Department of Public Works
Engineering Division
Robert F. Phillips, P.E., City Engineer

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Mapping Section Manager
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Felicia Chase
Water Enforcement & Compliance Assurance Branch
Water Division, Mail Code: WC-15J
U.S. EPA, Region 5
77 West Jackson Blvd.

December 20, 2019

RE: Traffic Engineering Public Yard SWPPP- 1120 Sayle Street, Madison, WI

Dear Ms. Chase:

The City of Madison has developed a SWPPP for the Traffic Engineering Public Works Site. Please review the following documents, and provide comment if our proposed actions are satisfactory to the EPA.

Sincerely,

Robert F. Phillips, P.E.
City Engineer

RFP:pdg

12/21/2019

Municipal Storm Water Pollution Prevention Plan

Traffic Engineering Sayle St Public Works Site

Municipal Storm Water Pollution Prevention Plan

Traffic Engineering Sayle St. Public Works Site

1. Introduction

1.0 SWPPP Overview

This storm water pollution prevention plan (SWPPP) has been developed as required under Section C.(6) of Wisconsin Pollutant Discharge Elimination System (WPDES) No. WI-S0584163 for storm water discharges and in accordance with good engineering practices. This SWPPP describes each facility and its operations, identifies potential sources of storm water pollution at the facility, recommends appropriate best management practices (BMPs) or pollution control measures to reduce the discharge of pollutants in storm water runoff, and provides for periodic review of this SWPPP.

This Storm Water Pollution Prevention Plan:

- identifies the SWPPP coordinator with a description of the coordinator's duties;
- identifies members of the SWPPP team and lists their responsibilities;
- describes the facility, with information on location and activities, a site map, and a description of the storm water drainage system;
- identifies potential storm water contaminants;
- describes storm water management controls and various Best Management Practices (BMPs) needed to reduce pollutants in storm water discharges;
- describes the facility's monitoring plan; and
- describes the implementation schedule and provisions for amendment of the plan.

1.1 Background

The City of Madison is a Phase 1 NR216 community permitted through the Wisconsin Department of Natural Resources (WDNR). The NR216 legislation ultimately came from the Clean Water Act which is administered by the Environmental Protection Agency (EPA) and the WDNR.

The City of Madison is a member of the Madison Area Municipal Storm water Partnership (MAMSWaP) a group comprised of 21 central Dane County municipalities, Dane County, and UW-Madison. Members of MAMSWaP are co-permitees under WI DNR WPDES Permit No. Wl-S058416-3. This permit regulates storm water discharges in accordance with ch. 283, Wis. Stats. and subch. I of ch. NR 216, Wis. Adm. Code, and implements the non-agricultural and transportation facility performance standards of ch. NR 151, Wis. Adm. Code. A copy of this permit is provided in Appendix 1.

This permit covers all areas under the ownership, control or jurisdiction of the City of Madison that contribute to discharges from a Municipal Separate Storm Sewer System (MS4). An MS4 is defined as *"a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), that are owned or operated by a co-permittee and designed or used for collecting or conveying storm water".* Permit requirements are intended to reduce the amount of pollutants entering storm water runoff or otherwise entering MS4s. Discharges from these MS4s consist of runoff from rain, and snow and ice melt. Pollutants of concern in storm sewer system discharges include organic materials, suspended solids, metals, nutrients, bacteria, pesticides, fertilizer, and traces of toxic materials.

A major component of this permit includes pollution prevention at municipal garages, public works facilities, and storage areas. Section C.6. (e) requires each co-permittee to carry out pollution prevention procedures at municipal garages, public works facilities, and storage areas. A Storm Water Pollution Prevention Plan is required to be developed and implemented for each of these facilities operated by the City of Madison.

1.2 Goals & Objectives

The City of Madison has made it a priority to reduce nonpoint source pollution to surface water and groundwater from urban storm water sources. This SWPPP is a component of the City's comprehensive city-wide storm water management efforts to identify nonpoint source pollution loadings and investigate mitigating measures.

