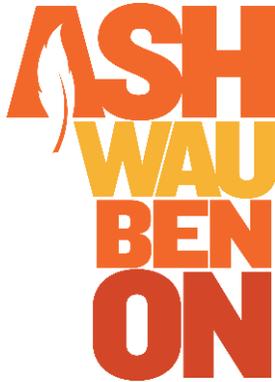


Stormwater Management Plan

MUNICIPAL STORMWATER (MS4) PROGRAM



PREPARED FOR THE

VILLAGE OF ASHWAUBENON

BROWN COUNTY, WISCONSIN

MARCH 1, 2021

McM. No. A0017-9-21-00290

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1.0 – INTRODUCTION

The Village of Ashwaubenon’s Stormwater Management Plan was prepared by McMahon Associates, Inc. The purpose of the plan is to provide the Village with the long-term guidance necessary to comply with NR 216 stormwater regulations and improve water quality within receiving waters.

Pursuant to NR 216, the Village of Ashwaubenon was required to obtain a WPDES Municipal Stormwater Discharge Permit. The purpose of the permit is to control urban non-point source pollution by regulating discharges from municipal separate storm sewer systems (MS4). A copy of the WPDES Permit is provided in Appendix A. As part of the municipal permit, the Village is responsible for developing a stormwater management plan and implementing six minimum control measures. The six minimum control measures consist of:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Pollutant Control
- Post-Construction Site Stormwater Management
- Municipal Pollution Prevention

This stormwater management plan is organized in a manner similar to the WPDES Municipal Stormwater Discharge Permit. The plan identifies the goals and objectives for each of the six minimum control measures, explains how the program was developed, and describes how the Village intends to implement each aspect of the stormwater program, including measurable goals.

2.0 – OVERVIEW OF STUDY AREA

The Village of Ashwaubenon is in Brown County, Wisconsin. The Village is projected to have a 2020 population of 16,961. The study area for this Stormwater Management Plan is depicted in Figure 1. The Village of Ashwaubenon is part of the Green Bay Urbanized Area as determined by the U.S. Census Bureau. As shown in Figure 2, several Municipal Separate Storm Sewer System (MS4) jurisdictions are located within and directly adjacent to the Village.

Basins

The Wisconsin Department of Natural Resources (WDNR) divided the state into 24 basins or Water Management Units (WMU). The Village's study area is located in the Lower Fox River Basin. The basin boundaries are similar to the federally designated 8-digit Hydrologic Unit Code (HUC) boundaries.



Exhibit 2-1: Lower Fox River Basin

Watersheds

The WDNR divided the Lower Fox River Basin into 6 watersheds and the study area is located in three of these watersheds: Apple & Ashwaubenon Creeks (LF02 -113), Duck Creek (LF05 -113), and East River Watershed (LF01 -113).

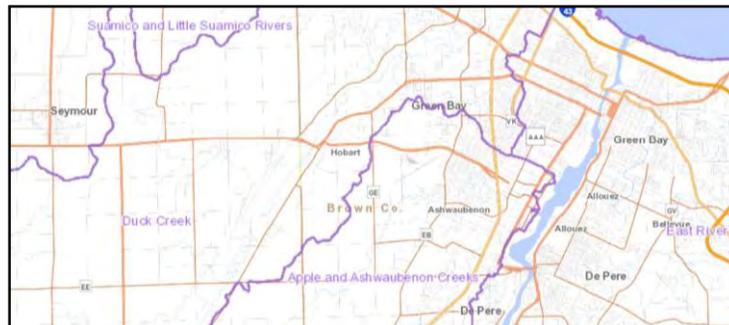


Exhibit 2-2: Apple & Ashwaubenon Creek, Duck Creek and East River Watersheds

Sub-Watersheds

For purposes of this stormwater management plan, the Village was divided into four sub-watersheds. The sub-watersheds are depicted in Figure 3 and summarized in Table 2-1. The sub-watersheds were delineated after considering the locally designated stormwater planning boundaries, federally designated 12-digit HUC boundaries, and state designated Total Maximum Daily Load (TMDL) sub-basin boundaries.

Table 2-1
Sub-Watersheds

Sub-Watershed	HUC-12	TMDL Sub-Basin Name
Ashwaubenon Creek	Ashwaubenon Creek (040302040403)	Ashwaubenon Creek
Duck Creek	Lower Duck Creek (040302040106)	Duck Creek
Dutchman Creek	Dutchman Creek (040302040404)	Dutchman Creek
Fox River	City of Green Bay-Fox River (040302040405)	Lower Fox River Mainstem

Natural Resources

Natural resource features include surface waters (lakes, rivers, streams), wetlands, and endangered or threatened resources. Natural resource features located in the study area are depicted in Figure 4. Some of these natural resource features are protected with a special regulatory designation such as outstanding resource water, exceptional resource water, 303(d) impaired water, endangered species, and threatened species. Natural resource features located in the study area with one of these special regulatory designations are identified below.

Outstanding and exceptional resource waters are pristine surface waters which are not significantly impacted by human activities and provide valuable fisheries, unique hydrological or geological features, outstanding recreational opportunities, or unique environmental settings. For example, cold water trout streams and natural waterfalls are typically classified as outstanding or exceptional resource waters. The Village does not discharge stormwater runoff into any outstanding resource waters or exceptional resource waters.

Impaired water bodies are degraded surface waters which are not meeting water quality standards or their potential uses, such as fishing and swimming, due to pollutants and poor water quality. The US EPA requires each state to update its 303(d) impaired waters list every two years, including Wisconsin. The Village’s study area discharges stormwater runoff into the following 303(d) impaired waters:

- **Ashwaubenon Creek:** Ashwaubenon Creek is a 303(d) impaired water body due to contaminated sediment and a blend of point and non-point source pollution. Pollutants of concern include total phosphorus and total suspended solids. Impairments include low dissolved oxygen and degraded habitat. The attainable use for Ashwaubenon Creek is warm water sport fishery. Currently, Ashwaubenon Creek is not supporting its attainable use.
- **Dutchman Creek:** Dutchman Creek is a 303(d) impaired water body due to non-point source pollution. Pollutants of concern include ammonia and total phosphorus. Impairments include chronic aquatic toxicity and dissolved oxygen. The current use for Dutchman Creek is warm water forage fishery and the designated use is warm water sport fishery. Currently, Dutchman Creek is not supporting its attainable use.
- **Duck Creek:** Duck Creek is a 303(d) impaired water body due to contaminated sediment and non-point source pollution. Pollutants of concern include mercury, total suspended solids and total phosphorus. Impairments include contaminated fish tissue, degraded habitat and low dissolved

oxygen. The attainable use for Duck Creek is warm water sport fishery. Currently, Duck Creek is not supporting its attainable use.

- **Fox River:** The Fox River is a 303(d) impaired water body due to contaminated sediment and a blend of point and non-point source pollution. Pollutants of concern include total phosphorus and polychlorobiphenyls (PCBs). Impairments include degraded habitat, low dissolved oxygen and contaminated fish tissue. The attainable use for the Fox River is unrestricted fish consumption, and warm water sport fishery. Currently, the Fox River is not supporting its attainable use.

Endangered and threatened resources are wild animal and plant species which are either in danger of extinction throughout all or a significant portion of its range or likely to become endangered in the foreseeable future. Typically, the location of an endangered or threatened species is tracked in Wisconsin's Natural Heritage Inventory and is only identified by township. Sensitive species that are particularly vulnerable to collection or disturbance are only identified by county.

Cultural Resources

Cultural resources are places of cultural significance. Some cultural resources are protected with a special regulatory designation such as historical sites and archeological sites. Cultural resource features located in the study area with one of these special regulatory designations are identified below.

The Wisconsin Historical Society's register indicates there are no historical sites located within the study area.

Archeological sites may be located within the study area but cannot be disclosed by law. The State of Wisconsin maintains maps and a computer database on the location and nature of archaeological sites. Special permission is required to view these maps and databases. The location of archaeological sites is exempt from public disclosure to prevent collection or disturbance of valuable artifacts.

Remediation & Waste Disposal Sites

Remediation sites are places where cleanup of environmental soil or groundwater contamination is ongoing or completed. Remediation sites may involve hazardous wastes, underground storage tanks, or other contaminant sources. Waste disposal sites are places where solid wastes are stored. Understanding the location of remediation and waste disposal sites is an important consideration when evaluating potential stormwater retrofit locations. The approximate location of WDNR identified remediation sites (open and closed) and waste disposal sites (not archived) are depicted in Figure 4.

Soils

Soil information is from the *Brown County Soil Survey*, Natural Resource Conservation Service, U.S. Department of Agriculture. The U.S. Department of Agriculture has classified soil types into four

hydrologic soil groups (HSG). The four hydrologic soil groups (i.e. A, B, C and D) are classified according to the minimum infiltration rate of the soil column. Group A soils have the highest permeability rate or lowest runoff potential, whereas Group D soils have the lowest permeability rate or highest runoff potential. Hydrologic soil groups are depicted in Figure 5.

MS4 System

The municipal separate storm sewer system (MS4) consists of publicly owned or operated conveyance systems including streets, curbs, gutters, catch basins, storm sewers, swales, channels, culverts, and occasionally bridges. The MS4 system is depicted in Figure 6. The MS4 system map is based on available records and limited field investigations.

The MS4 system contains numerous known stormwater outfalls. An outfall is the point at which stormwater is discharged to a lake, river, navigable stream, or adjacent MS4 system. Major outfalls include the following:

- A MS4 pipe with a 36-inch diameter or larger.
- A MS4 conveyance with a cross sectional area of 1,018 square inches or larger which is associated with a drainage area of 50 acres or larger.
- A MS4 conveyance with 2 acres or larger of industrial land use.

The MS4 system contains several structural best management practices (BMP). The structural BMPs are depicted in Figure 7. Structural BMPs include wet detention ponds, dry detention ponds, stormwater pond / wetland systems, biofiltration devices, proprietary devices, and other structural BMPs. Some of these structural BMPs are publicly owned and others are privately owned. As part of their stormwater program, the Village typically obtains maintenance authority for privately owned BMP's through maintenance agreements or language on plats / CSM's. Where agreements do not exist, the Village ordinances allow for maintenance authority according to the Village Attorney's letter as shown in Appendix H. Table 2-2 identifies the privately and publicly owned BMP's.

Table 2-2
Structural BMPs

BMP ID	BMP Name	Approx. Year Constructed	Type of Structural BMP	Owner	Maintenance Authority	Record Drawing Available	O&M Plan Available
A2a1	Baeten Road Storage	2017	Wet Pond	Private	Yes	No	No
A2d	DOT Pond 8	2013	Wet Pond	State	Yes	No	No
A2d1a	Kwik Trip	2018	Wet Pond	Private	Yes	No	No
A2g1	Truck Equipment	2018	Wet Pond	Private	Yes	No	No
A2j	Coronis Pond	2018	Wet Pond	Village	Yes	Yes	Yes
A2n	DOT Calaway Pond	2012	Wet Pond	State	Yes	No	No
A3e1	Tenor/GAT Supply	2017	Bio-Retention	Private	Yes	No	No
A3h	Schneider (Master Fleet)	2010	Wet Pond	Private	Yes	No	No

Table 2-2
Structural BMPs

BMP ID	BMP Name	Approx. Year Constructed	Type of Structural BMP	Owner	Maintenance Authority	Record Drawing Available	O&M Plan Available
A3j	Master Fleet	2006	Wet Pond	Private	Yes	No	No
A3k	Green Bay Packaging	2013	Wet Pond	Private*	Yes	No	No
A3l1	Schneider National Lot	2015	Wet Pond	Private	Yes	No	No
A3l2	Fed-Ex	2012	Biofilter(s)	Private	Yes	No	No
A3m	DOT Pond D1, D2	2012	Wet Pond	State	Yes	No	No
A3n	DOT Salt Site	2013	Wet Pond	State	Yes	No	No
A3n1	FedEx	2016	Wet Ponds	Private	Yes	No	Yes
A4c	Woods Edge North Pond	2014	Wet Pond	Private*	Yes	No	No
A4d	Woods Edge South Pond	2014	Wet Pond	Private*	Yes	No	No
A4f	Spring Meadows Pond	2004	Wet Pond	Town	Yes	No	No
D1d1	Verhalen Windows	1998	Dry Pond	Private	Yes	No	No
D1h1	Gordman's	2013	Wet Pond	Private	Yes	No	No
D1h1a	Fortifi Bank	2018	Bio-Retention	Private	Yes	No	No
D1h2	Conger Industries	2009	Swale	Private	Yes	No	No
D1m1a	Bohemian Park Pond	2019	Bio-Retention	Private	Yes	No	Yes
D1m1b	Home2 Suites	2018	Wet Pond	Private	Yes	No	No
D1m1d	Woodside Homes Add'n	2015	Wet Pond	Private	Yes	No	No
D1n1	Ashland Pond	2018	Wet Pond	Village	Yes	Yes	Yes
D1o1a	PCM Credit Union	2018	Bio-Retention	Private	Yes	No	No
D1o1b	Amish Home Gallery	2019	Bio-Retention	Private	Yes	No	No
D1p1	Target	1999	Dry Pond	Private	Yes	No	No
D1p3a	O'Reilly Auto	2017	Wet Pond	Private	Yes	No	No
D2a	Bergstrom Pond	2018	Wet Pond	Private	Yes	No	No
D2c1	Prevea-Western	2010	Wet Pond	Private	Yes	No	No
D2g1	Broadway Collision Cntr	2020	Wet Pond	Private	Yes	No	Yes
D2i2	WPS Yard Pond	2020	Dry Pond	Private	Yes	No	Yes
D2i2	Holmgren Pond	2015	Wet Pond	Village	Yes	Yes	Yes
D2i2a	Van's Honda	2018	Bio-Retention	Private	Yes	No	No
D2k1	Midwest Expansion Dev.	2019	Biofilter	Private	Yes	No	No
D2l	Shoppes at the Village	2003	Wet Pond	Private	Yes	No	No
D2m1	Lemieux Toyota	2010	ACO Catch Basins	Private	Yes	No	No
D2m1c	Ashwaubenon Comm Ctr	2018	Biofilter	Village	Yes	No	No
D4d2a	Pilgrim Townhomes	2020	Wet Pond	Private	Yes	No	No
D4f	DOT Pond 9	2013	Dry Pond	State	Yes	No	No
D4p2a	DaVita Clinic	2018	Biofilter	Private	Yes	No	No
D4q1	Babcock Pond	1999	Wet Pond	Oneida*	Yes	No	No
D4q1a	Crystal Coffee	2006	Dry Pond	Private	Yes	No	No
D4u1	Lamers Bus	2009	Biofilter	Private	Yes	No	No
D5n2	Marhill Pond	2020	Wet Pond	Village	Yes	Yes	Yes
D5v1	Casino / Radison Pond	2000	Wet Pond	Oneida	Yes	No	No
D7d1	Schneider North	1995	Dry Pond	Private	Yes	No	No

Table 2-2
Structural BMPs

BMP ID	BMP Name	Approx. Year Constructed	Type of Structural BMP	Owner	Maintenance Authority	Record Drawing Available	O&M Plan Available
D7h8	Waterford Heights	2005	Wet Pond	Private	Yes	No	No
D8b2a	Greatland Corporation	2019	Underground Facility	Private	Yes	No	No
D8d1	Circle Aviation	2010	Biofilter	Private	Yes	No	No
D8f1	Smoke Shop Ponds	2008	Wet Pond	Oneida	Yes	No	No
D8f2	Badger Sheet Metal	1995	Wet Pond	Private	Yes	No	No
D8f3	Glory Pond	1995	Wet Pond	Village	Yes	No	No
D8f4	Schneider South	1995	Dry Pond	Private	Yes	No	No
D8h1	Gordon Trucking	2010	Wet Pond	Private	Yes	No	No
D9a1	Main Regional Pond	2018	Wet Pond	Village	Yes	Yes	Yes
D9b	Hoida Pond	1995	Dry Pond	Private	Yes	No	No
D9c5a	Knight Development	2013	Biofilter	Private	Yes	No	No
D9c5b	Harmann Studios	2017	Biofilter	Private	Yes	No	No
D9h5	County Rose Estates	2010	Dry Pond	Private	Yes	No	No
D9i1	GB Tennis Center	2009	Dry Pond	Private	Yes	No	No
F2b	Residence Inn	2015	Wet Pond	Private	Yes	No	No
F2e2	Marina Pond	2004	Wet Pond	Private	Yes	No	No
F2g	Bay Harbor Pond(s)	2008	Wet Pond	Private	Yes	No	No
F2i	Aldon Station Pond	2020	Wet Pond	Village	Yes	Yes	Yes
K2b	GB Packers Titledown District	2019	Underground Pond	Private	Yes	No	No
K2d	Cabellas	2012	Underground Pond	Private	Yes	No	No

* Village of Ashwaubenon shares in long term maintenance.

The MS4 system contains two different types of surface drainage: grass swales and curb & gutter. The type of surface drainage within the MS4 system is depicted in Figure 8.

Drinking Water System

The Village obtains drinking water from the City of Green Bay which is taken from Lake Michigan. During emergencies, the Village also obtains drinking water from groundwater aquifers using four municipal wells. The municipal well locations are depicted in Figure 9. Currently, the emergency wells are operated and tested quarterly. The 2019 Annual Drinking Water Quality Report for the Ashwaubenon Water Utility indicates sampling results were within allowable ranges for all tested contaminants.

WPDES Industrial Permits

Several industrial operations with coverage under a WPDES Industrial Permit are located within the Village. The WPDES Industrial Permits are regulated by the Wisconsin Department of Natural Resources (DNR). Some of the WPDES Industrial Permits may allow discharges into the MS4 system during dry

weather. Understanding the location of the WPDES Industrial Permits is important to effective implementation of the Village’s stormwater program. WPDES Industrial Permits are depicted in Figure 9 and summarized in Table 2-3.

Table 2-3
WPDES Industrial Permits

I.D.	Facility Name	Facility Address
1	American Eagle Airlines Inc	2077 Airport Dr
2	United Ground Express	2077 Airport Drive
3	Austin Straubel Intl Airport	2077 Airport Drive
4	Delta Air Lines Inc	2077 Airport Rd
5	Executive Air LLC	2077 Airport Drive
6	Badger Sheet Metal Works Plant #2	1410 Partnership Drive
7	Con Way Freight XGB Green Bay	2666 Holmgren Way
8	Dean Foods of Wisconsin LLC	3399 South Ridge Rd
9	Fitesa Nonwoven, Inc.	3120 Commodity Lane
10	Fourinox	1015 Centennial Street
11	Fox Valley Metal Tech	1201 Parkview Road
12	Georgia Pacific Consumer Products LP	West of North Rd / S. Point Rd Intersection
13	Green Bay Packaging Inc	3250 S Ridge Rd
14	Kelsey Coatings Inc	800 Coronis Way
15	Lamers Bus Lines Inc Green Bay	2407 South Point Rd
16	Machine Service Inc	1000 Ashwaubenon Street
17	Monroe Truck Equipment	1151 West Main Avenue
18	Nelson Machine & Welding Corp	1206 Parkview Road
19	Paper Converting Machine Company	660 Cormier Road
20	Paper Converting Machine Company	1163 Glory Rd, Green Bay, WI
21	Paper Converting Machine Company	2300 S Ashland Avenue
22	Pioneer Metal Finishing	486 Globe Avenue
23	Red D Mix Concrete Inc	2885 Allied St
24	Schneider National Carriers JG1	2538 S Broadway
26	Wilcox Steel	1240 Contract Drive
27	Wisconsin Plastics Inc	3155 Commodity Lane
28	Pro Build Holdings Inc	3400 S Ridge Road
29	United Natural Foods, Inc.	451 Joannes Avenue

Land Uses

Land uses on or before October 1, 2004 are depicted in Figure 10. Undeveloped in-fill sites less than 5 acres are shown to be developed based on adjoining land uses. Undeveloped in-fill sites greater than 5 acres are shown as agriculture, woods, grass, or another undeveloped open space, as appropriate.

2014 land uses are depicted in Figure 11. For purposes of the Total Maximum Daily Load (TMDL) pollutant analysis, the undeveloped in-fill sites are shown as agriculture, grass, woods, wetland, or another undeveloped open space, as appropriate.

Future land uses are depicted in Figure 12. For purposes of the Total Maximum Daily Load (TMDL) pollutant analysis, the future land uses generally match the 2012 land uses, except the appropriate undeveloped sites are converted to a future land use based on adjoining land uses and information from the Village.

CHAPTER 3 - PUBLIC EDUCATION & OUTREACH

Goals & Objectives

Develop a public education and outreach program to increase awareness of stormwater pollution impacts and to encourage changes in public behavior. An informed and knowledgeable community is important to the success of a stormwater program. An informed community has a better understanding of why stormwater management is important and what individual actions they can take to improve water quality within receiving waters.

The key to a successful public education and outreach program is to form partnerships, develop a strategy, and reach a diverse audience. A public education program should also target specific audiences that have a higher potential for stormwater pollution. For some audiences, particularly businesses, incentives may be needed to encourage behavior change. Potential incentives may include awards, rewards, public recognition, certifications, licenses, rebates, fees, and credit policies (stormwater utility fee).

The Wisconsin Department of Natural Resources (DNR) requires that a public education and outreach program include, at a minimum, the following 8 topics.

1. Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.
2. Inform and educate the public about the proper management of materials that may cause stormwater pollution from sources including automobiles, pet waste, household hazardous waste and household practices.
3. Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.
4. Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.
5. Promote infiltration of residential stormwater runoff from rooftop downspouts, driveways and sidewalks.
6. Inform and educate those responsible for the design, installation, and maintenance of construction site erosion control practices and stormwater management facilities on how to design, install and maintain the practices.

7. Identify businesses and activities that may pose a stormwater contamination concern, and where appropriate, educate specific audiences on methods of stormwater pollution prevention.
8. Promote environmentally sensitive land development designs by developers and designers (e.g. low impact development, conservation design, etc.).

The DNR requires the Village to address all eight topics at least once during the 5-year permit term. The Village is required to address a minimum of six topics each year if population is 5,000 or more. The DNR requires the Village to use at least four different public education delivery mechanisms each year. The Village is required to use at least two active/interactive mechanisms each year if population is 5,000 or more.

- Passive: Website (# of hits), Brochures (# distributed/taken), Newsletters (# distributed/taken), Poster/Sign (# of posters/signs), Radio or TV (# of ads), Social Media (# of posts), or Other.
- Active: School Presentation (# students), Information Booth (# interactions), Training Event (# participants), Village Meeting (# attendees), Tour (# attendees), Volunteer Event (# participants), or Other.

Program Development

The Village is a member of the Northeast Wisconsin Stormwater Consortium (NEWSC), which is a regional organization. NEWSC is essentially a partnership of municipalities, regulatory agencies, engineers, and vendors. The group's mission is to facilitate efficient implementation of local stormwater programs by: fostering partnerships, sharing information, seeking administrative efficiencies, and pooling financial resources. For example, NEWSC develops various educational brochures and manages regional public education and involvements efforts for the benefit of its membership and the region.

The Village created a dedicated funding source or stormwater utility fee to financially support the municipal stormwater program, including public education and outreach. A copy of the Village's stormwater utility ordinance is provided in Appendix I.

The Village developed various policies and procedures to assist with implementation of the public education and outreach program. The policies and procedures include the following:

1. The Public Works Director and Village Engineer are jointly responsible for the public education and outreach program, including implementation.
2. The Village intends to maintain its membership and partnership with NEWSC. The NEWSC public education initiatives are part of the Village's public education and outreach plan.

Program Implementation

Each element of the public education and outreach program is described below including Best Management Practices (BMP) and measurable goals. As indicated below, the public education program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected after considering the permit requirements and the uniqueness of the Village. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall public education and outreach program.

Public Education & Outreach	Year
Topic 1: Detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems. Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:	
<u>Passive:</u> Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
<u>Passive:</u> Brochure VH - Fish Don't Swim in Chlorine (# taken).	2021-25
<u>Passive:</u> Newsletter - Household Hazardous Waste (# distributed).	2021-25
<u>Active:</u> Presentation - Government Meeting for Annual Report, Plan or Project (# attendees).	2021-25
<u>Active:</u> NEWSC Exhibiting at Village Event or School (# interactions or students).	2023
Topic 2: Management of materials that may cause stormwater pollution from automobiles, pet waste, household hazardous waste and household practices. Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:	
<u>Passive:</u> Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
<u>Passive:</u> Brochure VH - Good Dog / Good Owner (# taken & # distributed with pet license).	2021-25
<u>Passive:</u> Newsletter - Household Hazardous Waste & Pet Waste (# distributed).	2021-25
<u>Active:</u> NEWSC Exhibiting at Village Event or School (# interactions or students).	2023

Public Education & Outreach	Year
<p>Topic 3: Beneficial onsite reuse of leaves / grass clippings and proper use of fertilizers and pesticides. Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:</p>	
<u>Passive:</u> Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
<u>Passive:</u> Newsletter - The Perfect Lawn (# distributed)	2021
<u>Passive:</u> Newsletter - Kids Can Help (# distributed)	2022
<u>Active:</u> NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
<u>Passive:</u> Newsletter – Leave Your Leaves (# distributed)	2025
<p>Topic 4: Management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways. Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:</p>	
<u>Passive:</u> Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
<u>Passive:</u> Brochure VH - Restore Your Shore (# taken & # distributed with shoreland permit)	2021-25
<u>Passive:</u> Newsletter - Restore Your Shore (# distributed)	2023
<u>Active:</u> NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
<p>Topic 5: Infiltration of residential stormwater runoff from rooftop downspouts, driveways and sidewalks. Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:</p>	
<u>Passive:</u> Website (# hits), Raindrop Poster VH (# posters), Radio/TV/Social Media (# posts).	2021-25
<u>Passive:</u> Brochure - Perfect Landscape (# taken & # distributed with residential home permit)	2021-25
<u>Active:</u> NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
<u>Passive:</u> Newsletter - Perfect Landscape (# distributed)	2024
<p>Topic 6: Inform and educate those responsible for design, installation, and maintenance of construction site erosion controls and stormwater management facilities on how to design, install and maintain. Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:</p>	
<u>Passive:</u> Website (# hits), Plan Review Letters (# distributed), Inspection Report (# distributed).	2021-25
<u>Active:</u> Discuss Permit Requirements at Pre-Construction Meetings (# attendees).	2021-25
<u>Active:</u> Presentation at Government Meeting for Annual Report, Plan or Project (# attendees).	2021-25
<u>Active:</u> Host Training on Post-Construction Stormwater Facility Maintenance (# attendees).	TBD
<p>Topic 7: Identify businesses and activities that may pose a stormwater contamination concern, and where appropriate, educate specific audiences on methods of stormwater pollution prevention Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:</p>	
<u>Passive:</u> Website (# hits), Radio/TV/Social Media (# posts).	2021-25
<u>Active:</u> McMahan Train Village Staff on Municipal Pollution Prevention (# attendees).	2021
<u>Active:</u> NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
<p>Topic 8: Promote environmentally sensitive land development designs by developers and designers (e.g. low impact development, conservation design, etc.). Audience: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:</p>	
<u>Passive:</u> Website (# hits), Radio/TV/Social Media (# posts).	2021-25

CHAPTER 4 - PUBLIC INVOLVEMENT & PARTICIPATION

Goals & Objectives

Develop a public involvement and participation program to notify the public of activities required by the permit and encourage public input. An active and involved community is important to the success of a stormwater program. A community involved in program development may be less likely to create obstacles and raise legal challenges during implementation. Citizens who participate in the decision making process are partially responsible for the program.

The key to a successful public involvement and participation program is to know your audience and think creatively about how to gain their attention. Traditional methods of soliciting public involvement are not always successful in generating interest. The goal is to involve a diverse group of people who offer a multitude of concerns, ideas, and networking connections.

The Wisconsin Department of Natural Resources (DNR) requires that the public involvement and participation program include the following measurable goals:

1. The Village shall provide a minimum of one opportunity annually for the public to provide input of each of the following permit activities: annual report, storm water management program, and if applicable, the adoption or amendment of stormwater related ordinances.
2. The Village shall identify the public involvement and participation delivery mechanism for each permit activity. Delivery mechanisms may include public workshop, presentation of storm water information, government event (public hearing, council meeting, etc.), citizen committee meeting or website.
3. The Village shall implement at a minimum one of the following volunteer activities per year: group best management practice (BMP) installation or maintenance, storm drain stenciling, planting community rain garden, clean up event, stream monitoring, citizen committee meeting, public workshop, presentation of storm water information or other hands-on event.
4. The Village shall identify the targeted participants for each permit activities and volunteer activity. Participants may include general public, public employees, residents, businesses, contractors, developers, industries, and/or other appropriate audience.

Program Development

The Village is a member of the Northeast Wisconsin Stormwater Consortium (NEWSC), which is a regional organization. NEWSC is essentially a partnership of municipalities, regulatory agencies, engineers, and vendors. The group's mission is to facilitate efficient implementation of local stormwater

programs by: fostering partnerships, sharing information, seeking administrative efficiencies, and pooling financial resources. For example, NEWSC develops various educational brochures and manages regional public education and involvement efforts for the benefit of its membership and the region.

The Village has numerous public meetings each year. During each meeting, the public is provided an opportunity to provide public input and participate. Public education and public involvement opportunities are provided during a Village public meeting, whenever stormwater ordinances are modified, funding sources are modified, capital improvement projects are implemented for TMDL stormwater quality compliance, Village's MS4 Annual Report is submitted to DNR each year, etc.

The Village created a dedicated funding source or stormwater utility fee to financially support the municipal stormwater program, including public involvement and participation. A copy of the Village's stormwater utility fee is provided in Appendix I.

The Village developed various policies and procedures to assist with implementation of the public involvement and participation program. The policies and procedures include the following:

1. The Public Works Director and Village Engineer are jointly responsible for implementation of the public involvement and participation program.
2. The Village intends to maintain its membership and partnership with NEWSC.

Program Implementation

Each element of the public involvement and participation program is described below including Best Management Practices (BMP) and measurable goals. As indicated below, the public involvement program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected after considering the permit requirements and uniqueness of the Village. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall public involvement and participation program.

Public Involvement & Participation	Year
Topic 1: Stormwater Management Plan and/or Updates. Participants: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:	
Public or Landowner Meetings (# meetings when stormwater topic is discussed).	2021-25
Topic 2: Stormwater Related Ordinance and/or Updates. Participants: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:	
Public Meetings (# meetings when stormwater ordinance is discussed, created or amended).	2021-25
Topic 3: MS4 Annual Report. Participants: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:	
Public Meetings (# attendees for MS4 Annual Report presentation to elected officials).	2021-25
Topic 4: Volunteer Opportunities. Participants: Contractor, Public, Village Employee, Resident, School, Business, Developer, Industry, Other Delivery Mechanism:	
Volunteer Events (# events, # participants) – Park Cleanup, Adopt-A-Street, Storm Drain Stenciling	2021-25

CHAPTER 5 – ILLICIT DISCHARGE DETECTION & ELIMINATION

Goals & Objectives

Develop an illicit discharge detection and elimination program to remove illicit connections and discharges from the municipal separate storm sewer system (MS4). A thorough awareness of the MS4 system is important to the success of an illicit discharge program. Awareness allows the MS4 operator to locate problem areas, find the source, and eliminate the discharge.

Potential sources of illicit discharge include failing septic systems, illegal business discharges, improper disposal of marina and campground sewage, overflows from sanitary sewer systems, illegal plumbing connections, illegal dumping of waste materials, and spills associated with roadway accidents and industrial activity. Illicit discharges can contribute high levels of pollutants, toxins, oil, grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from illicit discharges are concentrated and may be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Non-stormwater discharges or flows that are not considered illicit discharges include water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, firefighting, and discharges authorized under a WPDES permit unless identified by the Village as a significant source of pollutants to waters of the state.

Program Development

The Village adopted an illicit discharge detection and elimination ordinance. The purpose of the ordinance is to prevent and eliminate illicit discharges to the municipal separate storm sewer system (MS4). A copy of the illicit discharge ordinance is provided in Appendix E. Generally, the illicit discharge ordinance requires the following:

- No discharging, spilling, or dumping of non-stormwater substances and materials into waters of the state or the MS4 system.
- Identifies non-stormwater discharges or flows that are not considered illicit discharges.
- Establishes inspection, monitoring, sampling and enforcement authority.

The Village established forfeitures and fines for the illicit discharge ordinance. The Village created a dedicated funding source or stormwater utility fee to financially support the municipal stormwater program, including illicit discharge. A copy of the Village's stormwater utility fee is provided in Appendix I.

The Village developed various policies and procedures to assist with implementation of the illicit discharge detection and elimination program. The policies and procedures include the following:

1. On-Going Field Screening: Procedures for conducting on-going field screening of outfalls during dry weather periods are provided in Appendix E. The Village Engineer is responsible for coordinating the on-going field screening of outfalls.
2. Routine Inspections: In addition to the on-going field screening, the Village searches for illegal connections and sanitary leakage by conducting routine plumbing, sanitary sewer, and storm sewer inspections. The Building Inspector, and Water Utility are responsible for performing the routine plumbing inspections and coordinating the routine septic system inspections (in any). The Public Works Director and/or their designee are responsible for performing the routine sanitary sewer and storm sewer inspections.
3. Responding to Illicit Discharges: Procedures for responding to known or suspected illicit discharges are provided in Appendix E. The Village Engineer, Building Inspector, and/or Public Safety Department are responsible for responding to illicit discharges and spills. The procedures include investigating the source of an illicit discharge or spill, responding to spills, preventing and containing spills, notifying the DNR of spills that may discharge into waters of the state, eliminating sanitary leakage into the MS4, notifying the DNR of dye testing, and notifying adjacent municipalities of illicit discharges that may enter their MS4 system.
4. Enforcement Actions: When a non-compliance issue is identified, the municipal representative first attempts to call or speak with the responsible party. For a minor non-compliance issue, the inspector will provide a verbal or written “Warning Notice” or deadline for correcting the non-compliance. The majority of non-compliance issues will likely be corrected in this manner. If the “Warning Notice” deadline is not met, the inspector will send a written “Notice of Violation” to the responsible party. The “Notice of Violation” will outline the required actions to be completed by a specific date and time in order to avoid enforcement actions. Enforcement actions will depend on the type and severity of non-compliance. Typically, enforcement actions will include citations and forfeitures. Citations and forfeitures will continue until the municipal inspector determines the site is compliant. Each day of non-compliance can be considered a new violation. For blatant, intentional, repetitive or severe non-compliance issues, the Village has authority to immediately initiate enforcement actions, without prior notice. Other potential enforcement actions include “Cease and Desist Orders”, suspending storm sewer access, suspending water supply access, suspending sanitary sewer access, and issuing a “Notice of Intent” that the Village intends to perform emergency work. Costs associated with emergency work will be billed to the responsible party or charged to the tax roll as a special assessment.

5. Information Submitted by the Public: Information submitted by the public can be recorded on the form provided in Appendix E and forwarded to the Village Engineer, Building Inspector, and/or Public Safety Department for documentation and follow-up. Follow-up activities may consist of reviewing the MS4 map, requesting a copy of plumbing plans, conducting site inspections, performing field tests, and/or initiating enforcement actions. Follow-up activities will be documented with written reports.

The Village prepared a municipal separate storm sewer system (MS4) map depicting the location of outfalls and receiving waterbodies. The map also depicts how the MS4 system is interconnected and which land uses drain into the MS4 system.

Program Implementation

Each element of the illicit discharge detection and elimination program is described below including Best Management Practices (BMP) and measurable goals. As indicated below, the illicit discharge program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected after considering the permit requirements and the uniqueness of the Village. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall program.

Illicit Discharge Detection & Elimination	Count
<p>BMP: Conduct on-going field screening of MS4 outfalls.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of total MS4 outfalls. ▪ Number of MS4 outfalls evaluated during routine ongoing field screening program. ▪ From routine field screening, number of MS4 outfalls with confirmed illicit discharges. ▪ Number of illicit discharge complaints received. ▪ From complaints received, number of MS4 outfalls with confirmed illicit discharges. ▪ Number of identified illicit discharges eliminated during reporting year. 	
<p>BMP: Enforce the illicit discharge ordinance & remove illicit discharges from the MS4.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of verbal Warning Notices issued. ▪ Number of written Warning Notices issued, including emails. ▪ Number of Notices of Violation issued. ▪ Number of Civil Penalties / Citations issued. 	

CHAPTER 6 – CONSTRUCTION SITE POLLUTANT CONTROL

Goals & Objectives

Develop a construction site pollutant control program to reduce the discharge of sediment and construction materials into local streams, rivers and lakes. Common construction site pollutants include sediment, discarded building materials, concrete truck washout, chemicals, litter and sanitary waste. Of these pollutants, sediment is typically of greatest concern. According to the US Environmental Protection Agency (EPA), the sediment load from a construction site is typically 10 to 20 times greater than farmland and 1,000 to 2,000 times greater than a forest. Sediment and pollutants from construction sites can cause physical, chemical and biological harm to our waterbodies.

Program Development

The Village adopted a construction site erosion control ordinance. The purpose of the ordinance is to require erosion and sediment controls at all construction sites and a permit application for sites with 4,000 square feet or more of land disturbance. A copy of the ordinance is provided in Appendix F. The ordinance establishes sanctions to ensure compliance and provides the necessary inspection and enforcement authority. Generally, the construction site erosion control ordinance requires best management practices to:

- Prevent or reduce deposition of soil from being tracked onto streets by vehicles.
- Prevent or reduce discharge of sediment from disturbed areas into stormwater inlets, adjacent waters of the state, drainageways that flow offsite, dewatering activities, and soil stockpiles existing for more than 7 days.
- Prevent or reduce discharge of onsite chemicals, cement, and other building materials into waters of the state or storm sewers.
- For sites with one acre or more of land disturbing construction activity, by design, discharge no more than five tons per acre per year of sediment from the site.
- Comply with DNR Technical Standards for best management practices.
- Prepare and implement an erosion and sediment control plan.

The Village created dedicated funding sources to financially support the construction site pollutant control program. The user fees are structured to support the program.

The Village developed various policies and procedures to assist with implementation of its construction site pollutant control program. The policies and procedures include the following:

1. Permit Application: The permit application, Erosion & Sediment Control Plan, and application fee are submitted to the Community Development Director. The applicant uses the permit application

provided in Appendix F. Similar to private projects, municipal projects also need to comply with performance standards contained within the ordinance, though a formal permit application is not required, and a permit is not issued. The Community Development Director processes the application and forwards to the Building Inspector or Village Engineer for review.

2. Plan Review: Each permit application and Erosion & Sediment Control Plan is reviewed for compliance with the construction site erosion control ordinance, Reference Guide, and DNR Technical Standards. The Building Inspector conducts the review for 1 and 2 family residential dwellings. The Building Inspector or Village Engineer conducts the review for other sites, based on their expertise and training. Plan review letters and the issued permit are forwarded to the permit applicant. The number of plan reviews will depend on the submittal quality. Meetings between the applicant, designer, and plan reviewer are encouraged during the pre-design, design, and plan review process. The meetings are used to educate each other about regulatory requirements, environmentally sensitive areas, and design challenges. The number of meetings is typically commensurate with the size and complexity of the project. Meetings can be face-to-face, virtual, or via telephone.
3. Permit Issuance: The Building Inspector issues an approval letter and/or certificate to the permit applicant, after the plans are approved. The applicant is required to post the permit in a conspicuous place at the site, until construction is completed.
4. Construction Site Inspections: The applicant is required to inspect the construction site each week and after a rainfall of ½ inch or more. In addition, the Village inspector observes each site about once a month during the period starting March 29 and ending November 25 (at least once every 45 days for active sites and once every 60 days for inactive sites). Follow up inspections are performed by the Village inspector within 7 days of an inadequate control measure or a sediment discharge. In addition, a final inspection is performed by the Village inspector to verify the site has reached final stabilization. The Village inspector may inspect sites more frequently after storm events, during a mild winter, when adjacent to a sensitive area, and during enforcement actions. Both the applicant and Village inspector document inspections with written reports. The Building Inspector inspects 1 and 2 family dwellings. The Building Inspector and/or Village Engineer (or their designee) inspects other projects, including subdivisions.
5. Enforcement Actions: For a minor non-compliance issue, the inspector will provide a verbal or written “Warning Notice” for correcting the non-compliance. Most non-compliance issues are corrected in this manner. If the non-compliance is blatant, intentional, or not corrected in a timely manner, the Village inspector will post a “Stop Work Order” or send a written “Notice of Violation” which outlines the required actions to be completed by a specific date and time. Enforcement actions will depend on the type and severity of non-compliance. Typically, enforcement actions will include forfeitures. Stop work orders, citations, and forfeitures will continue until the Village inspector determines the site is compliant. Each day of non-compliance can be considered a new

violation. Other potential enforcement actions include permit revocation, “Cease and Desist Orders”, and issuing a “Notice of Intent” that the Village intends to perform emergency work.

6. Information Submitted by the Public: Information submitted by the public can be recorded on the form provided in Appendix F and forwarded to the Building Inspector or Village Engineer for documentation and follow-up. Follow-up activities may consist of contacting the landowner, verifying permit coverage, reviewing plans, requesting a copy of weekly inspection reports, conducting a Village inspection, and/or initiating enforcement actions.

Program Implementation

Each element of the construction site pollutant control program is described below including Best Management Practices (BMP) and measurable goals. As indicated below, the construction site pollutant control program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected after considering the permit requirements. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall program.

Construction Site Pollutant Control	Count
<p>BMP: Review permit applications and erosion control plans.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of total active construction sites (> 1 acre) during reporting year. ▪ Number of constructions sites (> 1 acre) issued a permit during reporting year. 	
<p>BMP: Conduct municipal construction site erosion control inspections.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of construction site inspections performed by the Village during reporting year. 	
<p>BMP: Enforce the construction site erosion control ordinance.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of sites with no enforcement authority. ▪ Number of verbal Warning Notices issued. ▪ Number of written Warning Notices issued, including emails. ▪ Number of Notices of Violation issued. ▪ Number of Stop Work Orders issued. ▪ Number of Civil Penalties / Citations issued. ▪ Number of Forfeitures of Deposit (cash escrow, bond, letter of credit, etc.). 	

CHAPTER 7 – POST-CONSTRUCTION STORMWATER MANAGEMENT

Goals & Objectives

Develop a post-construction stormwater management program to control runoff quality and quantity from areas of new development and redevelopment, after construction is completed. Urban development increases the amount of impervious surfaces as farmland, forests and grasslands are converted to buildings, parking lots and streets. Impervious surfaces reduce subsurface infiltration and increase surface water runoff. As stormwater washes over impervious surfaces, pollutants are picked up and the speed of runoff increases. The resulting stormwater flows are higher in flow rate, volume, pollutants and temperature. Uncontrolled runoff may cause stream erosion, flooding, algae, bacteria and aesthetic problems within streams, rivers and lakes.

Program Development

The Village adopted a post-construction stormwater management ordinance. A copy of the stormwater ordinance is provided in Appendix G. The ordinance establishes sanctions to ensure compliance and provides the necessary inspection and enforcement authority. Generally, the post-construction stormwater management ordinance requires the following for sites with 1 acre or more of land disturbance:

- Reduce sediment by 80% for new development and 40% for redevelopment. Also, if more stringent, reduce sediment and phosphorus in conformance with Total Maximum Daily Load.
- Control 1, 2, 10 and 100-year peak discharge rates based on a meadow or woodland land use.
- Infiltrate runoff for new development if one acre or more of land disturbance.
- Create buffers along streams, rivers, lakes, wetlands and channels.
- Prevent visible petroleum sheen in stormwater runoff.
- Comply with DNR Technical Standards.
- Prepare a Stormwater Management Plan and Operation & Maintenance Plan.
- Prepare a long-term maintenance agreement and record at Register of Deeds.

The Village created dedicated funding sources to financially support the post-construction stormwater management program. The user fees are structured to support the program.

The Village developed various policies and procedures to assist with implementation of the post-construction stormwater management program. The policies and procedures include the following:

1. **Permit Application:** The permit application, Stormwater Management Plan, long-term maintenance agreement, and application fee are submitted to the Community Development Director. The

Community Development Director's Office processes the application and forwards it to the Building Inspector or Village Engineer for review and approval.

2. Plan Review: Each permit application, Stormwater Management Plan, and maintenance agreement is reviewed for compliance with the stormwater management ordinance, Reference Guide, and DNR Technical Standards. The Building Inspector conducts the review for 1 and 2 family residential dwellings provided the project involves less than 1 acre of land disturbance. The Village Engineer conducts the review for other sites, based on their expertise and training. Plan review letters and the issued permit are forwarded to the permit applicant. The number of plan reviews will depend on the submittal quality. Meetings between the applicant, designer, and plan reviewer are encouraged during the pre-design, design, and plan review process. The meetings are used to educate each other about regulatory requirements, environmentally sensitive areas, and design challenges. The number of meetings is typically commensurate with the size and complexity of the project. Meetings can be face-to-face, virtual, or via telephone.
3. Operation & Maintenance Agreement: An operation and maintenance agreement is required for sites with 20,000 square feet or more of impervious surface disturbance or sites with 1 acre or more of land disturbance (unless draining to a Village-owned regional facility). Ideally, the maintenance agreement will be approved and executed prior to permit issuance. The Owner or Developer records the maintenance agreement at the County Register of Deeds and supplies a copy to the Community Development Director.
4. Permit Issuance: The Building Inspector issues an approval letter and/or certificate to the permit applicant, after the plans are approved. The applicant is required to post the permit in a conspicuous place at the site, until construction is completed.
5. Project Completion Process: After the project is completed, the Building Inspector and/or Village Engineer completes a final inspection of the property. A PE stamped record drawing is prepared by the owner and submitted to the Village Engineer's Office and forwarded to the Building Inspector and/or Village Engineer for review.
6. Tracking Long-Term Operation & Maintenance: The Village Engineer tracks long-term maintenance of private stormwater facilities. As required by the maintenance agreement, the facility owner is required to perform routine inspections, conduct maintenance, and document activities in annual maintenance logs. The Village Engineer submits a letter to BMP owners to contact the Village and verify their BMP has been inspected on 10% of pond annually. The Village Engineer conducts an inspection to verify the owner's findings.
7. Enforcement Actions: For a minor non-compliance issue, the Village inspector will provide a verbal or written "Warning Notice" for correcting the non-compliance. Most non-compliance issues will be corrected in this manner. The written notice will outline the required actions to be completed by a specific date and time to avoid enforcement action. Enforcement actions will depend on the type

and severity of non-compliance. Typically, enforcement actions will include “Notices of Violation”, citations and penalty fees. Violations, citations, and penalty fees will continue until the Village inspector determines the site is compliant. Each day of non-compliance can be considered a new violation. For blatant, intentional, repetitive, or severe non-compliance issues, the Village inspector has authority to immediately issue a written “Notice of Violation” and/or initiate enforcement actions without prior notice. Other potential enforcement actions may include permit revocation, “Cease and Desist Orders”, and issuing a “Notice of Intent” that the Village intends to perform emergency work. Costs are billed to the responsible party or charged to the tax roll.

8. Information Submitted by the Public: Information submitted by the public can be recorded on the form provided in Appendix G and forwarded to the Building Inspector or Village Engineer for documentation and follow-up. Follow-up activities may consist of contacting the facility owner, reviewing plans, requesting maintenance logs, reviewing inspection reports, conducting Village inspections, or initiating enforcement actions. Follow-up activities will be documented with written reports and filed with the permit.

Program Implementation

Each element of the post-construction stormwater management program is described below including Best Management Practices (BMP) and measurable goals. As indicated below, the post-construction program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected after considering the permit requirements. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall post-construction stormwater management program.

Post-Construction Stormwater Management	Count
BMP: Review permit applications, stormwater management plans, and maintenance agreements. Measurable Goals: <ul style="list-style-type: none"> ▪ Number of sites that received approval for a new structural stormwater management facility. 	
BMP: Track long-term maintenance of stormwater management facilities. Measurable Goals: <ul style="list-style-type: none"> ▪ Number of privately owned stormwater management facilities inspected in reporting year. 	
BMP: Enforce the post-construction stormwater management ordinance. Measurable Goals: <ul style="list-style-type: none"> ▪ Number of sites with no enforcement authority. ▪ Number of verbal Warning Notices issued. ▪ Number of written Warning Notices issued, including emails. ▪ Number of Notices of Violation issued. ▪ Number of Civil Penalties / Citations issued. ▪ Number of Forfeitures of Deposit (cash escrow, bond, letter of credit, etc.). ▪ Number of sites with completed stormwater facility maintenance during reporting year. ▪ Number of sites that Village performed maintenance and billed the responsible party. 	

CHAPTER 8 - MUNICIPAL POLLUTION PREVENTION

Goals & Objectives

Develop a municipal pollution prevention program to reduce the amount and type of pollution that (1) collects on municipally owned streets, parking lots, open spaces, storage areas, and vehicle maintenance areas, and (2) results from poor maintenance of municipally owned flood control facilities and storm sewer systems. The goal is to modify existing municipal operations to improve stormwater quality and protect receiving waters.

Program Development

The Village created a dedicated funding source or stormwater utility fee to financially support the municipal stormwater program, including municipal pollution prevention. A copy of the Village's stormwater utility fee is provided in Appendix I.

The Village developed various policies and procedures to assist with implementation of the municipal pollution prevention program. The policies and procedures include the following:

1. Structural BMPs: Structural BMPs are depicted in Figure 7 and summarized in a tabular format within Table 2-3 in Section 2 – Overview of Study Area. The Village Engineer is responsible for routine inspection and maintenance of Village owned or operated structural best management practices (BMP). See Chapter 7 – Post-Construction Stormwater Management for the Village's plan for tracking long-term maintenance and inspection procedures for private facilities. In the future, the Village may construct additional structural BMPs to achieve the TMDL sediment and phosphorus reductions.
2. Grass Swales: The Public Works Department is responsible for routine inspection and maintenance of Village owned or operated grass swales. The location of grass swales are depicted in Figure 8. The grass swales improve surface water quality for purposes of the TMDL sediment and phosphorus reductions.
3. Street Sweeping: The Public Works Department is responsible for sweeping Village owned streets and properly disposing of waste materials. Waste materials are disposed at the Brown County Landfill. The Village currently owns one Freightliner high efficiency sweeper for street sweeping. The Village performs street sweeping to improve aesthetics, reduce storm inlet clogging, cleanup leaves and grass clippings, and reduce non-point source pollution. Village owned streets are currently swept once every 8 weeks. The Village currently has no plans to adopt a parking ordinance to restrict street parking during sweeping operations.

4. Catch Basin Cleaning: The Public Works Department is responsible for cleaning Village owned catch basin sumps and properly disposing of waste materials. Waste materials are disposed at the Brown County Landfill. The Village currently owns one 2007 Vector Jetter for catch basin cleaning. Catch basin cleaning is performed to control sump odor, reduce mini-storm sewer clogging, and reduce non-point source pollution. Approximately 50% of the Village's storm sewer system contains catch basin sumps. Catch basin sumps are dispersed throughout the Village and are not mapped. Village owned catch basin sumps are typically cleaned once every 4 years.
5. Snow Storage: The Public Works Department is responsible for snow storage. Snow is typically plowed and stored along streets until the spring melt. During the spring melt, snowpiles can deliver "shock" loads of pollutants to streams, rivers, and lakes.
6. Deicers: The Public Works Department is responsible for proper application of road salt and other de-icers. Currently, the Village uses salt granules and brine for deicing. The Village stores salt in a covered shed at the Pubic Work site. The salt storage shed is inspected each year by DNR Staff. Currently, the Village does have a predetermined application rate for salt, which is calibrated monthly.
7. Leaves & Grass Clippings: The Public Works Department is responsible for leaf and grass clipping collection. The Village does not charge homeowners a fee for curbside leaf collection. Leaves are temporarily stockpiled in the grass terrace by landowners until collection. The Village uses vacuum equipment to collect the leaves each week, starting in October and continuing for about six to eight weeks. The Village uses a street sweeper each week to collect leaf debris and small quantities of leaves. Leaves and yard waste collected by the Village are stockpiled at their composte site. See the Village's Storm Water Pollution Prevention Plan (SWPPP) for the composte site for more information. During summer months, yard waste is collected once a month. During spring and fall, leaves and yard waste are collected once a week.
8. Municipal Garage: The Public Works Department is responsible for managing stormwater pollution at the Public Works Building. The Municipal Services Building is located at 2155 Holmgren Way (see Figure 9). Municipal vehicles, municipal equipment, salt storage, soil stockpiles, bulky household items, and other materials are stored at the Municipal Services Building. A Storm Water Pollution Prevention Plan (SWPPP) was prepared for the Village Public Works Garage. The following Best Management Practices (BMP) are utilized:
 - Buildings are locked to prevent unauthorized access.
 - A fence surrounds part of the storage yard to prevent unauthorized access.
 - Vehicles and equipment are stored indoors.
 - Vehicles and equipment are washed indoors. Wash water is discharged to the sanitary sewer system. Soil clumps are removed from vehicles and equipment prior to washing.
 - Vehicles and equipment are maintained indoors. Drip pans are used for vehicle and equipment maintenance.

- Absorbent cleanup materials are kept onsite at all times for potential spills.
 - Vehicle fuel is purchased and stored onsite at a pump station.
 - Fertilizers, pesticides, chemicals, solvents, paints, & other hazardous materials are stored in clearly marked, sealed containers. Containers are stored indoors within an explosion proof room.
 - Waste oil and other hazardous materials are properly disposed.
 - Material stockpiles are kept away from concentrated flows.
 - Soil stockpiles inactive for 30 days or more are covered with a tarp.
 - A Village owned, operated and maintained regional stormwater quality pond is located downstream of the Village Public Works site for stormwater management.
9. Water Utility: The Water Utility is responsible for managing stormwater pollution and municipal operations at its four municipal well sites. Well #3 is located in Smith Park, Well #4 is located along S Ridge Road, Well #5 is located at Argonne Park, and Well #7 is located in CTH G (see Figure 9). Equipment, vehicles and materials used by the Water Utility are typically stored indoors at the Municipal Services Building. Each municipal well building is locked to prevent public access. No structural best management practices are currently proposed for the well sites.
10. Fertilizers: The Parks Department is responsible for conducting soil tests before applying fertilizer to Village controlled properties with more than 5 acres of pervious area. Currently, the Village applies fertilizer to the following Village controlled properties with 5 acres or more of lawn area, which primarily covers the sports fields at Village Parks. The Village is currently utilizing their current site specific Nutrient Management Plan.
11. Pet Waste: Pet waste can be a source of nutrients and bacteria in stormwater runoff when allowed to accumulate on sidewalks and streets. To control pet waste, pet owners should pick up and properly dispose of pet waste by placing in the garbage, flushing down the toilet, or burying in the backyard. The Village provides dog waste stations in the park and trail systems.
12. Litter Control: The Public Works Department and Parks Department are jointly responsible for enforcing the Village's litter ordinance. In addition to the ordinance, the Village provides the following municipal services to reduce the amount of litter within streams, rivers, lakes, wetlands, wooded areas, and detention ponds:
- Litter in Village Parks is routinely picked up and trash cans are routinely emptied.
 - Litter in municipally owned or operated ponds is routinely picked up. The Village has installed trash racks on newer outlet structures to trap litter in the pond.
 - Residential garbage is collected curb-side once every week. The Village uses garbage receptibles that have a lid to reduce litter caused by animals and wind.
 - Residential recycling is collected curb-side once every two weeks. Homeowners are responsible for placing glass, plastic, and metal recyclables in containers and bundling cardboard / paper recyclables to reduce litter caused by wind.

- White goods and bulky household items are collected curb-side once every month. White goods and bulky household items are immediately disposed at the landfill. The program prevents improper disposal of white goods and bulky items.

13. Employee Training: The Public Works Department is responsible for training municipal employees and other personnel about municipal pollution prevention and good housekeeping practices. Potential training topics include structural BMP maintenance, grass swales, street sweeping, catch basin cleaning, snow storage, deicers, leaves, grass clippings, municipal garages, vehicle / equipment maintenance, hazardous spills, illegal connections, illicit discharges, fertilizers, pet waste, litter control, well head protection, and information from the public. NEWSOC plans to develop some of these training materials. A worksheet to track employee training is provided in Appendix H.

14. Well Head Protection: The Public Works Department and Water Utility are jointly responsible for protecting Village wells from stormwater contamination. The Village plans to investigate development of a Well Head Protection Plan and ordinance for the four municipal wells.

Program Implementation

Each element of the municipal pollution prevention program is described below including Best Management Practices (BMP) and measurable goals. As indicated below, the municipal pollution prevention program is integrated with the other five minimum control measures. The proposed BMPs and measurable goals were selected after considering the permit requirements and the uniqueness of the Village. The purpose of the measurable goals is to track program implementation and gauge effectiveness of the overall municipal pollution prevention program.

Municipal Pollution Prevention	Count
<p>BMP: Conduct routine inspections & maintenance of municipally owned stormwater facilities.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of municipally owned or operated structural stormwater facilities. ▪ Number of new municipally owned or operated stormwater facilities installed in the reporting year. ▪ Number of municipally owned or operated stormwater facilities inspected in the reporting year. ▪ Of the inspected facilities, number of municipally owned stormwater facilities requiring maintenance. 	
<p>BMP: Prepare a Stormwater Pollution Prevention Plan (SWPPP) for municipal garages and yards.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of municipal properties required to have a SWPPP. ▪ Number of inspections of municipal properties with a SWPPP during reporting year. 	
<p>BMP: Conduct routine street sweeping where appropriate. Properly dispose of waste.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Frequency of street sweeping completed during reporting year (March 29 to November 25). ▪ Tons of street sweeping waste collected during reporting year. 	
<p>BMP: Conduct routine catch basin cleaning where appropriate. Properly dispose of waste.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of catch basin sumps cleaned during reporting year (March 29 to November 25). ▪ Tons of catch basin waste collected during reporting year. 	
<p>BMP: Properly manage leaves where appropriate.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ If collection is offered, frequency of curbside leaf collection. 	
<p>BMP: Apply road salt and other products only as necessary to maintain public safety during winter.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of lane-miles that Village is responsible for snow and ice control. ▪ Tons of salt applied per month (October to March). ▪ Tons of sand applied per month (October to March). ▪ Tons of salt/sand mix applied per month (October to March). ▪ Gallons of brine applied per month (October to March). ▪ Gallons of chem-melt applied per month (October to March). ▪ Gallons of beet juice applied per month (October to March). ▪ Gallons of pre-wetting compound applied per month (October to March). 	
<p>BMP: Conduct nutrient management planning for municipally controlled properties where appropriate.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of Village controlled properties with > 5 acres of turf area that are fertilized. 	
<p>BMP: Educate municipal employees about stormwater pollution prevention.</p> <p>Measurable Goals:</p> <ul style="list-style-type: none"> ▪ Number of municipal employees trained during reporting year. 	

9.0 - STORMWATER QUALITY MANAGEMENT

The Village's stormwater quality management plan or Action Plan for Total Maximum Daily Load (TMDL) compliance dated March 29, 2018 is provided in a separate report.

10.0 - IMPLEMENTATION PLAN

Below are various items for the Village to consider when implementing the Stormwater Management Plan and working toward MS4 Permit compliance.

Plan Adoption

The Stormwater Management Plan has been accepted by the Village Board.

Compliance Schedule

The WPDES Municipal Stormwater Discharge Permit (WI-S050075-3) contains a compliance schedule. The compliance schedule identifies when the Village needs to complete each required permit activity. The start date for the MS4 Permit is May 1, 2019.

Public Education & Public Involvement

The first step toward implementing the Stormwater Management Plan is to obtain public input from local stakeholders. Potential stakeholders include the general public, elected officials, Village Staff, developers, environmentalists, regulatory entities, and individual property owners. Although the Stormwater Management Plan includes a cost versus benefit analysis for each water quality alternative, the plan does not take into consideration intangibles such as public sentiment and public opinion.

Capital Improvement Plan

Develop a capital improvement plan based on the Stormwater Management Plan and the Village's permit compliance schedule. We recommend that the capital improvement plan include ample time for public education, public input, BMP design, land acquisition, regulatory permits, grant applications, financing, and construction. The capital improvement plan should also take into consideration other local capital improvement projects, such as street reconstruction projects, utility projects, and private development projects. We recommend the Village explore all potential opportunities to partner with other public and private entities.

1. BMP Design

McMahon Associates, Inc. recommends that BMP design, regulatory permits, and land acquisition be conducted in a succinct manner. Some of the proposed BMP retrofit sites may not be feasible due to soil contamination, wetlands, floodplains, endangered species, archeological resources, or some other unknown site factor. It is better to understand these challenges before the property is purchased by the Village.

2. Land Acquisition

McMahon Associates, Inc. recommends that Village Staff begin discussions with property owners and businesses that may be impacted by one or more of the proposed wet detention ponds. Some of the wet detention ponds are intentionally located on vacant parcels that are currently for sale. The land acquisition required for a specific pond may become more difficult if the property is sold to another entity.

McMahon Associates, Inc. recommends that the Village contact local businesses that have a potential BMP retrofit proposed on their property. The open space areas that are identified for the BMP may be reserved for future business expansions.

McMahon Associates, Inc. recommends that these discussions be pursued by Village Staff as soon as practical. These discussions may eliminate one or more of the proposed wet pond retrofits from consideration.

3. Regulatory Permits

McMahon Associates, Inc. recommends that regulatory agencies be contacted to discuss permits for potential BMP retrofits. Permits may be required from the Wisconsin DNR, US Army Corps of Engineers, and other regulatory agencies. Some of the proposed wet ponds are located adjacent to or within wetlands, navigable streams, lakes, 100-year floodplains, and other environmentally sensitive areas. Wet ponds located adjacent to or within one or more of these natural resource features will likely require detailed investigations and extensive timelines for permit approval. The regulatory agency may require wetland delineations, endangered or threatened species investigations, archeological investigations, soil investigations, groundwater or bedrock investigations, or 100-year flood studies.

Financing Plan

McMahon Associates recommends the Village develop a financing plan. The financing plan will allow the Village to implement the Stormwater Management Plan and 5-year Capital Improvement Plan. Below is a discussion of various funding sources which may be available to the Village. Depending on the stormwater project, funding options may be used individually or in combination.

- **Impact Fees:** Impact fees may be charged to developers for stormwater projects that benefit the development. Impact fees are usually paid during initial stages of development. Typically, projects include regional stormwater facilities or improvements to deficient downstream infrastructure. Often, other funding sources are needed to pay for project costs until developers and property owners are required to pay the impact fee.

- Stormwater Utility: Stormwater utilities are similar to sanitary and water utilities. Stormwater utilities generate revenue for stormwater related projects by charging property owners an annual service fee. Annual service fees are based upon the amount of runoff generated by a specific property. Properties with more impervious area (i.e. roofs, parking lots, driveways, etc.) are charged a higher fee as compared to properties with less impervious area. All properties, including tax exempt properties, pay the service fee.

- Grants / Loans: State and federal grant / loans are available for certain stormwater projects. Typically, only a certain percent of the total project cost is eligible for grant / loan money with remaining revenues to be generated by the applicant. Below are a few grant / loan programs which the Village of Ashwaubenon may or may not be familiar with.
 - Urban Non-Point Source and Stormwater Construction Grant
 - Targeted Runoff Management Construction Grant
 - Great Lakes Basin Program
 - Community Development Block Grant
 - Clean Water Fund

APPENDIX A

WPDES Municipal Permit



**STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**

**GENERAL PERMIT TO DISCHARGE UNDER THE WISCONSIN
POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES PERMIT NO. WI-S050075-3**

In compliance with the provisions of ch. 283 Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, owners and operators of municipal separate storm sewer systems are permitted to discharge storm water from all portions of the

MUNICIPAL SEPARATE STORM SEWER SYSTEM

owned or operated by the municipality to waters of the state in accordance with the conditions set forth in this permit.

With written authorization by the Department, this permit will be used to cover a municipal separate storm sewer system initially covered under a previous version of a municipal separate storm sewer system general permit. The **Start Date** of coverage under this permit is the date of the Department letter sent to the municipality authorizing coverage under this permit. The Department is required to charge an annual permit fee to owners and operators authorized to discharge under this permit in accordance with s. 283.33(9), Wis. Stats., and s. NR 216.08, Wis. Adm. Code.

State of Wisconsin Department of Natural Resources
For the Secretary

By Michael C. Thompson

Michael C. Thompson, Director
Bureau of Watershed Management
External Services Division

5/1/19

Date Permit Signed

PERMIT EFFECTIVE DATE: May 1, 2019

EXPIRATION DATE: April 30, 2024

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1. APPLICABILITY CRITERIA

1.1 Permitted Area

This permit covers all areas under the ownership, control or jurisdiction of the permittee that contribute to discharges from a municipal separate storm sewer system (MS4) that receives runoff from any of the following:

1.1.1 An urbanized area, adjacent developing areas and areas whose runoff is connected or will connect to a municipal separate storm sewer regulated under subch. I of NR 216, Wis. Adm. Code; or

1.1.2 An area associated with a municipal population of 10,000 or more and a population density of 1,000 or more per square mile, adjacent developing areas and areas whose runoff is connected or will connect to an MS4 regulated under subch. I of NR 216, Wis. Adm. Code; or

1.1.3 An area that drains to an MS4 that is designated for permit coverage pursuant to s. NR 216.02(2) or 216.025, Wis. Adm. Code.

1.2 Authorized Discharges

This permit authorizes storm water point source discharges from the MS4 to waters of the state in the permitted area. This permit also authorizes the discharge of storm water co-mingled with flows contributed by process wastewater, non-process wastewater, and storm water associated with industrial activity, provided the discharges are regulated by other WPDES permits or are discharges which are not considered illicit discharges pursuant to section 2.3.1 of this permit.

1.3 Water Quality Standards

1.3.1 This permit specifies the conditions under which storm water may be discharged to waters of the state for the purpose of achieving water quality standards contained in chs. NR 102 through 105, NR 140, and NR 207, Wis. Adm. Code. For the term of this permit, compliance with water quality standards will be addressed by adherence to the requirements in this permit.

1.3.2 This permit does not authorize discharges that the Department determines will cause or have reasonable potential to cause or contribute to an excursion above any applicable water quality standards. Where such determinations have been made, the Department may notify the municipality that an individual permit is necessary. However, the Department may authorize coverage under this permit where the storm water management programs required under this permit will include appropriate controls and implementation procedures designed to bring the storm water discharge into compliance with water quality standards.

1.4 Outstanding and Exceptional Resource Waters

1.4.1 The permittee shall determine whether any part of its MS4 discharges to an outstanding resource water (ORW) or exceptional resource water (ERW). ORWs and ERWs are listed in ss. NR 102.10 and 102.11, Wis. Adm. Code.

Note: An unofficial list of ORWs and ERWs may be found on the Department's Internet site at: <https://dnr.wi.gov/topic/SurfaceWater/orwerw.html>

1.4.2 The permittee may not establish a new MS4 discharge of a pollutant to an ORW or an ERW unless the storm water management programs required under this permit are designed to ensure that any new MS4 discharge of a pollutant to an ORW or ERW will not exceed background concentration levels within the ORW or ERW.

1.4.3 If the permittee has an existing MS4 discharge to an ORW, it may increase the discharge of pollutants, either at the existing point of discharge or a new location, provided all of the following are met:

- a. The pollutant concentration within the receiving water and under the influence of the existing discharge would not increase as compared to the level that existed prior to coverage under this permit.
- b. The increased discharge would not result in a violation of water quality standards.

1.4.4 If the permittee has an existing MS4 discharge to an ERW, it may increase the discharge of pollutants if the increased discharge would not result in a violation of water quality standards.

1.5 Impaired Waterbodies and Total Maximum Daily Load Requirements

1.5.1 By March 31 of each odd-numbered year, the permittee shall determine whether any part of its MS4 discharges to an impaired waterbody listed in accordance with section 303(d)(1) of the federal Clean Water Act, 33 USC § 1313(d)(1)(C), and the implementing regulation of the US Environmental Protection Agency, 40 CFR § 130.7(c)(1). For a permittee that determines that any part of its MS4 does discharge to a listed impaired waterbody but for which there is no United States Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) for the pollutant of concern, the permittee shall include a written section in its storm water management program that discusses the management practices and control measures it will implement as part of its program to reduce, with the goal of eliminating, the discharge of pollutants of concern that contribute to the impairment of the waterbody. This section of the permittee's program shall specifically identify control measures and practices that will collectively be used to try to eliminate the MS4's discharge of pollutants of concern that contribute to the impairment of the waterbody and explain why these control measures and practices were chosen as opposed to other alternatives.

