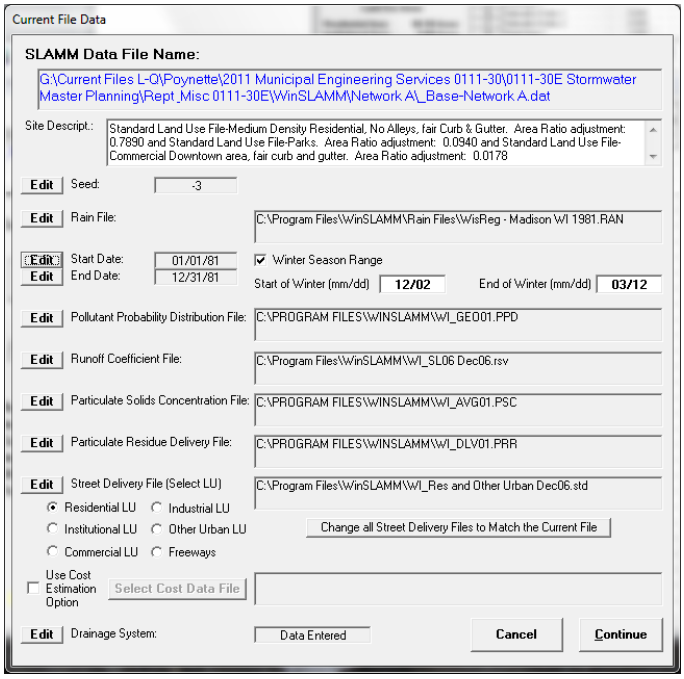
Figure 5.1.1-1
WinSLAMM Source Area Data



Source Area No.	Source Area	Area (acres)	H	W	P	O	S	B	Source Area Parameters
1	Roofs 1	3.696							Entered
2	Roofs 2	8.748							Entered
3	Roofs 3								
4	Roofs 4								
5	Roofs 5								
6	Paved Parking/Storage 1	0.166							Entered
7	Paved Parking/Storage 2								
8	Paved Parking/Storage 3								
9	Unpaved Prkng/Storage 1								
10	Unpaved Prkng/Storage 2								
11	Playground 1								
12	Playground 2								
13	Driveways 1	4.661							Entered
14	Driveways 2	1.598							Entered
15	Driveways 3								
16	Sidewalks/Walks 1	0.895							Entered
17	Sidewalks/Walks 2	0.895							Entered
18	Street Area 1	3.086							Entered
19	Street Area 2	6.316							Entered
20	Street Area 3	1.230							Entered
21	Large Landscaped Area 1	0.158							Entered
22	Large Landscaped Area 2								
23	Undeveloped Area	0.651							Entered
24	Small Landscaped Area 1	51.057							Entered
25	Small Landscaped Area 2								
26	Small Landscaped Area 3								
27	Isolated Area	0.173							Entered
28	Other Pervious Area	3.171							Entered
29	Other Dir Cnctd Imp Area								
30	Other Part Cnctd Imp Area								

Support Files – The WinSLAMM model also references several support files for rainfall information, runoff coeffiecients, pollutant modeling and other data. These support files are the same for each of the models. The support files are shown in adjacent Figure 5.1.1-2. WinSLAMM also references the "NURP" particle size distribution which was developed from field collected data.

Figure 5.1.1-2
WinSLAMM Support Files



The parameters were entered into WinSLAMM for each of the five areas to create a base condition without any proposed or existing stormwater facilities. These base conditions provide a starting point for comparing a discharge with no controls to one with stormwater facilities for control of suspended solids. The total suspended solids loading on an annual basis for the base conditions for each of the watersheds is indicated in Table 5.1-2.

Table 5.1-2
Watershed Pollutants

Watershed (Figure 5.1-1)	Total Suspended Solids (lbs)
3	23,788
6	21,445
8	581
9	11,753
10	2,292
Total	**59,859**

As shown in the table, the estimate of Total Suspended Solids (TSS) discharged into Rowan Creek by point discharges in the Village is 59,859 lbs or almost 30 tons. The Wisconsin Administrative Code Chapter NR 151, as enforced by the WDNR, requires a 40% reduction in total suspended solids for the redevelopment of parking areas and roads. Municipal Separate Storm Sewer Systems, or MS4's, which regulate stormwater discharge from larger communities also requires a reduction in TSS of 40%. A recommendation of 40% reduction of total suspended solids would be a good goal for the Village.

5.2 Pollutant Reduction

There are several mechanisms the Village can employ to reduce the sediment loading to Rowan Creek. We will review street sweeping, sumps in storm sewer inlets along with various regional treatment options.

5.2.1 Street Sweeping

Street sweeping removes dirt, leaves, and other material that if uncollected could ultimately end up in Rowan Creek. The Village's recent leasing of a street sweeper will increase the frequency the streets are swept. The benefit of street sweeping for the removal of total suspended solids depends on the frequency of the sweeping, the type of sweeper (mechanical broom or vacuum assisted), and the number of cars parked on the street at the time of sweeping. Using

Watershed 6 as an example, the possible reduction in sediment that can be achieved by street sweeping is shown in Table 5.2.1-1. These are the results of the WinSLAMM model for different street sweeping practices.

Table 5.2.1-1
Street Sweeping – Watershed 6

Frequency	TSS Reduction (%)	
	Mechanical Broom	Vacuum Assisted
5 Passes per Week	11.9	32.8
3 Passes per Week	11.8	31.5
1 Pass per Week	10.3	24.1
1 Pass every 2 Weeks	7.4	15.6
Two Passes per Year (spring and fall)	6.7	6.2

As shown in the above table, as the frequency increase, so does the disparity of the TSS reduction from the mechanical broom verses the vacuum assisted. The Village's current street sweeper is a mechanical broom on a schedule of once per two weeks. According to the WinSLAMM model, the existing schedule and equipment provide a reduction of 7.4%, which equates to nearly 3 tons of total suspended solids when applied Village wide.

5.2.2 Storm Sewer Sumps

Sumps in storm sewer inlets provide an opportunity for sediment to drop out of the stormwater runoff and be collected in the bottom of the inlet rather than traveling down the storm sewer pipes. Many of the storm sewer inlets currently installed in the Village do not have sumps as it had not been common practice in the past. The Village has recently implemented including two foot sumps in all new inlets installed and most recently they were installed for the Wilson Street and Lincoln Street projects. According to the WinSLAMM model, sumps can reduce the TSS from stormwater runoff by up to 13%. The sumps should be inspected on a regular schedule and cleaned periodically to ensure they can function as intended. This should be included as part of the overall maintenance plan.

5.2.3 Regional Treatment

Regional treatment of stormwater runoff is another tool available to the Village. Regional treatment collects water from a watershed area and treats it for pollutant runoff. A typical, and the most cost effective, regional treatment facility serving urban development is a wet detention pond. A wet detention pond detains stormwater runoff allowing particles to settle

out in the pond and as a side benefit, also reduces peak flow. Due to the cold water community of Rowan Creek, a wet pond with a point discharge is not preferred as the permanent pool of water tends to increase the temperature of the stormwater runoff which can be a detriment to the stream habitat. Alternative designs to a wet pond have been reviewed and are described in further detail in Section 5.4

5.3 Existing Facilities

Beyond the existing storm sewer inlet sumps and conveyance system, the Village has two major stormwater facilities that provide treatment of the stormwater runoff prior to discharge to Rowan Creek.

5.3.1 Existing Greenways

The existing greenways in the Colby Subdivision in the northwest corner of the Village provide an excellent opportunity to remove total suspended solids in the stormwater runoff. Watershed 3, as shown on Figure 5.1-1, is the area served by the greenways and incorporates 110 acres of runoff. The greenways promote infiltration of stormwater runoff and also allow sediment to settle out as the water travels downstream. Modeling the greenways with a dynamic infiltration rate of 0.25 inches per hour yields a reduction in sediment of 49%.

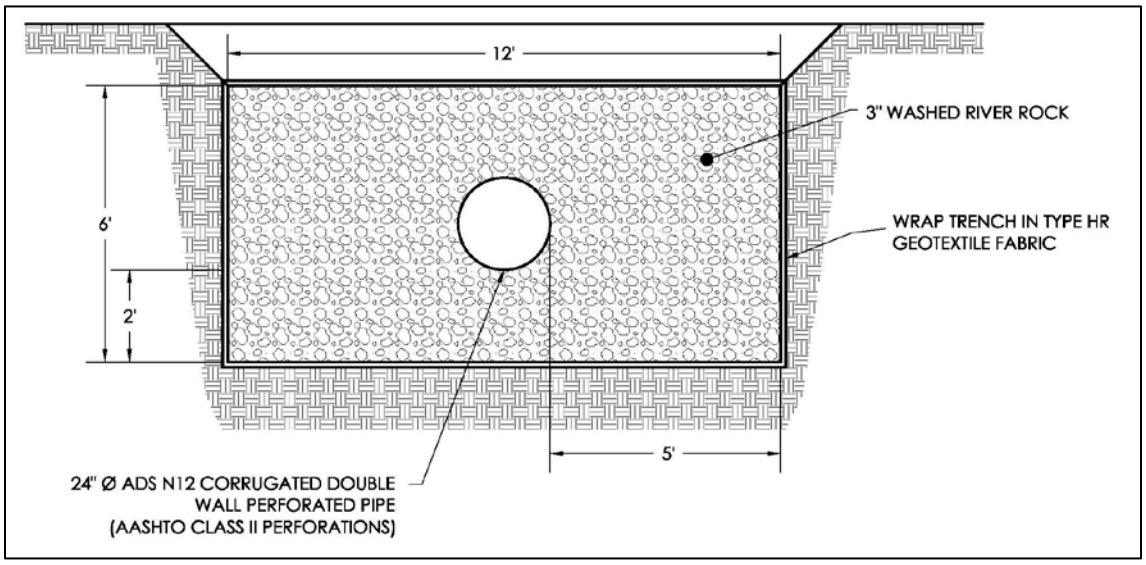
The greenways need to be periodically cleaned as the sediment settles out of the runoff and is deposited along the greenway. The areas where storm sewer lines discharge into the greenway will require frequent cleaning this has been a regular duty of the Public Works Department. Over time, sediment will build up along the entire length of the greenway decreasing the infiltration and coincidently decreasing the ability to settle out additinal TSS. The greenways may require cleaning and ultimately deep tilling, a method to improve infiltration as needed.

5.3.2 Lincoln Street Discharge

In 2007, a reconstruction of Lincoln Street from Seward Street south was completed to improve the street drainage and replace underground utilities. As a component of the project, storm sewer was added and a new stormwater point discharge was created to Rowan Creek near the railroad tracks. Through an extensive WDNR review and approval process, a design was completed for a stormwater facility prior to discharge that removed sediment, promoted infiltration and addressed water temperature (due to the discharge to a cold water creek). The design that was ultimately approved and installed included the installation of 390’ of perforated pipe set nearly flat in a bed of 3” washed river rock. Figure 5.2.4-1 is the cross section detail for

the infiltration bed with perforated pipe.

Figure 5.2.4-1
Infiltration Bed with Draintile



At the end of the perforated pipe and stone section a manhole was installed with a four inch grouted bottom to create a ponding depth of four inches. Modeled in WinSLAMM in correlation with the runoff from Watershed 9, the infiltration bed with pipe achieves a removal of 44% of TSS. Any stormwater facility that removes solids from stormwater will require sediment removal from time to time and this facility is no different. The interior of the pipe should be inspected for blockage of the perforations along with an inspection of the stone every year. The stone will need to be replaced once it becomes blocked with sediment. It is difficult to estimate the frequency of replacement as it is completely dependent on the amount of sediment collected. Regular cleaning of the sumps in manholes and inlets along the stormwater collection system and street sweeping will extend the life of the system.

5.4 Proposed Regional Facilities

To reach the goal of a 40% reduction in total suspended solids, regional facilities for the two remaining major point source discharges in the Village should be considered. Watershed 6, as depicted on Figure 5.1-1, collects stormwater from a large residential area and also the downtown commercial district. This area discharges south of the Pauquette Park parking area along Main Street and has been named the "Main Street Facility". A regional facility is proposed to treat stormwater runoff prior to the water entering Rowan Creek along Main Street. The original design discussed would be to construct a rain garden or similar facility in Veteran's Memorial Park. Due to the elevation of the park in reference to

the storm sewer along Main Street, a facility in the park is not feasible. Also due to the volume of water discharging at this location, a rain garden is not the best solution. Although not ideal, the only location where there is enough space for the Main Street Facility and where the elevations will work is located in the parking lot area of Pauquette Park. The other point source discharge is for Watershed 10 located in Village owned property on the south side of Rowan Creek that collects stormwater from the south side of the Village. The location of the regional facility would be located in the Village owned property near West Mill Street and has been designated as the "Southside Facility".

Three types of regional facilities have been reviewed and modeled for each of the two regional facility locations. The three types of treatment include a perforated pipe and infiltration bed (a similar facility to the Lincoln Street Discharge), hydrodynamic separators and underground detention facilities.