This SWPPP is intended to satisfy the following goals:

- Implement and maintain Best Management Practices (BMPs) that identify, reduce, eliminate, and/or prevent the discharge of storm water pollutants;
- Prevent violations of surface water quality, ground water quality, or sediment management standards; and
- Eliminate the discharges of unpermitted process wastewater, domestic wastewater, non-contact cooling water, and other illicit discharges to storm water drainage systems.

Given these goals, the specific objectives of this SWPPP are to:

- Identify potential sources of storm water and non-storm water contamination to the storm water drainage system;
- Identify and prescribe appropriate "source area control" type best management practices designed to prevent storm water contamination from occurring;
- Identify and prescribe "storm water treatment" type best management practices to reduce pollutants in contaminated storm water prior to discharge;
- Prescribe actions needed either to bring non-storm water discharges into compliance with WPDES permit or to remove these discharges from the storm drainage system;
- Prescribe an implementation schedule so as to ensure that the storm water management actions prescribed in this SWPPP are carried out and evaluated on a regular basis; and
- Identify operations, maintenance, inspections and record keeping needed for these BMPs.

1.3 Coverage & Availability

This SWPPP covers the operations of the City of Madison Traffic Enginneering Facility at the Sayle Street Site.

A copy of this SWPP will be maintained on-site.

2. Pollution Prevention (P2) Team

The Parks Department will create a Storm Water Pollution Prevention (P2) team. The P2 team shall be responsible for implementing, maintaining the SWPPP at the Goodman Public Works site.

The P2 Team is s responsible for:

- Coordination and oversight of plan development, implementation and update; and
- Implementation of preventive maintenance program;
- Oversight of good housekeeping activities inside and out in the public works yard;
- Spill response coordination;
- Oversight of employee training programs;
- Performance of quarterly inspections;
- Maintenance of all records and ensuring documentation submitted to City.

Parks shall designate a SWPPP Coordinator to lead its P2 team. The Coordinator should have the authority to make decisions regarding site activity and have a working knowledge of the outdoor activities. Other members of the team should consist of representatives from various areas of the Streets Department.

The City Engineering shall assign a Professional Engineer to assist the P2 Team. The Engineer's responsibilities shall include:

- Providing technical assistance to identify potential pollutants;
- Develop and implement BMPs;
- Develop inspection protocols for the facility

The P2 team member rosters are provided in Appendix 2.

3.0 Site Description

The Goodman Public Works site is located on Madison's neasouth side at 1120 Sayle Street, Wisconsin. The 5.6 acre Site has frontage on Sayle Street , is bisected by Van Deusen Street and has a storage facility adjacent to Wingra Creek.

The Goodman parcel is zoned PR (Parks and Recreation).

This site is operated by the Parks division.

Parks facilities on this site includes 5 buildings providing, vehicle and equipment storage, office space and a workshop. Parks uses the yard to store trailers, landscape materials and for parking.

Figure 1 shows the 5.6-acre site boundary.

Figure 1

5.6-acre Traffic Engineering Public Works Facility

3.1 Site Drainage

3.1.1 Outfalls

The Traffic Engineering Public Works (TEPW) site is located in Outfall Basin MO07-C-0203-D-MAD-C in the Lake Monona (MO07) watershed. The TEPW site makes up 8.5% of the basin's 66.2 acres. Appendix 5 presents a general location map of the facility and shows the following features:

- the facility location;
- the drainage area boundary for the storm water outfalls serving the facility;
- the name and location of receiving waters.

The majority of the stormwater run off is collected in storm sewers and discharged to Wingra Creek. A small portion of the site drains directly to Wingra Creek.

3.1.2 Site Drainage

There is a single storm sewer outfall on wingra creek that nearly the entire site flows through. There is a not any treatment of the runoff from the site.

