MUNICIPAL STORMWATER (MS4) PROGRAM



PREPARED FOR THE

VILLAGE OF KIMBERLY OUTAGAMIE COUNTY, WISCONSIN

MARCH 1, 2021

McM. No. K0001-9-21-00116

NAV:PTK:car



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Stormwater Management Plan

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TABLE OF CONTENTS

- 1.0 INTRODUCTION
- 2.0 OVERVIEW OF STUDY AREA
- 3.0 PUBLIC EDUCATION & OUTREACH
- 4.0 PUBLIC INVOLVEMENT & PARTICIPATION
- 5.0 ILLICIT DISCHARGE DETECTION & ELIMINATION
- 6.0 CONSTRUCTION SITE POLLUTANT CONTROL
- 7.0 POST-CONSTRUCTION STORMWATER MANAGEMENT
- 8.0 MUNICIPAL POLLUTION PREVENTION
- 9.0 STORMWATER QUALITY MANAGEMENT
- 10.0 IMPLEMENTATION PLAN

List of Appendices

- Appendix A WPDES Municipal Permit
- Appendix B Figures
- Appendix C Public Education & Outreach
- Appendix D Public Involvement & Participation
- Appendix E Illicit Discharge Detection & Elimination
- Appendix F Construction Site Pollutant Control
- Appendix G Post-Construction Stormwater Management
- Appendix H Municipal Pollution Prevention
- Appendix I Dedicated Funding Sources

1.0 – INTRODUCTION

The Village of Kimberly'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 Kimberly 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 Muncipal 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 Kimberly is in Outagamie County, Wisconsin. The Village is projected to have a 2020 population of 7,137. The study area for this Stormwater Management Plan is depicted in Figure 1. The Village of Kimberly is part of the Appleton 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.

<u>Basins</u>

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

Watersheds

The Wisconsin DNR divided the Lower Fox River Basin into six watersheds and the study area is in one of these watersheds: Plum and Kankapot Creeks (LF03-13).

Sub-Watersheds

For purposes of this stormwater management plan, the Village was divided into two sub-watersheds. The sub-watersheds are depicted in Figure 3 and summarized in Table 2-1.

The sub-watersheds were delineated



Exhibit 2-1: Lower Fox River Basin



Exhibit 2-2: Plum & Kankapot Creeks Watersheds

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.

	Sub-Watersheds	
Sub-Watershed	HUC-12	TMDL Sub-Basin Name
Garners Creek	Garners Creek-Fox River (040302040205)	Garners Creek
Fox River	Garners Creek-Fox River (040302040205)	Lower Fox River Main

Table 2-1 ub-Watershed

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:

- Garners Creek: Garners Creek is a 303(d) impaired water body due to non-point source pollution. Pollutants of concern include total phosphorus and total suspended solids. Impairments include degraded biological community and degraded habitat. The attainable use for Garners Creek is warmwater sport fishery and the designated use is warmwater sport fishery. Sediment and phosphorus TMDLs have been approved for Garners Creek.
- Fox River: The Fox River is a 303(d) impaired water body due to a blend of point source and non-point source pollution. Pollutants of concern include total phosphorus and polychlorobiphenyls (PCBs). Impairments include low dissolved oxygen and contaminated fish tissue. The attainable use and designated use for the Fox River is warmwater sport fishery. Sediment and phosphorus TMDLs have been approved for the Fox River.

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.

Historical sites located within the study area and listed in the Wisconsin Historical Society's register are depicted in Figure 4 and summarized in Table 2-2.

<u> Table 2-2</u>

Historical Sites

I.D.	Historic Name	Location	Reference No.
1	William & Susanna Geenen House	416 N. Sidney Street, Kimberly, WI	93000070

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.

<u>Soils</u>

Soil information is from the *Outagamie 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. The outfall locations are depicted on Figure 6. 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. Table 2-3 identifies the private BMP's each Village has maintenance authority over based on available records. For purposes of this plan, only Village owned BMP's or private BMP's with maintenance authority as of 2012 (Fox River Sub-Watershed) 2015 (Garners Creek Sub-Watershed) were considered for the stormwater quality analysis.

<u> Table 2-3</u>

			Type of			Record	O&M
BMP		Approx. Year	Structural		Maintenance	Drawing	Plan
ID	BMP Name	Constructed	BMP	Ownership	Authority	Available	Available
K1	Family Video	2000	Dry Pond	Private	TBD	No	No
K2	Courtland Court Pond	2010	Wet Pond	Village	Yes	Yes	Yes
К3	Kimberly Plaza	2004	Dry Pond	Private	TBD	No	No
K4	Dollar General	2004	Dry Pond	Private	TBD	No	No
K5	Kwick Trip	2003	Dry Pond	Private	TBD	No	No
K6	Kimberly High School	2000	Dry Pond	Private	TBD	No	No
K7	Washington Towers	2006	Dry Pond	Private	TBD	No	No
K8	Liberty Park	?	Dry Pond	Village	TBD	No	No
К9	Papermaker Stadium	2007	Wet Pond	Private	TBD	No	No
K10	YMCA	2002	Dry Pond	Private	TBD	No	No
K11	CE Business Park	2006	Wet Pond	Village	Yes	Yes	Yes
K12	Emons Acres Pond	2006	Wet Pond	Village	Yes	Yes	Yes
K13	Park Villas Pond	2006	Wet Pond	Village	Yes	Yes	Yes
K14	Sunset Park Pond	2007	Wet Pond	Village	Yes	Yes	Yes
K15	Luvata	?	Dry Pond	Private	TBD	No	No
K16	Associated Financial	?	Dry Pond	Private	TBD	No	No
K17	Capital Credit Union	?	Dry Pond	Private	TBD	No	No
K18	Quality Inn & Suites	?	Dry Pond	Private	TBD	No	No
K19	Hilton Garden Inn	?	Dry Pond	Private	TBD	No	No
К20	Design Air	?	Dry Pond	Private	TBD	No	No
K21	US Oil	?	Dry Pond	Private	TBD	No	No
K22	Crane Engineering	?	Dry Pond	Private	TBD	No	No
K23	CIB Industrial Battery	?	Dry Pond	Private	TBD	No	No
K24	Jack Richeson & Co	?	Dry Pond	Private	TBD	No	No
K25	Aspire	2015	Wet Pond	Private	Yes	No	Yes

Structural BMPs

Table 2-3

			Type of			Record	O&M
BMP		Approx. Year	Structural		Maintenance	Drawing	Plan
ID	BMP Name	Constructed	BMP	Ownership	Authority	Available	Available
K26	Steins Home and Garden	2021	Wet Pond	Private	Yes	Yes	Yes
K77	Vandenboom-Verstegen						
NZ /	Wealth Mngt	2021	Wet Pond	Private	Yes	Yes	Yes
K28	Go Pack Storage	2019	Dry Pond	Private	Yes	Yes	Yes
K29	Design Air	2020	Wet Pond	Private	Yes	Yes	Yes
K30	Cedars West	2017	Wet Pond	Village	Yes	Yes	Yes
K31	Treaty Park	2018	Wet Pond	Village	Yes	Yes	Yes
K32	Memorial Park	2016	Wet Pond	Village	Yes	Yes	Yes
K33	Anduzzis	2015	Biofilter	Private	TBD	Yes	Yes
K34	Schelfhout Ln Duplexes	2015	Wet Pond	Private	TBD	Yes	Yes

Structural BMPs

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 groundwater aquifers using three municipal wells. The municipal wells are depicted in Figure 9. Well 1 (BG579), Well 2 (BG580), and Well 3 (BG581) currently do not have a wellhead protection plan or ordinance. According to the DNR, the Kimberly Waterworks system is susceptible to contamination by microbes. The system has low susceptibility to contamination by volatile organic compounds (VOCs), ethylene dibromide (EDB), synthetic organic compounds (SOCs), inorganic compounds (IOCs), and nitrates.

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 2-4.

<u>Table 2-4</u>

WPDES Industrial Permits

I.D.	Facility Name	Facility Address
1	Luvata Appleton LLC	800 W Kennedy Avenue
2	Black Dog Machine	511 S Railroad Street

<u> Table 2-4</u>

WPDES Industrial Permits

I.D.	Facility Name	Facility Address
3	Safety Kleen Systems Inc.	522 Carter Court
4	Jack Richeson and Co Inc.	557 Marcella Drive
5	Luvata Appleton LLC	553 Carter Court
6	US Oil Co. Inc. Motor Oil Blending Plant	422 S Washington Street

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.

2012 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.

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.

- <u>Passive</u>: 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.
- <u>Active</u>: 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 adminstrative 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 has a Citizen Advisory Task Force, which provides public participation and input to the Village on as needed basis. Members of the Village's Task Force are continually changing, but often consist of residential landowners and representatives from local businesses and non-profit organizations. The Task Force provides feedback and input on various Village initiatives and programs, including the Village's municpal stormwater program. During meetings, the Task Force is provided background information (i.e. goals, regulatory requirements, etc) and then asked to provice advisory input, which helps shape the Village's programs, plans, initiatives or projects.

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 Village Adminstrator and Director of Operations 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.
- 3. The Village plans to convene the Citizen Advisory Task Force on an as needed basis to discuss stormwater related items, such as the TMDL stormwater quality management 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 guage 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:	
Passive: Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
Passive: Brochure VH - Fish Don't Swim in Chlorine (# taken).	2021-25
Passive: Newsletter - Household Hazardous Waste (# distributed).	2021-25
Active: Presentation - Government Meeting for Annual Report, Plan or Project (# attendees).	2021-25
Active: 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:	
Passive: Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
Passive: Brochure VH - Good Dog / Good Owner (# taken & # distributed with pet license).	2021-25
Passive: Newsletter - Household Hazardous Waste & Pet Waste (# distributed).	2021-25
Active: NEWSC Exhibiting at Village Event or School (# interactions or students).	2023

Public Education & Outreach	Year
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:	
Passive: Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
Passive: Newsletter - The Perfect Lawn (# distributed)	2021
<u>Passive</u> : Newsletter - Kids Can Help (# distributed)	2022
Active: NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
Passive: Newsletter – Leave Your Leaves (# distibuted)	2025
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:	
Passive: Website (# hits), Raindrop Poster VH (# posters), Radio/TV (# ads), Social Media (# posts).	2021-25
Passive: Brochure VH - Restore Your Shore (# taken & # distributed with shoreland permit)	2021-25
Passive: Newsletter - Restore Your Shore (# distributed)	2023
Active: NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
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:	
Passive: Website (# hits), Raindrop Poster VH (# posters), Radio/TV/Social Media (# posts).	2021-25
Passive: Brochure - Perfect Landscape (# taken & # distributed with residential home permit)	2021-25
Active: NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
Passive: Newsletter - Perfect Landscape (# distributed)	2024
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:	
Passive: Website (# hits), Plan Review Letters (# distributed), Inspection Report (# distributed).	2021-25
Active: Discuss Permit Requirements at Pre-Construction Meetings (# attendees).	2021-25
Active: 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
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:	
Passive: Website (# hits), Radio/TV/Social Media (# posts).	2021-25
Active: McMahon Train Village Staff on Municipal Pollution Prevention (# attendees).	2021
Active: NEWSC Exhibiting at Village Event or School (# interactions or students)	2023
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:	
Passive: Website (# hits), Radio/TV/Social Media (# posts).	2021-25

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 invlovement 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 activites 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 activites and vulunteer 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 adminstrative 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 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 opporunities are provided during a Village public meeting, whenever stormwater ordinances are modificed, 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 has a Citizen Advisory Task Force, which provides public participation and input to the Village on as needed basis. Members of the Village's Task Force are continually changing, but often consist of residential landowners and representatives from local businesses and non-profit organizations. The Task Force provides feedback and input on various Village initiatives and programs, including the Village's municpal stormwater program. During meetings, the Task Force is provided background information (i.e. goals, regulatory requirements, etc) and then asked to provice advisory input, which helps shape the Village's programs, plans, initiatives or projects.

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 Village Adminstrator and Director of Operations are jointly responsible for implementation of the public involvement and participation program.
- 2. The Village intends to maintain its membership and partnership with NEWSC.
- 3. The Village plans to convene the Citizen Advisory Task Force on an as needed basis to discuss stormwater related items, such as the TMDL stormwater quality management plan.

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 guage 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 presention 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 purpose of the forfeitures and fines is to encourage compliance with the 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. <u>On-Going Field Screening</u>: Procedures for conducting on-going field screening of outfalls during dry weather periods are provided in Appendix E. The Director of Operations and Village Engineer are responsible for performing the on-going field screening of outfalls.
- 2. <u>Routine Inspections</u>: In addition to the on-going field screening, the Village searches for illegal connections and sanitary leakage by conducting routine plumbing, septic system (if any), sanitary sewer, and storm sewer inspections. The Director of Operations, Building Inspector, and Water Utility are responsible for performing the routine plumbing inspections and coordinating the routine septic system inspections (in any). The Director of Operations and/or their designee are responsible for performing the routine sewer and storm sewer inspections.
- 3. <u>Responding to Illicit Discharges</u>: Procedures for responding to known or suspected illicit discharges are provided in Appendix E. The Director of Operations, Building Inspector, Fire Department and/or Village Engineer 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 noncompliance. 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. <u>Information Submitted by the Public</u>: Information submitted by the public can be recorded on the form provided in Appendix E and forwarded to the Director of Operations, Building Inspector, Fire

Department and/or Village Engineer 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 guage effectiveness of the overall program.

Illicit Discharge Detection & Elimination	Count
BMP: Conduct on-going field screening of MS4 outfalls.	
Measurable Goals:	
 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. 	
BMP: Enforce the illicit discharge ordinance & remove illicit discharges from the MS4.	
Measurable Goals:	
 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 chemiccals, 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 provide permit applicants with a financial incentive to reduce the duration of land disturbance.

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:

- <u>Permit Application</u>: The permit application, Erosion & Sediment Control Plan, and application fee are submitted to the Street Department's Office. 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 Street Department's Office processes the application and forwards to the Building Inspector, Director of Operations or Village Engineer for review.
- 2. <u>Plan Review</u>: 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, Director of Operations 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. <u>Financial Guarantee</u>: A financial guarantee may be required for sites with 1 acre or more of land disturbance. The financial guarantee includes the estimated cost of erosion and sediment control practices, site inspections, project administration, and contingencies. The Building Inspector, Director of Operations or Village Engineer may release portions of the financial guarantee as the construction project progresses. The last portion of the financial guarantee is not typically released until the municipal inspector performs a final site inspection.
- 4. <u>Permit Issuance</u>: The Building Inspector or Director of Operations 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. <u>Construction Site Inspections</u>: 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.

- 6. 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.
- 7. 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, Director of Operations 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. Follow-up activities will be documented with written reports and filed with the permit.

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 guage effectiveness of the overall program.

Construction Site Pollutant Control	Count
BMP: Review permit applications and erosion control plans.	
Measurable Goals:	
 Number of total active construction sites (> 1 acre) during reporting year. 	
 Number of constructions sites (> 1 acre) issued a permit during reporting year. 	
BMP: Conduct municipal construction site erosion control inspections.	
Measurable Goals:	
 Number of construction site inspections performed by the Village during reporting year. 	
BMP: Enforce the construction site erosion control ordinance.	
Measurable Goals:	
 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 20,000 square feet or more of impervious surface disturbance or 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 provide permit applicants with a financial incentive to reduce the amount of imperviousness.

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

1. <u>Permit Application</u>: The permit application, Stormwater Management Plan, long-term maintenance agreement, and application fee are submitted to the Street Department's Office. The Street

Department's Office processes the application and forwards it to the Building Inspector, Director of Operations or Village Engineer for review and approval.

- 2. <u>Plan Review</u>: 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 Director of Operations 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. <u>Operation & Maintenance Agreement</u>: 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 Street Department's Office records the maintenance agreement at the County Register of Deeds.
- 4. <u>Financial Guarantee</u>: A financial guarantee may be required for the estimated cost of stormwater management facilities and contingencies. The Building Inspector, Director of Operations or Village Engineer may release portions of the financial guarantee as the project progresses. The last portion of the financial guarantee may not be released until a final inspection is performed, the maintenance agreement is recorded, and the record / as-built drawings are approved.
- 5. <u>Permit Issuance</u>: The Building Inspector or Director of Operations 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.
- 6. <u>Project Completion Process</u>: After the project is completed, the Building Inspector, Director of Operations 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 Street Department's Office and forwarded to the Building Inspector, Director of Operations and/or Village Engineer for review. The Building Inspector, Director of Operations and/or Village Engineer reviews the record drawing and issues an approval letter if the site satisfies the Village design and ordinance requirements.
- 7. <u>Tracking Long-Term Operation & Maintenance</u>: The Building Inspector, Director of Operations or 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 facility owner is required to

submit a postcard to the Village each year, which certifies the maintenance was completed. In addition, the Village Engineer conducts an inspection or audit pf at least 5% of private stormwater facilities each year and prepares an inspection report. A copy of the Village's inspection report is provided to the private facility owner, with directions to correct deficiencies by a specified date.

- 8. 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.
- 9. 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, Director of Operations 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 guage 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:	
 Number of sites that received approval for a new structural stormwater management facility. 	
BMP: Track long-term maintenance of stormwater management facilities.	
Measurable Goals:	
 Number of privately owned stormwater management facilities inspected in reporting year. 	
BMP: Enforce the post-construction stormwater management ordinance.	
Measurable Goals:	
 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.	

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 has a pet waste, litter, and well head protection ordinance to support the municipal pollution prevention program. The ordinances establish sanctions to ensure compliance and provide the necessary enforcement authority. Generally, the ordinances provide the necessary legal authority to:

- Require cleanup and proper disposal of pet waste.
- Require cleanup and proper disposal of litter.
- Protect municipal wells from surface water contamination.

The Village created a dedicated funding source or stormwater utility fee to financially support the municipal stormwater program, including municipal pollution prevention. The stormwater utility fee was adopted by the Village Board on May 16, 2005 and fees were effective July 1, 2005. The public was invited to participate and provide input during the February 28, March 28, and April 25, 2005 meetings. A copy of the Village's stormwater utility fee is provided in Appendix J.

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

- <u>Structural BMPs</u>: 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 Public Works Department 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.
- <u>Grass Swales</u>: 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. <u>Street Sweeping</u>: The Public Works Department is responsible for sweeping Village owned streets and properly disposing of waste materials. Waste materials are disposed at the Outagamie County Landfill. The Village currently owns one 2004 Pelican (Elgin) mechanical 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 4 weeks. The Village plans to investigate adoption of a parking ordinance and penalty fee to restrict street parking during sweeping operations.
- 4. <u>Catch Basin Cleaning</u>: 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 Outagamie County Landfill. The Village currently owns one 2007 Vactor 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 5% 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 a year in the fall.
- 5. <u>Snow Storage</u>: The Public Works Department is responsible for snow storage. Snow is typically plowed and stored along streets until the spring melt. Some streets and public parking lots do not have adequate snow storage, particularly in downtown districts. In these areas, snow is loaded on trucks and hauled to the snow storage site located within the Sunset Park parking lot or the site located north of Maes Avenue (see Figure 9). After the snowmelt, debris and litter are picked up and hauled to the Outagamie County Landfill. In the future, the Village hopes to move the snow storage site to Stonegate Park / Conservancy and direct snowmelt into Sunset Park Pond for additional water quality treatment. During the spring melt, snowpiles can deliver "shock" loads of pollutants to streams, rivers, and lakes.
- 6. <u>Deicers</u>: The Public Works Department is responsible for proper application of road salt and other de-icers. Currently, the Village uses salt granules for deicing. Typically, the Village only applies salt at street intersections, curves and along steep slopes. The Village stores salt in a covered shed at the Municipal Services Building. The salt storage shed is inspected each year by DNR Staff. Currently, the Village does not have a predetermined application rate for salt. Over the next five years, the Village plans to compare salt application rates and equipment calibration to guidance contained in Chapter 6 of the DOT "Highway Maintenance Manual" (see Appendix H for a copy).
- 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 rarely stockpiled, but rather immediately hauled off-site each week to one or more local farmers. In order to encourage onsite reuse,

homeowners are charged a \$1 sticker fee for each bag of yard waste collected. During summer months, yard waste is collected once a month. During spring and fall, leaves and yard waste are collected once a week. The Village constructed a yard waste drop off site in 2019. Residents are charged \$5 per for an annual permit to use the yard waste drop off site.

- 8. <u>Municipal Garage</u>: The Public Works Department is responsible for managing stormwater pollution at the Municipal Services Building. The Municipal Services Building is located at 426 West Kimberly Avenue (see Figure 11). 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 was prepared for the Village 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, when feasible.
 - Vehicles and equipment are washed indoors, when feasible. 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, when feasible. 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 offsite at local gas stations.
 - Waste oil tank replaced and relocated for improved customer access. Receiving hopper modified to allow oil filters to be placed for draining, with staff checking and removing daily.
 - 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.
 - Garbage & other wastes are stored in dumpsters. Dumpster lids are kept closed.
 - Material stockpiles are kept away from concentrated flows.
 Soil stockpiles inactive for 30 days or more are covered with a tarp.
- 9. <u>Water Utility</u>: The Water Utility is responsible for managing stormwater pollution and municipal operations at its three municipal well sites. Well #1 is located along Charles Street, Well #2 is located in Roosevelt Park, and Well #3 is located in Sunset Point Park (see Figure 11). Equipment, vehicles and materials used by the Water Utility are typically stored indoors at one of the three municipal well sites or at the Municipal Services Building. Each municipal well building is locked to prevent public access. No structural best management practices are currently proposed for Well #1 and Well #2.
- 10. <u>Fertilizers</u>: 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: Sunset

Park. The Village plans to update its site specific Nutrient Management Plan during 2021. The Village contracts with a private vendor for fertilizer applications.

- 11. <u>Pet Waste</u>: The Public Works Department and Parks Department are jointly responsible for enforcing the Village's pet waste ordinance. 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 has three dog waste stations along the trail entrances to Sunset Park.
- 12. <u>Litter Control</u>: 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 recylcables to reduce litter caused by wind.
 - White goods are collected curb-side once every week. White goods are temporarily stored at the Municipal Services Building until disposal. Bulky household items are collected curb-side once every month. Bulky household items are immediately disposed at the landfill. The program prevents improper disposal of white goods and bulky items.
 - A dumpster for metals is provided at the Village Street Department, providing a convienient, nocost oulet for dsposing of metal items.
- 13. <u>Employee Training</u>: 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. NEWSC plans to develop some of these training materials. A worksheet to track employee training is provided in Appendix H.
- 14. <u>Well Head Protection</u>: The Public Works Department and Water Utility are jointly responsible for protecting Village wells from stormwater contamination. The Village plans to investigate development and adoption of a Well Head Protection Plan and ordinance for the three 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 guage effectiveness of the overall municipal pollution prevention program.

Municipal Pollution Prevention	Count
BMP: Conduct routine inspections & maintenance of municipally owned stormwater facilities.	
Measurable Goals:	
 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.	
BMP: Prepare a Stormwater Pollution Prevention Plan (SWPPP) for municipal garages and yards.	
Measurable Goals:	
 Number of municipal properties required to have a SWPPP. 	
 Number of inspections of municipal properties with a SWPPP during reporting year. 	
BMP: Conduct routine street sweeping where appropriate. Properly dispose of waste.	
Measurable Goals:	
 Frequency of street sweeping completed during reporting year (March 29 to November 25). 	
 Tons of street sweeping waste collected during reporting year. 	
BMP: Conduct routine catch basin cleaning where appropriate. Properly dispose of waste.	
Measurable Goals:	
 Number of catch basin sumps cleaned during reporting year (March 29 to November 25). 	
 Tons of catch basin waste collected during reporting year. 	
BMP: Properly manage leaves where appropriate.	
Measurable Goals:	
 If collection is offered, frequency of curbside leaf collection. 	
BMP: Apply road salt and other products only as necessary to maintain public safety during winter.	
Measurable Goals:	
 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). 	
BMP: Conduct nutrient management planning for municipally controlled properties where appropriate.	
Measurable Goals:	
 Number of Village controlled properties with > 5 acres of turf area that are fertilized. 	
BMP: Educate municipal employees about stormwater pollution prevention.	
Measurable Goals:	
 Number of municipal employees trained during reporting year. 	

The Village's stormwater quality management plan or Action Plan for Total Maximum Daily Load (TMDL) compliance 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 should be accepted by the Village Board. After the plan is accepted, it should be forwarded to the DNR for review and approval. The DNR will review the plan for compliance with MS4 Permit regulations.

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. <u>BMP Design</u>

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. <u>Regulatory Permits</u>

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.

 <u>Property Taxes:</u> Property taxes and general funds may be used to pay for stormwater projects. Typically, property tax revenue and general funds are allocated to a specific stormwater project during the community's annual budget process.

- <u>Debt / Bonds</u>: General obligation and revenue bonds may be used to secure funding for stormwater projects. Property taxes and revenue fees are used for long-term debt payments.
- <u>Special Assessments</u>: Special assessments may be used to generate funds for a specific project. Property owners that benefit from the project pay the assessment fee. Typically, other funding sources are needed to pay for project costs until property owners pay the assessment.
- <u>Impact Fees</u>: 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.
- <u>Tax Incremental Financing (TIF) District</u>: TIF Districts may be used by Cities and Villages to fund stormwater projects that benefit property located within the District. Property value increases within the TIF District generate additional tax revenue that is used for long-term debt payments.
- 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.
- <u>Grants / Loans</u>: 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 Kimberly may or may not be familiar with.
 - υ Urban Non-Point Source and Stormwater Construction Grant
 - υ Targeted Runoff Management Construction Grant
 - υ Great Lakes Basin Program
 - υ Community Development Block Grant
 - υ Clean Water Fund

APPENDIX A

WPDES Municipal Permit
Page 1 of 62 WPDES Permit No. WI-S050075-3



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, 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

TABLE OF CONTENTS

SECTION			PAGE
1.	APPLICABILITY CRITERIA		3
	1.1	Permitted area	3
	1.2	Authorized Discharges	3
	1.3	Water Quality Standards	3
	1.4	Outstanding and Exceptional Resource Waters	3
	1.5	Impaired Waterbodies and Total Maximum	
		Daily Load Requirements	4
	1.6	Wetlands	5
	1.7	Endangered and Threatened Resources	5
	1.8	Historic Property	5
	1.9	General Storm Water Discharge Limitations	5
	1.10	Obtaining Permit Coverage	6
	1.11	Transfers	6
	1.12	Exclusions	6
	1.13	Compliance with Permit Requirements	7
2.	PERMIT CONDITIONS		8
	2.1	Public Education and Outreach	8
	2.2	Public Involvement and Participation	10
	2.3	Illicit Discharge Detection and Elimination	10
	2.4	Construction Site Pollutant Control	13
	2.5	Post-Construction Storm Water Management	15
	2.6	Pollution Prevention	17
	2.7	Storm Water Quality Management	22
	2.8	Storm Sewer System Map	23
	2.9	Annual Report	23
	2.10	Cooperation	24
	2.11	Amendments	25
	2.12	Reapplication for Permit Coverage	25
3.	COMPLIANCE SCHEDULE		26
4.	GENE	GENERAL CONDITIONS	
5.	DEFINITIONS USED IN THIS PERMIT		34

APPENDICES

Appendix A: MS4 Permittees Subject to a TMDL Approved Prior to May 1, 2014 includingApplicable Updates37Appendix B: MS4 Permittees Subject to Milwaukee River Basin TMDL49Appendix C: MS4 Permittees Subject to the Wisconsin River Basin TMDL or a TMDL ApprovedAfter May 1, 201959

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: <u>https://dnr.wi.gov/topic/SurfaceWater/orwerw.html</u> **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 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: <u>https://dnr.wi.gov/topic/TMDLs/tmdlreports.html</u>

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.

#	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.

Table 1: Public Education and Outreach Topic Areas and Descriptions

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

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 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. 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.

Active/Interactive Mechanisms	Passive Mechanisms	
 Educational activities (school 	 Passive print media (brochures at 	
presentations, summer camps)	front desk, posters, etc.)	
 Informational booth at event 	 Distribution of print media (mailings, 	
• Targeted group training (contractors,	newsletters, etc.) via mail or email	
consultants, etc.)	 Media offerings (radio and TV ads, 	
 Government event (public hearing, 	press release, etc.)	
council meeting)	 Social media posts 	
Workshops	Signage	
Tours	Website	
Other	• Other	

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

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: <u>https://dnr.wi.gov/topic/stormwater/municipal/overview.html</u>

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

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.

Site	Inspection Frequency	
(1) All sites one acre or more in size	 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	• 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	 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 	

 Table 3: Construction Site Inspection Frequency

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: <u>https://dnr.wi.gov/topic/waste/nr528.html</u>

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.