5.4.1 Perforated Pipe and Infiltration Bed

The first option considered for the two regional treatment facilities was a similar facility to the existing Lincoln Street Discharge with adjustment of size to accommodate the runoff from each of the watersheds. For the Main Street Facility, to reach a 40% reduction in TSS five eighteen-inch perforated pipes would be proposed in a five foot deep stone bed. A manhole at the end of the pipe system would be installed with a six inch weir to promote infiltration in the pipes. See Figure 5.4.1-1 for the facility layout. The proposed facility would require raising the existing parking lot by approximately one foot. Due to the need to remove the pavement to install the facility, the project should be incorporated into a resurfacing of the parking lot if practical.

Permitting will be required for this project from the WDNR due to the proximity to the creek and FEMA as the area is located in the flood plain. The final design of the stormwater facility may change from the concept design but the preliminary cost estimate is as follows:

Item	No. of Units	Units	Unit Cost	Total
Main Street Facility	1	Lump Sum	$154,600	$154,600
			Contingencies	$23,200
			Engineering	$30,900
			Total	**$208,700**

A complete cost estimate is included in Appendix A.

Periodic maintenance of the facility will be required and will be costly as removal of the pavement and stone will be required.

The Southside Facility is proposed in line with the existing storm sewer in the grassed area north

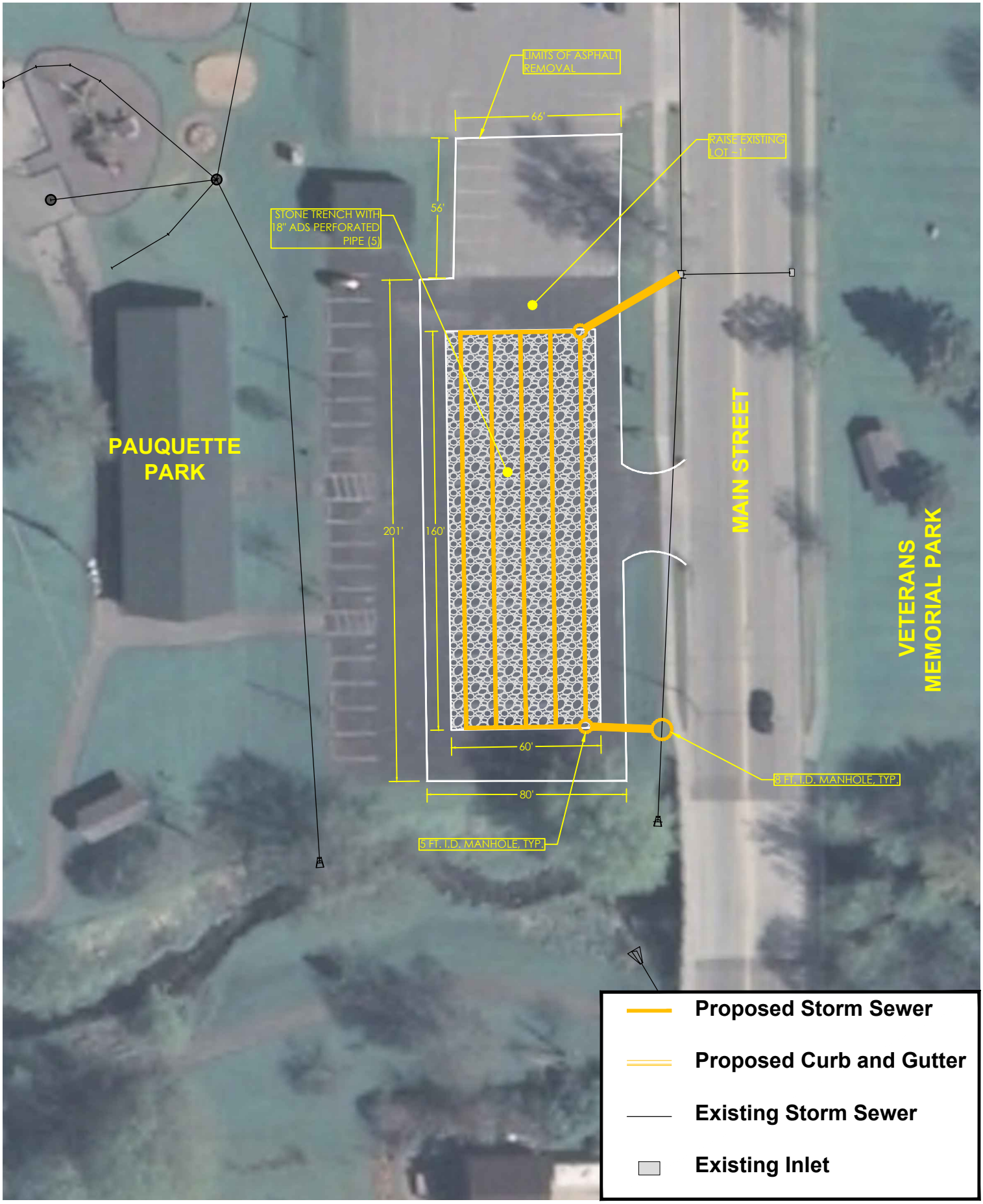


FIGURE 5.4.1-1
MAIN STREET FACILITY

DATE April 2012

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12.5 50 100

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Village of Poynette, Columbia County, WI

FIGURE 5.4.1-2
SOUTHSIDE STORMWATER FACILITY

DATE April 2012

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15 60 120

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Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

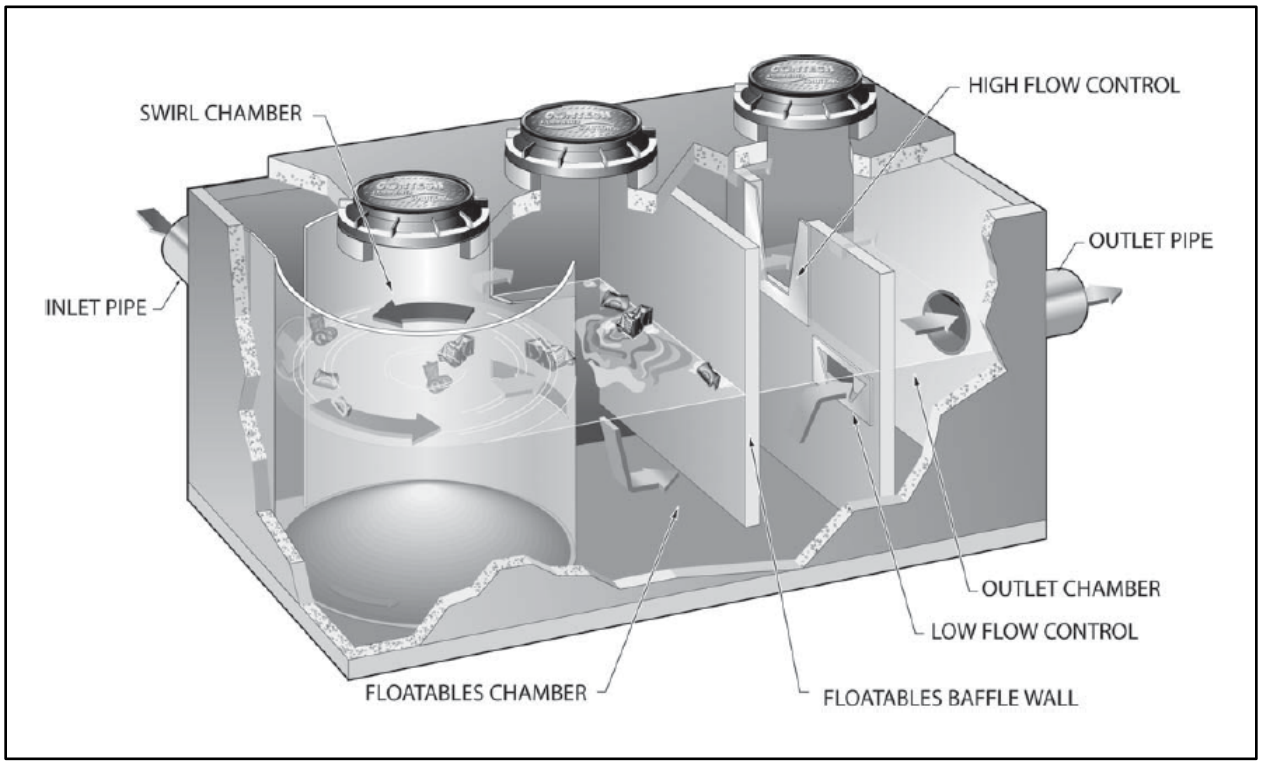
of West Mill Street, see Figure 5.4.1-2. The facility was again modeled after the Lincoln Street Discharge. Due to the smaller volume of water at this facility a single 24-inch perforated pipe installed in a twelve foot wide bed of stone obtains the goal of the 40% reduction of TSS.

The cost estimate to install the facility is $58,700. A full breakdown of the costs is included in Appendix A.

5.4.2 Hydrodynamic Separators

Another option for regional treatment with reduced maintenance costs would be the installation of hydrodynamic separators. The separators are underground facilities that typically use a swirl chamber and a series of baffle walls to remove trash and sediment from the stormwater runoff. Contech Stormwater Solutions Inc. produces a couple of different types of hydrodynamic separators including Votechs® systems. Figure 5.4.2-1 is an image of a Vortechs® unit taken from the Vortechs® Guide.

Figure 5.4.2-1
Vortechs® Unit



The units would need to be periodically inspected for sediment deposits and trash and cleaned

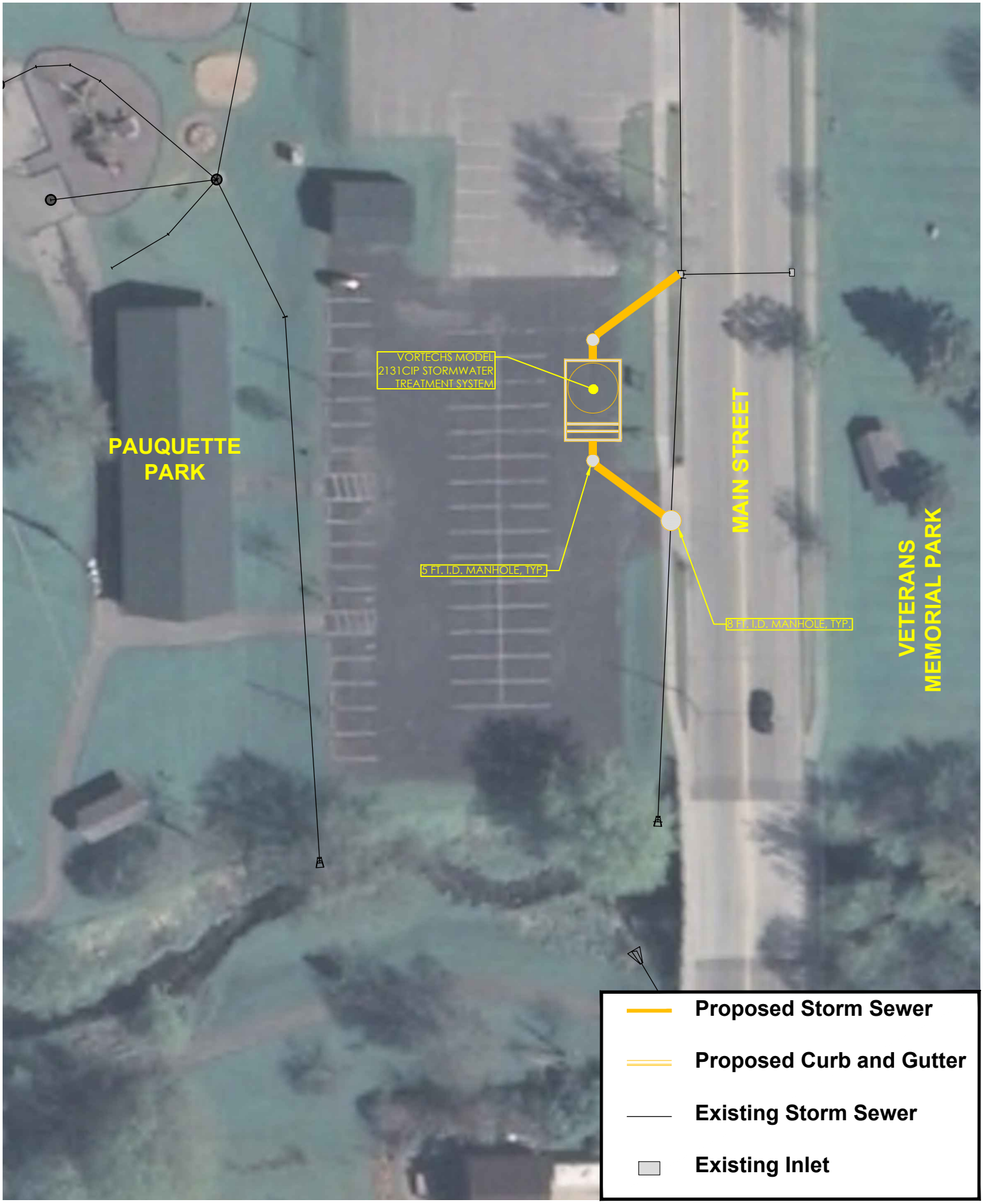


FIGURE 5.4.2-2
MAIN STREET FACILITY

DATE April 2012

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GEC FILE NO. 0111–30E

Poynette Stormwater Master Plan
Village of Poynette, Columbia County, WI

FIGURE 5.4.2-3
SOUTHSIDE STORMWATER FACILITY

DATE April 2012

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15 60 120

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Village of Poynette, Columbia County, WI

as needed with a vac-truck. The location of the Main Street and Southside Facility can be seen on Figures 5.4.2-2 and 5.4.2-3 respectively. The removal efficiency of the units as modeled in WinSLAMM is between 13-16%. WinSLAMM is unable to model the swirl chamber or baffle walls but rather the unit is entered into the model as being a wet pond with the dimension of the underground storage area. Therefore the removal efficiency will be greater than the results noted by WinSLAMM. The flows for the two watershed areas were sent to Contech and they suggested the Vortechs® Model 2131 CIP and the CDS3030 for Watersheds 6 and 10 respectively. The costs for the units and other required site improvements are included in Table 5.4.2-1.