Appendix 5 shows the following site specific features:

- storm drainage collection and disposal system;

3.2 SITE ACTIVITIES

The Goodman Public Works facility is a multipurpose location. Activities include maintenance vehicles and equipment used to maintain park facilities. Storage of lawn mower and bobcat attachments, rubber mulch, and small amounts of brush. Workshops for maintaining parks infrastructure and office space and parking for field operation staff.

3.3 Potential Pollutants

A site activity and materials inventory that have the potential to contaminate storm water and an accompanying map is provided in Appendix 6.

3.4 Illicit Discharges and Spills

There has been no history of illicit discharges or spills at this facility.

Future spills will be addressed under the Spill Prevention and Clean Up Plans to be prepared for each facility (to be included in this document in Appendices 8-10.

4. Best Management Practices

There are not any structural control at this facility.

5. Monitoring Plan

The City is developing and implementing a storm water monitoring plan in accordance with its WPDES permit. City Engineering is the lead agency for implementation of the monitoring plan.

The following sections describe monitoring and reporting requirements for this SWPPP.

The purpose of monitoring is to:

a) Evaluate storm water outfalls for the presence of non-storm water discharges, and
b) Evaluate the effectiveness of the company's pollution prevention activities in controlling contamination of storm water discharges.

Monitoring components are described in the following sections.

5.0 Illicit Discharge Detection and Elimination

The Engineering Division shall perform dry weather inspections of stone weeper and the apron of the storm pipe in the drainage channel. Instances of dry weather flow, stains, sludge, color, odor, or other indications of a non-storm water discharge shall be documented and immediately reported to City Engineering and Madison/Dane County Public Health. Engineering and Public Health will work together to identify the sources of the illicit discharge and eliminate it.

5.1 Site Compliance Inspections

The City Engineer shall assign a Professional Engineer to perform an annual inspection to evaluate the effectiveness of the SWPPP. The inspection shall be adequate to verify that the site drainage conditions and potential pollution sources identified in the SWPPP remain accurate, and that the best management practices prescribed in the SWPPP are being implemented, properly operated and adequately maintained. Information reported shall include the inspection date, inspection personnel, scope of the inspection, major observations, and revisions needed in the SWPPP.

6.0 Implementation Schedule

This SWPPP becomes effective as of ***01/01/2020.***

7.0 Record Keeping and Reporting

The quarterly inspections, and maintenance activities will be record on the forms in Appendix 5 and kept onsite with the SWPPP.

8.0 Certification of the SWPPP

I certify that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information contained in the plan. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information; the information contained in this document is, to the best of my knowledge and belief, true, accurate and complete. Based upon inquiry of persons directly under my supervision, and to the best of my knowledge and belief, the provisions of this document adhere to the provisions of the storm water permit for the development and implementation of a Storm Water Pollution Prevention Plan and that the plan will be complied with.

12/20/19

Robert F. Phillips, P.E.
City Engineer

Date

Appendix 1 - WPDES Permit

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, WI 53711-5397

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

July 1, 2019

Robert Phillips, City Engineer
City of Madison
210 MLK Jr BLVD, Room 115
Madison, WI 53703

Subject: Authorization under Wisconsin Pollutant Discharge Elimination System (WPDES) Municipal Separate Storm Sewer System (MS4) Madison Area Permit No. WI-S058416-4

Dear Mr. Phillips:

The Department of Natural Resources (Department) has reissued WPDES Municipal Separate Storm Sewer System (MS4) Madison Area Permit No. WI-S058416-4, which replaces previous coverage under the expired WPDES MS4 Permit No. WI-S058416-3. Discharges from your MS4 will continue to be authorized and regulated in accordance with the reissued permit, ch. 283, Wis. Stats., and subch. I of ch. NR 216, Wis. Adm. Code. The City of Madison must comply with the terms and conditions of the permit to lawfully discharge storm water from the MS4 to waters of the state.