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

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: <u>https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html</u>

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: <u>https://dnr.wi.gov/topic/stormwater/publications.html</u>

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: <u>https://wisconsindot.gov/Pages/doing-bus/local-gov/hwy-mnt/mntc-manual/chapter06.aspx</u>. 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: <u>https://dnr.wi.gov/topic/stormwater/standards/turf_nutrient.html</u>

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

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: <u>https://dnr.wi.gov/permits/water/</u>. Municipal storm water permit eReporting information and user support tools can be found at: <u>https://dnr.wi.gov/topic/stormwater/municipal/eReporting.html</u>

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

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 5 years from the date 5.0 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 WDPES 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 summitted 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 WDPES 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	Modeled TSS	TMDL TSS	Ultimate Mass	Calculated
Reachshed	from No-	Reduction from	Reduction Required	Wasteload
	Controls	No-Controls	for Full TMDL	Allocation (tons/yr)
	(tons/yr)		Compliance (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	No Controls TSS	NR 151 Required	NR 151 Allowable Load
Reachshed	(tons/yr)	Reduction (tons/yr)	(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	Calculated Wasteload	Additional Reduction	20% Additional
	Allowable	Allocation (tons/yr)	from NR 151 (tons/yr)	Reduction from
	Load (tons/yr)			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: <u>https://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html</u>

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 nocontrols 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			TSS %	TD % Paduction
Subbasin)	Waterbody Name	County	No-controls	from No-controls
	South Branch Rock	Dodge, Fond du		
2	River	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	Maunesha 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			TSS %	
(TMDI			Reduction from	TP % Reduction
Subbasin)	Waterbody Name	County	No-controls	from No-controls
	Steel Brook			
	Scupperpong River	lefferson		
59	Bark River	Walworth, Rock	49.0	66.4
60	Rock River	Jefferson, Rock	40.6	48.2
61	Rock River	Dane, Rock	41.2	31.4
	Pheasant Branch			
62	Creek	Dane	82.0	78.1
63	Spring (Dorn) Creek	Dane	46.6	37.2
	Yahara River, Lake			
	Mendota, Lake			
64	Monona	Dane, Columbia	73.0	61.3
65	Nine Springs Creek	Dane	67.6	62.8
	Yahara River, Lake			
	Waubesa, Lake		62.2	54.0
66	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	7 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 summitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee ill 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 nocontrols 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 tapper 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 WasteloadAllocations by TMDL Reachshed

Kinnickinnic River Basin:

Reachshed (TMDL Subbasin)	Waterbody Name	Waterbody Extents	TSS % Reduction	TP % Reduction
KK-1	Lyons Park Creek	Entire Length	78.4%	68.1%
КК-2	Kinnickinnic River	From Wilson Park Creek to Lyons Park Creek	77.6%	68.1%
КК-З	South 43rd St. Ditch	Entire Length	76.8%	78.7%
КК-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%
КК-6	Cherokee Park Creek	Entire Length	77.6%	69.0%
КК-7	Kinnickinnic River	Estuary to Wilson Park Creek	75.2%	45.0%

Menomonee River Basin:

Reachshed (TMDL			TSS % Reduction	TP % Reduction
Subbasin)	Waterbody Name	Waterbody Extents	from No-controls	from No-controls
		From Nor-X-Way Channel to		
MN-1	Menomonee River	Headwaters	66.4%	63.6%
MN-2	Goldendale Creek	Entire Length	63.2%	47.7%
	West Branch			
MN-3	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%
	Menomonee River and	From Little Menomonee River		
MN-6	Dretzka Park Creek	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%
		From Underwood Creek to		
MN-10	Menomonee River	Little Menomonee River	67.2%	31.7%
	Underwood Creek and	From South Branch Underwood Creek to	72.0%	62.70
MIN-11	Dousman Ditch	Headwaters	/2.0%	62.7%

Reachshed (TMDL			TSS % Reduction	TP % Reduction
Subbasin)	Waterbody Name	Waterbody Extents	from No-controls	from No-controls
		From Menomonee River to South Branch Underwood		
MN-12	Underwood Creek	Creek	80.0%	76.1%
	South Branch			
MN-13	Underwood Creek	Entire Length	76.8%	69.8%
		From Honey Creek to		
MN-14	Menomonee River	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	Matorhody Nores	Waterhady Extents	TSS % Reduction	TP % Reduction
Subbasinj	waterbody Name		from No-controls	Trom No-controls
MI_1	Linner Milwaukee River	From Campbellsport to	**	**
MI-2	Upper Milwaukee River	Campbellsport and Auburn	73.6%	71.6%
	West Branch			
MI-3	Milwaukee River	Entire Length	77.6%	48.6%
MI-4	Kewaskum Creek	Entire Length	76.8%	55.7%
	Watercress Creek and			
	East Branch Milwaukee			
MI-5	River	Entire Length	73.6%	51.2%
	Quass Creek and			
MI-6	Milwaukee River	Near West Bend	73.6%	86.7%
		From North Branch		
	Myra Creek and	Milwaukee River to West		
MI-7	Milwaukee River	Bend	79.2%	67.2%
	North Branch	from Adell Tributary to		
MI-8	Milwaukee River	Headwaters	**	**
MI-9	Adell Tributary	Entire Length	**	**
	Chambers Creek,			
	Batabia Creek, and			
	North Branch			
MI-10	Milwaukee River	Near Sherman	**	**
MI-11	Melius Creek	Entire Length	**	**
MI-12	Mink Creek	Entire Length	**	**

Reachshed (TMDL			TSS % Reduction	TP % Reduction
Subbasin)	Waterbody Name	Waterbody Extents	from No-controls	from No-controls
	Stony Creek, Wallace			
	Creek, and North			
	Branch Milwaukee			
MI-13	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%
		From Jackson Creek to		
MI-18	Cedar Creek	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%
	North Branch Cedar	From Milwaukee River to		
MI-24	Creek and Cedar Creek	Myra Creek	73.6%	79.6%
		From Pigeon Creek to Cedar		
MI-25	Milwaukee River	Creek	81.6%	43.2%
MI-26	Pigeon Creek	Entire Length	90.4%	88.5%
		From Lincoln Creek to Pigeon		
MI-27	Milwaukee River	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 reductions listed in Appendix K of the TMDL report 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 summitted by the permittee includes the policies, procedures, and regulatory mechanisms that the permittee ill 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: <u>https://dnr.wi.gov/topic/SurfaceWater/AdaptiveManagement.html</u>

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 nocontrols 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 that achieves at least 10% of the remaining reduction needed beyond baseline to achieve full compliance in TSS and a level of 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















- Storm Sewer System
 - Major Outfall and ID

Other Mapped Features

- ••••• Study Area Boundary
- Municipal Boundary
- Railroad Centerline
- - 303(d) Impaired Waters

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 ASSOCIATES, INC. 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.



2,000 Feet

MANAGEMENT PLAN VILLAGE OF KIMBERLY OUTAGAMIE COUNTY, WISCONSIN





MS4 Drainage System

- K1 Structural BMP ID
- •——• Storm Sewer System
 - Culvert

Sub-Watersheds

- 5
- Fox River
- Garners Creek

Other Mapped Features

- ---- Study Area Boundary
- ---- Municipal Boundary
- Right-of-Way
- ----- Railroad Centerline
- ·── Stream
 - Surface Water

Source: Outagamie County, 2015-21.

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 ASSOCIATES, INC. 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.



2,000 Feet



FIGURE 7 **STRUCTURAL BMPs** STORMWATER MANAGEMENT PLAN VILLAGE OF KIMBERLY OUTAGAMIE COUNTY, WISCONSIN





- Study Area Boundary
- Storm Sewer System

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OUTAGAMIE COUNTY, WISCONSIN








APPENDIX C

Public Education & Outreach

DRAFT WEB PAGE VILLAGE OF KIMBERLY

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
- Kids Can Help Too
- Vehicle Washing
- Lawn Care & Fertilizers
- Leaves & Yard Waste
- Residential Infiltration
- Streams & Shorelines
- Green Infrastructure
- Construction
- Household Waste
- Pool / Spa Discharge
- Power Washing
- Carpet Cleaning

- Topic 2 (Good-Dog-Good-Owner.pdf)
- Topic 3 (Kids-can-help-too.pdf)
- Topic 2 (Vehicle-Maintenance.pdf)
- Topic 3 (The-Perfect-Lawn.pdf)
- Topic 3 (Leave-Your-Leaves-on-Land.pdf)
- Topic 5 (The-Perfect-Landscape-7-9-19.pdf)
- Topic 4 (Restore-Your-Shore-extended-margins.pdf)
- Topic 6 & 8 (Green Infrastructure brochure final.pdf)
- Topic 6 (Construction-BMPs-Erosion-Sediment-Control.pdf)
- Topic 2 (Household-Hazardous-Waste.pdf)
- Topic 1 (Pool-Spa-Discharge.pdf)
- Topic 1 (Pour-spa-Discharge.pd
- Topic 1 (Power-Washing.pdf)
- 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 the Fox River and Garners Creek. 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 the Fox River and Garners Creek. 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 Fox River and Garners Creek, 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





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 <u>local waters through runoff.</u>

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



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 EXCERCISE

You may have heard that car 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!

Northeast Wisconsin Stormwater Consortium P.O. Box 1861 Appleton, WI 54912 | 920.915.5767



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

Renewourwaters.org



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.

> Northeast Wisconsin Stormwater Consortium P.O. Box 1861 Appleton, WI 54912 | 920.915.5767



Every choice counts.

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

Renewourwaters.org





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

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. over time. Any mower works, but a mulching mower shreds grass finely, so you don't have to be as careful about grass height.

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.

Northeast Wisconsin Stormwater Consortium P.O. Box 1861 Appleton, WI 54912 | 920.915.5767 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!



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 pickup times to prevent them from blowing away. Remove leaves and debris from the gutters and storm sewer inlets.

Northeast Wisconsin Stormwater Consortium

P.O. Box 1861 Appleton, WI 54912 | 920.915-5767



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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.

> Northeast Wisconsin Stormwater Consortium P.O. Box 1861 Appleton, WI 54912 | 920.915.5767



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

Renewourwaters.org





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

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. serious loss of natural shoreland habitat and poor water quality on thousands of lakes.

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

Stormwater is rain or snowmelt and water from things people do, like overwatering the lawn or washing the car. 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



Different 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 longterm 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



Protect Natural Features



- 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





- 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.

Construction Entrances





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.



Stormwater and the Construction Industry

Construction Phasing



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.

Maintain your BMPs! www.epa.gov/npdes/menuofbmps





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

Good

Dirt Stockpiles



• Cover or seed all dirt stockpiles.

Vegetative Buffers





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



Good

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

Storm Drain Inlet Protection



- 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.

Good







he 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)

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.envcap.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-permitees.

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.

Construction sites that discharge unpermitted stormwater are in violation of the Clean Water Act and may be subject to fines of up to \$27,500 a day per violation.

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.

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

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 bioretention 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
- Vegetate or cover stockpiles that will not be used immediately.
- Reduce the velocity of stormwater both onto 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. • Regularily 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.

Visit www.epa.gov/npdes/stormwater for more information.

soil at any given time is a highly effective way to prevent erosion. Erosion control measures designed to prevent soil from being mobilized include diversions to route stormwater away from exposed soils and stabilization with vegetation, mulch, and geotextiles. Sedimentation control measures designed to remove sediment from stormwater or prevent it from leaving the site include silt fences, sediment traps, and diversions. You'll need to select erosion and sediment controls—

Phasing your project to minimize the amount of exposed

including stabilization measures for protecting disturbed areas and structural controls for diverting runoff and removing sediment—that are appropriate for your particular site. The appropriateness of the control measures will depend on several factors, but will be influenced most directly by the site characteristics. Some stabilization measures you might consider are temporary seeding, permanent seeding, and mulching. Structural control measures include earth dikes, silt fences, and sediment traps. No single BMP will meet all of the erosion and sedimentation control needs of a construction site. A combination of BMPs is necessary For more information on the types of BMPs appropriate for your construction site, see the BMP fact sheet series available at www.epa.gov/npdes/menuofbmps.

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 transference 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 3 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
- 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 reoccurrence 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 costeffective 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!











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



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 curbline gutter or a paved street.

Do not fertilize prior to discharging pool water.

Discharging 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.

landscaping will allow water to soak into the earth.

water onto

grass or

PROTECT LOCAL WATERWAYS

If a pool or spa has been acid washed, the water may <u>not</u> 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.



Every choice counts.

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!





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!



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

Using biodegradable soap does not lessen its immediate environmental impact - it simply means that the soap will degrade in time. 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.

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!



every choice counts

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

0

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.

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D



FOX - WOLF WATERSHED ALLIANCE

For more information, visit: www.RenewOurWaters.org



APPENDIX D

Public Involvement & Participation



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

2

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Pollutants Causing Impairment





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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5



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Stormwater Pollutant Pathways CURB C INLET POLLUTANT PATHWAYS DRY-FALL TORM DRAIN MET-FALL PAVEMENT DE TERIORATION THE CURB TRAP @ TRE/ BRAKE PAD WEAR VEHICLE EMISSIONS 3 SNOW-PACK MELT 3 BLOW IN FROM PERVIOUS AREAS **McMAHON** KEY POLLUTANT DEPOSITION PATHWAYS ON THE STREET SURFACE 7

Permit Requirements

Public EducationPublic InvolvementIllicit Discharge Detection & EliminationConstruction Site Pollutant ControlPost-Construction Stormwater ManagementMunicipal Pollution PreventionStormwater Quality Management



WISCONSIN DEPT. OF NATURAL RESOURCES

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Public Education

Required: 6 Topics, 4 Delivery Mechanisms (Two Active)

Measurable Goals	2019	2020
1. Passive: Village Website (# hits)		
2. Passive: Brochures (# distributed / taken)		
3. Passive: Newsletter (# distributed each issue)		
4. Passive: Posters or Signs (# of posters / signs)		
5. Passive: Radio or TV (# of ads)		
6. Passive: Social Media (# of posts)		
7. Active: School Presentations / Exhibiting (# events, # attendees)		
8. Active: Training Events (# events, # participants)		
9. Active: Village Meetings / Bus Tours (# events, # attendees)		
10. Active: Volunteer Events (# events, # participants)		

9

Public Involvement

Measurable Goals	2019	2020
1. Public/Landowner Meetings (# meetings when stormwater was discussed).		
2. Public Meetings (# meetings when stormwater ordinance was discussed).		
3. Public Meetings (# attendees for MS4 Annual Report presentation).		
4. Volunteer Events (# participants).		
CMAHON JUNITED ACCHARGED		

10

Illicit Discharges

	Macourable Coole	2010	2020
	weasurable Goals	2019	2020
	1. Number of total MS4 outfalls.		
	2. Number of MS4 outfalls evaluated during routine ongoing field screening.		
	3. From routine field screening, number of confirmed illicit discharges.		
	4. Number of illicit discharge complaints received.		
	5. From complaints received, number of confirmed illicit discharges.		
	6. Number of identified illicit discharges eliminated during reporting year.		
	7. Number of verbal Warning Notices issued.		
	8. Number of written Warning Notices issued.		
	9. Number of Notices of Violation issued.		
M	10. Number of Civil Penalties / Citations issued.		

Construction Sites

Measurable Goals	2019	2020
1. Number of total active construction sites (> 1 acre) during reporting year.		
2. Number of constructions sites (> 1 acre) issued a permit.		
3. Number of construction site inspections performed by Village rep.		
4. Number of sites with no enforcement authority.		
5. Number of verbal Warning Notices issued.		
6. Number of written Warning Notices issued.		
7. Number of Notices of Violation issued.		
8. Number of Stop Work Orders issued.		
9. Number of Civil Penalties / Citations issued.		
10. Number of Forfeitures of Deposit (cash escrow, bond, letter of credit, etc.).		

Post-Construction Sites					
Measurable Goals	2019	2020			
1. Number of sites that received approval for a new structural stormwater facility.					
2. Number of privately owned stormwater facilities inspected.					
3. Number of sites with no enforcement authority.					
4. Number of verbal Warning Notices issued.					
5. Number of written Warning Notices issued.					
6. Number of Notices of Violation issued.					
7. Number of Civil Penalties / Citations issued.					
8. Number of Forfeitures of Deposit (cash escrow, bond, letter of credit, etc.).					
9. Number of sites with completed stormwater facility maintenance.					
10. Number of sites that Village performed maintenance & billed landowner.					

Pollution Prevention

Measurable Goals	2019	2020
1. Number of Village operated structural stormwater facilities.		
2. Number of new Village operated stormwater facilities installed.		
3. Number of Village operated stormwater facilities inspected.		
4. Of Village facilities inspected, number requiring maintenance.		
5. Number of Village properties required to have a SWPPP.		
6. Number of inspections of Village properties with a SWPPP.		
7. Frequency of street sweeping completed (March 29 to November 25).		
8. Tons of street sweeping waste collected.		
9. Number of catch basin sumps cleaned (March 29 to November 25).		
10. Tons of catch basin waste collected.		

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Pollution Prevention

Measurable Goals	2019	2020
11. If collection is offered, frequency of curbside leaf collection.		
12. Number of lane-miles for snow and ice control.		
13. Tons of salt applied (October to March).		
14. Tons of sand applied (October to March).		
15. Tons of salt / sand mix applied (October to March).		
16. Gallons of brine applied (October to March).		
17. Gallons of chem-melt applied (October to March).		
18. Gallons of beet juice applied (October to March).		
19. Gallons of pre-wetting compound applied (October to March).		
20. Number of Village employees trained during reporting year.		



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17





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19

APPENDIX E

Illicit Discharge Detection & Elimination



Village of Kimberly

515 W. Kimberly Avenue Kimberly, WI 54136 Phone: 920.788-7500

INFORMATION SUBMITTED BY THE PUBLIC

Complaint Submitted By:					
Name:	Anonymous Date:				
Address:					
Telephone: E-Mail:					
Should we contact you? Yes No					
Location of Complaint:					
Site Name (Project):	Construction Site ID No:				
Address / Location:					
Landowner Name:					
Description of Complaint: (check all that apply)					
Automobiles (fluid leak, car washing)	Storm Water Management (flooding, pond maintenance)				
Pet Waste	Illicit Discharge (spill / hazardous material)				
Household Hazardous Waste (dumping)	Illicit Discharge (improper waste disposal)				
Household Practices (garbage, recycling)	Illicit Discharge (dry weather flow / discharge)				
Fertilizers & Pesticides	Illicit Discharge (illegal plumbing connection)				
Leaves & Grass Clippings	Illicit Discharge (failing lateral / septic system)				
Stream & Shoreline Management (erosion)	Street Sweeping / Catch Basin Cleaning				
Residential (drainage, sump pump)	Streets, Potholes, Snow, Ice, & Deicers				
Construction Site Erosion Control	Other:				
Describe complaint:					
Description of Follow-Up Actions:					
Describe follow-up actions:					

Chapter 425. Stormwater Management and Erosion Control

Article IV. Illicit Discharge or Connection to Storm Sewers

[Adopted 11-5-2007 (Title 15, Ch. 9, of the 1988 Code)]

§ 425-39. Purpose and intent.

The purpose of this article is to provide for the health, safety, environment and general welfare of the citizens of the Village of Kimberly through the regulation of nonstormwater discharges into waters of the state or the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This article establishes methods for controlling the introduction of pollutants into waters of the state or the MS4 in order to comply with requirements of the Wisconsin Pollutant Discharge Elimination System (WPDES) permit process. The objectives of this article are: A.

To regulate the contribution of pollutants into waters of the state or the MS4 by stormwater discharges by any user.

Β.

To prohibit illicit connections and discharges into waters of the State of Wisconsin or the MS4.

C.

To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement procedures necessary to ensure compliance with this article.

§ 425-40. Definitions.

The following definitions shall be applicable in this article:

AUTHORIZED ENFORCEMENT AGENCY

Employees or designees of the Street Commissioner or the municipal agency designated to enforce this article.

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 of Wisconsin.

CONSTRUCTION ACTIVITY

Activities subject to Village of Kimberly construction permits per erosion control and stormwater management ordinances or WPDES construction permits per Ch. NR 216, Wis. Adm. Code, and Ch. 283, Wis. Stats.

CONTAMINATED STORMWATER

Stormwater that comes into contact with material-handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products or industrial machinery in the source areas listed in Ch. NR 216, Wis. Adm. Code.

DEPARTMENT (DNR)

The Wisconsin Department of Natural Resources.

DISCHARGE

As defined in Ch. 283, Wis. Stats., when used without qualification includes a discharge of any pollutant.

DISCHARGE OF POLLUTANT or DISCHARGE OF POLLUTANTS

As defined in Ch. 283, Wis. Stats., any addition of any pollutant to the waters of this state from any point source.

HAZARDOUS MATERIAL

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.

ILLICIT CONNECTION

Either of the following:

Α.

Any drain or conveyance, whether on the surface or subsurface, that allows an illicit discharge to enter waters of the state or the MS4, including, but not limited to, any conveyances that allow any nonstormwater discharge including sewage, process wastewater, and wash water to enter waters of the state or the MS4 and any connections to waters of the state or 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

Β.

Any drain or conveyance connected from a commercial or industrial land use to waters of the state or the MS4 which has not been documented in plans, maps or equivalent records and approved by an authorized enforcement agency.

ILLICIT DISCHARGE

Any discharge into waters of the state or a municipal separate storm sewer system that is not composed entirely of stormwater. Nonstormwater discharges that are not considered illicit discharges include waterline 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 Street Commissioner as a significant source of pollutants to waters of the state.

INDUSTRIAL ACTIVITY

Activities subject to WPDES industrial permits per Ch. NR 216, Wis. Adm. Code, and Ch. 283, Wis. Stats.

MAXIMUM EXTENT PRACTICABLE (MEP)

A level of implementing management practices in order to achieve a performance standard or other goal which takes into account the best available technology, cost-effectiveness and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties and geographic features.

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.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

As defined in Ch. NR 216, Wis. Adm. Code, a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, construction channels or storm drains, which meets all of the following criteria:

Α.

Owned or operated by a municipality.

Β.

Designed or used for collecting or conveying stormwater.

C.

Not a combined sewer conveying both sanitary sewage and stormwater.

D.

Not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.

NONSTORMWATER DISCHARGE

Any discharge to the MS4 that is not composed entirely of stormwater.

OUTFALL

The point at which stormwater is discharged to waters of the state or to a storm sewer.

OWNER

Any person holding fee title, an easement or other interest in property.

PERSON

An individual, owner, operator, corporation, partnership, association, municipality, interstate agency, state agency or federal agency.

POLLUTANT

As defined in Ch. 283, Wis. Stats., 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.

POLLUTION

As defined in Ch. 283, Wis. Stats., any man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of water.

POLLUTION PREVENTION

Taking measures to eliminate or reduce pollution.

PREMISES

Any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips.

STORMWATER

Runoff from precipitation including rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow.

STORMWATER MANAGEMENT PLAN or STORMWATER 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 waters of the state or the MS4 to the maximum extent practicable.

WASTEWATER

Any water or other liquid, other than uncontaminated stormwater, discharged from a facility. **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 the Village of Kimberly, 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.

WATERS OF THE STATE

As defined in Ch. 283, Wis. Stats., those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, 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.

WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM (WPDES) STORMWATER DISCHARGE PERMIT

A Wisconsin pollutant discharge elimination system permit issued pursuant to Ch. 283, Wis. Stats.

§ 425-41. Applicability.

This article shall apply to all water and discharges entering waters of the state or the MS4 generated on any lands, unless explicitly exempted by the Street Commissioner.

§ 425-42. Responsibility for administration.

The Street Commissioner shall administer, implement, and enforce the provisions of this article. Any powers granted or duties imposed upon the Street Commissioner may be delegated in writing by the Street Commissioner to persons or entities acting in the beneficial interest of or in the employ of the authorized enforcement agency.

[1]

Editor's Note: Amended at time of adoption of Code (see Ch. 1, General Provisions, Art. II).

§ 425-43. Compatibility with other regulations.

This article is not intended to modify or repeal any other ordinance, rule, regulation or other provision of law. The requirements of this article are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this article 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.

§ 425-44. Ultimate responsibility.

The standards set forth herein and promulgated pursuant to this article are minimum standards; therefore, this article does not intend or imply that compliance by any person will ensure that there will be no contamination, pollution or unauthorized discharge of pollutants.

§ 425-45. Discharge prohibitions.

Α.

Prohibition of illicit discharges. No person shall throw, dump, spill, drain or otherwise discharge, cause or allow others under its control to throw, dump, spill, drain or otherwise discharge into waters of the state or the MS4 any pollutants or waters containing any pollutants, other than stormwater.

Β.

Allowed discharges.

(1)

The following discharges shall be allowed:

(a)

Waterline 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, and discharges authorized under a WPDES permit unless identified by the Street Commissioner as a significant source of pollutants to waters of the state.

(b)

Discharges or flow from firefighting, and other discharges specified in writing by the Street Commissioner as being necessary to protect public health and safety.

(c)

Discharges associated with dye testing; however, this activity requires a verbal notification to the Street Commissioner and the Wisconsin Department of Natural Resources a minimum of one business day prior to the time of the test.

(2)

Any nonstormwater discharges permitted under a construction activity permit, industrial activity permit, or WPDES permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Street Commissioner prior to allowing discharges to waters of the state or the MS4.

C.

Prohibition of illicit connections.

(1)

The construction, use, maintenance or continued existence of illicit connections to waters of the state or the MS4 is prohibited.

(2)

This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connections are permissible under law or practices applicable or prevailing at the time of connection.

(3)

A person is considered to be in violation of this article if the person connects a line conveying sewage to waters of the state or the MS4, or allows such a connection to continue.

(4)

Improper connections in violation of this article must be disconnected and redirected, if necessary, to an approved on-site wastewater management system or the sanitary sewer system upon approval of the Street Commissioner.

(5)

Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to waters of the state or the MS4, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the Street Commissioner 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 Street Commissioner.

§ 425-46. 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 free of soil erosion, trash, debris 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.

§ 425-47. Compliance monitoring.

Α.

Right of entry; inspecting and sampling. The Street Commissioner shall be permitted to enter and inspect properties and facilities subject to regulation under this article as often as may be necessary to determine compliance with this article.

(1)

If a property or facility has security measures in force which require proper identification and clearance before entry into its premises, the owner or operator shall make the necessary arrangements to allow access to representatives of the Street Commissioner.

(2)

Facility owners and operators shall allow the Street Commissioner ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records.

(3)

The Street Commissioner shall have the right to set up on any property or facility such devices as are necessary, in the opinion of the Street Commissioner, to conduct monitoring and/or sampling of the facility's stormwater discharge.

(4)

The Street Commissioner has the right to require the owner or operator to install monitoring equipment as necessary and make the monitoring data available to the Street Commissioner. 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.

(5)

Any temporary or permanent obstruction to safe and easy access to the property or facility to be inspected and/or sampled shall be promptly removed by the owner or operator at the written or oral request of the Street Commissioner and shall not be replaced. The costs of clearing such access shall be borne by the owner or operator.

(6)

Unreasonable delay in allowing the Street Commissioner access to a facility is a violation of this article. A person who is the operator of a facility commits an offense if the person denies the Street Commissioner reasonable access to the facility for the purpose of conducting any activity authorized or required by this article.

В.

Special inspection warrant. If the Street Commissioner has been refused access to any part of the premises from which stormwater is discharged, and the Street Commissioner is able to demonstrate probable cause to believe that there may be a violation of this article 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 article or any order issued hereunder or to protect the overall public health, safety, environment and welfare of the community, then the Street Commissioner may seek issuance of a special inspection warrant per § 66.0119, Wis. Stats., and Village of Kimberly ordinances.

§ 425-48. Best management practices.

The owner or operator of any activity, operation or facility which may cause or contribute to pollution or contamination of stormwater shall provide, at its own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into waters of the state or the MS4 through the use of 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 waters of the state or the MS4. Compliance with all terms and conditions of a valid permit authorizing the discharge of stormwater associated with industrial activity or construction activity, to the maximum extent practicable, shall be deemed compliance with the provisions of this section.

§ 425-49. Notification of spills.

Α.

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 so as to minimize the impacts of the discharge.

Β.

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 and shall also notify the Street Commissioner. In the event of a release of nonhazardous materials, said person shall notify the Street Commissioner in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the Street Commissioner within 48 hours of the telephone 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 record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least five years.

C.

Failure to provide notification of a release as provided above is a violation of this article.

§ 425-50. Enforcement; violations and penalties.

Α.

Violations.

(1)

Violations of article. It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this article. Any person who has violated or continues to violate the provisions of this article may be subject to the enforcement actions outlined in this section or the violation may be restrained by injunction or otherwise abated in a manner provided by law.

(2)

Emergency abatement. In the event the violation constitutes an immediate danger to public health or public safety, the Street Commissioner 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 Street Commissioner is authorized to seek costs of the abatement as outlined in § **425-53**.

Β.

Warning notice. When the Street Commissioner finds that any person has violated or continues to violate any provision of this article or any order issued hereunder, the Street Commissioner may serve upon that person a verbal or 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 this subsection shall limit the authority of the Street Commissioner to take action, including emergency action or any other enforcement action, without first issuing a warning notice.

C.

Notice of violation.

(1)

Compliance order. Whenever the Street Commissioner finds that a person has violated a prohibition or failed to meet a requirement of this article, the Street Commissioner may order compliance by written notice of violation to the responsible person.

(2)

Notice of violation. 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 article 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 Street Commissioner by filing a written notice of appeal within three business days of service of notice of violation; and

(g)

A statement specifying that, should the violator fail to restore compliance within the established time schedule, representatives of the Street Commissioner may issue a notice of intent to the responsible party of their intent to perform work necessary to comply with this article. The Street Commissioner may go on the land and commence the work after issuing the notice of intent. The Street Commissioner is authorized to seek costs of the abatement as outlined in § **425-53**.

(3)

Notice requirements. Such notice may require without limitation:

(a)

The performance of monitoring, analyses and reporting;

(b)

The elimination of illicit connections or discharges;

(c)

That violating discharges, practices or operations shall cease and desist;

(d)

The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(e)

Payment of a fine to cover administrative and remediation costs; and

(f)

The implementation of BMPs.

D.

Suspension of MS4 access.

(1)

Emergency cease and desist orders.

(a)

When the Street Commissioner finds that any person has violated or continues to violate any provision of this article 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 state which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the Street Commissioner may issue an order to the violator directing it immediately to cease and desist all such violations and directing the violator to immediately comply with all requirements of this article and 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.

(b)

In the event of a discharger's failure to immediately comply voluntarily with the emergency order, the Street Commissioner may take such steps as deemed necessary to prevent or minimize harm to the MS4 or waters of the state 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 Street Commissioner may allow the person to recommence its discharge when it has demonstrated to the satisfaction of the Street Commissioner that the period of endangerment has passed, unless further termination proceedings are initiated against the discharger under this article.

(C)

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 Street Commissioner within 30 days of receipt of the prerequisite form.^[1]

[1]

Editor's Note: Amended at time of adoption of Code (see Ch. 1, General Provisions, Art. II).

(2)

Suspension due to illicit discharges in emergency situations. The Street Commissioner 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 Street Commissioner may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the state, or to minimize danger to persons.

(3)

Suspension due to the detection of illicit discharge.

(a)

Any person discharging to the MS4 in violation of this article may have his MS4 access terminated if such termination would abate or reduce an illicit discharge. The Street Commissioner will notify a violator of the proposed termination of its MS4 access.

(b)

A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section without the prior approval of the Street Commissioner.

Ε.

Prosecution and penalties.

(1)

Forfeitures. Any person violating any provision of this article shall be subject to a forfeiture of not less than \$50 nor more than \$500 and the costs of prosecution for each violation. Each day a violation exists shall constitute a separate offense.

(2)

Injunction. Compliance with the provisions of this article 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 injunctional proceedings.

§ 425-51. Appeals.

Α.

Board of Appeals authority.

(1)

The Board of Appeals created pursuant to § **14-3** of this Code, pursuant to § 62.23(7)(e), Wis. Stats.: (a)

Shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the Street Commissioner in administering this article except for cease and desist orders obtained under § **425-50**;

(b)

Upon appeal, may authorize variances from the provisions of this article which are not contrary to the public interest and where, owing to special conditions, a literal enforcement of the provisions of this article will result in unnecessary hardship; and

(C)

Shall use rules, procedures, duties and powers authorized by statute in hearing and deciding appeals and authorizing variances.

(2)

This section does not apply to determinations made regarding this article in either Municipal Court or Circuit Court. In such circumstances, the appeals procedure shall be that set forth for appealing Municipal Court decisions and/or Circuit Court decisions, as applicable.

В.

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 Kimberly affected by any decision of the Street Commissioner.

§ 425-52. 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 appropriate authority upheld the decision of the Street Commissioner, then representatives of the Street Commissioner may issue a notice of intent to the responsible party of their intent to perform work necessary to comply with this article. The Street Commissioner may go on the land and commence the work after issuing the notice of intent. The Street Commissioner is authorized to seek costs of abatement as outlined in § **425-53**. 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.

§ 425-53. Cost of abatement.

The costs of the work performed by the Street Commissioner pursuant to this article, plus interest at the rate authorized by the Village Board, shall be billed to the responsible party. In the event a responsible party fails to pay the amount due, the Administrator shall enter the amount due on the tax rolls and collect as a special assessment against the property pursuant to Subch. VII of Ch. 66, Wis. Stats.

[1]

Editor's Note: Amended at time of adoption of Code (see Ch. 1, General Provisions, Art. II).

§ 425-54. Violations deemed a public nuisance.

Any condition in violation of any of the provisions of this article, and declared and deemed a nuisance, may be summarily abated or restored at the violator's expense.

§ 425-55. Remedies not exclusive.

Α.

The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law, and it is within the discretion of the Street Commissioner to seek cumulative remedies.

Β.

The Street Commissioner may recover all attorneys' fees, court costs and other expenses associated with enforcement of this article, including sampling and monitoring expenses.

§ 425-56. Limitation on municipality responsibility.

Nothing in this article creates or imposes, nor shall be construed to create or impose, any greater obligation or responsibility on the Village than those minimum requirements specifically required by the Wisconsin Statutes and Wisconsin Department of Natural Resources regulations.