Note: Every two years, the Department updates and publishes a list of waters considered impaired under the Clean Water Act. The list is updated in even-numbered years. A list of Wisconsin impaired waterbodies may be found on the Department's Internet site at:

<http://dnr.wi.gov/topic/impairedwaters/>

1.5.2 For a permittee with an MS4 discharge of a pollutant of concern to a waterbody subject to an USEPA approved TMDL under which the permittee is assigned a Wasteload Allocation (WLA), the permittee shall meet the following requirements, in addition to the minimum control measures described within Section 2 of the permit:

- a. Appendix A provides the permit conditions for permittees subject to the Rock River Basin TMDL, Lower Fox River Basin and Lower Green Bay TMDL, Lake St. Croix Nutrient

TMDL, Red Cedar River (Tainter Lake, Menomin Lake) TMDL, or Beaver Dam Lake TMDL. For a permittee subject to any of these TMDLs, the permittee shall comply with the provisions in Appendix A: MS4 Permittees Subject to a TMDL Approved Prior to May 1, 2014 including Applicable Updates.

b. Appendix B provides the permit conditions for permittees subject to the Milwaukee River Basin TMDL. For a permittee subject to this TMDL, the permittee shall comply with the provisions in Appendix B: MS4 Permittees Subject to Milwaukee River Basin TMDL.

c. Appendix C provides the permit conditions for permittees subject to the Wisconsin River Basin TMDL or any other TMDL approved on or after May 1, 2019. For a permittee subject to any of these TMDLs, the permittee shall comply with the provisions in Appendix C: MS4 Permittees Subject to the Wisconsin River Basin TMDL or a TMDL Approved After May 1, 2019.

Note: The reports for Department and USEPA approved TMDLs are available from the Department's Internet site at: <https://dnr.wi.gov/topic/TMDLs/tmdlreports.html>

1.5.3 After the effective date of this permit, the permittee may not establish a new MS4 discharge of a pollutant of concern to an impaired waterbody or increase the discharge of a pollutant of concern to an impaired waterbody unless the new or increased discharge causes the receiving water to meet applicable water quality standards, or the USEPA has approved a TMDL for the impaired waterbody.

1.6 Wetlands

The permittee's MS4 discharge shall comply with the applicable wetland water quality standards provisions in ch. NR 103, Wis. Adm. Code.

1.7 Endangered and Threatened Resources

The permittee's MS4 discharge shall comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code.

1.8 Historic Property

The permittee's MS4 discharge may not affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the Department determines that the MS4 discharge will not have an adverse effect on any historic property pursuant to s. 44.40(3), Wis. Stats.

1.9 General Storm Water Discharge Limitations

In accordance with s. NR 102.04, Wis. Adm. Code, practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

1.9.1 Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

1.9.2 Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

1.9.3 Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

1.9.4 Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

1.10 Obtaining Permit Coverage

1.10.1 The owner or operator of an MS4 covered under a previous version of an MS4 permit before the effective date of this permit shall be covered by this permit pursuant to written authorization by the Department.

Note: The Department will notify in writing the owner or operator of an MS4 covered under a previous version of an MS4 permit that this permit has been reissued and that the MS4 is covered under it. However, the City of Madison and the City of Milwaukee are not eligible for coverage under this permit.

1.10.2 Coverage under this permit does not become effective until the Department sends the owner or operator a letter expressly authorizing coverage under this permit.

1.11 Transfers

Coverage under this permit is not transferable to another municipality without the express written approval of the Department. If the permittee's MS4 is annexed into another municipality, the permittee shall immediately notify the Department by letter of the change. If the permittee ceases to own or operate any MS4 regulated under this permit, the Department may terminate its coverage under this permit.

1.12 Exclusions

The following are excluded from coverage and are not authorized under this permit:

1.12.1 Combined Sewer and Sanitary Sewer Systems

Discharges of water from a sanitary sewer or a combined sewer system conveying both sanitary and storm water. These discharges are regulated under s. 283.31, Wis. Stats, and require an individual permit.

1.12.2 Agricultural Facilities and Practices

Discharges from agricultural facilities and agricultural practices. "Agricultural facility" means a structure associated with an agricultural practice. "Agricultural practice" means beekeeping; commercial feedlots; dairying; egg production; floriculture; fish or fur farming; grazing; livestock raising; orchards; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts and berries; sod farming; placing land in federal programs in return for payments in kind; owning land, at least 35 acres of which is enrolled in the conservation reserve program under 16 USC § 3831 to 3836; and vegetable raising.

1.12.3 Other Excluded Discharges

Storm water discharges from industrial operations or land disturbing construction activities that require separate coverage under a WPDES permit pursuant to subchs. II or III of ch. NR 216, Wis. Adm. Code. For example, while storm water from industrial or construction activity may discharge to an MS4, this permit does not satisfy the need to obtain any other permits for those discharges. This exclusion does not apply to the permittee's responsibility to regulate construction sites within its jurisdiction in accordance with sections 2.4 and 2.5 of this permit.

1.12.4 Indian Country

Storm water discharges within Indian Country. The federal Clean Water Act requires owners and operators of storm water discharges within Indian Country in Wisconsin to obtain permit coverage directly from the USEPA.

1.12.5 Non-MS4 Discharge

Storm water discharges that do not enter an MS4.

1.13 Compliance with Permit Requirements

Compliance with the requirements contained in this permit including the applicable appendices shall not be contingent upon receiving financial assistance from the Department or any other public or private grant or loan program.

2. PERMIT CONDITIONS

This permit establishes the following measurable goals, with a compliance schedule in section 3, for the permittee to maintain compliance with the minimum control measures for their storm water management program described under sections 2.1 through 2.6. The following permit conditions apply to the permittee, unless the Department issues a written determination that a condition is not appropriate under the circumstances. The permittee shall have a written storm water management program that describes in detail how the permittee intends to comply with the permit requirements for each minimum control measure. The permittee shall begin implementing any updates to its storm water management programs no later than March 31, 2021.

2.1 Public Education and Outreach

The permittee shall maintain its public education and outreach program to increase the awareness of storm water pollution impacts on waters of the state and to encourage changes in public behavior to reduce such impacts. The permittee shall implement the following measurable goals:

2.1.1 Topics. The permittee shall address all eight topics in Table 1 at least once during the permit term. Permittees that are a County shall address a minimum of six topics each year. Permittees that are a City, Village, Town, or University with a population of 5,000 or more based on the latest U.S. Census shall address a minimum of six topics each year. Permittees that are a City, Village, Town, or University with a population less than 5,000 based on the latest U.S. Census shall address a minimum of four topics each year. Topics may be repeated as necessary. Permittees shall select from the topic areas in Table 1.

Note: Universities should average its enrolled student population plus employee population over a recent ten-year period to determine which requirement it should follow for permit compliance. Universities are also expected to undertake public education efforts that reach the entire student body and staff.

Table 1: Public Education and Outreach Topic Areas and Descriptions

#	Topic Area	Description
1	Illicit Discharge Detection and Elimination	Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.
2	Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing	Inform and educate the public about the proper management of materials that may cause storm water pollution from sources including automobiles, pet waste, household hazardous waste and household practices.
3	Yard Waste Management/Pesticide and Fertilizer Application	Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.
4	Stream and Shoreline Management	Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.

5	Residential Infiltration	Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.
6	Construction Sites and Post-Construction Storm Water Management	Inform and educate those responsible for the design, installation, and maintenance of construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.
7	Pollution Prevention	Identify businesses and activities that may pose a storm water contamination concern, and educate those specific audiences on methods of storm water pollution prevention.
8	Green Infrastructure/Low Impact Development	Promote environmentally sensitive land development designs by developers and designers, including green infrastructure and low impact development.

Note: Additional information on green infrastructure and low impact development may be found on the USEPA’s Internet site at: <https://www.epa.gov/green-infrastructure>

2.1.2 Delivery mechanism. The permittee shall use at least four public education delivery mechanisms each year. Permittees that are a City, Village, Town, or University with a population of 5,000 or more based on the latest U.S. census shall use at least two from the Active/Interactive Mechanisms column in Table 2 each year. Permittees that are a City, Village, Town, or University with a population less than 5,000 based on the latest U.S. census shall use at least one from the Active/Interactive Mechanisms column in Table 2 each year. Permittees that are a County shall use at least one from the Active/Interactive Mechanisms column in Table 2 each year.”

Note: Universities should average its enrolled student population plus employee population over a recent ten-year period to determine which requirement it should follow for permit compliance. Universities are also expected to undertake public education efforts that reach the entire student body and staff.

Table 2: Public Education and Outreach Delivery Mechanisms (Active and Passive)

Active/Interactive Mechanisms	Passive Mechanisms
<ul style="list-style-type: none"> • Educational activities (school presentations, summer camps) • Informational booth at event • Targeted group training (contractors, consultants, etc.) • Government event (public hearing, council meeting) • Workshops • Tours • Other 	<ul style="list-style-type: none"> • Passive print media (brochures at front desk, posters, etc.) • Distribution of print media (mailings, newsletters, etc.) via mail or email • Media offerings (radio and TV ads, press release, etc.) • Social media posts • Signage • Website • Other

2.1.3 Target audience. The permittee shall identify the target audience for each public education and outreach topic. Target audiences may include the general public, public employees, residents, businesses, contractors, developers, industries, and/or other appropriate audiences.

2.2 Public Involvement and Participation

The permittee shall maintain its public involvement and participation program, in compliance with applicable state and local public notice requirements, to notify the public of activities required by this permit and to encourage input and participation from the public regarding these activities. The permittee shall implement the following measurable goals:

2.2.1 Permit activities. The permittee shall provide a minimum of one opportunity annually for the public to provide input on each of the following permit activities: annual report, storm water management program, and if applicable, the adoption or amendment of storm water related ordinances.

2.2.2 Delivery mechanism. The permittee shall identify the public involvement and participation delivery mechanism for each permit activity in section 2.2.1. Delivery mechanisms may include public workshop, presentation of storm water information, government event (public hearing, council meeting, etc.), citizen committee meeting, or website.

2.2.3 Volunteer activities. The permittee shall implement at a minimum one of the following volunteer activities per year: group best management practice (BMP) installation or maintenance, storm drain stenciling, planting community rain garden, clean up event, stream monitoring, citizen committee meeting, public workshop, presentation of storm water information, or other hands-on event.

2.2.4 Target participants. The permittee shall identify the targeted participants for each permit activity and volunteer activity. Participants may include general public, public employees, residents, businesses, contractors, developers, industries, and/or other appropriate audience.

2.3 Illicit Discharge Detection and Elimination (IDDE)

The permittee shall continue to implement and enforce its program to detect and remove illicit connections and discharges to the MS4. The permittee shall implement the following measurable goals:

2.3.1 IDDE ordinance. An ordinance or other regulatory mechanism to prevent and eliminate illicit discharges and connections to the MS4. At a minimum, the ordinance or other regulatory mechanism shall:

- a. Prohibit illicit discharges and the discharge, spilling or dumping of non-storm water substances or materials into waters of the state or the MS4.
- b. Identify non-storm water discharges or flows that are not considered illicit discharges. Categories of non-storm water discharges that are not considered illicit discharges include water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats

and wetlands, fire-fighting and discharges authorized under a WPDES permit. However, the occurrence of a discharge listed above may be considered an illicit discharge on a case-by-case basis if the permittee or the Department identifies it as a significant source of a pollutant to waters of the state.

c. Establish inspection and enforcement authority.

Note: Chapter NR 815, Wis. Adm. Code, regulates injection wells including storm water injection wells. Construction or use of a well to dispose of storm water directly into groundwater is prohibited under s. NR 815.11(5), Wis. Adm. Code.

2.3.2 IDDE field screening. On-going dry weather field screening shall be conducted at 100% of the total major outfalls at least once during the term of the permit. Additionally, the permittee shall select minor outfalls for annual on-going dry weather field screening during the term of the permit. The permittee shall develop a prioritization procedure to assist with selecting minor outfalls and consideration shall be given to hydrological conditions, total drainage area of the site, population density of the site, traffic density, age of the structures or buildings in the area, history of the area and land use types when selecting outfalls for annual field screening. At a minimum, field screening shall be documented and include:

a. Visual Observation - A narrative description of visual observations including color, odor, turbidity, oil sheen or surface scum, flow rate and any other relevant observations regarding the potential presence of non-storm water discharges or illicit dumping.

b. Field Analysis - If flow is observed, a field analysis shall be conducted to determine the presence of illicit non-storm water discharges or illicit dumping. The field analysis shall include sampling for pH, total chlorine, total copper, total phenol and detergents, unless the permittee elects instead to use detergent, ammonia, potassium and fluoride as the indicator parameters. Other alternative indicator parameters may be authorized by the Department in writing.

(1) Field screening points shall, where possible, be located downstream of any source of suspected illicit activity.

(2) Field screening points shall be located where practicable at the farthest manhole or other accessible location downstream in the system. Safety of personnel and accessibility of the location shall be considered in making this determination.

Note: The Department's MS4 Illicit Discharge Detection and Elimination guidance document includes several recommendations regarding selection of outfalls for field screening, screening frequency, indicator parameter selection, indicator parameter action levels and documentation. The Illicit Discharge Detection and Elimination guidance is available on the Department's Internet site at: <https://dnr.wi.gov/topic/stormwater/municipal/overview.html>

2.3.3 IDDE source investigation and elimination. Written procedures for responding to known or suspected illicit discharges, including an assessment of risks and the establishment to response times. At a minimum, procedures shall be established for:

a. Investigating portions of the MS4 that, based on the results of field screening or other information, indicate a reasonable potential for containing illicit discharges or other sources of non-storm water discharges.

b. Responding to spills that discharge into and/or from the MS4 including tracking and locating the source of the spill if unknown.

c. Preventing and containing spills that may discharge into or are already within the MS4.

d. Promoting, publicizing, and facilitating public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including a form, website, email address, and/or telephone number for complaints and spill reporting, and publicize to both internal permittee staff and the public.

e. Notifying the Department immediately in accordance with ch. NR 706, Wis. Adm. Code, in the event that the permittee identifies a spill or release of a hazardous substance, which has resulted or may result in the discharge of pollutants into waters of the state. The Department shall be notified via the 24-hour toll free spill hotline at 1-800-943-0003. The permittee shall cooperate with the Department in efforts to investigate and prevent such discharges from polluting waters of the state.

f. Detecting and eliminating cross-connections and leakage from sanitary conveyance systems into the MS4.

g. Providing the Department with advanced notice of the time and location of dye testing within an MS4. Department notification prior to dye testing is required due to the likelihood that dye observed in waterways will be reported to the Department as an illicit discharge or spill.

h. Documentation of the following information:

(1) Dates and locations of IDDE screenings conducted in accordance with section 2.3.2.

(2) Reports of alleged illicit discharges received, including dates of the reports, and any follow-up actions taken by the permittee.

(3) Dates of discovery of all illicit discharges.

(4) Identification of outfalls, or other areas, where illicit discharge have been discovered.

(5) Sources (including a description and the responsible party) of illicit discharges (if known).

(6) Actions taken by the permittee, including dates, to address discovered illicit discharges.

2.3.4 The permittee shall take appropriate action to remove known illicit discharges from its MS4 system discovered under section 2.3 as soon as possible. If it will take more than 30 days to remove an illicit connection or if the potential illicit discharge is from a facility with WPDES permit coverage, the Department shall be contacted to discuss an appropriate action and/or timeframe for removal. Notwithstanding this 30-day timeframe and notification of the Department, the permittee shall be responsible for any known illicit connections to its MS4 system that are a significant risk to human health and the environment.

2.3.5 In the case of interconnected MS4s, the permittee shall notify the appropriate municipality within one working day of either of the following:

- a.** An illicit discharge that originates from the permittee's permitted area that discharges directly to a municipal separate storm sewer or property under the jurisdiction of another municipality.
- b.** An illicit discharge that has been tracked upstream to the interconnection point with or outfall from another municipality.

2.3.6 The name, title and phone number of the individuals responsible for responding to reports of illicit discharges and spills shall be included in the illicit discharge response procedure.

2.4 Construction Site Pollutant Control

The permittee shall continue to implement and enforce its program to reduce the discharge of sediment and construction materials from construction sites. The permittee shall implement the following measurable goals:

2.4.1 Construction site ordinance. An ordinance or other regulatory mechanism to require erosion and sediment control at construction sites and establish sanctions to ensure compliance. At a minimum, the ordinance or other regulatory mechanism shall establish or include:

- a.** Applicability and jurisdiction, pursuant to the authority provided to the permittee under Wisconsin statutes, the ordinance shall apply to all construction sites with one acre or more of land disturbance, and to sites of less than one acre if they are part of a larger common plan of development or sale.
- b.** Requirements for design and implementation of erosion and sediment control practices consistent with the criteria of those approved by the Department.

Note: Department approved erosion and sediment control technical standards may be found on the Department's Internet site at:

https://dnr.wi.gov/topic/stormwater/standards/const_standards.html

c. Construction site performance standards equivalent to those in ss. NR 151.11(6m), (7), and (8), and 151.23(4m), (5), and (6), Wis. Adm. Code, to achieve the following measurable goals:

(1) BMPs for construction sites that, by design, discharge no more than 5 tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization.

(2) BMPs for transportation facilities that, by design, discharge no more than 5 tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization.

Note: The requirements for erosion and sediment control practices, sediment performance standards, and preventive measures for non-transportation facilities can be found in s. NR 151.11(6m), Wis. Adm. Code, and for transportation facilities can be found in NR. 151.23(4m), Wis. Adm. Code.

d. Erosion and sediment control plan requirements for landowners of construction sites equivalent to those contained in s. NR 216.46, Wis. Adm. Code.

e. Inspection and enforcement authority.

f. Requirements for construction site operators to manage waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site to reduce adverse impacts to waters of the state.

Note: In accordance with section 2.10, when a town demonstrates to the Department that an adequate county ordinance that meets the requirements of this permit is administered and enforced within its town, then the town may be excused from having to adopt its own ordinance. Model ordinances for construction site erosion and sediment control can be found in ch. NR 152, Wis. Adm. Code: https://docs.legis.wisconsin.gov/code/admin_code/nr/100/152

2.4.2 Erosion and sediment control plan review. Written procedures for construction site plan review which incorporate consideration of potential water quality impacts. Preconstruction erosion control plan reviews shall be conducted for all construction sites with greater than one acre of land disturbance.

2.4.3 Administrative procedures. Written procedures for the administration of the construction site pollutant control program including the process for obtaining local approval, managing and responding to complaints, tracking regulated construction sites, and construction site plan receipt and consideration of information submitted by the public.

2.4.4 Construction site inspections and enforcement. Written procedures for construction site inspection and enforcement of erosion and sediment control measures. By April 1, 2020, at a minimum, the procedures shall establish:

a. Municipal departments or staff responsible for construction site inspections and enforcement.

Note: The Department recommends that municipal construction site inspectors obtain certification as a Soil Erosion Inspector pursuant to s. SPS 305.63, Wis. Adm. Code, for more information:

<https://dsps.wi.gov/Pages/Professions/SoilErosionInspector/Default.aspx>

b. Construction site inspection frequency. The permittee shall inspect all construction sites, at a minimum, in accordance with the frequency specified in Table 3 below.

Table 3: Construction Site Inspection Frequency

Site	Inspection Frequency
(1) All sites one acre or more in size	<ul style="list-style-type: none"> • New projects shall be inspected within the first two weeks of commencement of land disturbing activity • All active sites shall be inspected at least once every 45 days • All inactive sites shall be inspected at least once every 60 days
(2) Follow up inspection	<ul style="list-style-type: none"> • Follow up inspections are required within 7 days of any sediment discharge or inadequate control measure, unless corrections were made and observed by the inspector during initial inspection or corrections were verified via photographs submitted to the inspector
(3) Final inspection	<ul style="list-style-type: none"> • Confirm that all graded areas have reached final stabilization and that all temporary control measures are removed, and permanent storm water management BMPs are installed as designed

c. Construction site inspection documentation. Compliance with the inspection requirements in 2.4.4.a. and b. above, shall be determined by proper documentation and maintenance of records of an established inspection program designed to inspect all sites.

Note: The Department’s Construction Site Inspection Report (Form 3400-187) may be used to document inspections. The form can be found on the Department’s Internet site at: <https://dnr.wi.gov/topic/Stormwater/construction/forms.html>

d. Enforcement mechanisms that will be used to obtain compliance.

2.5 Post-Construction Storm Water Management

The permittee shall continue to implement and enforce its program to require control of the quality of discharges from areas of new development, infill, and redevelopment, after construction is completed. The permittee shall implement the following measurable goals:

2.5.1 Post-construction storm water ordinance. An ordinance or other regulatory mechanism to regulate post-construction storm water discharges from new development and redevelopment. At a minimum, the ordinance or other regulatory mechanism shall establish or include:

a. Applicability and jurisdiction, pursuant to the authority provided to the permittee under Wisconsin statutes, the ordinance shall apply to construction sites with one acre or more of land disturbance, and sites of less than one acre if they are part of a larger common plan of development or sale.

b. Requirements for design and implementation of post-construction storm water management control practices consistent with the criteria of those approved by the Department.

Note: Department approved post-construction storm water management control technical standards may be found on the Department's Internet site at:

https://dnr.wi.gov/topic/stormwater/standards/postconst_standards.html

c. For new development and infill, post-construction performance standards equivalent to those in ss. NR 151.122 through 151.126 and 151.242 through 151.246, Wis. Adm. Code, that meet the measurable goals for pollutant removal and post-construction storm water treatment. Post-construction performance standards for new development and infill may be more restrictive than those required in this section 2.5.1.c. if necessary to comply with federally approved TMDL requirements.

d. For redevelopment, post-construction performance standards equivalent to or more restrictive than those in ss. NR 151.122 through 151.126 and 151.242 through 151.246, Wis. Adm. Code, that meet the measurable goals for pollutant removal and post-construction storm water treatment.

e. Storm water plan requirements for landowners of construction sites equivalent to those contained in s. NR 216.47, Wis. Adm. Code.

f. Long-term maintenance requirements for landowners and other persons responsible for long-term maintenance of post-construction storm water control measures, including requirements for routine inspection and maintenance of privately owned post-construction storm water control measures that discharge to the MS4 to maintain their pollutant removal operating efficiency.

g. Inspection and enforcement authority.

Note: In accordance with section 2.10, when a town demonstrates to the Department that an adequate county ordinance that meets the requirements of this permit is administered and enforced within its town, then the town may be excused from having to adopt its own ordinance. Model ordinances for post-construction storm water management can be found in ch. NR 152, Wis. Adm. Code: https://docs.legis.wisconsin.gov/code/admin_code/nr/100/152

2.5.2 Administrative procedures. Written procedures for the administration of the post-construction storm water management program including the process for obtaining local approval and responding to complaints.

2.5.3 Storm water management plan review. Written procedures for post-construction site plan review which incorporate consideration of potential water quality impacts. Post-construction site plan reviews shall be conducted for all construction sites with greater than one acre of land disturbance.

Note: The Department recommends that municipal staff reviewing plans obtain training on post-construction plan review.

2.5.4 Long-term maintenance, inspections and enforcement. Written procedures that will be used by the permittee through its ordinance jurisdiction, approval process, and authority to, at a minimum, track and enforce the long-term maintenance of storm water management facilities implemented to meet the applicable post-construction performance standards in section 2.5.1.c and d of this permit. The procedures shall include:

- a. A mechanism for tracking regulated sites.
- b. At a minimum, long-term maintenance inspections shall occur once per permit term.
- c. Inspection documentation.
- d. Follow up enforcement with timeframes for corrective maintenance.

2.6 Pollution Prevention

The permittee shall continue to implement its pollution prevention program to prevent or reduce pollutant runoff from the MS4 to waters of the state. The permittee shall implement the following measurable goals:

2.6.1 Storm water management facilities. Update and maintain an inventory of municipally owned or operated storm water BMPs such as wet detention ponds, bioretention devices, infiltration basins and trenches, permeable pavement, proprietary sedimentation devices, vegetated swales, or any similar practices or devices used to meet a water quality requirement under this permit. At a minimum, the inventory shall be maintained in a tabular format and contain the following information for each structural storm water facility:

- a. A key corresponding to the location of the BMP on the storm sewer system map required under section 2.8.
- b. The name and a description of the BMP, including the type and year constructed.
- c. A confirmation of whether each of the following elements exist or are not available:
 - (1) An operation and maintenance plan with inspection procedures and schedule.
 - (2) A record drawing.

Note: A record drawing is a complete clean set of drawings that accurately reflect how the final practice was built.

(3) If using a BMP to meet a water quality requirement in this permit and the BMP is owned by another entity, written documentation exists that the permittee has permission from the owner to use the BMP for this purpose.

2.6.2 For each BMP inventoried under section 2.6.1, the permittee shall develop and implement a maintenance plan with inspection procedures and schedule to maintain the pollutant removal operating efficiency of the practice in compliance with any water quality requirement under this permit. Documentation of inspections and maintenance activities shall be maintained.

Note: Chapter NR 528, Wis. Adm. Code, *Management of Accumulated Sediment from Storm Water Management Structures*, establishes a process to regulate sediment removal and use to help storm water pond owners manage storm water pond sediment. Information on NR 528 and managing accumulated sediment from storm water ponds is available through the Department's Internet site at: <https://dnr.wi.gov/topic/waste/nr528.html>

2.6.3 Municipally owned public works facilities. The storm water pollution prevention plans (SWPPPs) for municipal garages, municipal storage areas, and other public works related municipal facilities located within the permitted area shall be maintained and updated annually as needed and shall include the information in sections 2.6.3.a. When a SWPPP is updated, it shall be submitted to the Department with the annual report.

a. SWPPPs shall include the following information:

(1) The physical locations of each facility with a key corresponding to the locations on the storm sewer system map required under section 2.8.

(2) The contact information for the individuals with overall responsibility for each facility.

(3) A map of each facility, drawn to scale, and including the following features:

i. The locations and descriptions of major activities and storage areas.

ii. Identification of drainage patterns, potential sources of storm water contamination, and discharge points.

iii. Identification of nearby receiving waters or wetlands.

iv. Identification of connections to the permittees MS4.

(4) A description of procedures, good housekeeping activities, and any BMPs installed to reduce or eliminate storm water contamination.

(5) A maintenance plan with inspection procedures and schedule for each facility to identify deficiencies, necessary improvements and/or repairs, assess effectiveness, and address new or unaddressed potential sources of storm water contamination.

(6) Spills prevention and response standard operating procedures.

b. The permittee is not required to comply with section 2.6.3 if the permittee certifies that the municipal facility qualifies for no exposure with the Department's concurrence.

(1) No exposure means that the facility shall have all materials and activities protected by a storm-resistant shelter to prevent exposure to storm water. Materials or activities include material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products or waste products. Material handling activities include the storage, loading and unloading, transportation or conveyance of any raw material, intermediate product, final product or waste product.

(2) The permittee shall certify for no exposure for each facility at least once each permit term. The permittee shall submit a letter requesting no exposure, an inspection report of the site, and photos of all materials or activities at the site. The photo locations shall be labeled on an aerial photo diagram.

2.6.4 Measures to reduce municipal sources of storm water contamination within source water protection areas.

Note: Wisconsin's source water assessment program information may be found on the Department's Internet site at:

<https://dnr.wi.gov/topic/drinkingwater/sourcewaterprotection.html>

2.6.5 Collection services/Storm sewer system maintenance activities.

a. Street sweeping. If routine street sweeping is utilized to meet a water quality requirement under this permit, the permittee shall maintain documentation of the number and type of equipment used, standard operating procedures, an estimate of the number of lane-miles swept annually, and an estimate of the weight in tons of material collected annually.

b. Catch basins. If routine cleaning of catch basins with sumps is utilized to meet a water quality requirement under this permit, the permittee shall maintain documentation of the number of catch basins inspected, the number of catch basins cleaned, standard operating procedures, and an estimate of the weight in tons of material collected annually.

c. Material handling and disposal. Material collected under a. and b. of this section shall be handled and stored in a manner that prevents contamination of storm water runoff and shall be disposed of or beneficially reused in accordance with applicable solid and hazardous waste statutes and administrative codes. Non-storm water discharges to waters of the state associated with dewatering and drying material collected under sections a. and b. of this section are not authorized by this permit.

Note: Information on managing waste and materials is available on the Department's Internet site at: <https://dnr.wi.gov/topic/Waste/>. Information on WPDES permits for non-storm water discharges is available on the Department's Internet site at: <https://dnr.wi.gov/topic/wastewater/>

d. Leaf management. Proper management of leaves and grass clippings from municipally-owned properties and private property. The program may include instructions to private property owners for on-site composting, on-site beneficial reuse, or yard waste drop-off as opposed to a municipal collection program. On-site management and/or drop-off shall be communicated to private property owners in accordance with the public education and outreach program implemented under section 2.1 of this permit. If the permittee has a municipal collection program, collected material shall be handled and stored in a manner that prevents contamination of storm water runoff. For a municipal leaf collection program, the permittee shall maintain the following documentation:

(1) A description of the leaf collection program, including the type of pick-up methodology and equipment used, timing of associated street cleaning, standard operating procedures, schedule and frequency, and instructions for private property owners.

(2) An estimate of the weight in tons of material collected annually.

(3) Municipally operated leaf disposal locations with a key corresponding to the locations on the storm sewer system map required under section 2.8. If the disposal location is outside of the MS4 boundary, then the permittee can provide documentation if the disposal is taken elsewhere.

Note: The Department has developed "Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs" guidance to assist permitted MS4s on creditable phosphorus reduction through leaf collection and management. The guidance document may be found on the Department's Internet site at: https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html

2.6.6 Winter Road Management. If road salt or other deicers are applied by the permittee or a contractor on behalf of the permittee, no more shall be applied than necessary to maintain public safety. Documentation on deicing activities shall be performed by the permittee or a contractor on behalf of the permittee and include the following:

a. Contact information for the individuals with overall responsibility for winter roadway maintenance.

b. A description of the types of deicing products used.

c. The amount of deicing product used per month.

d. A description of the type of equipment used.

e. An estimate of the number of lane-miles treated with deicing products for the roadways that the permittee is responsible for, and an estimate in acres of the total area of municipally-owned parking lots treated with deicing products by the permittee or contractor.

f. If applicable, snow disposal locations with a key corresponding to the locations on the storm sewer system map required under section 2.8.

Note: Snow treatment and disposal guidance for municipalities is available through the Department's Internet site at: <https://dnr.wi.gov/topic/stormwater/publications.html>

g. A description of anti-icing, pre-wetting and brining, equipment calibration, pavement temperature monitoring, and/or salt reduction strategies implemented or being considered, and/or alternative products.

h. Other measurable data or information that the permittee uses to evaluate or modify its deicing activities.

Note: The Wisconsin Department of Transportation (WisDOT) Highway maintenance manual - Chapter 6, contains guidelines on winter maintenance including application of road salt and other deicers. Chapter 6 is available on the WisDOT's Internet site at: <https://wisconsindot.gov/Pages/doing-bus/local-gov/hwy-mnt/mntc-manual/chapter06.aspx>. The WisDOT highway salt storage requirements are contained in ch. Trans 277, Wis. Adm. Code.

2.6.7 Nutrient management. Application of turf and garden fertilizers on municipally controlled properties (such as parks, athletic fields, golf courses), with pervious surfaces over 5 acres each, in accordance with a site-specific nutrient application schedule based on appropriate soil tests.

Note: To assist permittees with this requirement, the Department has developed a technical standard for turf nutrient management. These documents may be found on the Department's Internet site at: https://dnr.wi.gov/topic/stormwater/standards/turf_nutrient.html

2.6.8 Environmentally sensitive development. Consideration of environmentally sensitive land development designs for municipal projects, including green infrastructure and low impact development, which shall be designed, installed, and maintained to comply with a water quality requirement under this permit.

Note: Additional information on green infrastructure and low impact development may be found on the following USEPA Internet sites:

<https://www.epa.gov/green-infrastructure>
<https://www.epa.gov/nps/urban-runoff-low-impact-development>

2.6.9 Internal training and education. At a minimum, the permittee shall hold one annual training event for appropriate municipal staff and other personnel involved in implementing each of the elements of the pollution prevention program under this section 2.6. Documentation shall be maintained of the date, the number of people attending the training, the names of each person attending and a summary of their responsibilities, and the content of the training. The permittee shall inform contractors performing any services to implement

section 2.6 of the permit requirements and expectations. The permittee shall also inform their elected officials of the permit requirements and expectations.

2.7 Storm Water Quality Management

The permittee shall implement its municipal storm water quality management program. This program shall maintain compliance with the developed urban area performance standards of s. NR 151.13(2)(b)1., Wis. Adm. Code, for those areas of the municipality that were not subject to the post-construction performance standards of ss. NR 151.12 or 151.24, or ss. NR 151.122 through 151.126, or ss. 151.242 through 151.246, Wis. Adm. Code. The permittee shall implement the following measurable goals:

2.7.1 To the maximum extent practicable, implementation and maintenance of all storm water management practices necessary to meet the more restrictive total suspended solids reduction of either of the following:

a. The permittee shall maintain all source area controls, structural storm water management facilities, and non-structural storm water BMPs that the permittee implemented on or before July 1, 2011, to achieve a reduction of 20% or more of total suspended solids carried by storm water runoff from existing development to waters of the state. If the permittee removes or modifies a storm water BMP, the permittee shall continue to achieve the reduction by installing, implementing, and maintaining the necessary storm water BMPs to, at a minimum, equal the same level of treatment. All structural storm water management facilities utilized to meet the requirements in section 2.7.1.a shall be inventoried and maintained in accordance with sections 2.6.1 and 2.6.2.

b. A 20% reduction in the annual average mass of total suspended solids discharging from the MS4 to surface waters of the state as compared to implementing no storm water management controls. All source area controls, structural storm water management facilities, and non-structural storm water BMPs implemented to achieve the 20% reduction in total suspended solids shall be maintained. If the permittee removes or modifies a storm water BMP, the permittee shall continue to achieve the 20% reduction by installing, implementing, and maintaining the necessary storm water BMPs to equal, at a minimum, the same level of treatment. All structural storm water management facilities utilized to meet the requirements in section 2.7.1.b shall be inventoried and maintained in accordance with sections 2.6.1 and 2.6.2.

Note: The total suspended solids reduction requirement applies to storm water runoff from areas of urban land use and is not applicable to agricultural or rural land uses and associated roads. Additional MS4 modeling guidance for modeling the total suspended solids control is available on the Department's Internet site at: https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html. The permittee may elect to meet the applicable total suspended solids standard above on a watershed or regional basis by working with other permittees to provide regional treatment that collectively meets the standard.

2.8 Storm Sewer System Map

The permittee shall maintain its MS4 map. The storm sewer system map shall be updated annually as needed for changes occurring in the permitted area boundaries. The municipal storm sewer system map shall include:

2.8.1 Identification of waters of the state, name and classification of receiving waters, identification of whether the receiving water is an ORW, ERW or listed as an impaired water under s. 303(d) of the Clean Water Act, storm water drainage basin boundaries for each MS4 outfall, and the municipal separate storm sewer conveyance systems including direction of flow.

2.8.2 Identification of any known wetlands, endangered or threatened resources, and historical property, as defined in sections 1.6 through 1.8 of this permit, which might be affected.

2.8.3 Identification of all known MS4 outfalls discharging to waters of the state and other MS4s. Major outfalls shall be uniquely identified.

2.8.4 Location of any known discharge to the MS4 that has been issued WPDES permit coverage by the Department. A list of WPDES permit holders in the permittee's area may be obtained from the Department.

2.8.5 Location of municipally owned or operated structural storm water management facilities including detention basins, infiltration basins, and manufactured treatment devices. If the permittee will be taking total suspended solids credit for pollutant removal from privately-owned facilities, they shall be identified.

2.8.6 Identification of publicly owned parks, recreational areas and other open lands.

2.8.7 Location of municipal garages, storage areas and other public works facilities.

2.8.8 Identification of streets.

2.9 Annual Report

The permittee shall submit an annual report for each calendar year to the Department by **March 31 of the following year**. The permittee shall invite the municipal governing body, interest groups and the general public to review and comment on the annual report. The annual report shall include:

2.9.1 The status of implementing the permit requirements, status of meeting measurable program goals and compliance with permit schedules.

2.9.2 A fiscal analysis which includes the annual expenditures and budget for the reporting year, and the budget for the next year.

2.9.3 A summary of the number and nature of inspections and enforcement actions conducted to ensure compliance with the required ordinances.

2.9.4 Identification of any known water quality improvements or degradation in the receiving water to which the permittee's MS4 discharges. Where degradation is identified, identify why and what actions are being taken to improve the water quality of the receiving water.

2.9.5 An evaluation of program compliance, the appropriateness of identified BMPs, and progress towards achieving identified measurable goals. Any program changes made as a result of this evaluation shall be identified and described in the annual report. For any identified deficiencies towards achieving the requirements under section 2 of this permit or lack of progress towards meeting a measurable goal, the permittee shall initiate program changes to improve their effectiveness.

2.9.6 If applicable, notice that the permittee is relying on another municipality or entity to satisfy any of the permit requirements and a description of the arrangement where a permit requirement is being met in this manner.

2.9.7 A duly authorized representative of the permittee shall sign and certify the annual report and include a statement or resolution that the permittee's governing body or delegated representatives have reviewed or been apprised of the content of the annual report.

2.9.8. The annual report and other required reports, and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

Note: The Department's electronic reporting system is Internet-based and available at: <https://dnr.wi.gov/permits/water/>. Municipal storm water permit eReporting information and user support tools can be found at: <https://dnr.wi.gov/topic/stormwater/municipal/eReporting.html>

2.10 Cooperation

The permittee may, by written agreement, implement this permit with another municipality or contract with another entity to perform one or more of the conditions of this permit. The permittee is ultimately responsible for compliance with the conditions of this permit. The permittee may rely on another municipality or contract with another entity to satisfy a condition of this permit if all of the following are met:

2.10.1 The other municipality or entity implements the required control measure or permit requirement.

2.10.2 A particular control measure, or component thereof, is at least as stringent as the corresponding permit requirement.

2.10.3 The other municipality or entity agrees to implement a control measure or permit requirement on the permittee's behalf. This shall be shown by formal written agreement, signed by both parties' authorized representatives. The agreement shall be explicit as to which specific permit conditions are being covered by which municipality or other entity. Copies of current agreements shall be submitted with the annual report or to the Department upon request.

Note: If a county is implementing and enforcing adequate storm water ordinances within a town, the town would then not have to adopt its own ordinance. However, the town, as the permittee, is still expected to evaluate how the county is implementing and enforcing the ordinance in the town's permitted area, to verify the county is meeting the permit condition. Another example, if another entity agrees to implement the permit condition of long-term maintenance inspections, the permittee must

evaluate that the entity is completing inspections as agree upon. The permittee should not assume that another entity is implementing a permit condition as required because the permittee remains responsible for compliance with the conditions of this permit.

2.11 Amendments

The permittee shall amend a program required under this permit as soon as possible if the permittee becomes aware that it does not meet a requirement of this permit. The permittee shall amend its program if notified by the Department that a program or procedure is insufficient or ineffective in meeting a requirement of this permit. The Department notice to the permittee may include a deadline for amending and implementing the amendment.

2.12 Reapplication for Permit Coverage

To remain covered after the expiration date of this permit, pursuant to s. NR 216.09, Wis. Adm. Code, the permittee shall reapply to the Department at least 180 days prior to the expiration date of this permit for continued coverage under a reissued version of this permit.

3. COMPLIANCE SCHEDULE

The permittee shall comply with the specific permit conditions contained in sections 1 and 2 according to the schedule in this section 3 and Table 4. The permittee shall begin implementing any updates to its storm water management programs no later than March 31, 2021. Required reports and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

Note: The Department's electronic reporting system is Internet-based and available at: <https://dnr.wi.gov/permits/water/>. Municipal storm water permit eReporting information and user support tools can be found at: <https://dnr.wi.gov/topic/stormwater/municipal/eReporting.html>

3.1 Impaired Waterbodies and Total Maximum Daily Loads

3.1.1 The permittee shall determine whether any part of its MS4 discharges to an impaired waterbody as required under section 1.5.1 of this permit **by March 31 of each odd-numbered year.**

3.1.2 If the permittee is subject to TMDL requirements under section 1.5 of this permit, the permittee shall submit information to the Department in accordance with the schedule as required in the applicable appendix of this permit.

3.2 Public Outreach and Education

The permittee shall submit to the Department the public education and outreach program developed for the term of this permit as required under section 2.1 of this permit **by March 31, 2021.**

3.3 Public Involvement and Participation

The permittee shall submit to the Department the public involvement and participation program developed for the term of this permit as required under section 2.2 of this permit **by March 31, 2021.**

3.4 Illicit Discharge Detection and Elimination

The permittee shall submit to the Department the illicit discharge detection and elimination program developed for the term of this permit as required under section 2.3.2 to 2.3.6 of this permit **by March 31, 2021.**

3.5 Construction Site Pollutant Control

The permittee shall submit to the Department the construction site pollutant control program developed for the term of this permit as required under sections 2.4.2 to 2.4.4 of this permit **by March 31, 2021.**

3.6 Post-Construction Storm Water Management

The permittee shall submit to the Department the post-construction storm water management program developed for the term of this permit as required under sections 2.5.2 to 2.5.4 of this permit **by March 31, 2021.**

3.7 Pollution Prevention

3.7.1 The permittee shall submit to the Department the municipal storm water management facility inventory as required under section 2.6.1 of this permit by **March 31, 2021**. Include with the annual report submittal via the Department's electronic reporting system. When the inventory is updated, it shall be submitted by **March 31 of each year** to the Department.

3.7.2 The permittee shall submit to the Department the maintenance plan for municipal storm water management facilities as required under section 2.6.2 of this permit by **March 31, 2021**.

3.7.3 The permittee shall update SWPPPs for municipally owned properties as needed as required under section 2.6.3 of this permit. When a SWPPP is updated, it shall be submitted by **March 31 of each year** to the Department.

3.8 Storm Water Quality Management

The permittee shall report compliance with the developed urban area performance standards as required under section 2.7 of this permit by **March 31 of each year**.

3.9 Storm Sewer System Map

The permittee shall update the storm sewer system map as needed as required under section 2.8 of this permit. When the MS4 map is updated, it shall be submitted by **March 31 of each year** to the Department.

3.10 Annual Report

The permittee shall submit to the Department an annual report as required under section 2.9 of this permit for each calendar year by **March 31 of the following year**. The annual report and other required reports, and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

Table 4: Compliance Schedule for Permit Requirements

PERMIT SECTION	ACTIVITY	COMPLIANCE DATE	COMMENTS
Section 1.5.1	Identify discharges to an impaired waterbody	By March 31 of each odd-numbered year thereafter	All permittees
Section 1.5.2	Total maximum daily load implementation	See applicable Appendix.	Applies to a permittee with an MS4 discharge of a pollutant of concern to a waterbody subject to an USEPA approved TMDL that assigns the permittee a wasteload allocation.
Section 2.1	Public Education and Outreach – Submit public education and outreach program for the permit term with annual report	March 31, 2021	All permittees
Section 2.2	Public Involvement and Participation – Submit public involvement and participation program for the permit term with annual report	March 31, 2021	All permittees
Section 2.3.2 to 2.3.6	Illicit Discharge Detection and Elimination – Submit illicit discharge detection and elimination program for the permit term with annual report	March 31, 2021	All permittees
Section 2.4.2 to 2.4.4	Construction Site Pollutant Control – Submit construction site pollutant control program for the permit term with annual report	March 31, 2021	All permittees
Section 2.5.2 to 2.5.4	Post-Construction Storm Water Management – Submit post-construction storm water management program for the permit term with annual report	March 31, 2021	All permittees
Section 2.6	Pollution Prevention – Section 2.6.1, submit the municipal storm water management facility inventory with annual report	March 31, 2021, and annually thereafter (if updates)	All permittees
	Pollution Prevention – Section 2.6.2, submit the maintenance plan for municipal storm water management facilities with annual report	March 31, 2021	All permittees
	Pollution Prevention – Section 2.6.3, submit SWPPPs for municipally owned properties with annual report	March 31 of each year reporting on previous calendar year (if updates)	All permittees

Section 2.7	Storm Water Quality Management – Report TSS percent reduction	March 31 of each year reporting on previous calendar year	All permittees
Section 2.8	Storm sewer system map - Submit map with annual report	March 31 of each year reporting on previous calendar year (if updates)	All permittees
Section 2.9	Submit Annual Report	March 31 of each year reporting on previous calendar year	All permittees

4. GENERAL CONDITIONS

The conditions in s. NR 205.07(1) and (3), Wis. Adm. Code, are incorporated by reference in this permit. The permittee shall be responsible for meeting these requirements, except for s. NR 205.07(1)(n), Wis. Adm. Code, which does not apply to facilities covered under general permits. Some of these requirements are outlined below. Requirements not specifically outlined below can be found in s. NR 205.07(1) and (3), Wis. Adm. Code.

4.1 Duty to Comply: The permittee shall comply with all conditions of the permit. Any act of noncompliance with this permit is a violation of this permit and is grounds for enforcement action or withdrawal of permit coverage under this permit and issuance of an individual permit. If the permittee files a request for an individual WPDES permit or a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

4.2 Enforcement Action: The Department is authorized under s. 283.89 and 283.91, Wis. Stats., to utilize citations or referrals to the Wisconsin Department of Justice to enforce the conditions of this permit. Violation of a condition of this permit is subject to a fine of up to \$10,000 per day of the violation.

4.3 Compliance Schedules: Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of the permit shall be submitted in writing within 14 days after the scheduled due date, except that progress reports shall be submitted in writing on or before each schedule date for each report. Any report of noncompliance shall include the cause of noncompliance, a description of remedial actions taken, and an estimate of the effect of the noncompliance on the permittee's ability to meet the remaining scheduled due dates.

4.4 Noncompliance

4.4.1 Upon becoming aware of any permit noncompliance that may endanger public health or the environment, the permittee shall report this information by a telephone call to the Department regional storm water specialist within 24 hours. A written report describing the noncompliance shall be submitted to the Department regional storm water specialist within 5 days after the permittee became aware of the noncompliance. The Department may waive the written report on a case-by-case basis based on the oral report received within 24 hours. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

4.4.2 Reports of any other noncompliance not covered under General Conditions sections 3.3, 3.4.1, or 3.6. shall be submitted with the annual report. The reports shall contain all the information listed in General Conditions section 3.4.1.

4.5 Duty to Mitigate: The permittee shall take all reasonable steps to minimize or prevent any adverse impact on the waters of the state resulting from noncompliance with the permit.

4.6 Spill Reporting: The permittee shall immediately notify the Department, in accordance with s. 292.11(2)(a), Wis. Stats., which requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the DNR immediately of any discharge not

authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call the DNR's 24-hour HOTLINE at 1-800-943-0003.

Note: For details on state and federal reportable quantities, visit:

<https://dnr.wi.gov/topic/Spills/define.html>

4.7 Proper Operation and Maintenance: The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the municipality to achieve compliance with the conditions of the permit and the storm water management plan. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with conditions of this permit.

4.8 Bypass: The permittee may temporarily bypass a storm water treatment facility if necessary for human safety or maintenance to assure efficient operation. A bypass shall comply with the general storm water discharge limitations in Section 1.9 of this permit. Notification of the Department is not required for these types of bypasses. Any other bypass is prohibited.

Note: A discharge from a storm water treatment facility that exceeds the operational design capacity of the facility is not considered a bypass.

4.9 Duty to Halt or Reduce Activity: Upon failure or impairment of storm water management practices identified in the storm water management program, the permittee shall, to the extent practicable and necessary to maintain permit compliance, modify or curtail operations until the storm water management practices are restored or an alternative method of storm water pollution control is provided.

4.10 Removed Substances: Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of storm water shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state, and to comply with all applicable federal, state, and local regulations.

4.11 Additional Monitoring: If a permittee monitors any pollutant more frequently than required by the permit, the results of that monitoring shall be reported to the Department in the annual report.

4.12 Inspection and Entry: The permittee shall allow authorized representatives of the Department, upon the presentation of credentials, to:

4.12.1 Enter upon the municipal premises where a regulated facility or activity is located or conducted, or where records are required to be maintained under the conditions of the permit;

4.12.2 Have access to and copy, at reasonable times, any records that are required under the conditions of the permit;

4.12.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit; and

4.12.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

4.13 Duty to Provide Information: The permittee shall furnish the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, terminating, suspending revoking or reissuing the permit or to determine compliance with the permit. The permittee shall give advance notice to the Department of any planned changes to the storm water management program which may result in noncompliance with permit requirements. The permittee shall also furnish the Department, upon request, copies of records required to be kept by the permittee.

4.14 Property Rights: The permit does not convey any property rights of any sort, or any exclusive privilege. The permit does not authorize any injury or damage to private property or an invasion of personal rights, or any infringement of federal, state or local laws or regulations.

4.15 Other Information: Where the permittee becomes aware that it failed to submit any relevant facts in applying for permit coverage or submitted incorrect information in any plan or report sent to the Department, it shall promptly submit such facts or correct information to the Department.

4.16 Records Retention: The permittee shall retain records of all monitoring information, copies of all reports required by the permit, and records of all data used to complete the notice of intent for a period of at least 5 years from the date of the sample, measurement, report or application. The permittee shall retain records documenting implementation of the minimum control measures in sections 2.1 through 2.6 of this permit for a period of at least 5 years from the date the record was generated.

4.17 Permit Actions: Under s. 283.35, Wis. Stats., the Department may withdraw a permittee from coverage under this general permit and issue an individual permit for the municipality if: (a) The municipality is a significant contributor of pollution; (b) The municipality is not in compliance with the terms and conditions of the general permit; (c) A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants from the municipality; (d) Effluent limitations or standards are promulgated for a point source covered by the general permit after the issuance of that permit; or (e) A water quality management plan containing requirements applicable to the municipality is approved. In addition, as provided in s. 283.53, Wis. Stats., after notice and opportunity for a hearing this permit may be suspended, modified or revoked, in whole or in part, for cause. If the permittee files a request for a permit modification, termination, suspension, revocation and reissuance, or submits a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

4.18 Signatory Requirements: All applications, reports or information submitted to the Department shall be signed by a ranking elected official, or other person authorized by those responsible for the overall operation of the MS4 and storm water management program activities regulated by the permit. The representative shall certify that the information was gathered and prepared under his or her supervision and, based on report from the people directly under supervision that, to the best of his or her knowledge, the information is true, accurate, and complete.

4.19 Attainment of Water Quality Standards after Authorization: At any time after authorization, the Department may determine that the discharge of storm water from a permittee's MS4 may cause, have

the reasonable potential to cause, or contribute to an excursion of any applicable water quality standard. If such determination is made, the Department may require the permittee to do one of the following:

4.19.1 Develop and implement an action plan to address the identified water quality concern to the satisfaction of the Department.

4.19.2 Submit valid and verifiable data and information that are representative of ambient conditions to demonstrate to the Department that the receiving water or groundwater is attaining the water quality standard.

4.19.3 Submit an application to the Department for an individual storm water discharge permit.

4.20 Continuation of the Expired General Permit: The Department's goal is to reissue this general permit prior to its expiration date. However, in accordance with s. NR 216.09, Wis. Adm. Code, a permittee shall reapply to the Department at least 180 days prior to the expiration date for continued coverage under this permit after its expiration. If the permit is not reissued by the time the existing permit expires, the existing permit remains in effect.

4.21 Need to Halt or Reduce Activity not a Defense: It is not a defense for a permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

5. DEFINITIONS USED IN THIS PERMIT

Definitions for some of the terms found in this permit are as follows:

5.1 Department means the Wisconsin Department of Natural Resources.

5.2 Development means residential, commercial, industrial and institutional land uses and associated roads.

5.3 Erosion means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

5.4 Hazardous substance means any substance or combination of substances including any waste of a solid, semisolid, liquid or gaseous form which may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or which may pose a substantial present or potential hazard to human health or the environment because of its quantity, concentration or physical, chemical or infectious characteristics. This term includes, but is not limited to, substances which are toxic, corrosive, flammable, irritants, strong sensitizers or explosives as determined by the Department.

5.5 Illicit connection means any man-made conveyance connecting an illicit discharge to a municipal separate storm sewer system.

5.6 Illicit discharge means any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, flows from riparian habitats and wetlands, and similar discharges. However, the occurrence of a discharge listed above may be considered an illicit discharge on a case-by-case basis if the permittee or the Department identifies it as a significant source of a pollutant to waters of the state.

5.7 Impaired water means a waterbody impaired in whole or in part and listed by the Department pursuant to 33 USC § 1313(d)(1)(A) and 40 CFR 130.7, for not meeting a water quality standard, including a water quality standard for a specific substance or the waterbody's designated use.

5.8 Infiltration means the entry and movement of precipitation or runoff into or through soil.

5.9 Jurisdiction means the area where the permittee has authority to enforce its ordinances or otherwise has authority to exercise control over a particular activity of concern.

5.10 Land disturbing construction activity means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover that may result in storm water runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.

5.11 Maximum Extent Practicable has the meaning given it in s. NR 151.002(25), Wis. Adm. Code.

5.12 Major outfall means a municipal separate storm sewer outfall that meets one of the following criteria:

5.12.1 A single pipe with an inside diameter of 36 inches or more, or from an equivalent conveyance (cross sectional area of 1,018 square inches) which is associated with a drainage area of more than 50 acres.

5.12.2 A municipal separate storm sewer system that receives storm water runoff from lands zoned for industrial activity that is associated with a drainage area of more than 2 acres or from other lands with 2 or more acres of industrial activity, but not land zoned for industrial activity that does not have any industrial activity present.

5.13 Municipality means any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, storm water or other wastes.

5.14 Municipal Separate Storm Sewer System or MS4 means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

5.14.1 Owned or operated by a municipality.

5.14.2 Designed or used for collecting or conveying storm water.

5.14.3 Which is not a combined sewer conveying both sanitary and storm water.

5.14.4 Which is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.

5.15 New MS4 discharge of a pollutant means an MS4 discharge that would first occur after the permittee's original date of initial coverage under an MS4 permit to a surface water to which the MS4 did not previously discharge storm water, and does not include an increase in an MS4's discharge to a surface water to which the MS4 discharged on or before coverage under this permit.

5.16 Outfall means the point at which storm water is discharged to waters of the state or to a storm sewer (e.g., leaves one municipality and enters another).

5.17 Permittee means a person who has applied for and received WPDES permit coverage for storm water discharge. For the purposes of this permit, permittee is the owner or operator of a municipal separate storm sewer system authorized to discharge storm water into waters of the state.

5.18 Permitted area means the areas of land under the jurisdiction of the permittee that drains into a municipal separate storm sewer system, which is regulated under a permit issued pursuant to subch. I of NR 216, Wis. Adm. Code.

5.19 Pollutants of concern means a pollutant that is causing impairment of a waterbody.

5.20 Reach means a specific stream segment, lake or reservoir as identified in a TMDL.

5.21 Reachshed means the drainage area contributing runoff to a given reach.

5.22 Redevelopment means areas where development is replacing older development.

5.23 Riparian landowners are the owners of lands bordering lakes and rivers.

5.24 Sediment means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

5.25 Start Date is the date of permit coverage under this permit, which is specified in the Department letter authorizing coverage.

5.26 Storm water management practice means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

5.27 Storm Water Pollution Prevention Plan or SWPPP refers to the development of a site-specific plan that describes the measures and controls that will be used to prevent and/or minimize pollution of storm water.

5.28 Structural storm water management facilities are engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins and grassed swales.

5.29 Total maximum daily load or TMDL means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.

5.30 Urbanized area means a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people, as determined by the U.S. bureau of the census based on the latest decennial federal census.

5.31 Wasteload Allocation or WLA means the allocation resulting from the process of distributing or apportioning the total maximum load to each individual point source discharge.

5.32 Waters of the State has the meaning given it in s. 283.01(20), Wis. Stats.

5.33 WPDES permit means a Wisconsin Pollutant Discharge Elimination System permit issued pursuant to ch. 283, Wis. Stats.

Appendix A: MS4 Permittees Subject to a TMDL Approved Prior to May 1, 2014 including Applicable Updates

A.1 Applicability and Structure of Appendix.

A.1.1 Applicability. In accordance with section 1.5.2.a, this Appendix A applies to permittees subject to a total maximum daily load (TMDL) approved by the United States Environmental Protection Agency (USEPA) prior to May 1, 2014, that includes the following:

- “Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids in the Rock River Basin,” approved by USEPA September 2011
- “Total Maximum Daily Load and Watershed Management Plan for Total Phosphorus and Total Suspended Solids in the Lower Fox River Basin and Lower Green Bay,” approved by USEPA May 2012
- “Lake St. Croix Nutrient Total Maximum Daily Load,” approved by USEPA August 2012
- “Phosphorus Total Maximum Daily Loads (TMDLs) Tainter Lake and Lake Menomin, Dunn County Wisconsin,” approved by USEPA September 2012

In addition to the TMDLs listed above, Appendix A also applies to the following:

- “Beaver Dam Lake Total Maximum Daily Load for Total Phosphorus,” approved by USEPA August 2018

Note: The Beaver Dam Lake TMDL updates allocations from the Rock River Basin TMDL for the City of Beaver Dam and provides higher allocations, lower percent reductions, than those contained in the Rock River Basin TMDL approved in September 2011.

Note: If the MS4 area extends into or discharges to other basins with a USEPA approved TMDL, a permittee could be subject to more than one TMDL and thus the requirements under Appendices B and/or C.

A.1.2 Structure of Appendix. This appendix is structured to provide permittees with several compliance options. Section A.2 defines full TMDL compliance while sections A.3, A.4, and A.5 provide different compliance options. Section A.3 applies to permittees that submitted a plan meeting the requirements contained in sections 1.5.4.4 and 1.5.4.5 of WPDES Permit No. WI-S050075-2 or WI-S050181-1 and received Department concurrence regarding the plan. Section A.3 also applies to permittees that are participating in an approved adaptive management plan. Section A.4 details requirements for permittees that can comply with the TMDL during this permit term. Section A.5 applies to permittees who have not been able to utilize sections A.3 or A.4. Section A.5 contains two compliance tracks; permittees may choose between the requirements stipulated under section A.5.2 or meet the requirements under section A.5.3. Section A.6 outlines reporting requirements.

A.2 Full TMDL Compliance.

A.2.1 USEPA is allowing the Department to evaluate MS4 compliance with TMDL Wasteload Allocations (WLAs) using a percent reduction framework consistent with Wisconsin’s storm

water program. For consistency with existing storm water program requirements, demonstration of TMDL compliance will use the percent reduction measured from the no runoff management controls (no-controls) condition. The percent reduction from no-controls, for each pollutant of concern and reachshed, necessary to meet the TMDL WLAs for the USEPA approved TMDLs are listed in Tables A1-A4. The no-controls modeling condition means taking no (zero) credit for existing storm water control measures that reduce the discharge of pollutants. Existing practices can then be applied and counted toward meeting the TMDL reductions.

A.2.2 TMDLs may assign a percent reduction for one or more reachsheds for each pollutant of concern (i.e., total suspended solids (TSS) and total phosphorus (TP)). Full TMDL compliance is achieved by the permittee provided all of the following conditions are met:

- a. By October 31, 2023, the permittee submits the necessary data and documentation to the Department that demonstrates that the permittee meets the percent reductions stipulated in Tables A1-A4 for each reachshed that the MS4 discharges to and for each pollutant of concern.
- b. The documentation submitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee will employ to ensure that storm water controls and management measures will continue to be operated and maintained so that their pollutant removal efficiency continues to be met.
- c. Based upon the data and documentation and any necessary subsequent information requested by the Department, the permittee receives written concurrence from the Department by April 30, 2024, that the permittee has achieved full TMDL compliance.

A.3 Implementation of TMDL Compliance Plan or Participation in an Approved Adaptive Management Plan.

A.3.1 If the permittee submitted a TMDL Implementation Plan meeting the requirements contained in sections 1.5.4.4 and 1.5.4.5 of WPDES Permit No. WI-S050075-2 or WI-S050181-1 and has received Department concurrence regarding the plan, the permittee shall implement the plan as its TMDL Compliance Plan.

A.3.2 In accordance with s. 283.13(7), Wis. Stats., and s. NR 217.18, Wis. Adm. Code, if by the effective date of this permit the permittee has chosen to participate in an Adaptive Management project that has been approved by the Department the permittee shall continue to participate in the implementation of the Adaptive Management project.

A.4 Compliance During the Term of This Permit. If the permittee determines that it can meet the requirements stipulated in section A.2.2 by October 31, 2023, the permittee shall meet all the following:

A.4.1 By March 31, 2020, the permittee shall notify the Department if compliance will be achieved by October 31, 2023.

A.4.2 Consistent with the reporting requirements contained in section A.6, the permittee shall submit written verification that it is has met the applicable requirements contained in section A.2.2.

A.5 Compliance Over Multiple Permit Terms. If the permittee cannot meet the requirements stipulated under sections A.3 or A.4, the permittee shall demonstrate continued progress towards compliance with the requirements contained in section A.2.2. During the term of this permit, the following are required:

A.5.1 By March 31, 2020, if the permittee determines that the applicable requirements contained in section A.2.2 will not be achieved by October 31, 2023, then the permittee shall notify the Department in writing which reachsheds and pollutants of concern are not in compliance with the requirements contained in section A.2.2.

A.5.2 By October 31, 2021, the permittee shall submit a TMDL Implementation Plan to the Department identifying and describing the actions that the permittee shall undertake, including a proposed schedule and milestones, to achieve the following by the end of the term of this permit:

a. A level of reduction that achieves at least 20% of the remaining reduction needed beyond the current 20% TSS reduction required under s. NR 151.13 (2)(b)1.b., Wis. Adm. Code, to achieve full compliance in sediment or TSS.

b. A level of reduction that achieves at least 10% of the remaining reduction needed beyond 15% TP reduction to achieve full compliance in TP.

Note: The reductions stipulated under section A.5.2 are interim compliance targets set for this permit term. Future permit reduction targets may taper off or vary between municipalities based on individual plans as it is expected that municipalities will rely more on reductions obtained through redevelopment.

Note: Unlike full compliance as outlined in section A.2.2, compliance with the reductions stipulated under sections A.5.2.a and A.5.2.b can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area that is impacted by the TMDL.

Note: Reductions obtained through a permittee's participation in a water quality trading project, in accordance with s. 283.84, Wis. Stats., and that has been reviewed and approved by the Department, may be counted toward credit in meeting the requirements stipulated under sections A.5.2.a and A.5.2.b. Additional information on water quality trading is available from the Department's Internet site at:

<https://dnr.wi.gov/topic/surfacewater/waterqualitytrading.html>

Note: Example calculation to meet section A.5.2.a for total suspended solids (TSS)

“Municipality A” has modeled a no-controls TSS load of 50 tons/year for Reachshed 2 and 100 tons/year for Reachshed 3.

Determine Calculated Wasteload Allocation

“Municipality A” has area in Rock River TMDL Reachsheds 2 and 3. From Table A.1, the TMDL requires the following reductions from no controls which under section A.2 must ultimately achieve a mass reduction as follows:

TMDL Reachshed	Modeled TSS from No-Controls (tons/yr)	TMDL TSS Reduction from No-Controls	Ultimate Mass Reduction Required for Full TMDL Compliance (tons/yr)	Calculated Wasteload Allocation (tons/yr)
2	50	40.6%	$50 * 0.406 = 20.3$	$50 - 20.3 = 29.7$
3	100	55.6%	$100 * 0.556 = 55.6$	$100 - 55.6 = 44.4$

Determine Minimum Control Required under Section NR 151.13(2)(b)1.b., Wis. Adm. Code

TMDL Reachshed	No Controls TSS (tons/yr)	NR 151 Required Reduction (tons/yr)	NR 151 Allowable Load (tons/yr)
2	50	$50 * 0.20 = 10$	$50 - 10 = 40$
3	100	$100 * 0.20 = 20$	$100 - 20 = 80$
Total		30.0	

Calculate 20% Additional Reduction from Section NR 151.13(2)(b)1.b., Wis. Adm. Code

Under section A.5.2.a, “Municipality A” must achieve an additional 20% reduction from the current 20% TSS reduction required under s. 151.13 (2)(b)1.b., Wis. Adm. Code. As shown below, “Municipality A” needs to achieve a 20% reduction of the remaining 45.9 tons results in “Municipality A” needing to achieve an additional 9.18 tons/year in reduction.

Reachshed	NR 151 Allowable Load (tons/yr)	Calculated Wasteload Allocation (tons/yr)	Additional Reduction from NR 151 (tons/yr)	20% Additional Reduction from NR 151 (tons/yr)
2	40	29.7	$40 - 29.7 = 10.3$	$10.3 * 0.2 = 2.06$
3	80	44.4	$80 - 44.4 = 35.6$	$35.6 * 0.2 = 7.12$
Total			45.9	9.18

Load reduction at the end of permit term

At the end of the permit term, “Municipality A” should demonstrate a minimum reduction from no controls of 39.18 (30 tons plus 9.18 tons). “Municipality A” has the flexibility to decide how much of that reduction is provided in TMDL Reachshed 2 and/or 3 over the next permit term. “Municipality A” will still require additional reductions in each reachshed over subsequent permit terms to reach the calculated wasteload allocation of 29.7 tons in TMDL Reachshed 2 and 44.4 tons in TMDL Reachshed 3.

The calculation process is similar for total phosphorus (TP).

A.5.3 If the permittee determines by October 31, 2021, that it is unable to achieve the reductions stipulated under sections A.5.2.a and A.5.2.b, the permittee shall meet the following requirements by October 31, 2023:

Note: The permittee may optimize deployment of resources between the requirements listed below to maximize reductions for the least cost. In some cases, permittees may already be meeting these requirements.

a. Pursuant to the permittee's authority under s. 281.33(6)(a)2., Wis. Stats., the permittee shall create or revise and promulgate a municipal storm water management ordinance applicable to redevelopment that requires compliance with post-construction storm water management performance standards that are stricter than the uniform statewide standards established by the Department. When reporting to the Department under section A.6.3, the permittee shall include a justification for the level of pollutant reduction in the ordinance with an assessment of the progress it achieves towards full compliance with the TMDL. The redevelopment reductions may be adjusted to account for other storm water control measures that may exist. The permittee may also establish TP reduction levels for redevelopment projects.

Note: The permittee may enact an ordinance that is municipal-wide, targets individual TMDL reachsheds, or designated areas within the permitted MS4, balancing required TMDL reductions, parcel size, and the impact of other treatment options. Increasing redevelopment reductions is one tool in moving toward TMDL compliance.

b. The permittee shall create or revise a municipal ordinance that requires the development and implementation of a maintenance plan for all privately-owned storm water treatment facilities for which the permittee takes a TSS and/or TP reduction credit. The permittee shall develop and implement procedures and measures to verify and track that the storm water treatment facilities are inspected on a regular schedule and maintained in the intended working condition in accordance with the plans. The permittee shall require that maintenance agreements be recorded with the appropriate property records that obligates the current and future owners to implement the maintenance plans.

c. The permittee shall revise or promulgate a municipal ordinance that requires the submittal of record drawings for storm water management facility that the permittee takes a TSS and/or TP reduction credit. The permittee shall require submittal of the record drawing prior to close-out of the local permit or upon final approval and shall maintain appropriate records and tracking of the plans.

d. If the pollutant of concern is TP, the permittee shall implement, expand, or optimize a municipal leaf collection program coupled with street cleaning to serve areas where municipal leaf collection is not currently provided within the MS4 but for which a phosphorus reduction has been assigned and additional reductions could be achieved.

Note: The Department's "Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs" guidance document includes recommendations on how the permittee's municipal leaf collection program should be designed and implemented.

The guidance is available from the Department's Internet site at:
https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html

- e. Within the MS4 permitted area, the permittee shall inventory the condition of the conveyance systems and outfalls. Where erosion or scour is occurring, the permittee shall develop a schedule to stabilize the identified areas over a 5-year period.
- f. The permittee shall install at least one new structural BMP or enhance one or more existing structural BMPs to reduce a pollutant of concern discharged via storm water runoff to an impaired waterbody for which a WLA has been assigned to the permittee. The permittee shall develop and implement a maintenance plan for each new structural BMP.
- g. The permittee shall conduct an analysis of the current municipal street cleaning program, to determine if additional pollutant loading reductions can be achieved. The permittee shall evaluate optimizing sweeping frequency, targeting of critical areas and time periods, and instituting parking restrictions. If a pollutant reduction can be achieved through optimizing the existing street cleaning program, the permittee shall adopt the optimized program the next calendar year or provide a written explanation to the Department explaining why the optimize street cleaning program is not feasible and provide alternative options to achieve similar pollutant reductions.