Table 5.4.2-1
Hydrodynamic Separators

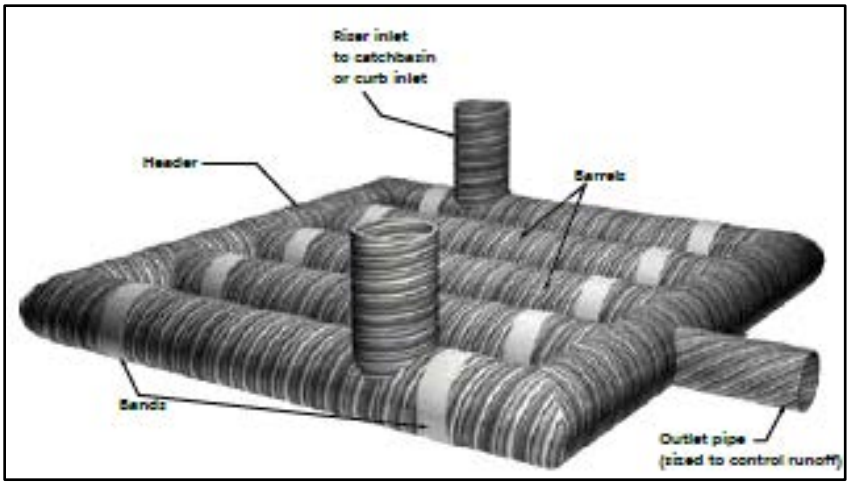
Watershed	Vortechs ® Unit	Removal Efficiency	Cost
6 (Main St.)	2131	16.5%	$366,500
10 (Southside)	CDS3030	13.0%	$62,700

Detailed cost estimates are included in Appendix A.

5.4.3 Underground Detention

The third option reviewed regarding regional treatment for both the Main Street and Southside Facilities was the installation of underground wet detention, basically a wet pond underground. The detention system proposed would be constructed of 96" aluminized steal pipe and would have a standing water depth of four feet. Being underground, the detention system is not as susceptible to warmer water temperatures and therefore not as detrimental to Rowan Creek. Figure 5.4.3-1 is an example of a layout of the underground detention system as taken from the *Metal Detention and Infiltration Products* by Contech® Engineered Solutions.

Figure 5.4.3-1
Contech® Underground Detention



The underground detention facilities for each the Main Street and Southside Facilities were sized to remove 40% of the TSS. The layout for each facility can be seen on Figure 5.4.3-2 and 5.4.3-3. The cost associated with each facility is included in the table below.

Table 5.4.3-1
Underground Detention

Watershed	Removal Efficiency	Cost
6 (Main St.)	40%	$216,900
10 (Southside)	40%	$42,600

Complete cost estimates are included in Appendix A.

5.4.4 Future Development

As the Village expands to the north and west, there are two locations where regional stormwater ponds should be considered. Regional ponds can be a more efficient use of space by constructing one large pond rather than multiple smaller ponds. The first would serve Watershed 1 and the other would serve Watershed 2 as shown on Figure 5.1-1. In Watershed 1, there is an existing large box culvert crossing under McMillian Road located near the Rowan Creek parking area. The pond should be located on the north side of McMillan Road up gradient from the box culvert. In Watershed 2, the regional pond could be located in the area of the county owned lands north of McMillan Road. Both ponds would ultimately discharge to Rowan Creek and therefore water temperature will need to be addressed as well as peak flow and sediment removal.

5.5 Analysis Results

Stormwater runoff is not clean water but rather contains sediment and other pollutants that are transported to receiving waters by the storm sewer conveyance system. The Village of Poynette is focusing the efforts of pollutant removal on sediment and on discharges to Rowan Creek. The existing land improvements and soil types dictate the pollutant loading and nearly 30 tons of sediment is generated by land areas discharging to the creek. Street sweeping, sumps in manholes, greenways and the Lincoln Street discharge all aid in the removal of sediment and other pollutants in stormwater runoff. It is ultimately the Village's goal to reach an overall sediment removal rate of 40% reduction in total suspended solids.

Maintenance of existing components of the stormwater system is required to ensure that pollutant removal is being achieved to the maximum extent practical. The items listed in this chapter including sumps in manholes, existing facilities and proposed facilities all are designed to remove sediment and other pollutants in the stormwater runoff and therefore require periodic cleaning.

FIGURE 5.4.3-2
MAIN STREET FACILITY

DATE April 2012

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12.5 50 100

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Village of Poynette, Columbia County, WI

FIGURE 5.4.3-3
SOUTHSIDE STORMWATER FACILITY

DATE April 2012

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15 60 120

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There are five point discharges on Rowan Creek; one watershed is directed through the existing greenway, one to the Lincoln Street discharge, one has minimal flow and therefore minimal sediment. That leaves two point discharge locations on Rowan Creek where regional facilities are proposed to remove sediment and other pollutants in the stormwater runoff prior to discharge. The two points where regional facilities have been proposed are named the Main Street Facility and the Southside Facility and collect stormwater runoff from watersheds 6 and 10 respectively. Below in Table 5.5-1 is the existing removal of sediment by the existing facilities prior to the addition of new facilities.

Table 5.5-1
Existing TSS Removals

Watershed Figure 5.1-1	Total Suspended Solids		Reduction
	Before Controls	After Controls	
3 (greenway)	23,788	12,310	49%
6 (Main St)	21,445	21,445	0
8	581	581	0
9 (Lincoln St)	11,753	6,618	44%
10 (Southside)	2,292	2,292	0
Total	**59,859**	**43,246**	**28%**

Three options were reviewed for proposed stormwater facilities. The first option was to install a similar system at each of the two proposed locations as the Lincoln Street discharge. Table 5.5-2 is the results of the modeling for the facilities. As shown from the results the goal of 40% removal of sediment is met.

Table 5.5-2
Proposed Option 1 TSS Removals (Perforated Pipe and Infiltration Bed)

Watershed Figure 5.1-1	Total Suspended Solids		Reduction
	Before Controls	After Controls	
3 (greenway)	23,788	12,310	49%
6 (Main St)	21,445	12,836	40%
8	581	581	0
9 (Lincoln St)	11,753	6,618	44%
10 (Southside)	2,292	1,373	40%
Total	**59,859**	**33,718**	**44%**

The cost to obtain the 44% removal is approximately $267,400.

Another option for the regional treatment is the installation of hydrodynamic separators at the two proposed locations. The separators do not model well in the WinSLAMM model but maintenance costs

will be much lower. The removal rates are included in Table 5.5-3.

Table 5.5-3
Proposed Option 2 TSS Removals (Vortechs®)

Watershed Figure 5.1-1	Total Suspended Solids		Reduction
	Before Controls	After Controls	
3 (greenway)	23,788	12,310	49%
6 (Main St)	21,445	17,911	16.5%
8	581	581	0
9 (Lincoln St)	11,753	6,618	44%
10 (Southside)	2,292	1,993	13.0%
Total	**59,859**	**39,413**	**34%**

As stated the hydrodynamic separators do not model well in WinSLAMM and the 40% goal does not appear to be met with the results of the WinSLAMM models. The cost to complete the construction of the two Vortechs® units is $429,200.

The third option reviewed was the use of underground detention which is modeled to remove 40% of the TSS and maintenance is more practical than option 1. Table 5.5-4 is the modeling results including the construction of the underground detention facilities.

Table 5.5-4
Proposed Option 3 TSS Removals (Underground Detention)

Watershed Figure 5.1-1	Total Suspended Solids		Reduction
	Before Controls	After Controls	
3 (greenway)	23,788	12,310	49%
6 (Main St)	21,445	12,809	40%
8	581	581	0
9 (Lincoln St)	11,753	6,618	44%
10 (Southside)	2,292	1,371	40%
Total	**59,859**	**33,689**	**44%**

The cost to install the underground detention facilities to meet the 40% reduction is $259,500.

CHAPTER 6
MAINTENANCE PLAN

6.0 Introduction

As previously mentioned, stormwater is not clean water. Due to the pollutants in stormwater regular maintenance is required of the stormwater components. The items that require ongoing maintenance are as follows:

- Ditches
- Inlet sumps
- Street Sweeping
- Greenways
- Valley View Park Rain Garden and Infiltration Basin
- Lincoln Street Discharge
- Private Facilities
    - Fire Station
    - School District
    - Woodland Ridge
    - Poynette Iron Works

Figure 6.0-1 shows the locations of the existing and proposed stormwater facilities.

6.1 Maintenance Schedule

The stormwater components should generally be inspected semi-annually once in spring and again in the fall. Maintenance frequency will vary pending on the source areas directed to the stormwater components as some areas produce more pollutants than others.

Ditches – Ditches should be cleaned when sediment deposits affect the functionality of ditch. Ditches are cleaned by removing sediment in the ditch with an excavator and hauling it offsite. Existing culverts are good reference elevations for where the ditch elevation should be.

Inlet Sumps – Sumps will need to be cleaned as sediment is deposited and should be planned to be cleaned twice a year or more frequently if needed. All new sumps in inlets will be two foot in depth, if one foot of sediment is noted during inspection the sump should be cleaned. The inlet sumps can be inspected by using a rod to check the depth of the sediment. Sediment is removed by a vac-truck and hauled away. A map should be created that notes the locations of all of the sumps throughout the Village.

Street Sweeping – According to the model data represented in Chapter 5, it appears that for a mechanical broom sweeper once a week sweeping is the most efficient. At higher frequencies a vacuum assisted street sweeper is able to remove two to three times the sediment.

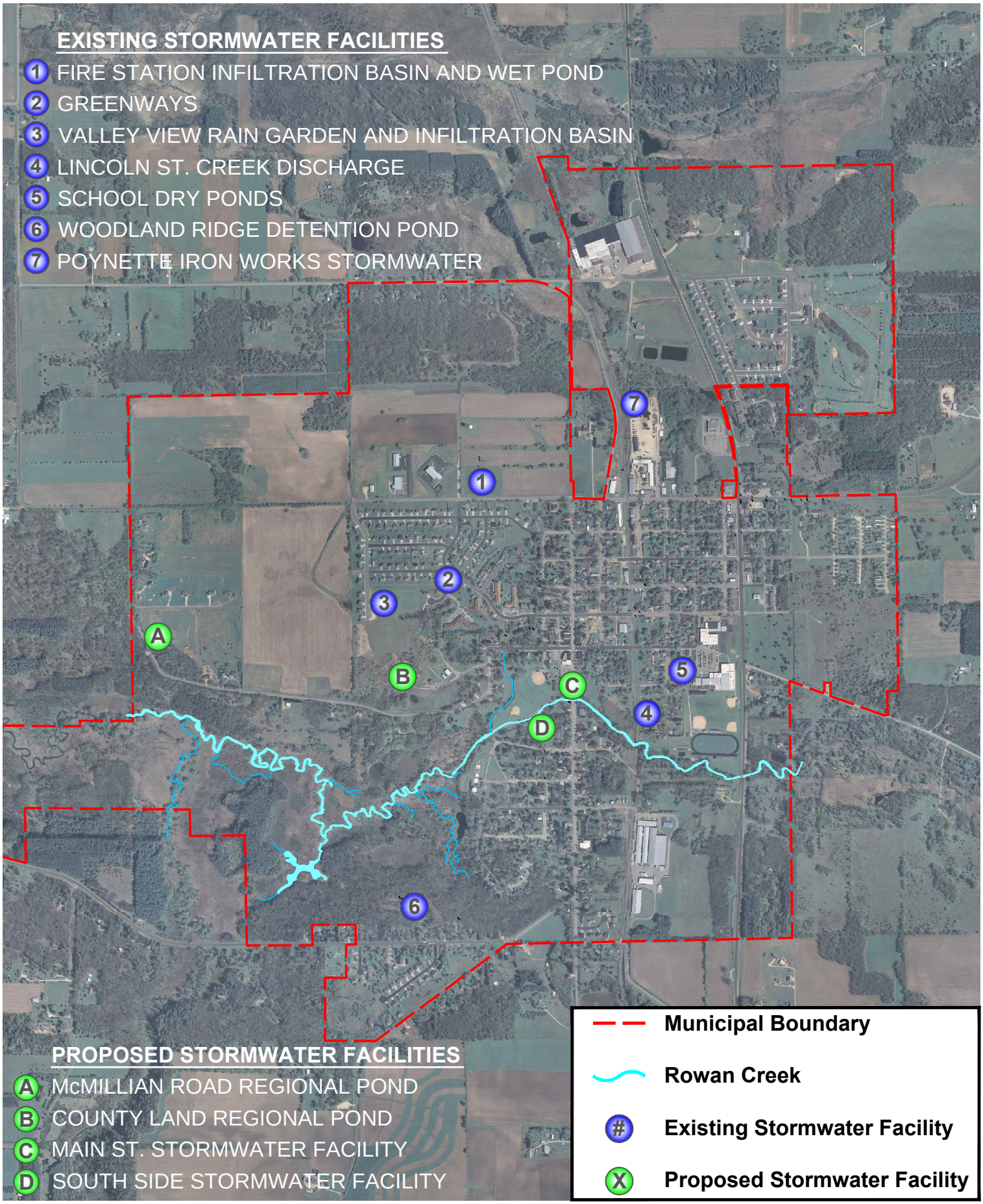

FIGURE 6.0-1
STORMWATER FACILITIES

DATE April 2012

N W E S

0 750 2250
375 1500 3000

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Village of Poynette, Columbia County, WI