Technical Reference Guide

Illicit Discharge Detection & Elimination



Prepared for the VILLAGE OF KIMBERLY OUTAGAMIE COUNTY, WISCONSIN



MARCH 1, 2021

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Illicit Discharge Detection & Elimination



Prepared for the VILLAGE OF KIMBERLY OUTAGAMIE COUNTY, WISCONSIN

MARCH 1, 2021 McM. No. K0001-09-21-00116

TABLE OF CONTENTS

- 1. INTRODUCTION
- 2. ON-GOING OUTFALL FIELD SCREENING
- 3. ROUTINE INSPECTIONS
- 4. RESPONDING TO ILLICIT DISCHARGES
- 5. ENFORCEMENT ACTIONS
- 6. INFORMATION SUBMITTED BY THE PUBLIC

List of Appendices

Appendix E - Tables, Figures & Attachments



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Illicit Discharge Detection & Elimination



Prepared for the VILLAGE OF KIMBERLY OUTAGAMIE COUNTY, WISCONSIN

MARCH 1, 2021 McM. No. K0001-09-21-00116

1. INTRODUCTION

The Village of Kimberly 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's Director of Operations 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 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 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 48hours 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.

Technical Reference Guide

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 <u>MUST</u> 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 <u>MUST</u> be documented, in accordance with the Village's WPDES permit:

 Odor, color, turbidity, floatables (oil sheen, surface scum, suds), and any other relevant coldweather 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 nonflowing 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 performing the routine plumbing inspections. The Director of Operations is responsible for performing 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's Director of Operations 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 Director of Operations is notified. The Director of Operations 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:

Technical Reference Guide

Director of Operations, 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's Director of Operations 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 Director of Operations 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's Director of Operations 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
STEP	STRATEGIES
Step 1: Acquire necessary	 Use municipal separate storm sewer system (MS4) map.
mapping, equipment and staff	 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	 During dry season, if possible. Leaf-off conditions may
conduct field screening	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	 Outfalls located within the Village's MS4 jurisdiction and
conduct field screening	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	 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	 Compile GPS data and photographs of outfalls.
screening	 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	 Use compiled data to designate outfalls as having
outfalls	obvious, suspect, potential, or unlikely discharge
	potential.
Step 7: Characterize the extent	 Use major outfall designation data.
of illicit discharge problems	 Characterize extent of illicit discharge problems as
	minimal, clustered or severe.
Step 8: Revise on-going	 Use on-going field screening of outfalls and routine
monitoring strategy, as needed	inspections of plumbing systems, septic systems,
	sanitary sewers, and storm sewers.

TABLE E-1: ONGOING FIELD SCREENING STEPS

QUANTITY	ITEM
1	Backpack or Carrying Case
Enough for each item	Batteries (for flashlight, camera, GPS unit, etc)
requiring batteries	
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

TABLE E-2: FIELD SCREENING EQUIPMENT & SUPPLY LIST

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

	SEVERITY RANKING					
SENSORY INDICATOR	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".			

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-4: OUTFALL DESIGNATION DESCRIPTIONS

	TASK	DESCRIPTION	FREQUENCY
	On-Going Field	Includes all outfalls. Use same	Priority Outfalls: Once Every Year
	Screening of Outfalls	procedure used for initial field	Major Outfalls: Once Every 5 Years
		screening of major outfalls.	Minor Outfalls: Once Every 5 Years
_			
	Routine Plumbing	Visually inspect plumbing	Once every ± 10 Years
	Inspections	systems when a building permit	
		is issued, a building changes	
		ownership, or a water meter is	
		changed.	
-			
	Routine Septic System	Require private septic system	Once Every ± 3 Years (if any)
	Inspections	owners to hire a licensed septic	
		company for an inspection as	
		part of routine septic system	
		maintenance and pumping.	
-			
	Routine Sanitary	Visually inspect and/or televise	± 10% of System Every Year
	Sewer Inspections	sanitary sewers during wet	-or-
		weather to search for	100% of System Every ± 10 Years
		infiltration and inflow (I & I)	
-		sources and sanitary leakage.	
	Routine Storm Sewer	Visually inspect and/or televise	Before an Urban Street
	Inspections	storm sewers during dry	Is Reconstructed or When a Storm
		weather to search for illicit	Sewer Is Cleaned
		discharges, cross connections,	
		and structural problems.	

TABLE E-5: ON-GOING FIELD SCREENING & ROUTINE INSPECTIONS

		CATOR DENCIN	
PARAMETER	BENCHMARK LEVEL	ILLICIT SOURCES	NON-ILLICIT SOURCES
Ammonia	0.1 mg/l	Sanitary sewerage and	Pets, wildlife and
		industrial wastewater	potentially WPDES
			permitted discharges
Detergents	0.5 mg/l	Industrial cleansers,	Residential car washing
		commercial wash	
		water and sanitary	
		sewerage	
рН	Less than 6 or	Industrial wastewater	Groundwater and
	greater than 9	and concrete truck	WPDES permitted
		wash-out	discharges
Total Chlorine	Detection or positive	Industrial wastewater,	WPDES permitted
	test unless	swimming pools and	discharges
	associated with a	sanitary sewerage	_
	WPDES permitted		
	discharge at		
	background water		
	supply levels		
Total Copper	0.1 mg/l	Copper-based product	WPDES permitted
		use and manufacturing	discharges
Phenol	Detection or positive	Chemical, textile, paint,	None
	test	resin, tire, plastic,	
		electronics and	
		pharmaceutical	
		manufacturing	
Fluoride	Detection above	Commercial and	Groundwater and
	background	industrial wastewaters	WPDES permitted
	groundwater or	with a water supply	discharges
	water supply levels	component	
Potassium	10 mg/l	Sanitary sewerage and	Groundwater and
		industrial wastewater	WPDES permitted
	40.000 MEN // 00.		discharges
E. COII	10,000 MIPN/100 mL	Sanitary sewerage	wildlife and pets
Human	Detection or positive	Sanitary sewerage	None
Bacteriodes	test		

TABLE E-6: CHEMICAL INDICATOR BENCHMARK LEVELS

	DISCHARGE TYPE DETECTED				
PARAMETER	SEWAGE	WASH WATER	TAP WATER	INDUSTRIAL OR COMMERCIAL LIQUID WASTES	ANALYTIC METHOD
Ammonia	Good	Sometimes an	Poor	Sometimes an	Test Strip ²
	Indicator	Indicator	Indicator	Indicator	
Boron	Sometimes an Indicator	Sometimes an Indicator	Poor Indicator	Unknown	Laboratory (Spectro- photometer)
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	Sometime s 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	Sometime s 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)

TABLE E-7: INDICATOR PARAMETERS

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.

 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).

TECHNIQUE	DESCRIPTION	SAFETY /
Dye Testing	 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. 	 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	 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. 	 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	 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. 	 Carry a letter to document legal authority to gain access to the property, if necessary.

TABLE E-8: ON-SITE INVESTIGATIVE TECHNIQUES

CONTACT	NAME	TITLE	PHONE #
Emergency			911
MS4 Operator	Allyn Dannhoff	Director of Operations	920-788-7500
Fire Department		Fire Chief	920-788-7500
Police Department		Fox Valley Metro Police Department	920-788-7505
Public Works Department	Allyn Dannhoff	Director of Operations	920-788-7500
24-Hour Contact			920-788-7500
Village / City Hall	Danielle Block	Administrator	920-788-7500
DNR Spill Hotline			1-800-943-0003
DNR NE Region Spills Coordinator	Maizie Reif	Spills Coordinator	920-360-4291
County Emergency Management Director	Paula Rieder	Emergency Management Director	920-832-6361
Area Hazmat Team	Paula Rieder	Emergency Management Director	920-832-6361
Village of Combined Locks	Ryan Swick	Public Works Foreman	920-788-7744
Town of Buchanan	Maggie Mahoney	Administrator	920-734-8599
City of Appleton	Sue Olson	Project Engineer	920-832-6473

TABLE E-9: LOCAL CONTACTS

SITE	
Vehicle Operations (maintenance, repair	Dumping fluids into storm drains
fueling washing storage)	 Evel snills leaks and drins
	 Wash-down of work areas
	 Other spills
Outdoor Storage and Loading/Unloading	 Spills at loading/unloading areas
	 Wash-down of loading/unloading areas
	 Leaks and spills of stored liquids
Waste Management	 Leaks and spills of liquids
Waste Management	 Dumping fluids or debris into storm drains
	 Leaking dumpsters
Physical Plants (building repair and	 Discharge from washing and steam
maintenance, parking lot maintenance)	cleaning
	 Runoff from degreasing and re-surfacing
Turf & Landscaping	 Irrigation runoff
1 0	 Improper rinsing of fertilizer/pesticide
	applicators
Unique "Hotspots" (municipal or country club	 Discharge of chlorinated pool water
pools, golf courses, marinas, construction	 Dumping of sewage and grease
sites, restaurants, hobby farms)	

TABLE E-10: GENERATING SITES & COMMON DISCHARGES



(Page 1 of 2)

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:	Longitu	ıde:	GPS Unit:	GPS LMK #:
Camera:			Photo #'s:	
Land Use In Drainage Area (check al	l that app	ply):		
Industrial		Open Space		
🗌 Urban - Urban Residential		Institutional		
Suburban Residential		Other:		
		Known Industries:		
Notes (e.g., origin of outfall, if known):				

Section 2: Outfall Description

Location	Material	Shape	Dimension (in.)	Submerged
Closed Pipe	RCP CMP	Circular Single	Diameter / Dimensions:	In Water:
	PVC HDPE	Elliptical Double		🗌 No
	Steel	Box Triple		Partially
	Other:	Other: Other:		Fully
🗌 Open	Concrete	Trapezoid	Depth:	With Sediment:
Drainage	Earthen	Parabolic	Top Width:	🗌 No
	🗌 Rip-Rap	Other:	Bottom Width:	Partially
	Other:			🗌 Fully
In-Stream	(applicable when collecting	ng samples)		
Flow Present?	Yes No	If No, skip to Section 5.		
Flow Description (if present)	Trickle Mod	lerate 🗌 Substantial		

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS								
Parameter		Result		Unit	Equipment			
Flow #1	Volume			Liter	Bottle			
	Time to Fill			Second				
☐ 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

MCMAHON ENGINEERS ARCHITECTS

Figure E-1

(Page 2 of 2) **OUTFALL FIELD SCREENING WORKSHEET**

Section 4: Physical Indicators For Flowing Outfalls Only Are any physical indicators present in the flow? \Box Yes \Box No (If No, Skip To Section 5)

				1			
		Noticeable From A Distance	Clearly Visible in Outfall Flow	Opaque	Some; origin clear (e.g., obvious oil	sheen, suds or float- ing sanitary material	Significant
1-3)		3	3	3] 3		3
ve Severity Index (1		Easily Detected	Clearly Visible in Sample Bottle	Cloudy	Some, indications of origin; (e.g.,	possible suds or oil sheen)	Moderate
Rela		2	2		2		2
		Faint	Faint Colors in Sample Bottle	Slight Cloudiness	Few / Slight; origin not	obvious	Slight
					\Box		
		um / Gas	Tellow		Surface Scum		□ "Rime Ice"
Description		r 🗌 Petrol	Gray Red	everity	🔲 Suds	Other:	coloration
		Cancid / Sour	☐ Brown □ Orange	See St	Foilet Paper, etc.) 1 (oil sheen)		□ Ice Disc
		Sewage Sulfide	Clear Green Other:		Sewage (Ice Melt
Check	If Present						
Indicator		Odor	Color	Turbidity	Floatables	(Does Not Include Trash)	Cold Weather

Section 5: Physical Indicators For Both Flowing & Non-Flowing Outfalls

ا No (Jf No, Skip To Section 6) المراقع	cription Comments		ping	Paint		Toatables Oil Sheen Algae	Green	
o Section 6)			eling Paint			Oil Sheen		
elated to flow present? 🗌 Yes 📙 No (If No, Skip To	Description	1	Spalling, Cracking Or Chipping Corrosion	Oily Flow Line Paint	Excessive Inhibited	Odors Colors Floatables Suds Excessive Algae Other:	Drown Orange Green Other:	
s that are not re	Check	If Present						
Are physical indicators	Indicator		Outfall Damage	Deposits / Stains	Abnormal Vegetation	Poor Pool Quality	Pipe Benthic Growth	

Section 6: Overall Outfall Characterization

Obvious
\Box Suspect (one or more indicators with a severity of 3)
ential (presence of two or more indicators)
□ Unlikely □ Pote

Section 7: Data Collection

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2. If Yes, Collected From:

3. Intermittent Flow Trap Set?

No I No

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs?)

Comments:

No

□ Yes

W:\WP\Correspondence\L0001\950251-Figure E-1.doc

Yes Yes Yes

Wisconsin DNR – Hazardous Substance Spills



February 2021

Remediation and Redevelopment Program

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.

DNR Field Response

DNR Wardens and Regional Spill Coordinators

The DNR encourages the public to report hazardous substance spills using the 24-hour toll-free hotline: 1-800-943-0003

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 pubic 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)

This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts. This publication is available in alternative format (large print, Braille, etc.) upon request. Please call for more information. Note: If you need technical assistance or more information, call the Accessibility Coordinator at 608-267-7490 / TTY Access via relay - 711.

Wisconsin DNR - Hazardous Substance Spills

Remediation and Redevelopment Program

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 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. <u>Do not wait</u> 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/whenare-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 <u>contact</u> <u>information</u>, visit <u>dnr.wi.gov</u>, <u>search "Spills"</u>.

APPENDIX F

Construction Site Pollutant Control

Construction Site Erosion Control Permit

Protecting Our Lakes, Rivers & Streams

The Village of Kimberly is required by the Wisconsin Department of Natural Resources to reduce the amount of stormwater pollutants discharging into the Fox River and Garners Creek. Stormwater pollutants include sediment, phosphorus, bacteria, heavy metals, motor oil, toxins, solvents, pesticides, litter and other pollutants.

Decreasing the amount of sediment and phosphorus is anticipated to improve water clarity and reduce algae blooms in the Fox River and Garners Creek. Reduced algae will increase the amount of oxygen available for fish and aquatic species survival. Also, greater water clarity and decreased algae will improve recreational opportunities and scenic beauty.



FOX RIVER: SEDIMENT & POOR WATER CLARITY

The Village's storm sewer system is a network of underground pipes and catch basins that carry stormwater pollutants directly to the Fox River and Garners Creek. The below Watershed Map depicts the drainage divide for the Village's storm sewer system. As shown on the Watershed Map, the majority of the Village discharges to the Fox River. The Village's Construction Site Erosion Control Ordinance requires the use of best management practices (BMPs) to reduce soil erosion and pollutant discharges from a construction site.



Frequently Asked Questions:

When is compliance required?

Ordinance compliance is required for all construction sites located within the Village.

Who is responsible for compliance?

Landowners, developers, builders, contractors, subcontractors, landscapers, utility companies and other persons involved with a construction site are responsible for ordinance compliance.

When is a Village permit required?

The Village's ordinance requires an erosion control permit for construction sites with 4,000 square feet or more of land disturbance. Although a permit is not typically required for construction sites with less than 4,000 square feet of land disturbance, ordinance compliance is still required.

What is required by the ordinance?

The Village's ordinance requires implementation and maintenance of best management practices (BMPs).

- Non-Permitted Site Refer to the list of required BMPs for a non-permitted construction site.
- Permitted Site In addition to the BMPs required for a non-permitted site, a written erosion and sediment control plan is required for a permitted site. If the site has 1 acre or more of land disturbance, the site also needs to comply with a maximum 5 ton per acre per year sediment performance standard.



BMPs Required for Non-Permitted Site

- Do not track soil onto streets by vehicles.
- Do protect storm inlets from sediment.
- Do protect adjacent streams, rivers, lakes and wetlands from sediment.
- Do protect storm sewers, culverts and ditches that carry runoff off the site.
- Do not discharge sediment during site dewatering activities.
- Do protect soil stockpiles that exist for more than 7 days from erosion.
- Do not discharge chemicals, cement and other building materials into storm sewers, ditches, streams, rivers, lakes and wetlands.





VILLAGE OF KIMBERLY

426 W. Kimberly Avenue Kimberly, WI 54136 PH 920.788.7507 FAX 920.788.7509 www. vokimberly.org



Village of Kimberly

515 W. Kimberly Avenue Kimberly, WI 54136 Phone: 920.788-7500

EROSION CONTROL AND STORMWATER MANAGEMENT PERMIT APPLICATION

Applicant Information							
Applicant Name (Indiv., Org. or Entity)	Aut	Authorized Representative			Title		
Mailing Address	City	City			State	Postal Code	
E-mail Address	Tel	ephone (include	e area code)	F	ax (includ	e area code)	
Landowner Information (if different than Applicant)							
Name (Organization or Entity)	Cor	Contact Person			Title		
Mailing Address	City	у		ę	State	Postal Code	
E-mail Address	Tel	ephone (include	e area code)	F	Fax (include area code)		
Other Contact Information (check one):	er / Co	onsultant	Contractor / E	Builder	Agent / Other		
Name (Organization or Entity)	Cor	ntact Person		٦	Telephone (include area code)		
Mailing Address	City	/		ę	State	Postal Code	
Project or Site Location	1						
Site Name (Project):			Parcel Num	bers:			
Address / Location:		Plat / CSM / Lot No.).:		
Quarter: NW NE SW SE	Sectio	Section: Township:			Ν	Range:	E
Permit Type & Fees (check all that apply)							
□ Erosion Control < 1 acre or 43,560 sq.ft. Disturbed Area (EC1)						1) 2)	
Total Disturbed Area sq.ft. x \$0.0002 / sq.ft. (EC2) = \$							
Disturbed Impervious Area			sq.ft. x \$	0.0025 / s	sq.ft. (SM2) = \$	
Base Fe	ee: \$	200 (EC1), \$250	0 (EC2), \$200	0 (SM1), \$	500 (SM2) = \$	
Total Application Fee = \$						e = \$	
Duration of Land Disturbance			weeks x \$2	5 / week (EC1, EC2) = \$	
Start Date	Base Fee: \$250 (EC2), \$500 (SM2) = \$) = \$		
End Date	Date				ection Fee	e = \$	
Certification & Permission							
Certification:I hereby certify that I am the landowner of the property which is the subject of this Permit Application.I certify that the information contained in this form and attachments is true and accurate.I understand that failure to comply with any or all of the provisions of the ordinances and/or permit may result in notices, fines / forfeitures, stop work orders, permit revocation, and cease & desist orders.Permission:As landowner of the property, I hereby give the permit authority permission to enter and inspect the property to evaluate this permit application, to determine compliance with the ordinances, and to perform corrective actions after issuing proper notice to the landowner.Applicant SignatureDate Signed							
Landowner Signature (required)		Date			Signed		
LEAVE BLANK	– FC	R MUNICIP	AL USE O	NLY			
Date Application Received:		Fee Received \$			Receipt No:		
Construction Site ID / Permit No:		Date Issued:			Issued By:		

CERTIFICATE OF PERMIT COVERAGE
EOR EFOR STORMWATER MANAGEMENT PERMIT
Under Chapter(s) of the Village of Kimberly ordinance, landowners of construction sites are required to post this certificate in a conspicuous place at the construction site. This certifies that the site has been granted Erosion Control and/or Stormwater Management Permit coverage by the Village of Kimberly. The permit requires the landowner to implement and maintain erosion and/or sediment control practices to limit/reduce the amount of sediment being transported off-site and into streets, storm sewers, ditches, streams, rivers, lakes and wetlands.
EROSION CONTROL COMPLAINTS
Should be reported to the Village of Kimberly Tip Line at
Please provide the following information to the Tip Line:
Construction Site I.D. No.:
Site Name (Project):
Address/Location:
Additional Information:
Landowner Name:
Landowner's Contact Person:
Contact Telephone Number:
Permit Start Date:



Village of Kimberly

515 W. Kimberly Avenue Kimberly, WI 54136 Phone: 920.788-7500

INFORMATION SUBMITTED BY THE PUBLIC

Complaint Submitted By:					
Name:	Anonymous Date:				
Address:					
Telephone: E-Mail:					
Should we contact you? Yes No					
Location of Complaint:					
Site Name (Project):	Construction Site ID No:				
Address / Location:					
Landowner Name:					
Description of Complaint: (check all that apply)					
Automobiles (fluid leak, car washing)	Storm Water Management (flooding, pond maintenance)				
Pet Waste	Illicit Discharge (spill / hazardous material)				
Household Hazardous Waste (dumping)	Illicit Discharge (improper waste disposal)				
Household Practices (garbage, recycling)	Illicit Discharge (dry weather flow / discharge)				
Fertilizers & Pesticides	Illicit Discharge (illegal plumbing connection)				
Leaves & Grass Clippings	Illicit Discharge (failing lateral / septic system)				
Stream & Shoreline Management (erosion)	Street Sweeping / Catch Basin Cleaning				
Residential (drainage, sump pump)	Streets, Potholes, Snow, Ice, & Deicers				
Construction Site Erosion Control	Other:				
Describe complaint:					
Description of Follow-Up Actions:					
Describe follow-up actions:					

Article II. Construction Site Erosion Control

§ 425-10. Authority.

- A. This article is adopted under the authority granted by § 61.354, Wis. Stats. This article supersedes all provisions of an ordinance previously enacted under § 61.35, Wis. Stats., that relate to construction site erosion control. Except as otherwise specified in § 61.354 Wis. Stats., § 61.35, Wis. Stats., applies to this article and to any amendments to this article.
- B. The provisions of this article are deemed not to limit any other lawful regulatory powers of the same governing body.
- C. The Village Board hereby designates the Building Inspector and Director of Operations to administer and enforce the provisions of this article.
- D. The requirements of this article do not pre-empt more stringent erosion and sediment control requirements that may be imposed by any of the following:
 - (1) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under §§ 281.16 and 283.33, Wis. Stats.
 - (2) Targeted performance standards promulgated in rules by the Wisconsin Department of Natural Resources under § NR 151.004, Wis. Adm. Code.

§ 425-11. Findings of fact.

The Kimberly 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 Kimberly.

§ 425-12. Purpose and intent.

It is the purpose of this article 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 Kimberly.

§ 425-13. Applicability and jurisdiction.

A. Applicability.

- (1) Where not otherwise limited by law, this article applies to all construction sites, unless the site is otherwise exempt under § 425-4A(2) or (3):
 - (a) 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 article for a permitted site, including the § 425-16B performance standards, § 425-17 permit requirements, and § 425-18 plan requirements.

- (b) 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 article for a non-permitted site, including the § 425-16A performance standards.
- (c) Notwithstanding the applicability requirements in § 425-4A(1)(a) and (b), a permit is required for a construction site with less than 4,000 square feet of land disturbing construction activity if the administering authority determines that permit coverage is needed in order to improve article 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 article for a permitted site, including the § 425-16B performance standards, § 425-17 permit requirements, and § 425-18 plan requirements.
- (d) Utility work and other disturbances of a continuous distance of 100 feet of road ditch, nonagricultural grass waterway or other nonagricultural land area where drainage occurs in a watercourse.
- (2) This article does not apply to the following:
 - (a) Nonpoint discharges from agricultural activity areas.
 - (b) Nonpoint discharges from silviculture activities.
- (3) A construction site exempted by federal statutes or regulations from the requirement to have a national pollutant discharge elimination system permit issued under 40 CFR 122, for land disturbing construction activity, shall comply with § 425-16A performance standards if less than one acre of land disturbing construction activity. The § 425-16B performance standards, § 425-17 permit requirements, and § 425-18 plan requirements are not applicable.
- B. Jurisdiction. This article applies to land disturbing construction activity on construction sites located within the boundaries and jurisdiction of the Village of Kimberly.
- C. Exclusions. This article is not applicable to activities conducted by a state agency, as defined under § 227.01 (1), Wis. Stats., but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under § 281.33 (2), Wis. Stats.

§ 425-14. Definitions.

The following definitions shall be applicable in this article:

ADMINISTERING AUTHORITY

A governmental employee or their designees empowered under s. 61.354, Wis. Stats., to administer this article.

AGRICULTURAL ACTIVITY AREA

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

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

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

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

A day the office of the administering authority is routinely and customarily open for business.

CEASE AND DESIST ORDER

A court-issued order to halt land disturbing construction activity that is being conducted without the required permit.

COMMON PLAN OF DEVELOPMENT OR SALE

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

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

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 Kimberly are: 1-year, 2.2 inches; 2-year, 2.5 inches; 5-year, 3.3 inches; 10-year, 3.8 inches; 25-year, 4.4 inches; 50-year, 4.9 inches; and 100-year, 5.3 inches. The Atlas 14, MSE4, 24-hour design storms for the Village of Kimberly are: 1-year, 2.14 inches; 2-year, 2.45 inches; 5-year, 3.01 inches; 10-year, 3.51 inches; 25-year, 4.24 inches; 50-year, 4.85 inches; and 100-year, 5.50 inches.

DEVELOPMENT

Residential, commercial, industrial, institutional, or other land uses and associated roads.

DIVISION OF LAND

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.

EROSION

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

A comprehensive plan developed to address pollution caused by erosion and sedimentation of soil particles or rock fragments during construction.

EXTRATERRITORIAL

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

Town board of supervisors, county board of supervisors, city council, village board of trustees or village council.

LAND DISTURBING CONSTRUCTION ACTIVITY OR DISTURBANCE

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

The highest level of performance that is achievable but is not equivalent to a performance standard identified within this article. Maximum extent practicable applies when the permit applicant demonstrates to the administering authority'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.

MSE4 DISTRIBUTION

A specific precipitation distribution developed by the USDA, NRCS, using precipitation data from Atlas 14.

PERFORMANCE STANDARD

A narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

PERMIT

A written authorization made by the administering authority 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 § 283.01 (13), Wis. Stats.

POLLUTION

Has the meaning given in § 281.01 (10), Wis. Stats.

PROTECTIVE AREA

Has the meaning given in § 463-19C(4) of Article 463, Stormwater Management.

RESPONSIBLE PARTY

Any entity holding fee title to the property or performing services to meet the performance standards of this article through a contract or other agreement.

RUNOFF

Stormwater or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

SEDIMENT

Settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

SEPARATE STORM SEWER

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:

- A. Is designed or used for collecting water or conveying runoff.
- B. Is not part of a combined sewer system.
- C. Is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.
- D. Discharges directly or indirectly to waters of the state.

SILVICULTURE ACTIVITIES

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

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

An order issued by the administering authority which requires that all construction activity on the site be stopped.

TARGETED PERFORMANCE STANDARD

A performance standard that will apply in a specific area, where additional practices beyond those contained in this article, are necessary to meet water quality standards. A total maximum daily load is an example of a targeted performance standard.

TECHNICAL STANDARD

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

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

The Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.

TR-55

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 article.

TYPE II DISTRIBUTION

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 article. 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 § 283.01 (20), Wis. Stats.

§ 425-15. Technical standards.

- A. Design criteria, standards and specifications. All BMPs required to comply with this article shall meet the design criteria, standards and specifications based on any of the following:
 - (1) Design guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources under Subarticle V of Article NR 151, Wis. Adm. Code.
 - (2) Technical standards and other guidance identified within the Village of Kimberly Erosion and Sediment Control Reference Guide.
 - (3) 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 § 425-16B.
 - (4) For this article, 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 Type II distribution, with consideration given to the geographic location of the site and the period of disturbance.
- B. Other standards. Other technical standards not identified in § 425-15 may be used provided that the methods have been approved by the administering authority.

§ 425-16. Performance standards.

- A. Non-permitted sites.
 - (1) 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 article.

- (2) Requirements. At each site where land disturbing construction activity is to occur, BMPs shall be used to prevent or reduce all of the following:
 - (a) The deposition of soil from being tracked onto streets by vehicles.
 - (b) The discharge of sediment from disturbed areas into stormwater inlets.
 - (c) The discharge of sediment from disturbed areas into adjacent waters of the state.
 - (d) The discharge of sediment from drainage ways that flow off the site.
 - (e) The discharge of sediment by dewatering activities.
 - (f) The discharge of sediment eroding from soil stockpiles existing for more than 7 days.
 - (g) 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 article.
- (3) 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 article.
- (4) Implementation. The BMPs used to comply with this section shall be implemented as follows:
 - (a) Erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.
 - (b) Erosion and sediment control practices shall be maintained until final stabilization.
 - (c) Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
 - (d) Temporary stabilization activity shall commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
 - (e) BMPs that are no longer necessary for erosion and sediment control shall be removed by the responsible party.
- (5) Alternate requirements. The administering authority may establish erosion and sediment control requirements more stringent than those set forth in this article if the administering authority determines that an added level of protection is needed to protect resources.
- B. Permitted sites.
 - (1) Responsible party. The landowner or other person performing services to meet the performance standards of this article, through a contract or other agreement with the landowner, is a responsible party and shall comply with this article.

- (2) Plan. A written erosion and sediment control plan shall be developed and implemented by the responsible party in accordance with § 425-18. The erosion and sediment control plan shall meet all of the applicable requirements contained in this article.
- (3) Requirements. The erosion and sediment control plan shall meet all of the following:
 - (a) 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 stormwater 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 article.
 - [9] The discharge of untreated wash water from vehicle and wheel washing into waters of the state or offsite separate storm sewers.
 - (b) For sites with one 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 § 425-16B(6), the administering authority 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 administering authority 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 § 425-16B(3)(b)[1] and [2], 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.

- (c) 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.
- (4) 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 article.
- (5) Implementation. The BMPs used to comply with this article shall be implemented as follows:
 - (a) In accordance with the plan developed pursuant to § 425-18, the erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin.
 - (b) Erosion and sediment control practices shall be maintained until final stabilization.
 - (c) Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
 - (d) Temporary stabilization activity shall commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
 - (e) BMPs that are no longer necessary for erosion and sediment control shall be removed by the responsible party.
- (6) Targeted performance standards. The administering authority may establish numeric water quality requirements that are more stringent than those set forth in § 425-16B(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 administering authority may establish erosion and sediment control requirements more stringent than those set forth in this section if the administering authority determines that an added level of protection is needed to protect resources. Also, the administering authority may establish erosion and sediment control requirements less stringent than those set forth in this section if the administering authority 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 NR 151 Wisconsin Administrative Code.

§ 425-17. Permitting required; procedures.

- A. Permit required. When a permit is required, no responsible party may commence a land disturbing construction activity subject to this article without receiving prior approval of an erosion and sediment control plan for the site and a permit from the administering authority.
- B. 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 article shall submit an application for a permit and an erosion and sediment control plan that meets the requirements of § 425-18 and shall pay an application fee according to the fee schedule to the Village of Kimberly. By submitting an application, the applicant is authorizing the administering authority to enter the site to obtain information required for the review of the erosion and sediment control plan.
- C. Review and approval of permit application. The administering authority 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:
 - (1) Within 20 business days of the receipt of a complete permit application, as required by § 425-17B, the administering authority shall inform the applicant whether the application and plan are approved or disapproved based on the requirements of this article.
 - (2) If the permit application and plan are approved, the administering authority shall issue the permit.
 - (3) If the permit application or plan is disapproved, the administering authority shall state in writing the reasons for disapproval.
 - (4) The administering authority may request additional information from the applicant. If additional information is submitted, the administering authority 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.
 - (5) Failure by the administering authority 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.
- D. Financial guarantee. As a condition of approval and issuance of the permit, the administering authority 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. The financial guarantee shall be in an amount determined by the administering authority for the estimated construction and maintenance of the practices called for in the erosion and sediment control plan. The administering authority may require the site to be certified by a professional engineer. The financial guarantee shall give the administering authority the funds to complete the erosion and sediment control practices if the landowner defaults or does not properly implement the approved erosion and sediment control plan. Improper implementation of the plan shall be upon written notice by the administering authority that the requirements of this article have not been met.
 - (1) The administering authority shall release the portion of the financial guarantee established under this section, less any costs incurred by the administering authority to complete installation of practices, upon submission of "as built plans" by a licensed professional engineer. The administering authority may make provisions for a partial prorate release of the financial guarantee based on the completion of various development stages.