A.6 Reporting Requirements. For the term of this permit, the permittee shall meet the following reporting requirements:

A.6.1 Compliance Determination Reporting. The permittee shall submit the information requested in this appendix in accordance with the following schedule:

- a. By March 31, 2020, for sections A.4.1 and A.5.1.
- b. By October 31, 2021, for section A.5.2.
- c. By October 31, 2023, for sections A.2.2.a and A.5.3.

A.6.2 Annual Reporting. For compliance options outlined under sections A.3, A.4, and A.5, the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

A.6.3 Final Documentation. Except for permittees complying with a Department approved adaptive management plan under section A.3.2, by October 31, 2023, the permittee shall submit documentation to the Department to verify that the permittee has completed all actions required under this appendix including the following:

- a. An updated storm sewer system map that identifies:
 - (1) The current municipal boundary. For a permittee that is not a city or village, identify the permitted area.

Note: The permitted area for towns, counties and non-traditional MS4s pertains to the area within an urbanized area or the area served by its storm sewer system, such as a university campus.

(2) The TMDL reachshed boundaries within the municipal boundary, and the area of each TMDL reachshed in acres within the municipal boundary.

(3) The MS4 drainage boundary associated with each TMDL reachshed, and the area in acres of the MS4 drainage boundary associated with each TMDL reachshed.

b. The permittee shall submit an updated tabular summary that includes the following for each MS4 drainage boundary associated with each TMDL reachshed as identified under section A.6.3.a and for each pollutant of concern:

(1) The permittee's percent reduction needed to comply with its TMDL WLA from the no-controls modeling condition.

(2) The modeled MS4 annual average pollutant load without any storm water control measures.

(3) The modeled MS4 annual average pollutant load with existing storm water control measures.

(4) The percent reduction in pollutant load achieved calculated from the no-controls condition determined under section A.6.3.a(2) and the existing controls condition determined under section A.6.3.a(3).

(5) The existing storm water control measures, including the type of measure, area treated in acres, the pollutant load reduction efficiency, and confirmation of the permittee's authority for long-term maintenance of each practice.

c. If the updated tabular summary required under section A.6.3.b shows that the permittee is not achieving the requirements stipulated in section A.2, the permittee shall submit an updated written TMDL Implementation Plan to the Department that describes how the permittee will make progress toward achieving compliance. The TMDL Implementation Plan shall include the following information:

(1) A list of management options and an implementation schedule that over the next permit term achieves, to the maximum extent practicable, an additional 20% reduction in sediment or TSS and an additional 10% reduction in TP. The percent reductions shall be applied to the difference measured from loading conditions at the end of this permit to the total reductions listed in Tables A1-A4. The reductions can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area impacted by a TMDL.

Note: Reductions that occur through stricter redevelopment standards or through water quality trading can be counted toward meeting the reduction requirements under this section.

Note: Unlike full compliance as outlined in section A.2.2, interim compliance under this section can be based on an average reduction measured across the MS4 area impacted by a TMDL.

(2) Recommendations and options with supporting analysis for storm water control measures that will be installed or implemented in future permit terms to achieve the requirements, to the maximum extent possible, stipulated in section A.2.

(3) A proposed schedule for implementation of the recommendations and options identified under section A.6.3.c(1). The proposed schedule may extend into future permit terms.

(4) A cost effectiveness analysis for implementation of the recommendations and options identified under section A.6.3.c(1).

Table A1: Rock River Basin TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed

Reachshed Number (TMDL Subbasin)	Waterbody Name	County	TSS % Reduction from No-controls	TP % Reduction from No-controls
2	South Branch Rock River	Dodge, Fond du Lac, Green Lake	40.6	48.2
3	South Branch Rock River	Dodge, Fond du Lac	55.6	86.9
20	Rock River	Dodge, Jefferson, Washington, Waukesha	40.0	37.2
21	Rock River	Dodge, Jefferson, Washington, Waukesha	40.0	34.3
23	Oconomowoc River	Washington, Waukesha	46.6	35.8
24	Mason Creek	Dodge, Washington, Waukesha	47.2	35.0
25	Oconomowoc River	Jefferson, Waukesha	59.2	73.7
26	Battle Creek	Waukesha	57.4	52.6
27	Oconomowoc River	Jefferson, Waukesha	40.0	27.0
28	Rock River	Dodge, Jefferson	40.0	27.7
29	Rock River	Dodge, Jefferson	44.2	64.2
30	Johnson Creek	Jefferson	40.0	27.0
33	Mill Creek, Beaver Dam Lake	Columbia, Dodge	45.4	48.2
34	Beaver Dam River	Columbia	58.6	86.1
37	Park Creek	Columbia	72.4	75.2
39	Shaw Brook	Columbia	40.0	27.0
45	Mauneshia River	Columbia	44.8	36.5
51	Crawfish River	Columbia	40.0	37.2
54	Rock River	Columbia, Dodge, Jefferson	43.6	71.5
55	Bark River	Waukesha	65.8	76.6
56	Bark River	Jefferson, Waukesha	40.0	40.9

Reachshed Number (TMDL Subbasin)	Waterbody Name	County	TSS % Reduction from No-controls	TP % Reduction from No-controls
59	Steel Brook, Scuppernong River, Bark River	Jefferson, Walworth, Rock	49.0	66.4
60	Rock River	Jefferson, Rock	40.6	48.2
61	Rock River	Dane, Rock	41.2	31.4
62	Pheasant Branch Creek	Dane	82.0	78.1
63	Spring (Dorn) Creek	Dane	46.6	37.2
64	Yahara River, Lake Mendota, Lake Monona	Dane, Columbia	73.0	61.3
65	Nine Springs Creek	Dane	67.6	62.8
66	Yahara River, Lake Waubesa, Lake Kegonsa	Dane	62.2	54.0
67	Yahara River	Dane	40.0	27.0
68	Yahara River	Dane, Rock	50.8	65.0
69	Yahara River	Dane, Rock	52.6	79.6
70	Rock River	Rock	40.6	27.7
71	Rock River	Rock	58.6	48.2
72	Blackhawk Creek	Rock, Walworth	40.0	27.0
73	Blackhawk Creek	Rock	69.4	64.2
74	Rock River	Rock	52.0	39.4
75	Markham Creek	Rock	51.4	38.0
76	Rock River	Rock	57.4	81.8
78	Bass Creek	Rock	40.0	29.9
79	Rock River	Rock	62.2	66.4
80*	Turtle Creek	Rock, Walworth	55.0	62.8
81	Turtle Creek	Rock, Walworth	44.2	41.6
83	Lake Koshkonong	Dane, Jefferson, Rock	55.0	54.0

Note: *MS4 Reachshed 80 reductions are based on Non-Point Source annual average reductions as TMDL had not assigned a separate MS4 reduction for MS4s in this reach.

Table A2: Lower Fox River Basin and Lower Green Bay TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed

Reachshed Name (Subbasin)	County	Subbasin ID	TSS % Reduction from No-controls	TP % Reduction from No-controls
Lower Green Bay	Brown	LFS7 & LFS8	52%	41%
Lower Fox River Main Stem	Brown, Outagamie, Winnebago	LFM	72%	41%
East River	Brown, Calumet	LF01	52%	41%
Baird Creek	Brown	LF01	52%	41%
Bower Creek	Brown	LF01	52%	41%
Dutchman Creek	Brown	LF02	52%	41%
Ashwaubenon Creek	Brown	LF02	52%	41%
Apple Creek	Brown, Outagamie	LF02	52%	41%
Plum Creek	Brown, Calumet	LF03	52%	41%
Kankapot Creek	Calumet, Outagamie	LF03	52%	41%
Garners Creek	Outagamie	LF03	60%	69%
Mud Creek	Outagamie, Winnebago	LF04	43%	48%
Neenah Slough	Winnebago	LF06	52%	41%
Duck Creek	Brown, Outagamie	LF05	52%	41%
Trout Creek	Brown	LF05	52%	41%

Note: % TSS reduction from No Controls = 20 + [0.80 x (% TSS Control Lower Fox TMDL Report)]
 % TP reduction from No Controls = 15 + [0.85 x (% TP Control Lower Fox TMDL Report)]

Table A3: Lake St. Croix Nutrient TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed

Waterbody Name	County	WBIC	MS4 TP % Reduction from No Controls
Lake St. Croix	St. Croix, Pierce	2601500	46.0

Table A4: Red Cedar River (Tainter Lake, Menomin Lake) TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed

Waterbody Name	County	WBIC	MS4 TP % Reduction from No Controls*
Tainter Lake	Dunn	2068000	$\frac{Load_{2025\ No\ Controls} - 1700 \frac{lbs}{yr}}{Load_{2025\ No\ Controls}}$
Lake Menomin	Dunn	2065900	39.2

Note: *The TMDL allocations and necessary reduction are calculated using the 2025 projected MS4 build out area. The 2025 area modeled in a No Controls condition compared against the WLA written in the TMDL yields the percent reduction.

Appendix B: MS4 Permittees Subject to Milwaukee River Basin TMDL

B.1 Applicability. In accordance with section 1.5.2.b, this Appendix B applies to permittees subject to a total maximum daily load (TMDL) approved by the United States Environmental Protection Agency (USEPA) that includes the following:

- “Total Maximum Daily Loads for Total Phosphorus, Total Suspended Solids, and Fecal Coliform Milwaukee River Basin, Wisconsin,” approved by USEPA March 2018

Note: If the MS4 area extends into or discharges to other basins with a USEPA approved TMDL, a permittee could be subject to more than one TMDL and thus the requirements under Appendices A and/or C.

B.2 Full TMDL Compliance for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs.

B.2.1 USEPA is allowing the Department to evaluate MS4 compliance with TMDL Wasteload Allocations (WLAs) using a percent reduction framework consistent with Wisconsin’s storm water program. For consistency with existing storm water program requirements, TMDL compliance will use the percent reduction basis from the no runoff management controls (no-controls) condition. The percent reduction from no-controls, for TSS and TP for each reachshed, necessary to meet the TMDL WLAs for the USEPA approved TMDLs are listed on Table B1. The no-controls modeling condition means taking no (zero) credit for existing storm water control measures that reduce the discharge of pollutants. Existing practices can then be applied and counted toward meeting the TMDL reductions.

B.2.2 TMDLs may assign a percent reduction for one or more reachsheds for each pollutant of concern (i.e., total suspended solids (TSS) and total phosphorus (TP)). Full TMDL compliance is achieved by the permittee provided all of the following conditions are met:

- a. By October 31, 2023, the permittee submits the necessary data and documentation to the Department that demonstrates that the permittee meets the percent reductions stipulated in Table B1 for each reachshed that the MS4 discharges to and for each pollutant of concern.
- b. The documentation submitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee will employ to ensure that storm water controls and management measures will continue to be operated and maintained so that their pollutant removal efficiency continues to be met.
- c. Based upon the data and documentation and any necessary subsequent information requested by the Department, the permittee receives written concurrence from the Department by April 30, 2024, that the permittee has achieved full TMDL compliance.

B.3 Participation in an Approved Adaptive Management Plan for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs. In accordance with s. 283.13(7), Wis. Stats., and s. NR 217.18, Wis. Adm. Code, if the permittee chooses to participate in an Adaptive Management project, the permittee shall submit the plan to the Department by March 31, 2022 for approval.

Note: Information on adaptive management is available from the Department's Internet site at: <https://dnr.wi.gov/topic/SurfaceWater/AdaptiveManagement.html>

B.4 TMDL Implementation Plan for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs. If the permittee has chosen not to participate in an adaptive management plan as stipulated in section B.3, the permittee shall perform the following activities:

B.4.1 By March 31, 2022, the permittee shall determine if the applicable requirements contained in section B.2.2 will be achieved during the term of this permit. The permittee shall notify the Department which reachsheds and pollutants of concern are not in compliance with the requirements contained in section B.2.2 with the tabular summary created under section B.4.2(b) and develop a TMDL Implementation Plan per section B.4.2(c).

B.4.2 The permittee shall develop and submit the following documentation to meet the requirements stipulated in section B.2.2:

a. By March 31, 2020, an updated storm sewer system map that identifies:

(1) The current municipal boundary. For a permittee that is not a city or village, identify the permitted area.

Note: The permitted area for towns, counties and non-traditional MS4s pertains to the area within an urbanized area or the area served by its storm sewer system, such as a university campus.

(2) The TMDL reachshed boundaries within the municipal boundary, and the area of each TMDL reachshed in acres within the municipal boundary.

(3) The MS4 drainage boundary associated with each TMDL reachshed, and the area in acres of the MS4 drainage boundary associated with each TMDL reachshed.

(4) Identification of areas on a map and the acreage of those areas within the municipal boundary that the permittee believes should be excluded from its analysis to show compliance with the TMDL WLA. In addition, the permittee shall provide an explanation of why these areas should not be its responsibility.

Note: An example of an area within a municipal boundary that may not be subject to a TMDL WLA for the permittee is an area that does not drain through the permittee's MS4.

(5) Flow paths of storm water through the storm sewer system.

(6) The location and associated drainage basin of structural BMPs the MS4 uses for TSS and TP treatment.

b. By March 31, 2022, the permittee shall submit a tabular summary that includes the following for each MS4 drainage boundary associated with each TMDL reachshed as identified under section B.4.2.a(2) and for each pollutant of concern listed in Table B1:

(1) The permittee's percent reduction needed to comply with its TSS and TP WLA from the no-controls modeling condition. The no-controls modeling condition means taking no (zero) credit for storm water control measures that reduce the discharge of pollutants.

Note: This model run is comparable to the no-controls condition modeled for the developed urban area performance standard of s. NR 151.13, Wis. Adm. Code.

(2) The modeled annual average pollutant load without any storm water control measures for each reachshed which the MS4 discharge to.

(3) The modeled MS4 annual average pollutant load with existing and current storm water control measures for each reachshed which the MS4 discharges to.

(4) The percent reduction in pollutant load achieved calculated from the no-controls condition determined under section B.4.2.b(2) and the existing controls condition determined under section B.4.2.b(3).

(5) The existing storm water control measures including the type of measure, area treated in acres, the pollutant load reduction efficiency, and confirmation of the permittee's authority for long-term maintenance of each practice.

c. By March 31, 2022, if the tabular summary required under section B.4.2.b shows that the permittee is not achieving the applicable percent reductions needed to comply with section B.2.2, then the permittee shall submit a written TMDL Implementation Plan to the Department that describes how the permittee will make progress toward achieving compliance. The plan shall include the following information:

(1) Recommendations and options for storm water control measures that will be considered to reduce the discharge of each pollutant of concern. At a minimum, the following shall be evaluated: all post-construction BMPs for which the Department has a technical standard, optimizing or retrofitting all existing public and private storm water control practices, regional practices, optimization or improvements to existing BMPs, incorporation of storm water control for all road reconstruction projects, more restrictive post-construction ordinances, updated development and redevelopment standards.

(2) A proposed schedule for implementation of the alternatives identified under section B.4.2.c(1). The proposed schedule may extend beyond the expiration date of this permit. The schedule should aim to achieve, to the maximum extent practicable, a level of reduction that achieves at least 20% of the remaining reduction needed beyond baseline to achieve full compliance in TSS and a level of reduction that achieves at least 10% of the remaining reduction needed

beyond baseline to achieve full compliance in TP over the next permit term. The reductions can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area impacted by a TMDL.

Note: The reductions stipulated under B.4.2.c(2) are interim compliance targets set as a planning target for the next permit term. Future permit reduction targets may taper off or vary between municipalities based on individual plans as it is expected that municipalities will rely more on reductions obtained through redevelopment.

(3) A cost effectiveness analysis for implementation of the recommendations and options identified under section B.4.2.c(1).

Note: The Department has developed the guidance document “TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance.” The guidance is available on the Department’s Internet site:

https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html, and is available to assist a permittee with complying with the requirements of section B.4.

Note: Reductions obtained through a permittee’s participation in a water quality trading project, in accordance with s. 283.84, Wis. Stats., and that has been reviewed and approved by the Department, can be counted toward credit in meeting the requirements stipulated under section B.4.2.c(2). Additional information on water quality trading is available from the Department’s Internet site at:

<https://dnr.wi.gov/topic/surfacewater/waterqualitytrading.html>

B.4.3 TMDL Compliance During the Term of This Permit for Total Suspended Solids (TSS) and Total Phosphorus (TP) WLAs. If the permittee has chosen not to participate in an adaptive management plan as stipulated in section B.3, the permittee shall select and implement a minimum of three of the activities listed below, in addition to the planning requirements contained in section B.4.2, by October 31, 2023:

Note: The permittee may optimize deployment of resources between the requirements listed below to maximize reductions for the least cost. In some cases, permittees may already be meeting these requirements.

a. Pursuant to the permittee’s authority under s. 281.33(6)(a)2., Wis. Stats., the permittee shall create or revise and promulgate a municipal storm water management ordinance applicable to redevelopment that requires compliance with post-construction storm water management performance standards that are stricter than the uniform statewide standards established by the Department. When reporting to the Department under section B.6.3, the permittee shall include a justification for the level of pollutant reduction in the ordinance with an assessment of the progress it achieves towards full compliance with the TMDL. The redevelopment TSS reduction may be adjusted to account for other storm water controls measures that may exist. The permittee may also establish TP reduction levels for redevelopment projects.

Note: The permittee may enact an ordinance that is municipal wide, targets individual TMDL reachsheds, or designated areas within the permitted MS4 balancing required TMDL reductions, parcel size, and the impact of other treatment options. Increasing redevelopment reductions is one tool in moving toward TMDL compliance.

b. The permittee shall create or revise a municipal ordinance that requires the development and implementation of a maintenance plan for all privately-owned storm water treatment facilities for which the permittee takes a TSS and/or TP reduction credit. The permittee shall develop and implement procedures and measures to verify and track that the storm water treatment facilities are inspected on a regular schedule and maintained in the intended working condition in accordance with the plans. The permittee shall require that maintenance agreements be recorded with the appropriate property records that obligates the current and future owners to implement the maintenance plans.

c. The permittee shall revise or promulgate a municipal ordinance that requires the submittal of record drawings for which the permittee takes a TSS and/or TP reduction credit. The permittee shall require submittal of the record drawing prior to close-out of the local permit or upon final approval and shall maintain appropriate records and tracking of the plans.

d. If the pollutant of concern is TP, implement, expand, or optimize a municipal leaf collection program coupled with street cleaning to serve areas where municipal leaf collection is not currently provided within the MS4 but for which a phosphorus WLA has been assigned and additional reductions could be achieved.

Note: The Department's "Interim Municipal Phosphorus Reduction Credit for Leaf Management Programs" guidance document includes recommendations on how the permittee's municipal leaf collection program should be designed and implemented. The guidance is available from the Department's Internet site at:
https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html

e. Within the MS4 permitted area, the permittee shall inventory the condition of the conveyance systems and outfalls. Where erosion or scour is occurring, the permittee shall develop a schedule to stabilize the identified areas.

f. Install one new structural BMP or enhance one existing structural BMPs to reduce a pollutant of concern discharged via storm water runoff to an impaired waterbody for which a WLA has been assigned to the permittee. The permittee shall develop and implement a maintenance plan for each new structural BMP.

Note: This option can be counted each time the permittee installs or enhances a structural BMP to satisfy the required activities. A permittee could meet the requirement if they solely chose this option and installed or enhanced three BMPs.

g. Permittee shall conduct an analysis of the current municipal street cleaning program, to determine if additional pollutant loading reductions can be achieved. The permittee shall evaluate optimizing sweeping frequency, targeting of critical areas and time

periods, and instituting parking restrictions. If a pollutant reduction can be achieved through optimizing the existing street cleaning program, the permittee shall adopt the optimized program the next calendar year or provide a written explanation to the Department explaining why the optimize street cleaning program is not feasible and provide alternative options to achieve similar pollutant reductions.

Note: The permittee may optimize deployment of resources between the requirements listed above to maximize reductions for the least cost; for example, only increase street sweeping where structural practices do not already exist to treat the runoff for the area.

B.5 TMDL Compliance and Implementation for Bacteria WLAs. This section applies to all permittees with a bacteria WLA specified in the Milwaukee River Basin TMDL Final Report dated March 19, 2018. The permittee shall do all of the following:

B.5.1 As part of its program to address illicit discharges under section 2.3 of this permit, by March 31, 2021, the permittee shall begin to conduct ongoing public education and outreach activities specifically to increase awareness of bacterial pollution problems, potential sources, proper pet waste management, and the impacts of urban wildlife and pests.

B.5.2 In addition to complying with the requirements in section 2.3 of this permit, the permittee shall comply with the following:

a. By March 31, 2022, the permittee shall develop and submit to the Department an inventory of bacteria sources and a map indicating the locations of the potential sources of fecal coliform and *E. coli* entering its MS4. The inventory shall be in a tabular format and include a label code, the name of the source, the physical address or location description of the source, and the ownership of the source (i.e., public or private). The map shall be to scale, identify all municipal streets, and indicate the locations of the sources using the label codes. The permittee shall consider the variation in flow conditions in its identification of potential sources. The inventory and map shall include the following potential sources of bacteria:

- Known or suspected leaking or failing septic systems.
- Sanitary sewer overflow locations.
- Livestock and domesticated animals housed or raised within the MS4 permitted area and discharging to the MS4, but not including household pets.
- Zoos, kennels, animal breeders, pet stores, and dog training facilities.
- Waste hauling, storage, and transfer facilities.
- Areas that attract congregations of nuisance urban birds and wildlife.
- Known or suspected properties with inadequate food or organic waste handling or storage.
- Composting sites or facilities.
- Known or suspected areas with improper human sanitation use.
- Any other source that the permittee or the Department has a reason to believe is discharging bacteria to the MS4.

b. By October 31, 2023, the permittee shall develop and submit to the Department a bacteria source elimination plan. The plan shall consist of a strategy and prioritization

scheme to eliminate each source of bacteria identified under section B.5.2.2. The plan shall include the BMPs to be used, cost estimates, sources of funding, and a schedule to eliminate the sources. BMPs identified in the plan may be structural, non-structural, targeted outreach, and/or additional ordinances, but the plan shall include the rationale for using each BMP, the reason for selected a BMP over another, and the expected outcome from implementing each BMP.

Note: While the TMDL allocations in the Milwaukee River Basin TMDL are expressed only in terms of fecal coliform, both fecal coliform and *E. coli* have been listed as sources of recreational use impairments that the TMDL was completed to address.

B.5.3 By March 31, 2023, the permittee shall adopt local ordinances to address the requirements for proper pet waste management, the restrictions on feeding of urban wildlife that are potential sources of bacteria entering the MS4, the requirements for property owners to cooperate with identifying and eliminating illicit sanitary sewerage cross-connections with the MS4, and the requirements for property owners to address other potential sources of bacteria that may enter the MS4 (e.g., refuse management, pest control).

B.6 Reporting Requirements. For the term of this permit, the permittee shall meet the following reporting requirements:

B.6.1 Compliance Determination Reporting. The permittee shall submit the information requested in this appendix in accordance with the following schedule:

- a. By March 31, 2020, for section B.4.2.a.
- b. By March 31, 2021, for sections B.5.1.
- c. By March 31, 2022, for sections B.4.1, B.4.2.b, and B.5.2.a.
- d. By March 31, 2023, for section B.5.3.
- e. By October 31, 2023, for section B.2.2.a, B.4.3, and B.5.2.b.

B.6.2 Annual Reporting. For requirements outlined under sections B.3, B.4, and B.5 the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

B.6.3 Final Documentation. By October 31, 2023, the permittee shall submit documentation to the Department to verify that the permittee has completed all actions required under this appendix including submittal of the TMDL Implementation Plan required under section B.4 and documentation that the three activities selected under section B.4.3 have been completed.

Table B1: Milwaukee River Basin TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed

Kinnickinnic River Basin:

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
KK-1	Lyons Park Creek	Entire Length	78.4%	68.1%
KK-2	Kinnickinnic River	From Wilson Park Creek to Lyons Park Creek	77.6%	68.1%
KK-3	South 43rd St. Ditch	Entire Length	76.8%	78.7%
KK-4	Edgerton Channel, Wilson Park Creek, Villa Mann Creek	Entire Length	84.0%	89.4%
KK-5	Holmes Avenue Creek	Entire Length	80.0%	78.7%
KK-6	Cherokee Park Creek	Entire Length	77.6%	69.0%
KK-7	Kinnickinnic River	Estuary to Wilson Park Creek	75.2%	45.0%

Menomonee River Basin:

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MN-1	Menomonee River	From Nor-X-Way Channel to Headwaters	66.4%	63.6%
MN-2	Goldendale Creek	Entire Length	63.2%	47.7%
MN-3	West Branch Menomonee River	Entire Length	65.6%	60.1%
MN-4	Willow Creek	Entire Length	64.0%	51.2%
MN-5	Nor-X-Way Channel	Entire Length	70.4%	72.5%
MN-6	Menomonee River and Dretzka Park Creek	From Little Menomonee River to Nor-X-Way Channel	73.6%	69.0%
MN-7	Lilly Creek	Entire Length	70.4%	64.5%
MN-8	Butler Ditch	Entire Length	69.6%	58.3%
MN-9	Little Menomonee River	Entire Length	70.4%	64.5%
MN-10	Menomonee River	From Underwood Creek to Little Menomonee River	67.2%	31.7%
MN-11	Underwood Creek and Dousman Ditch	From South Branch Underwood Creek to Headwaters	72.0%	62.7%

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MN-12	Underwood Creek	From Menomonee River to South Branch Underwood Creek	80.0%	76.1%
MN-13	South Branch Underwood Creek	Entire Length	76.8%	69.8%
MN-14	Menomonee River	From Honey Creek to Underwood Creek	64.8%	49.4%
MN-15	Honey Creek	Entire Length	73.6%	67.2%
MN-16	Menomonee River	From Estuary to Honey Creek	72.0%	49.4%

Milwaukee River Basin:

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MI-1	Upper Milwaukee River	From Campbellsport to Headwaters	**	**
MI-2	Upper Milwaukee River	From Kewaskum To Campbellsport and Auburn	73.6%	71.6%
MI-3	West Branch Milwaukee River	Entire Length	77.6%	48.6%
MI-4	Kewaskum Creek	Entire Length	76.8%	55.7%
MI-5	Watercress Creek and East Branch Milwaukee River	Entire Length	73.6%	51.2%
MI-6	Quass Creek and Milwaukee River	Near West Bend	73.6%	86.7%
MI-7	Myra Creek and Milwaukee River	From North Branch Milwaukee River to West Bend	79.2%	67.2%
MI-8	North Branch Milwaukee River	from Adell Tributary to Headwaters	**	**
MI-9	Adell Tributary	Entire Length	**	**
MI-10	Chambers Creek, Batabia Creek, and North Branch Milwaukee River	Near Sherman	**	**
MI-11	Melius Creek	Entire Length	**	**
MI-12	Mink Creek	Entire Length	**	**

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction from No-controls	TP % Reduction from No-controls
MI-13	Stony Creek, Wallace Creek, and North Branch Milwaukee River	Near Farmington	74.4%	46.8%
MI-14	Silver Creek	Entire Length	**	**
MI-15	Milwaukee River	Near Fredonia	**	**
MI-16	Milwaukee River	Near Saukville	75.2%	77.8%
MI-17	Milwaukee River	From Cedar Creek to Saukville	76.0%	83.1%
MI-18	Cedar Creek	From Jackson Creek to Headwaters	76.8%	71.6%
MI-19	Lehner Creek	Entire Length	77.6%	61.0%
MI-20	Jackson Creek	Entire Length	80.8%	77.8%
MI-21	Little Cedar Creek	Entire Length	80.8%	77.8%
MI-22	Cedar Creek	Near Jackson	76.8%	54.8%
MI-23	Evergreen Creek	Near Jackson	79.2%	53.0%
MI-24	North Branch Cedar Creek and Cedar Creek	From Milwaukee River to Myra Creek	73.6%	79.6%
MI-25	Milwaukee River	From Pigeon Creek to Cedar Creek	81.6%	43.2%
MI-26	Pigeon Creek	Entire Length	90.4%	88.5%
MI-27	Milwaukee River	From Lincoln Creek to Pigeon Creek	72.8%	53.9%
MI-28	Beaver Creek	Entire Length	72.8%	88.5%
MI-29	South Branch Creek	Entire Length	71.2%	87.6%
MI-30	Indian Creek	Entire Length	65.6%	76.1%
MI-31	Lincoln Creek	Entire Length	71.2%	85.8%
MI-32	Milwaukee River	From Estuary to Lincoln Creek	58.4%	23.7%

Note: **The TMDL did not assign a percent reduction for these reachsheds because modeling indicated that there is no direct MS4 discharge to this subbasin. If more detailed analysis conducted by the permittee indicates the presence of an MS4 discharge, contact your DNR storm water engineer or specialist for more information on how best to proceed.

Appendix C: MS4 Permittees Subject to the Wisconsin River Basin TMDL or a TMDL Approved After May 1, 2019

C.1 Applicability. In accordance with section 1.5.2.c, this Appendix C applies to permittees subject to a total maximum daily load (TMDL) approved by the United States Environmental Protection Agency (USEPA) that includes the following:

- “Total Maximum Daily Loads for Total Phosphorus in the Wisconsin River Basin,” approved by USEPA April 2019

Note: The Wisconsin River Basin TMDL has two sets of allocations. Table J-4 of Appendix J of the TMDL report lists the allocations and corresponding percent reductions based on current water quality criteria and Table K-4 of Appendix K of the TMDL report lists the allocations and corresponding percent reductions based on recommended site-specific criteria. Both tables provide the percent reductions measured from no-controls and the TMDL baseline. Under this permit term, the allocations listed in Appendix J of the TMDL report apply. If the recommended site-specific criteria are approved by USEPA, the allocations and percent reductions listed in Appendix K of the TMDL report will become applicable. However, permittees may use the allocations from either Appendix J or Appendix K of the TMDL report for planning purposes under sections C.3 and C.4 below.

- A TMDL approved by the USEPA on or after May 1, 2019

Note: If the MS4 area extends into or discharges to other basins with a USEPA approved TMDL, a permittee could be subject to more than one TMDL and thus the requirements under Appendices A and/or B.

C.2 Full TMDL Compliance.

C.2.1 USEPA is allowing the Department to evaluate MS4 compliance with TMDL Wasteload Allocations (WLA) using a percent reduction framework consistent with Wisconsin’s storm water program. For consistency with existing storm water program requirements, TMDL compliance will use the percent reduction measured from the no runoff management controls (no-controls) condition. The percent reduction from no-controls, for each pollutant of concern and reachshed, necessary to meet the TMDL WLAs for the USEPA approved TMDLs are listed in the approved TMDLs. The no-controls modeling condition means taking no (zero) credit for existing storm water control measures that reduce the discharge of pollutants. Existing practices can then be applied and counted toward meeting the TMDL reduction reductions.

C.2.2 TMDLs may assign a percent reduction for one or more reachsheds for each pollutant of concern (i.e., total suspended solids (TSS) and total phosphorus (TP)). Full TMDL compliance is achieved by the permittee provided all of the following conditions are met:

- a. The permittee submits the necessary data and documentation to the Department that demonstrates that the permittee meets the percent reductions stipulated in the USEPA approved TMDL for each reachshed that the MS4 discharges to and for each pollutant of concern.

b. The documentation submitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee will employ to ensure that storm water controls and management measures will continue to be operated and maintained so that their pollutant removal efficiency continues to be met.

c. Based upon the data and documentation and any necessary subsequent information requested by the Department, the permittee receives written concurrence from the Department that the permittee has achieved full TMDL compliance.

C.3 Participation in an approved Adaptive Management Plan. In accordance with s. 283.13(7), Wis. Stats., and s. NR 217.18, Wis. Adm. Code, if the permittee has chosen to participate in an Adaptive Management project that has been approved by the Department the permittee shall continue to participate in the implementation of the Adaptive Management project.

Note: Information on adaptive management is available from the Department's Internet site at: <https://dnr.wi.gov/topic/SurfaceWater/AdaptiveManagement.html>

C.4 TMDL Implementation Plan. If the permittee is not participating in a Department approved adaptive management plan as stipulated in section C.3, a permittee with MS4s discharging to TMDL reachsheds shall do all the following to demonstrate progress towards achieving the TMDL reductions stipulated in section C.2.2 and shall submit the following documentation:

C.4.1 Within 36 months of the approval date of the TMDL, an updated storm sewer system map that identifies:

a. The current municipal boundary. For a permittee that is not a city or village, identify the permitted area.

Note: The permitted area for towns, counties and non-traditional MS4s pertains to the area within an urbanized area or the area served by its storm sewer system, such as a university campus.

b. The TMDL reachshed boundaries within the municipal boundary, and the area of each TMDL reachshed in acres within the municipal boundary.

c. The MS4 drainage boundary associated with each TMDL reachshed, and the area in acres of the MS4 drainage boundary associated with each TMDL reachshed.

d. Identification of areas on a map and the acreage of those areas within the municipal boundary that the permittee believes should be excluded from its analysis to show compliance with the TMDL WLA. In addition, the permittee shall provide an explanation of why these areas should not be its responsibility.

Note: An example of an area within a municipal boundary that may not be subject to a TMDL WLA for the permittee is an area that does not drain through the permittee's MS4.

- e. Flow paths of storm water through the storm sewer system.
- f. The location and associated drainage basin of structural BMPs the MS4 uses for TSS and TP treatment.

C.4.2 Within 36 months of the approval date of the TMDL, the permittee shall submit a tabular summary that includes the following for each MS4 drainage boundary associated with each TMDL reachshed as identified under section C.4.1 and for each TMDL WLA:

- a. The permittee's percent reduction needed to comply with its TMDL WLA from the no-controls modeling condition. The no-controls modeling condition means taking no (zero) credit for storm water control measures that reduce the discharge of pollutants.
- b. The modeled annual average pollutant load without any storm water control measures for each subbasin which the MS4 discharges to as previously identified in section C.4.1.
- c. The modeled annual average pollutant load with existing storm water control measures for each subbasin with the MS4 discharges to as previously identified in section C.4.1.
- d. The percent reduction in pollutant load achieved from the no-controls condition and the existing controls condition.
- e. The existing storm water control measures including the type of measure, area treated in acres, the pollutant load reduction efficiency, and documentation of the permittee's authority for long-term maintenance of each practice.
- f. If applicable, the remaining pollutant load reduction for each pollutant of concern and reachshed to meet the TMDL reduction goals.

C.4.3 Within 48 months of the approval date of the TMDL, if the tabular summary required under section C.4.2 shows that the permittee is not achieving the applicable percent reductions needed to comply with its TMDL WLA for each TMDL reachshed, then the permittee shall submit a written TMDL Implementation Plan to the Department that describes how the permittee will make progress toward achieving compliance with the TMDL WLA. The plan shall include the following information:

- a. Recommendations and options for storm water control measures that will be considered to reduce the discharge of each pollutant of concern. At a minimum, the following shall be evaluated: all post-construction BMPs for which the Department has a technical standard, optimizing or retrofitting all existing public and private storm water control practices, regional practices, optimization or improvements to existing BMPs, incorporation of storm water control for all road reconstruction projects, more restrictive post-construction ordinances, updated development and redevelopment standards. Focus should be placed on those areas identified in section C.4.2 without any controls.

b. A proposed schedule for implementation of the alternatives identified under section C.4.3.a. The proposed schedule may extend beyond the expiration date of this permit. The schedule should aim to achieve, to the maximum extent practicable, a level of reduction that achieves at least 20% of the remaining reduction needed beyond baseline to achieve full compliance in TSS and a level of reduction that achieves at least 10% of the remaining reduction needed beyond baseline to achieve full compliance in TP over the next permit term. The reductions can be achieved utilizing an averaged reduction calculated from individual reductions achieved in one or multiple reachsheds and spanning the entire MS4 area impacted by a TMDL.

Note: The reductions stipulated under C.4.3.b are interim compliance targets set as a planning target for the next permit term. Future permit reduction targets may taper off or vary between municipalities based on individual plans as it is expected that municipalities will rely more on reductions obtained through redevelopment. In many some cases, reductions that occur through redevelopment activities as outlined in section C.4.3.d may provide the most economical and practical method toward eventually achieving the reduction goals.

c. A cost effectiveness analysis for implementation of the recommendations and options identified under section C.4.3.a.

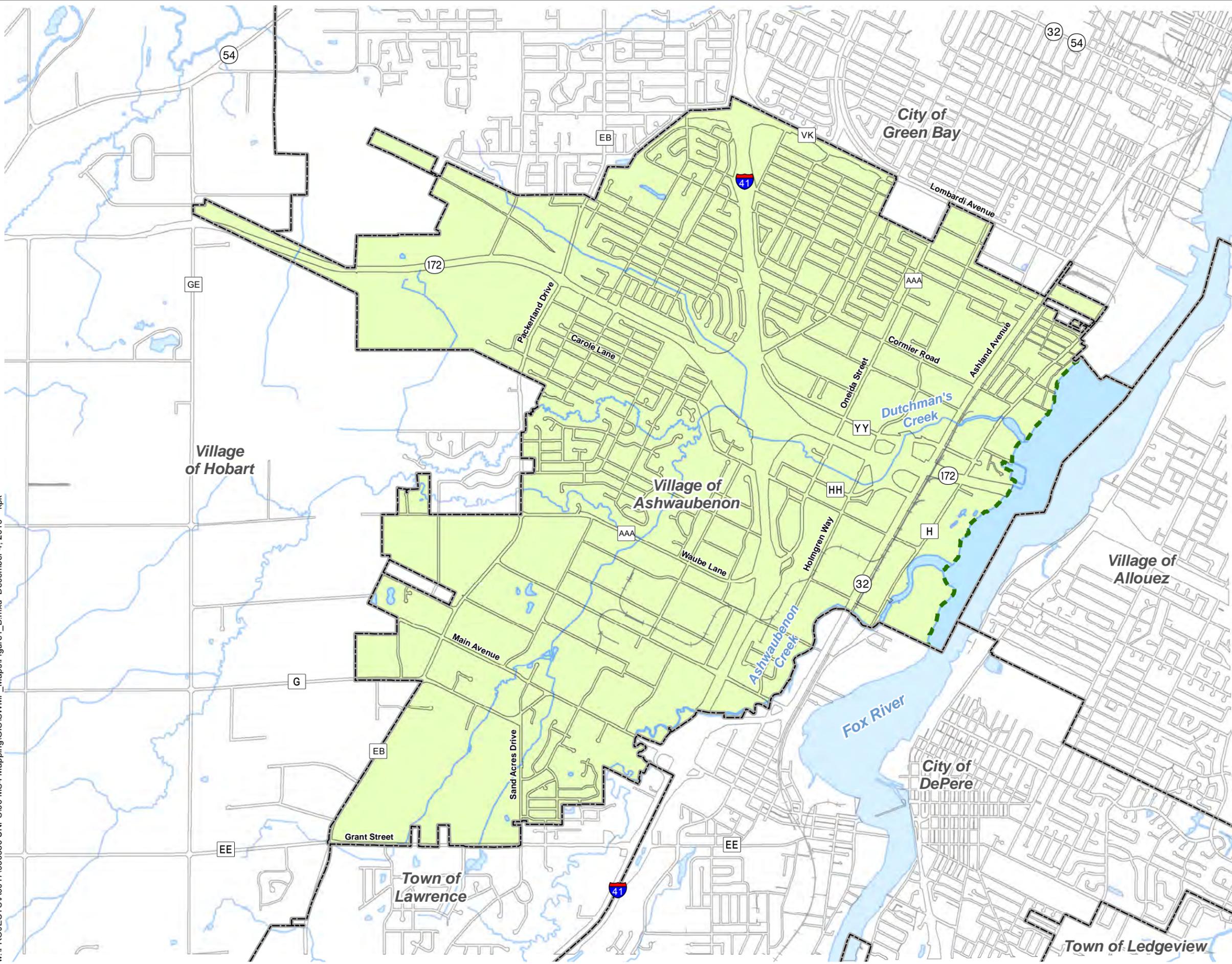
Note: The Department has developed the guidance document “TMDL Guidance for MS4 Permits: Planning, Implementation, and Modeling Guidance.” The guidance is available on the Department’s Internet site: https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html, and is available to assist a permittee with complying with the requirements of section C.4.

Note: Reductions obtained through a permittee’s participation in a water quality trading project, in accordance with s. 283.84, Wis. Stats., and that has been reviewed and approved by the Department, can be counted toward credit in meeting the requirements stipulated under section C.2.2. Additional information on water quality trading is available from the Department’s Internet site at: <https://dnr.wi.gov/topic/surfacewater/waterqualitytrading.html>

C.5 Annual Reporting. For requirements outlined under sections C.3 and C.4 the permittee shall include a description and the status of progress toward implementing the identified actions and activities in their MS4 annual reports due by March 31 of each year.

APPENDIX B

Figures



- Study Area
- Other Mapped Features**
- Municipal Boundary
- Railroad
- Right-of-Way
- Stream
- Surface Water

Source: Brown County, 2014.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.

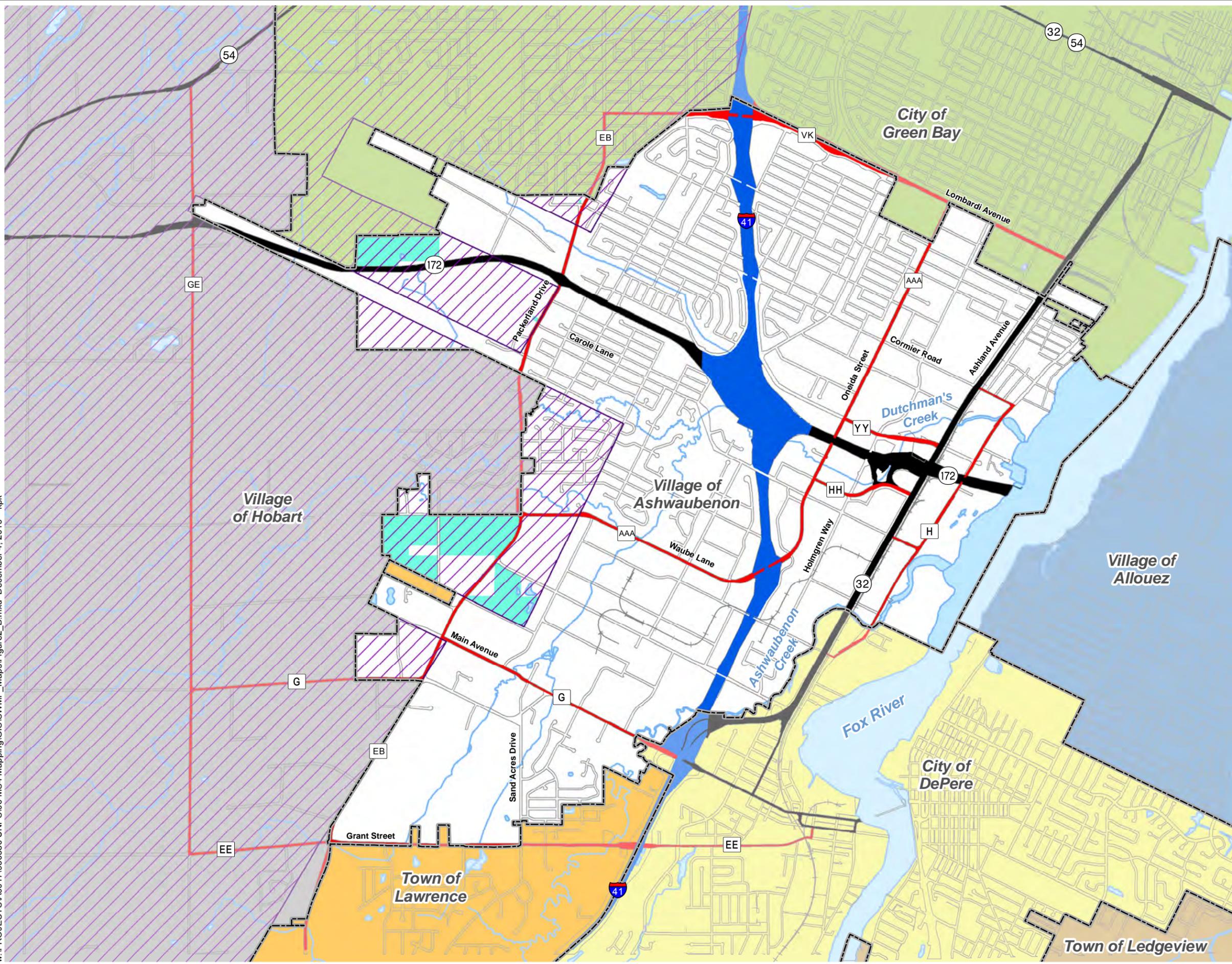


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FIGURE 1
STUDY AREA
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN

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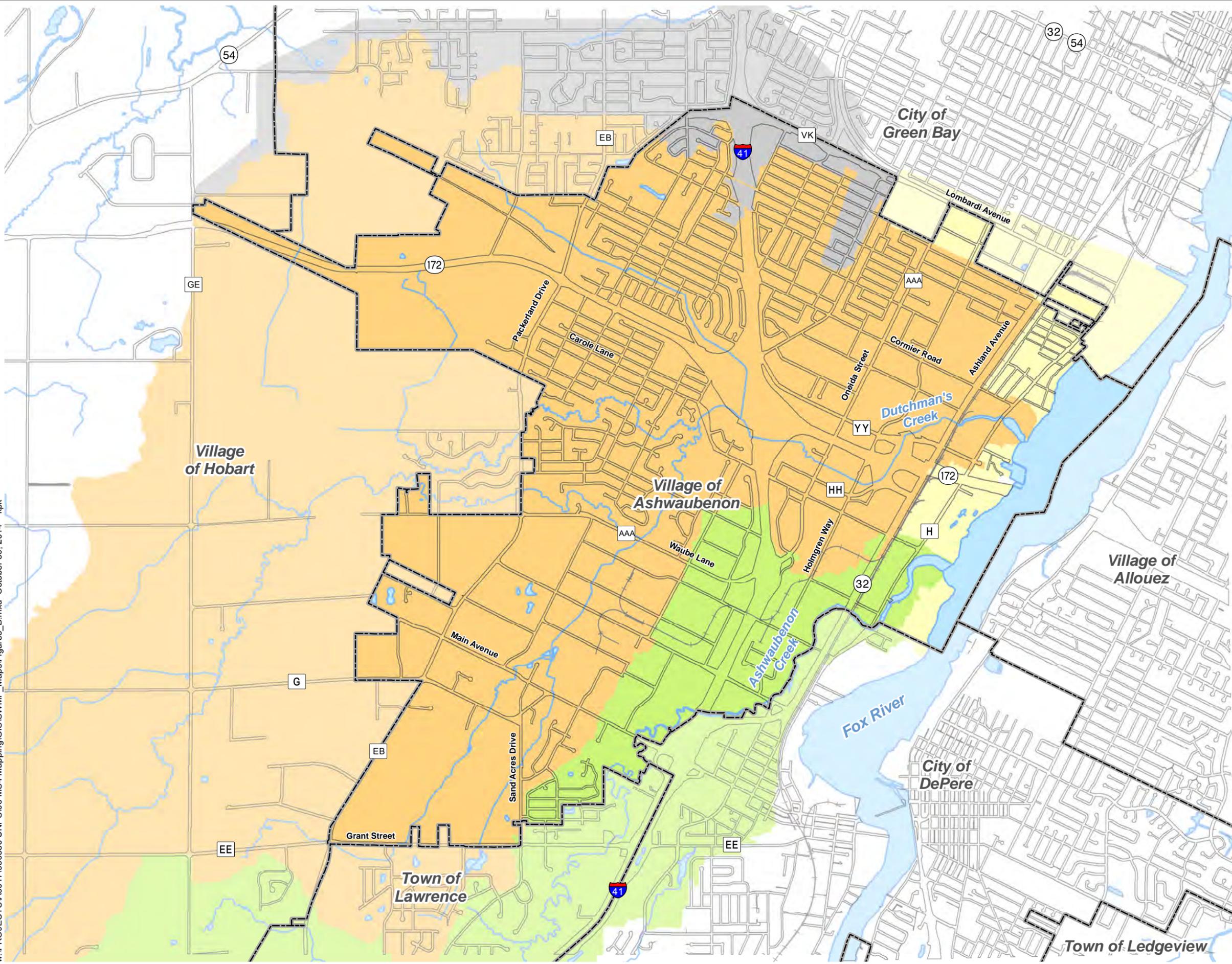
- Highway Jurisdiction**
- County Trunk Highway
 - Connecting Highway
 - State Trunk Highway
 - State Freeway
- Municipal Jurisdiction**
- Village of Allouez
 - Village of Ashwaubenon
 - City of DePere
 - City of Green Bay
 - Village of Hobart
 - Town of Lawrence
 - Town of Ledgeview
- Other Mapped Features**
- USA In Trust for Oneida Tribe of Indians of Wisconsin Parcels
 - Oneida Reservation
 - Railroad
 - Right-of-Way
 - Stream
 - Surface Water

Source: Brown County, 2014.

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FIGURE 2
MS4 JURISDICTION
 STORMWATER MANAGEMENT PLAN
 VILLAGE OF ASHWAUBENON
 BROWN COUNTY, WISCONSIN



Sub-Watersheds

- Ashwaubenon Creek
- Duck Creek
- Dutchman Creek
- Fox River Mainstem

Other Mapped Features

- Railroad
- Right-of-Way
- Stream
- Surface Water

Source: Brown County, 2014.

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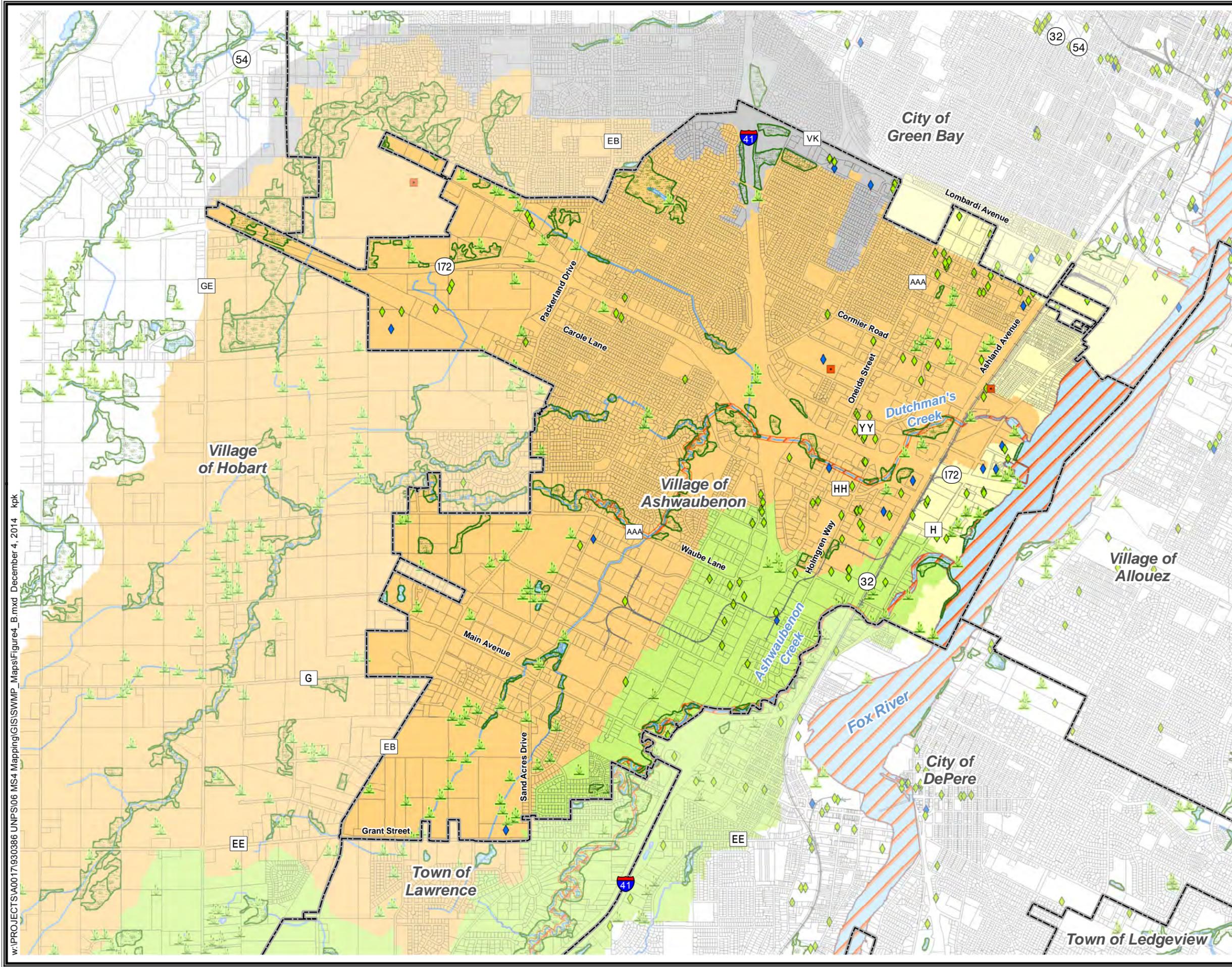


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**FIGURE 3
SUB-WATERSHEDS**
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN

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- Natural Resources**
- WDNR Wetland Inventory (Less Than 2 Acres)
 - WDNR Wetland Inventory (2 Acres and Greater)
 - 303(d) Impaired Waters
 - Rivers and Streams
 - Surface Water
- Sub-Watersheds**
- Ashwaubenon Creek
 - Duck Creek
 - Dutchman Creek
 - Fox River Mainstem
- Other Mapped Features**
- Historical Site ID (NA)
 - Historical Waste Disposal Site (Not Archived)
 - Open DNR Remediation Site
 - Closed DNR Remediation Site
 - Municipal Boundary
 - Railroad
 - Parcel or Right-of-Way Line
- Source: Brown County, 2014.

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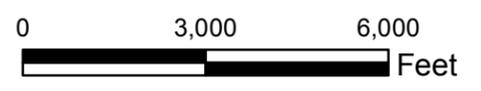
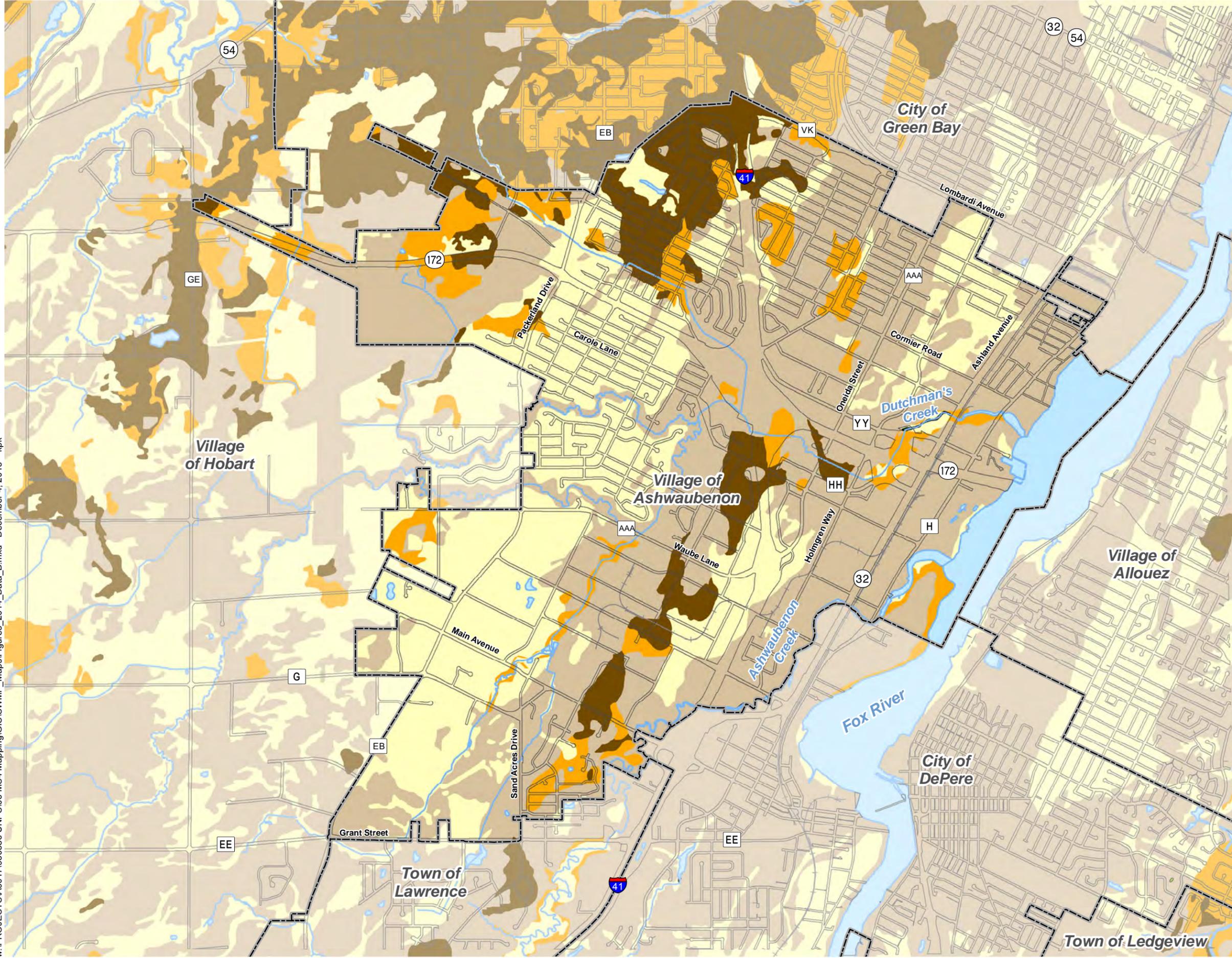


FIGURE 4
NATURAL RESOURCES
 STORMWATER MANAGEMENT PLAN
 VILLAGE OF ASHWAUBENON
 BROWN COUNTY, WISCONSIN



Hydrologic Soil Group (HSG)

-  HSG A
-  HSG B
-  HSG C
-  HSG D

Other Mapped Features

-  Municipal Boundary
-  Railroad
-  Right-of-Way
-  Rivers and Streams
-  Surface Water

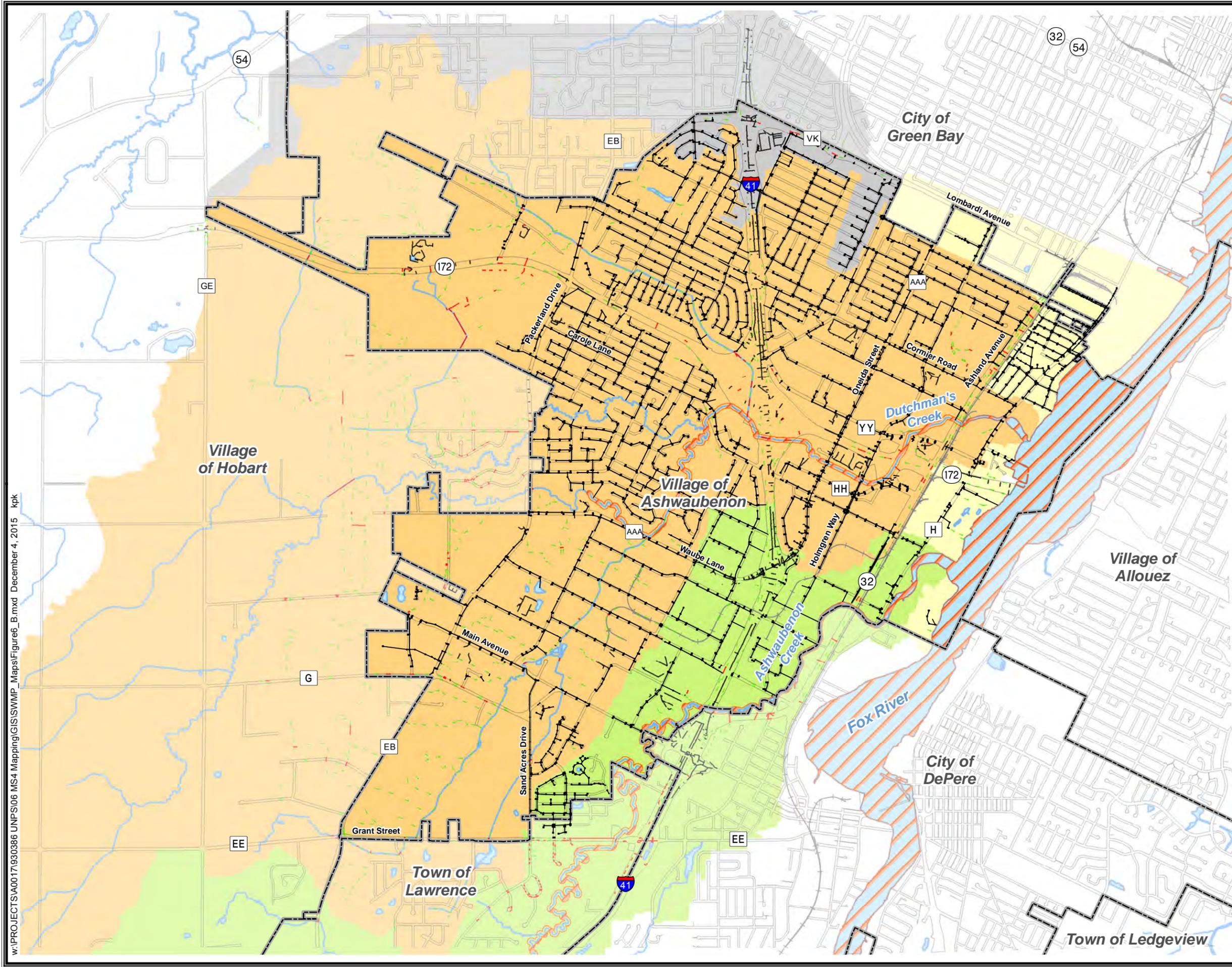
Source: Brown County, 2014; WDNR, 2009; USDA, October, 2014.

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**FIGURE 5
SOILS**
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN

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- MS4 Drainage System**
- Storm Sewer System
 - Culvert
 - Flow Arrow
- Sub-Watersheds**
- Ashwaubenon Creek
 - Duck Creek
 - Dutchman Creek
 - Fox River Mainstem
- Other Mapped Features**
- Municipal Boundary
 - Railroad
 - Right-of-Way
 - Rivers and Streams
 - Surface Water
 - 303(d) Impaired Waters

Source: Brown County, 2014.

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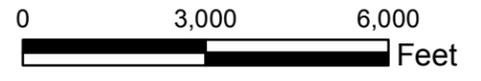
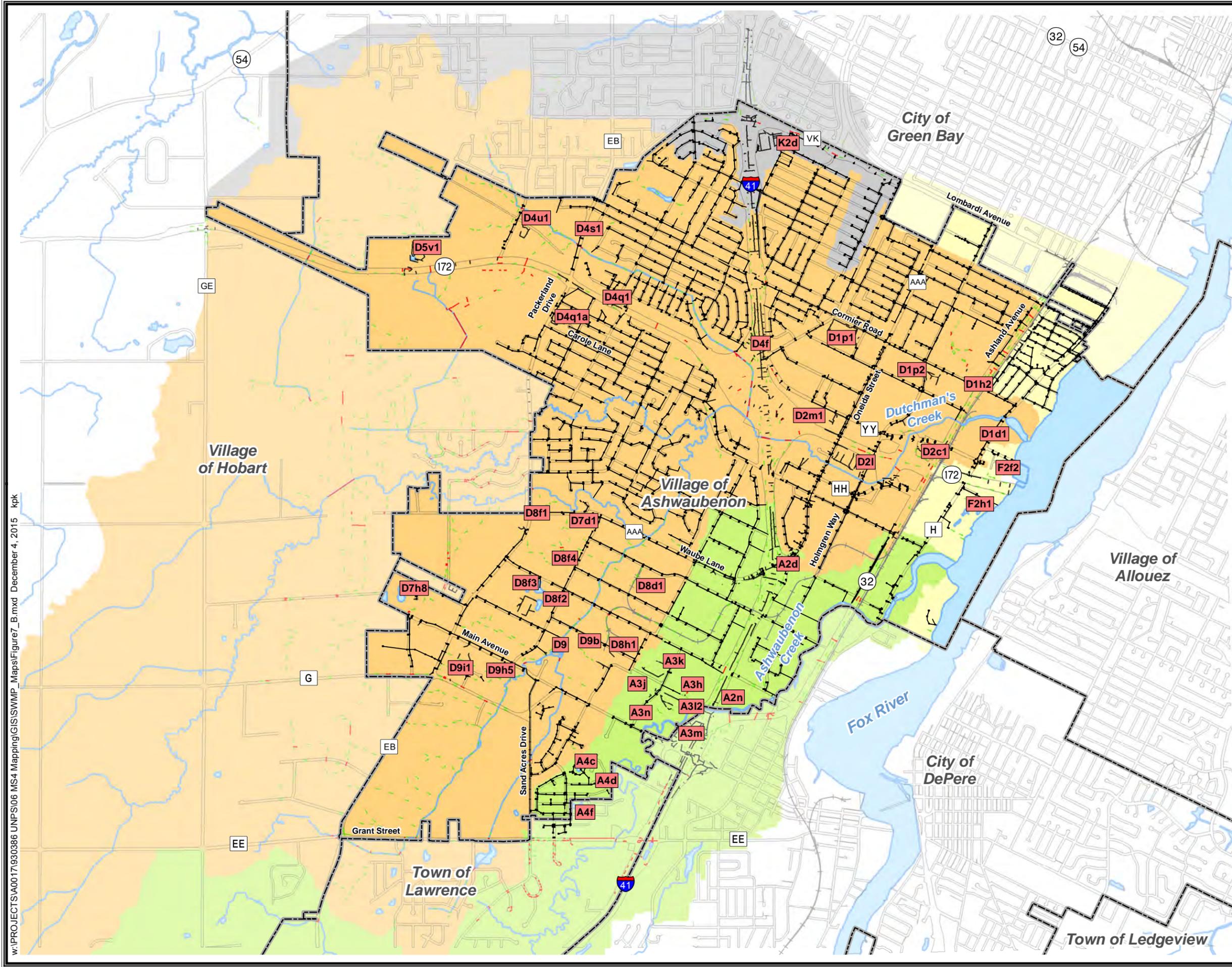


FIGURE 6
MS4 SYSTEM
 STORMWATER MANAGEMENT PLAN
 VILLAGE OF ASHWAUBENON
 BROWN COUNTY, WISCONSIN

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- MS4 Drainage System**
- A2d Structural BMP ID
 - Storm Sewer System
 - Culvert
 - Flow Arrow
- Sub-Watersheds**
- Ashwaubenon Creek
 - Duck Creek
 - Dutchman Creek
 - Fox River Mainstem
- Other Mapped Features**
- Municipal Boundary
 - Railroad
 - Right-of-Way
 - Rivers and Streams
 - Surface Water

Source: Brown County, 2014.