Greenways – Periodically sediment will need to be removed from the greenways and the turf re-established. Sediment deposits at storm sewer discharge points will need to be cleaned on a more regular basis and may need to be cleaned annually. The entire length of the greenways will also require maintenance but may not need cleaning for up to twenty years.

Valley View Park Rain Garden and Infiltration Basin – The rain garden should be monitored for sediment deposits but should not need cleaning for five or more years. The rain garden does require other maintenance; for the first couple of years, the garden will need to be periodically weeded until the plantings are established. Once the plants are established, they should be trimmed to a height of 6”-8” each spring with a weed whacker and the trimmings removed. The infiltration basin should be inspected with the other components and also observed after rainfall events. If water is observed over 50% of the basin floor three days after a rainfall, the basin is clogged and maintenance measures will need to be taken to unclog it.

Lincoln Street Discharge – The Lincoln Street Discharge is used primarily as a method to cool the stormwater prior to discharge to Rowan Creek but also removes sediment. Sediment deposit will also need to be monitored and cleaning will be required. The perforations in the 24-inch HDPE will need to be inspected on a yearly basis and if they become blocked, will need to be cleaned. The stone surrounding the pipe will also have to be replaced over time as sediment fills in the void spaces. The stone should be inspected if the perforations are plugged. To remove sediment, the stone will need to be replaced.

Private Facilities – The three private facilities located in the Village should be inspected by Village staff on a yearly basis. The maintenance agreement for each of the developments is included in Appendix B. Each development is unique and so is each of the maintenance agreements, the maintenance agreements should be reviewed for specific requirements. If the stormwater facilities are not functioning properly, notification of the required improvements should be made to the appropriate party.

Table 6.1-1
Maintenance Activities

Frequency	Activity						
Every other week	Street Sweeping						
Spring/Fall		Inspections	Vacuum Sumps				
Annually				Weed Rain Garden	Sediment at Greenway Culverts		
5+ Years						Private Facilities	
10-20 Years							Greenway

The maintenance activities should be incorporated into the Public Works Department’s work schedule.

CHAPTER 7
RECOMMENDED PLAN

7.0 Introduction

The purpose of the Stormwater Master Plan is to propose a plan for the improvement of stormwater quality and quantity throughout the Village. As discussed in Chapter 2 the goals of the plan fall into two main categories

I. **Improve the quality of stormwater runoff to Rowan Creek.**

II. **Reduce the risk of potential damage caused by stormwater runoff to public and private property.**

The study area for the plan includes 1,040 acres as shown in Chapter 1 on Figure 1.1-1. This chapter will focus on the implementation of specific stormwater improvements throughout the Village that will increase stormwater protection in the Village and Rowan Creek. Stormwater improvements described in more detail in chapters four and five may be incorporated into a budget to be implemented over the next several years. Note the attached budget is only a draft of potential stormwater improvements and all improvements shall be subject to approval by the Village Board.

7.1 Flooding and Drainage Recommendations

The Village currently has ordinances in place that regulate the required size of all new storm sewer installed within the Village. These ordinances will ensure that stormwater discharged from new developments will be handled appropriately. The flooding and drainage recommendations include improvements to areas of existing drainage concerns.

Chapter 4 discussed in detail ten areas throughout the Village where water quantity is causing flooding and drainage concerns. This section will evaluate and rank each of the projects based on:

- Frequency of Flooding
- Severity of Flooding
- Number of homes affected by flooding
- Estimated Cost

Table 7.1-1 ranks all ten areas noted with existing drainage concerns.

Table 7.1-1
Flooding Area Priority Ranking

Rank	Drainage Area	Description	Est. Cost
1	Area 2-Colby Park	Curb cut and swale construction	$2,200
2	Area 4-Sanderson St	Street replacement with the addition of storm sewer	$72,100
3	Area 3-Pearl St	Full street replacement including (does not include water and sewer)	$51,700
4	Area 10-Lincoln St	Extend storm sewer and construct a rain garden	$34,000
5	Area 6-E Seward St	Extend storm sewer east on Seward St (requires addition of street and other utility improvements	$70,500
6	Area 8-W Thomas St	Addition of curb and gutter and storm sewer (does not include watermain)	$48,500
7	Area 9-Traceway Ct	Install concrete gutters and create a ditch.	$14,950
8	Area 5-E Grant St	Add curb and gutter and storm sewer	$92,000
9	Area 1-W Seward St & Colby Blvd	Install concrete gutter	$2,750
10	Area 7-W Washington St	Replace large storm sewer connected to the greenway discharge.	$78,700

The ten stormwater improvement projects can be completed using monies from the stormwater utility or incorporated into the Village's capital improvement plans and five year street plans. All projects will be reviewed and approved by the Village Board.

7.2 Addressing Future Drainage Concerns

The Village should maintain a list of incoming concerns regarding stormwater runoff from the Village residents. When complaints are received, they will need to be investigated to determine if the issue is a public or private issue, an approximate number of homes affected, the frequency of the event and the severity of the event. A concept remediation plan can then be determined and a cost estimate can be completed. The solutions to the incoming concerns should be addressed on an ongoing basis as funding is available through the stormwater utility or capital improvements.

7.3 Water Quality Recommendations

After review of the options for treatment of stormwater at the Main Street and Southside Facilities the recommendation is the installation of the underground detention. The detention systems provide the highest level of total suspended solids removal with providing a system that can be regularly maintained in a cost effective manner.

7.4 Stormwater Budget

In 2005, the Village developed a Stormwater Utility which collects money for use in stormwater improvements. According to the Frequently Asked Questions section of the Stormwater Utility; "A stormwater utility is a user-fee based system for funding the operation, maintenance, and improvement of the Village's stormwater management system."

The estimated revenue from the stormwater utility for 2011 was $75,000. The actual revenue generated from the stormwater utility was approximately $114,600. The operating cost, including operation and maintenance and other items was $74,200 making the net gain for the year approximately $58,900. The balance of the stormwater fund at the end of 2011 was approximately $317,300.

A potential stormwater budget is attached for reference and guidance. The budget is for guidance and planning purposes only. All projects and yearly budgets will be reviewed by the Village Board for approval.

7.5 Alternate Financing Opportunities

There are additional financing options available to the Village beyond the stormwater utility including grants and financing. A list of current grant opportunities is:

Wisconsin Department of Natural Resources

- Clean Water Fund (low interest loans and possible interest forgiveness)
- Local Water Quality Management Planning Aids
- Targeted Runoff Management
- River Protection Planning and Management Grants

U.S. Fish and Wildlife Services

- Partners for Fish and Wildlife Program

Wisconsin Economic Development Corporation (WEDC)

- Community Development Block Grant

Board of Commissioners of Public Lands

- State Trust Fund Loan

United States Department of Agriculture (USDA)

- Water and Environmental Programs

Grants and other funding options are constantly changing and should be reviewed periodically for new opportunities.

Stormwater Utility Budget

(This budget is for reference only and all projects will be the decision of the Village Board)

										Total
OPERATION AND MAINTENANCE										
Existing expendatures	$ 74,000	$ 74,000	$ 74,000	$ 74,000	$ 74,000	$ 74,000	$ 74,000	$ 74,000	$ 74,000	$ 666,000
Vacuum Inlet Sumps	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 45,000
Clean Ditches		$ 5,000				$ 5,000				$ 10,000
On-Going Stormwater Mapping	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 9,000
Misc. Engineering	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 18,000
Stormwater Inspections	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 9,000
Clean Greenway								$ 10,000		$ 10,000
Subtotal	**$ 83,000**	**$ 88,000**	**$ 83,000**	**$ 83,000**	**$ 83,000**	**$ 88,000**	**$ 83,000**	**$ 93,000**	**$ 83,000**	**$ 767,000**
CAPITAL IMPROVEMENTS										
Area 2-Colby Park	$ 2,200									$ 2,200
Area 4-Sanderson St		$ 72,100								$ 72,100
Area 3-Pearl St	$ 51,700									$ 51,700
Area 10-Lincoln St				$ 34,000						$ 34,000
Area 6-E Seward St			$ 70,500							$ 70,500
Area 8-W Thomas St					$ 48,500					$ 48,500
Area 9-Traceway Ct					$ 14,950					$ 14,950
Area 5-E Grant St							$ 92,000			$ 92,000
Area 1-W Seward St & Colby Blvd								$ 2,750		$ 2,750
Area 7-W Washington St									$ 78,700	$ 78,700
Main Street Facility						$ 216,900				$ 216,900
Southside Facility				$ 42,600						$ 42,600
Subtotal	**$ 53,900**	**$ 72,100**	**$ 70,500**	**$ 76,600**	**$ 63,450**	**$ 216,900**	**$ 92,000**	**$ 2,750**	**$ 78,700**	**$ 726,900**
Total	**$ 136,900**	**$ 160,100**	**$ 153,500**	**$ 159,600**	**$ 146,450**	**$ 304,900**	**$ 175,000**	**$ 95,750**	**$ 161,700**	**$ 1,493,900**

CHAPTER 8
PUBLIC COMMENT

8.0 Introduction

A draft of the Stormwater Master Plan was presented to the Village Board on May 21, 2012 and a public hearing was held on July 17, 2012 followed by a Plan Commission meeting. The following is a list of items that were discussed as a result of the presentations.

8.1 Public Comment

Items to be added to areas of existing drainage concern:

- The existing drainage ditch west of the intersection of North Street and Park Street will need to be evaluated when future development is constructed to the north of North Street.
- There are existing drainage issues on North Street east of the fire station. A ditch along the northern side of North Street should be extended from the fire station east to the existing drainage ditch.
- The existing drainage ditch from the Pauquette Pines subdivision that crosses the Lakeside Foods property should be rerouted in the future for potential development of the property.