- E. Permit requirements. All permits issued under this article shall be subject to the following conditions, and holders of permits issued under this article shall be deemed to have accepted these conditions. The administering authority may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the administering authority to suspend or revoke this permit may be appealed in accordance with § 425-22.
 - (1) Notify the administering authority within 48 hours of commencing any land disturbing construction activity.
 - (2) Obtain permission in writing from the administering authority prior to any modification pursuant to § 425-18B of the erosion and sediment control plan.
 - (3) Install all BMPs as identified in the approved erosion and sediment control plan.
 - (4) Maintain all road drainage systems, stormwater drainage systems, BMPs and other facilities identified in the erosion and sediment control plan.
 - (5) 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.
 - (6) 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.
 - (7) Allow the administering authority 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, stormwater management plan, amendments, weekly inspection reports, and permit at the construction site until permit coverage is terminated.
 - (8) The permit applicant shall post the "Certificate of Permit Coverage" in a conspicuous location at the construction site.
- F. Permit conditions. Permits issued under this section may include conditions established by administering authority in addition to the requirements set forth in § 425-17E, where needed to assure compliance with the performance standards in § 425-16.
- G. 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 administering authority may extend the period one or more times for up to an additional 180 days. The administering authority may require additional BMPs as a condition of the extension if they are necessary to meet the requirements of this article.

- H. Maintenance. The responsible party throughout the duration of the construction activities shall maintain all BMPs necessary to meet the requirements of this article until the site has undergone final stabilization.
- I. Alternate requirements. The administering authority may prescribe requirements less stringent for applicants seeking a permit for a construction site with less than one acre of land disturbing construction activity.

§ 425-18. Erosion and sediment control plan.

- A. Plan requirements. The erosion and sediment control plan required under § 425-16B shall comply with the Village of Kimberly Erosion and Sediment Control Reference Guide and contain at a minimum the following information:
 - (1) Name, address, and telephone number of the landowner and responsible parties.
 - (2) A legal description of the property proposed to be developed.
 - (3) A site map with property lines, disturbed limits, and drainage patterns.
 - (4) Total area of the site and total area of the construction site that is expected to be disturbed by construction activities.
 - (5) Performance standards applicable to site.
 - (6) Proposed best management practices.
 - (7) Erosion and sediment control plan narrative.
 - (8) Construction sequence and construction schedule.
 - (9) The erosion and sediment control plan shall include, at a minimum, the items specified in the Village of Kimberly Erosion and Sediment Control Reference Guide and RUSLE2.
- B. Amendments. The applicant shall amend the plan if any of the following occur:
 - (1) 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.
 - (2) The actions required by the plan fail to reduce the impacts of pollutants carried by construction site runoff.
 - (3) The administering authority notifies the applicant of changes needed in the plan.
- C. Alternate requirements. The administering authority may prescribe requirements less stringent for applicants seeking a permit for a construction site with less than one acre of disturbance.

§ 425-19. Fee schedule.

The fees referred to in other sections of this article shall be established by the Village of Kimberly 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 Village Hall.

§ 425-20. Inspection.

Whenever land disturbing construction activities are being carried out, the administering authority may enter the land pursuant to the provisions of §§ 66.0119(1), (2), and (3), Wis. Stats.

§ 425-21. Enforcement.

- A. The administering authority may post a stop-work order if any of the following occurs:
 - (1) Any land disturbing construction activity is being undertaken without a permit and, pursuant to § 425-4A of this article, a permit is required for the construction site.
 - (2) The erosion and sediment control plan is not being implemented in a good faith manner.
 - (3) The conditions of the permit are not being met.
 - (4) Any land disturbing construction activity is in violation of the article.
- B. 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 administering authority may revoke the permit.
- C. If the responsible party, where no permit has been issued, does not cease the activity after being notified by the administering authority, or if a responsible party violates a stop-work order posted under § 425-21A, the administering authority may request the village attorney to obtain a cease and desist order in any court with jurisdiction.
- D. The administering authority may retract the stop-work order issued under § 425-21A or the permit revocation under § 425-21B.
- E. After posting a stop-work order under § 425-21A, the administering authority may issue a notice of intent to the responsible party of its intent to perform work necessary to comply with this article. The administering authority may go on the land and commence the work after issuing the notice of intent. The costs of the work performed under this article by the administering authority, plus interest at the rate authorized by 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 Subch. VII of Ch. 66, Wis. Stats.
- F. Any person, firm, association, or corporation who or which does not comply with the provisions of this article shall be subject to a forfeiture as provided in the Uniform Forfeiture and Bond Schedules per offense, together with the costs of prosecution. Each day that the violation exists shall constitute a separate offense.
- G. Compliance with the provisions of this article 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 injunctional proceedings.

§ 425-22. Appeals.

- A. Board of Appeals. The Board of Appeals created pursuant to § 14-3 of this Code, pursuant to § 61.354(4)(b), Wis. Stats.:
 - (1) Shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the administering authority in administering this article except for cease and desist orders obtained under § 425-21C.
 - (2) Upon appeal, may authorize variances from the provisions of this article which are not contrary to the public interest and where owing to special conditions a literal enforcement of the provisions of the article will result in unnecessary hardship; and
 - (3) Shall use the rules, procedures, duties and powers authorized by statute in hearing and deciding appeals and authorizing variances.
- B. 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 Kimberly affected by any decision of the administering authority.

§ 425-23. Limitations on municipal responsibility.

Nothing in this article creates or imposes, nor shall be construed to create or impose, any greater obligation or responsibility on the municipality which has adopted this article than those minimum requirements specifically required by State of Wisconsin Statutes and Department of Natural Resources regulations.
EROSION & SEDIMENT CONTROL REFERENCE GUIDE

FOR THE:

EROSION & SEDIMENT CONTROL ORDINANCE



DATE: March 1, 2021

EXECU	TIVE SUMMARY	.3
425-10	AUTHORITY	.4
425-11	FINDINGS OF FACT	.4
425-12	PURPOSE AND INTENT	.4
425-13	APPLICABILITY AND JURISDICTION	.4
A.	APPLICABILITY	.4
B.	JURISDICTION	.4
C.	EXCLUSIONS	.4
425-14	DEFINITIONS	.4
425-15	TECHNICAL STANDARDS	.4
А. В.	DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS OTHER STANDARDS	.4 .5
425-16	PERFORMANCE STANDARDS	.5
А. В.	NON-PERMITTED SITES PERMITTED SITES	.5 .6
425-17	PERMITTING REQUIRED; PROCEDURES	.8
A. B. C. D. E. F. G. H. I.	PERMIT REQUIRED. PERMIT APPLICATION AND FEES. REVIEW AND APPROVAL OF PERMIT APPLICATION. FINANCIAL GUARANTEE. PERMIT REQUIREMENTS. PERMIT CONDITIONS. PERMIT DURATION. MAINTENANCE. ALTERNATE REQUIREMENTS.	.9 .9 .9 .9 .9 .9 .9 .9
425-18	EROSION AND SEDIMENT CONTROL PLAN	.9
А. В. С.	PLAN REQUIREMENTS AMENDMENTS ALTERNATE REQUIREMENTS	.9 2 2
425-19	FEE SCHEDULE	12
425-20	INSPECTION	12
425-21	ENFORCEMENT	12
425-22	APPEALS	12
А. В.	BOARD OF APPEALS	12 12

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Village's Erosion & Sediment Control Reference Guide (Reference Guide) has been created to act as a companion to the Village's Erosion & Sediment Control Ordinance (Ordinance). The Ordinance cites the Reference Guide as the resource for details that were omitted from the Ordinance. Items in the Reference Guide can be changed without the public hearing process as the changes are typically administrative and/or technical and do not affect the Ordinance's intent and requirements. The Reference Guide is organized similar to the Erosion & Sediment Control Ordinance for ease of relating the Reference Guide to the appropriate sections in the Ordinance.

The Erosion & Sediment Control Ordinance (Ordinance) applies to all construction sites, regardless of the land disturbance size. The Ordinance requires a permit for a construction site with 4,000 square feet or greater of land disturbance. Please refer to 425-13A(1)(c) of the Ordinance and 425-13A of this Reference Guide for a description of other construction sites that may require a permit.

Construction Site Erosion Control Ordinance										
	Requirements ^a									
Site	Sediment (TSS)	Vehicle Tracking	Protect Storm Inlets	Protect Waters of State	Protect Drainage Ways	Dewater Properly	Manage Soil Stockpile	Manage Building Materials		
Less than 1 Acre	No Numeric Standard ^b	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
1 Acre or More	5 tons / acre / year	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

^a Summary of Section 425-16 Performance Standards of the Erosion & Sediment Control Ordinance. See Ordinance and this Reference Guide for specific requirements, exemptions and prohibitions.

^b Construction sites regulated by the Wisconsin Department of Safety and Professional Services are required to comply with a numeric performance standard, regardless of the size of land disturbance. See SPS 360.20(3) and SPS 321.125(3) for specific requirements. The local municipality may also be acting as an agent of the Wisconsin Department of Safety and Professional Services.

425-10 AUTHORITY

425-11 FINDINGS OF FACT

425-12 PURPOSE

425-13 APPLICABILITY AND JURISDICTION

A. APPLICABILITY

Pursuant to 425-13A(1)(c), the administering authority may require a permit for construction sites with less than 4,000 square feet of land disturbance. Currently, the administering authority's policy is to require a permit for the following construction sites with less than 4,000 square feet of land disturbance:

- Installation, replacement, or maintenance of underground pipes, cables, fiber optics, or wires with 100 linear feet or greater of length.
- Routine ditch maintenance with 100 linear feet or greater of length.
- Land disturbing activities located in waters of the state, wetlands, or protective areas.
 Wetlands shall be delineated in accordance with s. NR 103.08(1m), Wis. Adm. Code.

B. JURISDICTION

C. EXCLUSIONS

The Wisconsin Department of Transportation (WisDOT) has entered into a memorandum of understanding with the Wisconsin Department of Natural Resources that satisfies s. 281.33 (2), Wis. Stats., such that activities directed and supervised by WisDOT are exempt from this Ordinance.

Activities directed and supervised by the local municipality are covered by this Ordinance.

425-14 DEFINITIONS

425-15 TECHNICAL STANDARDS

A. DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS

Below is a list of Technical Standards and Guidance Documents that shall be used to satisfy Performance Standards contained in the ordinance. Technical Standards specify the minimum criteria for a best management practice (BMP). Guidance Documents contain recommendations and additional "how to" guidance. Performance Standards take precedence over Technical Standards and Technical Standards take precedence over Guidance Documents.

(a) Technical Standards: The following are applicable Wisconsin Department of Natural Resources (DNR) Conservation Practice Standards or Technical Standards. These standards may be found on the DNR website (http://dnr.wi.gov/topic/stormwater/standards/const_standards.html).

- 1050 Land Application of Additives for Erosion Control
- 1051 Water Application of Additives for Sediment Control
- 1052 Non-Channel Erosion Mat
- 1053 Channel Erosion Mat
- 1054 Vegetative Buffer for Construction Sites
- 1055 Sediment Bale Barrier (Non-Channel)
- 1056 Silt Fence
- 1057 Stone Tracking Pad and Tire Washing
- 1058 Mulching for Construction Sites
- 1059 Seeding for Construction Site Erosion Control
- 1060 Storm Drain Inlet Protection for Construction Sites
- 1061 De-watering
- 1062 Ditch Check (Channel)
- 1063 Sediment Trap
- 1064 Sediment Basin
- 1065 Rip-rap / Stabilized Outlet (pending completion)
- 1066 Construction Site Diversion
- 1067 Temporary Grading Practices for Erosion Control
- 1068 Dust Control on Construction Sites
- 1069 Turbidity Barrier
- 1070 Silt Curtain
- 1071 Interim Manufactured Perimeter Control & Slope Interruption Products
- (b) **Local Modifications to Technical Standards:** The following are local requirements that are intended to supplement, clarify, or supersede DNR Technical Standards.
- (c) **Guidance Documents**: The following are the applicable Guidance Documents. Many of these Guidance Documents can be found on the DNR website (<u>http://dnr.wi.gov/topic/stormwater/standards/const_standards.html</u>).
 - Guidance for the Establishment of Protective Areas for Wetlands
 - "Construction Site" Definition "Common Plan of Development"
 - Meeting New State Standards: Construction Erosion Control Workshops (<u>http://dnr.wi.gov/topic/Stormwater/construction/practices.html</u>)
 - Estimating Residue Using the Line Transect Method (UW-Extension A3533).
 - Wisconsin Department of Transportation Erosion Control Product Acceptability Lists (PAL) for Multi-Modal Applications
 - Wisconsin Department of Transportation Facilities Development Manual
 - Wisconsin DOT Standard Specifications for Highway and Structure Construction
 - Other National Publications

B. OTHER STANDARDS

425-16 PERFORMANCE STANDARDS

A. NON-PERMITTED SITES

Construction sites with less than 4,000 square feet of land disturbance are required to satisfy a numeric performance standard if the construction site is regulated by the Wisconsin Department of Safety and Professional Services. Please refer to SPS 360.20(3) and SPS 321.125(3) for specific requirements.

Pursuant to 425-16A(5) of the Ordinance, the administering authority may establish more stringent erosion and sediment control requirements for non-permitted sites if the administering authority determines than an added level of protection is needed.

B. PERMITTED SITES

Construction sites with 1 acre or more of land disturbance are required to meet the ordinance's numeric performance standards.

Construction sites with less than 1 acre of land disturbance are required to satisfy a numeric performance standard if the construction site is regulated by the Wisconsin Department of Safety and Professional Services. Please refer to SPS 360.20(3) and SPS 321.125(3) for specific requirements.

Pursuant to 425-16B(6) or (7) of the Ordinance, the administering authority may establish more stringent erosion and sediment control requirements for permitted sites if the administering authority determines than an added level of protection is needed.

Computer Models:

The Wisconsin Department of Natural Resources (DNR) developed a USLE spreadsheet tool for construction site erosion control and determining compliance with the 5 tons/acre/year requirement. The USLE spreadsheet model can be found on the DNR website at http://dnr.wi.gov/topic/stormwater/standards/const_standards.html.

C. CLARIFICATIONS:

Erosion Control Practices - Erosion control practices are used to prevent sediment particles from becoming dislodged and suspended in runoff. Erosion control practices include land application of polyacrylamide, mulching, seeding, and erosion mats. Grading practices can be used to supplement these practices.

Sediment Control Practices - Sediment control practices are used to remove sediment particles that are suspended in runoff and being transported. Sediment control practices used for sheet flow conditions include vegetative buffers, sediment bale barriers (non-channel), silt fence, and perimeter control / slope interruption products. Sediment control practices used for concentrated flow conditions include storm drain inlet protection (< 1 acre), ditch checks (< 1 acre), sediment traps (< 5 acres), sediment basins (< 100 acres), and polymers. Sediment control practices used for lakes, rivers, and streams include turbidity barriers and silt curtains.

Construction Site Diversions - Construction site diversions are used to divert clear-water runoff away from disturbed areas. Construction site diversions are also designed to convey sediment-laden runoff from disturbed areas to sediment control practices such as ditch checks, sediment traps, and sediment basins.

Dust Control Practices - Dust control practices are used to prevent wind erosion.

Dewatering - Dewatering practices are used to remove sediment from ponding surface water or groundwater. A DNR permit is required for pumping 70 gpm or more (http://dnr.wi.gov/topic/wells/highcapacity.html). The discharge must be sampled in accordance with DNR requirements.

Non-Erosive Flows - Velocity dissipation devices shall be placed at outfall locations and

along the length of any channel, as necessary, to provide a non-erosive flow so that the natural, physical, and biological characteristics and functions are maintained and protected. Velocity dissipation devices could include erosion mat (channel), rip-rap, drop structures, stilling basins, and other energy dissipation devices.

Maximum Permissible Velocities for Channels							
	Slope Range	Erosion-resistant	Easily eroded				
Channel Cover	%	soils	soils				
	0-5	3-6 fps*	1.5-2 fps*				
Bare Soil	Do not use on	slopes steeper than	5%, except for				
	side slop	side slopes in a combination channel.					
	0-5	8 fps	6 fps				
Bermuda Grass	5-10	7 fps	5 fps				
	>10	6 fps	4 fps				
Buffalo grass, Kentucky	0-5	7 fps	5 fps				
bluegrass, Smooth	5-10	6 fps	4 fps				
brome, blue grama	>10	5 fps	3 fps				
	0-5	5 fps	4 fps				
Grass mixture	5-10	4 fps	3 fps				
	Do not use on slopes steeper than 10%, except for						
	side slo	pes in a combination	channel.				
Lespedeza sericea,	0-5	3.5 fps	2.5 fps				
weeping love grass	Do not use on slopes steeper than 5%, except for						
lschaemum (yellow	side slop	pes in a combination	channel.				
bluestem), kudzu,							
alfalfa, crabgrass							
Annuals – used on mild	0-5	3.5 fps	2.5 fps				
slopes or as temporary	Use on slopes steeper than 5% is not						
protection until	recommended						
permanent covers are							
established,							
common lespedeza,							
Sudan grass							

* Maximum permissible velocities depend on specific soil properties and shear stress. Typically, the maximum velocity for sand = 1.5 fps, silt and loam = 1.7 to 2.5 fps, fine gravel = 2.5 fps, clay = 3.7 fps, coarse gravel = 4.0 fps, cobbles = 3.7 to 5.0 fps, and shale / hard pan = 6.0 fps. Source – Chow Open Channel Hydraulics & Civil Engineering Reference Manual for the PE Exam, Ninth Edition

Materials - No sediment or solid materials, including building materials, may be discharged in violation of the following federal, state, and local regulations:

- Navigation, Dams, & Bridges (Chapter 30 and 31, Stats.)
- Wetland Water Quality Standards (NR 103)
- Wetlands (US Army Corps of Engineers Section 404 regulations)
- Shoreland Management (NR 115, NR 425, & local regulations)
- Floodplain Management (NR 116 & local regulations).

Wastewaters - Wastewaters, such as from concrete truck washout, need to be properly managed to limit the discharge of pollutants to the municipal separate storm sewer system or waters of the state. A separate permit may be needed form the DNR where a wastewater discharge has the potential to adversely impact waters of the state. The appropriate DNR wastewater specialist should be contacted to determine if wastewater permit coverage is needed where wastewater will be discharged to the municipal separate storm sewer or waters of the state.

Wetland Delineations - Wetland delineations shall be performed by a professional soil scientist, professional hydrologist, or other qualified individual approved by the administering authority. The individual performing the delineation shall classify the wetland as a less susceptible wetland, highly susceptible wetland, exceptional resource water, or outstanding resource water.

Protective Areas - Protective areas may be disturbed as part of a construction project, if necessary. Disturbed areas must be stabilized from erosion and restored with an adequate sod or self-sustaining vegetative cover. Best Management Practices (ponds, swales, etc.) may be located in protective areas.

Type of Vegetation - It is recommended that seeding of non-invasive vegetative cover be used in the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is preferable. Vegetative cover can be measured using the line transect method described in the University of Wisconsin Extension publication number A3533, titled "Estimating Residue Using the Line Transect Method".

Adjacent Property Owners - If a stream or channel is permanently placed or relocated along a property line, an easement or letter of permission is required from any property owners impacted by the protective area's new location. Also, if a stormwater facility or structure is proposed within an onsite stream or channel, 100-year flood elevations shall be evaluated to determine if offsite property owners are impacted by backwater or a flood elevation increase. An easement or letter of permission is required from any property owners impacted by backwater. Changes to a stream, wetland, or channel should be discussed during the pre-design meeting. Changes to a navigable stream, wetland or other waters of the state will require permits from the DNR, Army Corps of Engineers, and local municipality.

Agricultural Activity Areas - Agricultural Activity Areas (i.e. farm fields and other cropland areas) are exempt from the ordinance.

Agricultural Production Areas - Agricultural Production Areas (i.e. farm buildings, structures, and other impervious surfaces) are not exempt from the ordinance. The County Land Conservation Department (LCD) may be available to prepare Erosion & Sediment Control Plans for farm structures and disturbances in the Agricultural Production Areas. Construction of farm structures and disturbances in Agricultural Production Areas of one acre or greater must also be covered by an NR 216 permit.

Regional Wet Detention Ponds - A regional wet detention pond (post-construction site) may be used as a sediment basin (construction site) until final stabilization of the wet detention pond and expiration of the erosion control permit associated with construction of the regional wet detention pond. While regional stormwater management facilities are appropriate for control of post-construction pollutants, they should not be used for construction site sediment removal at other construction sites located within the wet detention pond's watershed.

425-17 PERMITTING REQUIREMENTS, PROCEDURES AND FEES

A. PERMIT REQUIRED

B. PERMIT APPLICATION AND FEES

C. REVIEW AND APPROVAL OF PERMIT APPLICATION

Meetings between the permit 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 held is typically commensurate with the size and complexity of the project. Meetings can be face-to-face or via telephone.

A pre-construction conference is encouraged before the start of all construction projects. For sites with 1 acre or more of land disturbance, a pre-construction conference is required. The permit applicant, designer, plan reviewer, contractor, and inspector are encouraged to attend. The purpose of the meeting is to exchange contact information, review the Erosion & Sediment Control Plan, and identify individuals responsible for permit compliance, plan amendments, and weekly inspection reports.

D. FINANCIAL GUARANTEE

Construction sites with 1 acre or more of land disturbance are required to have a financial guarantee. The financial guarantee includes the cost associated with erosion and sediment control BMPs, site inspections, project administration, and contingencies.

Construction sites with less than 1 acre of land disturbance are not typically required to have a financial guarantee.

Portions of the financial guarantee may be released as the construction project progresses. The last portion of the financial guarantee is not released until the municipal inspector performs a final inspection and the permit applicant pays final inspection fees.

E. PERMIT REQUIREMENTS

The permit applicant is required to post the "Certificate of Permit Coverage" in a conspicuous place at the construction site.

- F. PERMIT CONDITIONS
- G. PERMIT DURATION
- H. MAINTENANCE
- I. ALTERNATE REQUIREMENTS

425-18 EROSION AND SEDIMENT CONTROL PLAN

A. PLAN REQUIREMENTS

Sites With Less Than 1 Acre of Land Disturbance:

The erosion and sediment control plan for construction sites with less than 1 acre of land disturbance shall contain, at a minimum, the following information unless other municipal ordinances or state regulations require more detailed information:

- (a) The name, contact person, title, mailing address, e-mail address, telephone number, and fax number of the following individuals or organizations: permit applicant, landowner, consultant or plan preparer, and contractor (if known).
- (b) Anticipated project start date and projected project end date.
- (c) Total area of the construction site and the total area of the construction site that is expected to be disturbed by land disturbing activities.
- (d) Sufficient detail so as to document ordinance compliance.
- (e) Location of all BMPs to be employed.
- (f) Pre-construction ground surface contour lines at intervals appropriate for conditions present within the proposed disturbed areas.
- (g) Identify the initial downstream receiving water of the state.

Sites With 1 Acre or More of Land Disturbance:

The erosion and sediment control plan for construction sites with 1 acre or more of land disturbance shall contain, at a minimum, the following information:

- (a) The name, contact person, title, mailing address, e-mail address, telephone number, and fax number of the following individuals or organizations: permit applicant, landowner, consultant or plan preparer, and contractor (if known).
- (b) Anticipated project start date and projected project end date.
- (c) Description of the construction site and the nature of the land disturbing construction activity, including representation of the limits of land disturbance on a USGS 7.5-minute series topographical map.
- (d) Description of the intended sequence of major land disturbing construction activities for major portions of the construction site, including clearing; stripping topsoil; rough grading; installation of erosion and sediment controls; construction of utilities, streets, and buildings; finish grading; and permanent stabilization.
- (e) Total area of the construction site and the total area of the construction site that is expected to be disturbed by land disturbing activities.
- (f) Available data describing the surface soil as well as sub-soils, including representation of the limits of land disturbance on a NRCS soils map.
- (g) Wherever permanent infiltration devices will be employed or were evaluated, the depth to the nearest seasonal high groundwater elevation or top of bedrock shall be identified.
- (h) Name of the immediate named receiving water from the United States Geological Service 7.5 minute series topographic maps.
- (i) Calculations demonstrating compliance with the 5 tons per acre per year sediment performance standard (calculations may not be feasible until RUSLE2 is completed).

The erosion and sediment control plan for construction sites with 1 acre or more of land disturbance 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 two feet:

- (a) Existing topography, vegetative cover, impervious surfaces, natural and engineered drainage systems, roads, surface waters, and 100-year floodplains. Identify slopes of 20% or more that are to be disturbed.
- (b) Boundaries of the construction site.
- (c) Drainage patterns and approximate slopes anticipated after grading activities. Identify drainage ways that flow off the site.
- (d) Areas of soil disturbance, including soil stockpile locations.
- (e) Location of major structural and non-structural controls identified in the erosion and sediment control plan, including standard detail drawings and specifications where appropriate.

- (f) Location of areas where stabilization practices will be employed.
- (g) Areas that will be vegetated following land disturbing construction activities.
- (h) Area and location of wetland acreage on the construction site and locations where stormwater is discharged to a surface water or wetland within one-quarter mile downstream of the construction site.
- (i) Areas used for infiltration of post-construction stormwater runoff.
- (j) An alphanumeric or equivalent grid overlying the entire construction site.

The erosion and sediment control plan for construction sites with 1 acre or more of land disturbance shall include a description of appropriate erosion and sediment control best management practices that will be installed and maintained at the construction site to prevent pollutants from reaching waters of the state. The erosion and sediment control plan shall clearly describe the appropriate erosion and sediment control best management practices for each major land disturbing construction activity and the timing during the period of land disturbing construction activity that the erosion and sediment control best management practices will be implemented. The description of erosion controls shall include, when appropriate, the following minimum requirements:

- (a) Description of any interim and permanent stabilization practices, including a schedule for implementing the practices. The erosion and sediment control plan shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the construction site are stabilized.
- (b) Description of any structural practices to divert flow away from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from the construction site. Unless otherwise specifically approved in writing by the local municipality, structural measures shall be installed on upland soils.
- (c) Management of overland flow at all areas of the construction site, unless otherwise controlled by outfall controls.
- (d) Trapping of sediment in channelized flow.
- (e) Staging land disturbing activities to limit exposed soil areas subject to erosion. Soil stockpiles exposed for more than 7 days shall be stabilized.
- (f) Protection of downslope drainage or storm water inlets where they occur.
- (g) Minimization of tracking at all vehicle and equipment entry and exit locations of the construction site.
- (h) Clean up of off-site sediment deposits by the end of each work day.
- (i) Proper disposal and management of onsite chemicals, cement, and other building compounds and materials.
- (j) Stabilization of drainage ways, including consideration of erosive flows at outlets and in downstream channels.
- (k) Installation of permanent stabilization as soon as possible after final grading.
- (I) Minimization of dust to the maximum extent practicable.
- (m) Dewatering activities.
- (n) Control of untreated wash water from vehicle and wheel washing into waters of the state or offsite separate storm sewers.
- (o) Spill prevention and response procedures.
- (p) Implementation of BMPs.

For construction sites with 1 acre or more of land disturbance, prepare a narrative describing the following: site location, total site area and disturbed area, purpose of project, drainage system and outfalls, drainage area for each outfall, stream and wetland locations, topsoil and subsoils, depth to groundwater and bedrock, erosion and sediment controls, sequence of construction, BMP inspection and maintenance responsibilities, weekly inspection reports, and plan amendments.

For construction sites with 1 acre or more of land disturbance, the erosion and sediment control plan shall include a statement or narrative which includes the following: (a)

erosion and sediment control practices shall be repaired or replaced within 24 hours of an inspection; and (b) when the failure of erosion or sediment control practices results in an immediate threat of sediment entering waters of the state or an offsite drainage system, procedures shall be implemented immediately to repair or replace the practices.

B. AMENDMENTS

C. ALTERNATE REQUIREMENTS

425-19 FEE SCHEDULE

425-20 INSPECTION

425-21 ENFORCEMENT

425-22 APPEALS

- A. BOARD OF APPEALS
- B. WHO MAY APPEAL

W:\PROJECTS\G0003\940271\02\EC Ordinance\Grand Chute Construction Site Erosion Control Reference Guide 2016 Dec 30 tracked.doc

APPENDIX G

Post-Construction Stormwater Management

Post-Construction Stormwater Permit

Protecting Our Lakes, Rivers & Streams

The Village of Kimberly is required by the Wisconsin Department of Natural Resources to reduce the amount of stormwater pollutants discharging into the Fox River and Garners Creek. Stormwater pollutants include sediment, phosphorus, bacteria, heavy metals, motor oil, toxins, solvents, pesticides, litter and other pollutants.

Decreasing the amount of sediment and phosphorus is anticipated to improve water clarity and reduce algae blooms in the Fox River and Garners Creek. Reduced algae will increase the amount of oxygen available for fish and aquatic species survival. Also, greater water clarity and decreased algae will improve recreational opportunities and scenic beauty.



FOX RIVER: ALGAE & POOR WATER CLARITY

The Village's storm sewer system is a network of underground pipes and catch basins that carry stormwater pollutants directly to the Fox River and Garners Creek. The below Watershed Map depicts the drainage divide for the Village's storm sewer system. As shown on the Watershed Map, the majority of the Village discharges to the Fox River. The Village's Post-Construction Stormwater Ordinance requires a different amount of pollutant reduction depending on which watershed the post-construction site is located within (see watershed map).



Frequently Asked Questions:

When is compliance required?

Ordinance compliance is required for all postconstruction sites located within the Village.

Who is responsible for compliance?

Landowners, developers, builders, contractors, subcontractors, landscapers, utility companies and other persons involved with the post-construction site are responsible for ordinance compliance.

What is required by the ordinance?



The Village's Post-Construction Stormwater Management Ordinance requires design, installation and maintenance of best management practices (BMPs). The Village's permit application, ordinance and Technical Reference Guide can be downloaded from the website. Please refer to the ordinance for specific requirements and exemptions. Generally, the below flow chart describes when a permit applicant needs to satisfy the ordinance's numeric or non-numeric requirements.