The City of Madison's **Start Date** of coverage under the general permit is the date of this letter authorizing coverage, **July 1, 2019**. The schedule for meeting many of the requirements under the general permit is based on this start date. A compliance schedule is given in section 5 beginning on page 30 of the permit. It is important that the City of Madison understand the terms and conditions of the permit because it is enforceable under both state and federal law.

In accordance with s. 283.33(9), Wis. Stats. and s. NR 216.08, Wis. Adm. Code, the same annual fee will continue required for coverage under the permit. In late May or early June of each year, the City of Madison will receive an invoice from the Department.

If you have any questions about the permit, please feel free to contact me at 608-273-5612.

Sincerely,

Eric S. Rortvedt
Storm Water Engineer

Enclosure: WPDES Permit No. WI-S058416-4

cc: DNR Electronic Permit File
Eric Rortvedt – SCR

Notice of Appeal Rights

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30 day period for filing a petition for judicial review.

WISCONSIN
DEPT. OF NATURAL RESOURCES

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

INDIVIDUAL PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM WPDES PERMIT NO. WI-S058416-4

In compliance with the provisions of ch. 283.33, Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code,

THE CITIES OF FITCHBURG, MADISON, MIDDLETON, MONONA, STOUGHTON, SUN PRAIRIE, AND VERONA; THE VILLAGES OF COTTAGE GROVE, DEFOREST, MAPLE BLUFF, MCFARLAND, SHOREWOOD HILLS, WAUNAKEE AND WINDSOR; THE TOWNS OF BLOOMING GROVE, BURKE, MADISON, MIDDLETON AND WESTPORT; DANE COUNTY; AND THE UNIVERSITY OF WISCONSIN – MADISON

are permitted to discharge storm water from all portions of the

MUNICIPAL SEPARATE STORM SEWER SYSTEMS

owned or operated by the co-permittees listed above 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 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: Eric S. Rortvedt
Storm Water Engineer & Permit Drafter

7/01/19
Date Permit Signed/Issued

PERMIT EFFECTIVE DATE: July 1, 2019

EXPIRATION DATE: June 30, 2024

TABLE OF CONTENTS

1. APPLICABILITY CRITERIA

1.1 Permit Description and Purpose

Each municipality listed as a co-permittee under this permit submitted a reissuance application letter to the Department of Natural Resources (hereinafter referred to as "Department") pursuant to s. NR 216.09, Wis. Adm. Code, to be covered under a group WPDES municipal storm water discharge permit for storm water discharges from the group's municipal separate storm sewer systems (MS4s) to waters of the state. The co-permittees under this permit are continuing to work together, potentially along with other MS4 general permittees, under an intermunicipal agreement (Madison Municipal Storm Water Partnership) to refine and implement an extensive joint information and education plan and have agreed to cooperate as appropriate on permit requirements.

This permit regulates storm water discharges in accordance with ch. 283, Wis. Stats. and subch. I of ch. NR 216, Wis. Adm. Code, and implements the non-agricultural and transportation facility performance standards of ch. NR 151, Wis. Adm. Code. A municipality that is a co-permittee under this permit is only responsible for permit conditions relating to discharges from the MS4 under its jurisdiction for which it is the owner or operator.

1.2 Permitted Area

This permit covers all areas under the ownership, control or jurisdiction of the co-permittees that contribute to discharges from a municipal separate storm sewer system (MS4) that receives runoff from 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 ch. NR 216, Wis. Adm. Code.

1.3 Co-Permittees

There are 21 municipalities (or co-permittees) covered under this permit including: The Cities of Fitchburg, Madison, Middleton, Monona, Stoughton, Sun Prairie, and Verona; the Villages of Cottage Grove, DeForest, Maple Bluff, McFarland, Shorewood Hills, Waunakee and Windsor; the Towns of Blooming Grove, Burke, Madison, Middleton and Westport; Dane County; and the University of Wisconsin – Madison.