Flooding Area Priority Ranking Updates

- Area 1-W Seward Street and Colby Boulevard should be moved lower on the ranking as the existing ponding is minor.
    - Area 1 has been updated to a rank of 9 on Table 7.1-1.
- Due to public interest, Area 10-Lincoln Street should be moved higher on the priority ranking.
    - Area 10 has been updated to a rank of 4 on Table 7.1-1

APPENDIX A

COST ESTIMATES

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Pearl Street Improvemetns
Village of Poynette

Street Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	Performance and Payment Bonds	1	Lump Sum	$	1,000.00	$	1,000
2.	Mobilization/Demobilization	1	Lump Sum	$	2,000.00	$	2,000
3.	Traffic Control	1	Lump Sum	$	500.00	$	500
4.	Temporary Access	1	Lump Sum	$	500.00	$	500
5.	Saw Cut Asphalt	60	Lin. Ft.	$	2.00	$	120
6.	Remove Asphalt	950	Sq. Yd.	$	2.00	$	1,900
7.	Unclassified Excavation	1	Lump Sum	$	5,000.00	$	5,000
8.	30-inch Curb and Gutter	600	Lin. Ft.	$	10.00	$	6,000
9.	Agregate Base Course	570	Ton	$	10.00	$	5,700
10.	AC Binder, 1-3/4", E1.0	110	Ton	$	55.00	$	6,050
11.	AC Surface, 1-3/4", E1.0	110	Ton	$	55.00	$	6,050
12.	Restoration	1	Lump Sum	$	1,000.00	$	1,000
13.	Driveways	1	Lump Sum	$	4,000.00	$	4,000
		Subtotal				$	39,800

Sanitary Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	Sewe Manhole	2	Lump Sum	$	2,500.00	$	5,000
2.	8" pvc Sewer	340	Lin. Ft.	$	40.00	$	13,600
3.	6" lateral	5	Each	$	1,200.00	$	6,000
		Subtotal				$	24,600

Watermain Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	6" Valve	1	Lump Sum	$	1,600.00	$	1,600
2.	6" Watermain	340	Lin. Ft.	$	35.00	$	11,900
3.	6" lateral	5	Each	$	1,200.00	$	6,000
		Subtotal				$	19,500

Subtotal	$	83,900
Engineering (15%)	$	12,600
Contingencies (15%)	$	12,600
Estimated Total	**$**	**109,100**

General Engineering Company
Portage, WI 53901
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Subject:	Stormwater Master Plan		
	Pearl Street		
Date:	4/16/2012	**Engineer:**	EDH
Sheet:	A1	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Grant Street Improvemetns
Village of Poynette

Street Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	Performance and Payment Bonds	1	Lump Sum	$	1,000.00	$	1,000
2.	Mobilization/Demobilization	1	Lump Sum	$	2,000.00	$	2,000
3.	Traffic Control	1	Lump Sum	$	500.00	$	500
4.	Temporary Access	1	Lump Sum	$	500.00	$	500
5.	Saw Cut Asphalt	350	Lin. Ft.	$	2.00	$	700
6.	Remove Asphalt	1050	Sq. Yd.	$	2.00	$	2,100
7.	Unclassified Excavation	1	Lump Sum	$	5,000.00	$	5,000
8.	30-inch Curb and Gutter	800	Lin. Ft.	$	10.00	$	8,000
9.	Agregate Base Course	700	Ton	$	10.00	$	7,000
10.	AC Binder, 1-3/4", E1.0	130	Ton	$	55.00	$	7,150
11.	AC Surface, 1-3/4", E1.0	130	Ton	$	55.00	$	7,150
12.	Restoration	1	Lump Sum	$	1,000.00	$	1,000
13.	Driveways	1	Lump Sum	$	4,000.00	$	4,000
		Subtotal				$	46,100

Storm Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	Storm Inlet	3	Each	$	2,500.00	$	7,500
2.	12" RCP	430	Lin. Ft.	$	40.00	$	17,200
		Subtotal				$	24,700

Subtotal	$	70,800
Engineering (15%)	$	10,600
Contingencies (15%)	$	10,600
Estimated Total	**$**	**92,000**

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Subject:	Stormwater Master Plan		
	Grant Street		
Date:	4/16/2012	**Engineer:**	EDH
Sheet:	A2	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Thomas Street Improvemetns
Village of Poynette

Street Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	Performance and Payment Bonds	1	Lump Sum	$	1,000.00	$	1,000
2.	Mobilization/Demobilization	1	Lump Sum	$	2,000.00	$	2,000
3.	Traffic Control	1	Lump Sum	$	500.00	$	500
4.	Temporary Access	1	Lump Sum	$	500.00	$	500
5.	Saw Cut Asphalt	60	Lin. Ft.	$	2.00	$	120
6.	Remove Asphalt	670	Sq. Yd.	$	2.00	$	1,340
7.	Unclassified Excavation	1	Lump Sum	$	4,000.00	$	4,000
8.	Storm Sewer Inlet	3	Each	$	2,500.00	$	7,500
9.	Stom Sewer	50	Lin. Ft.	$	40.00	$	2,000
10.	30-inch Curb and Gutter	600	Lin. Ft.	$	10.00	$	6,000
11.	Agregate Base Course	510	Ton	$	10.00	$	5,100
12.	AC Binder, 1-3/4", E1.0	95	Ton	$	55.00	$	5,225
13.	AC Surface, 1-3/4", E1.0	95	Ton	$	55.00	$	5,225
14.	Restoration	1	Lump Sum	$	1,000.00	$	1,000
15.	Driveways	1	Lump Sum	$	2,000.00	$	2,000
		Subtotal				$	43,500

Watermain Improvements

	Item	No. of Units	Units		Unit Cost		Total Estimated Amount
1.	8" Valve	1	Lump Sum	$	2,000.00	$	2,000
2.	8" Watermain	300	Lin. Ft.	$	40.00	$	12,000
3.	Hydrant with valve on lead	1	Each	$	5,000.00	$	5,000
4.	lateral w/ corp, and curb stop	3	Each	$	1,200.00	$	3,600
		Subtotal				$	22,600

Subtotal	$	66,100
Engineering (15%)	$	9,900
Contingencies (15%)	$	9,900
Estimated Total	**$**	**85,900**

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Subject:	Stormwater Master Plan		
	Thomas Street		
Date:	4/16/2012	**Engineer:**	EDH
Sheet:	A3	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Lincoln Street Improvements
Village of Poynette

Street Improvements

	Item	No. of Units	Units	Unit Cost	Total Estimated Amount
1.	Performance and Payment Bonds	1	Lump Sum	$ 2,000.00	$ 2,000
2.	Mobilization/Demobilization	1	Lump Sum	$ 2,000.00	$ 2,000
3.	Traffic Control	1	Lump Sum	$ 500.00	$ 500
4.	Temporary Access	1	Lump Sum	$ 500.00	$ 500
5.	Inlet Protection	3	Each	$ 100.00	$ 300
6.	Remove Concrete Sidewalk/Drive	75	Sq. Ft.	$ 1.00	$ 75
7.	Saw Cut Asphalt	70	Lin. Ft.	$ 2.00	$ 140
8.	2" Copper Water Lateral	20	Lin. Ft.	$ 30.00	$ 600
9.	Corp. Stop and Curb Stop and Box, 2"	1	Each	$ 800.00	$ 800
10.	2" HDPE Water Lateral	200	Lin. Ft.	$ 15.00	$ 3,000
11.	6" PVC Sewer Lateral	240	Lin. Ft.	$ 25.00	$ 6,000
12.	Sewer Cleanout	2	Each	$ 150.00	$ 300
13.	Termination Box	1	Each	$ 75.00	$ 75
14.	Storm Sewer, 12" RCP	141	Lin. Ft.	$ 30.00	$ 4,230
15.	Storm Sewer Inlet, 2'x3' Box	1	Each	$ 1,000.00	$ 1,000
16.	Inlet Casting	1	Each	$ 500.00	$ 500
17.	Unclassified Excavation	1	Lump Sum	$ 10,000.00	$ 10,000
18.	Excavation Below Subgrade	200	Sq. Yd.	$ 25.00	$ 5,000
19.	Crushed Aggregate Base Course, 8"	300	Ton	$ 9.50	$ 2,850
20.	Finish Grade Base Course	560	Sq. Yd.	$ 1.00	$ 560
21.	Asphalt Curb	650	Lin. Ft.	$ 5.00	$ 3,250
22.	Concrete Sidewalk/Driveway, 6"	75	Sq. Ft.	$ 4.00	$ 300
23.	AC Pavement, 3", E1.0	100	Ton	$ 55.00	$ 5,500
24.	Rain Garden	1	Lump Sum	$ 5,000.00	$ 5,000
25.	Restoration	1	Lump Sum	$ 2,000.00	$ 2,000
		Subtotal			$ 56,500
		Engineering (15%)			$ 8,500
		Contingencies (15%)			$ 8,500
		Estimated Total			**$ 73,500**

Notes:
1. No engineering plans have been completed for this project.
2. The alley is in poor condition and will be replaced as part of this project.
3. Asphalt curb will be added on both the alley and Van Buren St.
4. These improvements will not eliminate the water in the back yards of the residents along the alley. The intention of the storm sewer and improvements is to collect more of the storm water in the storm sewer piping from the roadways and alleyways.

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Subject:	Lincoln St. Storm Water		
Date:	9/4/2011	**Engineer:**	EDH
Sheet:	A4	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Poynette Stormwater Master Plan, Watershed 6 - Main Street Facility

Multiple Perforated Pipes, 40% TSS Reduction

	Item	No. of Units	Units	Unit Cost	Total Amount
1.	Mobilization/Demobilization/Bonding	1	Lump Sum	$ 7,500.00	$ 7,500.00
2.	Erosion Contol	1	Lump Sum	$ 1,000.00	$ 1,000.00
3.	Traffic Control	1	Lump Sum	$ 500.00	$ 500.00
4.	Sawcut and Remove Asphalt Pavement	2,265	Sq. Yd.	$ 1.75	$ 3,964
5.	Remove Concrete Sidewalk	120	Sq. Ft.	$ 2.00	$ 240
6.	Unclassified Excavation	1,770	Cu. Yd.	$ 7.00	$ 12,390
7.	Storm Sewer, 36"	120	Lin. Ft.	$ 65.00	$ 7,800
8.	Storm Sewer, 18" ADS Perforated	800	Lin. Ft.	$ 40.00	$ 32,000
9.	Bentonite Clay Seepage Barrier 60'x2'x3'	2	Each	$ 1,250.00	$ 2,500
10.	Type HR Geotextile Fabric	1	Lump Sum	$ 9,600.00	$ 9,600
11.	Storm Sewer Manhole, 8' I.D.	1	Each	$ 5,000.00	$ 5,000
12.	Storm Sewer Manhole, 5' I.D.	2	Each	$ 2,500.00	$ 5,000
13.	Connect to Existing Manhole	1	Each	$ 1,000.00	$ 1,000
14.	1 1/2" Washed Stone	53	Tons	$ 25.00	$ 1,325
15.	Remove and Replace Curb and Gutter, 30"	40	Lin. Ft.	$ 30.00	$ 1,200
16.	AC Pavement, 3.5", E1.0	2,265	Sq. Yd.	$ 12.00	$ 27,180
17.	Crushed Aggregate Base Course	3,890	Tons	$ 9.00	$ 35,010
18.	Topsoil, Fertilizer, Seed & Mulch	200	Sq. Yd.	$ 1.50	$ 300
19.	Concrete Sidewalk, 4' Wide - 6" Thick	120	Sq. Ft.	$ 9.00	$ 1,080
		Subtotal			$154,600
		Contingencies (15%)			$23,200
		Engineering (20%)			$30,900
		Estimated Total			**$208,700**

Estimate Does Not Include:

Rock Excavation, Dewatering, Utilities not listed (phone, electric, gas, fiber, etc.)

Estimate Assumes:

Excavated Material Replaced by the Washed Stone is Hauled Offsite.

A Portion of the Pauquette Park Parking Lot is Replaced, But Not the Drive Isle and Parking Stalls Furthest West

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Subject:	Preliminary Cost Estimate		
	Main St. Facility, 40% TSS Reduction		
Date:	4/25/2012	**Engineer:**	EDB
Sheet:	A5	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Poynette Stormwater Master Plan, Watershed 10 - Southside Facility

Perforated Pipe, 40% TSS Reduction

	Item	No. of Units	Units	Unit Cost	Total Amount
1.	Mobilization/Demobilization/Bonding	1	Lump Sum	$ 5,000.00	$ 5,000.00
2.	Erosion Contol	1	Lump Sum	$ 1,000.00	$ 1,000.00
3.	Traffic Control	1	Lump Sum	$ 500.00	$ 500.00
4.	Sawcut and Remove Asphalt Pavement	50	Sq. Yd.	$ 2.00	$ 100
5.	Remove Concrete Sidewalk	120	Sq. Ft.	$ 2.00	$ 240
6.	Unclassified Excavation	210	Cu. Yd.	$ 7.00	$ 1,470
7.	Storm Sewer, 24"	162	Lin. Ft.	$ 45.00	$ 7,290
8.	Storm Sewer, 24" ADS Perforated	68	Lin. Ft.	$ 48.00	$ 3,264
9.	Bentonite Clay Seepage Barrier, 12'x2'x3'	1	Each	$ 250.00	$ 250
10.	Type HR Geotexitle Fabric	1	Lump Sum	$ 850.00	$ 850
11.	Storm Sewer Manhole, 4' I.D.	2	Each	$ 2,500.00	$ 5,000
12.	Connect to Existing Manhole	1	Each	$ 1,000.00	$ 1,000
13.	1 1/2" Washed Stone	450	Tons	$ 25.00	$ 11,250
14.	Remove and Replace Curb and Gutter, 30"	30	Lin. Ft.	$ 30.00	$ 900
15.	AC Pavement, 3.5", E1.0	50	Sq. Yd.	$ 12.00	$ 600
16.	Topsoil, Fertilizer, Seed & Mulch	2,000	Sq. Yd.	$ 1.50	$ 3,000
17.	Concrete Sidewalk, 4' Wide - 4" Thick	120	Sq. Ft.	$ 15.00	$ 1,800
		Subtotal			$43,500
		Contingencies (15%)			$6,500
		Engineering (20%)			$8,700
		Estimated Total			**$58,700**

Estimate Does Not Include:

Rock Excavation, Dewatering, Utilities not listed (phone, electric, gas, fiber, etc.)