Village of Kimberly

515 W. Kimberly Avenue Kimberly, WI 54136 Phone: 920.788-7500

EROSION CONTROL AND STORMWATER MANAGEMENT PERMIT APPLICATION

Applicant Information							
Applicant Name (Indiv., Org. or Entity)	Authorized Represe		entative	ſ	Title		
Mailing Address	City			S	State	Postal Code	
E-mail Address	Tel	ephone (include	e area code)	F	ax (includ	e area code)	
Landowner Information (if different than Applicant)				I			
Name (Organization or Entity)	Cor	ntact Person		٦	Title		
Mailing Address	City	/		5	State	Postal Code	
E-mail Address	Tel	ephone (include	e area code)	F	ax (includ	e area code)	
Other Contact Information (check one):	er / Co	onsultant	Contractor / E	Builder	Agent	/ Other	
Name (Organization or Entity)	Cor	ntact Person		٦	Felephone	(include area code)	
Mailing Address	City	/		ę	State	Postal Code	
Project or Site Location	1						
Site Name (Project):			Parcel Num	bers:			
Address / Location:			Plat / CSM	/ Lot No.:	lo.:		
Quarter: NW NE SW SE	Sectio	on:	Township:		Ν	Range:	E
Permit Type & Fees (check all that apply)							
□ Erosion Control < 1 acre or 43,560 sq.ft. Disturbed Area (EC1)					1) 2)		
Total Disturbed Area sq.ft. x \$0.0002 / sq.ft. (EC2) = \$							
Disturbed Impervious Area							
Base Fe	ee: \$	200 (EC1), \$250	0 (EC2), \$200	0 (SM1), \$	500 (SM2) = \$	
			Тс	tal Appli	cation Fee	e = \$	
Duration of Land Disturbance			weeks x \$2	5 / week (EC1, EC2) = \$	
Start Date		Ва	se Fee: \$25	0 (EC2), \$	500 (SM2) = \$	
End Date			т	otal Insp	ection Fee	e = \$	
Certification & Permission							
Certification: I hereby certify that I am the landowner of the property which is the subject of this Permit Application. I certify that the information contained in this form and attachments is true and accurate. I understand that failure to comply with any or all of the provisions of the ordinances and/or permit may result in notices, fines / forfeitures, stop work orders, permit revocation, and cease & desist orders. Permission: Permission: As landowner of the property, I hereby give the permit authority permission to enter and inspect the property to evaluate this permit application, to determine compliance with the ordinances, and to perform corrective actions after issuing proper notice to the landowner. Applicant Signature Date Signed						nation ances permit	
Landowner Signature (required) Da			Date Sig	Date Signed			
LEAVE BLANK	– FC	R MUNICIP	AL USE O	NLY			
Date Application Received:		Fee Received \$			Receipt No:		
Construction Site ID / Permit No: Date Issued			Date Issued: Issued By:				

CERTIFICATE OF PERMIT COVERAGE
EOR EFOR STORMWATER MANAGEMENT PERMIT
Under Chapter(s) of the Village of Kimberly ordinance, landowners of construction sites are required to post this certificate in a conspicuous place at the construction site. This certifies that the site has been granted Erosion Control and/or Stormwater Management Permit coverage by the Village of Kimberly. The permit requires the landowner to implement and maintain erosion and/or sediment control practices to limit/reduce the amount of sediment being transported off-site and into streets, storm sewers, ditches, streams, rivers, lakes and wetlands.
EROSION CONTROL COMPLAINTS
Should be reported to the Village of Kimberly Tip Line at
Please provide the following information to the Tip Line:
Construction Site I.D. No.:
Site Name (Project):
Address/Location:
Additional Information:
Landowner Name:
Landowner's Contact Person:
Contact Telephone Number:
Permit Start Date:



Village of Kimberly

515 W. Kimberly Avenue Kimberly, WI 54136 Phone: 920.788-7500

INFORMATION SUBMITTED BY THE PUBLIC

Complaint Submitted By:				
Name:	Anonymous Date:			
Address:				
Telephone: E-Mail:				
Should we contact you? Yes No				
Location of Complaint:				
Site Name (Project):	Construction Site ID No:			
Address / Location:				
Landowner Name:				
Description of Complaint: (check all that apply)				
Automobiles (fluid leak, car washing)	Storm Water Management (flooding, pond maintenance)			
Pet Waste	Illicit Discharge (spill / hazardous material)			
Household Hazardous Waste (dumping)	Illicit Discharge (improper waste disposal)			
Household Practices (garbage, recycling)	Illicit Discharge (dry weather flow / discharge)			
Fertilizers & Pesticides	Illicit Discharge (illegal plumbing connection)			
Leaves & Grass Clippings	Illicit Discharge (failing lateral / septic system)			
Stream & Shoreline Management (erosion)	Street Sweeping / Catch Basin Cleaning			
Residential (drainage, sump pump)	Streets, Potholes, Snow, Ice, & Deicers			
Construction Site Erosion Control	Other:			
Describe complaint:				
Description of Follow-Up Actions:				
Describe follow-up actions:				

Article III. Post-Construction Stormwater Management

§ 425-24. Authority.

- A. This article is adopted by the Kimberly Village Board of Trustees under the authority granted by § 61.354, Wis. Stats. This article supersedes all provisions of an ordinance previously enacted under § 61.35, Wis. Stats., that relate to stormwater management regulations. Except as otherwise specified in § 61.354, Wis. Stats., § 61.35, Wis. Stats., applies to this article and to any amendments to this article.
- B. The provisions of this article are deemed not to limit any other lawful regulatory powers of the same governing body.
- C. The Village Board hereby designates the Building Inspector and Director of Operations to administer and enforce the provisions of this article.
- D. The requirements of this article do not pre-empt more stringent stormwater management requirements that may be imposed by any of the following:
 - (1) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under §§ 281.16 and 283.33, Wis. Stats.
 - (2) Targeted performance standards promulgated in rules by the Wisconsin Department of Natural Resources under § NR 151.004, Wis. Adm. Code.

§ 425-25. Findings of fact.

The Kimberly 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:

- A. Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature.
- B. 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.
- C. Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
- D. Reduce the quality of groundwater by increasing pollutant loading.
- E. Threaten public health, safety, property and general welfare by overtaxing storm sewers, drainage ways, and other minor drainage facilities.
- F. Threaten public health, safety, property and general welfare by increasing major flood peaks and volumes.
- G. Undermine floodplain management efforts by increasing the incidence and levels of flooding.

§ 425-26. Purpose and intent.

- A. Purpose. The general purpose of this article 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:
 - (1) Further the maintenance of safe and healthful conditions.
 - (2) Prevent and control the adverse effects of stormwater; 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.
 - (3) 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.
- B. Intent. It is the intent of the Kimberly Village Board that this article regulates post-construction stormwater discharges to waters of the state. This article may be applied on a site-by-site basis. The Village Board recognizes, however, that the preferred method of achieving the stormwater performance standards set forth in this article is through the preparation and implementation of comprehensive, systems-level stormwater management plans that cover hydrologic units, such as watersheds, on a municipal and regional scale. Such plans may prescribe regional stormwater 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 § 281.16, Wis. Stats., for regional stormwater management measures and have been approved by the Village Board, it is the intent of this article that the approved plan be used to identify post-construction management measures acceptable for the community.

§ 425-27. Applicability and jurisdiction.

- A. Applicability.
 - (1) Where not otherwise limited by law, this article applies to all post-construction sites, unless the site is otherwise exempt under Subsection A(2).
 - (2) A post-construction site that meets any of the following criteria is exempt from the requirements of this article.
 - (a) One- and two-family residential dwellings that are not part of a larger common plan of development or sale and that result in less than one acre of disturbance.
 - (b) Non-point discharges from agricultural activity areas.
 - (c) Non-point discharges from silviculture activities.
 - (d) Mill and crush operations.
 - (3) Notwithstanding the applicability requirements in Subsection A(1), this article applies to postconstruction sites of any size that, in the opinion of the administering authority, 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.

- B. Jurisdiction. This article applies to post-construction sites within the boundaries and jurisdiction of the Village of Kimberly.
- C. Exclusions. This article is not applicable to activities conducted by a state agency, as defined under § 227.01 (1), Wis. Stats., but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under § 281.33 (2), Wis. Stats.
- D. Maintenance of effort. For a redevelopment site where the redevelopment will be replacing older development that was subject to post-construction performance standards of this article in effect on or after October 1, 2004, the responsible party shall meet the water quality, peak discharge, infiltration, protective area, and petroleum sheen standards applicable to the older development or meet the redevelopment standards of this article, whichever are more stringent.

§ 425-28. Definitions.

The following definitions shall be applicable in this article:

ADEQUATE SOD or SELF-SUSTAINING VEGETATIVE COVER

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

A governmental employee or their designees empowered under s. 61.354, Wis. Stats., to administer this article.

AGRICULTURAL ACTIVITY AREA

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

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

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

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 PRACTICES or BMP

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

A day the office of the administering authority is routinely and customarily open for business.

CEASE AND DESIST ORDER

A court-issued order to halt land disturbing construction activity that is being conducted without the required permit.

COMBINED SEWER SYSTEM

A system for conveying both sanitary sewage and stormwater runoff.

COMMON PLAN OF DEVELOPMENT OR SALE

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 IMPERVIOUS

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

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

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 Kimberly are: 1-year, 2.2 inches; 2-year, 2.5 inches; 5-year, 3.3 inches; 10-year, 3.8 inches; 25-year, 4.4 inches; 50-year, 4.9 inches; and 100-year, 5.3 inches. The Atlas 14, MSE4, 24-hour design storms for the Village of Kimberly are: 1-year, 2.14 inches; 2-year, 2.45 inches; 5-year, 3.01 inches; 10-year, 3.51 inches; 25-year, 4.24 inches; 50-year, 4.85 inches; and 100-year, 5.50 inches.

DEVELOPMENT

Residential, commercial, industrial, institutional, or other land uses and associated roads.

DIRECT CONDUITS TO GROUNDWATER

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

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.

EFFECTIVE INFILTRATION AREA

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

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

EXCEPTIONAL RESOURCE WATERS

Waters listed in § NR 102.11, Wis. Adm. Code.

EXISTING DEVELOPMENT

Development in existence on October 1, 2004 or development for which a stormwater permit in accordance with Subch. III of Ch. NR 216, Wis. Adm. Code, was received on or before October 1, 2004.

EXTRATERRITORIAL

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

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 administering authority for the site.

FINAL STABILIZATION

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

A performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the administering authority by the responsible party to assure that requirements of the article are carried out in compliance with the stormwater management plan.

GOVERNING BODY

Village Board of Supervisors, county board of supervisors, city council, village board of trustees or village council.

GROUNDWATER

Waters of the state, as defined in § 281.01 (18), Wis. Stats., occurring in a saturated subsurface geological formation of rock or soil.

HIGH GROUNWATER LEVEL OR SUBSURFACE SATURATION

Higher of either the elevation to which the soil is saturated as observed as a free water surface in an unlined hole, or the elevation to which the soil has been seasonally or periodically saturated as indicated by soil color patterns throughout the soil profile, as defined in Technical Standard 1002, Site Evaluation for Stormwater Infiltration.

HIGHWAY

Has the meaning given in § 340.01 (22), Wis. Stats.

HIGHWAY RECONDITIONING

Has the meaning given in § 84.013 (1)(b), Wis. Stats.

HIGHWAY RECONSTRUCTION

Has the meaning given in § 84.013(1)(c), Wis. Stats.

HIGHWAY RESURFACING

Has the meaning given in § 84.013(1)(d), Wis. Stats.

IMPERVIOUS SURFACE

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.

IMPERVIOUS SURFACE DISTURBANCE

Any land disturbing construction activity in which any new impervious surfaces are created or existing impervious surfaces are redeveloped.

IN-FILL

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 stormwater permit in accordance with Subch. III of Ch. NR 216, Wis. Adm. Code, 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

The entry and movement of precipitation or runoff into or through soil.

INFILTRATION SYSTEM

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)

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

A legal document that provides for long-term maintenance of stormwater management and best management practices.

MEP or MAXIMUM EXTENT PRACTICABLE

The highest level of performance that is achievable but is not equivalent to a performance standard identified within this article. Maximum extent practicable applies when the permit applicant

demonstrates to the administering authority'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

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.

MSE4 DISTRIBUTION

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 § 30.01(4m), Wis. Stats.

NEW DEVELOPMENT

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 article, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

OFF-SITE

Located outside the property boundary described in the permit application.

ON-SITE

Located within the property boundary described in the permit application.

ORDINARY HIGH-WATER MARK

Has the meaning given in § NR 115.03(6), Wis. Adm. Code.

OUTSTANDING RESOURCE WATERS

Waters listed in § NR 102.10, Wis. Adm. Code.

PERCENT FINES

The percentage of a given sample of soil, which passes through a # 200 sieve.

PERFORMANCE STANDARD

A narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

PERMIT

A written authorization made by the administering authority to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.

PERMIT ADMINISTRATION FEE

A sum of money paid to the administering authority by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.

PERVIOUS SURFACE

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 § 283.01(13), Wis. Stats.

POLLUTION

Has the meaning given in § 281.01(10), Wis. Stats.

POST-CONSTRUCTION SITE

A construction site following the completion of land disturbing construction activity and final site stabilization.

POST-DEVELOPMENT

The extent and distribution of land cover types present after the completion of land disturbing construction activity and final site stabilization.

PRE-DEVELOPMENT

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

The meaning given in § NR 140.05(17), Wis. Adm. Code.

REDEVELOPMENT

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 article, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

RESPONSIBLE PARTY

Any entity holding fee title to the property or other person contracted or obligated by other agreement to implement and maintain post-construction stormwater BMPs.

ROUTINE MAINTENANCE

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 article, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

RUNOFF

Stormwater or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

SEDIMENT

Settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

SEPARATE STORM SEWER

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:

- A. Is designed or used for collecting water or conveying runoff.
- B. Is not part of a combined sewer system.
- C. Is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.
- D. Discharges directly or indirectly to waters of the state.

SILVICULTURE ACTIVITIES

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

The entire area included in the legal description of the land on which the land disturbing construction activity occurred.

STOP WORK ORDER

An order issued by the administering authority which requires that all construction activity on the site be stopped.

STORMWATER MANAGEMENT PLAN

A comprehensive plan designed to reduce the discharge of pollutants from stormwater after the site has under gone final stabilization following completion of the construction activity.

STORMWATER 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

A performance standard that will apply in a specific area, where additional practices beyond those contained in this article, are necessary to meet water quality standards. A total maximum daily load is an example of a targeted performance standard.

TECHNICAL STANDARD

A document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

TOP OF CHANNEL

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

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

The Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.

TR-55

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 article.

TRANSPORTATION FACILITY

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 § 85.095(1)(b), Wis. Stats. "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 § 281.33, Wis. Stats.

TYPE II DISTRIBUTION

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 article. 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 § 283.01 (20), Wis. Stats.

§ 425-29. 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 stormwater practices needed to meet the water quality standards of this article:

- A. Technical standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under Subchapter V of Chapter NR 151, Wis. Adm. Code.
- B. Technical standards and guidance identified within the Village of Kimberly Stormwater Reference Guide.
- C. 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 administering authority.

D. In this article, the following year and location has been selected as average annual rainfall(s): Green Bay, 1969 (Mar. 29-Nov. 25).

§ 425-30. Performance standards.

- A. Responsible party. The responsible party shall develop and implement a post-construction stormwater management plan that incorporates the requirements of this section.
- B. Plan. A written stormwater management plan shall be developed and implemented by the responsible party in accordance with § 425-32. The stormwater management plan shall meet all of the applicable requirements contained in this article.
- C. Requirements. The stormwater management plan shall meet the following minimum requirements to the maximum extent practicable:
 - (1) 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.
 - (a) The following is required for a post-construction site with one or more of the following: a site with 20,000 square feet or more of impervious surfaces disturbance, or a site with one acre or more of land disturbance.

	Total Suspended Solids (TSS) & Total Phosphorus (TP) Reduction						
	New Development Redevelopment		oment	Routine Maintenance			
Watershed	TSS	TP	TSS	TP	TSS	TP	
Garners Creek	80%	69%	60%	69%	60%	69%	
Fox River	80%	41%	72%	41%	72%	41%	

[1] Except as provided in § 425-30C(1)(a)[2], a pollutant reduction is required as follows:

- [2] A pollutant reduction is not required for routine maintenance areas that are part of a post-construction site with less than five acres of disturbance.
- (b) A pollutant reduction is not required for a post-construction site adding less than 4,000 square feet of new impervious surface.
- (c) Sites, including common plan of development sites, with a cumulative addition of 20,000 square feet or greater of impervious surfaces after October 1, 2004 are required to satisfy the performance standards within § 425-30C(1)(a)[1] and [2].
- (d) The amount of pollutant control previously required for the site shall not be reduced as a result of the proposed development or disturbance.
- (e) 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 administering authority in accordance with § 425-30E.

- (f) If the design cannot meet the water quality performance standards of § 425-30C(1)(a) through (e), the stormwater 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 § 425-30F, the administering authority may not require any person to exceed the applicable water quality performance standard to meet the requirements of maximum extent practicable.
- (2) Peak discharge. BMPs shall be designed, installed and maintained to control peak discharges from the post-construction site.
 - (a) The following is required for a post-construction site with one or more of the following: a site with 20,000 square feet or more of impervious surfaces disturbance, or a site with one acre or more of land disturbance.
 - [1] The peak post-development discharge rate shall not exceed the peak predevelopment 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, unless runoff from the routine maintenance area discharges into a proposed peak flow control facility.
 - [2] Peak discharge calculations shall use TR-55 methodology. Atlas 14 rainfall depths and the MSE4 rainfall distribution shall be used unless the site is to be served by a previously constructed peak discharge facility. At the permittee's discretion, the TP-40 rainfall depths and the Type II rainfall distribution can be used for sites that are to be served by a previously constructed peak discharge facility. 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 shall be determined using the following runoff curve numbers for a "meadow" vegetative cover:

Maximum Pre-Development Runoff Curve Numbers						
	Hydrologic Soil Group					
Vegetative Cover	А	В	С	D		
Meadow	30	58	71	78		
Woodland	30	55	70	77		

- (b) Peak discharge control is not required for a post-construction site with less than 20,000 square feet of impervious surfaces disturbance.
- (c) Sites with a cumulative addition of 20,000 square feet or greater of impervious surfaces after October 1, 2004 are required to satisfy the performance standards within § 425-30C(2)(a)[1] and [2].
- (d) The amount of peak discharge control previously required for the site shall not be reduced as a result of the proposed development or disturbance.
- (e) 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 administering authority in accordance with § § 425-30E.

- (f) An adequate outfall shall be provided for each point of concentrated discharge from the post-construction site and shall:
 - [1] Consist of non-erosive discharge velocities and reasonable downstream conveyance.
 - [2] Discharge to the municipal separate storm sewer system, waters of the state, or an appropriate drainage easement. If a site is not able to meet this requirement, the adequate outfall may be permitted if it diffuses the outfall within the site boundary.
- (g) *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 § 425-30C(2)(d) to (f), a highway reconstruction site.
 - [3] Except as provided under § 425-30C(2)(d) to (f), a transportation facility that is part of a redevelopment project.
- (3) Infiltration. BMPs shall be designed, installed, and maintained to infiltrate runoff from the postconstruction site, except as provided in § 425-30C(3)(i) through (m).
 - (a) The following is required for post-construction sites with one acre or more of land disturbance.
 - [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.

(b) 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 predevelopment runoff curve numbers shall be used:

Maximum Pre-Development Runoff Curve Numbers					
	Hydrologic Soil Group				
Vegetative Cover	А	В	С	D	
Woodland	30	55	70	77	
Grassland	39	61	71	78	
Cropland	55	69	78	83	

- (c) For post-construction sites with less than 20,000 square feet of new impervious surfaces, infiltrate runoff volume using BMPs from the Village of Kimberly Stormwater Reference Guide or other practices approved by the administering authority. These sites are not required to satisfy a numeric performance standard.
- (d) Sites with a cumulative addition of 20,000 square feet or greater of impervious surfaces after October 1, 2004 are required to satisfy the performance standards within § 425-30C(3)(a) and (b).
- (e) The amount of infiltration previously required for the site shall not be reduced as a result of the proposed development or disturbance.
- (f) Agricultural production areas shall infiltrate runoff volume using BMPs from the Village of Kimberly Stormwater Reference Guide.
- (g) 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 administering authority in accordance with § 425-30E.
- (h) 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 § 425-30C(3)(o). Pretreatment options may include, but are not limited to, oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.
- (i) Source area prohibitions. Runoff from the following areas may not be infiltrated and may not qualify as contributing to meeting the requirements of § 425-30C(3) unless demonstrated to meet the conditions of § 425-30C(3)(o).

- [1] Areas associated with a tier 1 industrial facility identified in § NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, and parking. Rooftops may be infiltrated with the concurrence of the administering authority.
- [2] Storage and loading areas of a tier 2 industrial facility identified in § NR 216.21(2)(b), Wis. Adm. Code.
- [3] Fueling and vehicle maintenance areas. Rooftops of fueling and vehicle maintenance areas may be infiltrated with the concurrence of the administering authority.
- [4] Agricultural production areas that contain livestock, animal waste, or feed storage.
- (j) *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 § 425-30C(3)(i).
 - [3] Except as provided under § 425-30C(3)(e), redevelopment and routine maintenance areas.
 - [4] In-fill development areas less than five acres.
 - [5] Roads in commercial, industrial and institutional land uses, and arterial residential roads.
 - [6] Except as provided under § 425-30C(3)(e), transportation facility highway reconstruction and new highways.
- (k) *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 § NR 811.16(4), Wis. Adm. Code, or within the separation distances listed in § NR 812.08, Wis. Adm. Code, 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 § NR 720.03(2), Wis. Adm. Code, are present in the soil through which infiltration will occur.
- (I) 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						
	Separation					
Source Area	Distance	Soil Characteristics				
Industrial, Commercial,	5 feet or more	Filtering Layer				
Institutional Parking Lots and						
Roads						
Residential Arterial Roads	5 feet or more	Filtering Layer				
Roofs Draining to	1 foot or more	Native or Engineered Soil				
Subsurface Infiltration Practices		with Particles Finer than				
		Coarse Sand				
Roofs Draining to Surface	Not Applicable					
Infiltration Practices						
All Other Impervious Source	3 feet or more	Filtering Layer				
Areas						

Notwithstanding § 425-30C(3)(I), applicable requirements for injection wells classified under Ch. NR 815, Wis. Adm. Code, shall be followed.

- (m) *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 five 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.
- (n) 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 § 425-30C(3).
- (o) Groundwater standards.
 - [1] Infiltration systems designed in accordance with this § 425-30C(3) 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 Ch. NR 140, Wis. Adm. Code. 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 § 425-30C(3)(o)[1], the discharge from BMPs shall remain below the enforcement standard at the point of standards application.
- (p) Where the conditions of § 425-30C(3)(i) through (m) limit or restrict the use of infiltration practices, the performance standard of § 425-30C(3) shall be met to the maximum extent practicable.

- (4) Protective areas.
 - (a) "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 § 425-30C(4), "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.
 - [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 § 425-30C(4)(a)[5] or [6], 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 § 425-30C(4)(a)[4] to [6], 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 §. NR 103.03, Wis. Adm. Code.
 - [8] Wetlands shall be delineated. Wetland boundary delineations shall be made in accordance with § NR 103.08(1m), Wis. Adm. Code. § 425-30C(4) 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 § 425-30C(4)(a)[1] to [9], the greatest protective area width shall apply where rivers, streams, lakes, and wetlands are contiguous.
 - (b) § 425-30C(4) applies to all post-construction sites located within a protective area, except those areas exempted pursuant to § 425-30C(4)(e).
 - (c) 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 stormwater 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.
- (d) A protective area established or created after October 1, 2004 shall not be eliminated or reduced, except as allowed in § 425-30C(4)(e)[2], [3], or [4].
- (e) *Exemptions.* The following areas are not required to meet the protective area requirements of § 425-30C(4):
 - [1] Redevelopment and routine maintenance areas provided the minimum requirements within § 425-30C(4)(d) are satisfied.
 - [2] Structures that cross or access surface waters such as boat landings, bridges and culverts.
 - [3] Structures constructed in accordance with § 59.692(1v), Wis. Stats.
 - [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 § 425-30C(1) and (2), except to the extent that vegetative ground cover is necessary to maintain bank stability.
- (5) 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.
- (6) Swale treatment for transportation facilities. This § 425-30C(6) is not applicable to transportation facilities that are part of a larger common plan of development or sale.
 - (a) Requirement. Except as provided in § 425-30C(6)(b), transportation facilities that use swales for runoff conveyance and pollutant removal are exempt from the requirements of § 425-30C(1), (2), and (3), 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.
- (b) Other Requirements. Notwithstanding § 425-30C(6)(a), the administering authority 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 § NR 151.004, Wis. Adm. Code.
- (7) Exemptions. The following areas are not required to meet the performance standards within § 425-30C:
 - (a) 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.
 - (b) 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 § 425-30C(4) still apply.
 - [2] Reconditioning or resurfacing of a highway.
 - [3] Minor reconstruction of a highway. Notwithstanding this exemption, the protective area requirements of § 425-30C(4) apply to minor reconstruction of a highway.
 - [4] Routine maintenance for transportation facilities that have less than five 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 stormwater conveyance system cleaning.
- D. General considerations for on-site and off-site stormwater management measures. The following considerations shall be observed in managing runoff:

- (1) 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.
- (2) Emergency overland flow for all stormwater facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.
- E. BMP location and credit.
 - (1) General. To comply with § 425-30C performance standards, the BMPs may be located on-site or off-site as part of a regional stormwater device, practice or system.
 - (2) Offsite or regional BMP.
 - (a) The amount of credit that the administering authority may give an offsite or regional BMP for purposes of determining compliance with the performance standards of § 425-30C is limited to the treatment capability or performance of the BMP.
 - (b) The administering authority 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 stormwater control equal to or greater than that which would be afforded by on-site BMPs meeting the § 425-30C performance standards.
 - [4] The owner of the BMP has entered into a § 425-33 maintenance agreement with the Village of Kimberly, 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 § 425-30C performance standard compliance.
 - [6] Where an off-site or regional BMP option exists such that the administering authority exempts the applicant from all or part of the minimum on-site stormwater management requirements, the applicant shall be required to pay a fee in an amount determined in negotiation with the administering authority. In determining the fee for post-construction runoff, the administering authority shall consider an equitable distribution of the cost for land, engineering design, construction, and maintenance of the off-site or regional BMP.
 - (3) BMP in non-navigable waters. For purposes of determining compliance with the performance standards of § 425-30C, the administering authority 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.

- (4) BMP in navigable waters.
 - (a) New Development Runoff. Except as allowed under § 425-30E(4)(b), 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 § 425-30C, the administering authority may not give credit for such BMPs.
 - (b) *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 administering authority under § 425-30C, 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.
 - (c) Existing Development & Post-Construction Runoff From Redevelopment, Routine Maintenance, & Infill Development Areas. Except as provided in § 425-30E(4)(d), 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 § 425-30C, the administering authority may not give credit for such BMPs.
 - (d) 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 § 425-30C, the administering authority 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.
- (5) Water quality trading. To comply with § 425-30C(1) performance standards, the administering authority may authorize credit for water quality trading provided all of the following conditions are satisfied:
 - (a) The treatment practices associated with a water quality trade shall be in place, effective and operational before credit can be authorized.
 - (b) The water quality trade shall comply with applicable trading ratios established by the Wisconsin Department of Natural Resources or the Village of Kimberly.

- (c) The water quality trade shall comply with applicable regulations, standards, and guidance developed by the Wisconsin Department of Natural Resources or the Village of Kimberly.
- (d) The responsible party shall furnish a copy of executed water quality trading agreements or other related information deemed necessary by the administering authority in order to authorize credit.
- F. Targeted performance standards. The administering authority may establish numeric water quality requirements that are more stringent than those set forth in § 425-30C 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 administering authority may establish stormwater management requirements more stringent than those set forth in this section if the administering authority determines that an added level of protection is needed to protect sensitive resources. Also, the administering authority may establish stormwater management requirements less stringent than those set forth in this section if the administering authority 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 NR 151 Wisconsin Administrative Code. The established additional requirements shall be provided to the applicant in writing.

§ 425-31. Permit required; procedures.

- A. Permit required. No responsible party may undertake a land disturbing construction activity without receiving a post-construction runoff permit from the administering authority prior to commencing the proposed activity.
- B. Permit application and fees. Unless specifically excluded by this article, any responsible party desiring a permit shall submit to the administering authority a permit application made on a form provided by the administering authority for that purpose.
 - (1) Unless otherwise excepted by this article, a permit application must be accompanied by a stormwater management plan, a maintenance agreement and a non-refundable permit administration fee.
 - (2) The stormwater management plan shall be prepared to meet the requirements of § 425-30 and § 425-32, the maintenance agreement shall be prepared to meet the requirements of § 425-33, the financial guarantee shall meet the requirements of § 425-23, and fees shall be those established by the Kimberly Village Board as set forth in § 425-35.
- C. Review and approval of permit application. The administering authority shall review any permit application that is submitted with a stormwater management plan, maintenance agreement, and the required fee. The following approval procedure shall be used:
 - (1) Within 20 business days of the receipt of a complete permit application, including all items as required by § 425-31B, the administering authority shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved based on the requirements of this article.

- (2) If the stormwater permit application, plan and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of stormwater management practices is made pursuant to § 425-30E, the administering authority shall issue the permit.
- (3) If the stormwater permit application, plan or maintenance agreement is disapproved, the administering authority shall detail in writing the reasons for disapproval.
- (4) The administering authority may request additional information from the applicant. If additional information is submitted, the administering authority 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.
- (5) Failure by the administering authority 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.
- D. Permit requirements. All permits issued under this article shall be subject to the following conditions, and holders of permits issued under this article shall be deemed to have accepted these conditions. The administering authority may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the administering authority to suspend or revoke this permit may be appealed in accordance with § 425-37.
 - (1) 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.
 - (2) The responsible party shall design and install all structural and non-structural stormwater management measures in accordance with the approved stormwater management plan and this permit.
 - (3) The responsible party shall notify the administering authority at least 10 business days before commencing any work in conjunction with the stormwater management plan, and within 10 business days upon completion of the stormwater management practices. If required as a special condition under § 425-31E, the responsible party shall make additional notification according to a schedule set forth by the administering authority so that practice installations can be inspected during construction.
 - (4) Practice installations required as part of this article shall be certified "as built" by a licensed professional engineer. Completed stormwater management practices must pass a final inspection by the administering authority or its designee to determine if they are in accordance with the approved stormwater management plan and article. The administering authority 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.
 - (5) The responsible party shall notify the administering authority of any significant modifications it intends to make to an approved stormwater management plan. The administering authority may require that the proposed modifications be submitted to it for approval prior to incorporation into the stormwater management plan and execution by the responsible party.
 - (6) The responsible party shall inspect BMPs annually and after runoff events in accordance with the stormwater management plan and maintenance agreement. The responsible party shall have a licensed professional submit a stamped written inspection report to the administering

authority for review and approval every five years. All written inspection reports prepared by the responsible party shall accompany the stamped report prepared by the licensed professional.

- (7) The responsible party shall maintain all stormwater management practices in accordance with the stormwater management plan until the practices either become the responsibility of the Village of Kimberly, or are transferred to subsequent private owners as specified in the approved maintenance agreement.
- (8) The responsible party authorizes the administering authority to perform any work or operations necessary to bring stormwater management measures into conformance with the approved stormwater management plan, and consents to a special assessment or charge against the property as authorized under Subch. VII of Ch. 66, Wis. Stats., or to charging such costs against the financial guarantee posted under § 425-23.
- (9) If so directed by the administering authority, 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 stormwater management plan.
- (10) The responsible party shall permit property access to the administering authority or its designee for the purpose of inspecting the property for compliance with the approved stormwater management plan and this permit.
- (11) Where site development or redevelopment involves changes in direction, increases in peak rate and/or total volume of runoff from a site, the administering authority may require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.
- (12) The responsible party is subject to the enforcement actions and penalties detailed in § 425-36, if the responsible party fails to comply with the terms of this permit.
- (13) The permit applicant shall post the "Certificate of Permit Coverage" in a conspicuous location at the construction site.
- E. Permit conditions. Permits issued under this subsection may include conditions established by administering authority in addition to the requirements needed to meet the performance standards in § 425-30 or a financial guarantee as provided for in § 425-23.
- F. Permit duration. Permits issued under this section shall be valid from the date of issuance through the date the administering authority notifies the responsible party that all stormwater management practices have passed the final inspection required under § 425-31D(4).
- G. Alternate requirements. The administering authority may prescribe alternative requirements for applicants seeking an exemption to on-site stormwater management performance standards under § 425-30E or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.

§ 425-32. Stormwater management plan.