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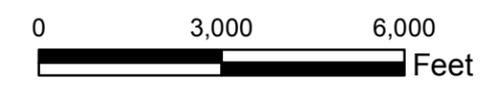
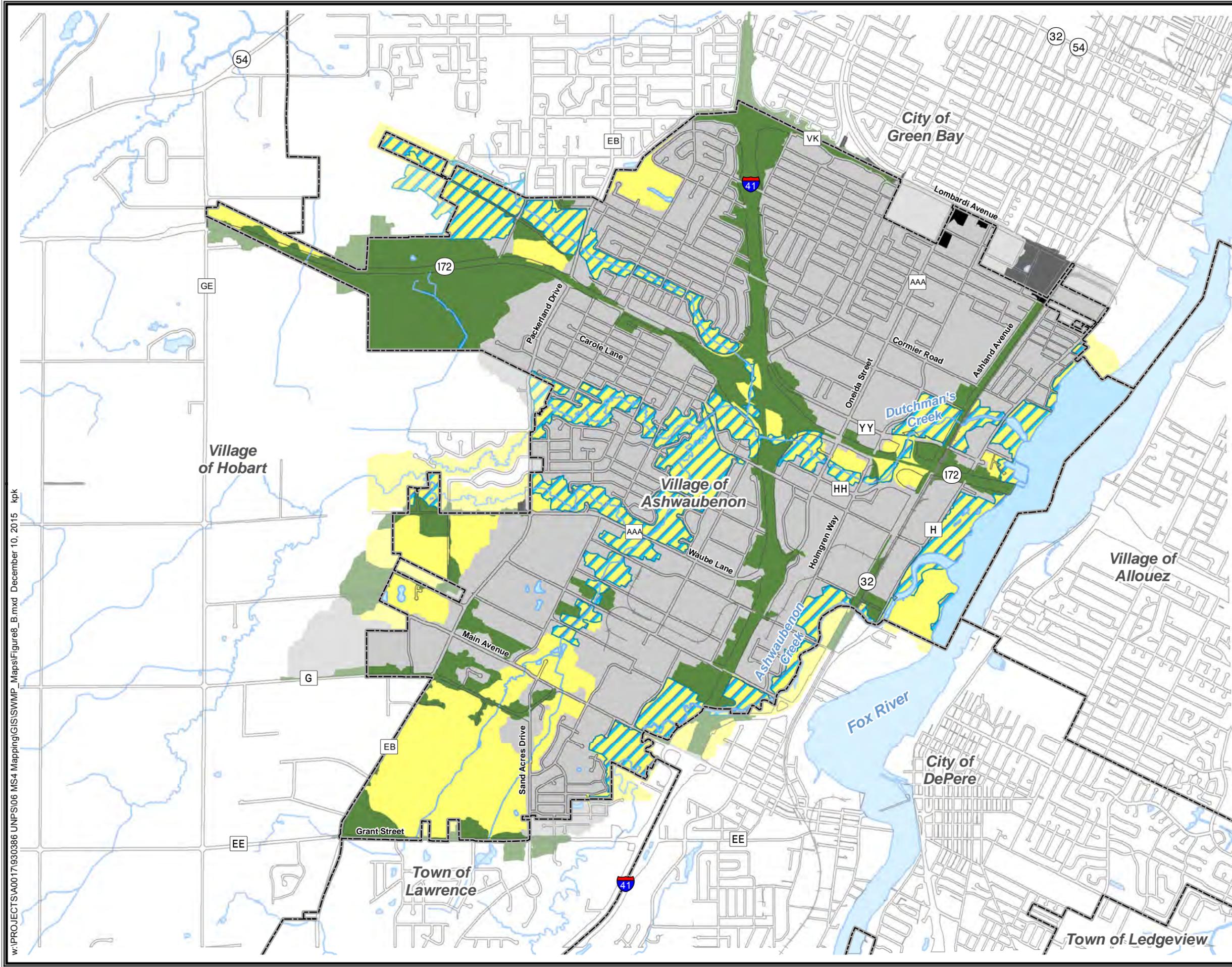


FIGURE 7
STRUCTURAL BMPs
 STORMWATER MANAGEMENT PLAN
 VILLAGE OF ASHWAUBENON
 BROWN COUNTY, WISCONSIN

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Surface Drainage

- Curb and Gutter
- No Controls
- Swale

Other Mapped Features

- Municipal Boundary
- Railroad
- Right-of-Way
- Stream
- Surface Water
- Riparian Area
- MS4 'A' to 'B' Area

Source: Brown County, 2014.

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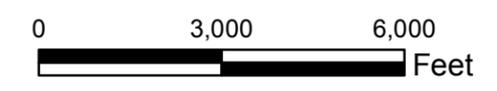
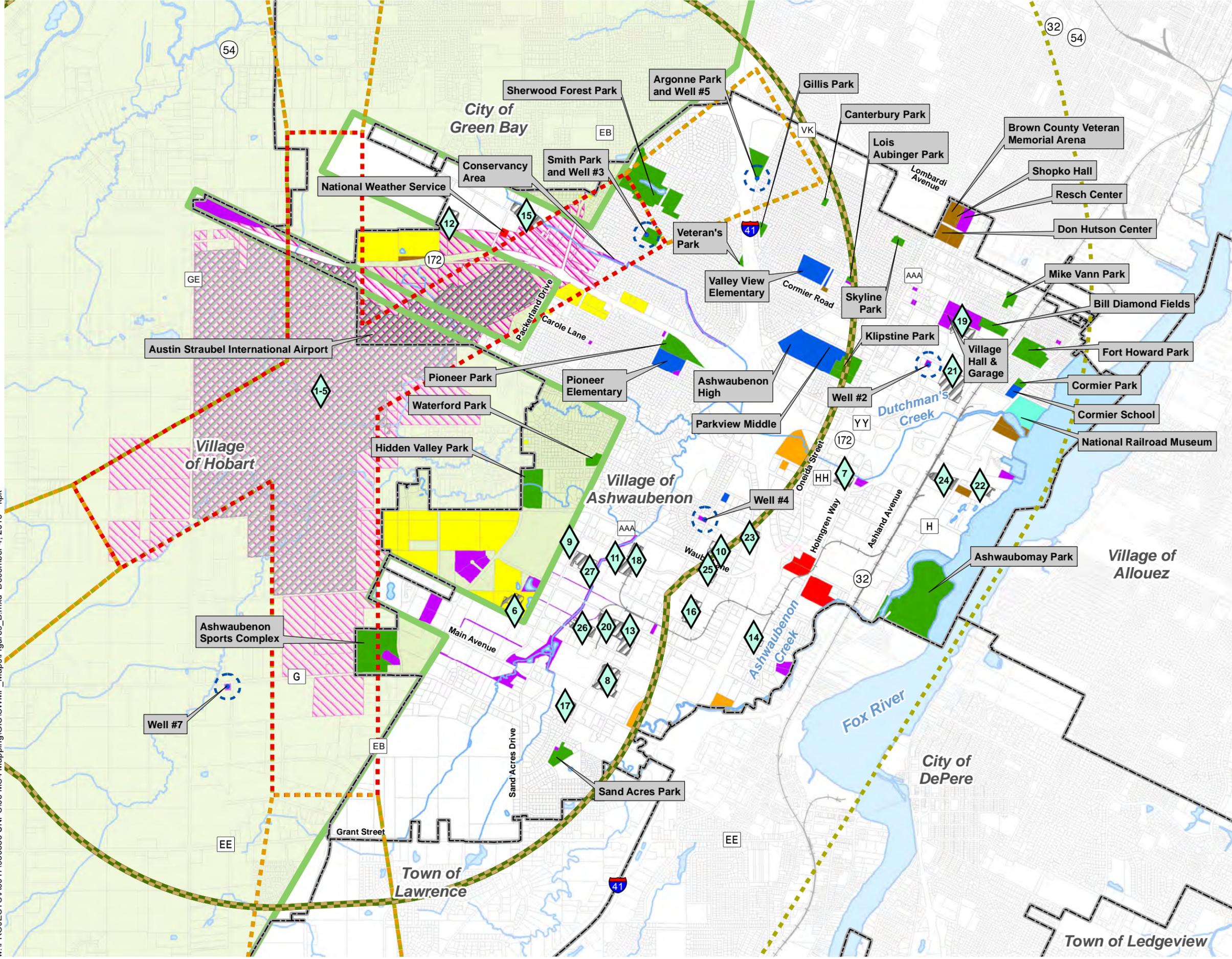


FIGURE 8
SURFACE DRAINAGE
 STORMWATER MANAGEMENT PLAN
 VILLAGE OF ASHWAUBENON
 BROWN COUNTY, WISCONSIN

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- WPDES Industrial Permits**
- WPDES Industrial Permit I.D.
- Properties with WPDES Industrial Permits**
- Properties with WPDES Industrial Permits
- Publicly Owned Property**
- Brown County Airport
 - Brown County
 - City of Green Bay
 - Oneida Tribe of Indians
 - Ashwaubenon Park and Recreation Area
 - Ashwaubenon School District
 - United States of America
 - Village of Ashwaubenon
 - State of Wisconsin
 - Municipal Well and 400 Ft. Buffer
- Brown County Airport Zoning**
- Zone A
 - Zone B
 - Zone C
 - Airport Wildlife Restriction Area (10,000' from AOA)
- Other Mapped Features**
- Municipal Boundary
 - Railroad
 - Parcel Line
 - Rivers and Streams
 - Surface Water
 - Oneida Reservation
- Source: Brown County, 2014.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



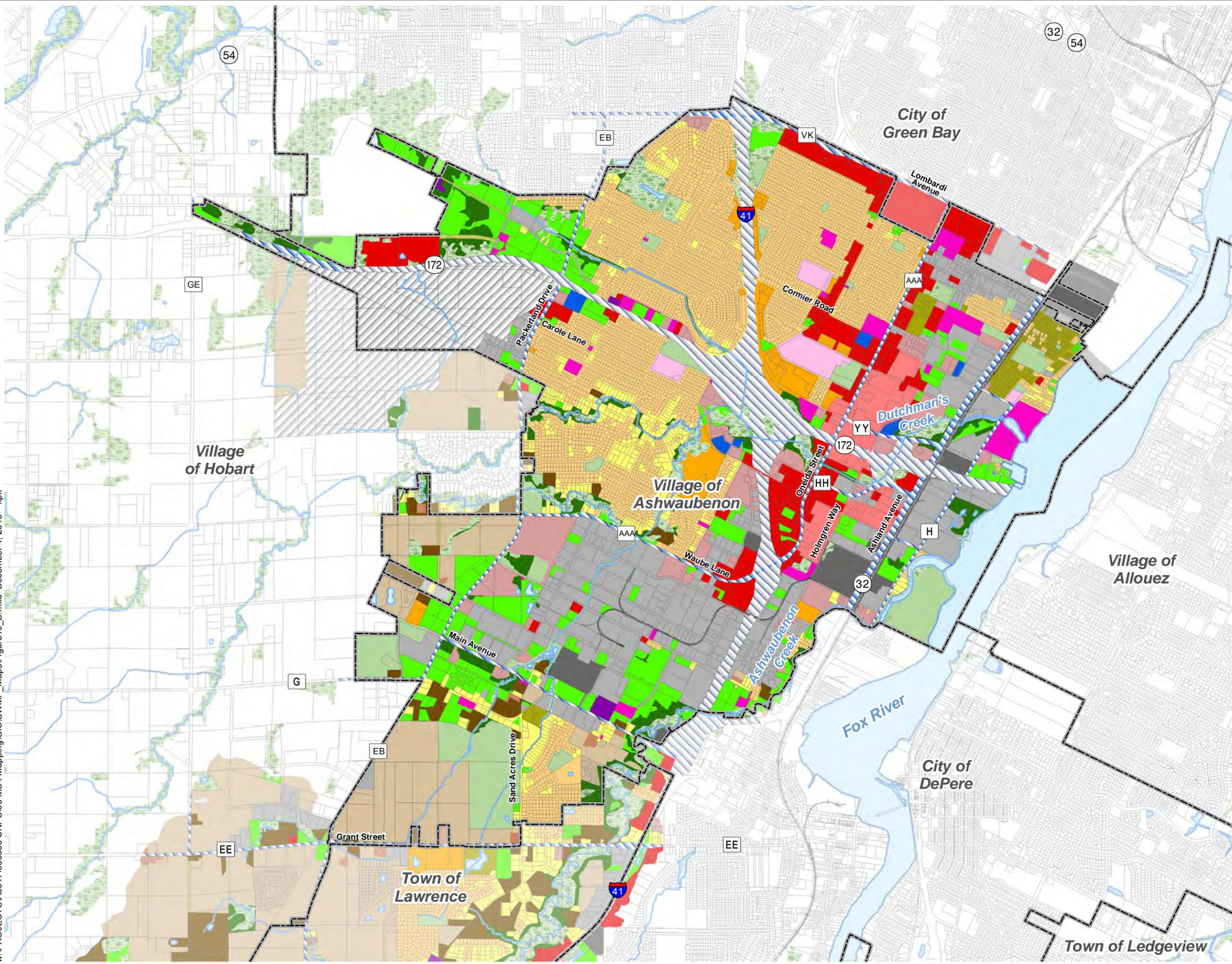
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FIGURE 9
WPDES INDUSTRIAL PERMITS
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN

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- SLAMM Standard Land Uses**
- Residential**
- LDR - Low Density Single Family Residential (0.5 acre to 1.5 acre lots)
 - MDR - Medium Density Single Family Residential (0.25 acre to 0.5 acre lots)
 - MDRA - Medium Density Single Family Residential w/Alleys (0.25 acre to 0.5 acre lots)
 - HDR - High Density Single Family Residential (0.125 acre lots or smaller)
 - HDRA - High Density Single Family Residential w/Alleys (0.125 acre lots or smaller)
 - MFR - Multi-Family Residential (3 or more families, 1-3 story height)
 - HRR - High Rise Residential (1.5 acre to 5 acre lots, > 3 story)
 - SUBR - Suburban Residential (1.5 acre to 5 acre lots)
 - MOBR - Mobile Home or Trailer Park Residential
- Institutional**
- SCHOOL - Public or Private School
 - UNIV - University, College, Technical School, etc.
 - HOSP - Medical Facilities including Nursing Homes, Hospitals, etc.
 - MISC - Miscellaneous Facilities (Churches, Institutional Property)
- Commercial**
- CDNTN - Downtown Commercial and Institutional Areas
 - CSTRIP - Strip Commercial Areas (Courthouses, Police Stations, etc.)
 - SHCNTR - Shopping Centers (parking lot is 2.5 times building area)
 - OFFPRK - Office Parks (non-retail, multi-story, insurance, government)
- Industrial**
- LIGHTI - Light Industrial Areas (storage and distribution of goods for retail or sale)
 - MEDI - Medium Industrial Areas (lumber, junk, or auto salvage yard, ag., co-op, oil tank farm, coal and salt storage, slaughter house)
 - AIRPRT - Airport Facilities
- Open Space**
- CEM - Cemeteries, including grounds, roads, and buildings
 - PARK - Outdoor Recreational Areas (golf course, arboretums, botanical gardens, municipal playgrounds, and natural areas)
 - RAIL - Railroad ROW (Excludes road ROW, storage yards)
 - FRMSTD - Farmsteads, including limited houses, buildings, driveways and parking areas
 - AGRIC - Agriculture fields
 - GRASS - Undeveloped land that is vegetated (Excludes road ROW)
 - GRASS_SWPOND - Vegetated land around a stormwater pond (Excludes road ROW)
 - WOODS - Forested or Wooded Areas with Leaf Litter
 - WETLND - DNR Wetland Inventory Map
 - WATER - Waters of the State and Other Open Waters
 - WATER_SWPOND - Open water associated with stormwater pond
- Transportation**
- FREE - Limited Access Highways and Interchanges, including vegetated ROW
 - HWY - State or County Highway
 - RURALRD - Rural Road
- Other Mapped Features**
- Municipal Boundary
 - Parcel Lines
 - Streams
 - Urban Planning Boundary
 - Study Area

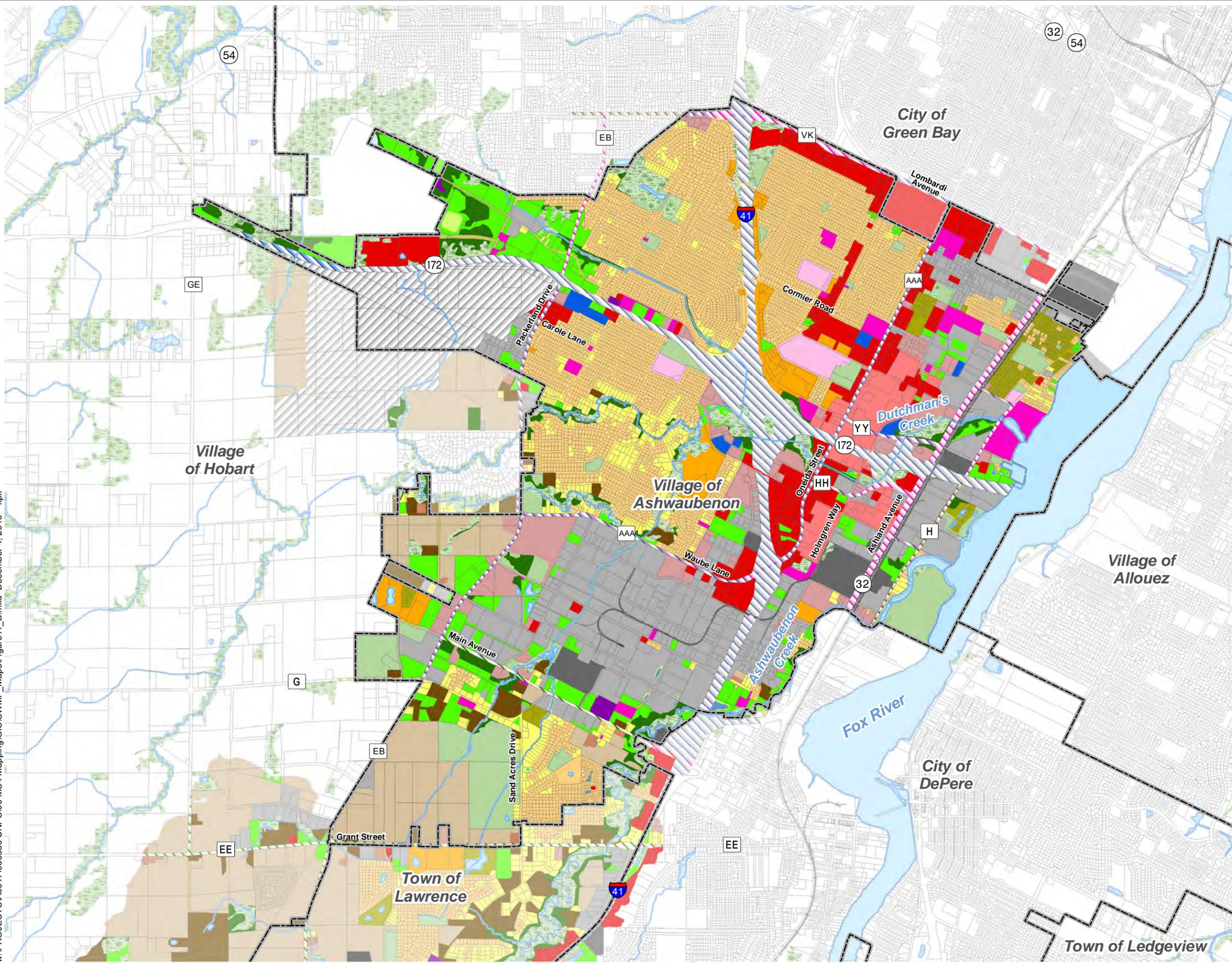
Source: Brown County, 2014.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



FIGURE 10
2004 LAND USE
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN

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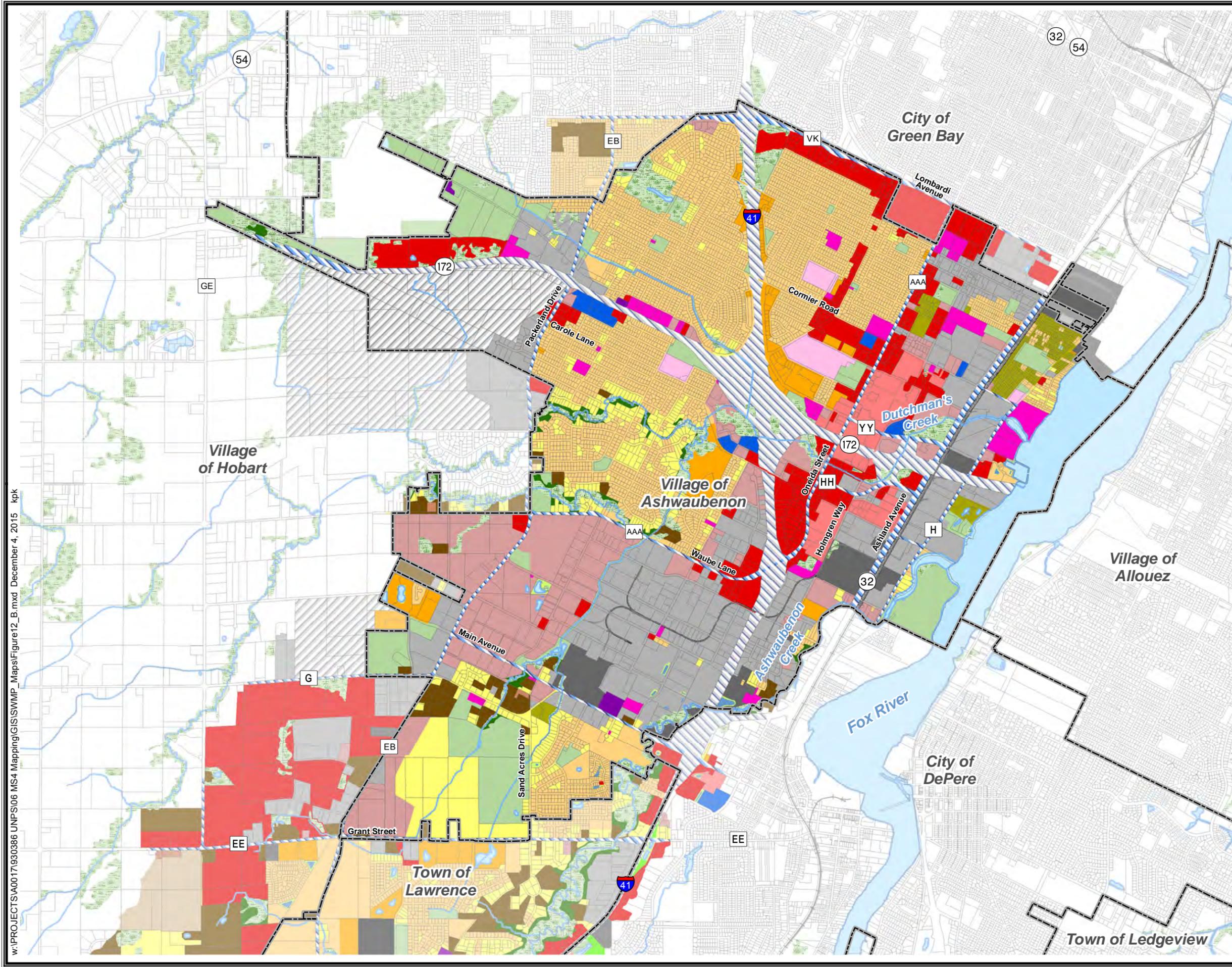
- SLAMM Standard Land Uses**
- Residential**
- LDR - Low Density Single Family Residential (0.5 acre to 1.5 acre lots)
 - MDR - Medium Density Single Family Residential (0.25 acre to 0.5 acre lots)
 - MDRA - Medium Density Single Family Residential w/Alleys (0.25 acre to 0.5 acre lots)
 - HDR - High Density Single Family Residential (0.125 acre lots or smaller)
 - HDRA - High Density Single Family Residential w/Alleys (0.125 acre lots or smaller)
 - MFR - Multi-Family Residential (3 or more families, 1-3 story height)
 - HRR - High Rise Residential (1.5 acre to 5 acre lots, > 3 story)
 - SUBR - Suburban Residential (1.5 acre to 5 acre lots)
 - MOBR - Mobile Home or Trailer Park Residential
- Institutional**
- SCHOOL - Public or Private School
 - UNIV - University, College, Technical School, etc.
 - HOSP - Medical Facilities including Nursing Homes, Hospitals, etc.
 - MISC - Miscellaneous Facilities (Churches, Institutional Property)
- Commercial**
- CDNTN - Downtown Commercial and Institutional Areas
 - CSTRIP - Strip Commercial Areas (Courthouses, Police Stations, etc.)
 - SHCNTR - Shopping Centers (parking lot is 2.5 times building area)
 - OFFPRK - Office Parks (non-retail, multi-story, insurance, government)
- Industrial**
- LIGHTI - Light Industrial Areas (storage and distribution of goods for retail or sale)
 - MEDI - Medium Industrial Areas (lumber, junk, or auto salvage yard, ag., co-op, oil tank farm, coal and salt storage, slaughter house)
 - AIRPRT - Airport Facilities
- Open Space**
- CEM - Cemeteries, including grounds, roads, and buildings
 - PARK - Outdoor Recreational Areas (golf course, arboretums, botanical gardens, municipal playgrounds, and natural areas)
 - RAIL - Railroad ROW (Excludes road ROW, storage yards)
 - FRMSTD - Farmsteads, including limited houses, buildings, driveways and parking areas
 - AGRIC - Agriculture fields
 - GRASS - Undeveloped land that is vegetated (Excludes road ROW)
 - GRASS_SWPOND - Vegetated land around a stormwater pond (Excludes road ROW)
 - WOODS - Forested or Wooded Areas with Leaf Litter
 - WETLND - DNR Wetland Inventory Map
 - WATER - Waters of the State and Other Open Waters
 - WATER_SWPOND - Open water associated with stormwater pond
- Transportation**
- FREE - Limited Access Highways and Interchanges, including vegetated ROW
 - HWY - State or County Highway
 - RURALRD - Rural Road
- Other Mapped Features**
- Municipal Boundary
 - Parcel Lines
 - Streams
 - Urban Planning Boundary

Source: Brown County, 2014.

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FIGURE 11
2014 LAND USE
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN



- SLAMM Standard Land Uses**
- Residential**
- LDR - Low Density Single Family Residential (0.5 acre to 1.5 acre lots)
 - MDR - Medium Density Single Family Residential (0.25 acre to 0.5 acre lots)
 - MDRA - Medium Density Single Family Residential w/Alleys (0.25 acre to 0.5 acre lots)
 - HDR - High Density Single Family Residential (0.125 acre lots or smaller)
 - HDRA - High Density Single Family Residential w/Alleys (0.125 acre lots or smaller)
 - MFR - Multi-Family Residential (3 or more families, 1-3 story height)
 - HRR - High Rise Residential (1.5 acre to 5 acre lots, > 3 story)
 - SUBR - Suburban Residential (1.5 acre to 5 acre lots)
 - MOBR - Mobile Home or Trailer Park Residential
- Institutional**
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- Commercial**
- CDNTN - Downtown Commercial and Institutional Areas
 - CSTRIP - Strip Commercial Areas (Courthouses, Police Stations, etc.)
 - SHCNTR - Shopping Centers (parking lot is 2.5 times building area)
 - OFFPRK - Office Parks (non-retail, multi-story, insurance, government)
- Industrial**
- LIGHTI - Light Industrial Areas (storage and distribution of goods for retail or sale)
 - MEDI - Medium Industrial Areas (lumber, junk, or auto salvage yard, ag, co-op, oil tank farm, coal and salt storage, slaughter house)
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- Open Space**
- CEM - Cemeteries, including grounds, roads, and buildings
 - PARK - Outdoor Recreational Areas (golf course, arboretums, botanical gardens, municipal playgrounds, and natural areas)
 - RAIL - Railroad ROW (Excludes road ROW, storage yards)
 - FRMSTD - Farmsteads, including limited houses, buildings, driveways and parking areas
 - AGRIC - Agriculture fields
 - GRASS - Undeveloped land that is vegetated (Excludes road ROW)
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- Transportation**
- FREE - Limited Access Highways and Interchanges, including vegetated ROW
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 - RURALRD - Rural Road
- Other Mapped Features**
- Municipal Boundary
 - Parcel Lines
 - Streams

Source: Brown County, 2014.

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FIGURE 12
FUTURE LAND USE
 STORMWATER MANAGEMENT PLAN
 VILLAGE OF ASHWAUBENON
 BROWN COUNTY, WISCONSIN

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APPENDIX C

Public Education & Outreach

**DRAFT WEB PAGE
VILLAGE OF ASHWAUBENON**

Stormwater Pollutants

When it rains or snow melts, stormwater runoff flows across the surface of streets, parking lots, driveways, sidewalks, roofs, lawns, and other surfaces. As the water flows, stormwater runoff collects and carries away pollutants such as sediment, fertilizer, pesticides, grass clippings, leaf debris, litter, pet waste, soap, motor oil, and antifreeze. Some pollutants are partially removed by pollutant reduction practices, such as wet detention ponds. Other pollutants are not reduced before discharging into local streams, rivers, and lakes.



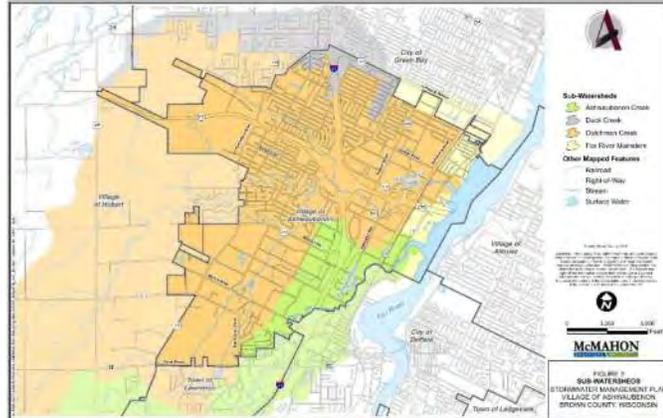
How Can I Help Reduce Stormwater Pollutants?

Stormwater pollution occurs from a wide variety of activities. Each of us can contribute to the problem without fully realizing. You can help reduce pollution by keeping potential pollutants away from storm drains, ditches, and waterways. Actions that landowners and businesses can take to help reduce the amount of stormwater pollutants discharged into local water bodies are described in the following materials:

- Pet Waste [Topic 2 \(Good-Dog-Good-Owner.pdf\)](#)
- Kids Can Help Too [Topic 3 \(Kids-can-help-too.pdf\)](#)
- Vehicle Washing [Topic 2 \(Vehicle-Maintenance.pdf\)](#)
- Lawn Care & Fertilizers [Topic 3 \(The-Perfect-Lawn.pdf\)](#)
- Leaves & Yard Waste [Topic 3 \(Leave-Your-Leaves-on-Land.pdf\)](#)
- Residential Infiltration [Topic 5 \(The-Perfect-Landscape-7-9-19.pdf\)](#)
- Streams & Shorelines [Topic 4 \(Restore-Your-Shore-extended-margins.pdf\)](#)
- Green Infrastructure [Topic 6 & 8 \(Green_Infrastructure_brochure_final.pdf\)](#)
- Construction [Topic 6 \(Construction-BMPs-Erosion-Sediment-Control.pdf\)](#)
- Household Waste [Topic 2 \(Household-Hazardous-Waste.pdf\)](#)
- Pool / Spa Discharge [Topic 1 \(Pool-Spa-Discharge.pdf\)](#)
- Power Washing [Topic 1 \(Power-Washing.pdf\)](#)
- Carpet Cleaning [Topic 1 & 7 \(Carpet-Cleaning.pdf\)](#)

Stormwater Pollutants Are Regulated in the Village

The U.S. Environmental Protection Agency (EPA) and Wisconsin Department of Natural Resources (DNR) require the Village to operate its stormwater system in conformance with the WPDES Municipal Stormwater Discharge Permit. The purpose of the MS4 Permit is to regulate and reduce pollutants discharged into local water bodies. The Village discharges into Ashwaubenon Creek, Duck Creek, Dutchman Creek and the Fox River. Each



year, the Village submits an annual report to the Wisconsin DNR, which summarizes its permit activities from the prior calendar year. A copy of the Village's most recent MS4 Annual Report is provided below.

- Village's 2020 MS4 Annual Report

In 2012, the EPA approved a Total Maximum Daily Load (TMDL) or "pollution diet" for Ashwaubenon Creek, Duck Creek, Dutchman Creek and the Fox River. The TMDL requires the Village and other local municipalities to develop programs and construct improvements in order to reduce discharges of sediment and phosphorus into the water bodies, with the goal of improving water quality. As part of the process, the Wisconsin DNR requires each regulated municipality to develop a TMDL Action Plan to reduce pollutants in urban stormwater runoff, including the Village. For additional information on Wisconsin's TMDL process and the TMDL report for the Lower Fox River Basin, please visit the following DNR webpage link.

- <https://dnr.wisconsin.gov/topic/TMDLs/TMDLReports.html>



**Renew
Our Waters**
Every choice counts.

GOOD DOG, GOOD OWNER

You can be a responsible pet owner and protect our waters.

Your dog brings a lot of joy to your life. Enjoying your four legged friend doesn't need to come at the price of clean water. We can have both. But to make it happen, we all need to think a little differently.

MORE TO WASTE THAN MEETS THE EYE

Pet waste is not only an unpleasant find on a yard or sidewalk, it carries bacteria that causes beach closings in the summer.

Pet waste is not only an unpleasant find on yard or sidewalk, it carries bacteria that make beach closing necessary in the summer.

Campylobacteriosis and salmonellosis are often the cause of the "24-hour bug". They're transferred through fecal material from an infected person or animal.

Toxoplasmosis is carried by a single-cell parasite that lives in infected animal feces (typically cats). In pregnant women, it can pass through the umbilical cord to the unborn fetus, causing serious abnormalities.

WASTE DISPOSAL

Prevent bacteria in our streams by carrying small plastic bags when walking your dog. Collect droppings, tie a knot in the bag, and dispose of it properly. Do not throw pet waste down the sewer.

At home, pick up pet waste often. Even waste in your backyard can pollute local waterways. You can flush the waste down the toilet, put it in your trash can (be sure to check your local ordinances first!) or bury it in your yard.

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn. As water makes its way to the storm drain it picks up pollutants like oil from car leaks and bacteria from pet waste. When we choose products carefully and dispose of products properly, we can greatly reduce the amount of pollution that enters our local waters through runoff.

Untreated runoff is the biggest threat to our nation's water quality, according to the U.S. Environmental Protection Agency. Let's make the small, important changes that will reduce that threat and improve water quality and our lives!

Realize

What touches the ground enters the water



Renew Our Waters

Every choice counts.

KIDS CAN HELP TOO!

There are lots of things kids can do to help keep our rivers and lakes clean.

Have you ever thought about where rain goes after it lands on your house or driveway? Rain drops roll down your driveway and into the road. Once in the road, rain enters the storm drain - the grates that are in city streets.

Do you know what happens to things that enter the storm drain? Water or any thing else that enters those drains travel through pipes that empty right into our rivers and lakes!

You can help clean up our local rivers and lakes by making sure that only rain goes down the storm drain.

You can help clean up our local rivers and lakes by making sure that only rain goes down the storm drain!

CLEAN UP AFTER YOUR PET!

Pet waste is not only gross to find in yards or on sidewalks, it carries bacteria and germs that cause beach closings in the summer. To keep our waters clean, pick up after your pet often. Even waste in your backyard can pollute local waters. Bring a small plastic bag with you on walks and pick up after your dog.

HELP WITH THE YARD

Grass clippings and leaves from our yards are causing our lakes and rivers to turn green! You can help by sweeping grass clippings off your driveway and sidewalk back onto your lawn after your mom or dad mows the grass. You can also help your dad and mom rake up the leaves in your yard in the fall!

GET SOME EXERCISE

You may have heard that cars and trucks can cause air pollution but did you know that driving cars and trucks can also affect water? Oil, grease and dirt that fall from our vehicles when we are driving are washed into storm drains and into our rivers and lakes. One way to help clean up water is to drive less. Instead of asking for a ride, ask your mom or dad if you can walk or bike with them to a friend's house or the park!

**Most importantly, never put anything down the storm drain. The fish and frogs and especially your friends don't like to swim with garbage!
Only rain should go into the drain!**

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VEHICLE MAINTENANCE

Get where you need to go and minimize the impact on local waters.

We don't think much of jumping in the car and running to the store. You may have heard that air quality is affected by vehicle emissions but have you realized that our quick trips affect our area waters? Read these tips. Help us change one habit at a time so that we can enjoy good fishing, swimming, paddling and waterskiing when our running about is done.

WASHING

When you wash a car in a driveway or street, wash water flows into the storm sewer system and directly to local rivers - along with dirt, emissions and detergent.

When you're tempted to put off repairs or the six-month maintenance check, think again. When your car performs better, our waters fare better, too.

You can avoid this by using a commercial car wash, where systems direct wash water to the local wastewater treatment facility and oil, grease, detergent, sand, and grime are removed.

If you must wash your car at home, use biodegradable soap, wash it on your lawn

or on other unpaved areas to keep runoff out of storm sewers or ditches, and dispose of leftover washwater in the toilet or sink.

MAINTENANCE

From time to time, we've all noticed an oily sheen on water in streets and parking lots. It's the result of small leaks, accumulated residues, and fuel overfills from our cars. When a vehicle is maintained, fewer leaks spill onto streets and highways and fewer contaminants enter our streams.

So when you're tempted to put off repairs or the six-month maintenance check, think again. When your car performs better, our waters fare better, too.

MINDFUL DRIVING

We all know air quality is affected by vehicle emissions. But did you know emissions can also affect water quality? Tiny particles emitted from tail pipes settle on roadways, wash into storm sewer systems, then flow into rivers and streams. Their impact may seem small, but when you consider all the vehicles traveling on our roads, the impact is clear.

Street sweeping can minimize the impact of this pollution but rain and melting snow still carry contaminants to storm sewers. One way we can reduce this pollution is to drive less. Plan trips so you accomplish several things at once. Use public transportation. Even better, walk or ride your bike.

Stormwater is rain or snowmelt and water from things people do, like washing the car or watering the lawn. As water makes its way to the storm drain it picks up pollutants like oil from car leaks and bacteria from pet waste. When we choose products carefully and dispose of products properly, we can greatly reduce the amount of pollution that enters our local waters through runoff.

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Renew Our Waters

Every choice counts.

THE PERFECT LAWN

You can create a beautiful outdoor space and protect our waters.

A gorgeous home landscape doesn't need to come at the price of clean lakes and streams. We can have both. But to make it happen, we all need to think a little differently. Read these tips. Post this sheet in your garage near the lawnmower and garden tools. This will help us change one habit at a time, so we have good fishing, swimming, paddling and waterskiing when the work is done.

MOWING

Mow often, when the grass is 3.5 inches or shorter. Set your mower blade at 2.5 inches and let cuttings fall. Cuttings keep the soil moist and restore nutrients over time. Any mower works, but a mulching mower shreds grass finely, so you don't have to be as careful about grass height.

A healthy, mulched lawn outcompetes weeds for light, nutrients, and water. In areas where it's hot, consider prairie grasses or wild flowers instead of turf grass.

Make an effort not to blow cuttings onto pavement. If you do, sweep them up, then lay them around the roots of shrubs or vegetable plants where they help retain moisture.

If grass gets long and you decide to collect clippings, put them in a pile with other yard waste and let them decompose. Turn the pile now and

then, and in 3-6 months you'll have rich organic matter that will make almost anything in your yard grow better.

FERTILIZING & WEED CONTROL

Chemicals and weed killers are not needed for a healthy lawn, and they're one of the main reasons we have green algae in our lakes and streams.

Think before you buy. Get a soil test so you know if your lawn needs more nutrients. Mulch to keep the lawn healthy, so it can outcompete weeds for light, nutrients and water. If you must fertilize, do it in the fall. Sweep up fertilizer that falls in the street and dispose of it properly—water and fertilizer that go into the street go directly to the river or lake.

WATERING

When watering is needed, use a sprinkler that shoots low to the ground. Sprinkle soil, not the street. Shape soil so water will sink in, rather than run off. When you mow, mulch cuttings to retain moisture.

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn or letting fertilizer fall into the street drain. We can choose products carefully and shape our lawns and pavement so water sinks in. When we do, runoff is reduced, pollutants filter out and streams and groundwater are protected.

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Realize

What touches the ground enters the water



Renew Our Waters

Every choice counts.

LEAVE YOUR LEAVES ON LAND

Fall leaves provide beautiful color on trees, but in local waters they contribute to algal blooms. Leaves are a leading contributor of phosphorus in our waters.

Properly cleaning up your yard in the fall will help keep our local waters clean too! Read these tips. Post this sheet in your garage near your rakes. Working together to keep leaves out of the storm drain and out of local waters will help keep green on the land and out of the water.

KEEP YOUR LEAVES ON YOUR PROPERTY

A great way to make sure leaves do not end up in local waters is to keep them on your property!

Mulch leaves in place by making several passes over the leaves with a mulching mower. This will keep leaves on your lawn and provide it with nutrients it needs for healthy grass next spring.

Collect mulched leaves and spread them in garden beds or under shrubs. Leaves provide valuable protection for plants through the winter and also provide nutrients for spring growth.

Composting is recycling your lawn trimmings and turning them into a valuable resource for your garden or houseplants!

COMPOSTING

Composting is recycling your lawn trimmings and turning them into a rich soil, know as compost - a valuable resource for your garden or houseplants.

Cold composting requires little

maintenance but can take up to 2 years to complete. To create a cold compost pile, mix non-woody yard wastes and let them sit.

Hot composting requires regular maintenance such as turning and watering, but can create compost in typically 1-3 months time. To create a hot compost pile, mix equal amounts of high nitrogen “greens” (wet and soft materials such as grass clippings) and high-carbon “browns” (dry and woody materials such as dead leaves) with 10% bulky materials such as wood chips. The mix should remain moist but not wet and should be turned often.

More information on Composting can be found on the internet.

RAKING & COLLECTION

If you decide to collect your leaves for removal from your yard, follow your community leaf collection policies and schedules. Put a tarp over leaf piles between pick-up times to prevent them from blowing away. Remove leaves and debris from the gutters and storm sewer inlets.

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Realize

What touches the ground enters the water

Northeast Wisconsin Stormwater Consortium
P.O. Box 1861 Appleton, WI 54912 | 920.915-5767

Renewourwaters.org



Renew Our Waters

Every choice counts.

THE PERFECT LANDSCAPE

You can create a beautiful outdoor space and protect our waters.

A gorgeous home landscape doesn't need to come at the price of clean lakes and streams. We can have both. But to make it happen, we all need to think a little differently.

LESS HARD SURFACE

The more concrete or blacktop your property has, the more water will run off the property and into storm drains and ditches. Seventy-five percent more rain water

75% more rain water sinks into the ground in a natural vs. developed area.

sinks into the ground in a natural versus developed area. Stormwater that flows from developed areas also carries oil, grease, fertilizer, bacteria, exhaust particles, etc. Planning for minimal hard surface on your property makes good sense. Consider the amount of runoff that will be generated by roofs, pavement and sidewalks. Focus on

natural plantings to slow water so that it filters into the ground rather than runs off. Where needed, install pavement such as open bricks that allow water to sink into the ground.

Minimizing runoff reduces damage to your property and others down stream. It may also save you money if you live in a city that has a stormwater utility, since storm water utility fees are based on the amount of runoff your property sends to the storm sewer system.

RAIN GARDENS

Rain gardens are slight depressions in a yard that act as receiving areas for rain water that runs off your roof and downspouts. Rain gardens capture rainwater before it picks up oil, grease, fertilizer, pet waste or other contaminants. Rain gardens replenish groundwater by infiltrating runoff, rather than passing it into the stormwater system. Often they're planted with native plants that thrive on moisture, but can withstand a dry period, too.

RAIN BARRELS

A rain barrel captures water that flows from a roof through downspouts. Commonly, the rain barrel is a 55-gallon drum designed specifically to hold water without creating a mosquito breeding habitat. A tight fitting lid, seal for the downspout, and filtered overflow valve allow overflow water to move away from the rain barrel.

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn or letting fertilizer fall into the street drain. We can choose products carefully and shape our lawns and pavement so water sinks in. When we do, runoff is reduced, pollutants filter out and streams and groundwater are protected.

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What touches the ground enters the water



Renew Our Waters

Every choice counts.

Restore Your Shore

Redefining the “perfect” shoreline will provide beauty and color to the shoreland, increase habitat for wildlife and ultimately increase water quality.

The number of people living near and using Northeast Wisconsin’s waters is at an all time high and continues to increase. You may have purchased your water front property because you enjoy fishing, swimming, boating, bird watching or simply unwinding by dangling your feet in the water. As more and more of us buy or build homes on the shores of our lakes and rivers, we threaten the very qualities that brought us there.

“PERFECT SHORELAND LOT” - NOT SO PERFECT

Decades of traditional lawn maintenance have led to ideas about what the “perfect shoreland lot” should be. Large lawns mowed all the way to the water’s edges and no aquatic vegetation are seen at properties on lakes and rivers across Wisconsin. Creating this “perfect shoreland lot” has led to a serious loss of natural shoreland habitat and poor water quality on thousands of lakes.

To protect our waters and the recreation we enjoy, we must redefine our definition of the perfect shoreland lot and begin to landscape for wildlife and water quality.

WHAT’S THE PROBLEM?

Plants that were a natural part of the water’s edge prior to development provided more than beauty and color to the shoreland. Plants, both living and dead, provided habitat for wildlife both in and out of the water. Water quality is improved when the plant and animal community on the water’s edge thrives. Native plants on the shore and in the water filter pollutants entering the water. By altering the water’s edge of our lakes and rivers, we have destroyed habitat, disrupted the natural balance and decreased water quality.

BRINGING “NATURAL” BACK TO NATURE

To protect our waters and the recreation we enjoy we need to redefine our definition of the perfect shoreland lot and begin to landscape for wildlife and water quality. Create a buffer zone, which is a natural strip of vegetation along your property’s frontage. The goal of a bufferstrip is to restore the shoreline, both on shore and in the water, with the vegetation that occurred there naturally. This includes, trees, shrubs, wildflowers, shoreline plants, grasses and submersed aquatic vegetation. For more information on shoreland restoration visit our website RenewOurWaters.org.

Northeast Wisconsin Stormwater Consortium

P.O. Box 1861 Appleton, WI 54912 | 920.858.4246

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Realize

What touches the ground enters the water

RenewOurWaters.org



Different
SHADES
of *green*



GREEN INFRASTRUCTURE RESEARCH
at the U.S. Environmental Protection Agency

The Problem with *Water Runoff*

Conventional stormwater infrastructure, or gray infrastructure, is largely designed to move stormwater away from urban areas through pipes and conduit. Runoff from these surfaces can overwhelm sewer systems and end up contaminating local waterways. When stormwater runs off impervious streets, parking lots, sidewalks, and rooftops, it moves pollutants such as motor oil, lawn chemicals, sediments, and pet waste to streams, rivers, and lakes. Runoff flows can also cause erosion and flooding that can damage property, infrastructure, and wildlife habitat. In addition to runoff problems, impervious surfaces also prevent water from penetrating the soil and recharging groundwater supplies.



What is *Green Infrastructure*?

Green infrastructure uses plants, soils, landscape design, and engineered techniques to retain, absorb, and reduce polluted stormwater runoff. Green infrastructure prevents or reduces the amount of runoff that flows directly into storm drains and can be a vital tool for cities to address combined sewer overflows and nutrient impairment. It provides many environmental, social, and economic benefits that promote urban livability, such as improved surface water quality, water conservation, and improved aesthetic and property value. EPA is developing innovative tools for communities to use for planning and installing green infrastructure for achieving its many benefits.





Types of *Green Infrastructure Practices*

Permeable Pavements are porous paved surfaces that allow rain to infiltrate into soils. Permeable pavements can be constructed from various materials such as pervious concrete, porous asphalt, and permeable interlocking pavers.

Rain Gardens are depressed areas in the landscape, planted with grasses, flowers, and other plants, that collect rain water from a roof, driveway, or street and allows it to infiltrate into the ground. Rain gardens can also help filter out pollutants in runoff and provide food and shelter for butterflies, song birds, and other wildlife. More complex rain gardens with drainage systems and amended soils are often referred to as bioretention cells.

Bioretention Cells (or Bioswales) are depressions that contain vegetation grown in an engineered soil mixture placed above a gravel drainage bed which slow, infiltrate, and filter runoff. They provide storage, infiltration, and evaporation of both direct rainfall and runoff captured from surrounding areas. As linear features, bioretention cells are particularly well suited to being placed along streets and parking lots.

Vegetative Swales are channels or depressed areas with sloping sides covered with grass and other vegetation. They slow down the conveyance of collected runoff and allow it more time to infiltrate the native soil beneath it.

Infiltration Trenches are narrow ditches filled with gravel that intercept runoff from upslope impervious areas. They provide storage volume and additional time for captured runoff to infiltrate the native soil below.

Green Roofs are a variation of a bioretention cell. Green roofs have a soil layer laying atop a special drainage mat material that conveys excess percolated rainfall off of the roof. They contain vegetation that enable rainfall infiltration and evapotranspiration of stored water. Green roofs are particularly cost-effective in dense urban areas where land values are high and on large industrial or office buildings where stormwater management costs are likely to be high.

Planter Boxes are structures with vertical walls and open or closed bottoms filled with gravel, soil, and vegetation that collect and absorb runoff. They are ideal for space-limited sites in dense urban areas.

Rainwater Harvesting systems, such as rain barrels and cisterns, collect and store rainfall for later use. These systems provide a renewable water supply and can slow and reduce runoff. Rainwater harvesting can reduce demands on increasingly limited water supplies in arid regions.

Rooftop (Downspout) Disconnection allows rooftop rainwater to discharge to pervious landscaped areas and lawns instead of directly into storm drains. You can use it to store stormwater and/or allow stormwater to infiltrate into the soil. Downspout disconnection could be especially beneficial to cities with combined sewer systems.

Urban Tree Canopies intercept rain in their leaves and branches, thereby reducing and slowing stormwater runoff.





Integrating *Green Infrastructure Practices*

Green Parking integrates green infrastructure elements such as permeable pavements and rain gardens into a parking lot design. Such structures manage stormwater on site, mitigate urban heat islands, and create a more pedestrian-accessible environment.

Green Streets and Alleys integrate green infrastructure elements such as bioswales, planter boxes, and trees into street and alley design. Green streets and alleys are designed to store, infiltrate, and evaporate and transpire stormwater while adding aesthetics to landscapes.

Protecting Existing Green Spaces

In addition to green infrastructure practices, communities can also address water quality and flooding impacts of urban stormwater by protecting open spaces and sensitive natural areas within and adjacent to a city while providing recreational opportunities for city residents. Natural areas that should be a focus of these land conservation efforts include riparian areas, wetlands, and steep hillsides.



Environmental and Economic Benefits of Green Infrastructure

Introducing green infrastructure to communities has many environmental and economic benefits. Green infrastructure can be a cost-effective approach to improve water quality and help communities stretch their infrastructure investments further by providing multiple environmental, economic, and community benefits.

Examples of environmental benefits:

- Improved water quality and increased water supply
- Reduced flooding
- Improved air quality
- Greater resilience to climate change
- Increased habitat improvement and connectivity
- Healthier communities

Examples of economic benefits:

- Increased property values
- Reduced filtration costs
- Infrastructure cost savings
- Reduced private and public costs



Green Infrastructure Research

EPA's green infrastructure research supports the increased adoption of both constructed and natural green infrastructure into communities.

Models and decision support tools

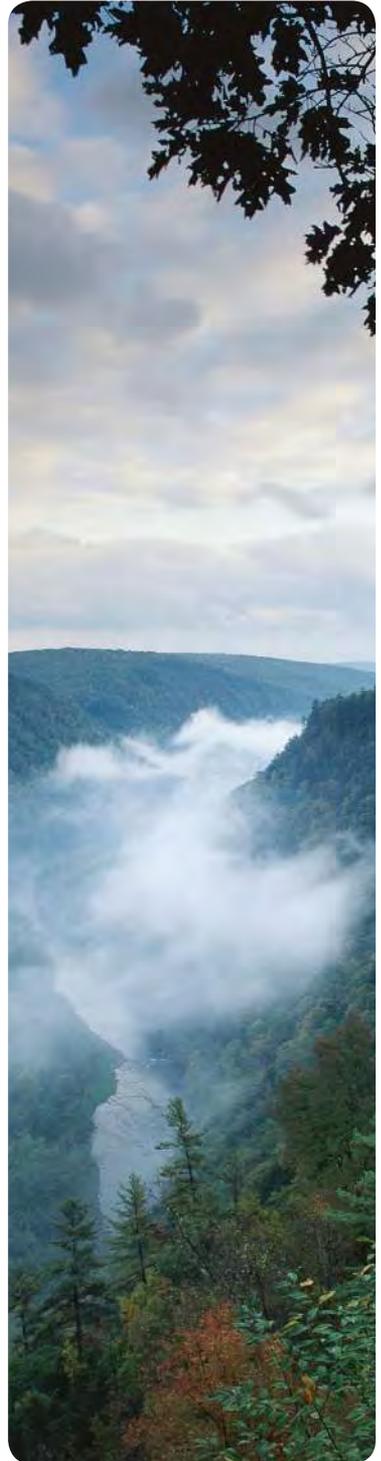
EPA researchers are analyzing and refining existing models and tools designed to increase green infrastructure practices in communities. This research will support decision-makers and allow further inclusion of green infrastructure practices into management plans that support sustainability goals.

Impacts of green infrastructure on groundwater resources

EPA is researching the impacts of green infrastructure on groundwater resources to provide the basis for long-term research on the efficacy of green infrastructure as a best management practice for water resources enhancement, particularly in arid and semiarid regions.

Assessment of risks posed to natural wetlands used for wastewater and stormwater management

EPA is reviewing the impacts of wastewater and stormwater on natural wetlands and riparian areas. This research will help guide decisions by regions, states, tribes, and local municipalities when incorporating green infrastructure with natural wetlands and riparian areas as part of stormwater and wastewater management plans.





EPA Research *in Action*

Urban Soil Assessment

Sewer system overflows can put cities in violation of the Clean Water Act. EPA researchers developed soil survey assessment protocol to identify the urban imprint on major US soils. The research helps urban planners, land managers, and sewer districts understand the potential for soils to support green infrastructure applications. It provides an overview of urban soils and offers recommendations for how soils can be rehabilitated to support green infrastructure or urban agriculture.

Transforming Cleveland's Vacant Lots

Based on technical guidance from EPA experts, Cleveland, Ohio has incorporated a green infrastructure pilot program into their CSO control plan. This program takes advantage of the city's excess vacant land, turning that land into green spaces that can soak up stormwater and keep excess water out of the sewer system.

The transformation of urban vacant lots into park-like gardens that catch stormwater runoff not only helps remedy the CSO problem, but also improves the social and economic fabric of neighborhoods lacking green spaces.

Daylighting Streams to Improve Water Quality

Researchers compared the effectiveness of buried streams (streams that are paved over or routed into underground pipes during urban development) and open-air or daylighted streams at removing harmful nitrogen. The research

shows daylighted streams are more effective at removing nitrates due to interactions with plants and other organic matter that feed on nitrates. Daylighting streams could prove to be a sustainable method for removing nitrogen and improving water quality.

Green Infrastructure at Fort Riley

Researchers with EPA's Net Zero Program are working with the U.S. Army, U.S. Army Corps of Engineers, Kansas Unified School District 475, and other partners to demonstrate and assess green infrastructure technologies and performance at Fort Riley, an Army base in Kansas. EPA researchers are testing a permeable parking lot at Seitz Elementary School, which is located on Fort Riley. Researchers will measure how much rainwater passes through the pavement, how fast the permeable pavement clogs with debris, and changes in groundwater chemistry. They are also monitoring the school's existing stormwater-capture-use system, which is a set of storage tanks that capture rain runoff. For this part of the study, researchers are measuring the amount of rooftop runoff that is captured and the chemistry of the water stored in the tanks.

Cincinnati Green Infrastructure Efforts

The Lick Run stream in Cincinnati, Ohio is a part of a combined sewer system that spills its polluted mixture into the nearby Mill Creek during storm events. EPA researchers collaborated with the local sewer district to monitor and adjust several green infrastructure early success projects that are designed to reduce the amount of stormwater entering combined sewers and put it to good use elsewhere.



Images above: vacant lot before and after transformation to green space and pervious pavement.

EPA *Models and Tools*

EPA is developing innovative tools, technologies, and strategies for communities to manage water resources with green infrastructure to move toward more natural hydrology and increased resilience to future changes such as climate and extreme events.

Green Infrastructure Wizard (GIWiz)

GIWiz is an interactive web application that connects communities to EPA green infrastructure tools and resources. GIWiz provides users with customized reports containing EPA tools and resources they select, direct links, and overview information about each.

Watershed Management Optimization Support Tool (WMOST)

WMOST is a software application designed to facilitate integrated water resource management across wet and dry climate regions. The tool allows water-resource managers and planners to screen a wide range of practices, including low impact development or green infrastructure, across a watershed for cost-effectiveness as well as environmental and economic sustainability.

Visualizing Ecosystems for Land Management Assessment (VELMA)

VELMA is a computer software eco-hydrological model used to quantify the effectiveness of natural and engineered green infrastructure management practices for reducing nonpoint sources of nutrients and contaminants in streams, estuaries, and groundwater.

Storm Water Management Model (SWMM)

SWMM models hydrology and hydraulics to simulate the movement of water through the landscape and into and through sewer systems. A green infrastructure module was added to SWMM in 2010 to simulate the integration of green infrastructure practices, ranging from green roofs to permeable parking lots, into a community's stormwater management plan. SWMM is widely used throughout the world and considered the "gold standard" in the design of urban wet-weather flow pollution abatement approaches, and allows users to include any combination of low impact development/green infrastructure controls to determine their effectiveness in managing stormwater and sewer overflows.



SWMM Climate Adjustment Tool (SWMM-CAT)

SWMM was updated to include a software utility that allows future climate change projections to be incorporated into modeling. SWMM-CAT provides a set of location-specific adjustments derived from World Climate Research Programme global climate change models. SWMM-CAT accepts monthly adjustment factors for climate-related variables that could represent the potential impact of future climate changes.

National Stormwater Calculator (SWC)

SWC is a desktop application that estimates the annual amount of stormwater runoff from a specific location in the United States (including Puerto Rico), based on local soil conditions, land cover, and historic rainfall records. It is used to inform site developers on how well they can meet a desired stormwater retention target with and without the use of green infrastructure. It also allows users to consider how runoff may vary based both on historical weather and potential future climate. SWC is a resource for all Rainwater Management Credits in LEED by the U.S. Green Building Council for all project types in all rating systems.

Greening EPA

EPA has buildings in over 40 locations across the country that are committed to promoting the Agency's mission to protect human health and the natural environment by incorporating sustainability wherever possible. To support this commitment and provide an opportunity for needed research, EPA constructed an experimental parking lot with rain gardens as part of a long-term research project to quantify the effects of different permeable surfaces on stormwater runoff and the ability of rain gardens to accept, store and infiltrate stormwater.

Additional Information:

Green Infrastructure Research:

<https://www.epa.gov/water-research/green-infrastructure-research>

Green Infrastructure Overview:

<https://www.epa.gov/green-infrastructure>

Greening EPA:

<https://www.epa.gov/greeningepa>

Contact:

EPA's Office of Research & Development, Safe and Sustainable Water Resources Research Program, sswr@epa.gov

Stormwater and the Construction Industry

Protect Natural Features



Bad

- Minimize clearing.
- Minimize the amount of exposed soil.
- Identify and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity.
- Protect streams, stream buffers, wild woodlands, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas.

Silt Fencing



Bad

- Inspect and maintain silt fences after each rainstorm.
- Make sure the bottom of the silt fence is buried in the ground.
- Securely attach the material to the stakes.
- Don't place silt fences in the middle of a waterway or use them as a check dam.
- Make sure stormwater is not flowing around the silt fence.



Good

Construction Phasing



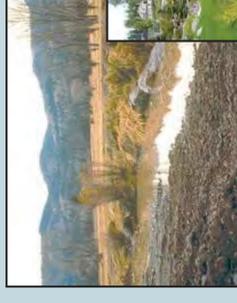
Bad



Good

- Sequence construction activities so that the soil is not exposed for long periods of time.
- Schedule or limit grading to small areas.
- Install key sediment control practices before site grading begins.
- Schedule site stabilization activities, such as landscaping, to be completed immediately after the land has been graded to its final contour.

Vegetative Buffers



Bad



Good

- Protect and install vegetative buffers along waterbodies to slow and filter stormwater runoff.
- Maintain buffers by mowing or replanting periodically to ensure their effectiveness.

Site Stabilization



Bad



Good

- Vegetate, mulch, or otherwise stabilize all exposed areas as soon as land alterations have been completed.

Maintain your BMPs!

www.epa.gov/npdes/menuofbmps

Construction Entrances



Bad



Good

- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Properly size entrance BMPs for all anticipated vehicles.
- Make sure that the construction entrance does not become buried in soil.

Slopes



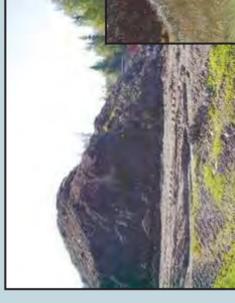
Bad



Good

- Rough grade or terrace slopes.
- Break up long slopes with sediment barriers, or under drain, or divert stormwater away from slopes.

Dirt Stockpiles



Bad



Good

- Cover or seed all dirt stockpiles.

Storm Drain Inlet Protection



Bad



Good

- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- If you use inlet filters, maintain them regularly.

Stormwater and the Construction Industry Planning and Implementing Erosion and Sediment Control Practices

The construction industry is a critical participant in the nation's efforts to protect streams, rivers, lakes, wetlands, and oceans. Through the use of best management practices (BMPs), construction site operators are the key defense against erosion and sedimentation.

As stormwater flows over a construction site, it picks up pollutants like sediment, debris, and chemicals. High volumes of stormwater can also cause stream bank erosion, and destroy downstream aquatic habitat. Preventing soil erosion and sedimentation is an important responsibility at all construction sites.

In addition to the environmental impact, uncontrolled erosion can have a significant financial impact on a construction project. It costs money and time to repair gullies, replace vegetation, clean sediment-clogged storm drains, replace poorly installed BMPs, and mitigate damage to other people's property or to natural resources.

Best Management Practice (BMP)

A BMP is a method used to prevent or control stormwater runoff and the discharge of pollutants, including sediment, into local waterbodies. Silt fences, inlet protection, and site-stabilization techniques are typical BMPs on a construction site.

Operator

An operator is someone who has control over and the ability to modify construction plans and specifications (e.g. owner, general contractor)

or

Someone who has control over the day-to-day operations at a site (e.g., owner, general contractor) that are necessary to ensure compliance with the permit requirements. It is the responsibility of a construction site owner or operator to contain stormwater runoff and prevent erosion during all stages of a project.

There may be more than one person at a site who meets these definitions and must apply for permit coverage. (States may have different definitions of the term "operator.")

So what's being done about polluted runoff?

The Clean Water Act includes the National Pollutant Discharge Elimination System (NPDES) permitting program. As of January 2003, 44 states and territories are authorized to issue NPDES stormwater permits. If your state isn't authorized to operate the NPDES stormwater permit program, EPA issues the permits. Permits vary from state to state, so contact your state or EPA for specific information. Your permitting authority has specific information on your state's NPDES stormwater permit program. In general, construction permits require construction operators to do all of the following:

- Develop and implement a stormwater pollution prevention plan
- Submit a permit application or notice of intent (NOI)
- Comply with the permit, including maintaining BMPs and inspecting the site

Under the NPDES program, construction activities that disturb 1 or more acres are required to obtain stormwater permit coverage. States have different names for the plans that construction operators must develop, such as

- Stormwater pollution prevention plan
- Erosion and sediment control plan
- Erosion control and stormwater management plan
- Stormwater management plan
- Water pollution control plan
- Pollution prevention plan

This document uses the term "Plan."

I think I need a permit... Where do I start?

All land-disturbing activities, including clearing, grading, and excavation, that disturb 1 or more acres are required to be covered under a state or EPA-issued NPDES construction stormwater permit prior to land disturbance. Permit requirements vary by state. Begin by researching the specific requirements in your state. You might already be subject to local erosion and sediment control requirements, but that doesn't release you from the requirements of the NPDES program at the state or EPA level. Although you must comply with both sets of requirements, in most cases they have been designed to be complementary. Contact your permitting authority to find out exactly what you need to do. A good place to start your search is the Construction Industry Compliance Assistance web site at <http://www.enrvcap.org/cica>.

The NPDES permit requirements include small construction activities that are part of a larger common plan of development or sale, such as a single lot within a larger subdivision. For developments with multiple operators, all operators must have permit coverage for their individual parts of the larger development, no matter how large or small each operation happens to be. When there are multiple operators at one site, they're encouraged to develop and share one comprehensive Plan and obtain permit coverage as co-permittees.

The owner or operator of the construction site is responsible for complying with the requirements of the permit. Responsibilities include developing a Plan, obtaining permit coverage, implementing BMPs, and stabilizing the site at the end of the construction activity.

Determine your eligibility

All construction activity that disturbs 1 or more acres of land, as well as activity that disturbs less than 1 acre but is part of a larger common plan of development, must obtain permit coverage.

Read and understand your stormwater permit requirements

Get a copy of the permit for construction activities and a permit application (or notice of intent form) from your state or EPA permitting authority.

Develop a Plan

Most states do not require you to submit your Plan. However, you do need to keep the Plan on site. If that's impractical, you may post a notice that tells where the Plan is kept so it can be accessed by the permitting authority and other interested parties.

You'll need to post a copy of your completed application on site. Put it in a place where the public can see it so they'll know your site is covered by an NPDES permit!

Apply for permit coverage

Once you understand your permit requirements and have developed a Plan, you can submit a stormwater permit application (or notice of intent) to your permitting authority. This must be done before beginning any land disturbance on the site. Some states require a few days of lead time, so check with your permitting authority. Once you've submitted the application, you must satisfy the conditions of the permit.

Implement the Plan

Be prepared to implement the BMPs in your Plan before construction begins. Ensure that BMPs are properly maintained, and upgrade and repair them as necessary.

Developing and Implementing a Plan

You must have a Plan that includes erosion and sediment control and pollution prevention BMPs. These Plans require

- Advance planning and training to ensure proper implementation of the BMPs
- Erosion and sediment control BMPs in place until the area is permanently stabilized
- Pollution prevention BMPs to keep the construction site "clean"
- Regular inspection of the construction site to ensure proper installation and maintenance of BMPs

Fortunately, the practices and measures that must be included in your Plan are already part of the standard operating procedures at many construction sites.

Six steps are associated with developing and implementing a stormwater Plan. There's a wealth of information available on developing pollution prevention plans. Please contact your permitting authority for help in finding additional guidance materials, or visit www.epa.gov/npdes/stormwater. A sample construction plan is available at www.epa.gov/npdes/pubs/sample_swppp.pdf.

1. Site Evaluation and Design Development

- Collect site information
- Develop site plan design
- Prepare pollution prevention site map

The first step in preparing a Plan is to define the characteristics of the site and the type of construction that will occur. This involves collecting site information, identifying natural features that should be protected, developing a site plan design, describing the nature of the construction activity, and preparing a pollution prevention site map.

2. Assessment

- Measure the site area
 - Determine the drainage areas
 - Calculate the runoff coefficient
- The next step is assessing the impact the project will have on stormwater runoff. Determine the drainage areas and estimate the runoff amounts and velocities. For more information on calculating the runoff coefficient, go to www.epa.gov/npdes/pubs/chap02_conguide.pdf, page 11.

3. Control Selection and Plan Design

- Review and incorporate state or local requirements
- Select erosion and sediment controls
- Select other controls
- Select stormwater management controls
- Indicate the location of controls on the site map
- Prepare an inspection and maintenance plan
- Coordinate controls with construction activity
- Prepare sequence of major activities

In the third step you'll actually document your procedures to prevent and control polluted stormwater runoff. You must delineate areas that will not be disturbed, including critical natural areas like streamside areas, floodplains, and trees. You must also identify the measures (or BMPs) you'll use to protect these areas.

Soil erosion control tips...

- Design the site to infiltrate stormwater into the ground and to keep it out of storm drains. Eliminate or minimize the use of stormwater collection and conveyance systems while maximizing the use of stormwater infiltration and boresteering techniques.
- Minimize the amount of exposed soil on site.
 - To the extent possible, plan the project in stages to minimize the amount of area that is bare and subject to erosion. The less soil exposed, the easier and cheaper it will be to control erosion.
 - Vegetate disturbed areas with permanent or temporary seeding immediately upon reaching final grade.
 - Vegetate or cover stockpiles that will not be used immediately.
- Reduce the velocity of stormwater both into and away from the project area.
 - Interceptors, diversions, vegetated buffers, and check dams are a few of the BMPs that can be used to slow down stormwater as it travels across and away from the project site.
 - Diversion measures can also be used to direct flow away from exposed areas toward stable portions of the site.
 - Silt fences and other types of perimeter filters should never be used to reduce the velocity of runoff.
- Protect defined channels immediately with measures adequate to handle the storm flows expected.
 - Sod, geotextile, natural fiber, riprap, or other stabilization measures should be used to allow the channels to carry water without causing erosion. Use softer measures like geotextile or vegetation where possible to prevent downstream impacts.
 - Keep sediment on site.
 - Place aggregate or stone at construction site vehicle exits to accommodate at least two tire revolutions of large construction vehicles. Much of the dirt on the tires will fall off before the vehicle gets to the street.
 - Regular street sweeping at the construction entrance will prevent dirt from entering storm drains. Do not hose paved areas.
 - Sediment traps and basins are temporary structures and should be used in conjunction with other measures to reduce the amount of erosion.
- Maintaining all BMPs is critical to ensure their effectiveness during the life of the project.
 - Regularly remove collected sediment from silt fences, berms, traps, and other BMPs.
 - Ensure that geotextiles and mulch remain in place until vegetation is well established.
 - Maintain fences that protect sensitive areas, silt fences, diversion structures, and other BMPs.