Estimate Assumes

Excavated Material Replaced by the Washed Stone is Hauled Offsite.

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Subject:	Preliminary Cost Estimate		
	Southside Facility, 40% TSS Reduction		
Date:	4/25/2012	**Engineer:**	EDB
Sheet:	A6	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Poynette Stormwater Master Plan, Watershed 6 - Main Street Facility

Vortechs Stormwater Treatment System

	Item	No. of Units	Units	Unit Cost	Total Amount
1.	Mobilization/Demobilization/Bonding	1	Lump Sum	$ 7,500.00	$ 7,500.00
2.	Erosion Contol	1	Lump Sum	$ 1,000.00	$ 1,000.00
3.	Traffic Control	1	Lump Sum	$ 500.00	$ 500.00
4.	Sawcut and Remove Asphalt Pavement	480	Sq. Yd.	$ 1.75	$ 840
5.	Remove Concrete Sidewalk	120	Sq. Ft.	$ 2.00	$ 240
6.	Unclassified Excavation	800	Cu. Yd.	$ 7.00	$ 5,600
7.	Storm Sewer, 36"	120	Lin. Ft.	$ 65.00	$ 7,800
8.	Vortechs 2131 CIP	1	Lump Sum	$ 250,000.00	$ 250,000
9.	Storm Sewer Manhole, 8' I.D.	1	Each	$ 5,000.00	$ 5,000
10.	Storm Sewer Manhole, 5' I.D.	2	Each	$ 2,500.00	$ 5,000
11.	Connect to Existing Manhole	1	Each	$ 1,000.00	$ 1,000
12.	Remove and Replace Curb and Gutter, 30"	40	Lin. Ft.	$ 30.00	$ 1,200
13.	AC Pavement, 3.5", E1.0	480	Sq. Yd.	$ 12.00	$ 5,760
14.	Crushed Aggregate Base Course	40	Tons	$ 9.00	$ 360
15.	Topsoil, Fertilizer, Seed & Mulch	200	Sq. Yd.	$ 1.50	$ 300
16.	Concrete Sidewalk, 4' Wide - 6" Thick	120	Sq. Ft.	$ 9.00	$ 1,080
		Subtotal			$293,200
		Contingencies (10%)			$29,300
		Engineering (15%)			$44,000
		Estimated Total			**$366,500**

Estimate Does Not Include:

Rock Excavation, Dewatering, Utilities not listed (phone, electric, gas, fiber, etc.)

Estimate Assumes:

Excavated Material Replaced by the Washed Stone is Hauled Offsite.

A Portion of the Pauquette Park Parking Lot is Replaced, But Not the Whole Lot

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Subject:	Preliminary Cost Estimate	
	Main St. Facility, Vortechs Unit	
Date:	5/7/2012	**Engineer:** EDB
Sheet:	A7	**GEC No.:** 0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Poynette Stormwater Master Plan, Watershed 10 - Southside Facility

Vortechs Stormwater Treatment System

	Item	No. of Units	Units	Unit Cost	Total Amount
1.	Mobilization/Demobilization/Bonding	1	Lump Sum	$ 5,000.00	$ 5,000.00
2.	Erosion Contol	1	Lump Sum	$ 1,000.00	$ 1,000.00
3.	Traffic Control	1	Lump Sum	$ 1,000.00	$ 1,000.00
4.	Sawcut and Remove Asphalt Pavement	100	Sq. Yd.	$ 2.00	$ 200
5.	Remove and Replace Concrete Sidewalk	720	Sq. Ft.	$ 11.00	$ 7,920
6.	Re-Lay Existing Storm Sewer, 24"	16	Lin. Ft.	$ 40.00	$ 640
7.	Vortechs CDS 3030	1	Lump Sum	$ 26,000.00	$ 26,000
8.	Storm Inlet/Manhole	2	Each	$ 2,500.00	$ 5,000
9.	Remove and Replace Curb and Gutter, 30"	40	Lin. Ft.	$ 30.00	$ 1,200
10.	AC Pavement, 3.5", E1.0	100	Sq. Yd.	$ 12.00	$ 1,200
11.	Topsoil, Fertilizer, Seed & Mulch	1	Lump Sum	$ 1,000.00	$ 1,000
		Subtotal			$50,200
		Contingencies (10%)			$5,000
		Engineering (15%)			$7,500
		Estimated Total			**$62,700**

Estimate Does Not Include:

Rock Excavation, Dewatering, Utilities not listed (phone, electric, gas, fiber, etc.)

Estimate Assumes:

Excavated Material Replaced by the Washed Stone is Hauled Offsite.

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Subject:	Preliminary Cost Estimate		
	Southside Facility,Vortechs Unit		
Date:	5/7/2012	**Engineer:**	EDB
Sheet:	A8	**GEC No.:**	0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Poynette Stormwater Master Plan, Watershed 6 - Main Street Facility

Underground Detention Stormwater System

	Item	No. of Units	Units		Unit Cost		Total Amount
1.	Mobilization/Demobilization/Bonding	1	Lump Sum	$	7,500.00	$	7,500.00
2.	Erosion Contol	1	Lump Sum	$	1,000.00	$	1,000.00
3.	Traffic Control	1	Lump Sum	$	500.00	$	500.00
4.	Remove Asphalt Pavement	2,700	Sq. Yd.	$	1.25	$	3,375
5.	Remove and Replace Concrete Sidewalk	120	Sq. Ft.	$	11.00	$	1,320
6.	Unclassified Excavation	1	Lump Sum	$	30,000.00	$	30,000
7.	Storm Sewer, 36"	75	Lin. Ft.	$	65.00	$	4,875
8.	Underground Storage Pipes	11,000	Sq. Ft.	$	6.50	$	71,500
9.	Storm Sewer Manhole, 8' I.D.	1	Each	$	5,000.00	$	5,000
10.	Connect to Existing Manhole	1	Each	$	1,000.00	$	1,000
11.	Remove and Replace Curb and Gutter, 30"	40	Lin. Ft.	$	30.00	$	1,200
12.	AC Pavement, 3.5", E1.0	2,700	Sq. Yd.	$	12.00	$	32,400
13.	Crushed Aggregate Base Course	1,500	Tons	$	9.00	$	13,500
14.	Topsoil, Fertilizer, Seed & Mulch	200	Sq. Yd.	$	1.50	$	300
		Subtotal					$173,500
		Contingencies (10%)					$17,400
		Engineering (15%)					$26,000
		Estimated Total					**$216,900**

Estimate Does Not Include:

Rock Excavation, Dewatering, Utilities not listed (phone, electric, gas, fiber, etc.)

Estimate Assumes:

Excavated Material Replaced by the Underground Pipes is Hauled Offsite.
The Whole Pauquette Park Parking Lot is Replaced.

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Subject:	Preliminary Cost Estimate	
	Main St. Facility, Underground Storage	
Date:	5/11/2012	**Engineer:** EDB
Sheet:	A9	**GEC No.:** 0111-30E

ENGINEER'S PRELIMINARY COST ESTIMATE

PROJECT: Poynette Stormwater Master Plan, Watershed 10 - Southside Facility

Underground Detention Stormwater System

	Item	No. of Units	Units	Unit Cost	Total Amount
1.	Mobilization/Demobilization/Bonding	1	Lump Sum	$ 5,000.00	$ 5,000.00
2.	Erosion Contol	1	Lump Sum	$ 1,000.00	$ 1,000.00
3.	Traffic Control	1	Lump Sum	$ 500.00	$ 500.00
4.	Unclassified Excavation	1	Lump Sum	$ 5,000.00	$ 5,000.00
5.	Sawcut and Remove Asphalt Pavement	100	Sq. Yd.	$ 2.00	$ 200
6.	Remove and Replace Concrete Sidewalk	720	Sq. Ft.	$ 11.00	$ 7,920
7.	Storm Sewer, 24"	16	Lin. Ft.	$ 50.00	$ 800
8.	Underground Storage Pipes	900	Sq. Ft.	$ 7.00	$ 6,300
9.	Storm Inlet/Manhole	1	Each	$ 2,500.00	$ 2,500
10.	Connect to Existing	1	Lump Sum	$ 1,500.00	$ 1,500
11.	Remove and Replace Curb and Gutter, 30"	40	Lin. Ft.	$ 30.00	$ 1,200
12.	AC Pavement, 3.5", E1.0	100	Sq. Yd.	$ 12.00	$ 1,200
13.	Topsoil, Fertilizer, Seed & Mulch	1	Lump Sum	$ 1,000.00	$ 1,000
		Subtotal			$34,100
		Contingencies (10%)			$3,400
		Engineering (15%)			$5,100
		Estimated Total			**$42,600**

Estimate Does Not Include:

Rock Excavation, Dewatering, Utilities not listed (phone, electric, gas, fiber, etc.)

Estimate Assumes:

Excavated Material Replaced by the Washed Stone is Hauled Offsite.

General Engineering Company
Portage, WI 53901
608-742-2169 (Office)
www.generalengineering.net
Engineers • Consultants • Inspectors

Subject:	Preliminary Cost Estimate		
	Southside Facility,Underground Storage		
Date:	5/11/2012	**Engineer:**	EDB
Sheet:	A10	**GEC No.:**	0111-30E

APPENDIX B

MAINTENANCE AGREEMENTS

19/5

* 7 6 8 0 1 3 *

DOC # 768013
REGISTER OF DEEDS
COLUMBIA COUNTY

RECORDED ON:
07/11/2007 02:28:59PM
PAGES: 5

LISA WALKER
REGISTER OF DEEDS
REC FEE: 19.00
Exempt #:

Return to:
John C. Frank
Lathrop & Clark LLP
P. O. Box 128
Poynette, WI 53955-0128

11-172-325
Parcel Identification Number

STORM WATER MANAGEMENT SYSTEM MAINTENANCE AGREEMENT

THIS AGREEMENT ("Agreement"), entered into this 30th day of April, 2007, by and between Przybyl Development, LLC, a Wisconsin limited liability company ("Przybyl"), Poynette Woodland Ridge Homeowners Association, Inc., a Wisconsin non-stock, non-profit corporation (the "Association"), and Village of Poynette, a Wisconsin municipal corporation (the "Village"), collectively, the "Parties".

RECITALS

A. Przybyl is developing certain real property located in the Village of Poynette legally described as the Plat of Woodland Ridge, in the Village of Poynette, Columbia County, Wisconsin (the "Property") as a subdivision; and

B. Przybyl is obligated to construct various storm water maintenance measures and facilities ("facilities") on the Property pursuant to plans and specifications approved by the Village and Wisconsin Department of Natural Resources, including the Project Manual Woodland Ridge Subdivision, Woodland Ridge Subdivision Engineering Submittal, Revised Storm Water Management and EC Plan, and Woodland Ridge Street and Utility Construction Drawings (the "Plans and Specifications"). The Parties to this Agreement each have a set of the Plans and Specifications ; and

C. The Association is ultimately responsible and obligated to maintain certain facilities on the Property under § 2.08 of a certain document titled "Declaration of Covenants, Restrictions, Conditions and Easements for the Plat of Woodland Ridge, a Subdivision located in the Village of Poynette, Columbia County, Wisconsin" (the "Declaration") which facilities are hereinafter referred to as "Storm Water Facilities"; and

D. The Parties desire to supplement their obligations related to the Storm Water Facilities in greater detail than set forth in the Declaration.

NOW THEREFORE, in consideration of the mutual covenants herein set forth and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows.

1. Property Legal Description. The Property subject to this Agreement is legally described as the Plat of Woodland Ridge, in the Village of Poynette, Columbia County, Wisconsin.

2. Responsible Party.

a. Construction Phase Maintenance. Przybyl is obligated to construct all of the facilities required by the Plans and Specifications and shall be responsible for satisfying the obligations of this Agreement and the Development Agreement for Plat of Woodland Ridge, Village of Poynette, Columbia County, Wisconsin, of even date herewith, entered into between Przybyl and the Village (the "Development Agreement") for the duration of the construction of the facilities and warranty period.

b. Post-Construction Perpetual Maintenance. Upon completion of all construction phases and expiration of the warranty period, the Association shall assume sole responsibility for maintaining the Storm Water Facilities in perpetuity.

For the respective periods set forth in this paragraph, first Przybyl, then the Association shall be referred to hereinafter as the "Responsible Party."

3. Permanent Components Of The Storm Water Facilities. The Storm Water Facilities on the Property consists of the following management practices or components which are more specifically described in the Plans and Specifications:

a. detention pond
b. pond outlet structure
c. grass swales and ditches
d. storm sewer

4. Inspection And Maintenance Schedule.

a. All components of the Storm Water Facilities shall be inspected by the Responsible Party:

i. at least semiannually in early Spring (March, April) and early Autumn (September, October); and

ii. within 72 hours following any major storm or flood event of sufficient intensity or duration to pose significant risk of damage to the Storm Water Facilities.

b. The Responsible Party shall make the appropriate repairs within a timeline established by the Village Engineer whenever the performance of any of the Storm Water Facilities is compromised or adversely affected due to sediment, debris, or other cause.