As a state entity, the University Wisconsin - Madison owns, controls and/or has jurisdiction in lands outside of their responsible MS4 permit compliance area. The lands outside of their permit compliance area shall be accounted under this WPDES permit as in the jurisdiction of the applicable co-permittee where they reside.

1.4 Dane County

Specifically, for Dane County as a co-permittee, this permit only authorizes discharges of storm water from the MS4 owned or operated by Dane County that occur within the geographical boundaries of the other co-permittees.

1.5 Authorized Discharges

1.5.1 This permit authorizes storm water point source discharges from the co-permittee's 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 3.3 of this permit.

1.5.2 A permanent pumped storm water discharge from an otherwise internally drained area may be authorized under this permit, provided all of the following:

a. Written confirmation must be received from the Department's storm water program that the discharge is authorized under this permit. The co-permittee shall provide the Department with a pumping management plan and other information it deems relevant to determine if the discharge should be authorized under this permit.

b. The pumped discharge shall be operated in a manner to prevent accumulated sediment from entering the pumped water intake.

c. The discharge shall be operated in a manner to prevent downgradient erosion.

1.5.3 The City of Middleton is authorized to discharge pumped water from Tiedeman Pond, which will flow over a mile before entering Lake Mendota, with additional requirements in section 4.2.

Note: The pumped discharge from Tiedeman Pond was previously authorized under WPDES permit no. WI-0049956-1. Once this permit is reissued, the Department will send a letter to the City of Middleton terminating its coverage under WPDES permit no. WI-0049956-1.

1.5.4 The City of Stoughton is authorized to discharge pumped water from Paradise Pond, which will flow over a mile before entering the Yahara River, with additional requirements in section 4.4.

Note: Authorization under this WPDES permit does not exempt the discharge from compliance with all other applicable local, state and federal regulations.

1.6 Water Quality Standards

1.6.1 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, 140 and 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.

1.6.2 This permit does not authorize discharges that the Department determines will cause or have reasonable potential to cause or contribute to an exceedance above any applicable water quality standards.

1.7 Outstanding and Exceptional Resource Waters

1.7.1 The co-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. As of the issuance date of this permit, Black Earth Creek is an ORW and Sixmile Creek and the Sugar River are ERWs.

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

1.7.2 The co-permittee may not establish a new MS4 discharge of pollutants 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 pollutants to an ORW or ERW will not exceed background concentration levels within the ORW or ERW.

Note: 'New MS4 discharge of pollutants' is defined under section 7.16.

1.7.3 If the co-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 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 the co-permittee's effective date of coverage under WPDES permit nos. WI-S050075-1 or WI-S058416-3. The City of Stoughton and Village of Cottage Grove had an effective date of coverage of November 13, 2006 under WPDES permit no. WI-S050075-1 and the other 19 co-permittees had an effective date of coverage of July 1, 2009 under WPDES permit no. WI-S058416-3.

b. The increased discharge would not result in a violation of water quality standards.

1.7.4 If the co-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.

1.8 Impaired Water Bodies and Total Maximum Daily Load Requirements

1.8.1 A TMDL was approved for the Rock River Basin by the Department and USEPA, which established sediment and total phosphorus Wasteload Allocations (WLAs) for permitted MS4s. Co-permittees shall comply with the TMDL provisions in Appendix A for discharge into the Rock River Basin.

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

1.8.2 By March 31 of each odd-numbered year, the co-permittee shall determine whether any part of its MS4 discharges to an impaired water 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 co-permittee that determines that any part of its MS4 does discharge to a listed impaired water but for which there is no Department and USEPA approved Total Maximum Daily Load (TMDL) for the pollutant of concern, the co-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 pollutant(s) of concern that contribute to the impairment of the water body. This section of the co-permittee's program shall specifically identify control measures and practices that will collectively be used to try to eliminate the MS4's discharge of pollutant(s) of concern that contribute to the impairment of the water body and explain why these control measures and practices were chosen as opposed to other alternatives.