Other BMPs and Activities to Control Polluted Runoff

You'll need to select other controls to address potential pollutant sources on your site. Construction materials, debris, trash, fuel, paint, and stockpiles become pollution sources when it rains. Basic pollution prevention practices can significantly reduce the amount of pollution leaving construction sites. The following are some simple practices that should be included in the Plan and implemented on site:

- Keep potential sources of pollution out of the rain as practicable (e.g., inside a building, covered with plastic or tarps, or sealed tightly in a leak-proof container).
- Clearly identify a protected, lined area for concrete truck washouts. This area should be located away from streams, storm drain inlets, or ditches and should be cleaned out periodically.
- Park, refuel, and maintain vehicles and equipment in one area of the site to minimize the area exposed to possible spills and fuel storage. This area should be well away from streams, storm drain inlets, or ditches. Keep spill kits close by and clean up any spills or leaks immediately, including spills on pavement or earthen surfaces.
- Practice good housekeeping. Keep the construction site free of litter, construction debris, and leaking containers. Keep all waste in one area to minimize cleaning.
- Never hose down paved surfaces to clean dust, debris, or trash. This water could wash directly into storm drains or streams. Sweep up materials and dispose of them in the trash. Never bury trash or debris!
- Dispose of hazardous materials properly.

4. Certification and Notification

- Certify the Plan
 - Submit permit application or notice of intent
- Once the Plan has been developed, an authorized representative must sign it. Now is the time to submit the permit application or notice of intent. Your permit might require that the Plan be kept on site, so be sure to keep it available for the staff implementing the Plan.

Erosion and sedimentation control

practices are only as good as their installation and maintenance.

5. Implementing and Maintaining a Plan

- Implement controls
- Inspect and maintain controls
- Update/change the Plan
- Report releases of hazardous materials

A Plan describes the practices and activities you'll use to prevent stormwater contamination and meet the NPDES permit requirements. Make sure that the Plan is implemented and that the Plan is updated as necessary to reflect changes on the site.

Erosion and sedimentation control practices are only as good as their installation and maintenance. Train the contractors that will install the BMPs and inspect immediately to ensure that the BMPs have been installed correctly.

Regularly inspect the BMPs (especially before and after rain events) and perform any necessary repairs or maintenance immediately. Many BMPs are designed to handle a limited amount of sediment. If not maintained, they'll become ineffective and a source of sediment pollution.

It's also important to keep records of BMP installation, implementation, and maintenance. Keep track of major grading activities that occur on the site, when construction activities cease (temporarily or permanently), and when a site is temporarily or permanently stabilized.

If construction plans change at any time, or if more appropriate BMPs are chosen for the site, update the Plan accordingly.

6. Completing the Project: Final Stabilization and Termination of the Permit

- Final stabilization
- Notice of Termination
- Record retention

Many states and EPA require a Notice of Termination (NOT) or other notification signifying that the construction activity is completed. An NOT is required when

- Final stabilization has been achieved on all portions of the site for which the permittee is responsible.
- Another operator has assumed control over all areas of the site that have not been finally stabilized. That operator would need to submit a new permit application to the permitting authority.
- For residential construction only, temporary stabilization of a lot has been completed prior to transfer of ownership to the homeowner, with the homeowner being made aware of the need to perform final stabilization.

Permittees must keep a copy of their permit application and their Plan for at least 2 years following final stabilization. This period may be longer depending on state and local requirements.

Preconstruction Checklist

- A site description, including
 - Nature of the activity
 - Intended sequence of major construction activities
- Total area of the site
- Existing soil type and rainfall runoff data
- A site map with:
 - Drainage patterns
 - Approximate slopes after major grading
 - Area of soil disturbance
 - Outline of areas which will not be disturbed
 - Location of major structural and nonstructural soil erosion controls
- Areas where stabilization practices are expected to occur
 - Surface waters
 - Stormwater discharge locations
 - Name of the receiving water(s)
- A description of controls:
 - Erosion and sediment controls, including
 - Stabilization practices for all areas disturbed by construction
 - Structural practices for all drainage/discharge locations
 - Stormwater management controls, including
 - Measures used to control pollutants occurring in stormwater discharges after construction activities are complete
 - Velocity dissipation devices to provide nonerosive flow conditions from the discharge point along the length of any outfall channel
- Other controls, including
 - Waste disposal practices that prevent discharge of solid materials
 - Measures to minimize offset tracking of sediments by construction vehicles
 - Measures to ensure compliance with state or local waste disposal, sanitary sewer, or septic system regulations
- Description of the timing during the construction when measures will be implemented
- State or local requirements incorporated into the Plan
- Inspection and maintenance procedures for control measures identified in the Plan
- Contractor certification and Plan certification

Implementation Checklist

- Maintain records of construction activities, including
 - Dates when major grading activities occur
 - Dates when construction activities temporarily cease on the site or a portion of the site
 - Dates when construction activities permanently cease on the site or a portion of the site
 - Dates when stabilization measures are completed on the site
- Prepare inspection reports summarizing
 - Name of person conducting BMP inspections
 - Qualifications of person conducting BMP inspections
 - BMPs/areas inspected
 - Observed conditions
 - Necessary changes to the Plan
- Report releases of reportable quantities of oil or hazardous materials
 - Notify the National Response Center at 800-424-8802 immediately
 - Report releases to your permitting authority immediately, or as specified in your permit. You must also provide a written report within 14 days.
- Modify the Plan to include
 - The date of release
 - Circumstances leading to the release
 - Steps taken to prevent recurrence of the release
- Modify Plan as necessary
 - Incorporate requests of the permitting authority to bring the Plan into compliance
 - Address changes in design, construction operation, or maintenance that affect the potential for discharge of pollutants

An ounce of prevention is worth a pound of cure! It's far more efficient and cost-effective to prevent pollution than it is to try to correct problems later. Installing and maintaining simple BMPs and pollution prevention techniques on site can greatly reduce the potential for stormwater pollution and can also save you money!





**Renew
Our Waters**
Every choice counts.

HOUSEHOLD HAZARDOUS WASTE

Cleaning out the garage and keeping our waters clean

We all have the opportunity - and the responsibility - to dispose of waste materials properly. The rule of thumb is: If you wouldn't dump it in the river, don't let it touch parking lots, soil, or any other place where it can be washed into a stream or storm drain. Post this sheet in your garage storage area as a reminder. This will help us change one habit at a time, so we have good fishing, swimming, paddling and waterskiing when the work is done.

HARMFUL SUBSTANCES

Certain household chemicals, when not used up properly, become household hazardous waste. These products can contain the same chemicals as strictly regulated industrial wastes. These products include: cleaning products and wash water, food oils and grease, automotive oil, grease and waste fluids, paint, petroleum-based solvents, rodent baits, batteries, herbicides, pesticides, concrete wash water and sidewalk salt.

If you wouldn't dump it in the river, don't let it touch parking lots, soil or any other place where it can be washed into a stream or storm drain.

HANDLE WITH CARE

To avoid the potential risks associated with household wastes, always monitor the use, storage and disposal of products with potentially hazardous substances.

PROPER DISPOSAL

All of the counties in Northeast Wisconsin have Household Hazardous Waste drop off programs or collection days. Contact your local environmental, health or solid waste agency for instructions on proper use and disposal.

USING LESS

The quantity of waste from a single household may be small, but that quantity adds up fast considering the number of households in Northeast Wisconsin. Consider reducing your purchase of products that contain hazardous ingredients.

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn. As water makes its way to the storm drain it picks up pollutants like oil from car leaks and improperly disposed of waste. When we choose products carefully and dispose of products properly, we can reduce the amount of pollution that enters our local waterways through runoff.

Untreated runoff is the biggest threat to our nation's water quality, according to the U.S. Environmental Protection Agency. Let's make the small, important changes that will reduce that threat and improve water quality and our lives!

Realize

What touches the ground enters the water



Renew Our Waters

Every choice counts.

FISH DON'T SWIM IN CHLORINE

Following a few simple steps will prepare your pool water for entering local waterways.

Taking the time to follow the proper procedures when discharging water from your pool or spa will help keep our local waters a healthy place for fish and other aquatic life.

DECHLORINATE THE WATER

Water from swimming pools and spas must be dechlorinated prior to discharging water. Let the water in the pool or spa sit for at least one week to reduce the chlorine or bromine level until it is undetectable and water temperature is at air temperature. Measure the pH. It should fall within a range of 6.5 - 8.5 prior to discharge.

DISCHARGE WATER TO GRASS OR LANDSCAPING

Discharging pool and spa water onto grass or landscaping will allow water to soak into the earth, where the water will be naturally cleansed prior to entering local waterways.

If irrigation on site is not possible, water may be discharged off your property - provided it is directed through a grassed surface prior to entering a curblin gutter or a paved street.

Do not fertilize prior to discharging pool water.

Discharging water onto grass or landscaping will allow water to soak into the earth.

MONITOR THE DISCHARGE

Do not let water discharge onto your neighbor's property. Monitor water as it is discharging to ensure it does not cause erosion or flooding. Discharge the water in a manner that will prevent nuisance conditions (such as creation of odors and fly and mosquito breeding conditions) due to ponding of water for a prolonged period.

PROTECT LOCAL WATERWAYS

If a pool or spa has been acid washed, the water may not be discharged off the pool/spa owner's property. Water from back flushing pool filters should only be discharged to the sanitary sewer (down a sink or toilet) or on-site septic tank system where it will be treated prior to entering local waters.

Remember it is illegal in all communities to discharge pollutants, including chlorinated pool water, into a storm drain. As a pool or spa owner, you are responsible for following your municipality's ordinance for pool and spa discharge. Contact your municipality for regulations.

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn or discharging pool water into the street drain. We can choose products carefully and shape our lawns and pavement so water sinks in. When we do, runoff is reduced, pollutants filter out and streams and groundwater are protected.

Untreated runoff is the biggest threat to our nation's water quality, according to the U.S. Environmental Protection Agency. Let's make the small, important changes that will reduce that threat and improve water quality and our lives!

Realize
What touches the ground enters the water



Renew Our Waters

Every choice counts.

POWER WASHING

To keep our waters clean keep your dirty water out.

Wash water from power washing activities may contain a large amount of oil, grease, chemicals, dirt and detergents. Disposing of these materials into storm drains causes serious ecological problems and is PROHIBITED by law. You could be given a citation or fined for discharging pollutants to the storm drain system.

TRY IT DRY

Instead of pressure washing, use dry methods such as mops, brooms, rags or wire brushes to clean pavement, buildings and equipment as much as possible.

Before you start, set up sandbags or other barriers to direct wash water onto grass or gravel.

PREPARING FOR POWER WASHING

Before you start, set up sandbags or other barriers to direct wash water onto grassy or gravel areas where the water will soak into the ground instead of run off into the road.

JUST ENOUGH FOR THE JOB

Minimize water by using high pressure, low volume nozzles. Use the minimal amount and least toxic detergents and degreasers you will need to get the job done. Use a mop or rags to clean heavily soiled areas before power washing.

UNDERSTANDING "BIODEGRADABLE"

"Biodegradable" is a popular marketing term that can be misleading. Because a product is labeled as biodegradable does not mean that it is non-toxic. Some products are more toxic than others, but NONE are harmless to aquatic life. Soapy water entering the storm drain system will impact the aquatic environment in our local lakes, streams and rivers.

WASHING YOUR VEHICLE

Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground. If the ground is very dry, wet it first so the wash water soaks in and does not run off into the storm drain.

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn or letting fertilizer fall into the street drain. We can choose products carefully and shape our lawns and pavement so water sinks in. When we do, runoff is reduced, pollutants filter out and streams and groundwater are protected.

Untreated runoff is the biggest threat to our nation's water quality, according to the U.S. Environmental Protection Agency. Let's make the small, important changes that will reduce that threat and improve water quality and our lives!

Realize

What touches the ground enters the water



Renew Our Waters

Every choice counts.

CARPET CLEANING

To keep our waters clean, keep your dirty water out.

Nothing feels better than walking across clean carpet, except maybe wading through clean water on a warm summer day. Unfortunately, far too often dirty wash water from carpet cleaning is dumped down the driveway and finds its way through the storm drain system to our local waters. Disposing of these materials into storm drains causes serious ecological problems and is PROHIBITED by law. By following the tips on this sheet, you can clean your home and keep our local waters clean too.

DISPOSE OF WASTEWATER PROPERLY

Wash water from carpet, drapery or upholstery cleaning must be discharged to a sink, toilet or other drain connected to the sanitary sewer system. Never discharge

to a street, gutter, parking lot, ditch or storm drain. This applies even when you use cleaning products labeled “nontoxic” or “biodegradable.” Using biodegradable soap does not lessen its immediate environmental impact - it simply means that the soap will degrade in time.

Using biodegradable soap does not lessen its immediate environmental impact - it simply means that the soap will degrade in time.

FILTER WASTEWATER

Before dumping your dirty water into the sanitary sewer, filter the water to make sure that any fiber or debris does not go down the drain. Debris in the wash water can clog the pipes. Dispose of the filtered material in the garbage, provided that the carpet was not contaminated with hazardous materials.

HIRING A PROFESSIONAL CLEANER

Check with the carpet cleaner you hire to ensure the used wash water is emptied into a utility sink or other indoor sanitary sewer connection. Just like you, professional cleaners should never dispose of dirty water in a street, gutter, parking lot, ditch or storm drain.

If you contract with a carpet cleaner regularly, arrange an appropriate location for the contractor to discharge wash water such as a utility sink, toilet or sewer outlet.

Stormwater is rain or snowmelt and water from things people do, like washing the car or watering the lawn. As water makes its way to the storm drain it picks up pollutants like oil from car leaks and bacteria from pet waste. When we choose products carefully and dispose of products properly, we can greatly reduce the amount of pollution that enters our local waters through runoff.

Untreated runoff is the biggest threat to our nation’s water quality, according to the U.S. Environmental Protection Agency. Let’s make the small, important changes that will reduce that threat and improve water quality and our lives!

Realize

What touches the ground enters the water

CONNECTING THE DROPS

Realize what touches the ground can enter our waters



SWEEP UP GRASS CLIPPINGS

Keep lawn waste out of storm drains to prevent green algae blooms and improve water clarity. Grass clippings can be easily swept back onto the lawn.

CLEAN UP AFTER YOUR PET

Pet waste carries bacteria that makes people sick and causes beach closings. Remember to scoop the poop.

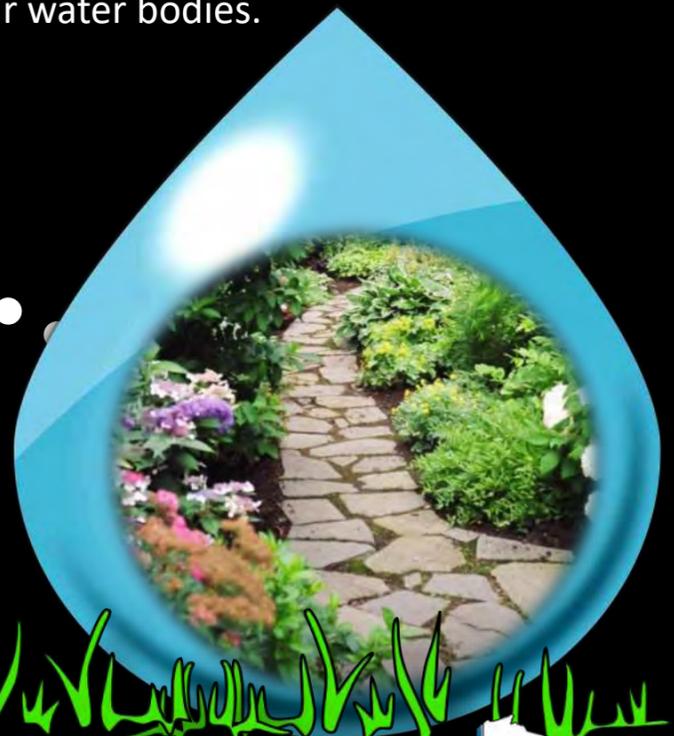


WASH VEHICLES ON GRASS

Washing vehicles in a grassy area or at a car wash facility prevents soapy water and chemicals from our cars from entering our water bodies.

Let the Water Soak in

Planning for minimal hard surface on your property makes good sense. Focus on natural plantings to slow water so that it filters into the ground rather than runs off.



APPENDIX D

Public Involvement & Participation



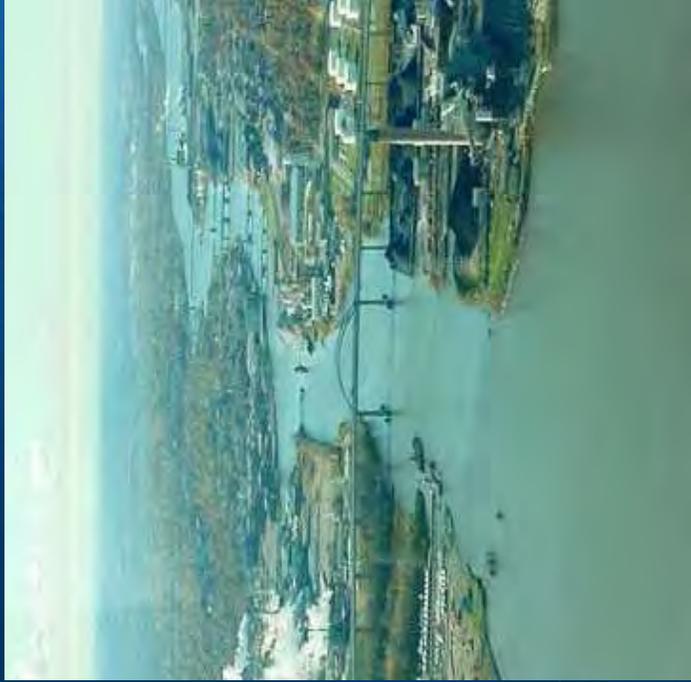
Municipal Stormwater Permit

2020 Annual Report Summary to Wisconsin DNR

3/31/2021

Federal Clean Water Act

- US Environmental Protection Agency requires each state to identify water bodies that are not 'fishable or swimmable'
- Each state also needs to identify the pollutants causing the water body impairment



Pollutants Causing Impairment



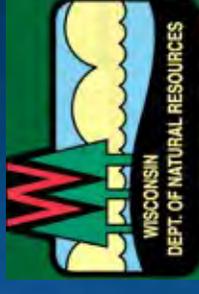
Sediment



Phosphorus

Municipal Stormwater Permit

- Village received its initial Municipal Stormwater Permit from Wisconsin DNR in late 2006
- Wisconsin DNR renewed the Village's Municipal Stormwater Permit in 2019
- TMDL phosphorus and sediment allocations implemented thru Municipal Stormwater Permit





Sub-Watersheds

-  Ashwaubenton Creek
 -  Duck Creek
 -  Dutchman Creek
 -  Fox River Mainstem
- Other Mapped Features**
-  Railroad
 -  Right-of-Way
 -  Stream
 -  Surface Water

Source: Brown County, 2014.

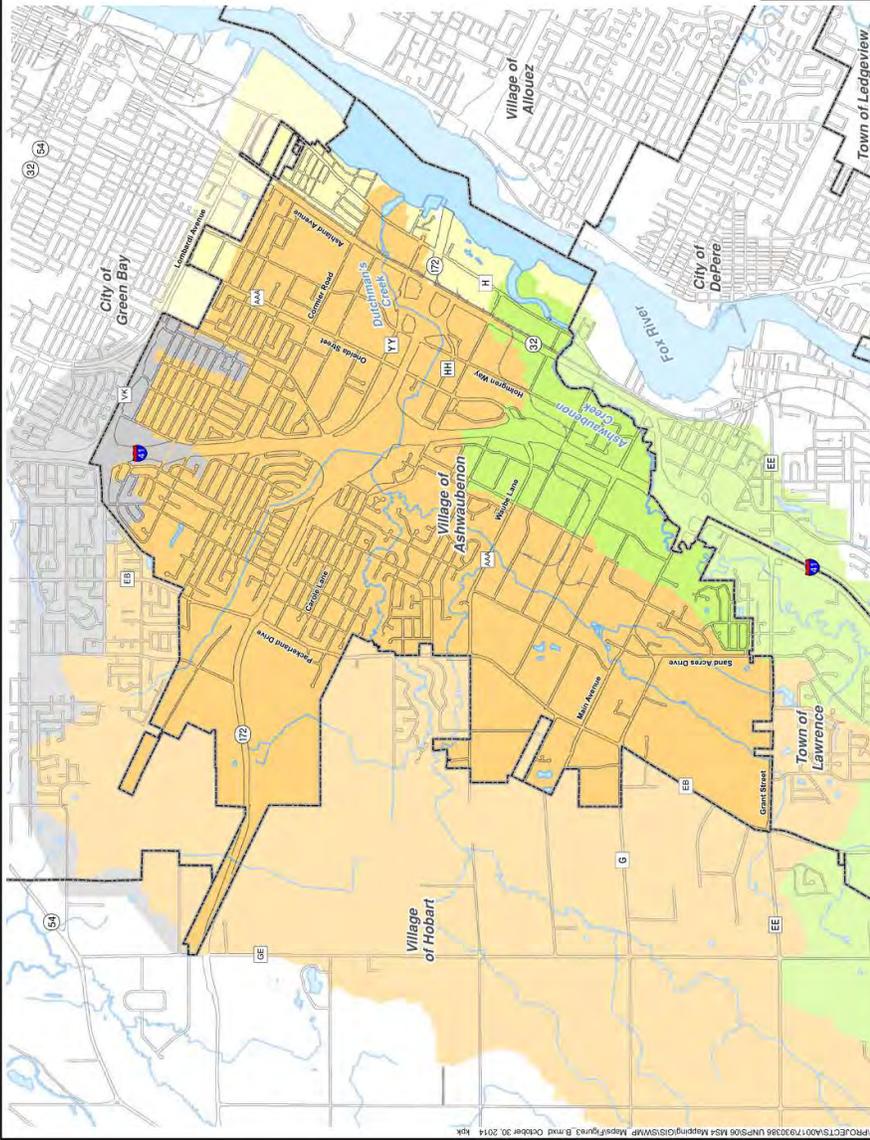
Disclaimer: The property lines, signed area, and other property information shown on this map are based on the County Assessor's records. The County Assessor's records are not guaranteed to be correct, current, or complete. The property and other information shown on this map are for informational purposes only and are not intended to be used for any other purpose. Any user of this map and any user of the data on this map assumes all responsibility for the use of the data on this map.



0 3,000 6,000 Feet

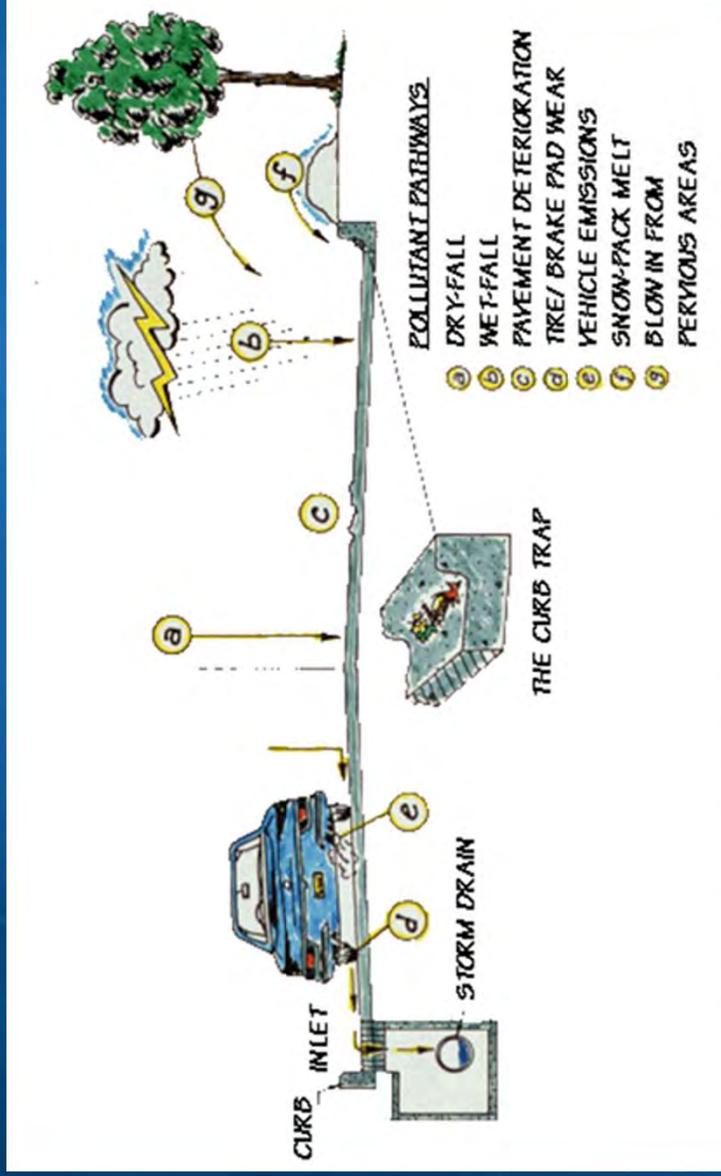


FIGURE 3
SUB-WATERSHEDS
STORMWATER MANAGEMENT PLAN
VILLAGE OF ASHWAUBENTON
BROWN COUNTY, WISCONSIN



W:\PROJECTS\A00793\338 UNP\08 MAPS Mapping\GIS\SWMP_Maps\Figures_3.mxd October 30, 2014 kjk

Stormwater Pollutant Pathways



Permit Requirements

- ❑ Public Education
- ❑ Public Involvement
- ❑ Illicit Discharge Detection & Elimination
- ❑ Construction Site Pollutant Control
- ❑ Post-Construction Stormwater Management
- ❑ Municipal Pollution Prevention
- ❑ Stormwater Quality Management



Public Education

Required: 6 Topics, 4 Delivery Mechanisms (Two Active)

Measurable Goals		2019	2020
1. Passive: Village Website (# hits)		100+	100+
2. Passive: Brochures (# distributed / taken)		1-9	100+
3. Passive: Newsletter (# distributed each issue)		100+	100+
4. Passive: Posters or Signs (# of posters / signs)		0	0
5. Passive: Radio or TV (# of ads)		-	4
6. Passive: Social Media (# of posts)		-	256
7. Active: School Presentations / Exhibiting (# events, # attendees)		0	0
8. Active: Training Events (# events, # participants)		1 / 1	1 / 1
9. Active: Village Meetings / Bus Tours (# events, # attendees)		0	0
10. Active: Volunteer Events (# events, # participants)		1 / 10	3 / 30

Public Involvement

Measurable Goals	2019	2020
1. Public/Landowner Meetings (# meetings when stormwater was discussed).	20+	20+
2. Public Meetings (# meetings when stormwater ordinance was discussed).	3	3
3. Public Meetings (# attendees for MS4 Annual Report presentation).	10	10
4. Volunteer Events (# participants).	10	30

Illicit Discharges

Measurable Goals		2019	2020
1.	Number of total MS4 outfalls.	117	117
2.	Number of MS4 outfalls evaluated during routine ongoing field screening.	29	19
3.	From routine field screening, number of confirmed illicit discharges.	0	0
4.	Number of illicit discharge complaints received.	1	1
5.	From complaints received, number of confirmed illicit discharges.	1	0
6.	Number of identified illicit discharges eliminated during reporting year.	1	0
7.	Number of verbal Warning Notices issued.	1	0
8.	Number of written Warning Notices issued.	0	0
9.	Number of Notices of Violation issued.	1	0
10.	Number of Civil Penalties / Citations issued.	0	0

Construction Sites

Measurable Goals		2019	2020
1.	Number of total active construction sites during reporting year.	55	14
2.	Number of constructions sites issued a permit.	31	14
3.	Number of construction site inspections performed by Village rep.	72	74
4.	Number of sites with no enforcement authority.	0	0
5.	Number of verbal Warning Notices issued.	20	16
6.	Number of written Warning Notices issued.	5	16
7.	Number of Notices of Violation issued.	5	5
8.	Number of Stop Work Orders issued.	0	0
9.	Number of Civil Penalties / Citations issued.	1	0
10.	Number of Forfeitures of Deposit (cash escrow, bond, letter of credit, etc.).	0	0

Post-Construction Sites

Measurable Goals		2019	2020
1.	Number of sites that received approval for a new structural stormwater facility.	2	7
2.	Number of privately owned stormwater facilities inspected.	2	7
3.	Number of sites with no enforcement authority.	0	0
4.	Number of verbal Warning Notices issued.	2	0
5.	Number of written Warning Notices issued.	0	0
6.	Number of Notices of Violation issued.	0	0
7.	Number of Civil Penalties / Citations issued.	0	0
8.	Number of Forfeitures of Deposit (cash escrow, bond, letter of credit, etc.).	0	0
9.	Number of sites with completed stormwater facility maintenance.	0	0
10.	Number of sites that Village performed maintenance & billed landowner.	0	0

Pollution Prevention

Measurable Goals		2019	2020
1.	Number of Village operated structural stormwater facilities.	8	9
2.	Number of new Village operated stormwater facilities installed.	0	1
3.	Number of Village operated stormwater facilities inspected.	8	9
4.	Of Village facilities inspected, number requiring maintenance.	0	1
5.	Number of Village properties required to have a SWPPP.	2	2
6.	Number of inspections of Village properties with a SWPPP.	2	8
7.	Frequency of street sweeping completed (March 29 to November 25).	1x/2mo	1x/2mo
8.	Tons of street sweeping waste collected.	60	60
9.	Number of catch basin sumps cleaned (March 29 to November 25).	70	70

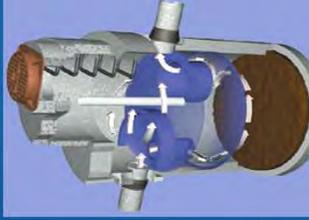
Pollution Prevention

Measurable Goals		2019	2020
11.	If collection is offered, frequency of curbside leaf collection.	4x	7x
12.	Number of lane-miles for snow and ice control.	115	115
13.	Tons of salt applied (October to March).	2,880	1,900
14.	Tons of sand applied (October to March).	0	0
15.	Tons of salt / sand mix applied (October to March).	0	0
16.	Gallons of brine applied (October to March).	5,760	2,100
17.	Gallons of chem-melt applied (October to March).	0	0
18.	Gallons of beet juice applied (October to March).	0	0
19.	Gallons of pre-wetting compound applied (October to March).	0	0
20.	Number of Village employees trained during reporting year.	1	1

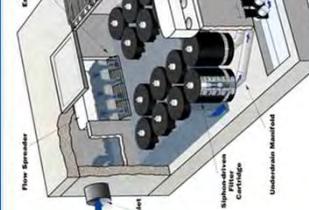
Best Management Practices



Street Sweeping



Proprietary Devices



Stream Stabilization



Grass Swales / Filters



Biofilters / Rain Gardens



Wetlands / Wet Ponds

Thank You for inviting us to present today!

Questions?

APPENDIX E

Illicit Discharge Detection & Elimination

Village of Ashwaubenon

Municipal Code Book

Monday, March 29, 2021 1:10 PM



Printed for:

Chapter 5 - Buildings and Building Regulations

Article 9 - Stormwater Management

Section 772 - Illicit Discharge and Connection

Municipal Code Book

Chapter 5 - Buildings and Building Regulations	3
Article 9 - Stormwater Management	3
5-9-772 Illicit Discharge and Connection	3

Chapter 5 - Buildings and Building Regulations

Article 9 - Stormwater Management

5-9-772 Illicit Discharge and Connection

(A) *General purpose and intent.*

- (1) The purpose of this section is to provide for the health, safety, and general welfare of the citizens of the Village of Ashwaubenon through the regulation of nonstormwater discharges to the MS4 to the maximum extent practicable as required by federal and state law. This section establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the Wisconsin Pollutant Discharge Elimination System (WPDES) permit process. The objectives of this section are:
 - (a) To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
 - (b) To prohibit illicit connections and discharges to the MS4.
 - (c) To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement procedures necessary to ensure compliance with this section.

(B) *Definitions. For the purposes of this section, the following shall mean:*

- (1) *Authorized enforcement agency.* Employees or designees of the director of public works are hereby designated to enforce this section.
- (2) *Best management practices (BMPs).* Structural or nonstructural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.
- (3) *Contaminated stormwater.* Stormwater that comes into contact with material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts or industrial machinery in the source areas listed in [Wis. Adm. Code ch.] NR 216 (effective August 1, 2004).
- (4) *Department (DNR).* The Wisconsin Department of Natural Resources.
- (5) *Discharge.* As defined in Wis. Stats. ch. 283 (November 1, 2005), when used without qualification includes a discharge of any pollutant.
- (6) *Hazardous materials.* Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

- (7) *Illicit discharge.* Any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, flows from riparian habitats and wetlands, and similar discharges.
- (8) *Illicit connections.* An illicit connection is defined as either of the following:
- (a) Any drain or conveyance, whether on the surface or subsurface that allows an illicit discharge to enter the MS4 including, but not limited to, any conveyances that allow any nonstormwater discharge including sewage, process wastewater, and wash water to enter the MS4 and any connections to the MS4 from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency; or
 - (b) Any drain or conveyance connected from a commercial or industrial land use to the MS4 which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.
- (9) *Industrial activity.* Activities subject to WPDES Industrial Permits per [Wis. Adm. Code ch.] NR 216 (effective August 1, 2004) and Wis. Stats. ch. 283 (November 1, 2005).
- (10) *Municipality.* Any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, stormwater or other wastes.
- (11) Municipal separate storm sewer system (MS4). As defined in Wis. Adm. Code ch. NR 216 (effective August 1, 2004), means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all the following criteria:
- (a) Owned or operated by a municipality.
 - (b) Designed or used for collecting or conveying stormwater.
 - (c) Is not a combined sewer conveying both sanitary and stormwater.
 - (d) Is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.
- (12) *Non-storm water discharge.* Any discharge to the MS4 that is not composed entirely of stormwater.
- (13) *Owner.* Any person holding fee title, an easement or other interest in property.

- (14) *Outfall.* The point at which stormwater is discharged to waters of the state or to a storm sewer.
- (15) *An individual.* Any owner, operator, corporation, partnership, association, municipality, interstate agency, state agency or federal agency.
- (16) *Pollutant.* As defined in Wis. Stats. ch. 283 (November 1, 2005), means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.
- (17) *Pollution.* As defined in Wis. Stats ch. 283 (November 1, 2005), means any manmade or man-induced alteration of the chemical, physical, biological or radiological integrity of water.
- (18) *Pollution prevention.* Taking measures to eliminate or reduce pollution.
- (19) *Premises.* Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
- (20) *Storm water.* Runoff from precipitation including rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow.
- (21) *Storm water management plan/storm water pollution prevention plan.* A document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.
- (22) *Village.* The Village of Ashwaubenon.
- (23) *Wastewater.* Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.
- (24) *Watercourse.* A natural or artificial channel through which water flows. These channels include: all blue and dashed blue lines on the USGS quadrangle maps, all channels shown on the soils maps in the NRCS soils book for Brown County, all channels identified on the site, and new channels that are created as part of a development. The term "watercourse" includes waters of the state as herein defined.
- (25) *Waters of the state.* As defined in Wis. Stats. ch. 283 (November 1, 2005), means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

- (26) *Wisconsin Pollutant Discharge Elimination System (WPDES) Stormwater Discharge Permit.* A Wisconsin pollutant discharge elimination system permit issued pursuant to Wis. Stats. ch. 283 (November 1, 2005).
- (C) *Applicability.* This section shall apply to all water entering the MS4 generated on any lands unless explicitly exempted by an authorized enforcement agency.
- (D) *Responsibility for administration.* The village and/or its agents shall administer, implement, and enforce the provisions of this section. Any powers granted or duties imposed upon the village may be delegated in writing by the village board to persons or entities acting in the beneficial interest of or as an employ of the Village of Ashwaubenon.
- (E) *Compatibility with other regulations.* This section is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this section are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this section imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.
- (F) *Severability.* The provisions of this section are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this section or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this section.
- (G) *Ultimate responsibility.* The standards set forth herein and promulgated pursuant to this section are minimum standards; therefore this section does not intend or imply that compliance by any person will ensure that there will be no contamination, pollution, or unauthorized discharge of pollutants.
- (H) *Discharge prohibitions.*
- (1) *Prohibition of illicit discharges.* No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater.
- (2) *Allowed discharges.*
- (a) Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.
- (b) Discharges or flow from firefighting, and other discharges specified in writing by the village as being necessary to protect public health and safety.

- (c) Any nonstormwater discharge permitted under a WPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Wisconsin Department of Natural Resources. Any person subject to such a WPDES stormwater discharge permit shall comply with all provisions of such permit.
- (3) *Prohibition of illicit connections.*
- (a) The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.
 - (b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
 - (c) A person is considered to be in violation of this section if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.
 - (d) Improper connections in violation of this section must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the village.
 - (e) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the village requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer, sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the village.
- (I) *Watercourse protection.* Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property be free of trash, debris, excessive vegetation and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.
- (J) *Compliance monitoring.*
- (1) *Right of entry; inspecting and sampling.* The village shall be permitted to enter and inspect facilities subject to regulation under this section as often as may be necessary to determine compliance with this section.
 - (a) If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the village.

- (b) Facility operators shall allow the village ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records.
 - (c) The village shall have the right to set up on any facility such devices as are necessary in the opinion of the Village of Ashwaubenon to conduct monitoring and/or sampling of the facility's stormwater discharge.
 - (d) The village has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.
 - (e) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the village and shall not be replaced. The costs of clearing such access shall be borne by the operator.
 - (f) Unreasonable delay in allowing the village access to a facility is a violation. A person who is the operator of a facility commits an offense if the person denies the village reasonable access to the facility for the purpose of conducting any activity authorized or required by this section.
- (2) *Special inspection warrant.* If the village has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this section, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this section or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the village may seek issuance of a special inspection warrant per Wis. Stats. § 66.0119.
- (K) *Requirement to prevent, control, and reduce stormwater pollutants by the use of best management practices.* The owner or operator of any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the MS4, or waters of the state shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal MS4 or watercourses through the use of these structural and nonstructural BMPs. Further, any person responsible for a property or premises that is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and nonstructural BMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid WPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed in compliance with the provisions of this section. These BMPs shall be part of a stormwater management plan (SWMP)/stormwater pollution prevention plan (SWPPP) as necessary for compliance.

(L) *Notification of spills.* Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the MS4, or waters of the state, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of nonhazardous materials, said person shall notify the village in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the village within two business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least five years. Failure to provide notification of a release as provided above is a violation of this section.

(M) *Violations, enforcement and penalties.*

(1) *Violations.* It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this section. Any person who has violated or continues to violate the provisions of this section, may be subject to the enforcement actions outlined in this section or may be restrained by injunction or otherwise abated in a manner provided by law. In the event the violation constitutes an immediate danger to public health or public safety, the village is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation. The village is authorized to seek costs of the abatement as outlined in section 16 [subsection (q)].

(2) *Warning notice.* When the village finds that any person has violated, or continues to violate, any provision of this section, or any order issued hereunder, the village may serve upon that person a written warning notice, specifying the particular violation believed to have occurred and requesting the discharger to immediately investigate the matter and to seek a resolution whereby any offending discharge will cease. Investigation and/or resolution of the matter in response to the warning notice in no way relieves the alleged violator of liability for any violations occurring before or after receipt of the warning notice. Nothing in the subsection shall limit the authority of the village to take action, including emergency action or any other enforcement action without first issuing a warning notice.

(3) *Notice of violation.* Whenever the village finds that a person has violated a prohibition or failed to meet a requirement of this section, the village may order compliance by written notice of violation to the responsible person. The notice of violation shall contain:

- (a) The name and address of the alleged violator;
- (b) The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;
- (c) A statement specifying the nature of the violation;

- (d) A description of the remedial measures necessary to restore compliance with this section and a time schedule for the completion of such remedial action;
- (e) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
- (f) A statement that the determination of violation may be appealed to the village by filing a written notice of appeal within three days of service of notice of violation; and a statement specifying that, should the violator fail to restore compliance within the established time schedule, the work will be done by a designated governmental agency or contractor and the expense thereof shall be charged to the violator. Such notice may require without limitation:
 - (i) The performance of monitoring, analyses, and reporting;
 - (ii) The elimination of illicit connections or discharges;
 - (iii) That violating discharges, practices, or operations shall cease and desist;
 - (iv) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
 - (v) Payment of a fine to cover administrative and remediation costs; and
 - (vi) The implementation of BMPs.
- (N) *Suspension of MS4 access.*
 - (1) *Emergency cease and desist orders.* When the village finds that any person has violated, or continues to violate, any provision of this section, or any order issued hereunder, or that the person's past violations are likely to recur, and that the person's violation(s) has (have) caused or contributed to an actual or threatened discharge to the MS4 or waters of the United States which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the village may issue an order to the violator directing it immediately to cease and desist all such violations and directing the violator to:
 - (a) Immediately comply with all ordinance requirements; and

- (b) Take such appropriate preventive action as may be needed to properly address a continuing or threatened violation, including immediately halting operations and/or terminating the discharge. Any person notified of an emergency order directed to it under this subsection shall immediately comply and stop or eliminate its endangering discharge. In the event of a discharger's failure to immediately comply voluntarily with the emergency order, the village may take such steps as deemed necessary to prevent or minimize harm to the MS4 or waters of the United States, and/or endangerment to persons or to the environment, including immediate termination of a facility's water supply, sewer connection, or other municipal utility services. The village may allow the person to recommence its discharge when it has demonstrated to the satisfaction of the village that the period of endangerment has passed, unless further termination proceedings are initiated against the discharger under this section. A person that is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful discharge and the measures taken to prevent any future occurrence, to the village within three days of receipt of the prerequisite for, taking any other action against the violator.
- (2) *Suspension due to illicit discharges in emergency situations.* The village may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the state. If the violator fails to comply with a suspension order issued in an emergency, the village may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the United States, or to minimize danger to persons.
- (3) *Suspension due to the detection of illicit discharge.* Any person discharging to the MS4 in violation of this section may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The village will notify a violator of the proposed termination of its MS4 access. The violator may petition the village for a reconsideration and hearing. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the village.
- (4) *Prosecution and penalties.* Any person that has violated or continues to violate this section shall be liable to prosecution to the fullest extent of the law. In the event the alleged violator fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within the set time period specified by the village, after the village has taken one or more of the actions described above, the village may impose a penalty not to exceed \$1,000.00 for each day the violation remains unremedied after receipt of the notice of violation.
- (O) *Appeal of notice of violation.* Any person receiving a notice of violation may appeal the determination of the village. The notice of appeal must be received by the village within three days from the date of the notice of violation. Hearing on the appeal before the appropriate authority or his/her designee shall take place within 30 days from the date of receipt of the notice of appeal.

- (P) *Enforcement measures after appeal.* If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, the municipal authority upheld the decision of the village, then representatives of the village are authorized to enter upon the subject private property and authorized to take any and all measures necessary to abate the violation. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.
- (Q) *Cost of abatement of the violation.* Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. If the amount due is not paid by the date determined by the municipal authority, the charges shall become a special charge against the property and shall constitute a lien on the property.
- (R) *Violations deemed a public nuisance.* Any condition in violation of any of the provisions of this section and declared and deemed a nuisance, may be summarily abated or restored at the violator's expense.
- (S) *Remedies not exclusive.* The remedies listed in this section are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the village to seek cumulative remedies. The village may recover all attorney fees, court costs and other expenses associated with enforcement of this section, including sampling and monitoring expenses.
- (T) *Adoption of ordinance.* This section shall be in full force and effect after its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this section are hereby repealed.

(Ord. No. O4-5-09, § 2, 4-28-2009)

Technical Reference Guide

Illicit Discharge Detection & Elimination



Prepared for the
VILLAGE OF ASHWAUBENON
BROWN COUNTY, WISCONSIN



MARCH 1, 2021

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Technical Reference Guide

Illicit Discharge Detection & Elimination



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1. INTRODUCTION

The Village of Ashwaubenon has developed an illicit discharge detection and elimination program to remove illicit connections and discharges from the municipal separate storm sewer system (MS4). A thorough awareness of the MS4 system is important to the success of an illicit discharge program. Awareness allows the MS4 operator to locate problem areas, find the source, and eliminate the discharge.

Potential sources of illicit discharge include illegal business discharges, boat and marina discharges, overflows from sanitary sewer systems, illegal plumbing connections, illegal dumping of waste materials, and spills associated with roadway accidents and industrial activity. Illicit discharges can contribute high levels of pollutants, toxins, oil, grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from illicit discharges are concentrated and may be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Discharges or flows that are NOT considered illicit discharges include water line flushing, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, firefighting, and discharges authorized under a WPDES permit unless identified by the Village as a significant source of pollutants to waters of the state.

The policies and procedures described herein have been developed to assist with implementation of the illicit discharge detection and elimination program. The policies and procedures include the following major components:

- On-Going Field Screening
- Routine Inspections
- Responding to Illicit Discharges
- Enforcement Actions
- Information Submitted by the Public

2. ON-GOING OUTFALL FIELD SCREENING

This section describes policies and procedures for conducting ongoing field screening of outfalls during dry weather periods. Table E-1 provides a basic overview of the field screening components. The Village Engineer is responsible for coordinating the ongoing field screening.

The Village's WPDES Permit requires ongoing field screening is to be performed at 100% of major outfalls at least once during the permit term. In addition, the Village's WPDES Permit requires annual on-going field screening of minor outfalls is to be performed during the permit term. The Village plans to perform on-going field screening of outfalls as follows:

- Each major outfall is to be screened at least once every 5 years. A major outfall designated as potential, suspect, or obvious for illicit discharge within the prior 5 years is considered a "priority" major outfall. The Village plans to conduct field screening once a year for "priority" major outfalls. Major outfalls not designated as potential, suspect, or obvious for illicit discharge within the prior 5 years will be screened once every 5 years.
- Each minor outfall is to be screened once every 5 to 10 years. A minor outfall designated as potential, suspect, or obvious for illicit discharge within the prior 3 years is considered a "priority" minor outfall. The Village plans to conduct field screening once a year for "priority" minor outfalls. Minor outfalls not designated as potential, suspect, or obvious for illicit discharge within the prior 3 years will be screened once every 5 to 10 years.

Ongoing field screening is performed at outfalls identified on the Village's MS4 map and within the Village's developed urban area jurisdiction. The field screening crew should wait at least 48-hours following a rainfall event, to minimize the chance of runoff affecting field screening observations. The field crew may need to wait more than 48-hours if a detention pond is located upslope of an outfall. Some wet detention ponds will discharge runoff for 72 to 120-hours after a rainfall event. The best time of year for conducting field screening of outfalls is during dry seasons, when groundwater levels are low. Dry periods typically occur in June, July, August, September, and October, but dense vegetation will be present during these months. Dense vegetation can make finding outfalls difficult, so it may be preferred, though not required, that certain outfalls be field screened during 'leaf off' conditions. The most likely months that will meet these criteria are October, November, December, January, and February.

Basic equipment and supplies needed for the ongoing field screening are summarized in Table E-2. Necessary equipment and supplies include Outfall Field Screening Worksheets (electronic or hard copy), GPS unit, camera, stopwatch, tape measure, waders, and a copy of the MS4 map (electronic or hard copy). Field crews should also be equipped with basic safety equipment, including cellular phones, surgical gloves, and first aid kits. For safety reasons, the field crew should include two people. The field crew should have a basic understanding of illicit discharges and of these policies and procedures.

The field crew should review the MS4 map prior to conducting the outfall field screening. The MS4 map should identify outfalls, storm sewer and drainage system connectivity and WPDES permits. The WPDES permits identify those sites with permitted dry weather discharges and dewatering operations. Having an awareness of these dry weather discharges will be helpful during the field screening process. A plan for systematically screening the outfalls should be developed before beginning the screening process.

Typical outfall types that will be encountered include storm sewers, culverts and drainage ditches located along rivers, streams, lakes, and wetlands. Field screening points shall, where possible, be located downslope of any source of suspected illicit activity. Field screening points shall be located, where practicable, at the farthest manhole or other accessible location downslope in the system. Safety of personnel, accessibility of the location, and screening effectiveness shall be considered in making these determinations.

Outfall field screening activities are to be documented. An Outfall Field Screening Worksheet should be completed for each screened outfall. Refer to Figure E-1 for a sample hard copy worksheet. Paper copies of the worksheet can be used during field screening. An electronic version of this worksheet is preferred for ease of recordkeeping and compiling field data. The screening worksheet includes the following major sections:

Section 1 - Background Data

The first section of the worksheet is used to record basic data about the field screening, including date, time, field crew members, GPS coordinates, outfall ID, and current and past weather conditions. In addition to recording basic data, the field crew should also photograph and physically mark the outfall with an ID number. The photograph number or identifier should be recorded. GPS coordinates help field crews confirm outfall locations during future field screenings.

Section 2 - Outfall Description

This section is used to document basic characteristics of the outfall, including type, material, dimensions and whether there is flow present. If no flow is observed at the outfall, the crew can skip Sections 3 and 4 of the worksheet. If flow is observed, Sections 3 and 4 of the worksheet are used to characterize the flow.

Section 3 – Quantitative Characteristics for Flowing Outfalls

This section is used to record direct measurements of flowing outfalls. Commercially available probes and test strips can be used for measurement of temperature, pH, ammonia, and other parameters. When probes and test strips are used, measurements should be taken from a sample bottle that contains captured flow from the outfall. For some parameters, it may be necessary to send samples to a laboratory for analysis. All samples should be clearly labeled with the date, outfall ID, sample number, sample location, and Village name. As indicated in Table E-6, the following indicator parameters MUST be documented as part of the field analysis and sampling, in accordance with the Village's WPDES permit:

- Flow rate, pH, total chlorine, total copper, total phenol, and detergents; or
- Flow rate, detergent, ammonia, potassium, and fluoride.

Flow rate can be measured using one of two suggested methods. The first method records the time it takes to fill a container of known volume (i.e., 1-liter sample bottle). The second method measures velocity of flow and multiplies it by the estimated cross-sectional area of flow. The second method is preferred for large diameter pipes where containers are too small to effectively capture the flow.

To use the second method for measuring flow rate, the field crew measures and marks a fixed flow length, drops a lightweight item (i.e., leaf, ping pong ball, etc.) into the discharge, and records the time it takes the item to travel across the fixed length of flow. The velocity and flow rate are calculated as:

- Velocity (ft/sec) = Length of Flow (ft) / Time of Travel (sec)
- Flow Rate (cf/sec) = Cross Sectional Area (sf) x Velocity (ft/sec)

Section 4 – Physical Indicators for Flowing Outfalls

In this section, the field crew records sensory indicators associated with a flowing outfall. Sensory indicators are detected by smell or sight and do not require measurement equipment. The following sensory indicators MUST be documented, in accordance with the Village's WPDES permit:

- Odor, color, turbidity, floatables (oil sheen, surface scum, suds), and any other relevant cold-weather indicators regarding the potential presence of illicit discharges or dumping.

The observer uses the worksheet to indicate whether a sensory indicator is present, and if so, ranks the severity on a scale. Severity rankings for the five sensory indicators are summarized in Table E-3. **Odor** should be monitored directly from the outfall by the field crew. The crew should reach a consensus on whether odor is detected and the severity, since smell is a very subjective indicator.

Color and turbidity are best measured by collecting a sample in a clear bottle and holding it up to the light. A visual assessment of the discharge color and its intensity can often help identify industrial discharges. Turbidity, which is a measure of the cloudiness of the water, is also estimated visually. Color and turbidity are not the same indicator. Color is the tint or intensity of

the color observed, while turbidity is a measure of how easily light can penetrate through the sample.

The presence of **floatables** (oil sheen, surface scum, suds) is determined visually.

Ice can be used as a **cold-weather indicator** of illicit discharge when it forms in pipes, ditches and streams during the winter months, because most discharges are warm and can cause melting patterns at the outfall. Significant ice melting at an outfall or within a wet pond may indicate warm water from sewage or an industrial discharge. Groundwater or sump pump discharges may be warm enough to cause melting, so other indicators should be used in concert with ice melting observations. Other indicators to check for are discolored ice at the outfall and the formation of “rime ice”, which forms when steam freezes. This crystalline formation is a good indicator of sewage or other hot discharges that would cause steam to form.

Section 5 – Physical Indicators for Both Flowing & Non-Flowing Outfalls

The purpose of this section is to document physical indicators found at both flowing and non-flowing outfalls that may reveal the impact of a past discharge. Physical indicators include outfall damage, outfall deposits or stains, abnormal vegetation growth, poor pool quality, and benthic (aquatic bottom dwelling organism) growth on pipe surfaces. These conditions can indicate that an intermittent or transitory discharge has occurred in the past, even though the pipe is not currently flowing.

Section 6 – Overall Outfall Designation

This section allows the field crew to designate the illicit discharge severity of the outfall based on the number and severity of discharge indicators identified in the previous sections of the worksheet. Using the descriptions provided in Table E-4, the illicit discharge is designated as unlikely, potential, suspect, or obvious.

Section 7 – Data Collection

In Section 7, the field crew records whether samples were collected for further analysis in a laboratory and whether the sample was taken from a pool downstream from the outfall or directly from the outfall. All samples should be clearly labeled with the date, outfall ID, sample number, sample location, and Village name. Indicate whether an intermittent flow trap was used to pool the discharge for sampling. If samples were collected for further analysis, the field crew should make arrangements for sending or delivering the samples to a laboratory the same day.

Section 8 – Any Non-Illicit Discharge Concerns

The last section of the worksheet is used to document any conditions at or near the outfall which require attention, including pipe failure, bank erosion, dumping, graffiti, or other maintenance or repair needs. Only items that are NOT related to illicit discharge should be recorded in this section.

The next step in the ongoing field screening of outfalls is to compile, organize and interpret data. The conditions observed and documented during field screening provide valuable information that can be used to determine the extent of illicit discharge problems in the MS4. It is important to compile and organize the data as soon as possible. Whether electronic or hard copy worksheets, a well-organized approach begins with effective management of the Outfall Field Screening Worksheets.

Major outfall designation data can be used to characterize the extent of illicit discharge problems in sub-watersheds and in the community. This characterization involves evaluation of the total number of outfalls designated as having potential, suspected or obvious illicit discharge potential. Based on this evaluation, the Village can assess whether illicit discharge problems are minimal, clustered in a specific area or areas, or severe. Characterizing the extent of illicit discharge problems will allow the Village to focus efforts on eliminating illicit discharges from the MS4.

All outfall screening is to be documented as part of the Village's illicit discharge program.

3. ROUTINE INSPECTIONS

In addition to the on-going field screening of outfalls, the Village plans to search for illicit discharges, illegal connections, and sanitary leakage by conducting routine plumbing, sanitary sewer, and storm sewer inspections. The Building Inspector is responsible for coordinating the routine plumbing inspections. The Village Engineer is responsible for coordinating the routine sanitary sewer and storm sewer inspections.

Table E-5 provides a basic overview of the routine inspections.

Routine Plumbing Inspections:

The Village conducts routine plumbing inspections when a building permit is issued, a building changes ownership, or a water meter or battery is changed. The Village inspects residential plumbing systems about once every 10 years. Commercial customers are inspected every few years by a trained cross-connection specialist. The purpose of the routine plumbing inspections is to locate illegal connections and cross-connections. Examples of illegal plumbing connections include a washing machine discharging to the building's sump pump, a garage floor drain directly connected to the building's storm lateral, a building's sanitary lateral cross-connected to the MS4, and lack of adequate cross-connection prevention devices.

Routine Sanitary Sewer Inspections:

The Village conducts routine inspections of its sanitary sewer system. Identifying infiltration and inflow (I & I) problems in the sanitary sewer system helps eliminate potential sanitary sewer leaks and overflows into the MS4 or waters of the state. The Village televises about 10% of its sanitary sewer system each year or about 100% every 10 years. Conditions that may be discovered include cross connections with storm sewers, collapsed or blocked pipes, offset joints, root intrusion, etc. As I & I problems and sanitary leaks are identified, an implementation plan will be developed to

remedy the problems. Each year, about 10% of the sanitary sewer manholes are cleaned and inspected. A report is maintained for each inspection.

Routine Storm Sewer Inspections:

The Village conducts routine storm sewer inspections before a street is reconstructed and when a storm sewer is cleaned. Typically, large diameter pipes are visually inspected and small diameter pipes are televised. Conditions that may be discovered include illicit discharges, cross connections with sanitary sewers, collapsed or blocked pipes, offset joints, root intrusion, etc. As problems are identified, an implementation plan will be developed to remedy the problems. A report is maintained for each inspection.

4. RESPONDING TO ILLICIT DISCHARGES

This section describes policies and procedures for responding to known or suspected illicit discharges. The Village Engineer is responsible for coordinating the response to known or suspected illicit discharges and spills. The procedures include investigating the source of an illicit discharge or spill, responding to spills, preventing and containing spills, notifying the Department of Natural Resources (DNR) of spills that may discharge into waters of the state, eliminating sanitary leakage into the MS4, notifying the DNR of dye testing, and notifying adjacent municipalities of illicit discharges that may enter their MS4 system.

There are two primary ways an illicit discharge or spill can be discovered:

- Illicit discharge discovered during field screening of outfalls and routine inspections; or
- Third party reporting. Third party reporting includes reports to the Village of a known or suspected illicit discharge or spill by the general public. This also includes known or suspected illicit discharges or spills discovered by municipal staff as part of their everyday operating procedures (not related to ongoing or on-going field screening of outfalls).

During field screening of outfalls, chemical test results are compared to recommended benchmark levels provided by the Wisconsin DNR. The recommended benchmark levels, along with potential illicit and non-illicit sources, are summarized in Table E-6. If chemical test results exceed action levels or at least two physical indicators are noted, the Village Engineer is notified. The Village Engineer then instructs field crews whether to further investigate to attempt to locate a source of the illicit discharge.

The Village must respond as soon as possible. Once the source of an illicit discharge or spill is identified, the offending discharger will be contacted and directed to correct the problem. Refer to Section 4, "Enforcement Actions". If an illicit connection cannot be eliminated in 30 days, the Village must contact the DNR to discuss appropriate action and timeframe for removal.

Investigating the Source of an Illicit Discharge or Spill:

Once an illicit discharge is found, a combination of methods is used to isolate its specific source. This section describes the following investigative methods: Drainage System Investigation, Drainage Area Investigation, and On-Site Investigation.

- *Drainage System Investigation:*

This method involves progressive inspection and sampling along storm sewers and drainage ditches. The purpose of the investigation is to narrow the discharge to an isolated pipe or ditch segment within the drainage system. The simplest method is to start at the outfall and move up the system, inspecting storm sewer manholes and culverts along the way. The field crew should progressively move through the system until indicators reveal that the discharge is no longer present. As shown in Figure E-2, the goal is to isolate the discharge between two storm manholes or two culverts.

Drainage system investigations include both visual observations and indicator sampling. Visual observations made during manhole and culvert inspections include presence of flow, odor, color, turbidity, floatables, and deposits or staining. Deposits or staining may be indicators of an intermittent discharge. If dry weather flow is observed, the field crew should collect a sample, and then analyze the sample in the field using commercially available test strips and kits. Indicator parameters that are required in the Village's WPDES permit, and other recommended parameters are summarized in Table E-7.

Field crews must follow established safety and operational procedures when conducting manhole and culvert inspections. Established safety and operational procedures may include, but are not limited to properly diverting traffic, wearing safety vest/apparel, following proper procedures for removing manhole covers, using a gas monitor, and following proper procedures for confined space entry (if necessary).

All drainage system inspections should be documented as part of the Village's illicit discharge detection and elimination program.

- *Drainage Area Investigation:*

A basic visual survey or analysis of the drainage area for the problem outfall can be useful when investigating the source of an illicit discharge or spill. The field crew can simply walk or drive around the drainage area trying to identify a potential discharger or generating site. Drainage area investigations are most useful in tracing discharges from commercial or industrial sources. This method is not particularly useful in tracing sewage discharges. The field crew should use drainage area investigations in concert with visual observations and indicator sampling at manholes. For example, if the crew observes a thick, sudsy, fragrant discharge (consistent with wash water) at the outfall, they should check the drainage area for a laundromat. Other analytical tools include searching portions of the drainage area with high population density, high traffic density, older infrastructure age, and historic problems.

All drainage area investigations should be documented as part of the Village's illicit discharge detection and elimination program.

▪ *On-Site Investigation:*

On-site investigations are used to pinpoint the exact source or connection producing a discharge within the MS4. The basic approaches to on-site investigations are dye testing, smoke testing and televising. Depending on conditions, the field crew may use one or more of these approaches. These approaches are most effective in locating direct discharges to the storm sewer and are not very effective at locating indirect discharges. The field crew must take appropriate steps related to safety and proper notification prior to conducting dye testing, smoke testing and televising. Table E-8 summarizes the three basic approaches.

All on-site investigations should be documented as part of the Village's illicit discharge detection and elimination program.

Responding to Spills:

In the case of a spill being reported to the Village by the general public or by its own municipal staff, the person receiving the report should take in as much information as possible from the person reporting the spill. This information will be helpful in establishing the severity of the incident and how to respond. At a minimum, the following information should be requested:

- Date and time of spill
- Location of spill (street address, municipality)
- Property owner's (or responsible party's) name and address
- Type and amount of substance (known or suspected)
- Actions taken to stop or contain spill (if any)

The first priority is to determine if there is any fire, explosion, safety hazard to life and health, or a need to evacuate the building or area. All reports of spills should be referred immediately to the Fire Department, either via the direct line or the 911 Emergency System. For spills involving a petroleum sheen or highly suspicious material, the 911 Emergency System should be contacted immediately. Contact information for all parties that may be involved in responding to and / or cleanup of a reported spill is provided in Table E-9.

Some spills must be immediately reported to the DNR. Attachment E-1 includes a condensed version of Wisconsin's spill reporting requirements. All discharges of hazardous substances that adversely impact, or threaten to adversely impact public health, welfare or the environment must be immediately reported to the DNR. Attachment E-1 also describes the DNR's response procedures for reported spills. In the case of a reportable spill, the Primary Contact must notify the DNR's 24-hour toll free spill hotline at 1-800-943-0003.

After making the necessary contacts and notifications, the next steps in responding to a spill are containment, tracking the source, cleanup, and evidence collection. Depending on the severity of the spill, containment and cleanup efforts will be conducted by one or more of the following:

Village Engineer, Fire and Police Department, Hazmat Team, Coast Guard, and adjacent municipalities. Evidence collected during cleanup may include eyewitness accounts, photographs, samples, and other information specific to the incident. Tracking the source of the spill should be done using the same methods summarized above (“Investigating the Source of an Illicit Discharge or Spill”).

The Village plans to document spill response efforts, including observations, parties involved in spill response, conversations, witness statements, decisions, actions, sampling activity, and photographs. Each photograph should include written documentation including date and time photo was taken, location, and photographer’s name, title, and phone number.

Preventing and Containing Spills:

Public education and outreach is an effective measure for preventing and containing spills. There is a strong likelihood that many spills will not be reported to the Village. As such, outreach to municipal employees, businesses, property owners and the general public regarding ways to prevent and contain spills is an important component of the illicit discharge program. A targeted public education and outreach program is recommended for three sectors of the community:

- *Residential Neighborhoods* – Educate residential homeowners about the local Clean Sweep Program. If automobile fluids and other hazardous materials are properly disposed of during the Clean Sweep Program, the fluids can not be accidentally spilled or intentionally dumped into a storm drain. Storm drain stenciling may also be an effective educational tool.
- *Businesses / Generating Sites* – Educate business owners and generating sites about spill prevention and containment. Table E-10 lists common generating sites and types of activities that may result in illicit discharges and spills. Certain businesses have a higher potential for spills due to the type of materials and activities at the site. Useful outreach materials may include educational brochures, posters, and generic spill response plans which can be used by business owners and operators. The generic spill response plan should contain a list of local phone numbers for reporting spills, a list of best management practices for preventing spills, and a list of procedures for containing spills.
- *Municipal Housekeeping* – Educate Village employees about spill prevention and containment. Spills may occur during routine municipal operations, such as sanitary sewer maintenance, municipal vehicle maintenance, and household hazardous waste collection. It is important that Village employees are properly trained in spill response, particularly the fire department and local hazmat team. Also, the Village should work with the WDOT and County Highway Department to ensure that there is a spill response plan in place for local highways and streets. Roadways have a higher potential for spills due to accidents.

In addition to the public education and outreach program, the following practices and procedures are recommended to contain spills that occur within the Village:

- If a spill occurs, immediately plug or block surface inlets and ditches to contain the spill.

- If a spill occurs, immediately plug or block pond outlet structures to contain the spill.
- If a spill occurs, immediately plug or block underground storm sewer pipes using caulk dams and expandable plugs to contain the spill prior to discharge into waters of the state.
- Maintain an adequate supply of adsorbent spill cleanup materials at all times.

Notifying the DNR of Spills That May Discharge Into Waters of the State:

In the event that the Village identifies a spill or release of a hazardous substance, which has resulted or may result in the discharge of pollutants into waters of the state, the Village must immediately notify the DNR via the 24-hour toll free spill hotline (800-943-0003).

Eliminating Sanitary Leakage into the MS4:

Leakage from the sanitary sewer system into the MS4 will most likely be discovered during field screening of outfalls and routine sanitary sewer inspections. The Village will, to the maximum extent practicable, eliminate sanitary leakage into the MS4. Elimination of sanitary leakage will be accomplished by physically removing the connection. All repairs undertaken to eliminate sanitary leakage into the MS4 will be documented as part of the Village’s illicit discharge detection and elimination program.

Notifying the DNR of Dye Testing:

The Village may conduct dye testing as an investigative method for tracking the source of a known or suspected illicit discharge. The Village must provide the Department of Natural Resources with advance notice of the time and location of dye testing within a MS4. The Village should notify the DNR a minimum of 1 business day prior to conducting dye testing. Verbal notification can be made either via the DNR’s 24-hour spill hotline (1-800-943-0003) or to the DNR’s Northeast Region Spills Coordinator.

Notifying Adjacent Municipalities of Illicit Discharges That May Enter Their MS4 System:

In the case of an illicit discharge that originates from the Village’s MS4 and that discharges directly into an MS4 or property under the jurisdiction of an adjacent municipality, the Village must notify the affected municipality within 1 business day. Contact information for each of the Village’s neighboring municipalities is provided in Table E-9. The Village should document each illicit discharge notification to an adjacent municipality.

5. ENFORCEMENT ACTIONS

Once the Village Engineer can trace an illicit discharge or illegal connection to a source which is identified as a specific residence or commercial / industrial establishment, the property owner is identified as being non-compliant with the Village’s Illicit Discharge and Connection to Storm Sewers Ordinance. When a non-compliance issue is identified, the inspector should first attempt to call or speak with the responsible party. For a minor non-compliance issue, the inspector will provide a written “Warning Notice” including deadline for correcting the non-compliance. The inspector will also distribute educational materials, if deemed appropriate. The majority of non-

compliance issues will likely be corrected in this manner. If the deadline is not met, the inspector will send via US Mail a written “Notice of Violation” to the responsible party. The “Notice of Violation” will outline the required actions to be completed by a specific date and time in order to avoid enforcement action.

Enforcement actions will depend on the type and severity of non-compliance. Typically, enforcement actions will include citations and forfeitures. Citations and forfeitures will continue until the inspector determines the site is compliant. Each day of non-compliance will be considered a new violation. For blatant, intentional, repetitive or severe non-compliance issues, the Village Engineer shall immediately initiate enforcement actions. Other potential enforcement actions include “Cease and Desist Orders”, terminating storm sewer access, terminating water supply access, terminating sanitary sewer access, and issuing a “Notice of Intent” that the municipality intends to perform emergency work. Costs associated with emergency work will be billed to the responsible party or if not paid, placed on the tax roll as a special assessment.

If it takes more than 30 days to remove the illicit connection, the Village must contact the DNR to discuss appropriate action and the timeframe for removal.

All enforcement actions shall be documented as part of the Village’s illicit discharge detection and elimination program. The Village should also document the number of illicit discharges and connections that are eliminated, and the total number of days that it took to eliminate the discharge/connection.

6. INFORMATION SUBMITTED BY THE PUBLIC

Information submitted by the general public or an adjacent municipality will be forwarded to Village Engineer for documentation and follow-up. Information might be submitted verbally, by phone, e-mail, letter or website.

Follow-up activities may consist of reviewing the MS4 map, requesting a copy of plumbing plans, performing field and lab tests, conducting site inspections, and / or initiating enforcement actions. All information received from the public and associated follow-up activities should be documented as part of the Village’s illicit discharge detection and elimination program.