- A. Plan requirements. The stormwater management plan required under § 425-30B and § 425-31B shall comply with the Village of Kimberly Stormwater Reference Guide and contain at a minimum the following information:
 - (1) Name, address, and telephone number of the landowner and responsible parties.
 - (2) A legal description of the property proposed to be developed.
 - (3) Pre-development site map with property lines, disturbed limits, and drainage patterns.
 - (4) Post-development site map with property lines, disturbed limits, and drainage patterns.
 - (a) Total area of disturbed impervious surfaces within the site.
 - (b) Total area of new impervious surfaces within the site.
 - (c) Performance standards applicable to site.
 - (d) Proposed best management practices.
 - (e) Groundwater, bedrock, and soil limitations.
 - (f) Separation distances. Stormwater management practices shall be adequately separated from wells to prevent contamination of drinking water.
 - (5) Inspection and maintenance schedules for stormwater BMPs.
- B. Alternate requirements. The administering authority may prescribe alternative submittal requirements for applicants seeking an exemption to on-site stormwater management performance standards under § 425-30E or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.

§ 425-33. Maintenance agreement.

- A. Maintenance agreement required. The maintenance agreement required under § 425-31B for stormwater management practices shall be an agreement between the Village of Kimberly and the responsible party to provide for maintenance of stormwater 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 stormwater management practices.
- B. Agreement provisions. The maintenance agreement shall contain the following information and provisions and be consistent with the plan required by § 425-31B:
 - (1) Identification of the stormwater facilities and designation of the drainage area served by the facilities.
 - (2) A schedule for regular maintenance of each aspect of the stormwater management system consistent with the stormwater management plan required under § 425-31B.

- (3) Identification of the responsible party(s), organization or city, county, town or village responsible for long term maintenance of the stormwater management practices identified in the stormwater management plan required under § 425-31B.
- (4) Requirement that the responsible party(s), organization, or city, county, town or village shall maintain stormwater management practices in accordance with the schedule included in § 425-33B(2).
- (5) Authorization for the administering authority to access the property to conduct inspections of stormwater management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.
- (6) A requirement on the administering authority 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 stormwater management practice into proper working condition.
- (7) Agreement that the party designated under § 425-33B(3), as responsible for long term maintenance of the stormwater management practices, shall be notified by the administering authority of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the administering authority.
- (8) Authorization of the administering authority to perform the corrected actions identified in the inspection report if the responsible party designated under § 425-33B(3) does not make the required corrections in the specified time period. The administering authority shall enter the amount due on the tax rolls and collect the money as a special charge against the property pursuant to Subch. VII of Ch. 66, Wis. Stats.
- C. Alternate requirements. The administering authority may prescribe alternative requirements for applicants seeking an exemption to on-site stormwater management performance standards under § 425-30E or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.

§ 425-23. Financial guarantee.

- A. Establishment of the guarantee. The administering authority may require the submittal of a financial guarantee, the form and type of which shall be acceptable to the administering authority. The financial guarantee shall be in an amount determined by the administering authority to be the estimated cost of construction and the estimated cost of maintenance of the stormwater management practices during the period which the designated party in the maintenance agreement has maintenance responsibility. The financial guarantee shall give the administering authority the authorization to use the funds to complete the stormwater management practices if the responsible party defaults or does not properly implement the approved stormwater management plan, upon written notice to the responsible party by the administering authority that the requirements of this article have not been met.
- B. Conditions for release. Conditions for the release of the financial guarantee are as follows:
 - (1) The administering authority shall release the portion of the financial guarantee established under this section, less any costs incurred by the administering authority to complete installation of practices, upon submission of "as built plans" by a licensed professional engineer. The

administering authority may make provisions for a partial pro-rata release of the financial guarantee based on the completion of various development stages.

- (2) The administering authority shall release the portion of the financial guarantee established under this section to assure maintenance of stormwater practices, less any costs incurred by the administering authority, at such time that the responsibility for practice maintenance is passed on to another entity via an approved maintenance agreement.
- C. Alternate requirements. The administering authority may prescribe alternative requirements for applicants seeking an exemption to on-site stormwater management performance standards under § 425-30E or for applicants seeking a permit for a post-construction site with less than 20,000 square feet of impervious surface disturbance.

§ 425-35. Fee schedule.

The fees referred to in other sections of this article shall be established by the Kimberly 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 Town Hall.

§ 425-36. Enforcement.

- A. Any land disturbing construction activity or post-construction runoff initiated after the effective date of this article by any person, firm, association, or corporation subject to the article provisions shall be deemed a violation unless conducted in accordance with the requirements of this article.
- B. The administering authority 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.
- C. Upon receipt of written notification from the administering authority under Subsection B, the responsible party shall correct work that does not comply with the stormwater 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 administering authority in the notice.
- D. If the violations to a permit issued pursuant to this article are likely to result in damage to properties, public facilities, or waters of the state, the administering authority may enter the land and take emergency actions necessary to prevent such damage. The costs incurred by the administering authority plus interest and legal costs shall be billed to the responsible party.
- E. The administering authority is authorized to post a stop work order on all land disturbing construction activity that is in violation of this article, or to request the Town Attorney to obtain a cease and desist order in any court with jurisdiction.
- F. The administering authority may revoke a permit issued under this article for non-compliance with article provisions.
- G. Any permit revocation, stop work order, or cease and desist order shall remain in effect unless retracted by the administering authority or by a court with jurisdiction.

- H. The administering authority is authorized to refer any violation of this article, or of a stop work order or cease and desist order issued pursuant to this article, to the Town Attorney for the commencement of further legal proceedings in any court with jurisdiction.
- I. Any person, firm, association, or corporation who does not comply with the provisions of this article shall be subject to a forfeiture as provided in the Uniform Forfeiture and Bond Schedules per offense, together with the costs of prosecution. Each day that the violation exists shall constitute a separate offense.
- J. Compliance with the provisions of this article 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 injunctional proceedings.
- K. When the administering authority determines that the holder of a permit issued pursuant to this article has failed to follow practices set forth in the stormwater management plan, or has failed to comply with schedules set forth in said stormwater management plan, the administering authority or a party designated by the administering authority 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 administering authority 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 § 425-23 of this article. 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.

§ 425-37. Appeals.

- A. Board of Appeals. The Board of Appeals created pursuant to § 14-2 of this Code, pursuant to § 61.354(4)(b), Wis. Stats., shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the administering authority in administering this article. The Board of Appeals 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 article that are not contrary to the public interest, and where owing to special conditions a literal enforcement of the article will result in unnecessary hardship.
- B. Who may appeal. Appeals to the Plan Commission may be taken by any aggrieved person or by an officer, department, board, or bureau of the Village of Kimberly affected by any decision of the administering authority.

§ 425-38 Limitations on municipal responsibility.

Nothing in this article creates or imposes, nor shall be construed to create or impose, any greater obligation or responsibility on the municipality which has adopted this article than those minimum requirements specifically required by State of Wisconsin Statutes and Department of Natural Resources regulations.

STORMWATER REFERENCE GUIDE

FOR THE:

POST-CONSTRUCTION STORMWATER MANAGEMENT ORDINANCE



DATE: March 1, 2021

TABLE OF CONTENTS

EXECL	JTIVE SUMMARY	3
425-24	AUTHORITY	4
425-25	FINDINGS OF FACT	4
425-26	PURPOSE AND INTENT	4
А. В.	PURPOSE INTENT	4 4
425-27	APPLICABILITY AND JURISDICTION	4
А. В. С.	APPLICABILITY JURISDICTION EXCLUSIONS	4 4 4
425-28	DEFINITIONS	4
425-29	TECHNICAL STANDARDS	4
425-30	PERFORMANCE STANDARDS	11
A.	BESPONSIBLE PARTY	
B.	PLAN	11
C.	REQUIREMENTS	11
E.	BMP LOCATION AND CREDIT	30
F.	TARGETED PERFORMANCE STANDARDS	31
G.		31
425-31	PERMIT REQUIRED; PROCEDURES	31
A. B	PERMIT REQUIRED	31
Б. С.	REVIEW AND APPROVAL OF PERMIT APPLICATION	31
D.	PERMIT REQUIREMENTS	31
E. F	PERMIT CONDITIONS	31
G.	ALTERNATE REQUIREMENTS	31
425-32	STORMWATER MANAGEMENT PLAN	31
Α.	PLAN REQUIREMENTS	31
В.	ALTERNATE REQUIREMENTS	33
425-33	MAINTENANCE AGREEMENT	34
Α.		34
в. С.	AGREEMENT PROVISIONS	34 34
425-34	FINANCIAL GUARANTEE	34
A.	ESTABLISHMENT OF GUARANTEE	34
В.	CONDITIONS FOR RELEASE	34
C.		34
425-35	FEE SCHEDULE	34
425-36		34
425-37	APPEALS	34
A.	BOARD OF APPEALS	34
В.	WHO MAY APPEAL	34

EXECUTIVE SUMMARY

The Village's Stormwater Reference Guide (Reference Guide) has been created to act as a companion to the Village's Post-Construction Stormwater Management Ordinance (Ordinance). The Ordinance cites the Reference Guide as the resource for details that were omitted from the Ordinance. Items in the Reference Guide can be changed without the public hearing process as the changes are typically administrative and/or technical and do not affect the Ordinance's intent and requirements. The Reference Guide is organized similar to the Post-Construction Stormwater Management Ordinance for ease of relating the Reference Guide to the appropriate sections in the ordinance.

Post-Construction Stormwater Management Ordinance							
Site		Requirements ^a					
		Water Quality	Peak Discharge	Infiltration	Protective Area	Fueling & Vehicle Maintenance Areas	
< 20,000 ft ² Impervious Surface ^b		No Numeric Standard	No Numeric Standard	No Numeric Standard	Width Varies	No Visible Petroleum Sheen	
> 20,000 ft ² Impervious Surface	New Development	Numeric Standard Varies ^d	1, 2, 10 & 100-year	90% to 60% of pre-development infiltration volume	Width Varies	No Visible Petroleum Sheen	
	Redevelopment	Numeric Standard Varies ^d	1, 2, 10 & 100-year	Exempt	Potentially Exempt	No Visible Petroleum Sheen	
	Routine Maintenance Area	Numeric Standard Varies ^d	None, unless discharging into a BMP	Exempt	Potentially Exempt	No Visible Petroleum Sheen	
Transportation Facilities °		 Grass swales comply with Technical Standard 1005 "Vegetated Infiltration Swale". Other requirements may apply if discharging to ORW, ERW, 303(d) water body, etc. 					

- ^a Summary of Section 425-30 Performance Standards of the Post-Construction Stormwater Management Ordinance. See Ordinance and this Reference Guide for specific requirements, exemptions and prohibitions.
- ^b The impervious surface areas created after the adoption date of the Ordinance are cumulative. For example, if a landowner first adds 18,000 ft² of parking and then adds a 2,001 ft² building the following year, the site is held to the >20,000 ft² performance standards at the time of the 2,001 ft² building addition.
- ^c Provides alternative criteria for transportation facilities with grass swale drainage systems. The alternative criteria may be used by the applicant to satisfy the Water Quality, Peak Discharge, and Infiltration Performance Standards. The alternative criteria may not be used for transportation facilities that are part of a larger common plan of development.
- ^d Please refer to the Post-Construction Storm Water Management Ordinance for the required water quality reductions. Water quality reductions and pollutants of concern may vary by watershed.

425-24 AUTHORITY

425-25 FINDINGS OF FACT

425-26 PURPOSE AND INTENT

- A. PURPOSE
- B. INTENT

425-27 APPLICABILITY AND JURISDICTION

- A. APPLICABILITY
- B. JURISDICTION

C. EXCLUSIONS

The Wisconsin Department of Transportation (WisDOT) has entered into a memorandum of understanding with the Wisconsin Department of Natural Resources that satisfies s. 281.33 (2), Wis. Stats., such that activities directed and supervised by WisDOT are exempt from this Ordinance.

Activities directed and supervised by the local municipality are covered by this Ordinance.

425-28 DEFINITIONS

"Biofiltration system" means a bioretention system which does not qualify for any infiltration credit pursuant to 425-30C(3) of the Post-Construction Stormwater Management Ordinance.

"Structural height" means the difference in elevation in feet between the point of lowest elevation of the top of the embankment before overtopping and the lowest elevation of the downstream toe of embankment.

425-29 TECHNICAL STANDARDS

Below is a list of Technical Standards and Guidance Documents that shall be used to satisfy Performance Standards contained in the ordinance. Technical Standards specify the minimum criteria for a best management practice (BMP). Guidance Documents contain recommendations and additional "how to" guidance. Performance Standards take precedence over Technical Standards and Technical Standards take precedence over Guidance Documents.

- (a) Technical Standards: The following are applicable Wisconsin Department of Natural Resources (DNR) Conservation Practice Standards or Technical Standards. These standards may be found on the DNR website (http://dnr.wi.gov/topic/stormwater/standards/postconst_standards.html).
 - 1001 Wet Detention Pond
 - 1002 Site Evaluation for Stormwater Infiltration
 - 1003 Infiltration Basin
 - 1004 Bioretention For Infiltration
 - 1005 Vegetated Swale
 - 1006 Method for Predicting the Efficiency of Proprietary Storm Water Sedimentation Devices
 - 1007 Infiltration Trench
 - 1008 Permeable Pavement

- S100 Compost
- 1100 Interim Turf Nutrient Management
- (b) **Local Modifications to Technical Standards:** The following are local requirements which are intended to supplement, clarify, or supersede DNR Technical Standards.

1001 - Wet Detention Pond

Dry Detention Pond-

- Dry detention ponds shall be designed to meet requirements in Technical Standard 1001, except criteria contained in Sections V.B.1.a. through g., V.B.2.c., and V.B.2.k.
- Dry detention ponds shall be designed to meet the local modifications provided below for Technical Standard 1001, except permanent pool and water quality criteria.
- Dry detention ponds shall not receive any water quality credit, unless written approval is obtained from the DNR. The approval letter must specifically indicate the amount of water quality credit provided by the dry pond.
- Dry detention pond shall have a minimum bottom slope to the principal outlet of 1%. The applicant may request a waiver from the administering authority if site characteristics create a hardship.
- As part of the Operation & Maintenance Plan, sediment accumulation in the dry pond shall be monitored. In lieu of criteria contained in Section VI.B. of Technical Standard 1001, accumulated sediment in a dry detention pond shall be removed when 5% to 10% of the storage volume is lost for the 2-year, 24-hour design storm. At a minimum, include details in the Operation & Maintenance Plan for inspecting sediment depths, frequency of accumulated sediment removal, and disposal locations for accumulated sediment.

Pond Watershed-

 Wet ponds are not recommended for small watersheds (< 15 acres in clay soil). A wet pond located in a small watershed may develop stagnation problems within the permanent pool and become a public nuisance. Public acceptance of stormwater BMPs is important to the success of a local stormwater program. Dry ponds, biofiltration, proprietary devices, and other BMPs are recommended for small watersheds.

100-Year Floodplain-

• Wet and dry detention ponds shall not be located in a 100-year floodway or 100year flood storage area unless a hydrologic and hydraulic study is conducted in accordance with NR 116. Easements will be required if the flood study indicates the 100-year floodway or flood storage area is impacted by the pond or its embankment. Ponds shall not impede 100-year flood conveyance along navigable streams and non-navigable channels.

Permanent Pool-

• Pool Shape- A minimum length to width ratio of 3:1 is required between the principal inlet and principal outlet of the wet detention pond. The applicant may request a waiver if site characteristics create a hardship. Redevelopment and

pond retrofit projects may be eligible for a waiver. Typically, new development is not eligible for a waiver.

Water Quality-

• If the wet pond's pollutant removal is not determined with SLAMM or P8, the 1year, 24-hour design storm shall be released from the wet pond using the criteria contained in Section V.B.1.a. and b. of Technical Standard 1001.

Peak Flow Control-

- Do not use Table 1 in Technical Standard 1001. Use the maximum predevelopment runoff curve numbers contained in the Post-Construction Stormwater Management Ordinance.
- It is recommended that the developer and designer contact the local municipality to discuss peak discharge requirements for the site early in the design process. The local municipality may have adopted alternative peak discharge requirements for the site which are different than the Post-Construction Stormwater Management Ordinance. At a minimum, the peak discharge requirements contained in NR 151 shall be met.

Inflows-

- Pipe inlets shall be protected from soil washouts due to seepage along the pipe's granular bedding and backfill. Rip-rap or other protection shall be placed around the entire pipe perimeter.
- Other inflow points shall be protected from scour and erosion.

Principal Outlet-

- All flows shall pass through the principal outlet during the 1-year, 2-year and 10year, 24-hour design storms. The principal outlet shall consist of one or more flow control structures and discharge pipes.
- Pipes- Generally concrete, PVC, or CMP are the preferred pipe materials. Corrugated PE will tend to jack-up due to frost heave and flotation. The minimum recommended pipe diameter is 12-inches.
- Orifices- Orifices smaller than 4 inches are not recommended due to the potential for clogging. Consider using a 6-inch perforated drain pipe and restrictor plate (refer to Section V.B.8 of Technical Standard 1004 for guidance). The total opening area of all perforation holes combined shall be sufficient to allow the drain pipe to discharge at full capacity, as would occur if there were no orifice restriction. Backfilling the drain pipe with 1-inch washed stone provides protection from clogging.
- Trash racks or other equivalent litter control devices are required for all outlet openings that control the 1-year and 2-year, 24-hour design storm. The maximum bar spacing shall be less than 2-inches and less than ½ the smallest opening dimension, whichever is more restrictive. The minimum surface area for the trash rack shall be 5 to 10 times the outlet's cross sectional area to prevent clogging. Trash racks keep litter and debris in the pond and prevent it from discharging into streams, rivers, and lakes.
- Trash racks are also required for other outlet openings that have a width, height, or diameter less than 12-inches. The maximum bar spacing shall be less than 1/2 the smallest opening dimension. The minimum surface area for the trash rack shall be at 5 to 10 times the outlet's cross sectional area to prevent clogging.

• Reverse-sloped pipes and other underwater outlets may impact a wet pond's pollutant removal efficiency. Outlets that draw water from below the permanent pool's surface elevation reduce the effective surface area and depth of the permanent pool. If reverse-sloped pipes and other underwater outlets are used, special consideration is required for SLAMM, DETPOND & P8 modeling to ensure accurate water quality results. Also, underwater outlets may freeze during winter.

Flap Gates-

- Flap gates are required if the 1-year, 2-year or 10-year, 24-hour design storm flows backward through the principal outlet. Backwater from a down slope conveyance system may impact a pond's water quality and/or flood control performance.
- Flap gates shall not impede flow in down slope pipes, channels or streams.
- Ice accumulation within the down slope conveyance system shall be considered during flap gate and principal outlet design.

Tailwater-

- Tailwater conditions shall be evaluated at the pond outlet.
- Tailwater conditions along lakes, rivers, and streams may be obtained from available 100-year floodplain studies.
- Tailwater conditions may require that 1, 2, 10, and/or 100-year, 24-hour runoff volumes be held in the pond, without release, until the down slope hydrograph allows the pond and flap gate to discharge flow.
- It is recommended that the designer contact the local municipality to discuss tailwater conditions early in the design process. The local municipality may have information available to assist with the tailwater evaluation.

Emergency Spillway-

- The routed 1-year, 2-year and 10-year, 24-hour design storm may not pass through the emergency spillway. The routed 100-year, 24-hour design storm may not pass through the emergency spillway if the pond is designed to have a:
 - Structural height > 6 feet and flood storage capacity > 50 acre-feet, or
 - Structural height > 25 feet and flood storage capacity > 15 acre-feet.
- Backwater from a down slope conveyance system may not pass through the emergency spillway during the 1-year, 2-year or 10-year, 24-hour design storm. Also, backwater may not pass through the emergency spillway during the 100-year, 24-hour design storm, unless a hydrologic and hydraulic evaluation indicates the site's peak discharge requirements are still satisfied, despite the backwater.
- When feasible, the emergency spillway should not be constructed on an embankment or over fill material. Spillways constructed on an embankment or over fill material are more prone to failure.
- The emergency spillway shall be constructed of permanent materials (i.e. poured concrete, riprap, articulated concrete block, etc.) if the spillway is constructed on an embankment. The permanent material shall extend from the top of embankment to the down slope toe of embankment. The permanent material shall be shaped to contain flows and reduce potential for erosion and embankment failure.

Topsoil & Seeding-

- Topsoil is required in the safety shelf to encourage wetland plant growth (12-inch minimum thickness).
- When feasible, install a wetland seed mix or mature plants in the safety shelf to improve pond safety, reduce wave erosion along the shoreline, improve pollutant removal, and discourage geese residence. Use non-invasive species.
- When feasible, maintain a high grass buffer around the permanent pool's perimeter. The high grass buffer will further improve pond safety and geese control. Also, the perimeter of the permanent pool is typically the most difficult area to mow due to saturated soil conditions.

Record Drawings-

• Surveyed record drawings certified by a Professional Engineer shall be submitted upon completion of construction of all wet and dry ponds. As part of the record drawings, the Professional Engineer may need to verify BMP performance using computer modeling. Refer to record drawing checklist for requirements.

1002 - Site Evaluation for Stormwater Infiltration

- A site layout should not be developed until Step B is complete. Information obtained from Step B is used to:
 - Identify soil textures within the site.
 - Identify infiltration exclusions and exemptions.
 - Develop a site layout and identify potential infiltration device locations.
- For Step B, the <u>minimum</u> number of initial test pits or soil borings required for a new development area are as follows:
 - Two for the initial 10 acres, plus one per 10 acres thereafter.
 - One per soil unit. Soil units are depicted on NRCS Soil Survey Maps.
 - Example calculations:
 - 4 acres with 1 soil unit = min. of 2 test pits or soil borings
 - 20 acres with 2 soil units = min. of 3 test pits or soil borings.
 - 20 acres with 5 soil units = min. of 5 test pits or soil borings.
 - 34 acres with 3 soil units = min. of 4 test pits or soil borings.
- Upon completion of Step B, it is recommended that the developer and designer meet with the municipality to discuss infiltration requirements for the development to avoid redesign during permit submittal.
- Information obtained from Step C is used to design each infiltration device. As
 part of Step C, a second set of test pits or soil borings are required. Refer to
 Table 1, Technical Standard 1002 for test pit or soil boring requirements.

1003 - Infiltration Basin

- SLAMM, P8 or an equivalent methodology shall be used if the designer desires pollutant reduction credit for the infiltration basin. Pursuant to Technical Standard 1003, pretreatment is required for an Infiltration Basin.
- *Record Drawings* Surveyed record drawings certified by a Professional Engineer shall be submitted upon completion of construction of all infiltration basins. As part of the record drawings, the Professional Engineer may need to verify BMP performance using computer modeling. Refer to record drawing checklist for requirements.

1004 - Bioretention For Infiltration

- Biofiltration systems shall be designed to meet requirements in Technical Standard 1004, except for the storage layer and sand/native soil interface layer.
- Rain Gardens shall be designed to meet requirements in Technical Standard 1004, except for the engineered soil planting bed, storage layer, underdrain, and sand/native soil interface layer. Rain Gardens are typically used in residential areas. Rain Gardens are primarily intended for roof runoff, but may also be used for lawn, sidewalk and driveway runoff.
- SLAMM, P8 or an equivalent methodology shall be used to evaluate the pollutant reduction associated with a bioretention, biofiltration, or rain garden BMP.
- *Record Drawings* Surveyed record drawings certified by a Professional Engineer shall be submitted upon completion of construction of all bioretention and biofiltration facilities. As part of the record drawings, the Professional Engineer may need to verify BMP performance using computer modeling. Also, as part of the record drawings, the contractor shall certify the bioretention or biofiltration device was constructed in accordance with the approved construction plans and that the installed engineered soil complies with the material specifications. Refer to record drawing checklist for requirements.

1005 – Vegetated Infiltration Swale

- Grass swales shall meet the following design criteria if the applicant plans to take credit for pollutant reductions calculated by SLAMM or P8.
 - The grass swale infiltration rate used in SLAMM or P8 shall be obtained from Table 2, Technical Standard 1002. The design infiltration rate shall be based on the least permeable soil horizon to 5 feet below the grass swale's bottom elevation.
 - Minimum longitudinal slope for a grass swale is 1%. The applicant may request a waiver if site characteristics create a hardship. If a longitudinal slope less than 1% is requested by the applicant, the stormwater management plan shall contain a written, site-specific explanation of how soil compaction, standing water, and poor soil drainage will be remedied by the responsible party or landowner such that water quality requirements are still satisfied. Drainage or standing water problems may develop along grass swales with a longitudinal slope less than 1%, particularly in sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay or clay soils. Concrete ditch liners and underdrain pipes installed between driveway culvert openings can remedy a standing water problem, but do not provide any water quality credit.
 - Grass swales shall be designed for a maximum 2-inch lawn height. If an alternative height is desired, it is recommended that the developer and designer contact the local municipality early in the design process to obtain approval. The local municipality may have ordinances or other design criteria which dictate the allowable mowing height.
 - Driveway culverts shall be considered when the swale length (density) is determined for purposes of SLAMM or P8 modeling. The maximum allowable culvert length for each lot shall be specified on the plans.
 - Minimize or mitigate soil compaction during grading activities.
 - Grassed swales shall be designed for the proper drainage area. Generally, it will be best to have one or two sizes to be used wherever needed throughout the development. The design shall be based on the largest drainage area served.

 Grassed swales shall be designed according to the planned vegetation type and maintenance that will be provided. Generally, grassed channels will be designed to have stable velocities when the vegetation is shortest and adequate capacity when the vegetation is longest.

<u>1006 - Method for Predicting the Efficiency of Proprietary Storm Water</u> <u>Sedimentation Devices</u>

• *Record Drawings*- Surveyed record drawings certified by a Professional Engineer shall be submitted upon completion of construction of all proprietary devices. As part of the record drawings, the Professional Engineer may need to verify BMP performance using computer modeling. Refer to record drawing checklist for requirements.

1007 - Infiltration Trench

- SLAMM, P8 or an equivalent methodology shall be used if the designer desires pollutant reduction credit for the infiltration trench. Pursuant to Technical Standard 1007, pretreatment is required for an Infiltration Trench.
- Record Drawings- Surveyed record drawings certified by a Professional Engineer shall be submitted upon completion of construction of all infiltration trenches. As part of the record drawings, the Professional Engineer may need to verify BMP performance using computer modeling. Refer to record drawing checklist for requirements.
- (c) **Guidance Documents**: The following are the applicable Guidance Documents (<u>http://dnr.wi.gov/topic/Stormwater/standards/postconst_standards.html</u>):
 - The Wisconsin Stormwater Manual
 - S100 Compost
 - Technical Note for Sizing Infiltration Basins and Bioretention Devices
 - Rain Gardens: A How-To Manual for Homeowners (see above local modifications to Technical Standard 1004).
 - Updates to Post-Construction Standards: Errata
 - Errata to swale guidance
 - Internally Drained Area Guidance
 - Modeling Post-Construction Storm Water Management Treatment
 - Storm Water Detention Ponds Site Safety Design
 - Establishment of Protective Areas for Wetlands
 - NR 528 Technical Guidance: Management of Accumulated Sediment from Storm Water Structures (<u>http://dnr.wi.gov/topic/waste/nr528.html</u>)
 - Artificial recharge of groundwater: hydrogeology and engineering (<u>http://dnr.wi.gov/topic/Stormwater/standards/gw_mounding.html</u>)
 - "Construction Site" Definition "Common Plan of Development" (<u>http://dnr.wi.gov/topic/stormwater/construction/overview.html</u>)
 - Technical Note for Sizing Infiltration Basins and Bioretention Devices
 - Meeting New State Regulations: Post-Construction Stormwater Management Workshops (<u>http://dnr.wi.gov/topic/Stormwater/construction/practices.html</u>)
 - Estimating Residue Using the Line Transect Method (UW-Extension A3533).
 - Wisconsin Department of Transportation (DOT) Facilities Development Manual
 - Wisconsin DOT Standard Specifications for Highway and Structure Construction
 - Other National Publications

(d) Local Easement Requirements:

- Easements are typically required for BMPs and conveyance systems that serve more than one property owner or lot. Conveyance systems include storm sewers, grass swales, channels, streams, and overland relief paths. Easement widths will vary.
- An ingress / egress easement or direct access to a public street is typically required for BMPs that serve more than one property owner or lot.
- It is recommended that the developer and designer contact the local municipality early in the design process to discuss easements and width requirements.

425-30 PERFORMANCE STANDARDS

A. RESPONSIBLE PARTY

B. PLAN

C. REQUIREMENTS

(1) WATER QUALITY

Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to meet the ordinance's numeric performance standards. All other post-construction sites are not required to meet a numeric performance standard. BMP design guidance is provided below in Section (h) for sites with less than 20,000 sq.ft. of impervious surface disturbance.

Computer Models:

Pollutant loading models such as SLAMM, DETPOND, P8 or an approved equivalent methodology may be used to evaluate the efficiency of the design in removing pollutants. Information on how to access SLAMM and P8 is available at http://dnr.wi.gov/topic/stormwater/standards/slamm.html or contact the stormwater coordinator in the runoff management section of the bureau of watershed management at (608) 267-7694.

Use the most recent version of SLAMM, DETPOND and P8. The applicant may request a waiver of this requirement.

Design Clarifications:

No Controls - "No Controls" is the baseline condition for each site. No water quality credit is provided for meeting the baseline condition. The baseline condition is defined as follows:

- Assume site is stabilized (no erosion).
- Assume proposed impervious surfaces are in place. Impervious surface reductions (e.g. reduced street width) cannot be used to claim water quality credit; however, impervious surface reductions will lower runoff volumes which will reduce the required size for stormwater management BMPs.
- Assume no stormwater management BMPs.
- Assume curb and gutter / storm sewer drainage system in fair condition.
- If the applicant intends to claim water quality credit for disconnecting an impervious surface, the "No Controls" condition shall be based on the "typical" percent connected impervious values established by the DNR:

LAND USE	% CONNECTED
Open space / undeveloped	5
Suburban Residential	7
Park	10
Cemetery	12

Low Density Residential	14
Medium Density Residential – With Alley	25
Medium Density Residential – No Alley	28
Schools - Institutional	39
High Density Residential – With Alley	42
High Density Residential – No Alley	42
Mobile Home Residential	47
Freeway	51
Multi-Family Residential	51
Miscellaneous Institutional	59
Medium Industrial	64
High Rise Residential	65
Light Industrial	71
Office Park – Commercial	74
Hospital – Institutional	76
Commercial Strip Mall	91
Shopping Center – Commercial	91
Commercial DownVillage	96

Disconnection - Water quality credit is provided for runoff volume reductions associated with disconnecting impervious surfaces beyond the "typical" percent connected impervious values established by the DNR. In order to consider an impervious surface as "disconnected", the following criteria shall be met:

- Residential Roofs: Discharge runoff over a minimum 20-foot long pervious surface that is in good condition and graded for sheet flow.
- Other Impervious Surfaces:
 - Source area flow length may not exceed 75 feet.
 - Source area and pervious area must be graded for sheet flow.
 - Pervious area must be in good condition, have a slope less than 8%, and have a flow length at least as long as the contributing impervious area's length (but never less than 20 feet).



Source: DNR Post-Construction Stormwater Management Workshops

Street Sweeping & Catch Basin Cleaning - No water quality credit is provided for street sweeping, catch basin cleaning, or other management type BMPs in new development areas.

Infiltration Rate - The design infiltration rate for a BMP shall be based on the least permeable soil horizon to 5 feet below the BMP's bottom elevation. Infiltration rates shall be obtained from Table 2, Technical Standard 1002.

Grass Swale - The grass swale infiltration rate used in SLAMM or P8 shall be obtained from Table 2, Technical Standard 1002. For SLAMM, the typical swale geometry shall be entered in lieu of using the "Wetted Width" option. SLAMM will calculate the "Wetted Width" for each rain event based on the typical swale geometry.