Note: Every two years, the Department updates and publishes a list of water bodies considered impaired under the Clean Water Act. The list is updated in even-numbered years. A list of Wisconsin impaired water bodies may be found on the Department's Internet site at: http://dnr.wi.gov/topic/impairedwaters/

1.8.3 The co-permittee may not establish a new MS4 discharge of pollutants of concern to an impaired water or increase the discharge of a pollutant of concern to an impaired water unless the new or increased discharge does not contribute to the receiving water's impairment, or the US Environmental Protection Agency and the Department have approved a Total Maximum Daily Load (TMDL) for the impaired water.

Note: 'New MS4 discharge of pollutants' and 'pollutant of concern' are defined under sections 7.16 and 7.20.

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

1.10 Endangered and Threatened Resources
The co-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.

1.11 Historic Property
The co-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 historic property pursuant to s. 44.40 (3), Wis. Stats.

1.12 General Storm Water Discharge Limitations
In accordance with s. NR 102.04, Wis. Adm. Code, co-permittee shall take all reasonable actions to prevent discharges from its MS4 that have an unreasonable effect on receiving water quality, human health, or aquatic life:

1.12.1 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.

1.12.2 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.

1.12.3 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.

1.12.4 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.

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

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

1.14.1 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 a separate WPDES permit issued pursuant to s. 283.31, Wis. Stats.

1.14.2 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; growing of grain, grass, mint and seed crops; growing 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.

1.14.3 Other Excluded Discharges
Storm water discharges from industrial operations or land disturbing construction activity requires 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 from an MS4, this permit does not satisfy the need to obtain any other permits for those discharges. This exclusion does not apply to the co-permittee's responsibility to regulate construction sites within its jurisdiction in accordance with sections 3.4 and 3.5 of this permit.

1.14.4 Non-MS4 Discharge
Storm water discharges that do not enter an MS4.

1.15 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. GENERAL RESPONSIBILITIES FOR ALL CO-PERMITTEES

In addition to the requirements specified in sections 1 and 3 through 7, each co-permittee shall:

2.1 Minimize the discharge of pollutants from its MS4.

2.2 Implement the storm water management program and other pertinent requirements of this permit in all new areas added to the co-permittee's MS4 as the result of annexation by the co-permittee.

2.3 Implement the storm water management program and other pertinent requirements of this permit in all new areas added to the co-permittee's MS4 as the result of installation or taking jurisdiction of a new or existing MS4.

2.4 Individually or as agreed upon by the co-permittees, provide adequate financing, staff, equipment, and support capabilities to implement the requirements of this permit.

2.5 Comply with the conditions of this permit relating to discharges from the MS4 where it is the owner or operator.

2.6 Implement a storm water management program, as required by this permit, in portions of the municipality that discharge to an MS4.

2.7 Exercise and enforce its legal authority, as applicable, to control discharges to and from those portions of the MS4 that it owns or operates under its permitted area. This legal authority may be a statute, ordinance, permit, order or intermunicipal agreement, a series of contracts, or administrative rule in order to:

2.7.1 Control the contribution of pollutants to and the discharge of pollutants from the MS4.

2.7.2 Prohibit illicit discharges to the MS4.

2.7.3 Control the discharge of spills, dumping and disposal of materials other than storm water into the MS4.

2.7.4 Require compliance with conditions in ordinances, permits, contracts, orders or administrative rules.

2.7.5 Require compliance with the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code, or equivalent local standards.

2.7.6 Require compliance with the standards of ss. NR 151.121 to 151.128 and 151.241 to 151.249, Wis. Adm. Code, or equivalent local standards.

2.7.7 Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance with permit conditions including the prohibition of illicit discharges to the MS4.

Note: As a state entity, the University of Wisconsin – Madison has limited statutory authority than that of other municipal co-permittees regulated under this permit. See section 4.6 for the University of Wisconsin – Madison's individual responsibility to meet the requirements of section 2.7.