APPENDIX E

Tables, Figures & Attachments

TABLE E-1: ONGOING FIELD SCREENING STEPS

STEP	STRATEGIES
Step 1: Acquire necessary mapping, equipment and staff	<ul style="list-style-type: none"> ▪ Use municipal separate storm sewer system (MS4) map. ▪ Refer to Table E-2 for field screening equipment list. ▪ For safety reasons, use a two-person field crew with proper training.
Step 2: Determine when to conduct field screening	<ul style="list-style-type: none"> ▪ During dry season, if possible. Leaf-off conditions may be beneficial for accessing some outfalls. ▪ After a dry period of at least 48 hours. ▪ Low groundwater levels. ▪ In Wisconsin, this corresponds to the months of June through November, depending on actual conditions.
Step 3: Identify where to conduct field screening	<ul style="list-style-type: none"> ▪ Outfalls located within the Village’s MS4 jurisdiction and developed urban area. ▪ Screen outfalls systematically using MS4 map and after considering complaints, high risk areas, and results of previous outfall screening history.
Step 4: Conduct field screening	<ul style="list-style-type: none"> ▪ Mark and photograph outfalls. Record GPS coordinate. ▪ Record outfall characteristics. Use “Outfall Field Screening Worksheet” or electronic form. ▪ Simple monitoring at flowing outfalls. ▪ Perform sampling at flowing outfalls. ▪ Deal with major problems immediately.
Step 5: Compile data from field screening	<ul style="list-style-type: none"> ▪ Compile GPS data and photographs of outfalls. ▪ Enter data into database, or file paper copies of data in one location. ▪ Send any samples to laboratory for analysis, if necessary. ▪ Update MS4 map if necessary.
Step 6: Develop designation for outfalls	<ul style="list-style-type: none"> ▪ Use compiled data to designate outfalls as having obvious, suspect, potential, or unlikely discharge potential.
Step 7: Characterize the extent of illicit discharge problems	<ul style="list-style-type: none"> ▪ Use major outfall designation data. ▪ Characterize extent of illicit discharge problems as minimal, clustered or severe.
Step 8: Revise on-going monitoring strategy, as needed	<ul style="list-style-type: none"> ▪ Use on-going field screening of outfalls and routine inspections of plumbing systems, septic systems, sanitary sewers, and storm sewers.

TABLE E-2: FIELD SCREENING EQUIPMENT & SUPPLY LIST

QUANTITY	ITEM
1	Backpack or Carrying Case
Enough for each item requiring batteries	Batteries (for flashlight, camera, GPS unit, etc)
1	Camera (preferably digital)
1 per person	Cellular Phones or Handheld Radios
1 per person	Clipboard and Pencil
1 per person	Photo ID Badge with (community) logo
1	Disposable Surgical Gloves, box
1	First Aid Kit
1	Flashlight or Head Lamp
1	GPS Unit
1	Labeling Tape, rolls
1	MS4 Map
1	List of MS4 Outfalls and WPDES Permits
1	Measuring Tape
1 per outfall	Outfall Field Screening Worksheets
Varies	Spray Paint, cans
1	Stop Watch or Watch with Second Hand
1	Temperature Probe
1 per person	Waders, pairs
1 per outfall	Wide Mouth Sample Bottles, 1-liter
OPTIONAL ITEMS ²:	
See Footnote Below	Test Strips and Kits ³

1. Quantities are per field crew.
2. If test strips and kits are not available to the field crew for analysis in the field, all samples collected during field screening must be taken to a testing laboratory.
3. Recommended test strips and kits: pH, total chlorine, total copper, alkalinity, ammonia, chloride, total hardness, nitrate-nitrite. Test strips should provide 'concentration range' for parameter being tested.

*Field analysis parameters that are **required** by Permit include pH, total chlorine, total copper, total phenol and detergents OR use of detergent, ammonia, potassium, and fluoride as indicator parameters. Parameters that cannot be field analyzed with test strips should be analyzed in a laboratory.*

TABLE E-3: SENSORY INDICATOR SEVERITY RANKING

SENSORY INDICATOR	SEVERITY RANKING		
	1	2	3
Odor	Odor is faint or the crew cannot agree on its presence or origin.	Moderate odor within the pipe.	Odor is strong enough that crew can smell it a considerable distance from the outfall.
Color	Faint color detected in sample bottle.	Color is clearly detected in sample bottle.	Color is clearly detected in outfall flow.
Turbidity	A slight cloudiness is detected.	The sample is cloudy.	The sample is opaque, meaning that no light can pass through.
Floatables	Few floatables or slight sheen / suds / scum observed. Origin is not obvious.	Some floatables or moderate sheen / suds / scum observed. Some indication of origin.	Significant amount of floatables / sheen / suds / scum observed. Origin is clearly determined.
Cold Weather Indicators	Slight melting, discoloration or formation of "rime ice".	Moderate melting, discoloration or formation of "rime ice".	Significant melting, discoloration or formation of "rime ice".

TABLE E-4: OUTFALL DESIGNATION DESCRIPTIONS

DESIGNATION	DESCRIPTION
Unlikely Discharge	Flowing outfalls with chemical indicators below benchmark levels; Flowing and non-flowing outfalls with fewer than two physical indicators.
Potential Discharge	Flowing outfalls with chemical indicators slightly above benchmark levels; Flowing and non-flowing outfalls with two or more physical indicators.
Suspect Discharge	Flowing outfalls with chemical indicators significantly above benchmark levels and/or high severity on one or more physical indicators.
Obvious Discharge	Outfalls where there is dumping or an illicit discharge that does not require sample collection for confirmation.

TABLE E-5: ON-GOING FIELD SCREENING & ROUTINE INSPECTIONS

TASK	DESCRIPTION	FREQUENCY
On-Going Field Screening of Outfalls	Includes all outfalls. Use same procedure used for initial field screening of major outfalls.	Priority Outfalls: Once Every Year Major Outfalls: Once Every 5 Years Minor Outfalls: Once Every 5 to 10 Years
Routine Plumbing Inspections	Visually inspect plumbing systems when a building permit is issued, a building changes ownership, or a water meter is changed.	Once every \pm 10 Years
Routine Septic System Inspections	Require private septic system owners to hire a licensed septic company for an inspection as part of routine septic system maintenance and pumping.	Once Every \pm 3 Years (if any)
Routine Sanitary Sewer Inspections	Visually inspect and/or televise sanitary sewers during wet weather to search for infiltration and inflow (I & I) sources and sanitary leakage.	\pm 10% of System Every Year -or- 100% of System Every \pm 10 Years
Routine Storm Sewer Inspections	Visually inspect and/or televise storm sewers during dry weather to search for illicit discharges, cross connections, and structural problems.	Before an Urban Street Is Reconstructed or When a Storm Sewer Is Cleaned

TABLE E-6: CHEMICAL INDICATOR BENCHMARK LEVELS

PARAMETER	BENCHMARK LEVEL	ILLCIT SOURCES	NON-ILLCIT SOURCES
Ammonia	0.1 mg/l	Sanitary sewerage and industrial wastewater	Pets, wildlife and potentially WPDES permitted discharges
Detergents	0.5 mg/l	Industrial cleansers, commercial wash water and sanitary sewerage	Residential car washing
pH	Less than 6 or greater than 9	Industrial wastewater and concrete truck wash-out	Groundwater and WPDES permitted discharges
Total Chlorine	Detection or positive test unless associated with a WPDES permitted discharge at background water supply levels	Industrial wastewater, swimming pools and sanitary sewerage	WPDES permitted discharges
Total Copper	0.1 mg/l	Copper-based product use and manufacturing	WPDES permitted discharges
Phenol	Detection or positive test	Chemical, textile, paint, resin, tire, plastic, electronics and pharmaceutical manufacturing	None
Fluoride	Detection above background groundwater or water supply levels	Commercial and industrial wastewaters with a water supply component	Groundwater and WPDES permitted discharges
Potassium	10 mg/l	Sanitary sewerage and industrial wastewater	Groundwater and WPDES permitted discharges
E. coli	10,000 MPN/100 mL	Sanitary sewerage	Wildlife and pets
Human Bacteriodes	Detection or positive test	Sanitary sewerage	None

TABLE E-7: INDICATOR PARAMETERS

PARAMETER	DISCHARGE TYPE DETECTED				ANALYTIC METHOD
	SEWAGE	WASH WATER	TAP WATER	INDUSTRIAL OR COMMERCIAL LIQUID WASTES	
Ammonia	Good Indicator	Sometimes an Indicator	Poor Indicator	Sometimes an Indicator	Test Strip ²
Boron	Sometimes an Indicator	Sometimes an Indicator	Poor Indicator	Unknown	Laboratory (Spectrophotometer)
Chlorine (Total) ¹	Poor Indicator	Poor Indicator	Poor Indicator	Sometimes an Indicator	Test Strip ²
Color	Sometimes an Indicator	Sometimes an Indicator	Poor Indicator	Sometimes an Indicator	Visual
Conductivity	Sometimes an Indicator	Sometimes an Indicator	Poor Indicator	Sometimes an Indicator	Laboratory (Probe)
Copper (Total) ¹	Sometimes an Indicator	Sometimes an Indicator	Sometimes an Indicator	Sometimes an Indicator	Test Strip ²
Detergents – Surfactants ¹	Good Indicator	Good Indicator	Poor Indicator	Sometimes an Indicator	Test Kit ²
E.coli / Fecal coliform	Sometimes an Indicator	Poor Indicator	Poor Indicator	Poor Indicator	Laboratory
Fluoride ¹	Poor Indicator	Poor Indicator	Good Indicator	Sometimes an Indicator	Test Strip ²
Hardness (Total)	Sometimes an Indicator	Sometimes an Indicator	Sometimes an Indicator	Sometimes an Indicator	Test Strip ²
pH ¹	Poor Indicator	Sometimes an Indicator	Poor Indicator	Sometimes an Indicator	Test Strip ²
Phenol (Total) ¹	Poor Indicator	Poor Indicator	Poor Indicator	Good Indicator	Test Kit ²
Potassium ¹	Sometimes an Indicator	Poor Indicator	Poor Indicator	Good Indicator	Laboratory (Probe)
Turbidity	Sometimes an Indicator	Sometimes an Indicator	Poor Indicator	Sometimes an Indicator	Laboratory (Turbidity Meter)

1. Indicator parameters that are **required** by (community's) WPDES Permit include pH, total chlorine, total copper, total phenol and detergents OR use of detergent, ammonia, potassium, and fluoride as indicator parameters. Parameters that cannot be field analyzed with test strips should be analyzed in a laboratory.
2. Recommended test strips and test kits: pH, total chlorine, total copper, alkalinity, ammonia, chloride, detergents – surfactants, total hardness, nitrate-nitrite. Test strips should provide 'concentration range' for parameter being tested. Test strips are commercially available from sources such as NCL Labs and Hach. Other types of test kits include ampoule type kits (i.e. CHEMets, available from www.chemetrics.com).

TABLE E-8: ON-SITE INVESTIGATIVE TECHNIQUES

TECHNIQUE	DESCRIPTION	SAFETY / NOTIFICATIONS
Dye Testing	<ul style="list-style-type: none">▪ Introducing non-toxic dye into toilets, sinks, shop drains and other plumbing fixtures.▪ Discovery of dye in downstream storm sewer determines that illicit connection exists.	<ul style="list-style-type: none">▪ Notify DNR at least 1 business day prior to dye testing.▪ Carry a letter to document legal authority to gain access to the property (reference ordinance).
Smoke Testing	<ul style="list-style-type: none">▪ Introducing non-toxic smoke into the storm sewer system and observe where smoke surfaces.▪ Similar to smoke testing sanitary sewers to detect I & I.▪ Most common situations that indicate illicit discharges include smoke seen rising from internal plumbing fixtures or from sanitary sewers.	<ul style="list-style-type: none">▪ Notify the public prior to beginning smoke testing. A written notice should be sent out to residents.▪ Notify local media if extensive smoke testing is planned.▪ Notify local fire and police departments and local 911 call centers.
Televising	<ul style="list-style-type: none">▪ Guiding a mobile video camera through a storm sewer pipe.▪ Locates flows and leaks within pipe that may indicate illicit discharge.▪ Useful for areas where access is constrained but will only detect discharges that are flowing at the time of televising.	<ul style="list-style-type: none">▪ Carry a letter to document legal authority to gain access to the property, if necessary.

TABLE E-9: LOCAL CONTACTS

CONTACT	NAME	TITLE	PHONE #
Emergency	--	--	911
MS4 Operator	Steve Birr	Village Engineer	920-492-2308
Fire Department	Brian Uhl	Chief of Public Safety	920-492-2995
Police Department	Brian Uhl	Chief of Public Safety	920-492-2995
Public Works Department	Doug Martin	Public Works Director	920-492-2310
24-Hour Contact	--	--	920-492-2308
Village / City Hall	Joel Gregozeski	Administrator	920-492-2301
DNR Spill Hotline	--	--	1-800-943-0003
DNR NE Region Spills Coordinator	Maizie Reif	Spills Coordinator	920-360-4291
County Emergency Management Director	Lauri Maki III	Brown Co. Emergency Management Director	920-391-7401
Area Hazmat Team	Lauri Maki III	Brown Co. Emergency Management Director	920-391-7401
Town of Lawrence	Patrick Wetzal	Administrator	920-347-3710
Village of Hobart	Jerry Lancelle	Director of Public Works & Utilities	920-869-3807
City of De Pere	Eric Rakers	City Engineer	920-339-8304
City of Green Bay	Matt Heckenlaible	Asst. City Engineer	920-448-3112

TABLE E-10: GENERATING SITES & COMMON DISCHARGES

SITE	COMMON DISCHARGES
Vehicle Operations (maintenance, repair, fueling, washing, storage)	<ul style="list-style-type: none">▪ Dumping fluids into storm drains▪ Fuel spills, leaks and drips▪ Wash-down of work areas▪ Other spills
Outdoor Storage and Loading/Unloading	<ul style="list-style-type: none">▪ Spills at loading/unloading areas▪ Wash-down of loading/unloading areas▪ Leaks and spills of stored liquids
Waste Management	<ul style="list-style-type: none">▪ Leaks and spills of liquids▪ Dumping fluids or debris into storm drains▪ Leaking dumpsters
Physical Plants (building repair and maintenance, parking lot maintenance)	<ul style="list-style-type: none">▪ Discharge from washing and steam cleaning▪ Runoff from degreasing and re-surfacing
Turf & Landscaping	<ul style="list-style-type: none">▪ Irrigation runoff▪ Improper rinsing of fertilizer/pesticide applicators
Unique "Hotspots" (municipal or country club pools, golf courses, marinas, construction sites, restaurants, hobby farms)	<ul style="list-style-type: none">▪ Discharge of chlorinated pool water▪ Dumping of sewage and grease

Section 1: Background Data

Sub-Watershed:		Outfall I.D.	
Today's Date:		Time (Military):	
Investigators:		Form Completed By:	
Temperature (°F):	Rainfall (inches):	Last 24-Hours:	Last 48-Hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #'s:	
Land Use In Drainage Area (check all that apply):			
<input type="checkbox"/> Industrial	<input type="checkbox"/> Open Space		
<input type="checkbox"/> Urban - Urban Residential	<input type="checkbox"/> Institutional		
<input type="checkbox"/> Suburban Residential	<input type="checkbox"/> Other: _____		
<input type="checkbox"/> Commercial	<input type="checkbox"/> Known Industries:		
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

Location	Material	Shape	Dimension (in.)	Submerged
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter / Dimensions: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open Drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, skip to Section 5.</i>			
Flow Description (if present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
Parameter	Result	Unit	Equipment	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to Fill	Second		
<input type="checkbox"/> Flow #2	Flow Depth	Inches	Tape Measure	
	Flow Width	' "	Feet / Inches	Tape Measure
	Measured Length	' "	Feet / Inches	Tape Measure
	Time Of Travel		S	Stop Watch
Temperature		°F	Thermometer	
pH		pH Units	Test Strip / Probe	
Ammonia		mg/l	Test Strip	

McMAHON ASSOCIATES, INC.

952 South State Road #2
 Valparaiso, IN 46383
 (219)462-7743 - Telephone
 (219)464-8248 - Fax

1445 McMahon Drive / Neenah, WI 54956
 P.O. Box 1035 / Neenah, WI 54957-1025
 (920)751-4200 - Telephone
 (920)751-4284

1700 Hutchins Road
 Machesney Park, IL 61115
 (815)636-9590 - Telephone
 (815)636-9591 - Fax

Section 4: Physical Indicators For Flowing Outfalls Only

Are any physical indicators present in the flow? Yes No (If No, Skip To Section 5)

Indicator	Check If Present	Description	Relative Severity Index (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid / Sour <input type="checkbox"/> Petroleum / Gas Other:	<input type="checkbox"/> 1 Faint	<input type="checkbox"/> 2 Easily Detected	<input type="checkbox"/> 3 Noticeable From A Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Other:	<input type="checkbox"/> 1 Faint Colors in Sample Bottle	<input type="checkbox"/> 2 Clearly Visible in Sample Bottle	<input type="checkbox"/> 3 Clearly Visible in Outfall Flow
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/> 1 Slight Cloudiness	<input type="checkbox"/> 2 Cloudy	<input type="checkbox"/> 3 Opaque
Floatables (Does Not Include Trash)	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Ice Melt <input type="checkbox"/> Ice Discoloration <input type="checkbox"/> "Rime Ice" <input type="checkbox"/> Other:	<input type="checkbox"/> 1 Few / Slight; origin not obvious	<input type="checkbox"/> 2 Some, indications of origin; (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 Some; origin clear (e.g., obvious oil sheen, suds or floating sanitary material)
Cold Weather	<input type="checkbox"/>		<input type="checkbox"/> 1 Slight	<input type="checkbox"/> 2 Moderate	<input type="checkbox"/> 3 Significant

Section 5: Physical Indicators For Both Flowing & Non-Flowing Outfalls

Are physical indicators that are not related to flow present? Yes No (If No, Skip To Section 6)

Indicator	Check If Present	Description	Comments
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking Or Chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling Paint	
Deposits / Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor Pool Quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Other:	
Pipe Benthic Growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

Unlikely Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3) Obvious

Section 7: Data Collection

1. Sample For the Lab? Yes No
2. If Yes, Collected From: Flow Pool
3. Intermittent Flow Trap Set? Yes No

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs?)

Yes No Comments:

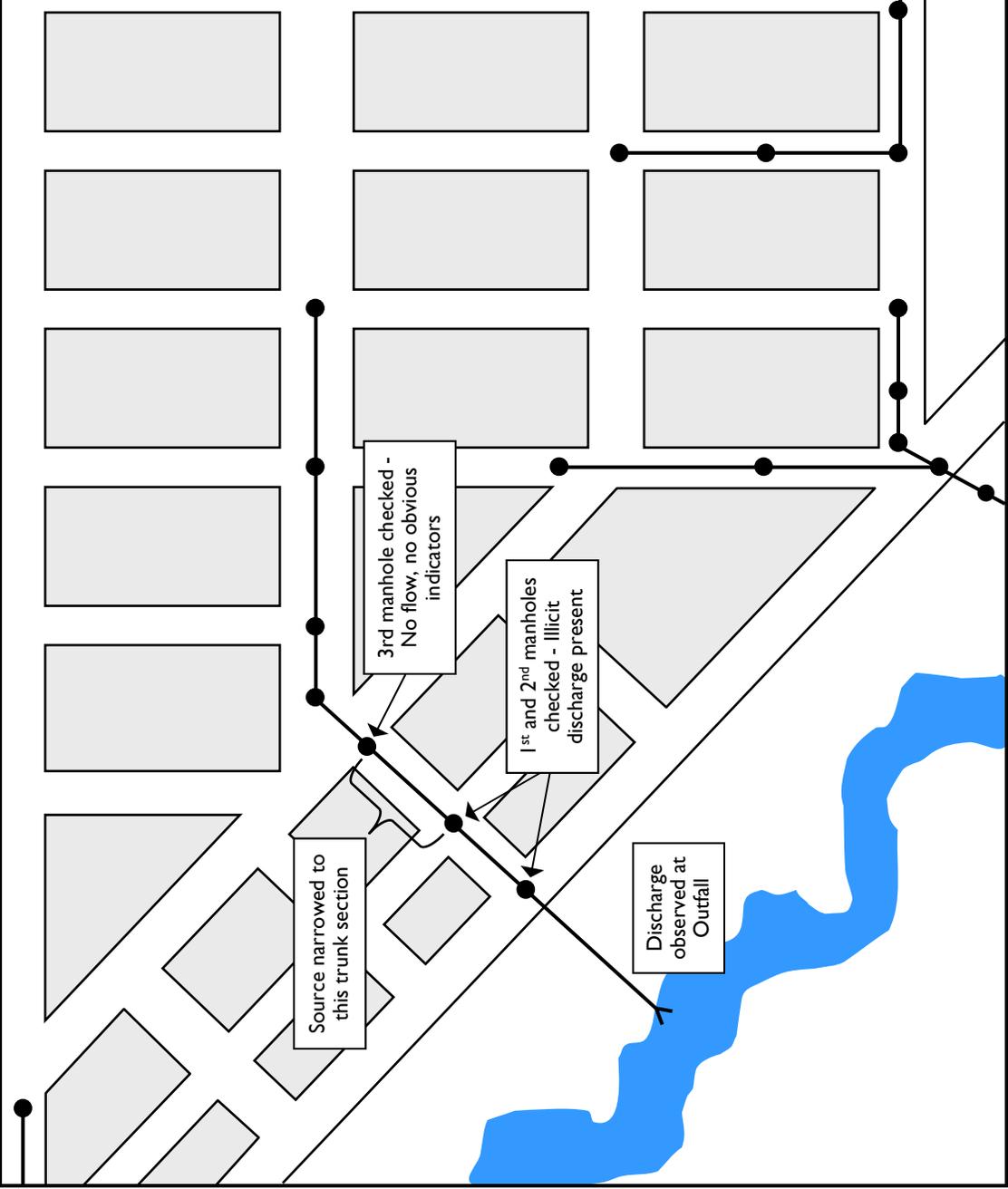


FIGURE E-2
 EXAMPLE INVESTIGATION FOLLOWING THE
 SOURCE UP THE STORM SEWER SYSTEM



DNR Staff Provide Spill Response and Support

Rarely does anyone ever plan a spill. Spills are typically caused by accidents of some sort, but when they do occur, the people involved with a spill must comply with state requirements. Wisconsin law mandates that spills of hazardous substances be immediately reported and cleaned up to protect Wisconsin's citizens and natural resources. When a spill occurs, the DNR has staff located in regional offices around the state to help in a variety of ways.

Responding to Spills

During Normal Working Hours

When calls are made to the DNR spill hotline during the day, the information comes directly to the DNR office in Madison and is forwarded to the Regional Spill Coordinator for follow-up.

After Hours

During the evening hours and on weekends, the phone calls are directed to the Wisconsin State Patrol, who will forward the information to a DNR duty officer. That duty officer will then alert the On-Call Spill Coordinator to the situation.

**The DNR encourages
the public to report
hazardous substance
spills using the
24-hour toll-free
hotline:
1-800-943-0003**

DNR Field Response

DNR Wardens and Regional Spill Coordinators

The first responders to a hazardous substance spill for the DNR may be a field warden or regional spill coordinator. Wardens are more likely to respond in remote areas since they are widely distributed across the state. Each county has at least one warden. Wardens know local responders, such as fire and police personnel, are familiar with the natural resources impacted by a spill and can assist the responsible party in managing the spill.

Spill coordinators (working in the DNR's Remediation and Redevelopment Program) are located in each of the regional DNR offices. These spill coordinators specialize in technical spill response issues and are available before, during, and after spills occur.

When a field warden or regional spill coordinator gets a call about a spill, their follow up may include additional phone calls to get more information about the nature of the spill, going to the site, and/or requesting other DNR assistance (e.g., fish managers, water resources staff and public information specialists).

When an emergency occurs and the responsible party is not available or willing to take action, the DNR will call in a zone contractor to respond to the spill. Zone contractors are emergency response companies that provide statewide emergency response services in such situations.

These companies normally provide a response within two hours of notification, and specialize in emergency response, spill containment and removal. They can assess a situation, take actions to prevent spilled materials from harming the public or the environment, sample substances to determine how to manage them, contain the spilled materials and remove those substances from the spill site to a secure facility until analyses are completed to determine their final placement. After the response, the department will seek cost recovery from the responsible party.

Assistance Before a Spill

The spill coordinators are part of local planning and response networks. They work with local emergency planning agencies, talk to the local fire departments about spill response issues, and work with the wardens to ensure a consistent DNR approach to spill response. In addition, the spill coordinators work with local industries who may handle hazardous substances as part of their business to provide them with technical support for spill prevention as well as spill response.

Assistance After a Spill

When a spill occurs, field wardens and spill coordinators can provide assistance in a variety of ways. The DNR has developed spill packets that are provided to persons who are responsible for the release. Included in these packets is information on DNR regulations, additional DNR contacts, as well as listings of local contractors and waste management organizations that can assist the responsible party in management of the residual spilled material. The responsible party often consults with the spill coordinators for technical advice, since they are familiar with DNR regulations relating to spill containment and cleanup. Although smaller cleanups may not receive direct DNR oversight, the coordinators can answer questions and guide responsible parties through the process.

RR Program State Spill Response Team

The DNR manages spills through the RR Program's Spill Response Team. This team is comprised of a state spill coordinator, a state emergency management coordinator, a federal removals coordinator, the five regional spill coordinators and legal counsel. These staff meet regularly to identify and resolve spill response issues and help make spill response efforts in Wisconsin as effective as possible.

For more information, please see visit dnr.wi.gov and search "Spills."

Northeast Region Spill Coordinator

Maizie Reif 920-360-4291 (Green Bay)

Northern Region Spill Coordinator

Jeff Paddock 715-828-8544 (Rhinelander)

Southeast Region Spill Coordinator

Riley Neumann 414-750-7030 (Milwaukee)

South Central Region Spill Coordinator

Trevor Bannister 608-347-0058 (Fitchburg)

West Central Region Spill Coordinator

Jayson Schrank 715-410-8841 (Eau Claire)

State Spill & Federal Removals Coordinator

Issac Ross 414-750-7140 (Madison)

State Emergency Response Coordinator

David Woodbury 608-266-2598 (Madison)

Legal Counsel

Bill Nelson 608-267-7456 (Madison)



Wisconsin DNR - Hazardous Substance Spills

Remediation and Redevelopment Program

November 2016

Immediate Reporting Required for Hazardous Substance Spills

If you are aware of a hazardous substance spill notify the Department of Natural Resources (DNR). State law requires the IMMEDIATE reporting of hazardous substance spills and other discharges to the environment.

**CALL 800-943-0003
TO REPORT SPILLS**

Use **DNR Form 4400-225** to report other hazardous substance discharges



Other hazardous substance discharges, including historical contamination and contamination caused by an ongoing long-term release, discovered during an environmental assessment or laboratory analysis of soil, sediment, groundwater or vapor samples, should be reported to the DNR by filling out and submitting DNR Form 4400-225, "Notification for Hazardous Substance Discharge (Non-Emergency Only)," which is available at dnr.wi.gov.

- ✓ Report hazardous substance discharges as soon as visual or olfactory evidence confirms a discharge or laboratory data is available to document a discharge. **Do not wait to complete a Phase II environmental assessment, or other similar report, to notify the DNR.**

Reporting is everyone's responsibility

Individuals and entities that cause a hazardous substance spill or discharge to the environment are required by state law to notify the DNR immediately - as soon as the spill or discharge is identified. Individuals and entities that own or control property where the spill or discharge occurred must report the discharge immediately if it is not reported by the person or entity that caused the discharge.

For public health and safety, the DNR encourages everyone to report known hazardous substance discharges. Reporting a spill or other discharge, in itself, does not make a person or entity liable for the contamination.

Proper spill containment, cleanup, and disposal is always required

Every person/entity (including lenders and local governments) that causes a hazardous substance discharge, or owns or controls property at which a discharge occurred, must comply with the response action requirements in [Wis. Admin. Chs. NR 700 to 754](#). No spill or discharge is exempt from the duty to properly contain, clean up and dispose of the substance and associated contaminated media, such as soil, water and other affected materials.

Spill reporting exemptions

All spills must be cleaned up, but it is generally not necessary to report recent spills that are:

- less than 1 gallon of gasoline
- less than 5 gallons of any petroleum product other than gasoline
- any amount of gasoline or other petroleum product that is completely contained on an impervious surface
- individual discharges authorized by a permit or program approved under Wis. Stats. Chs. 289 - 299
- less than 25 gallons of liquid fertilizer
- less than 250 pounds of dry fertilizer
- pesticides that would cover less than 1 acre of land if applied according to label instructions
 - * NOTE: Reporting is required if the ongoing, long-term release or application of a permitted pesticide, fertilizer or other substance accumulates to levels that exceed current health or safety standards.
- less than the federal reportable quantities listed in 40 C.F.R. §§ 117 or 302
 - * NOTE: U.S. EPA (federal) spill reporting requirements are outlined on the internet at <https://www.epa.gov/emergency-response/when-are-you-required-report-oil-spill-and-hazardous-substance-release>.

Spill reporting exemptions do not apply (and reporting is required) when:

- the spilled substance has not evaporated or been cleaned up in accordance with Wis. Admin. chs. NR 700 - 754
- the spilled substance is a potential fire, explosion or safety hazard
- the spilled substance causes, or threatens to cause, chronic or acute human health concerns
 - * NOTE: If you are unsure about potential human health effects, consult with local or state health officials.
- the spilled substance adversely impacts, or threatens to impact, the air, lands or waters of the state (as either a single discharge or when accumulated with past discharges) - even if the degree of the impact has not yet been thoroughly evaluated
 - * NOTE: If the substance causes sheen on surface water, has entered or is on the verge of entering the waters of the state, DNR will consider the spilled substance a threat to impact, or to have adversely impacted, waters of the state and reporting is required.

Terms, definitions, statutes and rules

Hazardous substance — Any substance that can cause harm to human health and safety, or the environment, because of where it is spilled, the amount spilled, its toxicity or its concentration. Even common products such as milk, butter, pickle juice, corn, beer, etc., may be considered a hazardous substance if discharged to a sensitive area.

Discharge — Spilling, leaking, pumping, pouring, emitting, emptying, dumping, etc., to land, air or water.

Spill — A discharge that is typically a one-time event or occurrence, and usually inadvertent.

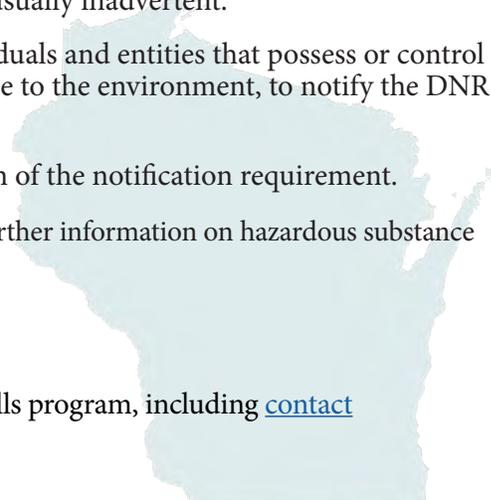
Wis. Stat. § 292.11(2) and Wis. Admin. § NR 706.05 — Require individuals and entities that possess or control a hazardous substance, or that cause the discharge of a hazardous substance to the environment, to notify the DNR immediately about the discharge.

Wis. Stat. § 292.99 — Authorizes penalties up to \$5,000 for each violation of the notification requirement.

Consult [Wis. Stat. Ch. 292](#) and [Wis. Admin. §§ 700 – 754](#), and dnr.wi.gov for further information on hazardous substance spill and discharge reporting, investigation and cleanup.

DNR contact information

To report a discharge call 1-800-943-0003. For more information on the spills program, including [contact information](#), visit dnr.wi.gov, search “Spills”.



APPENDIX F

Construction Site Pollutant Control



Village of
Ashwaubenon

2155 Holmgren Wy • Ashwaubenon, WI 54304

P: 920.492.2309 F: 920.492.2311

www.ashwaubenon.com

Site Plan Review Procedure, Application and Checklist

SITE PLAN REVIEW PROCEDURE

OVERVIEW:

Site plan review is an administrative process that is carried out by the Village Staff and Site Plan Review Committee. The site plan review process is required for all new development or expansion of existing buildings or parking lots in the following zoning districts; VC-Village Center, SE-Sports & Entertainment, R3-Multi-Family Residence, and all Business and Industrial Districts (B1-Local Business, B2-General Business, B3-Community Business, B4-Commerce, I1-Light Industry, I2-Heavy Industry, IP-Industrial Park, BP-Business Park, SI-Special Industry, P-Public.)

Applicant should review the Site Plan Application Checklist (included) for a complete list of plan requirements and consult the Community Development Department for their assistance and opinions. A pre-submittal meeting is encouraged and will expedite the approval process.

The Community Development Department, along with the Public Safety Department, Public Works Department, Village Engineer and Village Forester will review the Site Plan submittal and forward any necessary changes to the applicant. If the number of changes is extensive, revised plans will need to be submitted for final review. Once reviewed by Village Staff, the submittal will then be forwarded to the Site Plan Review Committee for review. The site plan will be approved, conditionally approved, or denied. NOTE: If the site plan is in the VC or SE zoning districts, the site plan must be forwarded to the Planning Commission and Village Board for final approval.

Two copies of a revised site plan, signed by the owner, including revision dates and showing all items of compliance with the conditional approval must be submitted to the Department before building and curb cut permits can be issued. The approval of a Site Plan shall remain valid for 1 year, after which re-submittal is required.

APPLICATION FORM:

A Site Plan Review application can be filed by the property owners, a person having lawful power of attorney, or a representative of the owner such as an architect, engineer, or other agent designated by the property owner. In any case, no application will be accepted without an original signature of the property owner(s) or his/her agent. All blanks on the application form must be filled in. The Parcel ID number(s) of all parcels involved with the plan proposal must be noted on the application form.

DEVELOPER CHECKLIST:

The checklist has been prepared to provide the Applicant with a clear understanding of what is needed to complete a Site Plan Review. It is our hope that by providing a very detailed list of information to be shown on the SITE PLAN SET and a specific format for its presentation, review time will be kept to a minimum and you will avoid costly time delays caused by incomplete plans. Your courtesy in following the checklist carefully will insure prompt review and approval at the earliest possible date.

SITE PLAN SET:

1 24" x 36" Site Plan Set, 1 Electronic submittal of all sheets in PDF format, Site Plan Review Application and Site Plan Review Checklist must be submitted to the Community Development Department. The Site Plan Set will include Site, Streets, Utilities, Grading, Drainage, Landscape, Lighting, Architectural and Signage Plans. If applicable, one set of storm water management plans, calculations and supporting information must also be submitted to the Community Development Department.

THE APPLICATION MUST INCLUDE:

- A completed Application Form and Checklist
- 1 24" x 36" Site Plan Set **AND** Electronic submittal of all sheets in PDF format
 - All sets to include:
 - Sheet 1 – Title, Site Plan Layout, and Streets
 - Sheet 2 – Utility Plan
 - Sheet 3 – Grading, Drainage, Storm Water Management and Erosion Control Plan
 - Sheet 4 – Landscape Plan
 - Sheet 5 – Lighting Plan
 - Sheet 6 – Architectural & Construction Plan & Colored Renderings
- Any other plans or information deemed necessary by the Community Development Department.
- 1 set of **separately packaged** stormwater management report including engineering calculations, all supporting documentation and maintenance agreement

FOR REFERENCE:

PLANNING AND ZONING ORDINANCE

- Chapter 17 Article 2: Administration
 - 17-4-200: Site Plan Approval Requirements
- Chapter 17 Article 3: Definitions, Rules for Interpretation and Zone Districts
- Chapter 17 Article 4: Use Regulations
 - 17-4-300: Use Specific Standards
- Chapter 17 Article 5: Density, Intensity, and Dimensional Standards
- Chapter 17 Article 6: Development and Design Standards
 - 17-6-200: Signs
 - 17-6-300: Outdoor Lighting
 - 17-6-500: Off-Street Parking
 - 17-6-600: District-Specific Site Design Standards

MUNICIPAL CODE

- Chapter 5 Article 9: Storm Water Management
 - Section 5-9-770: Construction Site Erosion Control
 - Section 5-9-771: Post-Construction Storm Water Management
- Chapter 13 Fire Prevention and Protection
 - Section 13-3-78(Q): Fire Lanes
 - Section 13-3-78(R): Address and Tenant Numbers
 - Section 13-3-78(S): Knox Box
 - Section 13-3-78(T): Private Fire Hydrant

SUBMITTAL

Site Plan Review Committee meetings are held on the 1st and 3rd Tuesday of every month at 3:00 P.M. Meetings are held at the Ashwaubenon Village Hall on 2155 Holmgren Way. To submit a plan for review, all information **MUST** be in our office no later 14 calendar days prior to the meeting you wish to attend.

An incomplete application or a Site Plan Set lacking complete information will not be accepted.

Completed site plan review application, checklist, fee, 1 24"x36" plan set, and electronic (PDF) plan set are to be sent to:

Mail: Community Development Department
Village of Ashwaubenon
2155 Holmgren Way, Ashwaubenon, WI 54304

Fax: (920) 492-2311
Email: aschuette@ashwaubenon.com **AND**
jbroich@ashwaubenon.com

Please call (920) 593-4405 to schedule an appointment for a Plan Acceptance Review

Questions, please contact:

Aaron Schuette – Community Development Director
(920) 593-4405 / aschuette@ashwaubenon.com

OR

Jennifer Broich – Utility Clerk
(920) 593-4506 / jbroich@ashwaubenon.com



Village of Ashwaubenon

2155 Holmgren Wy • Ashwaubenon, WI 54304

P: 920.492.2309 F: 920.492.2311

www.ashwaubenon.com

Site Plan Review Application

This application must be completed and returned with your site plan review checklist and plan sets.

Site Information

Address _____

Parcel ID #(s) _____

Property Owner(s)

Name _____

Address _____

Phone _____ Fax _____ Email _____

Applicant (If not Property Owner)

Architect Engineer Surveyor Builder Agent Other (_____)

Name _____

Address _____

Phone _____ Fax _____ Email _____

Describe in Detail the Proposed Project along with the Current and Proposed Use(s) of the Property

Ground Floor Elevation: _____ Lot Size: _____ Area Added by Expansion: _____

Number of stories in Bldg: _____ Basement: [] yes / [] no Bldg Height from Grade: _____

Total Current Employees: _____ Total Proposed Employees: _____

Fees

[] New Submittal (full project) \$180.00
[] New Submittal (partial project) \$30.00 per section (ie: Site Plan, Landscaping, Lighting, Storm water, (number of sections _____ X \$30 = \$ _____) Signage (If SPRC review is required), Building Elevations)

Notes

- Site plan approval does not constitute approval of a building or curb cut permit.
- No new, enlarged, extended, or altered building shall be used or occupied in whole or in part until the certificate of occupancy has been issued by the building inspector verifying compliance with all approved and/or conditionally approved site plans.

I CERTIFY THAT THE ATTACHED DRAWINGS ARE TO THE BEST OF MY KNOWLEDGE COMPLETE AND DRAWN IN ACCORDANCE WITH ALL VILLAGE OF ASHWAUBENON CODES.

Property Owner Signature: _____ Date: _____

Applicant Signature: _____ Date: _____
(If not Property Owner)

FOR OFFICE USE ONLY
FEE: _____ RECEIPT #: _____ RECEIPT DATE: _____ APPLICATION #: _____
DATE RECEIVED COMPLETE: _____ RECEIVED BY: _____ ZONING DISTRICT: _____
REFERRED TO: [] PUBLIC WORKS [] INSPECTION [] FIRE [] ENGINEERING [] FORESTRY
SITE PLAN IS: [] APPROVED [] APPROVED W/CONDITIONS [] DENIED DATE: _____
COMMENTS: _____



Village of Ashwaubenon

2155 Holmgren Wy • Ashwaubenon, WI 54304

P: 920.492.2309 F: 920.492.2311

www.ashwaubenon.com

Site Plan Review Developer Checklist

This checklist must be completed and returned with your site plan review application and plan sets.

Address of project: _____

• Site Plan Set

- 1. Submit 1 24" x 36" Site Plan Set and 1 Electronic Plan Set (PDF)
- 2. All plans must be drawn to scale.
- 3. All sheets shall be numbered.
- 4. The signature of the surveyor, engineer, or architect who is responsible for plan preparation (unless waived by the Site Plan Review Coordinator).

COMMENTS:

• Sheet No. 1 - Title, Site Plan Layout, and Streets

- 1. Name of project, address, legal description of property, description of proposed use and zoning description.
- 2. Location map.
- 3. North arrow, date of preparation, revision dates, and scale.
- 4. Show and name adjacent and surrounding streets.
- 5. Recorded property lines and their dimensions.
- 6. Show all existing and proposed public and private easements for utility, drainage, sewer, parking, access, and other purposes, and all easements on surrounding properties benefiting the subject property.
- 7. Fundamental aspects of all existing and proposed buildings, including use of each structure, dimensions, number of stories, and their locations on the parcel.
- 8. If buildings are to be removed, the site plan shall so indicate.
- 9. Dimension all yard setbacks for buildings and off-street parking.
- 10. Show a table that details total land area within the development and percentages relative to buildings, hard surfaces, impervious surface areas (existing and proposed), and green space. Do NOT include street Right-of-Way areas in calculations.
- 11. Details and cross section of all traffic areas (parking, drive lanes, driveway aprons, loading zones, fire lanes, etc.)
- 12. Gross area, useable floor area, and current uses for existing buildings and proposed additions listed separately. For parking calculations, useable floor area will be determined as the area to be used for a particular use. (e.g.: sale of merchandise, servicing of customers, manufacture, or warehouse) Number of existing and future employees is required for parking calculations.
- 13. When abutting a site plan project, any public right-of-way needs to be identified with accurate locations for existing and proposed facilities such as: streets, curbs, sidewalks, project driveways, and driveways on opposite street frontages.
- 14. Traffic aspects of existing and proposed driveways and parking lot including: arrows to show traffic flow; stacking (drive thru), parking stall sizes (162 square feet minimum) and layout; accessible stalls and ramps; loading zones; driveway widths and radii or flares on driveway aprons to public streets.
- 15. Show barriers, curbing, or wheel stops located to prevent any portion of a vehicle from projecting beyond property lines. Also, indicate barriers constructed and anchored to prevent dislocation.
- 16. A note shall appear on the face of the site plan that indicates the calculations for parking and loading requirements. Plans for any joint use of parking must be in writing, attached and approved by the Village Administration.
- 17. The location of sidewalks, other pedestrian-type walkways, traffic control dividers, and tree islands.
- 18. Show proposed sidewalks and handicap accessible access with grade elevations listed at driveways.
- 19. Location of existing and proposed signage. Sign elevation showing the height from bottom of sign to grade, overall height, and face dimensions.
- 20. Location, height, elevations, and materials of all fences or retaining walls.
- 21. Location, type, height, and size of all outside storage including required screening.
- 22. Location and identification of all designated fire lanes with method of signage and markings.
- 23. Identify whether existing or proposed buildings will contain a fire protection system. Show and identify on-site fire hydrants and Fire Department Sprinkler connection point.
- 24. Show and identify location of required Knox Box for Public Safety access.
- 25. State what type of product(s) will be manufactured, sold and/or stored on site.
- 26. State all types of hazardous materials to be stored on-site. If none, state "no hazardous materials will be stored on-site."
- 27. Show location of all ground mounted mechanical equipment and indicate the type of screening and materials (walls, plantings, etc.).
- 28. Locate the refuse and recycling containers and provide details of construction, materials, height, and dimensions of the enclosure.
- 29. Any open space that will remain undisturbed and undeveloped.

COMMENTS:

● **Sheet No. 2. Utility Plan**

- 1. Show existing and proposed water, sanitary sewer, and storm sewer utilities including: locations, sizes, materials, slope, rim elevations, invert elevations, manholes, laterals, clean outs, catch basins, and valves. (Note: minimum of 8" water lateral required to serve private fire hydrants).
- 2. Show existing water and sewer mains and other utilities (electric, gas, etc).
- 3. Roof drain connections (if connected to storm sewer system).
- 4. Existing and proposed public and private easements for all utilities.

- 5. Statement placed on plan: "VILLAGE OF ASHWAUBENON WILL PERFORM ALL WORK IN THE ROADWAY RIGHT-OF-WAY AND BRING ANY REQUESTED WATER, SANITARY, AND STORM SEWER UTILITIES TO THE PROPERTY LINE WITH THE ASSOCIATED COSTS BEING THE PROPERTY OWNER'S RESPONSIBILITY. PLEASE CONTACT AL FARVOUR (UTILITY OPERATIONS SUPERVISOR) AT 920-492-2335 FOR ESTIMATES."
- 6. Show 2 (two) municipal fire hydrants nearest to permanent site access point(s).

COMMENTS:

● **Sheet No. 3. Grading, Drainage, Storm Water Management and Erosion Control Plan**

- 1. Identify existing topography (by dashed lines) at one foot intervals and proposed grade elevations for the building, parking lot, drives, surrounding open areas, and including all property within 50 feet (using contour lines and spot elevations and drainage flow arrows as needed to define drainage patterns).
- 2. Indicate 100 year flood delineation (if applicable).
- 3. List all existing and proposed grades for first floor.
- 4. Show details of all existing and proposed retaining walls and the location of swales and inlets.
- 5. Complete 'IMPERVIOUS SURFACES--ADDITIONS & REMOVALS CHART' (below)

- 6. Show proposed sidewalk(s) abutting all street frontages at all driveways. Show and list elevations of sidewalk at property line in accordance with Village standards
- 7. Storm water management plan to include; the lot size, building location, location of impervious areas, size and location of drainage basin (s), proposed flow direction arrows, detention pond footprint, depth of detention pond discharge location, size and overflow location.
- 8. Show proposed erosion control measures following WDNR Technical Standards.

IMPERVIOUS SURFACES - ADDITIONS & REMOVALS CHART - ALL AREAS ARE IN SQUARE FEET (SQ FT) (Mark 0 in each box that has no change)													
	Airport Surface	Buildings	In-Ground Pool	Concrete Pad/Patio	Non-Concrete Pad/Patio	Paved Driveway	Paved Parking	Paved Road	Paved Sidewalk	Paved Trail	Recreation Area	Tank	TOTAL CHANGES
ADDED													
REMOVED													

COMMENTS:

● **Sheet No. 4. Landscape Plan**

- 1. Locate all existing trees and indicate whether they will remain, be relocated, or be removed. Identify any other significant vegetation, which is to remain. (Note: Existing, healthy, mature trees are recommended and preferred to remain and be incorporated into the development whenever possible.)
- 2. Identify the location, size, species, and variety of proposed trees, shrubs, ground cover, and other landscape features that will be used to control erosion or screen parking, truck loading, refuse disposal, mechanical equipment, and outdoor storage from adjacent residential districts or public Right-of-Way.
- 3. Show the location of existing and proposed buildings, parking lots, walks, driveways, fences, water features, retaining walls, signs, mechanical equipment, bike racks and benches

- 4. Show all property lines, street names, and overhead utilities.
- 5. Identify type of finishing materials, including seeded grass, sod, and type of mulch in planting beds, pavers, concrete, and asphalt.
- 6. Identify percentage of green space (Do NOT include street Right-of-Way areas).
- 7. Include table of "Planting and Landscape Schedule" (see example below)

PLANTING AND LANDSCAPE SCHEDULE (example)					
Key	Symbol	Botanical Name	Common Name	Quantity	Size @ Planting
AR		<i>Acer rubrum</i>	Red Maple	5	2" Caliper
EA		<i>Euonymus alatus</i>	Burning Bush	20	24" B & B
TA		<i>Pinus strobus</i>	White Pine	50	5' height

COMMENTS:

● **Sheet No. 5. Lighting Plan**

- 1. Identify all exterior lighting fixtures, either mounted on the building or free-standing light along with photometric plan, intensity of light and cut off shielding that reflects light downward and which prevents the light source from being visible from adjacent properties. Provide lighting ratio information.

- 2. Identify mounting height for all building and free standing lighting fixtures.
- 3. Provide manufacturer light fixture specification sheets.

COMMENTS:

● **Sheet No. 6. Architectural & Construction Plan & Colored Drawings/Renderings**

- 1. Dimensioned elevations of all exterior walls and roof deck height (photographs may be substituted for existing elevations to remain unchanged).
- 2. Type of roof, wall and trim materials, colors, and textures.
- 3. Changes or additions to existing buildings or materials clearly identified.
- 4. Location and presence of all fire rated wall assemblies.

- 5. Show location of all building mounted and roof top mechanical equipment and vents over 8" in diameter or square dimension. Indicate type and materials for screening (walls, parapets, etc).
- 6. Colored exterior elevation drawings/renderings.
- 7. Dumpster enclosure colored rendering and location sketch

COMMENTS:

Village of Ashwaubenon - Fee Schedule for Permits

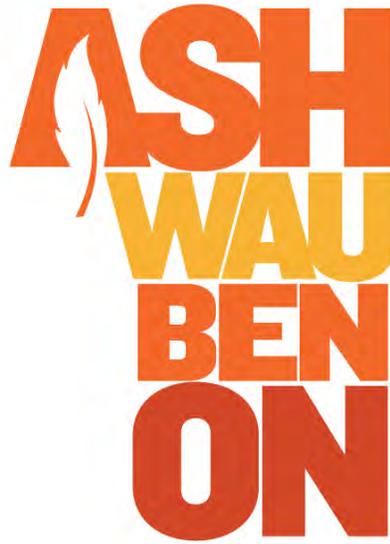
(2) COMMERCIAL BUILDING PERMITS

a.	Minimum fee (unless otherwise stated below)	\$100.00
b.	New multifamily dwellings	\$0.20/sq. ft.
c.	Commercial, office, industrial, and similar occupancies (Not residential)	\$0.12/sq. ft.
d.	Warehouse, unheated storage, and similar occupancies (Not residential)	\$0.10/sq. ft.
e.	Occupancy permit	\$75.00*
f.	Curb cut (driveway)	\$40.00/cut
g.	Where square footage cannot be determined, fee shall be based on actual total construction cost	\$4.00/\$1000 value
h.	Failure to call for final inspection:	
	First offense	\$50.00
	Second Offense	\$100.00
	<i>Fee doubles for each offense thereafter</i>	
i.	Second inspection for same citation	\$100.00
j.	Park impact fee:	
	<i>The amount of the fee for non-residential development to be constructed or created by the proposed development unless otherwise amended by the Village Board shall be calculated on the number of full-time employee equivalents employed at the non-residential development and the following impact fee schedule based on the number of full-time equivalent employees shall apply:</i>	
	1 to 15	\$892.00
	16 to 30	\$2,051.00
	31 to 45	\$3,389.00
	46 to 60	\$4,727.00
	61 to 75	\$6,064.00
	76 to 90	\$7,404.00
	91 to 110	\$8,919.00
	111 to 135	\$10,970.00
	136 to 160	\$13,201.00
	161 to 185	\$15,430.00
	186 to 210	\$17,660.00
	211 to 250	\$20,604.00
	251 to 300	\$24,529.00
k.	Erosion control per parcel	\$125.00 for 1 st acre plus \$25.00/acre thereafter
l.	Stormwater Management	\$125.00 for 1 st acre plus \$25.00/acre thereafter
m.	Flood plain land use permit	\$150.00
	If in flood plain	\$250.00
n.	Early start permit, footing and foundation only (Non refundable, not applicable to other building permit fees)	\$100.00
o.	Parking lot review:	
	Minimum	\$40.00
	10,001-20,000 sq. ft.	\$60.00
	20,001-40,000 sq. ft.	\$80.00
	40,001 sq. ft. & +	\$100.00

Village of Ashwaubenon

Municipal Code Book

Monday, March 29, 2021 1:09 PM



Printed for:

Chapter 5 - Buildings and Building Regulations

Article 9 - Stormwater Management

Section 770 - Construction Site Erosion Control

Municipal Code Book

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5-9-770 Construction Site Erosion Control	3

Chapter 5 - Buildings and Building Regulations

Article 9 - Stormwater Management

5-9-770 Construction Site Erosion Control

(A) *Authority.*

- (1) This ordinance is adopted under the authority granted by Wis. Stats. § 61.354, for villages. This ordinance supersedes all provisions of an ordinance previously enacted under Wis. Stats. § 61.35, that relate to construction site erosion control. Except as otherwise specified in Wis. Stats. § 61.354, Wis. Stats. § 61.35 applies to this ordinance and to any amendments to this ordinance.
- (2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same village board.
- (3) The village board hereby designates the director of public works (i.e. director) to administer and enforce the provisions of this ordinance.
- (4) The requirements of this ordinance do not pre-empt more stringent erosion and sediment control requirements that may be imposed by any of the following:
 - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under Wis. Stats. § 281.16 and 283.33.
 - (b) Targeted performance standards promulgated in rules by the Wisconsin Department of Natural Resources under Wis. Admin. Code § NR 151.004.

(B) *Findings of fact.* The village board finds that runoff from land disturbing construction activity carries a significant amount of sediment and other pollutants to the waters of the state in the Village of Ashwaubenon.

(C) *Purpose.* It is the purpose of this ordinance to further the maintenance of safe and healthful conditions; prevent and control water pollution; prevent and control soil erosion; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth, by minimizing the amount of sediment and other pollutants carried by runoff or discharged from land disturbing construction activity to waters of the state in the Village of Ashwaubenon.

(D) *Applicability and jurisdiction.*

(1) *Applicability.*

- (a) This ordinance applies to all construction sites, unless the site is otherwise exempt under subsection (d)(1)b or c:)

- (i) A permit is required for a construction site with 4,000 square feet or greater of land disturbing construction activity. The responsible party shall comply with all applicable provisions of this ordinance for a permitted site, including the subsection (g)(2) performance standards, subsection (h) permit requirements, and subsection (i) plan requirements.
 - (ii) A permit is not required for a construction site with less than 4,000 square feet of land disturbing construction activity. The responsible party shall comply with all applicable provisions of this ordinance for a non-permitted site, including the subsection (g)(1) performance standards.
 - (iii) Notwithstanding the applicability requirements in subsection (d)(1)a.1 and 2, a permit is required for a construction site with less than 4,000 square feet of land disturbing construction activity if the director determines that permit coverage is needed in order to improve ordinance compliance, meet targeted performance standards, or protect waters of the state. If a permit is required, the responsible party shall comply with all applicable provisions of this ordinance for a permitted site, including the subsection (g)(2) performance standards, subsection (h) permit requirements, and subsection (i) plan requirements.
- (b) This ordinance does not apply to the following:
- (i) Land disturbing construction activity that includes the construction of 1- and 2-family residential dwellings that are not part of a larger common plan of development or sale and that result in less than 1 acre of disturbance. These construction sites are regulated by the Wisconsin Department of Safety and Professional Services under Wis. Admin. Code § SPS 321.125.
 - (ii) Nonpoint discharges from agricultural activity areas.
 - (iii) Nonpoint discharges from silviculture activities.
- (c) A construction site exempted by federal statutes or regulations from the requirement to have a national pollutant discharge elimination system permit issued under chapter 40, Code of Federal Regulations 122, for land disturbing construction activity, shall comply with subsection (g)(1) performance standards if less than 1 acre of land disturbing construction activity. The subsection (g)(2) performance standards, subsection (h) permit requirements, and subsection (i) plan requirements are not applicable.
- (2) *Jurisdiction.* This ordinance applies to land disturbing construction activity on construction sites located within the boundaries and jurisdiction of the Village of Ashwaubenon.
- (3) *Exclusions.* This ordinance is not applicable to activities conducted by a state agency, as defined under Wis. Stats. § 227.01 (1), but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under Wis. Stats. § 281.33 (2).
- (E) *Definitions.*
- Administering authority* means a governmental employee or agent that is designated by the village

board to administer this ordinance.

Agricultural activity area means the part of the farm where there is planting, growing, cultivating and harvesting of crops for human or livestock consumption and pasturing or outside yarding of livestock, including sod farms and silviculture. Practices in this area may include waterways, drainage ditches, diversions, terraces, farm lanes, excavation, filling and similar practices. The agricultural activity area does not include the agricultural production area.

Agricultural production area means the part of the farm where there is concentrated production activity or impervious surfaces. Agricultural production areas include buildings, driveways, parking areas, feed storage structures, manure storage structures, and other impervious surfaces. The agricultural production area does not include the agricultural activity area.

Atlas 14 means the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 (Midwestern States), published in 2013.

Best management practice or BMP means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

Business day means a day the Ashwaubenon Village Hall is routinely and customarily open for business.

Cease and desist order means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit.

Common plan of development or sale means a development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A common plan of development or sale includes, but is not limited to, subdivision plats, certified survey maps, and other developments.

Construction site means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development.

Design storm means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall. The TP-40, Type II, 24-hour design storms for Village of Ashwaubenon are: one-year, 2.2 inches; two-year, 2.5 inches; five-year, 3.2 inches; ten-year, 3.7 inches; 25-year, 4.3 inches; 50-year, 4.8 inches; and 100-year, 5.1 inches. The Atlas 14, MSE4, 24-hour design storms for the Village of Ashwaubenon are: one-year, 2.05 inches; two-year, 2.37 inches; five-year, 2.94 inches; ten-year, 3.45 inches; 25-year, 4.22 inches; 50-year, 4.87 inches; and 100-year, 5.56 inches.

Development means residential, commercial, industrial, institutional, or other land uses and associated roads.

Division of land means the creation from one or more parcels or building sites of additional parcels or building sites where such creation occurs at one time or through the successive partition within a five year period.

Erosion means the process by which the land's surface is worn away by the action of wind, water, ice

or gravity.

Erosion and sediment control plan or plan means a comprehensive plan developed to address pollution caused by erosion and sedimentation of soil particles or rock fragments during construction.

Extraterritorial means the unincorporated area within 3 miles of the corporate limits of a first, second, or third class city, or within 1.5 miles of a fourth class city or village.

Final stabilization means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established, with a density of at least 70 percent of the cover, for the unpaved areas and areas not covered by permanent structures, or that employ equivalent permanent stabilization measures.

Governing body means town board of supervisors, county board of supervisors, city council, village board of trustees or village council.

Land disturbing construction activity (or disturbance) means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of pollutants into the municipal separate storm sewer or waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, and soil stockpiling.

MEP or maximum extent practicable means the highest level of performance that is achievable but is not equivalent to a performance standard identified within this ordinance. Maximum extent practicable applies when the permit applicant demonstrates to the director's satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the permit applicant shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.

MSE3 or MSE4 distribution means a specific precipitation distribution developed by the USDA, NRCS, using precipitation data from Atlas 14.

Performance standard means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

Permit means a written authorization made by the director to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.

Pollutant has the meaning given in Wis. Stats. § 283.01 (13).

Pollution has the meaning given in Wis. Stats. § 281.01 (10).

Protective area has the meaning given in section 5-771 of the Village of Ashwaubenon Post-Construction Storm Water Management Ordinance.

Responsible party means any entity holding fee title to the property or performing services to meet the performance standards of this ordinance through a contract or other agreement.

Runoff means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

Sediment means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

Separate storm sewer means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

- (1) Is designed or used for collecting water or conveying runoff.
- (2) Discharges directly or indirectly to waters of the state.

Silviculture activities means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.

Site means the entire area included in the legal description of the land on which the land disturbing construction activity is proposed in the permit application.

Stop work order means an order issued by the director which requires that all construction activity on the site be stopped.

Targeted performance standard means a performance standard that will apply in a specific area, where additional practices beyond those contained in this ordinance, are necessary to meet water quality standards. A total maximum daily load is an example of a targeted performance standard.

Technical standard means a document that specifies design, predicted performance and operation and maintenance specifications for a BMP, material, device or method.

Total maximum daily load or TMDL means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.

TP-40 means the Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.

TR-55 means the United States department of agriculture, natural resource conservation service (previously soil conservation service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986, which is incorporated by reference for this ordinance.

Type II distribution means a rainfall type curve as established in the “United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973”, which is incorporated by reference for this ordinance. The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.

Waters of the state has the meaning given in Wis. Stats. § 283.01 (20).

(F) *Technical standards.*

- (1) Design criteria, standards and specifications. All BMPs required to comply with this ordinance shall meet the design criteria, standards and specifications based on any of the following:

- (a) Design guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources under Wis. Admin. Code § subch. V of ch. NR 151.
 - (b) Technical standards and other guidance identified within the Village of Ashwaubenon Storm Water Reference Guide.
 - (c) Soil loss prediction tools such as the Revised Universal Soil Loss Equation 2 (RUSLE2) that estimate the sediment load leaving the site under varying land and management conditions may be used to show compliance with the sediment performance standards contained in subsection (g)(2).
 - (d) For this ordinance, average annual basis is calculated using the appropriate annual rainfall or runoff factor, also referred to as the R factor, or an equivalent design storm using a MSE4 or Type II distribution, with consideration given to the geographic location of the site and the period of disturbance.
 - (2) Other standards. Other technical standards not identified in subsection (f) may be used provided that the methods have been approved by the director..
- (G) *Performance standards.*
- (1) *Non-permitted sites.*
 - (a) *Responsible party.* The landowner of the construction site or other person contracted or obligated by other agreement with the landowner to implement and maintain construction site BMPs is a responsible party and shall comply with this ordinance.
 - (b) *Requirements.* At each site where land disturbing construction activity is to occur, BMPs shall be used to prevent or reduce all of the following:
 - (i) The deposition of soil from being tracked onto streets by vehicles.
 - (ii) The discharge of sediment from disturbed areas into storm water inlets.
 - (iii) The discharge of sediment from disturbed areas into adjacent waters of the state.
 - (iv) The discharge of sediment from drainage ways that flow off the site.
 - (v) The discharge of sediment by dewatering activities.
 - (vi) The discharge of sediment eroding from soil stockpiles existing for more than 7 days.
 - (vii) The discharge of onsite chemicals, cement and other building compounds and materials into waters of the state or offsite separate storm sewers during the construction period. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this ordinance.

- (c) *Location.* BMPs shall be located so that treatment occurs before runoff enters waters of the state and offsite separate storm sewers. However, projects that require BMP placement in waters of the state, such as a turbidity barrier, are not prohibited by this ordinance.
- (d) *Implementation.* The BMPs used to comply with this section shall be implemented as follows:
 - (i) Erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.
 - (ii) Erosion and sediment control practices shall be maintained until final stabilization.
 - (iii) Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
 - (iv) Temporary stabilization activity shall commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
 - (v) BMPs that are no longer necessary for erosion and sediment control shall be removed by the responsible party.
- (e) *Alternate requirements.* The director may establish erosion and sediment control requirements more stringent than those set forth in this ordinance if the director determines that an added level of protection is needed to protect resources.

(2) *Permitted sites.*

- (a) *Responsible party.* The landowner or other person performing services to meet the performance standards of this ordinance, through a contract or other agreement with the landowner, is a responsible party and shall comply with this ordinance.
- (b) *Plan.* A written erosion and sediment control plan shall be developed and implemented by the responsible party in accordance with subsection (i). The erosion and sediment control plan shall meet all of the applicable requirements contained in this ordinance.
- (c) *Requirements.* The erosion and sediment control plan shall meet all of the following:
 - (i) The plan shall use BMPs to prevent or reduce all of the following:
 - (1) The deposition of soil from being tracked onto streets by vehicles.
 - (2) The discharge of sediment from disturbed areas into storm water inlets.
 - (3) The discharge of sediment from disturbed areas into adjacent waters of the state.
 - (4) The discharge of sediment from drainage ways that flow off the site.

- (5) The discharge of sediment by dewatering activities.
 - (6) The discharge of sediment eroding from soil stockpiles existing for more than 7 days.
 - (7) The discharge of sediment from erosive flows at outlets and in downstream channels.
 - (8) The discharge of onsite chemicals, cement and other building compounds and materials into waters of the state or offsite separate storm sewers during the construction period. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this ordinance.
 - (9) The discharge of untreated wash water from vehicle and wheel washing into waters of the state or offsite separate storm sewers.
- (ii) For sites with 1 acre or more of land disturbing construction activity, the plan shall meet the following sediment performance standards:
- (1) BMP's that, by design, discharge no more than 5 tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization.
 - (2) Except as provided in subsection (g)(2)f., the director may not require any person to employ more BMPs than are needed to meet the 5 tons per acre per year sediment performance standard in order to comply with maximum extent practicable. Erosion and sediment control BMPs may be combined to meet the sediment performance standard. The director may give credit toward meeting the sediment performance standard for limiting the duration or area, or both, of land disturbing construction activity, or for other appropriate mechanisms.
 - (3) Notwithstanding subsection (g)(2)c.2.a) and b), if BMPs cannot be designed and implemented to meet the 5 tons per acre per year sediment performance standard, the plan shall include a written, site-specific explanation of why the sediment performance standard cannot be met and how the sediment load will be reduced to the maximum extent practicable.
- (iii) The plan shall incorporate all of the following preventative measures:
- (1) Maintenance of existing vegetation, especially adjacent to surface waters whenever possible.
 - (2) Minimization of soil compaction and preservation of topsoil.
 - (3) Minimization of land disturbing construction activity on slopes of 20% or more.
 - (4) Development of spill prevention and response procedures.

- (d) *Location.* BMPs shall be located so that treatment occurs before runoff enters waters of the state and offsite separate storm sewers. However, projects that require BMP placement in waters of the state, such as a turbidity barrier, are not prohibited by this ordinance.
- (e) *Implementation.* The BMPs used to comply with this ordinance shall be implemented as follows:
 - (i) In accordance with the plan developed pursuant to subsection (i), the erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.
 - (ii) Erosion and sediment control practices shall be maintained until final stabilization.
 - (iii) Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
 - (iv) Temporary stabilization activity shall commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
 - (v) BMPs that are no longer necessary for erosion and sediment control shall be removed by the responsible party.
- (f) *Targeted performance standards.* The director may establish numeric water quality requirements that are more stringent than those set forth in subsection (g)(2)c in order to meet targeted performance standards, total maximum daily loads, and/or water quality standards for a specific water body or area. The numeric water quality requirements may be applicable to any permitted site, regardless of the size of land disturbing construction activity.
- (g) *Alternate requirements.* The director may establish erosion and sediment control requirements more stringent than those set forth in this section if the director determines that an added level of protection is needed to protect resources. Also, the director may establish erosion and sediment control requirements less stringent than those set forth in this section if the director determines that less protection is needed to protect resources. However, the alternative requirements shall not be less stringent than those requirements promulgated in rules by Wisconsin Department of Natural Resources under Wis. Admin. Code § NR 151.
- (H) *Permitting requirements, procedures and fees.*
 - (1) *Permit required.* When a permit is required, no responsible party may commence a land disturbing construction activity subject to this ordinance without receiving prior approval of an erosion and sediment control plan for the site and a permit from the director.
 - (2) *Permit application and fees.* When a permit is required, at least one responsible party desiring to undertake a land disturbing construction activity subject to this ordinance shall submit an application for a permit and an erosion and sediment control plan that meets the requirements of subsection (i) and shall pay the application fee to the Village of Ashwaubenon. By submitting an application, the applicant is authorizing the director to enter the site to obtain information required for the review of the erosion and sediment control plan.

- (3) *Review and approval of permit application.* The director shall review any permit application that is submitted with an erosion and sediment control plan, and the required fee. The following approval procedure shall be used:
- (a) Within 20 business days of the receipt of a complete permit application, as required by subsection (h)(2), the director shall inform the applicant whether the application and plan are approved or disapproved based on the requirements of this ordinance.
 - (b) If the permit application and plan are approved, the director shall issue the permit.
 - (c) If the permit application or plan is disapproved, the director shall state in writing the reasons for disapproval.
 - (d) The director may request additional information from the applicant. If additional information is submitted, the director shall have 20 business days from the date the additional information is received to inform the applicant that the plan is either approved or disapproved.
 - (e) Failure by the director to inform the permit applicant of a decision within 20 business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.
- (4) *Financial guarantee.* As a condition of approval and issuance of the permit, the director may require the applicant to deposit a surety bond, cash escrow, or irrevocable letter of credit to guarantee a good faith execution of the approved erosion and sediment control plan and any permit conditions..
- (5) *Permit requirements.* All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The director may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the director to suspend or revoke this permit may be appealed in accordance with subsection (m).
- (a) Notify the director within 48 hours of commencing any land disturbing construction activity.
 - (b) Notify the director of completion of any BMPs within ten business days after their installation.
 - (c) Obtain permission in writing from the director prior to any modification pursuant to subsection (i)(2) of the erosion and sediment control plan.
 - (d) Install all BMPs as identified in the approved erosion and sediment control plan.
 - (e) Maintain all road drainage systems, stormwater drainage systems, BMPs and other facilities identified in the erosion and sediment control plan.