Uncontrolled Areas - The performance standard for water quality is a site standard, not a BMP standard. Often, a site contains uncontrolled areas that do not flow through a BMP (e.g. wet pond, grass swale). Typically, it is necessary to increase the water quality reduction provided by other onsite BMPs in order to offset or over compensate for these uncontrolled areas.

Routine Maintenance Areas – No performance standard or water quality reduction is required for routine maintenance areas that are part of a postconstruction site with less than 5 acres of disturbance. However, the applicant is responsible for proper performance of onsite BMPs. In order to ensure proper BMP performance, the applicant has two options:

- Divert the routine maintenance area around onsite BMPs, or
- Include runoff volumes from the routine maintenance area in onsite BMP calculations. However, no water quality credit is provided for the routine maintenance area unless it is reclassified as redevelopment.

Offsite Drainage Areas – The applicant is not responsible for satisfying water quality performance standards for offsite areas that drain into the project site. However, the applicant is responsible for proper performance of onsite BMPs. In order to ensure proper onsite BMP performance, the applicant has two options:

- Divert offsite runoff around onsite BMPs, or
- Include offsite runoff volumes in onsite BMP calculations. The amount of onsite water quality credit is determined by multiplying the BMP's percent pollutant reduction by the "no controls" baseline pollutant load for the onsite area.

Example Calculation #1:

The development site currently contains 30 acres of institutional land uses and 70 acres of agricultural land uses. The entire 100 acre site will be disturbed as part of the proposed project. Within the 100 acre site, the developer plans to:

- Redevelop 20 acres (existing institutional) into a new commercial area.
- Conduct routine maintenance on 10 acres of existing asphalt parking lot (existing institutional). Parking lot will be part of new commercial area.
- Develop 70 acres (existing agriculture) into a new residential area.

The "No Controls" or base TSS load is computed as follows:

- Onsite Commercial = (20 + 10) acres x 600 lbs/acre = 18,000 lbs (water quality reductions are required for routine maintenance areas that are part of a post-construction site with > 5 acres of disturbance)
- Onsite Residential = 70 acres x 400 lbs/acre = 28,000 lbs
- "No Controls" TSS Load = 18,000 + 28,000 = 46,000 lbs

The "TSS Reduction Required" is computed as follows:

- Onsite Commercial = 18,000 lbs x 40% (redevelopment) = 7,200 lbs
- Onsite Residential = 28,000 lbs x 80% (new development) = 22,400 lbs
- "TSS Reduction Required" = (7,200 + 22,400) / 46,000 = 0.64 or 64%

A wet pond is proposed for the site. The pond achieves an 80% TSS reduction for its 130 acre watershed. The 130 acre watershed includes 20 acres of commercial area, 10 acres of commercial parking lot, 60 acres of residential area, and 40 acres of offsite residential area.

- Onsite Commercial (30 acres) = 18,000 lbs x 80% (wet pond) = 14,400 lbs
- Onsite Residential (60 acres) = 24,000 lbs x 80% (wet pond) = 19,200 lbs
- Offsite Residential (40 acres) = 16,000 lbs x 80% (wet pond) = 12,800 lbs
- Pond TSS Reduction = (14,400 + 19,200 + 12,800) / 58,000 = 0.80 or 80%

The "TSS Reduction Provided" is computed as follows:

- Onsite Commercial = 18,000 lbs x 80% (wet pond) = 14,400 lbs
- Onsite Residential (60 acres) = 24,000 lbs x 80% (wet pond) = 19,200 lbs
- Onsite Residential (10 acres) = 4,000 lbs x 0% (uncontrolled) = 0 lbs
 - "TSS Reduction Provided" = (14,400 + 19,200 + 0) / 46,000
 - = 0.73 or 73%

73% > 64%, therefore the TSS requirement is satisfied.

In Example #1, the 40 acre offsite residential area could have been included in the "TSS Reduction Required" and "TSS Reduction Provided" calculations if it was a regional pond, as opposed to an onsite pond. A regional pond would have allowed the owner of the 40 acre offsite residential area to take credit for the TSS reduction provided by the wet pond.

Example Calculation #2:

The development site currently contains 1.5 acres of commercial land use and 3 acres of agricultural land use. The entire 4.5 acre site will be disturbed as part of the proposed project. Within the 4.5 acre site, the developer plans to:

- Develop 3 acres of existing agriculture into a new commercial area.
- Redevelop 1 acre of existing commercial into a new commercial area.
- Conduct routine maintenance on 0.5 acres of existing commercial parking lot. Existing parking lot will be part of new commercial area.

The "No Controls" or base TSS load is computed as follows:

- Onsite Commercial (new development) = 3 acre x 600 lbs/ac = 1,800 lbs
- Onsite Commercial (redevelopment) = 1 acre x 600 lbs/ac = 600 lbs
- Onsite Commercial (routine maintenance) = 0.5 acres x 0 lbs/ac = 0 lbs (water quality reductions are not required for a routine maintenance area if the post-construction site has < 5 acres of disturbance)
- "No Controls" TSS Load = 1,800 + 600 + 0 = 2,400 lbs

The "TSS Reduction Required" is computed as follows:

- Onsite Commercial (new development) = 1,800 lbs x 80% = 1,440 lbs
- Onsite Commercial (redevelopment) = 600 lbs x 40% = 240 lbs
- "TSS Reduction Required" = (1,440 + 240) / 2,400

= 0.70 or 70%

Four biofilters and a dry detention pond are proposed for the site. The biofilters achieve a 72% TSS reduction for 4.9 acres. The 4.9 acres includes 4 acres of onsite commercial (new and redevelopment), 0.5 acres of onsite commercial parking lot (routine maintenance) and 0.4 acres of offsite commercial.

- Onsite Commercial (3 acres) = 1,800 lbs x 72% (biofilters) = 1,296 lbs
- Onsite Commercial (1 acre) = 600 lbs x 72% (biofilters) = 432 lbs
- Onsite Parking Lot (0.5 acres) = 300 lbs x 72% (biofilters) = 216 lbs
- Offsite Commercial (0.4 acres) = 240 lbs x 72% (biofilters) = 173 lbs
- Biofilter TSS Reduction = (1,296 + 432 + 216 + 173) / 2,940

= 0.72 or 72%

Page 14 of 34

The "TSS Reduction Provided" is computed as follows:

- Onsite Commercial (4 acres) = 2,400 lbs x 72% (biofilters) = 1,728 lbs
 - "TSS Reduction Provided" = 1,728 / 2,400 = 0.72 or 72%

72% > 70%, therefore the TSS requirement is satisfied.

In Example #2, the 0.5 acre onsite commercial parking lot could have been included in the "TSS Reduction Required" and "TSS Reduction Provided" calculations if it was reclassified as redevelopment, as opposed to routine maintenance. The reclassification would have allowed the applicant to plan for future reconstruction of the 0.5 acre onsite commercial parking lot.

In Example #2, the 0.4 acre offsite commercial area could have been included in the "TSS Reduction Required" and "TSS Reduction Provided" calculations if it was a regional BMP, as opposed to an onsite BMP. A regional BMP would have allowed the owner of the 0.4 acre offsite commercial area to take credit for the TSS reduction provided by the onsite BMP.

(2) PEAK DISCHARGE

Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to meet the ordinance's numeric performance standards. All other post-construction sites are not required to meet these numeric performance standards. BMP design guidance is provided below in Section (h) for sites with less than 20,000 sq.ft. of impervious surface disturbance.

Computer Models:

Peak discharge rates shall be evaluated using TR-55 methodology and a computer model. NRCS released a new Windows version of TR-55 referred to as WinTR-55. Unfortunately, WinTR-55 has some unacceptable restrictions in computing Tc and the computations for outlet structures are too approximate to be useable. Therefore, WinTR-55 is not acceptable software.

Other software packages are acceptable if they match the results and methodology of TR-55 (DOS version). There are multiple hydrology/pond routing computer programs available. They must be approved by the administering authority. Examples of common computer programs are HEC-HMS, XPSWMM, HydroCAD, HydraFlow, PondPack, etc.

Each pre-development watershed or site outfall shall be evaluated for peak discharge. It is not accurate or necessary to "link" all of the pre-development watersheds to determine the ultimate allowable discharge for the site. The allowable discharge for each outfall shall be determined based on the individual pre-development watershed as discussed below in "TR-55 Methodology Clarifications".

TR-55 Methodology Clarifications:

Time of Concentration (T_c) -

Pre-Development Requirements

- The T_c route shall be the route that takes the longest time to reach the outfall and not necessarily the furthest point in the watershed.
- The T_c route shall be shown to scale on the pre-development contours with each flow segment labeled.

- The pre-development T_c should typically be at least 30 minutes in NE Wisconsin. This may not apply to small sites.
- A Manning's "n" value of 0.24 shall be used for sheet flow "meadow" conditions. For redevelopment areas, assume impervious surfaces do not exist.
- The sheet flow length before development in NE Wisconsin is usually 250' to 300'. This may not apply to small sites.
- For shallow concentrated flow, "unpaved" or "paved" shall be used to represent vegetated swales and paved swales, respectively.

Post-Development Requirements

- The T_c route shall incorporate and represent the development. If the development is large, consider dividing the development into multiple watersheds.
- T_c will almost always be shorter after development.
- The T_c route shall be shown to scale on the post-development drainage plan with each flow segment labeled.
- The sheet flow length after development will seldom be greater than 50' to 100' due to the grading around homes and buildings. A sheet flow length of greater than 100 feet requires approval from the reviewing authority (except for large paved parking areas).
- A Manning's "n" value of 0.24 is appropriate for sheet flow "lawn" conditions.
- The minimum sheet flow slope shall be 2% for residential lawns.
- For shallow concentrated flow, "unpaved" or "paved" shall be used to represent vegetated swales and paved swales, respectively.
- The T_c flow path stops when it reaches the inflow of a wet or dry detention basin.
- The post-development T_c is important for determining the correct storage volume required. See the Storage Volume for Detention Basins section below.

Runoff Curve Numbers (CN) -

Pre-Development Requirements

• Unless the site is currently woodland, peak pre-development discharge rates shall be determined using the following runoff curve numbers for a "meadow" vegetative cover:

Maximum Pre-Development Runoff Curve Numbers						
	Hydrologic Soil Group					
Vegetative Cover	Α	В	С	D		
Meadow	30	58	71	78		
Woodland	30	55	70	77		

- Soil units can be found in the applicable County Soil Survey (or, if provided, on the Village's website.)
- The appropriate hydrologic soil groups are located at the following website: <u>http://soildatamart.nrcs.usda.gov/County.aspx?State=WI</u>

To get an online soils report, do the following:

- 1. Select the appropriate County.
- 2. Select the "Generate Reports" button.
- 3. Select the appropriate soils for the site (hold the ctrl key for multiple).

Page 16 of 34

- 4. Select the report type (RUSLE2 Related Attributes or Water Features) below to get the Hydrologic Group(s) for the site.
- 5. Select the "Generate Report" button.

**Notice that a number of soils have different hydrologic soil groups than those shown in the original County USDA Soils book. The Internet groups are the ones to use.

Post-Development Requirements

• The Runoff Curve Number for lawns shall be used for developed areas that will be vegetated. Woods, wetland, or prairie areas preserved with a recorded document may be modeled as such.

Pre/Post-Development Curve Number Determination for Permeable Soils

- Refer to the Site Evaluation for Infiltration Report to verify that soils mapped in hydrologic groups A or B are well drained. If not well drained use the County USDA Soils Books hydrologic group explanation to determine the appropriate hydrologic group.
- If the existing site consists of multiple hydrologic groups, especially a combination of highly permeable and non-permeable, consideration shall be given to the proposed site balance cut/fill. See Appendix A of TR-55 for discussion on disturbed soil profiles as a result of urbanization.

Example: The site consists of 30% Hydrologic Group A soils and 70% Hydrologic Group C soils. The following scenarios shall be handled as noted:

- 1. If the site earthwork does not balance within the respective Hydrologic Group and it is anticipated that the "C" soils will be filled on the "A" soils, the "C" soil RCN shall be used.
- 2. If the site earthwork balances within each respective Hydrologic Group and it is anticipated that offsite fill will be required to achieve the desired dwelling elevations, the "C" soil RCN shall be used.
- 3. If the site balances within each respective Hydrologic Group and no or minimal fill is anticipated on the "A" soils, compaction mitigation shall be provided.

Drainage Area -

Pre-Development Requirements

- Determine the total contributing drainage area to the development, including offsite properties.
- If the pre-developed site consists of multiple drainage areas, each outfall shall be evaluated for peak discharge.

Example:

The pre-development site shown below is 40 acres and consists of 2 drainage areas, each 20 acres. Each outfall has a peak discharge of 2, 4, 8, and 12 cfs for the 1, 2, 10, and 100-year design storms, respectively.



The post-development site shown below is the same 40 acres; however, Outfall 1 now has 30 acres draining to it and Outfall 2, 10 acres.



The post-development discharges for Outfall 2 are 1, 3, 6, and 9 cfs for the 1, 2, 10, and 100-year design storms, respectively. Outfall 2 meets the peak discharge requirements of the Ordinance because the post-development peak discharges are below the pre-development discharges for Outfall 2.

The post-development discharges for Outfall 1 are 6, 12, 24, and 36 cfs for the 1, 2, 10, and 100-year design storms, respectively. Outfall 1 does not meet the peak discharge requirements of the Ordinance. As such, stormwater facilities are required to lower the post-development peak discharges to the pre-development discharges of 2, 4, 8, and 12 cfs for the 1, 2, 10, and 100-year design storms, respectively.

Below is an example of appropriate Stormwater Management Plan summary tables as required:

Pre-Development Peak Discharges						
Location	1-year	2-year	10-year	100-year		
Outfall 1	2 cfs	4 cfs	8 cfs	12 cfs		
Outfall 2	2 cfs	4 cfs	8 cfs	12 cfs		

Post-Development Peak Discharges						
Location 1-year 2-year 10-year 100-yea						
Outfall 1	1.8 cfs	3.6 cfs	7.5 cfs	10.9 cfs		
(undetained)	(6 cfs)	(12 cfs)	(24 cfs)	(36 cfs)		
Outfall 2	1.5 cfs	3 cfs	6 cfs	9 cfs		

Post-Development Requirements

- The design of stormwater runoff control facilities shall be based on the total contributing drainage area, not just the area being developed. Any off-site drainage area must be included in the plan facilities or safely diverted around the planned facilities.
- Off-site contributing areas that are not diverted must use the meadow condition runoff curve number for pre-development flow computations whether the off-site area is presently developed or not.
- Offsite contributing areas that are diverted shall use the highest anticipated runoff curve number for the offsite area for a safe design. Also, the diversion shall provide 0.3' of freeboard and assume 10% settlement for the 100-year flow. The conveyance shall be contained within an easement. The discharge location for the diversion shall be at the pre-developed outfall or at a stable location.
- If more than 30% of the drainage area will be impervious, it will often be necessary to divide the drainage area into a pervious sub-area and impervious sub-area for correct computation of peak flow.

Peak Discharge Method -

- For Wisconsin, use the Type II, 24-hour rainfall distribution for design storms.
- Natural depressions shall be evaluated or considered when determining peak discharge rates for the predevelopment condition.

Storage Volume for Detention Ponds (TR-55) -

- The approximate storage-routing curves should not be used if the adjustment for ponding (discussed above in the peak discharge section) is used.
- This manual method is good for determining quick estimates of the effects of temporary detention on peak discharges. Computer programs that utilize TR-20 provide more accurate methods of analysis and routing.
- The procedure should not be used to perform final design if an error in storage of 25 percent cannot be tolerated. Figure 6-1 may significantly overestimate the required storage capacity.
- When the peak outflow discharge is too close to post-development peak inflow discharge, parameters that affect the rate of rise of a hydrograph become especially significant.

Design Clarifications:

It is recommended that the developer and designer contact the local municipality to discuss peak discharge requirements for the site early in the design process. The local municipality may have adopted alternative peak discharge requirements for the site which are different than the Post-Construction Stormwater Management Ordinance. At a minimum, the peak discharge requirements contained in NR 151 shall be met.

Outfalls - Performance standards for peak discharge shall be satisfied at each outfall associated with the site. Written approval is required from down slope property owners if post-development peak discharge rates are not less than or equal to pre-development peak discharge rates at each outfall.

Disconnection - Disconnecting impervious surfaces can help achieve the peak discharge requirement. Disconnecting impervious surfaces not only reduces

runoff volumes, but also increases time of concentrations. In order to consider an impervious surface as "disconnected", the following criteria shall be met:

- Residential Roofs: Discharge runoff over a minimum 20 foot long pervious surface that is in good condition and graded for sheet flow.
- Other Impervious Surfaces:
 - Source area flow length may not exceed 75 feet.
 - Source area <u>and</u> pervious area must be graded for sheet flow.
 - Pervious area must be in good condition, have a slope less than 8%, and have a flow length at least as long as the contributing impervious area's length (but never less than 20 feet).



Source: DNR Post-Construction Stormwater Management Workshops

Uncontrolled Areas - The performance standard for peak discharge is an outfall standard. Often, a site contains an uncontrolled area for each outfall that does not flow through a BMP (e.g. wet pond). Typically, it is necessary to increase the peak discharge control provided by the onsite BMP in order to offset or over compensate for the uncontrolled area.

Routine Maintenance Areas – No performance standard or peak discharge reduction is required for routine maintenance areas. However, the applicant is responsible for proper performance of onsite BMPs. In order to ensure proper BMP performance, the applicant has two options:

- Divert the routine maintenance area around onsite BMPs, or
- Include runoff volumes from the routine maintenance area in onsite BMP calculations. For the predevelopment condition, routine maintenance areas shall be modeled as a meadow land use. For the post-development condition, routine maintenance areas shall be modeled using the post- construction conditions.

Offsite Drainage Areas – The applicant is not responsible for satisfying peak discharge performance standards for offsite areas that drain into the project site. However, the applicant is responsible for proper performance of onsite BMPs. In order to ensure proper onsite BMP performance, the applicant has two options:

- Divert offsite runoff around onsite BMPs, or
- Include offsite runoff volumes in onsite BMP calculations. Use a meadow vegetative cover for the off-site pre-development runoff curve number, regardless of whether the off-site area is currently developed or undeveloped. Use the current or future vegetative cover / impervious surface coverage for the off-site post-development runoff curve number.
- (3) INFILTRATION

Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to meet the ordinance's numeric performance standards. All other post-construction sites are not required to meet these numeric performance standards. BMP design guidance is provided below in Section (h) for sites with less than 20,000 sq.ft. of impervious surface disturbance.

Computer Models:

A model that calculates runoff volume, such as RECARGA, SLAMM, P8, TR-55, or an approved equivalent methodology may be used to evaluate the efficiency of the infiltration design. Information on how to access RECARGA, SLAMM, or P8 is available at <u>http://dnr.wi.gov/topic/stormwater/standards/slamm.htm</u> or contact the stormwater coordinator in the runoff management section of the bureau of watershed management at (608) 267-7694.

Use the most recent version of RECARGA, SLAMM, and P8. The applicant may request a waiver of this requirement.

Depending on the type of infiltration device, groundwater mounding may need to be evaluated. Refer to Table 1, Technical Standard 1002 for groundwater mounding requirements. A model that calculates groundwater mounding is available at http://dnr.wi.gov/topic/stormwater/standards/gw_mounding.html or contact the stormwater coordinator in the runoff management section of the bureau of watershed management at (608) 267-7694.

Design Clarifications:

Maximum required Effective Infiltration Area (EIA) is calculated as follows:

- Prohibited and exempted areas located within the post-construction site are included in the EIA cap calculation.
- The maximum required EIA cap may be voluntarily exceeded.

Prohibitions - Runoff from prohibited areas does not have to be included in calculating the infiltration goal. However, if runoff from a prohibited area flows through an infiltration BMP, the following is required:

- Use caution. These source areas and locations are excluded from the ordinance's infiltration requirement due to groundwater contamination concerns. The municipality is not responsible for the applicant's decision to infiltrate this runoff. The applicant is solely responsible for NR 140 compliance and groundwater protection.
- The BMP design must take runoff from prohibited areas into account to assure the device can safely handle the additional flow and volume.

Exemptions - Infiltration from exempted areas is not required. Despite the ordinance, the applicant may choose to infiltrate exempted runoff. If exempted runoff is infiltrated, credit will be given toward achieving the infiltration requirement. Runoff from exempted areas does not have to be included in calculating the infiltration goal. However, if runoff from an exempted area flows through an infiltration BMP, the BMP design must take it into account to assure the device can safely handle the additional flow and volume.

Groundwater Protection - It is the applicant's sole responsibility to protect groundwater. Compliance with Preventative Action Limits (PAL) contained in NR 140 must be maintained. Also, infiltration system discharges must remain below Enforcement Standards (ES) contain in NR 140. DNR Technical Standards should meet these groundwater protection requirements.

Maximum Extent Practicable (MEP):

- Definition takes into consideration best available technology, costeffectiveness, natural resource protection, historic preservation, human safety & welfare, and site conditions (see ordinance).
- Topography- To achieve the infiltration requirement, maximum extent practicable should not be interpreted to require significant topography changes that create an excessive financial burden. Two feet or less of elevation change is considered reasonable and to the MEP.
- Pumping- To achieve the infiltration requirement, maximum extent practicable should not be interpreted to require stormwater pumping.

Roof Runoff - To minimize potential groundwater impacts, it is desirable to infiltrate the cleanest runoff. To achieve this, a design may propose greater infiltration of runoff from low pollutant sources such as roofs, and less from higher pollutant source areas such as parking lots.

Disconnection - Disconnection of impervious surfaces can be used to help achieve the infiltration requirement. However, disconnection is not considered to be part of an infiltration system. Therefore, disconnected areas do not count toward the maximum effective infiltration area calculation. In order to consider an impervious surface as "disconnected", the following criteria shall be met:

- Residential Roofs: Discharge runoff over a minimum 20 foot long pervious surface that is in good condition and graded for sheet flow.
- Other Impervious Surfaces:
 - Source area flow length may not exceed 75 feet.
 - Source area <u>and</u> pervious area must be graded for sheet flow.
 - Pervious area must be in good condition, have a slope less than 8%, and have a flow length at least as long as the contributing impervious area's length (but never less than 20 feet).



Source: DNR Post-Construction Stormwater Management Workshops

Routine Maintenance Areas – No performance standard or infiltration requirement is provided for routine maintenance areas. However, the applicant is responsible for proper performance of onsite BMPs. In order to ensure proper BMP performance, the applicant has two options:

- Divert the routine maintenance area around onsite BMPs, or
- Include runoff volumes from the routine maintenance area in onsite BMP calculations. The applicant will receive credit for infiltrating runoff from the routine maintenance area provided it is not a prohibited area.

Offsite Drainage Areas – The applicant is not responsible for satisfying infiltration performance standards for offsite areas that drain into the project site. However, the applicant is responsible for proper performance of onsite BMPs. In order to ensure proper onsite BMP performance, the applicant has two options:

- Divert offsite runoff around onsite BMPs, or
- Include offsite runoff volumes in the onsite BMP calculations. The amount of onsite credit is determined by prorating the infiltration volume. The applicant will not receive credit for infiltrating offsite runoff, unless the BMP is a regional facility.

Alternative Uses - The volume of runoff used for alternative uses will be credited towards the infiltration requirement. Alternative uses may include toilet flushing, laundry, and irrigation (e.g. cisterns, rain barrels, green roofs). In addition to the stormwater benefits, these alternative uses may also reduce municipal invoices for drinking water.

Example Calculations:

The site is currently 100 acres of cropland. Following development, the site will be 30 acres medium residential, 20 acres commercial, and 50 acres cropland. Native soils in the area to be developed are sandy loams, silt loams and silty clay loams. Hydrologic soil groups are B and C with an average pre-development curve number of 75. A site investigation using Step B of the DNR Technical Standard 1002, Site Evaluation for Stormwater Infiltration, determined that 10 of the acres to be developed into medium residential have an infiltration rate of 0.10 in/hr and are therefore exempt from the infiltration requirements. The site investigation also determined that 10 acres to be developed into commercial are excluded from the infiltration requirements. The post-development curve number for the pervious portions of the residential and commercial components will be 80, based on TR-55. The residential component will contain up to 40% connected imperviousness. The commercial component will contain more than80% connected imperviousness.

The residential and commercial components will meet the infiltration requirements using two infiltration basins. Upon completion of a preliminary site layout, two locations were chosen for investigation using Step C of Technical Standard 1002. The first location investigated was in the residential area that is not exempt from the infiltration requirements. The soil texture at the residential infiltration basin site is a sandy loam with a design infiltration rate of 0.5 in/hr. The second location investigated was in the commercial area that is not excluded from the infiltration requirements. The soil texture at the commercial infiltration basin site is a loamy sand with a design infiltration rate of 1.63 in/hr.

Step 1: Determine Infiltration Basin Size - Residential Component

<u>Step 1A: Determine Target Stay-on Depth – Residential</u> Using Chart 1, the target stay-on depth is 24 inches/year.



CHART 1 - TARGET STAY-ON (ANNUAL INFILTRATION) REQUIREMENT Based on the annual 1981 Rainfall for Madison, WI

<u>Step 1B: Determine Preliminary Effective Infiltration Area – Residential</u> Using Chart 4, the preliminary effective infiltration area needed for the infiltration basin is 12,197 square feet (43,560 * 20 acres * 1.4%).



Step 1C: Maximum Required Effective Infiltration Area – Residential

- Residential Land Disturbance (30 acres total)
 - Building roof 5 acres
 - Driveway & sidewalk 2 acres
 - Street 5 acres
 - Lawn / landscaping 18 acres
- Maximum Required EIA = 13,068 sq.ft. (43,560 * 30 acres * 1%)

<u>Step 1D:</u> Determine Final Effective Infiltration Area – Residential Using Technical Standard 1003, the preliminary effective infiltration area of 12,197 sq.ft. needs to be adjusted (depth, slope, cell configuration) to determine the final effective infiltration area. Groundwater mounding also needs to be checked. The maximum EIA cap does not appear to impact the infiltration basin's size (12,197 sq.ft. < 13,068 sq.ft.).

Step 2: Determine Infiltration Basin Size – Commercial Component

<u>Step 2A: Determine Target Stay-on Depth – Commercial</u> Using Chart 1, the target stay-on depth is 16 inches/year. Page 24 of 34



CHART 1 - TARGET STAY-ON (ANNUAL INFILTRATION) REQUIREMENT Based on the annual 1981 Rainfall for Madison, WI

<u>Step 2B: Determine Preliminary Effective Infiltration Area – Commercial</u> Using Chart 6, the preliminary effective infiltration area needed for the infiltration basin is 2,614 square feet (43,560 * 10 acres * 0.6%).



Step 2C: Maximum Required Effective Infiltration Area – Commercial

- Commercial Land Disturbance (20 acres total)
 - Building roof 6 acres
 - Parking lot 7 acres
 - Street 3 acres
 - Lawn / landscaping 4 acre
- Maximum Required EIA = 17,424 sq.ft. (43,560 * 20 acres * 2%)

<u>Step 2D: Determine Final Effective Infiltration Area – Commercial</u> Using Technical Standard 1003, the preliminary effective infiltration area of 2,614 sq.ft. needs to be adjusted (depth, slope, cell configuration) to determine the final effective infiltration area. Groundwater mounding also needs to be checked. The maximum EIA cap does not appear to impact the infiltration basin's size (2,614 sq.ft. < 17,424 sq.ft.).

(4) PROTECTIVE AREAS

All post-construction sites are required to meet the ordinance's protective area performance standards.

Design Clarifications:

Adjacent Property Owners - If a stream or channel is placed or relocated along a property line, an easement or letter of permission is required from any property owners impacted by the protective area's new location. Also, if a stormwater facility or structure is proposed within an onsite stream or channel, 100-year flood elevations shall be evaluated to determine if offsite property owners are impacted by backwater or a flood elevation increase. An easement or letter of permission is required from any property owners impacted by backwater.

Wetland Delineations - Wetland delineations shall be performed by a professional soil scientist, professional hydrologist, or other qualified individual approved by the administering authority. The individual performing the delineation shall classify the wetland as a less susceptible wetland, highly susceptible wetland, exceptional resource water, or outstanding resource water.

Disturbances - Protective areas may be disturbed as part of a project, if necessary. Disturbed areas must be stabilized from erosion and restored with a self-sustaining vegetation.

Type of Vegetation - It is recommended that seeding of non-invasive vegetative cover be used in the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is preferable. Vegetative cover can be measured using the line transect method described in the University of Wisconsin Extension publication number A3533, titled "Estimating Residue Using the Line Transect Method".

Best Management Practices -

- BMPs may be located in protective areas (ponds, swales, etc.)
- Other state and local regulations may apply to BMPs located in protective areas and waters of the state, including the following:
 - Navigation, Dams, & Bridges (Chapter 30 and 31, Stats.)
 - Wetland Water Quality Standards (NR 103)
 - Wetlands (US Army Corps of Engineers Section 404 regulations)
 - Shoreland Management (NR 115, NR 117, & local regulations)
 - Floodplain Management (NR 116 & local regulations).
- For purposes of section 425-30C(4)(e)[4] of the ordinance, a vegetated protective area to filter runoff pollutants from post-construction sites is not necessary since runoff is not entering the surface water at that location. Other practices, necessary to meet the requirements of this section, such as a swale or pond, will need to be designed and implemented to reduce runoff pollutants before the runoff enters a surface water of the state.

(5) FUELING AND VEHICLE MAINTENANCE AREAS:

All post-construction sites are required to meet the ordinance's no visible petroleum sheen performance standard.

Design Clarifications:

The following BMPs are recommended to meet the performance standards contained within section 425-30C(5) of the ordinance:

- Enclose vehicle maintenance areas in a building or under a roof.
- Install a roof or canopy over fueling areas.
- Divert runoff away from fueling and vehicle maintenance areas.
- Keep adsorbent spill cleanup materials onsite at all times.
- Install an oil / water separator and/or biofiltration device.
• Post the spill response phone numbers in conspicuous onsite locations. The municipality's Illicit Discharge Ordinance requires reporting of hazardous spills. The local municipality's spill response phone number is 911 and the DNR's 24-hour spill response phone number is 1-800-943-0003.

(6) SWALE TREATMENT FOR TRANSPORTATION FACILITIES

Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to meet the ordinance's numeric performance standards. All other post-construction sites are not required to meet these numeric performance standards. BMP design guidance is provided below in Section (h) for sites with less than 20,000 sq.ft. of impervious surface disturbance.

Design Clarifications:

For purposes of section 425-30C(6)(a)[1] of the ordinance, it is preferred that tall and dense vegetation be maintained within the swale due to its greater effectiveness at enhancing runoff pollutant removal. However, the local municipality may have ordinances or other design criteria which dictate the allowable mowing height for grass swales.

For purposes of section 425-30C(6)(a)[2] of the ordinance, check dams may be included in the swale design to slow runoff flows and improve pollutant removal. Transportation facilities with continuous features such as curb and gutter, sidewalks or parking lanes do not comply with the design requirements of section 425-30C(6)(a)[2] of the ordinance. However, a limited amount of structural measures such as curb and gutter may be allowed as necessary to account for other concerns such as human safety or resource protection.

For purposes of section 425-30C(6)(b) of the ordinance, the Department of Natural Resource's regional stormwater staff can determine if additional BMPs, beyond a water quality swale, are needed.