2.8 Attend and participate in quarterly meetings of the co-permittees. Unless an alternative quarterly date or dates are agreed upon by the co-permittees, the quarterly meetings shall take place the first Tuesday of February, May, August, and November of each year. These meetings are to be used for review and approval schedules, receive work progress reports, and discuss issues pertaining to this permit or other relevant storm water management issues. Each co-permittee shall designate a representative to attend these meetings. The representative of the City of Madison shall provide the agenda, facilitate the conduct of the meetings, and provide a record of the proceedings in the form of minutes. The meetings shall be held at times and places determined by the co-permittees. Adequate notices of and agendas for the meetings shall be provided by the facilitator to the designated representatives for each co-permittee.

2.9 Cooperate with other co-permittees on sharing information and resources to facilitate storm water management activities on a regional or watershed basis and to avoid duplicative efforts.

2.10 Fulfill the commitments of an intermunicipal agreement to cooperate on storm water information and education.

2.11 Notify the affected co-permittee in the case of discovering a potential illicit discharge originating from its jurisdiction and discharging to the MS4 of the affected co-permittee.

2.12 Work cooperatively with other affected co-permittees in the case of discovering a potential illicit discharge of unknown source to determine the best actions to resolve the illicit discharge.

2.13 Submit information requested by the Department pertinent to the MS4, discharges from the system, activities related to implementation of the requirements of this permit, or other relevant information.

2.14 Meet with the Department on an as needed basis to discuss implementation of this permit or other relevant issues.

2.15 Keep contact information up-to-date and notify the Department in a timely manner when personnel changes occur for the appropriate contact person(s) knowledgeable about this permit and its implementation.

2.16 Respond to and resolve in timely manner complaints received from citizens and concerns raised by the Department relating to pollution and storm water issues within the co-permittee's jurisdiction.

2.17 Coordinate the requirements of this permit internally between the co-permittee's agencies, departments, and programs, and ensure that elected and municipal officials and appropriate staff are advised of this permit.

2.18 Implement the requirements of this permit in a manner that is consistent with the recommendations contained in priority watershed plans, the Dane County Water Quality Plan, and other storm water management plans funded by the Department and applicable to the co-permittee.

2.19 Incorporate the requirements of this permit in the development of master plans, neighborhood plans, development plans, and any other comprehensive planning activity to address water quality impacts from storm water discharges associated with implementation of these plans.

2.20 Undertake actions required by this permit in manner that is consistent and in conformance with other applicable regulatory programs.

Note: Examples of other regulatory programs that may be applicable are the U.S. Army Corps of Engineers 404 permit program and permits required under ch. 30, Wis. Stats.

3. PERMIT CONDITIONS

This permit establishes the following measurable goals, with a compliance schedule in section 5, for the co-permittee to maintain compliance with the minimum control measures for their storm water management program described under sections 3.1 through 3.6. The following permit conditions apply to the co-permittee, unless the Department issues a written determination that a condition is not appropriate under the circumstances. The co-permittee shall have a written storm water management program that describes in detail how the co-permittee intends to comply with the permit's requirements for each minimum control measure. The permit shall begin implementing any updates to its storm water management programs no later than March 31, 2021.

3.1 Public Education and Outreach

Each co-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 co-permittee shall implement the following measurable goals:

3.1.1 MAMSWAP Membership. Continue to be a member of the Madison Area Municipal Storm Water Partnership (MAMSWaP) information and education program. Alternatively, if a co-permittee discontinues to be a member of the MAMSWaP information and education program then they must develop and implement a work plan on their own that otherwise meets the requirements of section 3.1 of this permit.

3.1.2 MAMSWaP Education Plan. Participate in the implementation of the most recent *Madison Area Municipal Storm Water Partnership (MAMSWaP) 5-Year Information and Education Plan*, which are prepared on behalf of the co-permittees. By December 1 of each year, the co-permittees shall collectively develop an annual work plan to guide implementation of the MAMSWaP information and education plan for the following calendar year. The information and education plan shall establish measurable goals for the topic areas listed in Table 1 below.