- (f) Repair any siltation or erosion damage to adjoining surfaces and drainage ways resulting from land disturbing construction activities and document repairs in weekly inspection reports.
 - (g) Conduct construction site inspections at least once per week and within 24 hours after a precipitation event of 0.5 inches or greater. Repair or replace erosion and sediment control BMPs as necessary within 24 hours of an inspection or notification that repair or replacement is needed. Maintain, at the construction site, weekly written reports of all inspections. Weekly inspection reports shall include all of the following: date, time and location of the construction site inspection; the name of individual who performed the inspection; an assessment of the condition of erosion and sediment controls; a description of any erosion and sediment control BMP implementation and maintenance performed; and a description of the present phase of land disturbing construction activity at the construction site.
 - (h) Allow the director to enter the site for the purpose of inspecting compliance with the erosion and sediment control plan or for performing any work necessary to bring the site into compliance with the control plan. Keep a copy of the erosion and sediment control plan, storm water management plan, amendments, weekly inspection reports, and permit at the construction site until permit coverage is terminated.
- (6) *Permit conditions.* Permits issued under this section may include conditions established by director in addition to the requirements set forth in subsection (h)(5), where needed to assure compliance with the performance standards in subsection (g).
 - (7) *Permit duration.* Permits issued under this section shall be valid for a period of 180 days, or the length of the building permit or other construction authorizations, whichever is longer, from the date of issuance. The director may extend the period one or more times for up to an additional 180 days. The director may require additional BMPs as a condition of the extension if they are necessary to meet the requirements of this ordinance.
 - (8) *Maintenance.* The responsible party throughout the duration of the construction activities shall maintain all BMPs necessary to meet the requirements of this ordinance until the site has undergone final stabilization.
 - (9) *Alternate requirements.* The director may prescribe requirements less stringent for applicants seeking a permit for a construction site with less than 1 acre of land disturbing construction activity.
- (l) *Erosion and sediment control plan.*
 - (1) *Plan requirements.* The erosion and sediment control plan required under subsection (g)(2) shall comply with the Village of Ashwaubenon Storm Water Reference Guide and the following:
 - (a) An erosion and sediment control plan shall be prepared and submitted to the director.
 - (b) The erosion and sediment control plan shall be designed to meet the performance standards in subsection (g).

- (c) The erosion and sediment control plan shall address pollution caused by soil erosion and sedimentation during construction and up to final stabilization of the site. The erosion and sediment control plan shall include, at a minimum, the following items:
 - (i) The name(s), address(es), and telephone number(s) of the owner or developer of the site, and of any consulting firm retained by the applicant, together with the name of the applicant's principal contact at such firm. The application shall also include start and end dates for construction.
 - (ii) Description of the site and the nature of the construction activity, including representation of the limits of land disturbance on a United States Geological Service 7.5-minute series topographic map.
 - (iii) A sequence of construction of the development site, including stripping and clearing, rough grading, construction of utilities, infrastructure, and buildings, and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.
 - (iv) Estimates of the total area of the site and the total area of the site that is expected to be disturbed by construction activities.
 - (v) Estimates, including calculations, if any, of the runoff coefficient of the site before and after construction activities are completed.
 - (vi) Calculations to show the expected percent reduction in the average annual sediment load carried in runoff as compared to no sediment or erosion controls.
 - (vii) Existing data describing the surface soil as well as subsoils.
 - (viii) Depth to groundwater as indicated by Natural Resources Conservation Service soil information where available.
 - (ix) Name of the immediate named receiving water from the United States Geological Service 7.5 minute series topographic maps.
- (d) The erosion and sediment control plan shall include a site map. The site map shall include the following items and shall be at a scale not greater than 100 feet per inch and at a contour interval not to exceed five feet.
 - (i) Existing topography, vegetative cover, natural and engineered drainage systems, roads and surface waters. lakes, streams, wetlands, channels, ditches and other watercourses on and immediately adjacent to the site shall be shown. Any identified 100-year floodplains, flood fringes, and floodways shall also be shown.
 - (ii) Boundaries of the construction site.

- (iii) Drainage patterns and approximate slopes anticipated after major grading activities.
 - (iv) Areas of soil disturbance.
 - (v) Location of major structural and non-structural controls identified in the plan.
 - (vi) Location of areas where stabilization practices will be employed.
 - (vii) Areas which will be vegetated following construction.
 - (viii) Areal extent of wetland acreage on the site and locations where stormwater is discharged to a surface water or wetland.
 - (ix) Locations of all surface waters and wetlands within one mile of the construction site.
 - (x) An alphanumeric or equivalent grid overlying the entire construction site map.
- (e) Each erosion and sediment control plan shall include a description of appropriate controls and measures that will be performed at the site to prevent pollutants from reaching waters of the state. The plan shall clearly describe the appropriate control measures for each major activity and the timing during the construction process that the measures will be implemented. The description of erosion controls shall include, when appropriate, the following minimum requirements:
- (i) Description of interim and permanent stabilization practices, including a practice implementation schedule. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized.
 - (ii) Description of structural practices to divert flow away from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from the site. Unless otherwise specifically approved in writing by the village board, structural measures shall be installed on upland soils.
 - (iii) Management of overland flow at all sites, unless otherwise controlled by outfall controls.
 - (iv) Trapping of sediment in channelized flow.
 - (v) Staging construction to limit bare areas subject to erosion.
 - (vi) Protection of downslope drainage inlets where they occur.
 - (vii) Minimization of tracing at all sites.
 - (viii) Clean up of off-site sediment deposits.
 - (ix) Proper disposal of building and waste materials at all sites.

- (x) Stabilization of drainageways.
 - (xi) Control of soil erosion from dirt stockpiles.
 - (xii) Installation of permanent stabilization practices as soon as possible after final grading.
 - (xiii) Minimization of dust to the maximum extent practicable.
- (f) The erosion and sediment control plan shall require that velocity dissipation devices be placed at discharge locations and along the length of any outfall channel, as necessary, to provide a nonerosive flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.
- (2) *Amendments.* The applicant shall amend the plan if any of the following occur:
- (a) There is a change in design, construction, operation, maintenance or schedule at the site which has the reasonable potential for the discharge of pollutants to waters of the state or separate storm sewers, and which has not otherwise been addressed in the plan.
 - (b) The actions required by the plan fail to reduce the impacts of pollutants carried by construction site runoff.
 - (c) The director notifies the applicant of changes needed in the plan.
- (3) *Alternate requirements.* The director may prescribe requirements less stringent for applicants seeking a permit for a construction site with less than 1 acre of disturbance.
- (J) *Fee schedule.* The fees referred to in other sections of this ordinance shall be established by the village board and may from time to time be modified by resolution. A schedule of the fees established by the village board shall be available for review in the Ashwaubenon Village Hall.
- (K) *Inspection.* Whenever land disturbing construction activities are being carried out, the director may enter the land pursuant to the provisions of Wis. Stats. § 66.0119(1), (2), and (3).
- (L) *Enforcement.*
- (1) The director may post a stop-work order if any of the following occurs:
 - (a) Any land disturbing construction activity is being undertaken without a permit and, pursuant to subsection (d)(1) of this ordinance, a permit is required for the construction site.
 - (b) The erosion and sediment control plan is not being implemented in a good faith manner.
 - (c) The conditions of the permit are not being met.

- (d) Any land disturbing construction activity is in violation of the ordinance.
- (2) If the responsible party does not cease activity as required in a stop-work order posted under this section or fails to comply with the erosion and sediment control plan or permit conditions, the director may revoke the permit.
- (3) If the responsible party, where no permit has been issued, does not cease the activity after being notified by the director, or if a responsible party violates a stop-work order posted under subsection (1)(1), the director may request the village attorney to obtain a cease and desist order in any court with jurisdiction.
- (4) The village board may retract the stop-work order issued under subsection (1)(1) or the permit revocation under subsection (1)(2).
- (5) After posting a stop-work order under subsection (1)(1), the director may issue a notice of intent to the responsible party of its intent to perform work necessary to comply with this ordinance. The director may go on the land and commence the work after issuing the notice of intent. The costs of the work performed under this ordinance by the director, plus interest at the rate authorized by the village board shall be billed to the responsible party or recovered from the surety bond, cash escrow, or irrevocable letter of credit. In the event a responsible party fails to pay the amount due, the clerk shall enter the amount due on the tax rolls and collect as a special assessment against the property pursuant to Wis. Stats. § subch. VII of ch. 66.
- (6) Any person violating any of the provisions of this ordinance shall be subject to a forfeiture of not less than \$100.00 nor more than \$1,000.00 and the costs of prosecution for each violation. Each day a violation exists shall constitute a separate offense.
- (7) Compliance with the provisions of this ordinance may also be enforced by injunction in any court with jurisdiction. It shall not be necessary to prosecute for forfeiture or a cease and desist order before resorting to injunctive proceedings.
- (M) *Appeals.*
 - (1) *Board of appeals.* The board of appeals created pursuant to Chapter 17, Zoning and Planning, of the village's ordinance pursuant to Wis. Stats. § 61.354(4)(b):
 - (a) Shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the director in administering this ordinance except for cease and desist orders obtained under subsection (1)(3).
 - (b) Upon appeal, may authorize variances from the provisions of this ordinance which are not contrary to the public interest and where owing to special conditions a literal enforcement of the provisions of the ordinance will result in unnecessary hardship; and
 - (c) Shall use the rules, procedures, duties and powers authorized by statute in hearing and deciding appeals and authorizing variances.

- (2) *Who may appeal.* Appeals to the board of appeals may be taken by any aggrieved person or by any office, department, board, or bureau of the Village of Ashwaubenon affected by any decision of the director.

- (N) *Severability.* If a court of competent jurisdiction judges any section, clause, provision or portion of this ordinance unconstitutional or invalid, the remainder of the ordinance shall remain in force and not be affected by such judgment.

(Ord. No. O10-3-08, § 2, 10-28-2008; Ord. No. 6-1-16, 6-28-2016)

APPENDIX G

Post-Construction Stormwater Management



Village of
Ashwaubenon

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Site Plan Review Procedure, Application and Checklist

SITE PLAN REVIEW PROCEDURE

OVERVIEW:

Site plan review is an administrative process that is carried out by the Village Staff and Site Plan Review Committee. The site plan review process is required for all new development or expansion of existing buildings or parking lots in the following zoning districts; VC-Village Center, SE-Sports & Entertainment, R3-Multi-Family Residence, and all Business and Industrial Districts (B1-Local Business, B2-General Business, B3-Community Business, B4-Commerce, I1-Light Industry, I2-Heavy Industry, IP-Industrial Park, BP-Business Park, SI-Special Industry, P-Public.)

Applicant should review the Site Plan Application Checklist (included) for a complete list of plan requirements and consult the Community Development Department for their assistance and opinions. A pre-submittal meeting is encouraged and will expedite the approval process.

The Community Development Department, along with the Public Safety Department, Public Works Department, Village Engineer and Village Forester will review the Site Plan submittal and forward any necessary changes to the applicant. If the number of changes is extensive, revised plans will need to be submitted for final review. Once reviewed by Village Staff, the submittal will then be forwarded to the Site Plan Review Committee for review. The site plan will be approved, conditionally approved, or denied. NOTE: If the site plan is in the VC or SE zoning districts, the site plan must be forwarded to the Planning Commission and Village Board for final approval.

Two copies of a revised site plan, signed by the owner, including revision dates and showing all items of compliance with the conditional approval must be submitted to the Department before building and curb cut permits can be issued. The approval of a Site Plan shall remain valid for 1 year, after which re-submittal is required.

APPLICATION FORM:

A Site Plan Review application can be filed by the property owners, a person having lawful power of attorney, or a representative of the owner such as an architect, engineer, or other agent designated by the property owner. In any case, no application will be accepted without an original signature of the property owner(s) or his/her agent. All blanks on the application form must be filled in. The Parcel ID number(s) of all parcels involved with the plan proposal must be noted on the application form.

DEVELOPER CHECKLIST:

The checklist has been prepared to provide the Applicant with a clear understanding of what is needed to complete a Site Plan Review. It is our hope that by providing a very detailed list of information to be shown on the SITE PLAN SET and a specific format for its presentation, review time will be kept to a minimum and you will avoid costly time delays caused by incomplete plans. Your courtesy in following the checklist carefully will insure prompt review and approval at the earliest possible date.

SITE PLAN SET:

1 24" x 36" Site Plan Set, 1 Electronic submittal of all sheets in PDF format, Site Plan Review Application and Site Plan Review Checklist must be submitted to the Community Development Department. The Site Plan Set will include Site, Streets, Utilities, Grading, Drainage, Landscape, Lighting, Architectural and Signage Plans. If applicable, one set of storm water management plans, calculations and supporting information must also be submitted to the Community Development Department.

THE APPLICATION MUST INCLUDE:

- A completed Application Form and Checklist
- 1 24" x 36" Site Plan Set **AND** Electronic submittal of all sheets in PDF format
 - All sets to include:
 - Sheet 1 – Title, Site Plan Layout, and Streets
 - Sheet 2 – Utility Plan
 - Sheet 3 – Grading, Drainage, Storm Water Management and Erosion Control Plan
 - Sheet 4 – Landscape Plan
 - Sheet 5 – Lighting Plan
 - Sheet 6 – Architectural & Construction Plan & Colored Renderings
- Any other plans or information deemed necessary by the Community Development Department.
- 1 set of **separately packaged** stormwater management report including engineering calculations, all supporting documentation and maintenance agreement

FOR REFERENCE:

PLANNING AND ZONING ORDINANCE

- Chapter 17 Article 2: Administration
 - 17-4-200: Site Plan Approval Requirements
- Chapter 17 Article 3: Definitions, Rules for Interpretation and Zone Districts
- Chapter 17 Article 4: Use Regulations
 - 17-4-300: Use Specific Standards
- Chapter 17 Article 5: Density, Intensity, and Dimensional Standards
- Chapter 17 Article 6: Development and Design Standards
 - 17-6-200: Signs
 - 17-6-300: Outdoor Lighting
 - 17-6-500: Off-Street Parking
 - 17-6-600: District-Specific Site Design Standards

MUNICIPAL CODE

- Chapter 5 Article 9: Storm Water Management
 - Section 5-9-770: Construction Site Erosion Control
 - Section 5-9-771: Post-Construction Storm Water Management
- Chapter 13 Fire Prevention and Protection
 - Section 13-3-78(Q): Fire Lanes
 - Section 13-3-78(R): Address and Tenant Numbers
 - Section 13-3-78(S): Knox Box
 - Section 13-3-78(T): Private Fire Hydrant

SUBMITTAL

Site Plan Review Committee meetings are held on the 1st and 3rd Tuesday of every month at 3:00 P.M. Meetings are held at the Ashwaubenon Village Hall on 2155 Holmgren Way. To submit a plan for review, all information **MUST** be in our office no later 14 calendar days prior to the meeting you wish to attend.

An incomplete application or a Site Plan Set lacking complete information will not be accepted.

Completed site plan review application, checklist, fee, 1 24"x36" plan set, and electronic (PDF) plan set are to be sent to:

Mail: Community Development Department
Village of Ashwaubenon
2155 Holmgren Way, Ashwaubenon, WI 54304

Fax: (920) 492-2311
Email: aschuette@ashwaubenon.com **AND**
jbroich@ashwaubenon.com

Please call (920) 593-4405 to schedule an appointment for a Plan Acceptance Review

Questions, please contact:

Aaron Schuette – Community Development Director
(920) 593-4405 / aschuette@ashwaubenon.com

OR

Jennifer Broich – Utility Clerk
(920) 593-4506 / jbroich@ashwaubenon.com



Village of Ashwaubenon

2155 Holmgren Wy • Ashwaubenon, WI 54304

P: 920.492.2309 F: 920.492.2311

www.ashwaubenon.com

Site Plan Review Application

This application must be completed and returned with your site plan review checklist and plan sets.

Site Information

Address _____

Parcel ID #(s) _____

Property Owner(s)

Name _____

Address _____

Phone _____ Fax _____ Email _____

Applicant (If not Property Owner)

Architect Engineer Surveyor Builder Agent Other (_____)

Name _____

Address _____

Phone _____ Fax _____ Email _____

Describe in Detail the Proposed Project along with the Current and Proposed Use(s) of the Property

Ground Floor Elevation: _____ Lot Size: _____ Area Added by Expansion: _____

Number of stories in Bldg: _____ Basement: [] yes / [] no Bldg Height from Grade: _____

Total Current Employees: _____ Total Proposed Employees: _____

Fees

[] New Submittal (full project) \$180.00
[] New Submittal (partial project) \$30.00 per section (ie: Site Plan, Landscaping, Lighting, Storm water, (number of sections _____ X \$30 = \$ _____) Signage (If SPRC review is required), Building Elevations)

Notes

- Site plan approval does not constitute approval of a building or curb cut permit.
- No new, enlarged, extended, or altered building shall be used or occupied in whole or in part until the certificate of occupancy has been issued by the building inspector verifying compliance with all approved and/or conditionally approved site plans.

I CERTIFY THAT THE ATTACHED DRAWINGS ARE TO THE BEST OF MY KNOWLEDGE COMPLETE AND DRAWN IN ACCORDANCE WITH ALL VILLAGE OF ASHWAUBENON CODES.

Property Owner Signature: _____ Date: _____

Applicant Signature: _____ Date: _____
(If not Property Owner)

FOR OFFICE USE ONLY
FEE: _____ RECEIPT #: _____ RECEIPT DATE: _____ APPLICATION #: _____
DATE RECEIVED COMPLETE: _____ RECEIVED BY: _____ ZONING DISTRICT: _____
REFERRED TO: [] PUBLIC WORKS [] INSPECTION [] FIRE [] ENGINEERING [] FORESTRY
SITE PLAN IS: [] APPROVED [] APPROVED W/CONDITIONS [] DENIED DATE: _____
COMMENTS: _____



Village of Ashwaubenon

2155 Holmgren Wy • Ashwaubenon, WI 54304

P: 920.492.2309 F: 920.492.2311

www.ashwaubenon.com

Site Plan Review Developer Checklist

This checklist must be completed and returned with your site plan review application and plan sets.

Address of project: _____

• Site Plan Set

- 1. Submit 1 24" x 36" Site Plan Set and 1 Electronic Plan Set (PDF)
- 2. All plans must be drawn to scale.
- 3. All sheets shall be numbered.
- 4. The signature of the surveyor, engineer, or architect who is responsible for plan preparation (unless waived by the Site Plan Review Coordinator).

COMMENTS:

• Sheet No. 1 - Title, Site Plan Layout, and Streets

- 1. Name of project, address, legal description of property, description of proposed use and zoning description.
- 2. Location map.
- 3. North arrow, date of preparation, revision dates, and scale.
- 4. Show and name adjacent and surrounding streets.
- 5. Recorded property lines and their dimensions.
- 6. Show all existing and proposed public and private easements for utility, drainage, sewer, parking, access, and other purposes, and all easements on surrounding properties benefiting the subject property.
- 7. Fundamental aspects of all existing and proposed buildings, including use of each structure, dimensions, number of stories, and their locations on the parcel.
- 8. If buildings are to be removed, the site plan shall so indicate.
- 9. Dimension all yard setbacks for buildings and off-street parking.
- 10. Show a table that details total land area within the development and percentages relative to buildings, hard surfaces, impervious surface areas (existing and proposed), and green space. Do NOT include street Right-of-Way areas in calculations.
- 11. Details and cross section of all traffic areas (parking, drive lanes, driveway aprons, loading zones, fire lanes, etc.)
- 12. Gross area, useable floor area, and current uses for existing buildings and proposed additions listed separately. For parking calculations, useable floor area will be determined as the area to be used for a particular use. (e.g.: sale of merchandise, servicing of customers, manufacture, or warehouse) Number of existing and future employees is required for parking calculations.
- 13. When abutting a site plan project, any public right-of-way needs to be identified with accurate locations for existing and proposed facilities such as: streets, curbs, sidewalks, project driveways, and driveways on opposite street frontages.
- 14. Traffic aspects of existing and proposed driveways and parking lot including: arrows to show traffic flow; stacking (drive thru), parking stall sizes (162 square feet minimum) and layout; accessible stalls and ramps; loading zones; driveway widths and radii or flares on driveway aprons to public streets.
- 15. Show barriers, curbing, or wheel stops located to prevent any portion of a vehicle from projecting beyond property lines. Also, indicate barriers constructed and anchored to prevent dislocation.
- 16. A note shall appear on the face of the site plan that indicates the calculations for parking and loading requirements. Plans for any joint use of parking must be in writing, attached and approved by the Village Administration.
- 17. The location of sidewalks, other pedestrian-type walkways, traffic control dividers, and tree islands.
- 18. Show proposed sidewalks and handicap accessible access with grade elevations listed at driveways.
- 19. Location of existing and proposed signage. Sign elevation showing the height from bottom of sign to grade, overall height, and face dimensions.
- 20. Location, height, elevations, and materials of all fences or retaining walls.
- 21. Location, type, height, and size of all outside storage including required screening.
- 22. Location and identification of all designated fire lanes with method of signage and markings.
- 23. Identify whether existing or proposed buildings will contain a fire protection system. Show and identify on-site fire hydrants and Fire Department Sprinkler connection point.
- 24. Show and identify location of required Knox Box for Public Safety access.
- 25. State what type of product(s) will be manufactured, sold and/or stored on site.
- 26. State all types of hazardous materials to be stored on-site. If none, state "no hazardous materials will be stored on-site."
- 27. Show location of all ground mounted mechanical equipment and indicate the type of screening and materials (walls, plantings, etc.).
- 28. Locate the refuse and recycling containers and provide details of construction, materials, height, and dimensions of the enclosure.
- 29. Any open space that will remain undisturbed and undeveloped.

COMMENTS:

● **Sheet No. 2. Utility Plan**

- 1. Show existing and proposed water, sanitary sewer, and storm sewer utilities including: locations, sizes, materials, slope, rim elevations, invert elevations, manholes, laterals, clean outs, catch basins, and valves. (Note: minimum of 8" water lateral required to serve private fire hydrants).
- 2. Show existing water and sewer mains and other utilities (electric, gas, etc).
- 3. Roof drain connections (if connected to storm sewer system).
- 4. Existing and proposed public and private easements for all utilities.

- 5. Statement placed on plan: "VILLAGE OF ASHWAUBENON WILL PERFORM ALL WORK IN THE ROADWAY RIGHT-OF-WAY AND BRING ANY REQUESTED WATER, SANITARY, AND STORM SEWER UTILITIES TO THE PROPERTY LINE WITH THE ASSOCIATED COSTS BEING THE PROPERTY OWNER'S RESPONSIBILITY. PLEASE CONTACT AL FARVOUR (UTILITY OPERATIONS SUPERVISOR) AT 920-492-2335 FOR ESTIMATES."
- 6. Show 2 (two) municipal fire hydrants nearest to permanent site access point(s).

COMMENTS:

● **Sheet No. 3. Grading, Drainage, Storm Water Management and Erosion Control Plan**

- 1. Identify existing topography (by dashed lines) at one foot intervals and proposed grade elevations for the building, parking lot, drives, surrounding open areas, and including all property within 50 feet (using contour lines and spot elevations and drainage flow arrows as needed to define drainage patterns).
- 2. Indicate 100 year flood delineation (if applicable).
- 3. List all existing and proposed grades for first floor.
- 4. Show details of all existing and proposed retaining walls and the location of swales and inlets.
- 5. Complete 'IMPERVIOUS SURFACES--ADDITIONS & REMOVALS CHART' (below)

- 6. Show proposed sidewalk(s) abutting all street frontages at all driveways. Show and list elevations of sidewalk at property line in accordance with Village standards

- 7. Storm water management plan to include; the lot size, building location, location of impervious areas, size and location of drainage basin (s), proposed flow direction arrows, detention pond footprint, depth of detention pond discharge location, size and overflow location.
- 8. Show proposed erosion control measures following WDNR Technical Standards.

IMPERVIOUS SURFACES - ADDITIONS & REMOVALS CHART - ALL AREAS ARE IN SQUARE FEET (SQ FT) (Mark 0 in each box that has no change)													
	Airport Surface	Buildings	In-Ground Pool	Concrete Pad/Patio	Non-Concrete Pad/Patio	Paved Driveway	Paved Parking	Paved Road	Paved Sidewalk	Paved Trail	Recreation Area	Tank	TOTAL CHANGES
ADDED													
REMOVED													

COMMENTS:

● **Sheet No. 4. Landscape Plan**

- 1. Locate all existing trees and indicate whether they will remain, be relocated, or be removed. Identify any other significant vegetation, which is to remain. (Note: Existing, healthy, mature trees are recommended and preferred to remain and be incorporated into the development whenever possible.)
- 2. Identify the location, size, species, and variety of proposed trees, shrubs, ground cover, and other landscape features that will be used to control erosion or screen parking, truck loading, refuse disposal, mechanical equipment, and outdoor storage from adjacent residential districts or public Right-of-Way.
- 3. Show the location of existing and proposed buildings, parking lots, walks, driveways, fences, water features, retaining walls, signs, mechanical equipment, bike racks and benches

- 4. Show all property lines, street names, and overhead utilities.
- 5. Identify type of finishing materials, including seeded grass, sod, and type of mulch in planting beds, pavers, concrete, and asphalt.
- 6. Identify percentage of green space (Do NOT include street Right-of-Way areas).
- 7. Include table of "Planting and Landscape Schedule" (see example below)

PLANTING AND LANDSCAPE SCHEDULE (example)					
Key	Symbol	Botanical Name	Common Name	Quantity	Size @ Planting
AR		<i>Acer rubrum</i>	Red Maple	5	2" Caliper
EA		<i>Euonymus alatus</i>	Burning Bush	20	24" B & B
TA		<i>Pinus strobus</i>	White Pine	50	5' height

COMMENTS:

● **Sheet No. 5. Lighting Plan**

- 1. Identify all exterior lighting fixtures, either mounted on the building or free-standing light along with photometric plan, intensity of light and cut off shielding that reflects light downward and which prevents the light source from being visible from adjacent properties. Provide lighting ratio information.

- 2. Identify mounting height for all building and free standing lighting fixtures.
- 3. Provide manufacturer light fixture specification sheets.

COMMENTS:

● **Sheet No. 6. Architectural & Construction Plan & Colored Drawings/Renderings**

- 1. Dimensioned elevations of all exterior walls and roof deck height (photographs may be substituted for existing elevations to remain unchanged).
- 2. Type of roof, wall and trim materials, colors, and textures.
- 3. Changes or additions to existing buildings or materials clearly identified.
- 4. Location and presence of all fire rated wall assemblies.

- 5. Show location of all building mounted and roof top mechanical equipment and vents over 8" in diameter or square dimension. Indicate type and materials for screening (walls, parapets, etc).
- 6. Colored exterior elevation drawings/renderings.
- 7. Dumpster enclosure colored rendering and location sketch

COMMENTS:

Village of Ashwaubenon - Fee Schedule for Permits

(2) COMMERCIAL BUILDING PERMITS

a.	Minimum fee (unless otherwise stated below)	\$100.00
b.	New multifamily dwellings	\$0.20/sq. ft.
c.	Commercial, office, industrial, and similar occupancies (Not residential)	\$0.12/sq. ft.
d.	Warehouse, unheated storage, and similar occupancies (Not residential)	\$0.10/sq. ft.
e.	Occupancy permit	\$75.00*
f.	Curb cut (driveway)	\$40.00/cut
g.	Where square footage cannot be determined, fee shall be based on actual total construction cost	\$4.00/\$1000 value
h.	Failure to call for final inspection:	
	First offense	\$50.00
	Second Offense	\$100.00
	<i>Fee doubles for each offense thereafter</i>	
i.	Second inspection for same citation	\$100.00
j.	Park impact fee:	
	<i>The amount of the fee for non-residential development to be constructed or created by the proposed development unless otherwise amended by the Village Board shall be calculated on the number of full-time employee equivalents employed at the non-residential development and the following impact fee schedule based on the number of full-time equivalent employees shall apply:</i>	
	1 to 15	\$892.00
	16 to 30	\$2,051.00
	31 to 45	\$3,389.00
	46 to 60	\$4,727.00
	61 to 75	\$6,064.00
	76 to 90	\$7,404.00
	91 to 110	\$8,919.00
	111 to 135	\$10,970.00
	136 to 160	\$13,201.00
	161 to 185	\$15,430.00
	186 to 210	\$17,660.00
	211 to 250	\$20,604.00
	251 to 300	\$24,529.00
k.	Erosion control per parcel	\$125.00 for 1 st acre plus \$25.00/acre thereafter
l.	Stormwater Management	\$125.00 for 1 st acre plus \$25.00/acre thereafter
m.	Flood plain land use permit	\$150.00
	If in flood plain	\$250.00
n.	Early start permit, footing and foundation only (Non refundable, not applicable to other building permit fees)	\$100.00
o.	Parking lot review:	
	Minimum	\$40.00
	10,001-20,000 sq. ft.	\$60.00
	20,001-40,000 sq. ft.	\$80.00
	40,001 sq. ft. & +	\$100.00

Village of Ashwaubenon

Municipal Code Book

Monday, March 29, 2021 1:09 PM



Printed for:
Chapter 5 - Buildings and Building Regulations
Article 9 - Stormwater Management
Section 771 - Post-construction Stormwater Management

Municipal Code Book

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Chapter 5 - Buildings and Building Regulations

Article 9 - Stormwater Management

5-9-771 Post-construction Stormwater Management

- (A) *Authority.*
- (1) This ordinance is adopted by the village board under the authority granted by Wis. Stats. § 61.354 for villages. This ordinance supersedes all provisions of an ordinance previously enacted under Wis. Stats. § 61.35 that relate to storm water management regulations. Except as otherwise specified in Wis. Stats. § 61.354, Wis. Stats. § 61.35 applies to this ordinance and to any amendments to this ordinance.
 - (2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.
 - (3) The village board hereby designates the director of public works (i.e. director) to administer and enforce the provisions of this ordinance.
 - (4) The requirements of this ordinance do not pre-empt more stringent storm water management requirements that may be imposed by any of the following:
 - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under Wis. Stats. § 281.16 and 283.33.
 - (b) Targeted performance standards promulgated in rules by the Wisconsin Department of Natural Resources under Wis. Adm. Code § NR 151.004.
- (B) *Findings of fact.* The village board finds that uncontrolled, post-construction runoff has a significant impact upon water resources and the health, safety and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:
- (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.

(C) *Purpose and intent.*

- (1) *Purpose.* The general purpose of this ordinance is to establish long-term, post-construction runoff management requirements that will diminish the threats to public health, safety, welfare and the aquatic environment. Specific purposes are to:
 - (a) Further the maintenance of safe and healthful conditions.
 - (b) Prevent and control the adverse effects of storm water; prevent and control soil erosion; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth.
 - (c) Control exceedance of the safe capacity of existing drainage facilities and receiving water bodies; prevent undue channel erosion; control increases in the scouring and transportation of particulate matter; and prevent conditions that endanger downstream property.
- (2) *Intent.* It is the intent of the village board that this ordinance regulates post-construction storm water discharges to waters of the state. This ordinance may be applied on a site-by-site basis. The village board recognizes, however, that the preferred method of achieving the storm water performance standards set forth in this ordinance is through the preparation and implementation of comprehensive, systems-level storm water management plans that cover hydrologic units, such as watersheds, on a municipal and regional scale. Such plans may prescribe regional storm water devices, practices or systems, any of which may be designed to treat runoff from more than one site prior to discharge to waters of the state. Where such plans are in conformance with the performance standards developed under Wis. Stats. § 281.16, for regional storm water management measures and have been approved by the village board, it is the intent of this ordinance that the approved plan be used to identify post-construction management measures acceptable for the community.

(D) *Applicability and jurisdiction.*

- (1) *Applicability.*
 - (a) Where not otherwise limited by law, this ordinance applies to all post-construction sites, unless the site is otherwise exempt under (d)(1)b.
 - (b) A post-construction site that meets any of the following criteria is exempt from the requirements of this ordinance.

- (i) 1- and 2-family residential dwellings that are not part of a larger common plan of development or sale and that result in less than 1 acre of disturbance.
 - (ii) Non-point discharges from agricultural activity areas.
 - (iii) Non-point discharges from silviculture activities.
 - (iv) Mill and crush operations.
- (c) Notwithstanding the applicability requirements in (d)(1)a., this ordinance applies to post-construction sites of any size that, in the opinion of the director, is likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, that causes undue channel erosion, that increases water pollution by scouring or the transportation of particulate matter or that endangers property or public safety.
- (2) *Jurisdiction.* This ordinance applies to post-construction sites within the boundaries and jurisdiction of the Village of Ashwaubenon.
- (3) *Exclusions.* This ordinance is not applicable to activities conducted by a state agency, as defined under Wis. Stats. § 227.01 (1), but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under Wis. Stats. § 281.33 (2).

(E) *Definitions.*

Adequate sod, or self-sustaining vegetative cover means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is preserved. Self-sustaining vegetative cover includes grasses, forbs, sedges and duff layers of fallen leaves and woody debris.

Administering authority means a governmental employee or agent that is designated by the village board to administer this ordinance.

Agricultural activity area means the part of the farm where there is planting, growing, cultivating and harvesting of crops for human or livestock consumption and pasturing or outside yarding of livestock, including sod farms and silviculture. Practices in this area may include waterways, drainage ditches, diversions, terraces, farm lanes, excavation, filling and similar practices. The agricultural activity area does not include the agricultural production area.

Agricultural production area means the part of the farm where there is concentrated production activity or impervious surfaces. Agricultural production areas include buildings, driveways, parking areas, feed storage structures, manure storage structures, and other impervious surfaces. The agricultural production area does not include the agricultural activity area.

Atlas 14 means the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 (Midwestern States), published in 2013.

Average annual rainfall means a typical calendar year of precipitation as determined by the Wisconsin DNR for users of models such as SLAMM, P8, or equivalent methodology. The average

annual rainfall is chosen from a Wisconsin DNR publication for the location closest to the municipality.

Best management practice or BMP means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

Business day means a day the Village Hall is routinely and customarily open for business.

Cease and desist order means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit.

Combined sewer system means a system for conveying both sanitary sewage and storm water runoff.

Common plan of development or sale means a development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A common plan of development or sale includes, but is not limited to, subdivision plats, certified survey maps, and other developments.

Connected imperviousness means an impervious surface connected to the waters of the state via a separate storm sewer, an impervious flow path, or a minimally pervious flow path.

Construction site means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale.

Design storm means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth of rainfall. The TP-40, Type II, 24-hour design storms for Village of Ashwaubenon are: one-year, 2.2 inches; two-year, 2.5 inches; five-year, 3.2 inches; ten-year, 3.7 inches; 25-year, 4.3 inches; 50-year, 4.8 inches; and 100-year, 5.1 inches. The Atlas 14, MSE4, 24-hour design storms for the Village of Ashwaubenon are: one-year, 2.05 inches; two-year, 2.37 inches; five-year, 2.94 inches; ten-year, 3.45 inches; 25-year, 4.22 inches; 50-year, 4.87 inches; and 100-year, 5.56 inches.

Development means residential, commercial, industrial, institutional, or other land uses and associated roads.

Direct conduits to groundwater means wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, nonmetallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock.

Division of land means the creation from one or more parcels or building sites of additional parcels or building sites where such creation occurs at one time or through the successive partition within a 5 year period.

Effective infiltration area means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.

Erosion means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

Exceptional resource waters means waters listed in Wis. Adm. Code § NR 102.11.

Existing development means development in existence on October 1, 2004 or development for which a storm water permit in accordance with Wis. Adm. Code § subch. III of Ch. NR 216, was received on or before October 1, 2004.

Extraterritorial means the unincorporated area within 3 miles of the corporate limits of a first, second, or third class city, or within 1.5 miles of a fourth class city or village.

Filtering layer means soil that has at least a 3-foot deep layer with at least 20 percent fines; or at least a 5-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the director for the site.

Final stabilization means that all land disturbing construction activities at the construction site have been completed and that a uniform, perennial, vegetative cover has been established, with a density of at least 70% of the cover, for the unpaved areas and areas not covered by permanent structures, or that employ equivalent permanent stabilization measures.

Financial guarantee means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the director by the responsible party to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.

Governing body means town board of supervisors, county board of supervisors, city council, village board of trustees or village council.

Highway has the meaning given in Wis. Stats. § 340.01 (22).

Highway reconditioning has the meaning given in Wis. Stats. § 84.013 (1)(b).

Highway reconstruction has the meaning given in Wis. Stats. § 84.013(1)(c).

Highway resurfacing has the meaning given in Wis. Stats. § 84.013(1)(d).

Impervious surface means an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, parking lots and streets are examples of surfaces that typically are impervious. Gravel surfaces are considered impervious, unless specifically designed to encourage infiltration.

In-fill means an undeveloped area of land or new development area located within an existing urban sewer service area, surrounded by development or development and natural or man-made features where development cannot occur. “In-fill” does not include any undeveloped area that was part of a larger new development for which a storm water permit in accordance with Wis. Adm. Code § subch. III of ch. NR 216, was required to be submitted after October 1, 2004 to the Wisconsin Department of Natural Resources or Wisconsin Department of Safety and Professional Services (formerly Department of Commerce).

Infiltration means the entry and movement of precipitation or runoff into or through soil.

Infiltration system means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.

Land disturbing construction activity (or disturbance) means any man-made alteration of the land

surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of pollutants into the municipal separate storm sewer or waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, and soil stockpiling.

Maintenance agreement means a legal document that provides for long-term maintenance of storm water management and best management practices.

MEP or maximum extent practicable means the highest level of performance that is achievable but is not equivalent to a performance standard identified within this ordinance. Maximum extent practicable applies when the permit applicant demonstrates to the director's satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the permit applicant shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.

Minor reconstruction of a highway means reconstruction of a highway that is limited to 1.5 miles in continuous or aggregate total length of realignment and that does not exceed 100 feet in width of roadbed widening, and that does not include replacement of a vegetated drainage system with a non-vegetated drainage system except where necessary to convey runoff under a highway or private road or driveway.

MSE3 or MSE4 distribution means a specific precipitation distribution developed by the USDA, NRCS, using precipitation data from Atlas 14.

Navigable waters and navigable waterway has the meaning given in Wis. Stats. § 30.01(4m).

New development means that portion of a post-construction site where impervious surfaces are being created or expanded. Any disturbance where the amount of impervious area for the post-development condition is greater than the pre-development condition is classified as new development. For purposes of this ordinance, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

Off-site means located outside the property boundary described in the permit application.

On-site means located within the property boundary described in the permit application.

Ordinary high-water mark has the meaning given in Wis. Adm. Code § NR 115.03(6).

Outstanding resource waters means waters listed in Wis. Adm. Code § NR 102.10.

Percent fines means the percentage of a given sample of soil, which passes through a # 200 sieve.

Performance standard means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

Permit means a written authorization made by the director to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.

Permit administration fee means a sum of money paid to the director by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.

Pervious surface means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests or other similar vegetated areas are examples of surfaces that typically are pervious.

Pollutant has the meaning given in Wis. Stats. § 283.01(13).

Pollution has the meaning given in Wis. Stats. § 281.01(10).

Post-construction site means a construction site following the completion of land disturbing construction activity and final site stabilization.

Post-development means the extent and distribution of land cover types present after the completion of land disturbing construction activity and final site stabilization.

Pre-development means the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.

Preventive action limit has the meaning given in Wis. Adm. Code § NR 140.05(17).

Redevelopment means that portion of a post-construction site where impervious surfaces are being reconstructed, replaced, or reconfigured. Any disturbance where the amount of impervious area for the post-development condition is equal to or less than the pre-development condition is classified as redevelopment. For purposes of this ordinance, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

Responsible party means any entity holding fee title to the property or other person contracted or obligated by other agreement to implement and maintain post-construction storm water BMPs.

Routine maintenance means that portion of a post-construction site where pre-development impervious surfaces are being maintained to preserve the original line and grade, hydraulic capacity, drainage pattern, configuration, or purpose of the facility. Remodeling of buildings and resurfacing of parking lots, streets, driveways, and sidewalks are examples of routine maintenance, provided the lower ½ of the impervious surface's granular base is not disturbed. The disturbance shall be classified as redevelopment if the lower ½ of the granular base associated with the pre-development impervious surface is disturbed or if the soil located beneath the impervious surface is exposed. For purposes of this ordinance, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

Runoff means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

Sediment means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

Separate storm sewer means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

- (1) Is designed or used for collecting water or conveying runoff.
- (2) Discharges directly or indirectly to waters of the state.

Silviculture activities means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.

Site means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.

Stop work order means an order issued by the director which requires that all construction activity on the site be stopped.

Storm water management plan means a comprehensive plan designed to reduce the discharge of pollutants from storm water after the site has undergone final stabilization following completion of the construction activity.

Storm water management system plan is a comprehensive plan designed to reduce the discharge of runoff and pollutants from hydrologic units on a regional or municipal scale.

Targeted performance standard means a performance standard that will apply in a specific area, where additional practices beyond those contained in this ordinance, are necessary to meet water quality standards. A total maximum daily load is an example of a targeted performance standard.

Technical standard means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

Top of the channel means an edge, or point on the landscape, landward from the ordinary high-water mark of a surface water of the state, where the slope of the land begins to be less than 12% continually for at least 50 feet. If the slope of the land is 12% or less continually for the initial 50 feet, landward from the ordinary high-water mark, the top of the channel is the ordinary high-water mark.

Total maximum daily load or TMDL means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.

TP-40 means the Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.

TR-55 means the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986, which is incorporated by reference for this ordinance.

Transportation facility means a public street, a public road, a public highway, a railroad, a public mass transit facility, a public-use airport, a public trail, or any other public work for transportation purposes such as harbor improvements under Wis. Stats. § 85.095(1)(b). “Transportation facility” does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the Wisconsin Department of Natural Resources pursuant to Wis. Stats. § 281.33.

Type II distribution means a rainfall type curve as established in the “United States Department of

Agriculture, Soil Conservation Service, Technical Paper 149, published 1973”, which is incorporated by reference for this ordinance. The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.

Waters of the state has the meaning given in Wis. Stats. § 283.01 (20).

- (F) *Technical standards.* The following methods shall be used in designing and maintaining the water quality, peak discharge, infiltration, protective area, fueling / vehicle maintenance, and swale treatment components of storm water practices needed to meet the water quality standards of this ordinance:
- (1) Technical standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under Wis. Adm. Code § subch. V of ch. NR 151.
 - (2) Technical standards and guidance identified within the Village of Ashwaubenon Storm Water Reference Guide.
 - (3) Where technical standards have not been identified or developed by the Wisconsin Department of Natural Resources, other technical standards may be used provided that the methods have been approved by the director.
 - (4) In this ordinance, the following year and location has been selected as average annual rainfall: Green Bay, 1969 (Mar. 29-Nov. 25).
- (G) *Performance standards*
- (1) *Responsible party.* The responsible party shall develop and implement a post-construction storm water management plan that incorporates the requirements of this section.
 - (2) *Plan.* A written storm water management plan shall be developed and implemented by the responsible party in accordance with (i). The storm water management plan shall meet all of the applicable requirements contained in this ordinance.
 - (3) *Requirements.* The storm water management plan shall meet the following minimum requirements to the maximum extent practicable:
 - (a) *Water quality.* BMPs shall be designed, installed and maintained to control pollutants carried in runoff from the post-construction site. The design shall be based on the average annual rainfall, as compared to no runoff management controls.
 - (i) For post-construction sites with 1 acre or more of land disturbance, the following is required:
 - (1) Except as provided in (g)(3)a.1.b), a Total Suspended Solids (TSS) and Total Phosphorus (TP) reduction is required as follows:

Watershed	Percent Reduction					
	New Development		Redevelopment		Routine Maintenance	
	TSS	TP	TSS	TP	TSS	TP
Ashwaubenon Cr	80%	41%	52%	41%	52%	41%
Duck Creek	80%	41%	52%	41%	52%	41%
Dutchman Creek	80%	41%	52%	41%	52%	41%
Fox River	80%	41%	72%	41%	72%	41%

- (2) A pollutant reduction is not required for routine maintenance areas that are part of a post-construction site with less than 5 acres of disturbance.
- (ii) The amount of pollutant control previously required for the site shall not be reduced as a result of the proposed development or disturbance.
- (iii) When designing BMPs, runoff draining to the BMP from offsite areas shall be taken into account in determining the treatment efficiency of the practice. Any impact on the BMP efficiency shall be compensated for by increasing the size of the BMP accordingly. The pollutant load reduction provided by the BMP for an offsite area shall not be used to satisfy the required onsite pollutant load reduction, unless otherwise approved by the director in accordance with (g)(5).
- (iv) If the design cannot meet the water quality performance standards of (g)(3)a.1. through 5., the storm water management plan shall include a written, site specific explanation of why the water quality performance standard cannot be met and why the pollutant load will be reduced only to the maximum extent practicable. Except as provided in (g)(6), the director may not require any person to exceed the applicable water quality performance standard to meet the requirements of maximum extent practicable.
- (b) *Peak discharge.* BMPs shall be designed, installed and maintained to control peak discharges from the post-construction site.
- (i) For post-construction sites with 1 acre or more of land disturbance, the following is required:
- (1) The peak post-development discharge rate shall not exceed the peak pre-development discharge rate for the 1-year, 2-year, 10-year, and 100-year, 24-hour design storms. These peak discharge requirements apply to new development and redevelopment areas. No peak discharge control is required for routine maintenance areas, unless runoff from the routine maintenance area discharges into a proposed peak flow control facility.
- (2) TR-55 methodology, Atlas 14 precipitation depths, and the MSE4 distribution shall be used for peak discharge calculations, unless the administering authority approves the TP-40 precipitation depths and Type II distribution. The meaning of “hydrologic soil group” and “runoff curve number” are as determined in TR-55. Unless the site is currently woodland, peak pre-development discharge rates for new development shall be determined using the following runoff curve numbers for a “meadow” vegetative cover. Peak pre-development

discharge rates for re-development shall be determined using the following runoff curve numbers for a “cropland” vegetative cover:

Maximum Pre-Development Runoff Curve Numbers				
Vegetative Cover	Hydrologic Soil Group			
	A	B	C	D
Meadow	30	58	71	78
Woodland	30	55	70	77
Cropland	55	69	78	83

- (ii) The amount of peak discharge control previously required for the site shall not be reduced as a result of the proposed development or disturbance.
- (iii) When designing BMPs, runoff draining to the BMP from offsite areas shall be taken into account in determining the performance of the practice. Any impact on the BMP performance shall be compensated for by increasing the size of the BMP accordingly. The peak discharge reduction provided by the BMP for an offsite area shall not be used to satisfy the required onsite peak discharge reduction, unless otherwise approved by the director in accordance with (g)(5).
- (iv) An adequate outfall shall be provided for each point of concentrated discharge from the post-construction site. An adequate outfall consists of non-erosive discharge velocities and reasonable downstream conveyance.
- (v) *Exemptions.* The peak discharge performance standards do not apply to the following:
 - (1) A transportation facility where the discharge is directly into a lake over 5,000 acres or a stream or river segment draining more than 500 square miles.
 - (2) Except as provided under (g)(3)b.4. to 6., a highway reconstruction site.
 - (3) Except as provided under (g)(3)b.4. to 6., a transportation facility that is part of a redevelopment project.
- (c) *Infiltration.* BMPs shall be designed, installed, and maintained to infiltrate runoff from the post-construction site, except as provided in (g)(3)c.8. through 12.
 - (i) For post-construction sites with 1 acre or more of land disturbance, the following is required:
 - (1) *Low Imperviousness.* For development up to 40 percent connected imperviousness, such as parks, cemeteries, and low density residential development, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90 percent of the pre-

development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than one percent of the post-construction site is required as an effective infiltration area.

- (2) *Moderate imperviousness.* For development with more than 40 percent and up to 80 percent connected imperviousness, such as medium and high density residential, multi-family development, industrial and institutional development, and office parks, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the post-construction site is required as an effective infiltration area.
- (3) *High imperviousness.* For development with more than 80 percent connected imperviousness, such as commercial strip malls, shopping centers, and commercial downtowns, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the post-construction site is required as an effective infiltration area.
- (ii) Pre-development condition shall assume “good hydrologic conditions” for appropriate land covers as identified in TR-55 or an equivalent methodology approved by the administering authority. The meaning of “hydrologic soil group” and “runoff curve number” are as determined in TR-55. The actual pre-development vegetative cover and the following pre-development runoff curve numbers shall be used:

Maximum Pre-Development Runoff Curve Numbers				
Vegetative Cover	Hydrologic Soil Group			
	A	B	C	D
Woodland	30	55	70	77
Grassland	39	61	71	78
Cropland	55	69	78	83

- (iii) For post-construction sites with less than 1 acre of land disturbance, infiltrate runoff volume using BMPs from the Village of Ashwaubenon Storm Water Reference Guide. These sites are not required to satisfy a numeric performance standard.
- (iv) Sites with a cumulative addition of 1 acre or more of new development after October 28, 2008 are required to satisfy the performance standards within (g)(3)c.1. and 2.
- (v) The amount of infiltration previously required for the site shall not be reduced as a result of the proposed development or disturbance.

- (vi) When designing BMPs, runoff draining to the BMP from offsite areas shall be taken into account in determining the performance of the practice. Any impact on the BMP performance shall be compensated for by increasing the size of the BMP accordingly. The runoff volume reduction provided by the BMP for an offsite area shall not be used to satisfy the required onsite runoff volume reduction, unless otherwise approved by the director in accordance with (g)(5).
- (vii) *Pretreatment.* Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with (g)(3)c.14. Pretreatment options may include, but are not limited to, oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.
- (viii) *Source area prohibitions.* Runoff from the following areas may not be infiltrated and may not qualify as contributing to meeting the requirements of (g)(3)c unless demonstrated to meet the conditions of (g)(3)c.14.
 - (1) Areas associated with a tier 1 industrial facility identified in Wis. Adm. Code § NR 216.21(2)(a), including storage, loading, and parking. Rooftops may be infiltrated with the concurrence of the director.
 - (2) Storage and loading areas of a tier 2 industrial facility identified in Wis. Adm. Code § NR 216.21(2)(b).
 - (3) Fueling and vehicle maintenance areas. Rooftops of fueling and vehicle maintenance areas may be infiltrated with the concurrence of the director.
- (ix) *Source area exemptions.* Runoff from the following areas may be credited toward meeting the requirement when infiltrated, but the decision to infiltrate runoff from these sources is optional:
 - (1) Parking areas and access roads less than 5,000 square feet for commercial development.
 - (2) Parking areas and access roads less than 5,000 square feet for industrial development not subject to the prohibitions under (g)(3)c.8.
 - (3) Except as provided under (g)(3)c.5., redevelopment and routine maintenance areas.
 - (4) In-fill development areas less than 5 acres.
 - (5) Roads in commercial, industrial and institutional land uses, and arterial residential roads.
 - (6) Except as provided under (g)(3)c.5., transportation facility highway reconstruction and new highways.
- (x) *Prohibitions.* Infiltration practices may not be located in the following areas:

- (1) Areas within 1,000 feet upgradient or within 100 feet downgradient of direct conduits to groundwater.
 - (2) Areas within 400 feet of a community water system well as specified in Wis. Adm. Code § NR 811.16(4), or within the separation distances listed in Wis. Adm. Code § NR 812.08, for any private well or non-community well for runoff infiltrated from commercial, including multi-family residential, industrial, and institutional land uses or regional devices for one- and two-family residential development.
 - (3) Areas where contaminants of concern, as defined in Wis. Adm. Code § NR 720.03(2), are present in the soil through which infiltration will occur.
- (xi) *Separation distances.* Infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with the following:

Separation Distances and Soil Characteristics		
Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer
Residential Arterial Roads	5 feet or more	Filtering Layer
Roofs Draining to Subsurface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 feet or more	Filtering Layer

Notwithstanding (g)(3)c.11., applicable requirements for injection wells classified under Wis. Adm. Code § ch. NR 815, shall be followed.

- (xii) *Infiltration rate exemptions.* Infiltration practices located in the following areas may be credited toward meeting the requirement under the following conditions, but the decision to infiltrate under these conditions is optional:
- (1) Where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method.
 - (2) Where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the U.S. Department of Agriculture method of soils analysis is one of the following: sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.

- (xiii) *Alternate uses.* Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation or storage on green roofs where an equivalent portion of the runoff is captured permanently by rooftop vegetation, such alternate use shall be given equal credit toward the infiltration volume required by (g)(3)c.
- (xiv) *Groundwater standards.*
 - (1) Infiltration systems designed in accordance with this (g)(3)c shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with Wis. Adm. Code § ch. NR 140. However, if site specific information indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.
 - (2) Notwithstanding (g)(3)c.14.a), the discharge from BMPs shall remain below the enforcement standard at the point of standards application.
- (xv) Where the conditions of (g)(3)c.8. through 12. limit or restrict the use of infiltration practices, the performance standard of (g)(3)c. shall be met to the maximum extent practicable.
- (d) *Protective areas.*
 - (i) “Protective area” means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. However, in (g)(3)d., “protective area” does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location. For post-construction sites with 1 acre or more of land disturbance, the following is required:
 - (1) For outstanding resource waters and exceptional resource waters, 75 feet.
 - (2) For perennial and intermittent streams identified on a United States geological survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 50 feet.
 - (3) For lakes, 50 feet.
 - (4) For wetlands not subject to (g)(3)d.1.e) or f), 50 feet.
 - (5) For highly susceptible wetlands, 75 feet. Highly susceptible wetlands include the following types: calcareous fens, sedge meadows, open and coniferous bogs, low prairies, coniferous swamps, lowland hardwood swamps, and ephemeral ponds.
 - (6) For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet. Less susceptible wetlands include: degraded wetlands dominated

by invasive species such as reed canary grass; cultivated hydric soils; and any gravel pits, or dredged material or fill material disposal sites that take on the attributes of a wetland.

- (7) In (g)(3)d.1.d) to f), determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in Wis. Adm. Code § NR 103.03.
- (8) Wetlands shall be delineated. Wetland boundary delineations shall be made in accordance with Wis. Adm. Code § NR 103.08(1m). (g)(3)d. does not apply to wetlands that have been completely filled in compliance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in compliance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after fill has been placed. Where there is a legally authorized wetland fill, the protective area standard need not be met in that location.
- (9) For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.
- (10) Notwithstanding (g)(3)d.1.a) to i), the greatest protective area width shall apply where rivers, streams, lakes, and wetlands are contiguous.
- (ii) (g)(3)d. applies to all post-construction sites located within a protective area, except those areas exempted pursuant to (g)(3)d.5.
- (iii) The following requirements shall be met:
 - (1) Impervious surfaces shall be kept out of the protective area entirely or to the maximum extent practicable. If there is no practical alternative to locating an impervious surface in the protective area, the storm water management plan shall contain a written, site-specific explanation.
 - (2) Where land disturbing construction activity occurs within a protective area, adequate sod or self-sustaining vegetative cover of 70 percent or greater shall be established and maintained where no impervious surface is present. The adequate sod or self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of fish habitat, and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.
 - (3) Best management practices such as filter strips, swales, or wet detention ponds, that are designed to control pollutants from non-point sources, may be located in the protective area.
- (iv) A protective area established or created after October 28, 2008 shall not be eliminated or reduced, except as allowed in (g)(3)d.5.b), c), or d).
- (v) Exemptions. The following areas are not required to meet the protective area requirements of (g)(3)d.:

- (1) Redevelopment and routine maintenance areas provided the minimum requirements within (g)(3)d.4. are satisfied.
 - (2) Structures that cross or access surface waters such as boat landings, bridges and culverts.
 - (3) Structures constructed in accordance with Wis. Stats. § 59.692(1v).
 - (4) Areas of post-construction sites from which the runoff does not enter the surface water, including wetlands, without first being treated by a BMP to meet the requirements of (g)(3)a. and b., except to the extent that vegetative ground cover is necessary to maintain bank stability.
- (e) *Fueling and vehicle maintenance areas.* Fueling and vehicle maintenance areas shall have BMPs designed, installed and maintained to reduce petroleum within runoff, so that the runoff that enters waters of the state contains no visible petroleum sheen, or to the maximum extent practicable.
- (f) *Swale treatment for transportation facilities.* This (g)(3)f. is not applicable to transportation facilities that are part of a larger common plan of development or sale.
- (i) *Requirement.* Except as provided in (g)(3)f.2., transportation facilities that use swales for runoff conveyance and pollutant removal are exempt from the requirements of (g)(3)a., b., and c., if the swales are designed to do all of the following or to the maximum extent practicable:
- (1) Swales shall be vegetated. However, where appropriate, non-vegetative measures may be employed to prevent erosion or provide for runoff treatment, such as rock riprap stabilization or check dams.
 - (2) Swales shall comply with the Wisconsin Department of Natural Resources Technical Standard 1005, “Vegetated Infiltration Swale”, except as otherwise authorized in writing by the Wisconsin Department of Natural Resources.
- (ii) *Other Requirements.* Notwithstanding (g)(3)f.1., the director may, consistent with water quality standards, require that other requirements, in addition to swale treatment, be met on a transportation facility with an average daily traffic rate greater than 2,500 and where the initial surface water of the state that the runoff directly enters is any of the following:
- (1) An outstanding resource water.
 - (2) An exceptional resource water.
 - (3) Waters listed in section 303(d) of the federal clean water act that are identified as impaired in whole or in part, due to nonpoint source impacts.
 - (4) Waters where targeted performance standards are developed pursuant to Wis. Adm. Code § NR 151.004.

- (g) *Exemptions.* The following areas are not required to meet the performance standards within (g)(3):
 - (i) Underground utility construction such as water, sewer, gas, electric, telephone, cable television, and fiber optic lines. This exemption does not apply to the construction of any above ground structures associated with utility construction.
 - (ii) The following transportation facilities are exempt, provided the transportation facility is not part of a larger common plan of development or sale.
 - (1) A transportation facility post-construction site with less than 10 percent connected imperviousness, based on the area of land disturbance, provided the cumulative area of all impervious surfaces is less than one acre. Notwithstanding this exemption, the protective area requirements of (g)(3)d. still apply.
 - (2) Reconditioning or resurfacing of a highway.
 - (3) Minor reconstruction of a highway. Notwithstanding this exemption, the protective area requirements of (g)(3)d. apply to minor reconstruction of a highway.
 - (4) Routine maintenance for transportation facilities that have less than 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.
 - (5) Routine maintenance if performed for storm water conveyance system cleaning.
- (4) *General considerations for on-site and off-site stormwater management measures.* The following considerations shall be observed in managing runoff:
 - (a) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity, and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section.
 - (b) Emergency overland flow for all storm water facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.
- (5) *BMP location and credit.*
 - (a) *General.* To comply with (g)(3) performance standards, the BMPs may be located on-site or off-site as part of a regional storm water device, practice or system.
 - (b) *Off-site or regional BMP.*

- (i) The amount of credit that the director may give an offsite or regional BMP for purposes of determining compliance with the performance standards of (g)(3) is limited to the treatment capability or performance of the BMP.
- (ii) The director may authorize credit for an off-site or regional BMP provided all of the following conditions are satisfied:
 - (1) The BMP received all applicable permits.
 - (2) The BMP shall be installed and operational before the construction site has undergone final stabilization.
 - (3) The BMP shall be designed and adequately sized to provide a level of storm water control equal to or greater than that which would be afforded by on-site BMPs meeting the (g)(3) performance standards.
 - (4) The owner of the BMP has entered into a (j) maintenance agreement with the Village of Ashwaubenon, or another municipal entity, such that the BMP has a legally obligated entity responsible for its long-term operation and maintenance. Legal authority exists if a municipality owns, operates and maintains the BMP.
 - (5) The owner of the BMP has provided written authorization which indicates the permit applicant may use the BMP for (g)(3) performance standard compliance.
 - (6) Where an off-site or regional BMP option exists such that the director exempts the applicant from all or part of the minimum on-site storm water management requirements, the applicant shall be required to pay a fee in an amount determined in negotiation with the director. In determining the fee for post-construction runoff, the director shall consider an equitable distribution of the cost for land, engineering design, construction, and maintenance of the off-site or regional BMP.
- (c) *BMP in non-navigable waters.* For purposes of determining compliance with the performance standards of (g)(3), the director may give credit for BMPs that function to provide treatment for runoff from existing development and post-construction runoff from new development, redevelopment, and routine maintenance areas and that are located within non-navigable waters.
- (d) *BMP in navigable waters.*
 - (i) *New Development Runoff.* Except as allowed under (g)(5)d.2., BMPs designed to treat post-construction runoff from new development areas may not be located in navigable waters and, for purposes of determining compliance with the performance standards of (g)(3), the director may not give credit for such BMPs.
 - (ii) *New Development Runoff Exemption.* BMPs to treat post-construction runoff from new development areas may be located within navigable waters and may be creditable by the director under (g)(3), if all the following are met:

- (1) The BMP was constructed prior to October 1, 2002 and received all applicable permits.
- (2) The BMP functions or will function to provide runoff treatment for the new development area.
- (iii) *Existing Development & Post-Construction Runoff From Redevelopment, Routine Maintenance, & Infill Development Areas.* Except as provided in (g)(5)d.4., BMPs designed to treat post-construction runoff for existing development and post-construction runoff from redevelopment, routine maintenance and infill development areas may not be located in navigable waters and, for purposes of determining compliance with the performance standards of (g)(3), the director may not give credit for such BMPs.
- (iv) *Existing Development & Post-Construction Runoff From Redevelopment, Routine Maintenance, & Infill Development Areas Exemption.* BMPs that function to provide treatment of runoff from existing development and post-construction runoff from redevelopment, routine maintenance and infill development areas may be located within navigable waters and, for purposes of determining compliance with the performance standards of (g)(3), the director may give credit for such BMPs, if any of the following are met:
 - (1) The BMP was constructed, contracts were signed or bids advertised and all applicable permits were received prior to January 1, 2011.
 - (2) The BMP is on an intermittent waterway and all applicable permits are received.
- (e) *Water quality trading.* To comply with (g)(3)a. performance standards, the director may authorize credit for water quality trading provided all of the following conditions are satisfied:
 - (i) The treatment practices associated with a water quality trade shall be in place, effective and operational before credit can be authorized.
 - (ii) The water quality trade shall comply with applicable trading ratios established by the Wisconsin Department of Natural Resources or the Village of Ashwaubenon.
 - (iii) The water quality trade shall comply with applicable regulations, standards, and guidance developed by the Wisconsin Department of Natural Resources or the Village of Ashwaubenon.
 - (iv) The responsible party shall furnish a copy of executed water quality trading agreements or other related information deemed necessary by the director in order to authorize credit.
- (6) *Targeted performance standards.* The director may establish numeric water quality requirements that are more stringent than those set forth in (g)(3) in order to meet targeted performance standards, total maximum daily loads, and/or water quality standards for a specific water body or area. The numeric water quality requirements may be applicable to any permitted site, regardless of the size of land disturbing construction activity.

- (7) *Alternate requirements.* The director may establish storm water management requirements more stringent than those set forth in this section if the director determines that an added level of protection is needed to protect sensitive resources. Also, the director may establish storm water management requirements less stringent than those set forth in this section if the director determines that less protection is needed to protect sensitive resources and provide reasonable flood protection. However, the alternative requirements shall not be less stringent than those requirements promulgated in rules by Wisconsin Department of Natural Resources under Wis. Adm. Code § NR 151.
- (H) *Permitting requirements, procedures and fees.*
- (1) *Permit required.* No responsible party may undertake a land disturbing construction activity without receiving a post-construction runoff permit from the director prior to commencing the proposed activity.
- (2) *Permit application and fees.* Unless specifically excluded by this ordinance, any responsible party desiring a permit shall submit to the director a permit application made on a form provided by the director for that purpose.
- (a) Unless otherwise excepted by this ordinance, a permit application must be accompanied by a storm water management plan, a maintenance agreement and a non-refundable permit administration fee.
- (b) The storm water management plan shall be prepared to meet the requirements of (g) and (i), the maintenance agreement shall be prepared to meet the requirements of (j), the financial guarantee shall meet the requirements of (k), and fees shall be those established by the village board as set forth in (l).
- (3) *Review and approval of permit application.* The director shall review any permit application that is submitted with a storm water management plan, maintenance agreement, and the required fee. The following approval procedure shall be used:
- (a) Within 20 business days of the receipt of a complete permit application, including all items as required by (h)(2), the director shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved based on the requirements of this ordinance.
- (b) If the storm water permit application, plan and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of storm water management practices is made pursuant to (g)(5), the director shall issue the permit.
- (c) If the storm water permit application, plan or maintenance agreement is disapproved, the director shall detail in writing the reasons for disapproval.

- (d) The director may request additional information from the applicant. If additional information is submitted, the director shall have 20 business days from the date the additional information is received to inform the applicant that the plan and maintenance agreement are either approved or disapproved.
- (e) Failure by the director to inform the permit applicant of a decision within 20 business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.
- (4) *Permit requirements.* All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The director may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the director to suspend or revoke this permit may be appealed in accordance with (n).
 - (a) Compliance with this permit does not relieve the responsible party of the responsibility to comply with other applicable federal, state, and local laws and regulations.
 - (b) The responsible party shall design and install all structural and non-structural storm water management measures in accordance with the approved storm water management plan and this permit.
 - (c) The responsible party shall notify the director at least 10 business days before commencing any work in conjunction with the storm water management plan, and within 10 business days upon completion of the storm water management practices. If required as a special condition under (h)(5), the responsible party shall make additional notification according to a schedule set forth by the director so that practice installations can be inspected during construction.
 - (d) Practice installations required as part of this ordinance shall be certified "as built" by a licensed professional engineer. Completed storm water management practices must pass a final inspection by the director or its designee to determine if they are in accordance with the approved storm water management plan and ordinance. The director or its designee shall notify the responsible party in writing of any changes required in such practices to bring them into compliance with the conditions of this permit.
 - (e) The responsible party shall notify the director of any significant modifications it intends to make to an approved storm water management plan. The director may require that the proposed modifications be submitted to it for approval prior to incorporation into the storm water management plan and execution by the responsible party.
 - (f) The responsible party shall maintain all storm water management practices in accordance with the storm water management plan until the practices either become the responsibility of the Village of Ashwaubenon, or are transferred to subsequent private owners as specified in the approved maintenance agreement.

- (g) The responsible party authorizes the director to perform any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consents to a special assessment or charge against the property as authorized under Wis. Stats. § subch. VII of ch. 66, or to charging such costs against the financial guarantee posted under (k).
 - (h) If so directed by the director, the responsible party shall repair at the responsible party's own expense all damage to adjoining municipal facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan.
 - (i) The responsible party shall permit property access to the director or its designee for the purpose of inspecting the property for compliance with the approved storm water management plan and this permit.
 - (j) Where site development or redevelopment involves changes in direction, increases in peak rate and/or total volume of runoff from a site, the director may require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.
 - (k) The responsible party is subject to the enforcement actions and penalties detailed in (m), if the responsible party fails to comply with the terms of this permit.
- (5) *Permit conditions.* Permits issued under this subsection may include conditions established by director in addition to the requirements needed to meet the performance standards in (g) or a financial guarantee as provided for in (k).
 - (6) *Permit duration.* Permits issued under this section shall be valid from the date of issuance through the date the director notifies the responsible party that all storm water management practices have passed the final inspection required under (h)(4)d.
 - (7) *Alternate requirements.* The director may prescribe alternative requirements for applicants seeking an exemption to on-site storm water management performance standards under (g)(5) or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.
- (l) *Stormwater Management Plan.*
 - (1) *Plan requirements.* The storm water management plan required under (g)(2) and (h)(2) shall comply with the Village of Ashwaubenon Storm Water Reference Guide and contain at a minimum the following information:
 - (a) Name, address, and telephone number of the landowner and responsible parties.
 - (b) A legal description of the property proposed to be developed.

- (c) Pre-development site map with property lines, disturbed limits, and drainage patterns.
- (d) Post-development site map with property lines, disturbed limits, and drainage patterns.
 - (i) Total area of disturbed impervious surfaces within the site.
 - (ii) Total area of new impervious surfaces within the site.
 - (iii) Performance standards applicable to site.
 - (iv) Proposed best management practices.
 - (v) Groundwater, bedrock, and soil limitations.
 - (vi) Separation distances. Storm water management practices shall be adequately separated from wells to prevent contamination of drinking water.
- (2) *Alternate requirements.* The director may prescribe alternative submittal requirements for applicants seeking an exemption to on-site storm water management performance standards under (g)(5) or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.
- (J) *Maintenance agreement.*
 - (1) *Maintenance agreement required.* The maintenance agreement required under (h)(2) for storm water management practices shall be an agreement between the Village of Ashwaubenon and the responsible party to provide for maintenance of storm water practices beyond the duration period of this permit. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management practices.
 - (2) *Agreement provisions.* The maintenance agreement shall contain the following information and provisions and be consistent with the plan required by (h)(2):
 - (a) Identification of the storm water facilities and designation of the drainage area served by the facilities.
 - (b) A schedule for regular maintenance of each aspect of the storm water management system consistent with the storm water management plan required under (h)(2).
 - (c) Identification of the responsible party(s), organization or city, county, town or village responsible for long term maintenance of the storm water management practices identified in the storm water management plan required under (h)(2).
 - (d) Requirement that the responsible party(s), organization, or city, county, town or village shall maintain storm water management practices in accordance with the schedule included in (j)(2)b.