5. Limitations.

With respect to the maintenance of the Storm Water Facilities:

a. Mowing in detention areas and drainage ways shall be minimized in order to maximize filtration of runoff. If occasional mowing is necessary, the mowing height shall be no shorter than six inches.

b. Applications of fertilizers, herbicides, pesticide or other chemical applications are prohibited in detention areas and along drainage ways (ditches), unless specifically authorized by the Village Engineer on an individual event basis, and provided that the application is performed by professional personnel certified for that purpose.

6. Maintenance Of Inspection Records.

a. The Responsible Party shall maintain records of the results of all site inspections and any enforcement actions, correction actions or other written contacts from State, County or Village officials or agents involving the Storm Water Facilities and any follow-up actions taken for seven years after such action.

b. The Village Engineer shall maintain records of the results of all Village inspections of the Storm Water Facilities, shall inform the Responsible Party of the inspection results, and shall indicate any specific corrective actions required to bring any of the Storm Water Facilities into compliance with this Agreement or the Declaration.

7. Default by Responsible Party. In the event the Village determines the Responsible Party has failed to comply with any of the responsibilities as set forth in this Agreement, the Village may exercise any and all remedies provided under the Declaration, including § 2.08 of the Declaration.

8. Severability. All provisions of this Agreement are severable, and if any one or more provision is deemed unenforceable for any reason, the remaining provisions shall remain in full force and effect.

9. Binding Agreement. All provisions of this Agreement, including the benefits and burdens hereunder, run with the Property and are binding upon and inure to the benefit of the parties hereto and their successors and assigns.

10. Amendment; Termination. This Agreement may be amended or terminated only by a document signed by the Responsible Party and the Village and recorded with the Columbia County Register of Deeds.

11. Requirement to Record. This Agreement and any subsequent amendments thereto shall be recorded at the Columbia County Register of Deeds.

12. Governing Law. This Agreement at all times shall be enforced in accordance with the laws of the State of Wisconsin.

13. Assignment. A Responsible Party's obligations may not be assigned to another party without the prior written consent of Village.

14. Notices. All notices to be given under the terms of this Agreement shall be in writing and signed by the person serving the notice and shall be sent registered or certified mail, return receipt requested, postage prepaid, or hand delivered to the addresses of the parties listed below:

For the Village:

Village of Poynette
c/o Village Clerk
106 South Main Street
P. O. Box 95
Poynette, WI 53955

For Przybyl:

(Construction Phase Maintenance Responsible Party):
Przybyl Development, LLC
W8312 Kent Road
Poynette, WI 53955

For the Association:

(Long-Term Maintenance Responsible Party):
Poynette Woodland Ridge Homeowners Association, Inc.
ATTN: Registered Agent on Record with
Department of Financial Institutions

15. Relationship to Declaration. This Agreement is intended to supplement the Declaration. It is not intended to supersede the Declaration or the Development Agreement. It is not intended to create responsibilities or obligations for Przybyl or the Association with respect to easements described in § 4.09 of the Declaration other than those already contained in the Declaration and Development Agreement. In the event of a conflict between this Agreement and the Declaration, the terms of the Declaration shall govern and prevail.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

PRZYBYL DEVELOPMENT, LLC

By: _____
Kenneth J. Przybyl, Member

By: _____
Sharon D. Przybyl, Member

POYNETTE WOODLAND RIDGE
HOMEOWNERS ASSOCIATION, INC.

By: _____
Kenneth J. Przybyl, President

VILLAGE OF POYNETTE

By: _____
Steve Tomlinson, Village President

ATTEST:

_____
Susan E. Finstad, Village Clerk

Authentication

Signatures of Kenneth J. Przybyl, Sharon D. Przybyl, as members of Przybyl Development, LLC; Kenneth J. Przybyl, as President of the Poynette Woodland Ridge Homeowners Association, Inc.; and Steve Tomlinson and Susan E. Finstad, as Village President and Village Clerk, respectively, authenticated this 8th day of ~~April~~ May, 2007.

_____
John C. Frank
Member: State Bar of Wisconsin

Document drafted by:
John C. Frank
Lathrop & Clark LLP
PO Box 1507
Madison, WI 53701-1507
(608) 257-7766

przyken\9\FINAL storm water management agr 042407.doc

* 8 2 5 8 3 3 *

Storm Water Management Practice Maintenance Agreement

DOC # 825833
REGISTER OF DEEDS
COLUMBIA COUNTY

RECORDED ON:
08/15/2011 02:50:56PM
PAGES: 6

LISA WALKER
REGISTER OF DEEDS
REC FEE: 30.00
Exempt #:

Poynette School District as "Owner" of the property described below, agrees to install and maintain storm water management practice(s) on the subject property in accordance with approved Stormwater Management plan and conditions. The Owner further agrees to the terms stated in this document to ensure that the storm water management practice(s) continues serving the intended functions in perpetuity. This Agreement includes the following exhibits:

Exhibit A: Legal Description of the real estate for which this Agreement applies ("Property").
Exhibit B: Location Map(s) – shows an accurate location of each storm water management practice affected by this Agreement.
Exhibit C: Maintenance Plan – prescribes those activities that must be carried out to maintain compliance with this Agreement.

POYNETTE SCHOOL DISTRICT
108 North Cleveland Street
Poynette, WI 53955

Through this Agreement, the Owner hereby subjects the Property to the following covenants, conditions and restrictions:

1. The Current Titleholder shall be responsible for the routine and extraordinary maintenance and repair of the storm water management practice(s) identified in Exhibit B, and in accordance with the maintenance plan contained in Exhibit C, for the life of the system.
2. Upon written notification by Village or their designee, the Titleholder(s) shall, at their own cost and within a reasonable time period determined by the Village, have an inspection of the storm water management practice conducted by a qualified professional, file a report with the Village and complete any maintenance or repair work recommended in the report. The Titleholder(s) shall be liable for the failure to undertake any maintenance or repairs.
3. In addition, and independent of the requirements under paragraph 2 above, the Village, or its designee, is authorized to access the property as necessary to conduct inspections of the storm water management practices or drainage easements to ascertain compliance with the intent of this Agreement and the activities prescribed in Exhibit C. The Village may require work to be done which differs from the report described in paragraph 2 above, if the Village reasonably concludes that such work is necessary and consistent with the intent of this agreement. Upon notification by the Village of required maintenance or repairs, the Titleholder(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the Village.
4. If the Titleholder(s) do not complete an inspection under 2. above or required maintenance or repairs under 3. above within the specified time period, the Village is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the Village, no notice shall be required prior to the Village performing emergency maintenance or repairs. The Owner agrees to pay for all of the necessary and reasonable expenses incurred by the Village for inspection, maintenance, and repairs contemplated herein and shall promptly reimburse the Village upon billing of such expenses. The Village may levy the costs and expenses of such inspections, maintenance or repair related actions as a special charge against the Property and collected as such in accordance with the procedures under s. 66.0627 Wis. Stats. or subch. VII of ch. 66 Wis. Stats.
5. This Agreement shall run with the Property and be binding upon all heirs, successors and assigns. After the Owner records the addendum noted above, the Village shall have the sole authority to modify this agreement upon a 30-day notice to the current Titleholder(s).

Dated this 8 day of August, 2011.

Owner:

Kathleen Lucey
(Owners Signature)

Kathleen Lucey
(Owners Printed Name)

Acknowledgements

State of Wisconsin:
County of Columbia

Personally came before me this 8 day of August, 2011, the above named KATHLEEN LUCEY POYNETTE SCHOOL DISTRICT to me known to be the person who executed the foregoing instrument and acknowledged the same.

Susan L. Budka
Name SUSAN L. BUDKA
Notary Public, Columbia County, WI
My commission expires: May 12, 2013

Approved for recording: _____

Document Drafted By James Lundberg P.E.

Exhibit A – Legal Description

The following description and reduced copy map identifies the land parcel(s) affected by this Agreement. For a larger scale view of the referenced document, contact the Owner.

Project Identifier: **Poynette School District – Poynette, WI**
Map Produced By: **Point of Beginning, Inc., 5709 Windy Drive, Suite D, Stevens Point, WI**
Legal Description: **Being Lots 1, 2, 3, 4, 5 And 6 Of Block 1, Lots 1 And 2 Of Block 8, All Of Brayton And Tomlinson's Addition, And Located In Part Of The Northeast 1/4 Of The Southwest 1/4, Part Of The Northwest 1/4 Of The Southwest 1/4, Part Of The Southwest 1/4 Of The Northwest 1/4, And Part Of The Southeast 1/4 Of The Northwest 1/4, All In Section 35, Township 11 North, Range 9 East, Village Of Poynette, Columbia County, Wisconsin.**

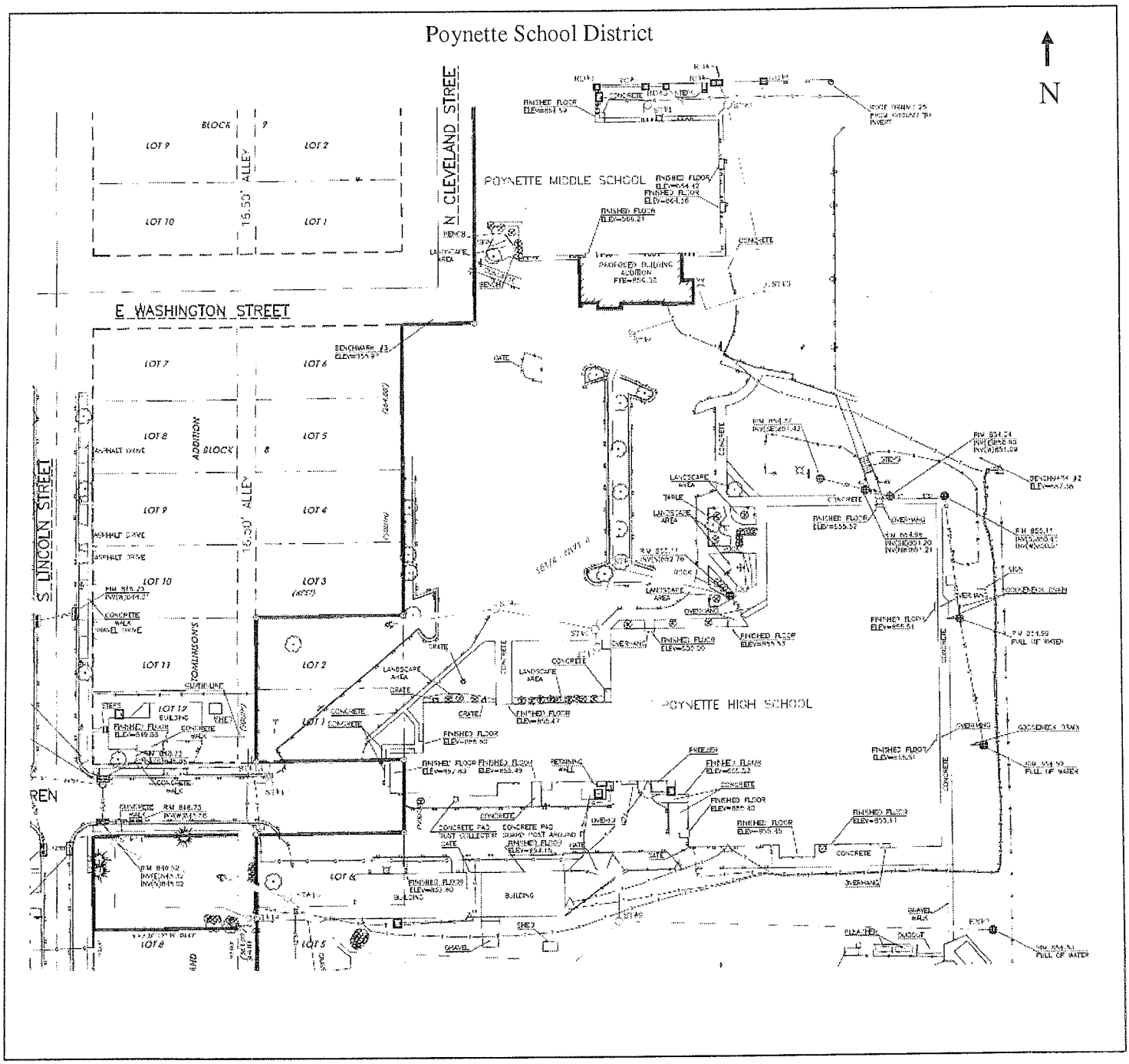

Exhibit B - Location Map

Storm Water Management Practices Covered by this Agreement

The storm water management practices covered by this Agreement are depicted in the reduced copy of a portion of the construction plans, as shown below. The practices include two dry detention pond areas, and all associated storm sewer pipes, earthen berms, flumes and other components of these practices. All of the noted storm water management practices are located within Property Legal Description noted in Exhibit A.