(7) EXEMPTIONS FOR 425-30C PERFORMANCE STANDARDS

Projects that consist of only the construction of bicycle paths or pedestrian trails generally meet the exception found under section 425-30C(7)(b)[1] of the ordinance, as these facilities have minimal connected imperviousness.

(8) SITES WITH LESS THAN 20,000 SQ.FT. OF IMPERVIOUS SURFACE DISTURBANCE

Pursuant to 425-30G of the ordinance, the municipality may establish stormwater management requirements more stringent than those set forth in this section if the municipality determines than an added level of protection is needed.

Design Clarifications:

For a post-construction site with less than 20,000 sq.ft. of impervious surface disturbance, the applicant shall comply with the protective area requirements in section 425-30C(4) of the ordinance, petroleum sheen requirements in section 425-30C(5) of the ordinance, and one of the two requirements provided below. It is recommended that the developer and designer contact the local municipality early in the design process to discuss which requirement must be complied with:

1. Disconnect impervious surfaces. 90% or more of disturbed impervious surfaces must be disconnected. In order to consider an impervious surface as "disconnected", the following criteria shall be met:

- Roofs: Discharge runoff over a minimum 20 foot long pervious surface that is in good condition and graded for sheet flow.
- Other Impervious Surfaces:
 - Source area flow length may not exceed 75 feet.
 - Source area <u>and</u> pervious area must be graded for sheet flow.
 - Pervious area must be in good condition, have a slope less than 8%, and have a flow length at least as long as the contributing impervious area's length (but never less than 20 feet).



Source: DNR Post-Construction Stormwater Management Workshops

- 2. Use the following best management practices and good housekeeping practices to improve water quality, reduce peak flow rates, and encourage infiltration:
 - Vehicle and equipment maintenance shall be performed inside buildings when feasible. Used fluids / batteries shall be stored and disposed of properly. Repair any vehicle leaks as soon as possible.
 - Outdoor trash bins are required for fast food restaurants, convenience stores, and gas stations. Litter shall be cleaned up daily and disposed of properly.
 - Fertilizers shall be used sparingly for lawn areas. Fertilizers shall be immediately swept off streets, parking lots, driveways, and sidewalks. Soil testing and compliance with Technical Standard 1100 (Turf Nutrient Management) is also encouraged.
 - Stream, shoreline, swale, and other erosion problems shall be repaired as part of the development project when feasible.
 - Roof downspouts, parking lots, driveways, and sidewalks shall discharge stormwater runoff to lawn or other pervious areas when feasible. Rain barrels are also encouraged at roof downspouts to store water for irrigation and watering landscaped areas (reduces municipal water invoice).
 - Create depressions in lawn areas and other landscape areas to temporarily store and treat stormwater runoff from roofs, parking lots, driveways and sidewalks when feasible. Grass swales, biofiltration devices, bioretention devices, and rain gardens are also encouraged when feasible.
 - Filter baskets shall be installed in parking lot catch basins when feasible.
 - Preserve wooded areas, trees, shrubs, and other native vegetation that are in good condition when feasible.

(9) OTHER DESIGN REQUIREMENTS

- Topographic surveys and plans shall be on municipality's vertical datum.
- Grass swales shall be designed with a minimum longitudinal slope of 1%.
- Storm sewers shall be designed for a 10-year design storm. A copy of storm sewer design calculations, time of concentration paths, tailwater conditions, and watershed maps shall be submitted.
- Culverts shall be designed for a 25, 50 or 100-year design storm, depending on location. Contact the municipality for more specific design guidance. A copy of culvert design calculations, time of concentration paths, tailwater conditions, and watershed maps shall be submitted.
- Overland flow paths shall be designed for a 100-year design storm. Flow paths shall be provided for street low points and other depressions. The location of overland flow paths shall be shown on the plans. The 100-year design storm shall be contained within the street right-of-way whenever feasible and ideally, the maximum depth of ponding at street low points shall be 6-inches. The 6-inch depth is measured at the street centerline.
- Minimum finished ground elevations shall be provided for buildings if deemed necessary to provide reasonable flood protection. The minimum finished ground elevation shall be > 1 foot above the 100-year flood elevation and extend at least 15 feet beyond the building. Minimum elevations may need to be specified for lakes, rivers, streams, ponds, and overland flow paths.
- A letter of permission may be required from down slope property owners if a post-development "point discharge" was "sheet flow" during the predevelopment condition.

•	The applicant may request a waiver or lesser design standard if site
	characteristics create a hardship.

Maximum	Permissible Vel	ocities for Channels					
	Slope Range	Erosion-resistant	Easily eroded				
Channel Cover	%	soils	soils				
	0-5	8 fps	6 fps				
Bermuda Grass	5-10	7 fps	5 fps				
	>10	6 fps	4 fps				
Buffalo grass, Kentucky	0-5	7 fps	5 fps				
bluegrass, Smooth	5-10	6 fps	4 fps				
brome, blue grama	>10	5 fps	3 fps				
	0-5	5 fps	4 fps				
Grass mixture	5-10	4 fps	3 fps				
	Do not use on	slopes steeper than	10%, except for				
	side slopes in a combination channel.						
Lespedeza sericea,	0-5	3.5 fps	2.5 fps				
weeping love grass	Do not use on slopes steeper than 5%, except for						
lschaemum (yellow	side slopes in a combination channel.						
bluestem), kudzu,							
alfalfa, crabgrass							
		o F (
Annuals – used on mild	0-5	3.5 tps	2.5 tps				
slopes or as temporary	Use on s	slopes steeper than !	5% is not				
protection until		recommended					
permanent covers are							
established,							
common lespedeza,							
Sudan grass							

Source – Chow Open Channel Hydraulics

D. CONSIDERATIONS FOR ONSITE / OFFSITE STORMWATER MANAGEMENT MEASURES

All proposed land development activities should be planned, designed, and implemented:

- 1. In a manner that best fits the terrain of the site, avoiding steep slopes and other environmentally sensitive areas;
- 2. According to the unique resource conditions at, around, and downstream from a given site;
- 3. According to the principles of Low Impact Development. Use source controls rather than end-of-pipe treatment. Reduce, prevent and mitigate the adverse impacts of development by maintaining infiltration, reducing frequency and volume of discharges, reducing peak flows, and maintaining groundwater recharge. These goals can be accomplished by using:
 - Reduced impervious surfaces
 - Functional grading to slow runoff and thereby lengthen the time of concentration
 - Vegetated channels rather than paving or pipes
 - Disconnection of impervious surfaces; drain to vegetated areas
 - Bioretention (rain gardens) and filtration (buffer) landscape areas
 - Any other techniques that reduce the runoff curve number (RCN) or increase the time of concentration (Tc)
 - Use wet detention ponds after all source area practices and techniques have been employed

Overall, the goal is to design the site as an integral, living part of the environment with careful use of principles and practices that are both low impact on runoff and simple for people to maintain and live with.

- 4. To maintain groundwater recharge areas and the infiltration capacity of native soils by avoiding the unnecessary filling of large natural depressions or compaction of upper soil horizons by construction equipment;
- 5. To maintain soil infiltration by keeping all topsoil on site;
- 6. To provide the protective area, shoreland, wetland, and environmentally sensitive area setback along all water courses; and
- 7. According to the sequence in the "Treatment Train":
 - a. First do source controls:
 - Reduce impervious areas to the maximum extent possible
 - Maintain undisturbed soil
 - Maintain existing trees, shrubs and vegetation
 - b. Next do lot controls
 - Grade lots to create long areas of overland flow rather than channels
 - Minimize directly connected impervious areas by such practices as directing roof water to vegetated areas and draining driveways to grass rather than the street
 - Include "rain gardens" (undrained areas that will pond water)
 - c. Then do site controls
 - Use grassed waterways and diversions rather than paved channels
 - Maintain wetlands
 - Use vegetated road ditches rather than curb and gutter
 - Use wet detention ponds. They can have pools 5 or more feet deep or may be designed as wetlands, but existing wetlands cannot be incorporated into stormwater facilities.

- Use off line detention basins
- d. Finally, do Regional controls such as regional detention basins.

E. BMP LOCATION AND CREDIT

When using the regional treatment option, a letter is required from the owner of the regional facility. At a minimum, the letter shall state the following:

- Regional facility complies with ordinance requirements,
- Site can use regional facility for ordinance compliance, and
- Maintenance agreement for regional facility has been recorded at the County Register of Deeds.

F. TARGETED PERFORMANCE STANDARDS

G. ALTERNATE REQUIREMENTS

425-31 PERMITTING REQUIREMENTS, PROCEDURES AND FEES

- A. PERMIT REQUIRED
- B. PERMIT APPLICATION AND FEES

C. REVIEW AND APPROVAL OF PERMIT APPLICATION

D. PERMIT REQUIREMENTS

The permit applicant is required to post the permit in a conspicuous place at the construction site.

Record Drawings -

- Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to have record drawings. Record drawings shall be signed by a licensed Professional Engineer. Agricultural land uses, unless they are exceptionally large or special in some other way, are not required to have record drawings. Typically, agricultural land uses will not need anything more than review and acceptance by the administering authority.
- Post-construction sites with less than 20,000 sq.ft. of impervious surface disturbance are not typically required to have record drawings. Typically, sites with less than 20,000 sq.ft. of impervious surface disturbance will not need anything more than review and acceptance by the administering authority.

E. PERMIT CONDITIONS

- F. PERMIT DURATION
- G. ALTERNATE REQUIREMENTS

425-32 STORMWATER MANAGEMENT PLAN

A. PLAN REQUIREMENTS

Sites With Less Than 20,000 Square Feet of Impervious Surface Disturbance:

The stormwater management plan for post-construction sites with less than 20,000 square feet of impervious surface disturbance shall contain, at a minimum, the following

information unless other municipal ordinances or state regulations require more detailed information:

- (a) Name, address, and telephone number for the following or their designees: landowner; developer; project engineer for practice design and certification; person(s) responsible for installation of stormwater management practices; and person(s) responsible for maintenance of stormwater management practices prior to the transfer, if any, of maintenance responsibility to another party.
- (b) A description and installation schedule for the stormwater management practices needed to meet the performance standards in 425-30.
- (c) Total area of impervious surface disturbance at the post-construction site. Total area of the post-construction site and the total area of the post-construction site that is expected to be disturbed by land disturbing activities.
- (d) Sufficient detail so as to document ordinance compliance.
- (e) Location of all BMPs to be employed.
- (f) Pre-construction ground surface contour lines at intervals appropriate for conditions present within the proposed disturbed areas.
- (g) Identify the initial downstream receiving water of the state.

Sites With 20,000 Square Feet or More of Impervious Surface Disturbance:

The stormwater management plan for post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance shall contain, at a minimum, the following information.

- (a) Name, address, and telephone number for the following or their designees: landowner; developer; project engineer for practice design and certification; person(s) responsible for installation of stormwater management practices; and person(s) responsible for maintenance of stormwater management practices prior to the transfer, if any, of maintenance responsibility to another party.
- (b) A proper legal description of the property proposed to be developed, referenced to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.
- (c) Total area of impervious surface disturbance at the post-construction site. Total area of the post-construction site and the total area of the post-construction site that is expected to be disturbed by land disturbing activities.
- (d) Sufficient detail so as to document ordinance compliance.
- (e) Location of all BMPs to be employed.
- (f) Identify the initial downstream receiving water of the state.
- (g) Pre-development site conditions, including:
 - 1. One or more site maps at a scale of not less than 1 inch equals 100 feet. The site maps shall show the following: site location and legal property description; predominant soil types and hydrologic soil groups; existing cover type and condition; one or two foot topographic contours of the site; topography and drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; watercourses that may affect or be affected by runoff from the site; flow path and direction for all stormwater conveyance sections; watershed boundaries used in hydrology determinations to show compliance with performance standards; lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site; limits of the 100 year floodplain; location of wells and wellhead protection areas covering the project area and delineated pursuant to s. NR 811.16, Wis. Adm. Code.
 - 2. Hydrology and pollutant loading computations as needed to show compliance with performance standards. All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
- (h) Post-development site conditions, including:

- 1. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands.
- 2. Explanation of any restrictions on stormwater management measures in the development area imposed by wellhead protection plans and ordinances.
 - a. Stormwater infiltration systems and ponds shall be located at least 400 feet from a well serving a community water system unless the Wisconsin Department of Natural Resources and municipality concur that a lesser separation distance would provide adequate protection of a well from contamination.
 - b. Stormwater management practices shall be located with a minimum separation distance from any well serving a non-community or private water system as listed within s. NR 812.08.
- 3. One or more site maps at a scale of not less than 1 inch equals 100 feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures, and pavement; post-construction one or two foot topographic contours of the site; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; locations and dimensions of drainage easements: locations of maintenance easements specified in the maintenance agreement; flow path and direction for all stormwater conveyance sections; location and type of all stormwater management conveyance and treatment practices, including the onsite and offsite tributary drainage area; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
- 4. Hydrology and pollutant loading computations as needed to show compliance with performance standards. The computations shall be made for each discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
- 5. Results of investigations of soils and groundwater required for the placement and design of stormwater management measures. When permanent infiltration systems are used, appropriate onsite testing shall be conducted to determine if seasonal groundwater elevation or top of bedrock is within 5 feet of the proposed infiltration system. Detailed drawings including cross-sections and profiles of all permanent stormwater conveyance and treatment practices.
- (i) A description and installation schedule for the stormwater management practices needed to meet the performance standards in 425-30.
- (j) A maintenance plan developed for the life of each stormwater management practice including the required maintenance activities and maintenance activity schedule.
- (k) Cost estimates for the construction, operation, and maintenance of each stormwater management practice.
- (I) Other information requested in writing by the administering authority to determine compliance of the proposed stormwater management measures with the provisions of this ordinance.
- (m) All site investigations, plans, designs, computations, and drawings shall be certified by a licensed professional engineer to be prepared in accordance with accepted engineering practice and requirements of this ordinance.

B. ALTERNATE REQUIREMENTS

425-33 MAINTENANCE AGREEMENT

A. MAINTENANCE AGREEMENT REQUIRED

Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to have a maintenance agreement. The applicant shall use the municipality's standard forms for the maintenance agreement. The local municipality is responsible for recording the signed maintenance agreement at the County Register of Deeds.

Post-construction sites with less than 20,000 sq.ft. of impervious surface disturbance are not typically required to have a maintenance agreement.

Sites utilizing the regional treatment option are not typically required to have a maintenance agreement. However, a maintenance agreement is required for the regional facility.

B. AGREEMENT PROVISIONS

C. ALTERNATE REQUIREMENTS

425-34 FINANCIAL GUARANTEE

A. ESTABLISHMENT OF GUARANTEE

Post-construction sites with 20,000 sq.ft. or more of impervious surface disturbance and post-construction sites with 1 acre or more of land disturbance are required to have a financial guarantee. The financial guarantee includes the cost associated with stormwater BMPs, record drawings, project administration, and contingencies.

Post-construction sites with less than 20,000 sq.ft. of impervious surface disturbance are not typically required to have a financial guarantee.

Sites utilizing the regional treatment option are not typically required to have a financial guarantee.

B. CONDITIONS FOR RELEASE

The financial guarantee shall not be released until the applicant conducts a final inspection with a municipal representative, submits "record drawings" certified by a licensed Professional Engineer, completes punch list items, and pays fees.

C. ALTERNATE REQUIREMENTS

425-35 FEE SCHEDULE

425-36 ENFORCEMENT

425-37 APPEALS

- A. APPEALS
- B. WHO MAY APPEAL

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:_		Loc	Location:									
Pond Inspecte	ed by:											
Pond			Емв	ANKMENTS		Vas	No	Date/ Action Taken				
Sediment Lev Location on po Water surface	els in the l ond site pl to bottom	Pond (mark approximate an). Depth is from	e Slum Eros Burro Woo	nping \ Stability ion ow Holes dy Plants								
Location No. Depth (feet)			Invas Mow Wate	sive Species ing erfowl Nests								
			INLET	T PIPES / OUTLE	T S TRUC		No	Date/				
WETLAND VEG		Clog Eros	ging/Debris/Litte ion	er								
<u>Yes/No</u> Invasive Species	<u>></u>	Date/ <u>Action Taken</u>	Struc	ctural Integrity Excellent Fair Other Dama	□ □ ge	Good Poor						
SEDIMENT REM	IOVAL Yes/No	Date/ Action Taken/ Company Used	STOF	STORM SEWER SYSTEM			No	Date/ Action Taken				
Wet Pond			Clog	ging/Debris/Litte	er							
Drainage Ditches			Telev	vise & Cleaning ctural Integrity								
Sweep Street				Excellent Fair		Good Poor						
Other	\Box / \Box		Othe	r 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.



 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 sale 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.



Wisconsin Department of Natural Resources PUBL-WR-154-06REV

DNR Runoff Management: http://dnr.wi.gov/runoff/

	ontaminated snow	and litter in city snow that's improperly disposed of can runoff to:	red oxygen in surface • Cover habitat for fish and c	aquatic life.	utic plant and algae • Clog navigation channels. • Tunnoin termostrial alout and	 Impair terrestrial plant gro and erode soil. 	ation in game fish, • Little stream and lake bott shorelines.	i into water and • Contaminate groundwater.	s and litter from blowing offsite or int	waterways.	 Avoid placing sites near high-trat noff rates, areas to lessen salt and heavy me buildin from ting and heavy me 	water's buildup Irom mre and brake wear Instream	I WDNR Protect groundwater	Snow piles should be at least 1,00 feet away from water sumbly well	with steep Locate sites downhill of wells, av	ls. lakes, streams and wetlands.	little risk • Fine-textured soils are better th soudy soils for filtering certain h	metals, thus they help protect su	and waters and groundwater. (Howeve	chlorides, which are soluble in wa	s after • Avoid areas with fractured bedr tential • Avoid areas with fractured bedr I prevent easily channeled to groundwater
	The concern over c	Toxic substances, sand, silt combine with other polluted	Reduce levels of dissolv	waters.	 Stimulate nuisance aqua arowth. 	 Kill fish and other aquat 	 Contribute to contamino making them inedible. 	 Introduce heavy metals sediments. 	overload drainage to nearby lakes	streams.	The amount of snow brought to a should be based on estimated rur	meltwater quality, the receiving v ability to absorb runoff. and dow	uses of the receiving water. Loca	staff can help in making these assessments.	 Do not choose disposal sites v 	slopes or readily erodible soil	Choose sites where there is I of human experime to natent	contaminants.	Avoid playgrounds, ballparks (parking lots.	 Remove debris from snowpile. spring thaw or before any pot flooding. Fencing the site will
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	businesses, a primary concern in handling	snow should be to prevent environmental	damage. We hope the following tips will help auide vour 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 laroe 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 basing which continue	meltwater pollutants that would otherwise reach storm sewers and surface waters. A dike or berm may be needed to prevent



Highway Maintenance Manual Chapter 06 Winter Maintenance

Section 20 Snow Removal Materials

Subject 01 Appropriate use of De-Icing Agents

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.

Bureau of Highway Maintenance

January 2012

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.



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 (deicing). 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.

Bureau of Highway Maintenance

January 2012

- 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.



Highway Maintenance Manual Chapter 06 Winter Maintenance

Section 20 Snow Removal Materials

Subject 10 Liquid Anti-Icing/De-Icing Agents

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.

Bureau of Highway Maintenance

January 2012

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. <u>http://www.fhwa.dot.gov/reports/mopeap/eapcov.htm</u>
- 4. "Managing Snow and Ice Control" UW Madison Engineering Extension Course, contact Benjamin J. Jordan, P.E., 800-462-0876.

MISCONSIN	Highway Ma	intenance Manual
H 13	Chapter 06	Winter Maintenance
	Section 20	Snow Removal Materials
TH OF TRANSP	Subject 15	Abrasives
<u>.</u>		

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 1/4 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					A MISCONS
		Application	Rate			(SQ)	PTATIC	M*4"
PREDICTED PRECIPITATION EVENT	Recommende d Locations	Liquid (gal/lane-mi.)	Pre-wetted Salt (Ib/Iane-mi)	COMMENTS		Subject	Section	Highway
Frost or Black Ice	Bridge Decks and Trouble Spots	20-30 (frost) 30-40 (Black Ice)	50-150	 Consider treating approaches as well as bridge decks. Treat ice patches, if needed, with pre-wetted salt at 100 lb/lane-mi. 		20 Ap	20 Sn	y Mainte 06 Wi
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.		plication	iow Remo	inance Ma Inter Main
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.		Rates	val Ma	anual tenanc
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.		Anti-Icir	terials	Ð
Moderate or Heavy Snow (<u>></u> 1/2 in./hr)	Trouble Spots and Intersections	40 Recommended 50 Maximum	100-300	 Do not apply liquid anti-icing agents onto heavy snow accumulation or packed snow. Applications will need to be more frequent at lower temperatures and higher snowfall rates. 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. 		Bı		Bureau
Notes:								u of

- Anti-icing operations typically should be conducted during normal, non-overtime working hours and ٠ 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. ٠
- Time initial anti-icing agent applications and subsequent de-icing agent applications to prevent deteriorating conditions or development of packed • and bonded snow.

(1) 4-Lanes and Greater (2) 2 Lanes

Bureau of Highway Maintenance January 2012



Highway Maintenance ManualBureau of Highway MaintenanceChapter 06Winter MaintenanceNov 2008Section 20Snow Removal MaterialsSubject 25Subject 25Application Rates De-Icing

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 28° t	. Temp. o 32° F	Pave. 23° ti	. Temp. o 28° F	Pave. 15° tc	Temp. 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.

• ¹Intersections 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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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. 28° tr	Temp. ⊃ 32° F	Pave. 23° tr	Temp. o 28° F	Pave. 15° tc	Temp. 23° F	Pave. Temp. Less than 15° F		
	Initial	Subsequent	Initial	Subsequent	Initial	Initial Subsequent		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.

• ¹Intersections 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



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 Sedi Phosphorus McMAHON

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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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2





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7

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Permit Requirements

- Public Education
- Public Involvement
- Illicit Discharge Detection & Elimination
- Construction Site Pollutant Control
- Post-Construction Stormwater Management
- Municipal Pollution Prevention
- Stormwater Quality Management

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Stormwater Quality Management -Janof Action The second second



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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.



13

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.



14

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.



15

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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16



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.



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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19

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

- 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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26



 Store & Handle Materials Safely

 Store materials and containers as follows:

 Best: Indoors in sealed containers.

 <u>Good</u>: Outdoors in sealed containers on a paved surface and beneath a canopy.

 <u>Acceptable</u>: Outdoors in sealed containers on a paved surface, but no canopy.

 <u>Indefinition</u>

 <u>Indefinition</u>

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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.



31

Cleanup Spills Properly

Liquid Spills:

- Use absorbent materials or mop up small liquid spills. <u>Do not</u> hose the spill to a storm drain.
- Remove the absorbent materials promptly and follow procedures for proper disposal.



32

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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.



33



34





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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.

- Children

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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.



40







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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.



43

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44



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46





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49

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.



50



51

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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52





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and herbicides

pesticides or herbicides

storm drainage system.



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1 Alter

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.



56

Contexts



57

United States Environmental Protection Agency Office of Water Washington, D.C.

\$EPA

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 8391 Main Street Ellicott City, MD 21043

City of Coral Gables, Florida

Tim Clark 285 Aragon Avenue Coral Gables, FL 33134

Hillsborough County, Florida Jose Rodriguez Hillsborough County Public Works 601 East Kennedy Boulevard Tampa, FL 33601

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

The mention of trade names or commercial products does not constitute endorsement or recommendation for the use by the U.S. Environmental Protection Agency.

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	١	Estimated (early Hours on SW Training		Estimated Annual Cost (\$)		
Stormwater Engineer	1	х	15	х	2.0	х	20	=	600		
Plant Management	5	х	20	х	2.0	х	10	=	2,000		
Plant Employees	100	х	10	х	2.0	х	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
Chapter 425. Stormwater Management and Erosion Control

Article I. Stormwater Utility

[Adopted 5-16-2005 (Title 9, Ch. 5, of the 1988 Code)]

§ 425-1. Utility established.

Α.

The Village of Kimberly finds that the management of stormwater and other surface water discharge within and beyond the Fox River is a matter that affects the health, safety and welfare of the Village, its citizens and businesses, and others in the surrounding area. Specific requirements have been placed on the Village through the Wisconsin Department of Natural Resources (DNR), Ch. NR 216, Wis. Adm. Code, requiring the Village to improve the quality of stormwater discharged to the waters of the state. The Village of Kimberly shall be permitted by the DNR and shall be required to remain in compliance with its permit. Failure to effectively manage stormwater affects the sanitary sewer utility operations of the Village 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 Fox River. Those elements of the system that provide for the collection of and disposal of stormwater and regulation of groundwater are of benefit and provide services to all properties within the Village of Kimberly, including property not presently served by the storm elements of the system. The cost of operating and maintaining the Village 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.

Β.

There is hereby established a Village of Kimberly Stormwater Utility. The operation of the Stormwater Utility shall be under the supervision of the Village Board. The Building Inspector shall be in charge of the Stormwater Utility.

§ 425-2. Authority.

The Village of Kimberly, 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 stormwater and surface water management. These facilities may include, without limitation by enumeration, surface and underground drainage facilities, sewers, watercourses, retaining walls and ponds, detention basins, and such other facilities as will support a stormwater management system.

§ 425-3. 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. Adm. 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.

DEVELOPED PROPERTY

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.

DIRECTOR

The Building Inspector or his/her designee.

DUPLEX UNIT

Any residential space identified for habitation by members of the same household attached to only one other residential space and classified duplex zoning by the Village Zoning Code.^[1]

DWELLING UNIT

Any residential space identified for habitation by members of the same household or as classified by the Village Zoning Code. "Dwelling unit" includes, but is not limited to, all duplexes, apartments, residential condominiums and townhouse living units.

EQUIVALENT RUNOFF UNIT (ERU)

The statistical average horizontal impervious area of single-family homes within the Village of Kimberly on the original adoption date of this article (May 16, 2005). The horizontal impervious area includes, but is not limited to, all areas covered by structures, roof extensions, patios, porches, driveways and sidewalks.

IMPERVIOUS AREA or IMPERVIOUS SURFACE

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, lawns and fields.

NONRESIDENTIAL PROPERTY

Any developed lot or parcel not exclusively residential, as defined herein, including but not limited to transient rentals (such as hotels and motels), mobile home parks, multifamily apartment buildings, condominiums, commercial, industrial, institutional and governmental property and parking lots.

RESIDENTIAL PROPERTY

Any lot or parcel developed exclusively for residential purposes, including but not limited to single-family homes and manufactured homes.

RUNOFF

The surface water, including rain and snowmelt, which is inhibited by impervious surfaces from naturally infiltrating into the soil.

STORMWATER FACILITIES

All constructed facilities or natural features used for collecting, storing and conducting stormwater to, through and from drainage areas to the point of final outlet. Stormwater facilities collectively constitute a stormwater system.

UNDEVELOPED PROPERTY

Property 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.

Editor's Note: See Ch. 525, Zoning.

§ 425-4. Rate charges.

By this article, the Village Board is establishing the rate charge upon each lot and parcel within the Village of Kimberly 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 Administrator.

Α.

Rate charges shall be used to share the costs of the Stormwater Utility. These rate charges may include:

(1)

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 contributes 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 is equal to 0.7 ERU.

(2)

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 residential unit of property. Other units of property will be charged multiples of the ERU, based upon the impervious area contributing to surface water runoff.

(3)

Special charge (SC). This charge may be imposed on property that is in an area specially benefitted 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.

В.

Customer classification. The Village Board may make such other charges 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 from that given property.

C.

Collection agent. The Village of Kimberly Water Utility is hereby appointed as the collection agency for the Village 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.

D.

Billing. The bills for Stormwater Utility charges shall be mailed to the owner of the property. Bills for stormwater charges are rendered quarterly and become due and payable upon issuance following the period for which service is rendered.

[Amended 10-12-2020 by Ord. No. 6-2020]

Ε.

Payment; lien; penalty. Stormwater Utility charges shall not be payable in installments. Stormwater Utility charges shall be payable upon receipt, subject to the provisions of this section. If a charge remains unpaid for a period of 20 days after the date of the utility bill, such charge shall become a lien on the property to which it relates, as provided in §§ 66.0821(4)(d) and 66.0809(1), Wis. Stats. Delinquent charges shall be automatically extended upon the next available tax roll as a delinquent tax against the property, and all proceedings relating to the collection, return and sale of property for delinquent real estate taxes shall apply to such charges. A penalty of 10% will be added to the delinquent balance when it is placed on the tax roll. Charges remaining unpaid for a period of 20 days or more from the date of the utility bill shall be assessed a late payment charge. [Amended 10-12-2020 by Ord. No. 6-2020]

§ 425-5. Customer classification.

Α.

Customer classes. For purposes of imposing the stormwater charges, all lots and parcels within the Village of Kimberly are classified into the following five customer classes:

(1)

Residential — Single-Family.

(2)

Residential — Duplex.

(3)

Nonresidential.

(4) Undeveloped.

(5)

Village-Owned.

Β.

Assignment of classifications. The Building Inspector shall prepare a list of lots and parcels within the Village of Kimberly and assign a classification of residential, nonresidential or undeveloped to each lot or parcel.

C.

ERU average impervious area footage. The average square footage of impervious area of the ERU is established to be equivalent to 3,350 square feet.

D.

Single-family residential rate determination. The charges imposed for single-family residential properties shall be the rate for one ERU.

Ε.

Duplex residential rate determination. The charges imposed for duplex residential properties shall be the rate of 0.75 of one ERU per individual dwelling unit existing on the property (ERU rate multiplied by the number of dwelling units).

F.

Multifamily residential rate determination. The charges imposed for multifamily and condominium residential properties shall be the same as nonresidential properties.

G.

Village-owned properties rate determination. No charges shall be imposed for Village-owned property.

Η.

Nonresidential properties rate determination. The charges imposed for nonresidential properties, as defined herein, 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 factor shall be rounded down to the nearest 1/10, i.e.,

(ERU Rate) (Impervious Area in Square Feet)

3,350 square feet

e.g.

<u>10,000 square feet</u>

3,350 square feet

I.

Impervious area determination. 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 Building Inspector on any additions to the impervious area. Upon a property owner's written notification and request, the Building Inspector shall review impervious area for possible reductions.

J.

Undeveloped parcel minimum charge basis. The minimum charge for any undeveloped parcel shall be equal to the BC rate.

K.

Developed parcel minimum charge basis. The minimum charge for any developed parcel shall be equal to one ERU.

§ 425-6. 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, whichever comes first.

§ 425-7. Method of appeal.

The Stormwater Utility charge may be appealed as follows:

Α.

A written challenge to the stormwater charge must be filed with the Building Inspector 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. The Building Inspector will forward these documents to the Village Administrator.

В.

A property owner not satisfied with the Building Inspector's decision can appeal to the Village Board for its review and action.

C.

Following review by the Building Inspector and the Village Administrator, 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.

D.

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 Village Board without interest.

§ 425-8. Alternative method to collect stormwater charges.

The Village Board hereby finds and determines that the Stormwater Utility charges established under this article reasonably reflect the services rendered to property and may be and are hereby authorized to be levied and imposed on property as a special charge pursuant to § 66.0627, Wis. Stats., in addition to other provisions of law. The mailing of the bill for Stormwater Utility charges to a property owner shall serve as notice to the property owner that failure to pay the charges when due may result in the charges being imposed pursuant to the authority of § 66.0627, Wis. Stats. The Village may provide notice each October of any unpaid charges to the Stormwater Utility, and such charges, if not paid by November 15, may be placed on the tax roll in accordance with § 66.0627, Wis. Stats. The collection method provided in this section is in addition to the collection method provided for in § **425-4**.

§ 425-9. 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.