- (e) Authorization for the director to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.
- (f) A requirement on the director to maintain public records of the results of the site inspections, to inform the responsible party responsible for maintenance of the inspection results, and to specifically indicate any corrective actions required to bring the storm water management practice into proper working condition.
- (g) Agreement that the party designated under (j)(2)c., as responsible for long term maintenance of the storm water management practices, shall be notified by the director of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the director.
- (h) Authorization of the director to perform the corrected actions identified in the inspection report if the responsible party designated under (j)(2)c. does not make the required corrections in the specified time period. The director shall enter the amount due on the tax rolls and collect the money as a special charge against the property pursuant to Wis. Stats. § subch. VII of ch. 66.
- (3) *Alternate requirements.* The director may prescribe alternative requirements for applicants seeking an exemption to on-site storm water management performance standards under (g)(5) or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.
- (K) *Financial guarantee.*
 - (1) *Establishment of the guarantee.* The director may require the submittal of a financial guarantee, the form and type of which shall be acceptable to the director. The financial guarantee shall be in an amount determined by the director to be the estimated cost of construction and the estimated cost of maintenance of the storm water management practices during the period which the designated party in the maintenance agreement has maintenance responsibility. The financial guarantee shall give the director the authorization to use the funds to complete the storm water management practices if the responsible party defaults or does not properly implement the approved storm water management plan, upon written notice to the responsible party by the director that the requirements of this ordinance have not been met.
 - (2) *Conditions for release.* Conditions for the release of the financial guarantee are as follows:
 - (a) The director shall release the portion of the financial guarantee established under this section, less any costs incurred by the director to complete installation of practices, upon submission of "as built plans" by a licensed professional engineer. The director may make provisions for a partial pro-rata release of the financial guarantee based on the completion of various development stages.
 - (b) The director shall release the portion of the financial guarantee established under this section to assure maintenance of storm water practices, less any costs incurred by the director, at such time that the responsibility for practice maintenance is passed on to another entity via an approved maintenance agreement.

- (3) *Alternate requirements.* The director may prescribe alternative requirements for applicants seeking an exemption to on-site storm water management performance standards under (g)(5) or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.
- (L) *Fee schedule.* The fees referred to in other sections of this ordinance shall be established by the village board and may from time to time be modified by resolution. A schedule of the fees established by the village board shall be available for review in the Ashwaubenon Village Hall.
- (M) *Enforcement.*
- (1) Any land disturbing construction activity or post-construction runoff initiated after the effective date of this ordinance by any person, firm, association, or corporation subject to the ordinance provisions shall be deemed a violation unless conducted in accordance with the requirements of this ordinance.
 - (2) The director shall notify the responsible party by certified mail of any non-complying land disturbing construction activity or post-construction runoff. The notice shall describe the nature of the violation, remedial actions needed, a schedule for remedial action, and additional enforcement action which may be taken.
 - (3) Upon receipt of written notification from the director under sub. (2), the responsible party shall correct work that does not comply with the storm water management plan or other provisions of this permit. The responsible party shall make corrections as necessary to meet the specifications and schedule set forth by the director in the notice.
 - (4) If the violations to a permit issued pursuant to this ordinance are likely to result in damage to properties, public facilities, or waters of the state, the director may enter the land and take emergency actions necessary to prevent such damage. The costs incurred by the director plus interest and legal costs shall be billed to the responsible party.
 - (5) The director is authorized to post a stop work order on all land disturbing construction activity that is in violation of this ordinance, or to request the village attorney to obtain a cease and desist order in any court with jurisdiction.
 - (6) The director may revoke a permit issued under this ordinance for non-compliance with ordinance provisions.
 - (7) Any permit revocation, stop work order, or cease and desist order shall remain in effect unless retracted by the director or by a court with jurisdiction.
 - (8) The director is authorized to refer any violation of this ordinance, or of a stop work order or cease and desist order issued pursuant to this ordinance, to the village attorney for the commencement of further legal proceedings in any court with jurisdiction.

- (9) Any person, firm, association, or corporation who does not comply with the provisions of this ordinance shall be subject to a forfeiture of not less than \$100.00 dollars or more than \$1,000.00 dollars per offense, together with the costs of prosecution. Each day that the violation exists shall constitute a separate offense.
- (10) Compliance with the provisions of this ordinance may also be enforced by injunction in any court with jurisdiction. It shall not be necessary to prosecute for forfeiture or a cease and desist order before resorting to injunctive proceedings.
- (11) When the director determines that the holder of a permit issued pursuant to this ordinance has failed to follow practices set forth in the storm water management plan, or has failed to comply with schedules set forth in said storm water management plan, the director or a party designated by the director may enter upon the land and perform the work or other operations necessary to bring the condition of said lands into conformance with requirements of the approved plan. The director shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any financial security posted pursuant to (k) of this ordinance. Where such a security has not been established, or where such a security is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon.
- (N) *Appeals.*
- (1) *Board of appeals.* The board of appeals, created pursuant to chapter 17, Zoning and Planning, of the Village of Ashwaubenon ordinances pursuant to Wis. Stats. § 61.354(4)(b), shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the director in administering this ordinance. The board shall also use the rules, procedures, duties, and powers authorized by statute in hearing and deciding appeals. Upon appeal, the board may authorize variances from the provisions of this ordinance that are not contrary to the public interest, and where owing to special conditions a literal enforcement of the ordinance will result in unnecessary hardship.
- (2) *Who may appeal.* Appeals to the board of appeals may be taken by any aggrieved person or by an officer, department, board, or bureau of the Village of Ashwaubenon affected by any decision of the director.
- (O) *Severability.* If any section, clause, provision or portion of this ordinance is judged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the ordinance shall remain in force and not be affected by such judgment.

(Ord. No. O10-3-08, § 3, 10-28-2008; Ord. No. 6-2-16, 6-28-2016)

APPENDIX H

Municipal Pollution Prevention

WET DETENTION POND Inspection Form

This is a general inspection form. Items on this form are to be checked at different times and frequencies. Complete this form in accordance with the Operation & Maintenance Plan.

Pond Name: _____ Location: _____

Pond Inspected by: _____ Date: _____

POND

Sediment Levels in the Pond (mark approximate Location on pond site plan). Depth is from Water surface to bottom.

<u>Location No.</u>	<u>Depth (feet)</u>
_____	_____
_____	_____
_____	_____
_____	_____

WETLAND VEGETATION

<u>Yes/No</u>	<u>Date/ Action Taken</u>
Invasive Species <input type="checkbox"/> / <input type="checkbox"/>	_____

SEDIMENT REMOVAL

<u>Yes/No</u>	<u>Date/ Action Taken/ Company Used</u>
Wet Pond <input type="checkbox"/> / <input type="checkbox"/>	_____
Drainage Ditches <input type="checkbox"/> / <input type="checkbox"/>	_____
Sweep Street <input type="checkbox"/> / <input type="checkbox"/>	_____
Other <input type="checkbox"/> / <input type="checkbox"/>	_____

EMBANKMENTS

	<u>Yes</u>	<u>No</u>	<u>Date/ Action Taken</u>
Slumping \ Stability	<input type="checkbox"/>	<input type="checkbox"/>	_____
Erosion	<input type="checkbox"/>	<input type="checkbox"/>	_____
Burrow Holes	<input type="checkbox"/>	<input type="checkbox"/>	_____
Woody Plants	<input type="checkbox"/>	<input type="checkbox"/>	_____
Invasive Species	<input type="checkbox"/>	<input type="checkbox"/>	_____
Mowing	<input type="checkbox"/>	<input type="checkbox"/>	_____
Waterfowl Nests	<input type="checkbox"/>	<input type="checkbox"/>	_____

INLET PIPES / OUTLET STRUCTURES

	<u>Yes</u>	<u>No</u>	<u>Date/ Action Taken</u>
Clogging/Debris/Litter	<input type="checkbox"/>	<input type="checkbox"/>	_____
Erosion	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural Integrity			
Excellent	<input type="checkbox"/>	Good <input type="checkbox"/>	_____
Fair	<input type="checkbox"/>	Poor <input type="checkbox"/>	_____
Other Damage			_____

STORM SEWER SYSTEM

	<u>Yes</u>	<u>No</u>	<u>Date/ Action Taken</u>
Clogging/Debris/Litter	<input type="checkbox"/>	<input type="checkbox"/>	_____
Televise & Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural Integrity			
Excellent	<input type="checkbox"/>	Good <input type="checkbox"/>	_____
Fair	<input type="checkbox"/>	Poor <input type="checkbox"/>	_____
Other Damage			_____

ADDITIONAL COMMENTS

STORMWATER SYSTEM

Maintenance Checklist

Maintenance tasks denoted with an asterisk (*) should also be performed after each 0.5-inch rainfall event or greater.

MONTHLY MAINTENANCE:

- Check pond inflow rate, outflow rate and water surface elevation. *
- Remove accumulated debris and litter from pond inlets, outlets and trash racks. *
- Remove debris and litter from storm inlets and culverts. *
- Remove debris and litter from detention ponds and drainage ditches.

QUARTERLY MAINTENANCE:

- Repair eroded areas within pond and along drainage ditches; apply seed mixture in conformance with original specifications. Install erosion blankets and rip-rap within eroded areas as deemed necessary.
- Repair animal burrow holes within pond embankments.
- Check other areas for erosion. Repair as necessary.

SEASONAL MAINTENANCE:

- Spring
 - ▼ Check pond inflow rate, outflow rate and water surface elevation. *
 - ▼ Remove accumulated debris and litter from pond inlets, outlets and trash racks. *
 - ▼ Remove debris and litter from storm inlets and culverts. *
 - ▼ Remove debris and litter from detention ponds and drainage ditches.
 - ▼ Check and repair pond outlet structure for cracks or other undesirable condition.
 - ▼ Remove invasive plants such as Reed Canary Grass, Purple Loosestrife and Willow Trees. Control by hand pulling, herbicide application and/or mowing.
 - ▼ Plant additional wetland plants in bare spots or areas with dead wetland vegetation.
 - ▼ Check pond's upland areas for waterfowl nests and eggs (April 1 thru May 15).
- Summer
 - ▼ A qualified biologist, botanist or ecologist should conduct a vegetation inspection at least once every other year and recommend control techniques for invasive species.
 - ▼ At least once every other year, remove invasive plants such as Reed Canary Grass, Purple Loosestrife, and Willow Trees. Control by hand pulling, herbicide application, and/or mowing.
 - ▼ Maintain vegetation along pond side slopes and drainage ditches as appropriate.
 - ▼ At least once every other year, measure sediment levels within pond's permanent pool of water, particularly at pond inlets and sediment forebays. When the water depth within the permanent pool is 3-feet deep or less, sediment should be removed and disposed. Remove sediment during late fall or winter to minimize damage to wetland vegetation.
- Late Fall
 - ▼ Remove brush and other unwanted woody vegetation from pond embankments and drainage ditches. Remove by hand pulling, brushing and/or mowing. Undesirable woody vegetation can be mowed. Paint stumps with an herbicide as needed.
 - ▼ Maintain vegetation along pond side slopes and drainage ditches as appropriate.

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(1921-1990)
JOSEPH P. HOLMAN
(1915-2003)
WAYNE R. PETERSON
(RETIRED)

January 27, 2016

VIA U.S. MAIL AND EMAIL

Mr. Steve Birr
Village Engineer
2155 Holmgren Way
Green Bay, WI 54304-4605

Re: Storm Water Management/Site Plan Review Committee

Dear Steve:

You inquired what steps the Village might take to enforce compliance with a commercial storm water management/maintenance plan where a signed maintenance agreement has not been recorded for the property. I am assuming that the storm water management/maintenance plan was part of the Site Plan approval process. I would offer the following.

The Site Plan approval requirements are found at Sec. 17-2-200 of the Village Zoning Code. Committee approval includes storm water drainage from the site.

The Policy for the Site Plan Review Committee is found at Sec. 17-6-700. This Policy specifically calls for a standard to ensure the provision of adequate storm water management Sec. 17-6-700(A)(6). The Village's Site Plan Review Application contains a four page storm water management plan review checklist.

Site Plan Committee site approval includes the storm water management plans that were submitted for a site which would include operations and maintenance. A violation of the Site Plan approval for the site relating to storm water management and maintenance under Article IX., Enforcement, would allow the Village to issue citations which would include a forfeiture of not more than \$500 in Municipal Court. In addition, a violation would allow the Village to "institute injunction, mandamus, abatement or removal of such erection, construction, reconstruction, alteration, conversion, maintenance or use" in Brown County Circuit Court.

Mr. Steve Birr
Re: Storm Water Management/Site Plan Review
Page 2
January 27, 2016

Under Chapter 5 - Buildings and Building Regulations, Article X., Storm Water Management, Sec. 5-772, Elicit Discharge and Connection, give the Village additional authority for compliance monitoring including right of entry, inspecting and sampling. Violations of this particular section can be addressed by prosecution in Municipal Court, abatement of violation by the Village with the charges becoming a special charge against the property. Some violations or conditions may be declared and deemed a nuisance. The Village also has remedies through Circuit Court.

I am not addressing Sec. 5-771, Post Construction Storm Water Management, as the enforcement is limited to any land disturbing construction activity or post construction runoff initiated after the effective date of this section (10/28/2008).

If you require anything further please feel free to contact me.

Best regards,

CALEWARTS, DUFFY, GAGAN & ERDMAN

A handwritten signature in black ink, appearing to read "D. Duffy", written over a horizontal line.

Dennis M. Duffy

DMD/bms

 **CALEWARTS, DUFFY,
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January 27, 2016

VIA U.S MAIL AND EMAIL

Mr. Steve Birr
Village Engineer
2155 Holmgren Way
Green Bay, WI 54304-4605

Re: Stormwater Management/Subdivisions

Dear Steve:

You inquired what steps the Village might take to enforce compliance for a stormwater management facility including a retention/detention pond located in a recorded subdivision where there has been no public dedication or a recorded signed maintenance agreement for the property.

I would first comment that the Village has seen relatively few subdivision plats since the recession of 2006-2008. I believe the subdivision plats that have been approved by the Village in recent memory have addressed stormwater management through an approved Stormwater Management/Maintenance Plan for the land which again could include a public dedication for a storm water facility or easement and/or a recorded Maintenance Agreement for the stormwater facility located within the subdivision.

In reviewing **Chapter 20 - Subdivisions**, I first find storm water referenced at **Sec. 20-21 - General Requirements of Design Standards of Subdivisions**. Sec. 20-21(4), Easements and Restrictive Covenants, at (b) provides: Subdivisions traversed by a watercourse, drainage way, channel or stream shall have a stormwater easement or drainage right-of-way of sufficient width conforming substantially to the floodway line of the watercourse. Adequate grading or construction may be required. Where possible, drainage shall be maintained by an open channel with landscaped banks and adequate width for maximum potential volume of flow as determined by the board. Improvements shall be guaranteed prior to approval of the final plat.

Mr. Steve Birr
Re: Stormwater Management/Subdivisions
Page 2
January 27, 2016

Under **Sec. 20-22. Plat Documentation for Preliminary Plat Requirements**, the location of water courses and drainage ditches have to be identified. There is also a requirement for the layout of easements for sewer watermains and other public utilities. There is a requirement for a brief description of requested improvements which does not include stormwater.

At **Sec. 20-24. Improvements to Subdivisions, (1) Required Improvements**, the following is found at: (b) Required utility, street and other improvements. Subdivisions lying in a sewer area will be required to have storm sewer, curb and gutter, street lighting with fiberglass poles and shoe box fixtures, sanitary sewer main and water main on all streets and sewer, water and storm sewer service laterals available to all in the subdivision. The design, size, depth and location of the required improvements shall be determined by the board pursuant to specifications on file with the village engineering department. The board may also require the provision of drainage ways or easements of widths sufficient to accommodate anticipated stormwater runoff and of a design permitting the unimpeded flow of natural water resources.

At **Sec. 20-29. Subdivider Checklist**, there is no reference to a stormwater management plan.

Under **Sec. 20-27. Violations, Penalties and Remedies**, a person who fails to comply with the provisions of this Chapter can be prosecuted in the Village's Municipal Court. In addition, compliance may also be enforced by an injunction order by the Village.

If you have a storm water maintenance or discharge issue with a property that's located in an older recorded subdivision of the Village, the Village may have some recourse for compliance under Chapter 20 regarding what was finally approved for the subdivision plat. In addition, there may be violations relating to Chapter 5, Article X., Storm Water Management, Sec. 5-772, Illicit Discharge and Connection. As I mentioned in a previous opinion on commercial properties, there is authority for the Village to monitor storm water including right-of-entry, inspection and sampling. Violations of this particular section can be addressed by prosecution in Municipal Court. Some violations and conditions may be declared and deemed a nuisance within a subdivision. The Village may also have remedies through Circuit Court.

Please let me know if this is helpful or if you require anything further.

Best regards,

CALEWARTS, DUFFY, GAGAN & ERDMAN



Dennis M. Duffy

DMD/bms

- Avoid landfills. Added moisture should be kept out of landfills.
- Avoid wetlands and floodplains. These areas are especially sensitive to excess water.

Street strategies for pollution prevention

Contaminants can build up in large snowpiles and lead to "shock" doses of pollutants into waterways during spring runoff. Thus, maintain clean snow at disposal sites by always removing snow from busy roads within 48 hours of snowfall. Use less sand and especially less salt. Consider using alternative de-icers such as calcium chloride. If you use sand, use covered, sturdy street barrels that are no taller than they are wide. Make sure barrels are level and avoid placing them near gutters or storm water drains, where any spills would get an easy ride to surface waters.

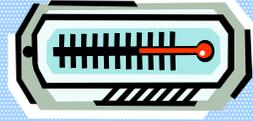
- Here are some additional ways to "go for clean snow:"
- Equip sand-spreading trucks with sensors that control release rates.
 - In the spring and fall, clean up debris that has accumulated in the streets.
 - Develop a local snow management policy.

For assistance with water pollution prevention or choosing a snow disposal site, contact the Wisconsin Department of Natural Resources (DNR) office nearest you.

DNR does not have direct authority to choose municipal snow disposal sites or set snow management policies, but can assist with these matters. DNR staff do have the authority to address any complaints regarding water resources contamination in Wisconsin and will handle these matters case by case.

Smart salting

Vermont's "smart salting" program calculates salt application rates using infrared sensors on trucks to measure winter pavement temperatures, which are typically 7 to 40°F warmer than the air. When the pavement is so cold (about -6°F) that salt would be inefficient, crews apply sand or other abrasives.



Sand is frequently mixed with salt to help "embed" the sand into colder surfaces and increase friction. Overall, state transportation crews have found that applying salt and sand in frequent, small doses *during* a snowfall, versus "waiting out the storm," achieves the best results. They are using 25 percent less salt and sand than in previous years.

Where to go with the snow

Snow treatment and disposal guidance for municipalities

Wisconsin Department of
Natural Resources
PUBL-WR-154-06REV

DNR Runoff Management:
<http://dnr.wi.gov/runoff/>

To Wisconsin municipalities, winter means snow and having to find a place to put the tons of it removed from roads, sidewalks and parking lots. Along with protecting safety and maintaining access to homes and businesses, a primary concern in handling snow should be to prevent environmental damage. We hope the following tips will help guide your community's decisions on snow removal and disposal.

What's in the white stuff?

Snow removed from streets, cars and parking lots can contain salt, nutrients, oil, sand, silt, litter, heavy metals and toxic chemicals. All these things can harm surface waters and groundwater, especially when tons of snow are dumped directly into lakes and streams. Spring meltwater from large snow piles can also deliver accumulated doses of pollutants directly to waterbodies.

Suitable disposal sites

Disposing of snow on land where contaminants and debris can be gradually released, contained or collected is better than dumping it into surface waters or on land that drains directly into surface waters, groundwater or storm drains.

The best disposal sites are lands that drain to detention basins, which capture meltwater pollutants that would otherwise reach storm sewers and surface waters. A dike or berm may be needed to prevent

The concern over contaminated snow

Toxic substances, sand, silt and litter in city snow that's improperly disposed of can combine with other polluted runoff to:

- Reduce levels of dissolved oxygen in surface waters.
- Stimulate nuisance aquatic plant and algae growth.
- Kill fish and other aquatic life.
- Contribute to contamination in game fish, making them inedible.
- Introduce heavy metals into water and sediments.
- Cover habitat for fish and other aquatic life.
- Clog navigation channels.
- Impair terrestrial plant growth and erode soil.
- Little stream and lake bottoms and shorelines.
- Contaminate groundwater.

overload drainage to nearby lakes and streams.

The amount of snow brought to a site should be based on estimated runoff rates, meltwater quality, the receiving water's ability to absorb runoff, and downstream uses of the receiving water. Local WDNR staff can help in making these assessments.

- Do not choose disposal sites with steep slopes or readily erodible soils.
- Choose sites where there is little risk of human exposure to potential contaminants.
- Avoid playgrounds, ballparks and parking lots.
- Remove debris from snowpiles after spring thaw or before any potential flooding. Fencing the site will prevent

litter from blowing offsite or into waterways.

- Avoid placing sites near high-traffic areas to lessen salt and heavy metal buildup from tire and brake wear.

Protect groundwater

- Snow piles should be at least 1,000 feet away from water supply wells. Locate sites downhill of wells, avoiding lakes, streams and wetlands.
- Fine-textured soils are better than sandy soils for filtering certain heavy metals, thus they help protect surface waters and groundwater. (However, most soils cannot detain road salt chlorides, which are soluble in water.)
- Avoid areas with fractured bedrock near the surface. Contaminants can be easily channeled to groundwater at these sites.



1.0 *Appropriate Use of De-icing Agents*

De-icing agents are used under appropriate winter maintenance conditions to: 1) prevent the formation of ice (anti-icing); 2) prevent the formation of a bond between accumulated snow, ice or slush and the pavement and keep the accumulation "plowable"; 3) de-ice, which is the melting of bonded ice or snow; and 4) keep abrasive material free flowing in freezing conditions. Plowing or other mechanical means available to achieve our service objectives are an important part of an overall strategy, and are preferable to the use of de-icing agents for snow removal, de-icing, or cleanup. In general, we will maximize the use of mechanical tools in order to control the use of chemical tools, subject to the specific storm or roadway situation.

It is essential that careful consideration be given to the appropriate use of any de-icing agent for winter operations. Use of these de-icing agents on state highways shall be limited to the amount needed to provide the established level of service or "bare/wet pavement" expectation. This special attention to controlling the use of these de-icing agents is important to minimize any adverse environmental impacts that may result from the material. As concerned stewards of the environment, we have a keen interest in preserving and protecting our environment in the accomplishment of our work.

In addition to our interests in reducing negative impacts or effects of using de-icing agents, we also have a responsibility to provide cost effective service and operate within budgetary constraints. Budget allocations provide for winter service based on standard costs for labor, materials, and equipment. The choice of tools to provide the winter service should be consistent with this guideline to provide for uniformity of service and the objectives of limiting de-icing agent use and providing cost effective service. Achieving the established service level while reducing the use of de-icing agents can free up dollars that might have been spent for salt to be used for other operations activities. The balancing of these goals requires each service provider to exercise discretion on how to best respond to winter maintenance needs.

Environmental concerns associated with materials used for winter operations include impacts on soil, vegetation, and water, as well as the influence of residues on the behavior of animals. Corrosive impacts on steel in automobiles, bridges and concrete reinforcing bars are also a concern. Even use of abrasives (sand) generates concerns for negative environmental impacts related to residue and particulates that may impair air quality. Careful use of these materials is important to minimize negative impacts on the environment. We must insist on careful use to retain the public's confidence that we are prudent users of salt and other de-icing agents used for winter operations. Without this trust, we risk losing the tools needed to provide the mobility, safety, and quality of service the public has come to expect of Wisconsin's highway system. Effective control of the use of these materials is also important to efficient operation and cost considerations.

Appropriate uses include:

1. Anti-icing by applying a light application of de-icing agents when snow begins to fall or just prior to the expected freeze point of the precipitation on the pavement. Anti-icing helps prevent the formation of a bond at the pavement interface. Failure to prevent the bond may result in a hazardous driving condition and the energy required to break the bond requires substantially more de-icing agent to be used. Timing, traffic and weather conditions are critical to successful anti-icing. Use of the winter weather forecasts is critical when using this application. Anti-icing is best accomplished using direct liquid de-icing agent applications onto a dry roadway surface.
2. Bond prevention by applying de-icing agents during the storm to prevent the bond of accumulated precipitation and to keep the snow in a plowable condition.

Failure to keep the bond from forming during the storm can result in a thick snow pack on the pavement that can only be removed by extraordinary and expensive de-icing measures such as heavy salt application, additional de-icing agents, and heavy equipment. Bond prevention is preferable to de-icing because it may take 5 to 10 times more de-icing agent to remove ice than to prevent it.



Highway Maintenance Manual

Bureau of Highway Maintenance

Chapter 06 Winter Maintenance

January 2012

Section 20 Snow Removal Materials

Subject 05 Proper Applications and Temperature Ranges for De-Icing Agents and Abrasives

1.0 Proper Applications and Temperature Ranges for De-icing Agents and Abrasives

1. Application rates for de-icing agents are provided in HMM 06-20-20 (anti-icing) and HMM 06-20-25 (de-icing). The rates contained in these sections are guidelines because conditions for a given storm may require that other measures be taken. Discretion must be exercised in responding to each winter maintenance situation. Data from winter storm reports, required per HMM 06-10-20, will be collected to make comparisons and evaluations of the amount of de-icing agents used for winter maintenance.
2. The appropriate material to use is dependent on the specific storm conditions and forecast. De-icing agents are not always necessary and in some situations may create a more hazardous situation than if no de-icing agents were used. Winds, temperatures of both the pavement and air, and drifting conditions should be considered when choosing to apply de-icing agents, since chemically wet pavements may capture drifting snow and lead to ice and snow accumulations.
3. Prewetted sodium chloride may be the most effective material during and after the storm when the pavement temperature is 15°F or higher. However, below 15°F, the prewetted salt becomes less effective and therefore the service provider should consider a plow only strategy or switch to a deicing agent other than sodium chloride such as Magnesium Chloride or Calcium Chloride, etc. Even though these de-icing agents will lower the melting range of sodium chloride, it should be noted that below 15°F the effectiveness of all agents is greatly reduced. Additional monitoring may be required when using these liquid agents because re-freeze may occur.
4. Prewetting of dry salt with salt brine, liquid magnesium chloride solutions, or other approved liquids should be done to reduce the loss of de-icing materials that are blown or bounce off the pavement as a result of traffic or the act of dispensing the material from a moving truck.
5. Anti-icing should be performed using only materials specifically designed for anti-icing applications. The materials selection process should be a joint effort between the service provider, region maintenance staff, and the bureau of highway maintenance. Salt brine applied using a spray bar with controls to provide uniform application is the preferred method of anti-icing. Dry or prewetted salt should not be used for anti-icing because of the likelihood that most of the material will not remain on the pavement to provide effective control.
6. Locally available abrasive materials, usually sand (see HMM 06-20-15), can be employed when pavement temperatures are 10°F or less or when de-icing agents are ineffective because of high winds or other storm conditions. However, it is recommended that abrasives be pre-wetted and only used in low speed trouble spots and intersections. Abrasives should not be used on roadways where speeds in the sanded locations exceed 45 mph. Special consideration should be taken in urban areas where there are storm sewers. Abrasive products should be scrutinized for their effects on the environment. Under no circumstance shall any abrasive material that contains an environmentally sensitive substance be used on the state highway system. It is unacceptable to use rock salt as an abrasive. Prewetting abrasives may be appropriate or necessary to aide in securing or imbedding the abrasive into the ice or snow pack.
7. De-icing agents should be applied with appropriate equipment to provide the most effective benefit from the material. The material should be spread only to the width necessary to achieve the "bare/wet pavement" expectation, keeping in mind the effects of traffic and wind on the material. Chutes and spinners placed close to the roadway, and specialized velocity negating spreaders are some of the devices available to aide in keeping the material spread on the pavement where it can be most effective. When spinners are used, operators should be instructed about their use and asked to limit the speed of the spinner to prevent the material from being cast beyond the area to be treated.



1.0 General

County highway departments are responsible for the purchase of liquid anti-icing/de-icing agents. The bureau of highway maintenance (BHM) will not mandate the types of anti-icing/de-icing agents that are to be used for winter maintenance on the state trunk highway system. BHM does not endorse or recommend any one liquid anti-icing/de-icing product.

2.0 Liquid Anti-icing/De-icing Agents

A current list of available agents can be found on the Pacific Northwest Snowfighter's Group website.

3.0 Charging Anti-icing/De-icing Agents

The cost of the anti-icing/de-icing agents purchased for use on the state trunk highway system shall be invoiced to the Department as part of routine winter maintenance.

4.0 References for Information on Anti-icing/De-icing Agents

1. Pacific Northwest Snowfighter's Group <http://www.wsdot.wa.gov/partners/pns/>
2. AASHTO "Guide for Snow and Ice Control", 1999 (available from District SPO offices)
3. FHWA "Manual of Practice for an Effective Anti-icing Program", Publication #FHWA-RD-95-202, June, 1996. <http://www.fhwa.dot.gov/reports/mopeap/eapcov.htm>
4. "Managing Snow and Ice Control" – UW Madison Engineering Extension Course, contact Benjamin J. Jordan, P.E., 800-462-0876.



1.0 Abrasives

Locally available materials, particularly sand and by-products of commercial operations suitable for such purposes may be employed to enhance traffic safety when conditions preclude salt or use of other remedies.

(a) Use

Abrasives pre-wetted with a de-icing agent may be employed when the pavement temperatures are low enough that the sodium chloride is not effective. When abrasives are used it is recommended that they be pre-wetted and only used in low speed trouble spots and intersections. Sand should not be used on roadways where speeds in the sanded locations exceed 45 mph.

(b) Gradation

Abrasives should be of a fairly uniform size. All particles should essentially be less than ¼ inch in size. It is best to have abrasives with as high fractured particle content as possible. The following gradation gives optimum results.

Sieve Size	% Passing
#4	96-100
#10	60-80
#40	30% Max.
#200	0-5

(c) Application (Typically 600-1000 pounds per lane mile when mixed with 5% salt. If mixed with more salt the application rate should be reduced appropriately.)

Abrasives may be applied to predetermined areas when conditions warrant. Abrasives should be applied in quantities and at intervals necessary to provide suitable traction. Predetermined areas may include certain grades, curves, intersections, structures, and isolated areas where hazards exist. Such areas should be identified by joint cooperation and consultation of field maintenance personnel prior to or under actual storm conditions. When conditions warrant using abrasives, they should be pre-wet with a de-icing agent to assure better adherence to the roadway.

(d) Preparation

A stockpile of chloride treated abrasives may be prepared in advance of winter conditions. The TRANS 277 requires that a sand/salt stockpile that contains more than 5% salt must be under a waterproof cover (or inside a building). Sand/salt stockpiles containing 5% or less salt must be under a waterproof cover from April 1st through October 31st.

Stockpiles should be placed at strategic locations, within a maintenance facility, where contamination of ground water and surface water is prevented. Sighting of stockpiles is subject to the Department of Natural Resources Administrative Rules for groundwater protection. (Refer to TRANS 277.)



Anti-Icing		Guidelines			COMMENTS
		Application	Rate		
PREDICTED PRECIPITATION EVENT	Recommended Locations	Liquid (gal/lane-mi.)	Pre-wetted Salt (lb/lane-mi)		
Frost or Black Ice	Bridge Decks and Trouble Spots	20-30 (frost) 30-40 (Black Ice)	50-150		1) Consider treating approaches as well as bridge decks. 2) Treat ice patches, if needed, with pre-wetted salt at 100 lb/lane-mi.
Sleet	Bridge Decks and Trouble Spots and Intersections	20 Recommended 30 Maximum	200-400(1) 100-300(2)		1) Consider treating approaches as well as bridge decks. 2) Treat ice patches, if needed, with pre-wetted salt at 100 lb/lane-mi.
Freezing Rain	Any area of concern	Not Recommended	200-400(1) 100-300(2)		It is not recommended to apply liquid de-icing agents in an anti-icing mode prior to freezing rain events.
Light Snow (< 1/2" in./hr.)	Trouble Spots and Intersections	30 Recommended 40 Maximum	100-200		If anti-icing is performed prior to a snow event, re-application may be necessary to prevent re-freeze. It also may be necessary to switch to a de-icing mode.
Moderate or Heavy Snow (≥ 1/2 in./hr)	Trouble Spots and Intersections	40 Recommended 50 Maximum	100-300		1) Do not apply liquid anti-icing agents onto heavy snow accumulation or packed snow. 2) Applications will need to be more frequent at lower temperatures and higher snowfall rates. 3) If anti-icing is performed prior to a snow event, re-application may be necessary to prevent re-freeze. It also may be necessary to switch to a de-icing mode.
Notes:					(1) 4-Lanes and Greater (2) 2 Lanes
<ul style="list-style-type: none"> Anti-icing operations typically should be conducted during normal, non-overtime working hours and low traffic volume periods. It is not recommended to apply de-icing agents in an anti-icing mode when the pavement temperature is below 15°F or drifting is a problem. Time initial anti-icing agent applications and subsequent de-icing agent applications to prevent deteriorating conditions or development of packed and bonded snow. 					



Highway Maintenance Manual
Chapter 06 Winter Maintenance
Section 20 Snow Removal Materials
Subject 25 Application Rates De-Icing

Bureau of Highway Maintenance
Nov 2008

1.0 De-icing Application Rates (4-lanes and greater)

See page 2 of 3

2.0 De-icing Application Rates (2-lanes)

See page 3 of 3

DE-ICING APPLICATION RATES FOR PRE-WETTED SALT – (4-LANES AND GREATER)

This guide is not meant to be a substitute for the use of judgment and the observation of the result of treatments on existing conditions. It is meant to show variables that usually occur together and the treatment that has proven to be the most successful. This guide should then be used to assist in deciding on the best course of action depending on existing conditions. This table assumes the salt is pre-wetted. (Allow de-icing agents time to begin working before making additional plowing passes.)

4-lane Highways Application Guidelines #/LM Pre-wetted Salt	Pave. Temp. 28° to 32° F		Pave. Temp. 23° to 28° F		Pave. Temp. 15° to 23° F		Pave. Temp. Less than 15° F	
	Initial	Subsequent	Initial	Subsequent	Initial	Subsequent	Initial	Subsequent
Frost	100	50-100	100-150	50-150	100-200 ²	100-150 ¹	100-300 ^{1,2}	100-200 ^{1,2}
Black Ice	200	100-200	100-300	100-200	100-400 ²	100-300 ¹	200-400 ^{1,2}	100-300 ^{1,2}
Sleet/Freezing Drizzle	200	100-200	100-300	100-200	200-400 ²	100-300 ¹	200-300 ^{1,2}	100-300 ^{1,2}
Freezing Rain	100-300	100-200	200-400	100-200	200-400 ²	200-300 ¹	300-400 ^{1,2}	200-300 ^{1,2}
Dry Snow	100-200	100-200	100-300	100-200	Plow Only ¹	Plow Only ¹	Plow Only ¹	Plow Only ¹
Wet Snow	200	100-200	100-300	100-200	200-400 ²	100-300 ¹	200-400 ^{1,2}	200-400 ^{1,2}

- Mechanical means of snow removal is the preferred method. Before applying any de-icing agents, the surface should be cleared of as much snow and ice as possible by mechanical means.
- Application rates are "MAXIMUM RECOMMENDED RATES". Only apply the amount of pre-wetted salt necessary to accomplish the desired level of service. Rates may vary with regard to pavement temperature, type of roadway surface, and weather conditions.
- Abrasives should not be used on roadways where speeds in the sanded areas exceed 45 mph.
- When wind speed is over 15 mph, use caution when salting and applying moisture drawing de-icing agents.
- ¹ Intersections and low speed hazardous areas may be treated with pre-wetted abrasives when warranted.
- ² If necessary, use alternate de-icing agents like calcium chloride and magnesium chloride in combination with a lower application rate of salt.

11/08

DE-ICING APPLICATION RATES FOR PRE-WETTED SALT – (2-LANES)

This guide is not meant to be a substitute for the use of judgment and the observation of the result of treatments on existing conditions. It is meant to show variables that usually occur together and the treatment that has proven to be the most successful. This guide should then be used to assist in deciding on the best course of action depending on existing conditions. This table assumes the salt is pre-wetted. (Allow de-icing agents time to begin working before making additional plowing passes.)

2-lane Highways Application Guidelines #/LM Pre-wetted Salt	Pave. Temp. 28° to 32° F		Pave. Temp. 23° to 28° F		Pave. Temp. 15° to 23° F		Pave. Temp. Less than 15° F	
	Initial	Subsequent	Initial	Subsequent	Initial	Subsequent	Initial	Subsequent
Frost	100	50-100	100-150	50-150	100-200 ²	100-150 ¹	100-300 ^{1,2}	100-200 ^{1,2}
Black Ice	200	100-200	100-300	100-200	100-300 ²	100-300 ¹	100-300 ^{1,2}	100-300 ^{1,2}
Sleet/Freezing Drizzle	200	100-200	100-300	100-200	100-300 ²	100-200 ¹	100-300 ^{1,2}	100-300 ^{1,2}
Freezing Rain	100-300	100-200	100-300	100-200	100-300 ²	100-300 ¹	200-300 ^{1,2}	100-300 ^{1,2}
Dry Snow	100-200	100-200	100-300	100-200	Plow Only ¹	Plow Only ¹	Plow Only ¹	Plow Only ¹
Wet Snow	200	100-200	100-300	100-200	100-300 ²	100-200 ¹	100-300 ^{1,2}	100-300 ^{1,2}

- Mechanical means of snow removal is the preferred method. Before applying any de-icing agents, the surface should be cleared of as much snow and ice as possible by mechanical means.
- Application rates are "MAXIMUM RECOMMENDED RATES". Only apply the amount of pre-wetted salt necessary to accomplish the desired level of service. Rates may vary with regard to pavement temperature, type of roadway surface, and weather conditions.
- Abrasives should not be used on roadways where speeds in the sanded areas exceed 45 mph.
- When wind speed is over 15 mph, use caution when salting and applying moisture drawing de-icing agents.
- ¹ Intersections and low speed hazardous areas may be treated with pre-wetted abrasives when warranted.
- ² If necessary, use alternate de-icing agents like calcium chloride and magnesium chloride in combination with a lower application rate of salt.

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Municipal Pollution Prevention

Stormwater Quality

NICK VANDE HEY, PE
3/1/2021



1

Federal Clean Water Act



- US Environmental Protection Agency requires each state to identify water bodies that are not 'fishable or swimmable'
- Each state also needs to identify the pollutants causing the water body impairment

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Pollutants Causing Impairment



Sediment



Phosphorus

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3

Total Maximum Daily Load (TMDL)



- Lower Fox River Basin TMDL for phosphorus and sediment pollutants was approved by US Environmental Protection Agency on May 18, 2012

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4

Municipal Stormwater Permit

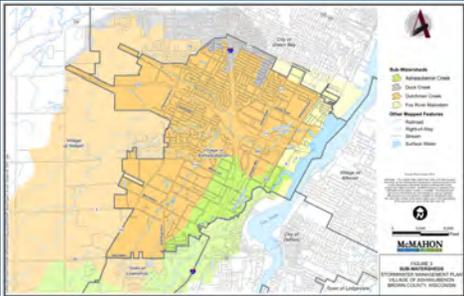
- Village received its initial Municipal Stormwater Permit from Wisconsin DNR in late 2006
- Wisconsin DNR renewed the Village's Municipal Stormwater Permit in 2019
- TMDL phosphorus and sediment allocations implemented thru Municipal Stormwater Permit




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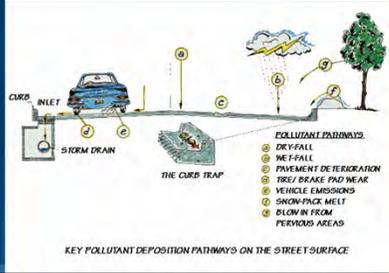


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6

Stormwater Pollutant Pathways



7

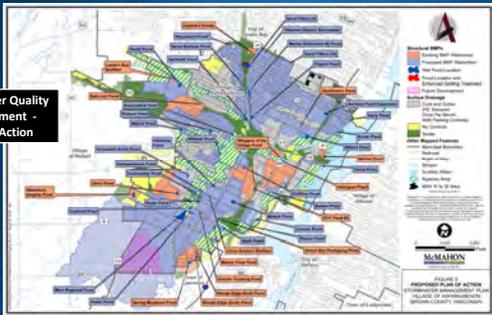
Permit Requirements

- Public Education
- Public Involvement
- Illicit Discharge Detection & Elimination
- Construction Site Pollutant Control
- Post-Construction Stormwater Management
- Municipal Pollution Prevention
- Stormwater Quality Management



8

Stormwater Quality Management - Plan of Action



9

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Questions?

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Municipal Pollution Prevention

Fleet Maintenance & Municipal Garage

NICK VANDE HEY, PE
3/1/2021



11

General Guidelines

- Conduct vehicle and equipment maintenance at designated locations, preferably inside shop or outdoors beneath a canopy.
- Park damaged, leaking, or dirty vehicles beneath a covered surface, if possible, to prevent exposure to rainfall.



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General Guidelines

- Keep maintenance areas clean by promptly disposing of trash, debris, old parts, fluids that are collected in drip pans and absorbent materials that are used to cleanup a spill.



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Fueling

- Don't top off fuel tanks to prevent spills due to overfilling.
- Be aware of the emergency pump shut-off button location.
- Keep absorbent materials on site for spill cleanup.
- Consider containment device, canopy, fence/lock and camera.



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Fueling

- Periodically clean fueling areas using approved methods to remove accumulated fuel and grease.
- When possible, transport equipment to a designated fueling area rather than using mobile fueling.
- If mobile fueling is used, keep a spill kit on the fuel truck.



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Leaks & Spills

- Clean up spills immediately to minimize safety hazards and deter spreading. Use a drip pan or absorbent material.
- Inspect for leaks or stains around vehicles and equipment. Locate source of leak and then repair leak or drain the fluid.
- Store cracked batteries in a leak proof container.



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Fluid & Hazardous Disposal

- Collect used anti-freeze, motor oil, transmission fluid, hydraulic fluid and hazardous fluids. Store in separate containers by type.
- Properly label storage containers.
- Do not mix different types of fluids.



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Fluid & Hazardous Disposal

- Recycle used fluids, oil, hydraulic filters and batteries.
- Do not dispose of used fluids, filters, batteries or other hazardous materials in the trash.



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Parts Cleaning

- Clean parts indoors and properly dispose of fluids, grease, dirt, and other debris cleaned from parts.
- Allow parts to fully drain before removing from cleaning sink to reduce dripping of cleaning fluid to the floor.
- Keep lids closed on parts cleaning sinks when not in use.



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Garage & Pavement Cleaning

- Use dry methods (sweeping, wiping, absorbents) to clean work areas as much as possible.
- Dispose of mop water properly, usually by pouring down a sanitary sewer drain. Do not dispose of mop water by pouring into storm drain or onto outdoor pavement, gravel or turf area.



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Garage & Pavement Cleaning

- Don't hose down outside work areas.
- In addition to routine cleaning, clean outside work and storage areas when rain is forecast.



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Washing

- Wash equipment and vehicles ONLY in designated facilities where the wash water drains to the sanitary sewer system or is collected and recycled.



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Municipal Pollution Prevention

Material Storage & Spill Cleanup

NICK VANDE HEY, PE
3/1/2021

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Store & Handle Materials Safely

- ❑ Read and follow label / MSDS instructions and local procedures.
- ❑ Store materials in original containers if possible. If not, clearly label replacement containers.
- ❑ Store materials away from high traffic areas to prevent accidents that might cause a spill or cause spilled materials to be spread by traffic.



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Store & Handle Materials Safely

- ❑ Keep containers closed or sealed, except when filling or emptying container.
- ❑ Keep materials and waste containers in good condition.
- ❑ Replace containers with a leak.
- ❑ Routinely inspect containers for corrosion or signs of leaks.



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Store & Handle Materials Safely

- ❑ Store materials and containers as follows:
 - Best: Indoors in sealed containers.
 - Good: Outdoors in sealed containers on a paved surface and beneath a canopy.
 - Acceptable: Outdoors in sealed containers on a paved surface, but no canopy.



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Store & Handle Materials Safely

- ❑ Spill trapping devices are recommended:
 - Indoors: Store barrels on a spill containment base.
 - Outdoors: Storage areas should be bordered by a curb, berm or containment device to contain spills.



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Cleanup Spills Properly

- ❑ Follow cleanup instructions specified on MSDS and local procedures.
- ❑ Contain the spill:
 - Use a drip pan or absorbent material.
 - If a liquid spill might enter a storm drain, use a drain mat or pipe plug.
- ❑ Report large spills or spills of hazardous materials to your supervisor. Refer to local spill response procedures.



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Cleanup Spills Properly

- ❑ Locate the source of the spill and take steps to stop further spillage.
- ❑ Clean up spills immediately to minimize safety hazards and deter spreading.



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Cleanup Spills Properly

Liquid Spills:

- Use absorbent materials or mop up small liquid spills. Do not hose the spill to a storm drain.
- Remove the absorbent materials promptly and follow procedures for proper disposal.



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Cleanup Spills Properly

Dry Material Spills:

- Cover a powder spill with plastic sheeting to keep it from blowing until the spill can be cleaned up.
- Do not hose the spill to a storm drain.
- If usable, place the spilled material into the original or properly marked container.
- Follow procedures for disposal of spilled material that cannot be reused.

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Municipal Pollution Prevention

Street & Drainage System Maintenance

NICK VANDE HEY, PE
3/1/2021

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Pavement Repair

- Require concrete trucks to wash out in a designated location so wash water does not get into a storm drain, ditch or stream.
- Locate stockpiles of asphalt patching material on a paved surface.
- Sweep up and properly dispose of left over or uncompacted patching material.



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Pavement Repair

- Rather than diesel, use less harmful products for cleanup activities.
- Clean trucks, equipment and tools in a wash facility where wash water will not get into a storm drain, ditch or stream.
- If no wash facility is available, clean equipment over a layer of absorbent material spread on a paved surface and/or heavy plastic sheeting.



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Paint Stripping

- Don't apply paint when rain is likely or during high winds.
- Waste handling for water-based (latex) paint:
 - Pour small quantities of unused paint in open barrels and allow to dry. Dispose of dried paint in trash.
 - Contain wash water used for equipment cleaning and dispose in sanitary sewer.



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Paint Stripping

- Waste handling for oil-based paint:
 - Unused oil-based paint must be disposed in accordance with established procedures.
 - Dispose of solvents used for equipment cleaning in accordance with established procedures.



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Storm Drain Inlet Cleaning

- Dispose of trash and debris removed from inlets in a sanitary landfill.
- Report suspected dumping or pollution problems to supervisory personnel.
- Consider applying markers with NO DUMPING message to inlets where there is evidence of dumping.



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Street Sweeping

- Dispose of trash and debris removed from streets in a sanitary landfill.
- Report suspected dumping or pollution problems to supervisory personnel.



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Ditch Maintenance

- Sample and analyze material that has been removed from ditches if it appears to be contaminated with oil or other pollutants.
- Contaminated sediments must be disposed in accordance with established procedures.



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Ditch Maintenance

- Uncontaminated soil may be used onsite (shaped into ditch) or stockpiled and used as fill or other land application.
- Cover soil stockpiles to prevent erosion and/or install silt fence to capture sediment.



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Ditch Maintenance

- Apply grass seed to exposed soils. A compost/mulch mixture applied with seed speeds vegetation growth and prevents erosion.
- If the channel experiences high velocities, turf reinforcement mats and/or check dams should be used to protect the channel until vegetation is established.



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Report Pollution & Dumping

- Look for signs of pollution at the jobsite and during travel:
 - Oil sheen on water surface
 - Excess trash and debris
 - Odor
 - Colored or cloudy water
 - Dead or dying fish
- Report suspected pollution problems or illegal dumping to supervisor.



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Municipal Pollution Prevention

Parks & Grounds Maintenance

NICK VANDE HEY, PE
3/1/2021

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Plant Selection

- Utilize native perennial vegetation to reduce water, fertilizer and pesticide needs.
- Consider using Wisconsin Native Plant list as a plant selection tool.



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Watering

- Avoid over watering to prevent excess runoff.
- Avoid runoff by adjusting watering time and spray head direction / volume.
- Check soil moisture and consider watering only when the top few inches of soil is dry.



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Grass Clippings & Leaves

- Mow grass as high as possible and leave clippings on the lawn.
- Collect and compost leaves for use as a soil amendment or shred and add to flower beds as mulch.



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Grass Clippings & Leaves

- Sweep paved surfaces or blow clippings and trimmings onto grass rather than hosing down.
- Do not dispose of grass clippings, leaves or other debris into storm drain.
- Remove accumulated litter and debris from storm drain inlets.



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Fertilizers & Soil Management

- Follow local nutrient management plan.
- Test soils well before the application season to determine fertilizer needs.
- Aerate and add compost to the soil to reduce fertilizer needs, improve drainage, and promote root growth.
- Limit soil erosion by planting vegetation on bare areas and using mulch or matting for landscaped areas.



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Fertilizers, Pesticides & Herbicides

- Follow safety, storage and disposal procedures for fertilizer, pesticides and herbicides.
- Follow label directions precisely when mixing or applying fertilizers, pesticides or herbicides.
- Mix fertilizers, pesticides and herbicides where spills will not soak into the ground or runoff into the storm drainage system.



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Fertilizers, Pesticides & Herbicides

- Use fertilizers, pesticides and herbicides only as needed.
- Use non-toxic substitutes for chemicals when possible.
- Carefully select the most appropriate product for the problem to be treated.
- Apply pesticides and herbicides to the problem area only, versus application over a wider area.



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Fertilizers, Pesticides & Herbicides

- Avoid stray product from being deposited on streets or other paved surfaces where it may be washed into the storm drain system.
- Don't apply chemicals near sensitive areas including streams, lakes, wetlands, drainageways or storm inlets.



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Fertilizers, Pesticides & Herbicides

- Follow label instructions and local procedures.
- Do not apply during windy conditions or when rain is predicted.
- Report suspected problems during applications.



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Storm Water Management Fact Sheet Employee Training

DESCRIPTION

In-house employee training programs are established to teach employees about storm water management, potential sources of contaminants, and Best Management Practices (BMPs). Employee training programs should instill all personnel with a thorough understanding of their Storm Water Pollution Prevention Plan (SWPPP), including BMPs, processes and materials they are working with, safety hazards, practices for preventing discharges, and procedures for responding quickly and properly to toxic and hazardous material incidents.

APPLICABILITY

Typically, most industrial facilities have employee training programs. Usually these address such areas as health and safety training and fire protection. Training on storm water management and BMPs can be incorporated into these programs.

Employees can be taught through 1) posters, employee meetings, courses, and bulletin boards about storm water management, potential contaminant sources, and prevention of contamination in surface water runoff, and 2) field training programs that show areas of potential storm water contamination and associated pollutants, followed by a discussion of site-specific BMPs by trained personnel.

ADVANTAGES AND DISADVANTAGES

Advantages of an employee training program are that the program can be a low-cost and easily implementable storm water management BMP.

The program can be standardized and repeated as necessary, both to train new employees and to keep its objectives fresh in the minds of more senior employees. A training program is also flexible and can be adapted as a facility's storm water management needs change over time.

Obstacles to an employee training program include:

- Lack of commitment from senior management.
- Lack of employee motivation.
- Lack of incentive to become involved in BMP implementation.

KEY PROGRAM COMPONENTS

Specific design criteria for implementing an employee training program include:

- Ensuring strong commitment and periodic input from senior management.
- Communicating frequently to ensure adequate understanding of SWPPP goals and objectives.
- Utilizing experience from past spills to prevent future spills.
- Making employees aware of BMP monitoring and spill reporting procedures.
- Developing operating manuals and standard procedures.

- Implementing spill drills.

IMPLEMENTATION

An employee training program should be an on-going, yearly process. Meetings about SWPPPs should be held at least annually, possibly in conjunction with other training programs. Figure 1 illustrates a sample employee training worksheet. Worksheets such as these can be used to plan and track employee training programs. Program performance depends on employees' participation and on senior management's commitment to reducing point and nonpoint sources of pollution; therefore, performance will vary among facilities. To be effective these programs need senior management's support

COSTS

Costs for implementing an employee training program are highly variable. Most storm water training program costs will be directly related to labor and associated overhead costs. Trainers can reduce costs by using free educational materials available on the subject of storm water quality.

Figure 2 can be used to estimate the annual costs for an in-house training program. Table 1 provides an example of how this worksheet can be used to estimate annual costs.

REFERENCES

1. U.S. EPA, 1979. *NPDES BMP Guidance Document*.
2. U.S. EPA, Pre-print, 1992. *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-006.

ADDITIONAL INFORMATION

Center for Watershed Protection
Tom Schueler
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City of Coral Gables, Florida

Tim Clark
285 Aragon Avenue
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Hillsborough County, Florida
Jose Rodriguez
Hillsborough County Public Works
601 East Kennedy Boulevard
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King County, Washington
Dave Hancock
Department of Natural Resources, Water and Land
Resources Division, Drainage Services Section
700 5th Avenue, Suite 2200
Seattle, WA 98104

Mitchell Training, Inc.
Barbara Mitchell
5414 SW 177th Street
Archer, FL 32618

Southeastern Wisconsin Regional Planning
Commission
Bob Biebel
916 N. East Avenue, P.O. Box 1607
Waukesha, WI 53187

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EMPLOYEE TRAINING			Worksheet Completed by: _____ Title: _____ Date: _____
Instructions: Describe the employee training program for your facility below. The program should, at a minimum, address spill prevention and response, good housekeeping, and material management practices. Provide a schedule for the training program and list the employees who attend the training sessions.			
Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter, course)	Schedule for Training (list dates)	Participants
Spill Prevention and Response			
Good Housekeeping			
Material Management Practices			
Other Topics			

Source: U. S. EPA, 1992.

FIGURE 1 SAMPLE WORKSHEET FOR TRACKING EMPLOYEE TRAINING

TABLE 1 EXAMPLE OF ANNUAL EMPLOYEE TRAINING COSTS

Title	Number	Average Hourly Rate (\$)	Overhead* Multiplier	Estimated Yearly Hours on SW Training	Estimated Annual Cost (\$)
Stormwater Engineer	1	x 15	x 2.0	x 20 =	600
Plant Management	5	x 20	x 2.0	x 10 =	2,000
Plant Employees	100	x 10	x 2.0	x 5 =	<u>10,000</u>
Total Estimated Annual Cost \$12,600					

*Note: Defined as a multiplier (typically ranging between 1 and 3) that takes into account those costs associated with costs other than salary of employing a person, expenses, etc

Title	Number	Average Hourly Rate (\$)	Overhead Multiplier	Estimated Yearly Hours on SW Training	Estimated Annual Cost (\$)
_____	_____	x _____	x _____	x _____	= _____ (A)
_____	_____	x _____	x _____	x _____	= _____ (B)
_____	_____	x _____	x _____	x _____	= _____ (C)
_____	_____	x _____	x _____	x _____	= _____ (D)
Total Estimated Annual Cost (Sum of A+B+C+D)					_____

Source: U.S. EPA, 1992.

FIGURE 2 SAMPLE ANNUAL TRAINING COST WORKSHEET

For more information contact:

Municipal Technology Branch
 U.S. EPA
 Mail Code 4204
 401 M St., S.W.
 Washington, D.C., 20460



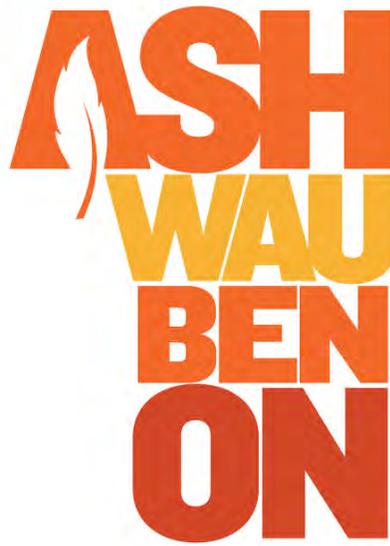
APPENDIX I

Dedicated Funding Sources

Village of Ashwaubenon

Municipal Code Book

Monday, March 29, 2021 1:06 PM



Printed for:
Chapter 22 - Utilities
Article 6 - Stormwater Utility

Municipal Code Book

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Chapter 22 - Utilities

Article 6 - Stormwater Utility

22-6-125 Stormwater Utility

- (A) *Establishment.* The Village of Ashwaubenon finds that the management of stormwater and other surface water discharge within and beyond the Fox River, Ashwaubenon Creek, Dutchman Creek, and Duck Creek (the "village's waterways") is a matter that affects the health, safety and welfare of the village, its citizens and businesses, and others in the surrounding area. Failure to effectively manage stormwater affects the sanitary sewer utility operations of the village and NEW Water by, among other things, increasing the likelihood of infiltration and inflow in the sanitary sewer. In addition, surface water runoff may create erosion of lands, threaten businesses and residences with water damage, and create sedimentation and other environmental damage in the village's waterways. Those elements of the system that provide for collection, conveyance, flood control, pollutant control, and volume reduction of stormwater and regulation of groundwater are of benefit and provide services to all properties within the Village of Ashwaubenon, including property not presently served by the stormwater elements of the system. The cost of operating and maintaining the stormwater management system and financing necessary repairs, replacements, improvements and extensions thereof should, to the extent practicable, be allocated in relationship to the benefits enjoyed and services received therefrom.

There is hereby established a Village of Ashwaubenon stormwater utility. The operation of the stormwater utility shall be under the supervision of the village board. The Village of Ashwaubenon village engineer shall be in charge of the stormwater utility.

- (B) *Authority.* The village, through the stormwater utility, may acquire, construct, lease, own, operate, maintain, extend, expand, replace, clean, dredge, repair, conduct, manage and finance such real estate and facilities as are deemed by the village to be proper and reasonably necessary for a system of storm and surface water management. These facilities may include, without limitation by enumeration, surface and underground drainage facilities, sewers, watercourses, retaining walls and ponds, flood control facilities, best management practices, and such other facilities as will support a stormwater management system.
- (C) *Definitions.* For the purpose of this article, the following definitions shall apply: Words used in the singular shall include the plural, and the plural, the singular; words used in the present tense shall include the future tense; the word "shall" is mandatory and not discretionary; the word "may" is permissive. Terms not specifically defined herein shall have the meaning defined in NR 216.002, Wis. Admin. Code, and as the same may be amended from time to time, if defined therein; or if not therein defined, shall be construed to have the meaning given by common and ordinary use, as defined in the latest edition of Webster's Dictionary.
- (1) *Director.* The term "director" means the Village of Ashwaubenon village engineer, or his/her designee.
- (2) *Developed Property.* The term "developed property" means the real property that has been altered from its natural state by the addition of any improvements that may include a building, structure, impervious surface, and change in grade or landscaping.

- (3) *Equivalent Runoff Unit (ERU)*. The term "ERU" means the statistical average horizontal impervious area of "single-family residential properties" within the Village of Ashwaubenon on the date of adoption of this article. The horizontal impervious area includes, but is not limited to, all areas covered by structures, roof extensions, patios, porches, driveways and sidewalks.
- (4) *Impervious Area or Impervious Surface*. The term "impervious area or impervious surface" means areas that have been paved, covered or compacted to inhibit the natural infiltration of water into the soil or cause water to run off the area in greater quantities or at an increased rate of flow from the present under natural conditions as undeveloped property. Such areas may include, but are not limited to, roofs, roof extensions, patios, porches, driveways, sidewalks, pavement, gravel, athletic courts and compacted surfaces. Excluded from this definition are undisturbed land, lawn and fields.
- (5) *Duplex Unit*. The term "duplex unit" means any residential space identified for habitation by members of the same household attached to only one other residential space or as classified by the village building and zoning codes.
- (6) *Dwelling Unit*. The term "dwelling unit" means any residential space identified for habitation by members of the same household or as classified by the village building and zoning codes. A dwelling unit includes, but is not limited to, single-family homes, manufactured homes, duplexes, multifamily apartments, residential condominiums and townhouse living units.
- (7) *Residential Property*. The term "residential property" means any lot or parcel developed exclusively for residential purposes including, but not limited to, single-family homes, manufactured homes, duplexes, multifamily apartments, residential condominiums and townhouse living units.
- (8) *Nonresidential Property*. The term "nonresidential property" means any developed lot or parcel not exclusively residential as defined herein, but not limited to, transient rentals (such as hotels and motels), mobile home park, commercial, industrial, institutional, governmental property and parking lots.
- (9) *Runoff*. The term "runoff" means the surface water, including rain and snow melt, which is inhibited by impervious surfaces from naturally infiltrating into soil.
- (10) *Stormwater Facilities*. The term "stormwater facilities" means all constructed facilities or natural features used for collecting, conveying, storing, reducing and treating stormwater to, through and from drainage areas to the point of final outlet. Stormwater facilities collectively constitute a stormwater system.
- (11) *Undeveloped Property*. The term "undeveloped property" means that which has not been altered from its natural state by the addition of any improvements, such as a building, structure, impervious surface, change of grade or landscaping. For new construction, a property shall be considered developed pursuant to this article at the time of water meter installation or upon review of the actual impervious area by January 1.
- (D) *Rate Charges*.

- (1) By this article, the village board is establishing the rate charge upon each lot and parcel within the Village of Ashwaubenon for services and facilities provided by the stormwater utility. The actual charges to be imposed, the establishment of formulas for calculations of the charges, the establishment of specific customer classifications and any future changes in those rates, formulas, rate charges and customer classifications, may be made by resolution. All rates established pursuant to this article will be fair and reasonable in accordance with the decision and judgment of the village board. The current rates will be on file with the village clerk.
- (2) Rate charges shall be used to share the costs of the stormwater utility. These rate charges may include:
 - (a) *Base Charge (BC)*. The base charge may be imposed on all property in the village. The base charge will be designed to reflect the fact that all properties benefit from the stormwater management activities of the village and that all property contribute in some way to the stormwater discharge that must be managed by the village. The BC will be designed to collect the administrative costs of the storm sewer utility and the portion of the capital costs not covered by special assessment. The BC may be based upon the size of a parcel of property.
 - (b) *Equivalent Runoff Unit Charge (ERU)*. This charge shall be imposed on all property that has any developed impervious area. The ERU will be designed on the basis of a typical single-family residential property. Each residential and nonresidential property will be charged multiples of the ERU, based upon the impervious area contributing to stormwater runoff.
 - (c) *Special Charge (SC)*. This charge may be imposed on property that is in an area specially benefited by a particular stormwater management facility. The SC will be developed to reflect the benefits/services in a particular area that may not be appropriate to spread to property throughout the village. The SC will be calculated on an ERU basis.
- (3) The village board may make such other and customer classifications as will be likely to provide reasonable and fair distribution of the costs of the stormwater utility. In so doing, the village board may provide credits against certain of the charges set forth above for facilities installed and maintained by the property owner for the purpose of lessening the stormwater flow or pollutant load from that given property.
- (4) The village's department of finance is hereby appointed as the collection agency for the Village of Ashwaubenon stormwater utility. Bills shall be prepared by the village or its agent and sent to the owner of each premises served. The village shall allocate the actual cost of billing and collecting.

- (5) The bills for stormwater utility charges shall be mailed to the designated utility bill recipient, but this mailing shall not relieve the owner of the property from liability for rental property in the event payment is not made as required in this article. The owner of any property served which is occupied by tenants shall have the right to examine collection records of the village for the purpose of determining whether such rates and charges have been paid for such tenants, provided that such examination shall be made at the office at which the records are kept and during the hours that such office is open for business. A late payment charge of one percent per month will be applied to the total unpaid balance for utility service, including unpaid late payment charges. The late payment charge is applicable to all customers. The utility customer may be given a written notice that the bill is overdue no sooner than 20 days after the bill is issued.
 - (6) Stormwater utility charges shall not be payable in installments. If stormwater utility charges remain unpaid after a period of 20 days from the date of utility bill, such bill shall become a delinquent special charge and shall become a lien as provided in Wis. Stats. §§ 66.0809 and 66.0821. Said charges shall automatically be extended upon the current or next tax roll as a delinquent tax against the property, and all proceedings in relation to the collection, return and sale of property for delinquent real estate taxes shall apply to such special charges. Unpaid charges shall be assessed the same as the water utility bills.
 - (7) All delinquent charges shall be subject to a ten percent penalty in addition to all other charges and prior penalties or interest when the delinquent charge is extended upon the tax roll.
- (E) *Customer Classification.*
- (1) For purposes of imposing the stormwater charges, all lots and parcels within the village are classified into the following five customer classes:
 - (a) Residential - Single-Family.
 - (b) Residential - Duplex.
 - (c) Residential - Multifamily and Condominium.
 - (d) Nonresidential.
 - (e) Undeveloped.
 - (2) The village engineer shall prepare a list of lots and parcels within the Village of Ashwaubenon, and assign a classification of residential, nonresidential or undeveloped to each lot or parcel.
 - (3) The average square footage of impervious area of the ERU is established to be equivalent to 3,316 square feet.
 - (4) The charges imposed for residential properties shall be the same as nonresidential properties, including single-family, duplex, multifamily apartment, condominium and townhouse residential properties.

- (5) The charges imposed for nonresidential properties shall be the rate for one ERU, multiplied by the numerical factor obtained by dividing the total impervious area of a nonresidential property by the square footage of one ERU. The numerical factor shall be rounded down to the nearest one-tenth, i.e.:

ERU rate multiplied by impervious area (square feet) divided by 3,316 square feet
 - (6) No charge is imposed for undeveloped properties.
 - (7) The village engineer shall be responsible for determining the impervious area, based upon the best available information, including, but not limited to, data supplied by the building inspector, aerial photography, the property owner, tenant or developer. The village engineer may require additional information, as necessary, to make the determination. The billing amount shall be updated by the village engineer on any additions to the impervious area. Upon property owner's written notification and request, the village engineer shall review impervious area for possible reductions.
 - (8) The minimum charge for any developed parcel shall be equal to the rate for one-tenth ERU.
- (F) *New Construction.* The owner shall also be liable for stormwater charges, under this article, for the improvement from the date of water meter installation or upon review of the actual impervious area by January 1.
- (G) *Method of Appeal.*
- (1) The stormwater utility charge may be appealed, as follows:
 - (a) A written appeal shall be filed with the village engineer prior to the utility charge due date; or
 - (b) Within 30 days of payment, a written challenge to the stormwater charge must be filed with the village engineer on behalf of the customer, specifying all bases for the challenge and the amount of the stormwater charge the customer asserts is appropriate. Failure to file a challenge within 30 days of payment waives all right to later challenge the charge.
 - (2) A property owner not satisfied with the decision by the village engineer can appeal to the village board for their review and action.
 - (3) Following review by the village engineer, the village board will determine whether the stormwater charge is fair and reasonable, or whether a refund is due the customer. The village board may act with or without a hearing, and will inform the customer in writing of its decision.
 - (4) If the village board determines that a refund is due the customer, the refund will be applied as a credit on the customer's next stormwater billing, if the refund will not exceed the customer's next stormwater billing, or will be refunded at the discretion of the director of finance without interest.

- (H) *Special Assessment Authority.* In addition to any other method for collection of the charges established pursuant to this article for stormwater utility costs, the village board finds that these charges may be levied on property as a special charge pursuant to Wis. Stat. § 66.0627. The charges established hereunder reasonably reflect the benefits conferred on property and may be assessed as special charges. The mailing of the bill for such charges to the owner will serve as notice to the owner that failure to pay the charges when due may result in them being charged pursuant to the authority of Wis. Stat. § 66.0627. In addition, the village may provide notice each October of any unpaid charges to the stormwater utility, which charges, if not paid by November 15, may be placed on the tax roll under Wis. Stat. § 66.0627.
- (I) *Budget Excess Revenues.* The stormwater utility finances shall be accounted for in a separate stormwater management fund by the village. The utility shall prepare an annual budget, which is to include all operation and maintenance costs, administrative costs, depreciation costs, debt service and other costs related to the operation of the stormwater utility. The budget is subject to approval by the village board. The costs shall be spread over the rate classifications as determined by the village board. Any excess of revenues over expenditures in a year will be retained by the stormwater management fund for subsequent years' needs.
- (J) *Severability.* If a court of competent jurisdiction judges any section, clause, provision or portion of this article unconstitutional or invalid, the remainder of the ordinance shall remain in force and not be affected by such judgment.
- (K) *Effective Date.* This article shall be in force and effect beginning September 1, 2012.

(Ord. No. O6-1-12, § 1, 6-12-2012)