Project Name: **Poynette School District**
Storm water Practices: **Dry Detention Pond(s)**
Location of Practices: **(See Exhibit 1 for Legal Description)**

Figure 1

Plan View of Storm Water Practices

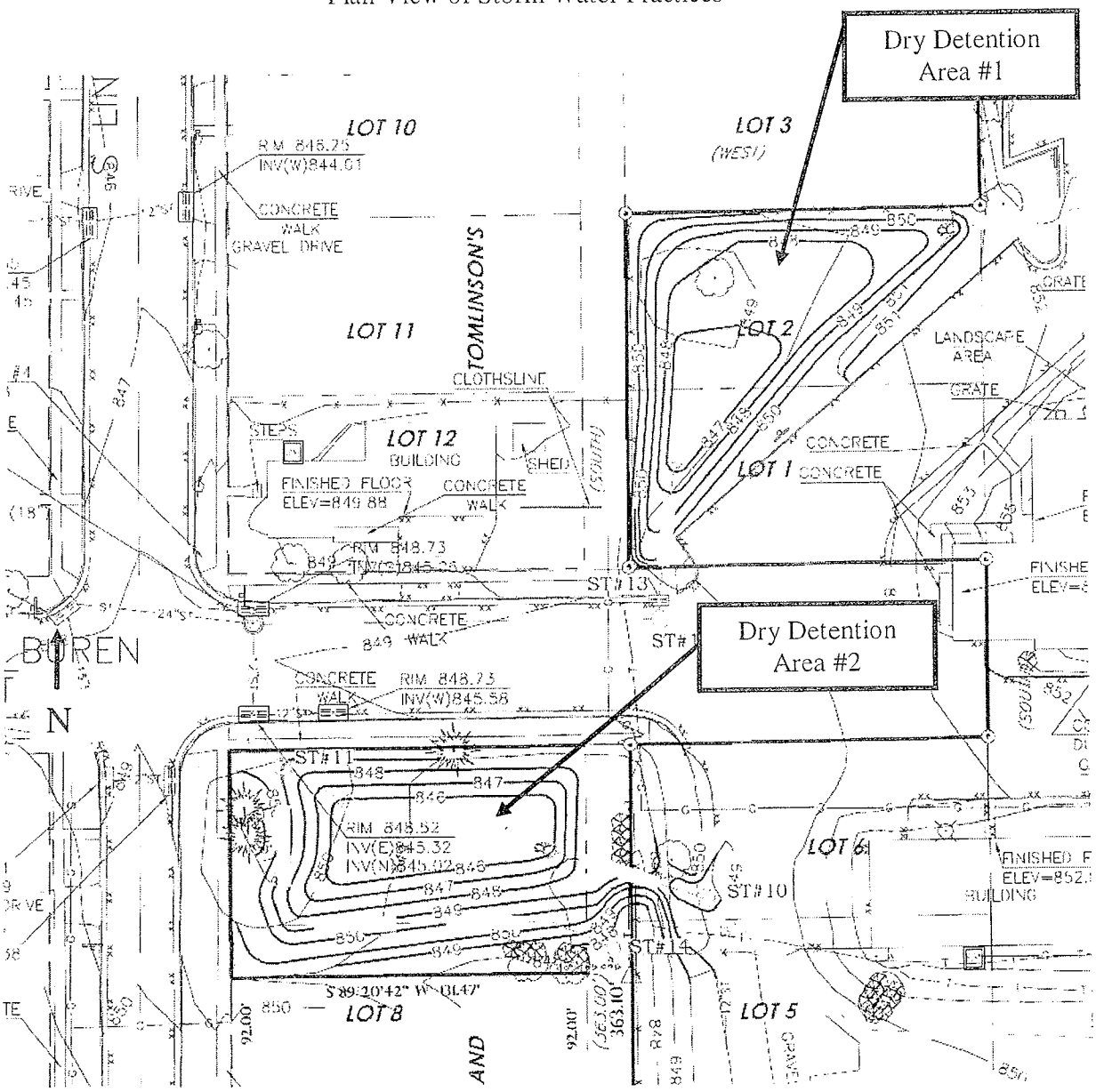

Exhibit C
Storm Water Practice Maintenance Plan

This exhibit explains the basic function of each of the storm water practices listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Agreement. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities is not all inclusive, but rather indicates the minimum type of maintenance that can be expected for this particular site. Any failure of a storm water practice that is caused by a lack of maintenance will subject the Titleholder(s) to enforcement of the provisions listed on page 1 of this Agreement by the Village.

Minimum Maintenance Requirements:
To ensure the proper long-term function of the storm water management practices described above, the following activities must be completed:

The OWNER of this project in the Village of Poynette, Columbia County, Wisconsin, is directly responsible for the operation, inspection, and maintenance of all stormwater facilities located within the Poynette School District site, as described below.

Dry Detention Pond(s) (Dry Detention Area #1-North of E Van Buren Street & Dry Detention Area #2 South of E Van Buren Street)
Inspection: Accumulation of sediment and/or debris. Look for erosion or damage.
Maintenance: Remove accumulated sediment and/or debris and repair any eroded or damaged areas.

Catch Basin, Storm Sewer, and Outfall
Inspection: Accumulation of sediment and/or debris within catch basin, storm sewer pipe, and/or outfall. Look for damage to pipe, catch basin structure, and outfall.
Maintenance: Remove accumulated sediment and/or debris within the pipe, sump below catch basin, and/or within or near outfall. Repair damaged to pipe, catch basin, and/or outfall. If the damage is un-repairable then the pipe, catch basin, and/or outfall shall be replaced.

Inlet Grates for Catch Basins
Inspection: Accumulation of sediment and/or debris causing standing water within curb and parking lot.
Maintenance: Remove accumulated sediment and/or debris from the inlet grate.

Yard Drain, 4" Drain Pipe, and Check Valve (adjacent to Dry Detention Area #2)
Inspection: Accumulation of sediment and/or debris within catch basin, storm sewer pipe, and/or outfall. Look for damage to pipe, catch basin structure, and outfall.
Maintenance: Remove accumulated sediment and/or debris within the pipe, sump below catch basin, and/or within or near outfall. Repair damaged to pipe, catch basin, and/or outfall. If the damage is un-repairable then the pipe, catch basin, and/or outfall shall be replaced.

The aforementioned inspection and maintenance schedule shall be performed after any rainfall event exceeding one inch of rainfall, and at a minimum semi-annually in early spring and fall.

All inspections and maintenance shall be documented and the OWNER shall keep all inspection and maintenance reporting/records onsite and available upon request of the Village of Poynette and/or Wisconsin Department of Natural Resources.

3

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DOC # 830922
REGISTER OF DEEDS
COLUMBIA COUNTY

RECORDED ON:
01/06/2012 10:41:54AM
PAGES: 3

LISA WALKER
REGISTER OF DEEDS
REC FEE: 30.00
Exempt #:

NOTICE OF STORMWATER MANAGEMENT MAINTENANCE PROVISIONS

NOTICE given this 4th day of January, 2012, by KLRS, LLC, a Wisconsin limited liability company (hereinafter "KLRS") and PIW Holdings, a Wisconsin limited liability company (hereinafter "PIW") that in October, 2011, Poynette Iron Works, Inc. which leases the real estate described below, entered into long-term Stormwater Management Maintenance Provisions with the Village of Poynette, Columbia County, Wisconsin (hereinafter "Stormwater Provisions") to inspect and maintain all components of a certain stormwater system located upon real estate described below.

Return to:
Attorney Jeffrey P. Clark
Lathrop & Clark LLP - E
111 N. Main Street, P.O. Box 128
Poynette, Wisconsin 53955

11172 514.01 and 11172 382.12
Parcel Identification Number

The purpose of this Notice is to advise of the existence of the Stormwater Provisions, that such Provisions run with the real estate hereafter described and that the original of said Agreement is on file with the Village of Poynette.

The real estate to which this Notice applies is more particularly described as follows:

Parcel I

A parcel of land located in the Southwest ¼ of the Southwest ¼ of Section 26, Town 11 North, Range 9 East, Village of Poynette, Columbia County, Wisconsin, said parcel including Lot 1, Columbia County Certified Survey Map No. 3385, all being more particularly described as follows:

Commencing at the Southwest corner of Section 26, Town 11 North, Range 9 East; thence N89°58'00"E 822.32 feet along the centerline of North Street; thence N02°27'00"W 33.03 feet to the southeast corner of Lot 1, Certified Survey Map No. 3385, being the point of beginning of this description; thence S89°58'00"W 133.16 feet along the north right-of-way line of North Street to the east line of the Canadian Pacific Railroad lands; thence N02°27'00"W 471.96 feet along the east line of the Canadian Pacific Railroad lands, also being the west line of Lot 1, Certified Survey Map No. 3385 and the southerly extension thereof, to the northwest corner

of said Lot 1; thence N89°58'00"E 299.57 feet along the north line of said Lot 1 and the extension thereof to west right-of-way line of Northern Court; thence southeasterly along the arc of a curve of said right-of-way, concave northeasterly, having a radius of 60.00 feet and a central angle of 51°38'03", whose long chord bears S31°03'00"E 52.26 feet; thence S00°14'15"E 426.76 feet along the west right-of-way line of Northern Court to the north right-of-way line of North Street; thence S89°58'00"W 175.12 feet along the north right-of-way line of North Street to the point of beginning.

The above-described real estate includes Lot One (1) of Columbia County Certified Survey Map No. 3385 recorded in Volume 23 of Certified Surveys, Page 2, as Document No. 620477, Village of Poynette, Columbia County, Wisconsin.

Parcel II

Lot One (1) of Certified Survey Map No. 4241 recorded in the Columbia County, Wisconsin Register of Deeds office in Volume 29 of Certified Survey Maps, Page 121, as Document No. 716169, in the Village of Poynette, Columbia County, Wisconsin. EXCEPT land described in Volume 290 of Records, Page 684, as Document N. 445328.

This Notice is subject to all of the terms, conditions and provisions of the Stormwater Provisions and in the event of any inconsistency between the terms of this Notice and the Provisions, the terms of the Stormwater Provisions shall prevail.

KLRS, LLC

By: _____
Robert N. Senkowski, Member

By: _____
Guy D. Senkowski, Member

PIW Holdings, LLC

By: _____
Robert N. Senkowski, Member

By: _____
Guy D. Senkowski, Member

AUTHENTICATION

Signatures of Robert N. Senkowski and Guy D. Senkowski authenticated this 4th day of ~~December,~~ January 2011.

_____
Jeffrey P. Clark
TITLE: Member State Bar of Wisconsin

This instrument drafted by:
Attorney Jeffrey P. Clark
Lathrop & Clark LLP
111 N. Main Street
P.O. Box 128
Poynette, WI 53955
(608) 635-4324

I:\clients\poyniro\8\notice 121211.docx

Poynette-Dekorra Fire District
Long-term Stormwater Management
Maintenance Provisions

SITE NAME
Poynette-Dekorra Fire District

PROPERTY LEGAL DESCRIPTION
Latitude: 43° 23' 48", Longitude: 89° 24' 26", Village of Poynette, Columbia County, Wisconsin.

RESPONSIBLE PARTY
The landowner is responsible for satisfying the provisions of this agreement throughout the plat for the duration of the construction period. Upon completion of all construction phases, the Poynette-Dekorra Fire District shall assume responsibility.

PERMANENT COMPONENTS OF THE STORMWATER SYSTEM
The stormwater system consists of the following components:
Itemize all types of stormwater controls in use. Example:

+ Curb inlets
+Manholes
+Stormwater drainage ways and swales
+Stormwater basin banks
+Infiltration areas
+Stormwater basin inlet and outlet structures
+Parking lot treatment trenches

INSPECTION AND MAINTENANCE
All components of the stormwater system shall be inspected at least semiannually in early Spring and early Autumn. If standing water is observed over 50% of the basin floor 3 days after rainfall, the basin is clogged and measures should be undertaken to unclog it, in accordance with DNR Technical Standard 1003. Additional maintenance shall follow in accordance with the same Technical Standard. Repairs will be made whenever the performance of a stormwater control structure is compromised.

PROHIBITIONS
Mowing in buffer areas, pond banks and drainage ways will be minimized in order to maximize filtration of runoff.
If occasional mowing is necessary, the mowing height will be no shorter than six inches.

Applications of fertilizers, herbicides, pesticide or other chemical applications are prohibited in buffer areas, on pond banks and along drainage ways.

DUTY TO PROVIDE MAINTENANCE
In the event the Poynette-Dekorra Fire District fails to perform its obligations under this agreement, the Village of Poynette shall have the authority to inspect and maintain all components of the stormwater system. In such an event, all associated costs will be assessed back as a special charge against the property pursuant to Sec. 66.0627 Wis. Stats. Said charge shall be a lien on the property and shall be collected with the real estate taxes.

SIGNATURES
The undersigned agree to the provision set forth in this agreement.

For the Poynette-Dekorra Fire District:	For the Village of Poynette:
_____	_____
Name	Name
_____	_____
Title	Title
_____	_____
Date	Date