Note: MAMSWaP information and education plan documents are available online at: **http://www.ripple-effects.com/mamswap**

3.1.3 Educator Coordinator Cooperation. Cooperate with and assist the person functioning in the Storm Water Education Coordinator position created pursuant to the information and education agreement by providing pertinent information requested by the coordinator to facilitate implementation of the information and education plan. This section is not applicable if the co-permittee discontinues participation in the MAMSWaP information and education program.

3.1.4 Topics. Each co-permittee is individually responsible to have its own public education and outreach plan, which should follow the MAMSWaP information and educational plan and be adapted to its own municipality. Each co-permittee shall address all eight topics in Table 1 at least once during the permit term with a minimum of six topics being addressed each year, except, co-permittees that are a City, Village, or Town 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. Co-permittees shall select from the topic areas in Table 1.

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

Table 1: Public Education and Outreach Topic Areas and Descriptions

#	Topic Area	Description
1	Illicit Discharge Detection and Elimination	Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.
2	Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing	Inform and educate the public about the proper management of materials that may cause storm water pollution from sources including automobiles, pet waste, household hazardous waste and household practices.
3	Yard Waste Management/Pesticide and Fertilizer Application	Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.
4	Stream and Shoreline Management	Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.
5	Residential Infiltration	Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.
6	Construction Sites and Post-Construction Storm Water Management	Inform and educate those responsible for the design, installation, and maintenance of construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.
7	Pollution Prevention	Identify businesses and activities that may pose a storm water contamination concern and educate those specific audiences on methods of storm water pollution prevention.
8	Green Infrastructure/Low Impact Development	Promote environmentally sensitive land development designs by developers and designers, including green infrastructure and low impact development.

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

3.1.5 Delivery mechanism. The co-permittee shall use at least four public education delivery mechanisms each year. co-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. Co-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. Co-permittees that are a County shall use at least one from the Active/Interactive Mechanisms column in Table 2 each year."

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

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

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

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

3.2 Public Involvement and Participation

Each co-permittee shall maintain its public involvement and participation program, which complies 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 co-permittee shall implement the following measurable goals:

3.2.1 Permit activities. The co-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, adoption or amendment of storm water related ordinances.

3.2.2 Delivery mechanism. The co-permittee shall identify the public involvement and participation delivery mechanism for each permit activity mentioned in section 3.2.1. Delivery mechanisms may include, but not be limited to, public workshop, presentation of storm water information, government event (public hearing, council meeting, etc.), citizen committee meeting, or website.

3.2.3 Volunteer activity. The co-permittee must implement at a minimum one of the following volunteer public involvement and participation programs per year: group best management

practice (BMP) installation/maintenance, storm drain stenciling, planting community rain garden, clean up events, stream monitoring, citizen committee meetings, public workshop, presentation of storm water information, or other hands-on events.

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

3.3 Illicit Discharge Detection and Elimination

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

3.3.1 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 co-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.

3.3.2 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 co-permittee shall select minor outfalls for annual on-going dry weather field screening during the term of the permit. The co-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 co-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 and criteria regarding selection of outfalls for field screening, screening frequency, indicator parameter selection, indicator parameter action levels and documentation. The Illicit Discharge Detection and Elimination guidance is available on the Department's Internet site at: https://dnr.wi.gov/topic/stormwater/municipal/overview.html

3.3.3 IDDE source investigation and elimination. Written procedures for responding to known or suspected illicit discharges. At a minimum, procedures shall be established for:

a. As soon as possible, 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 co-permittee staff and the public.

e. Notifying the Department immediately in accordance with ch. NR 706, Wis. Adm. Code, if the co-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 co-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 storm water program 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.
Note: The current storm water program contact is Eric Rortvedt and he may be notified via email at: Eric.Rortvedt@wisconsin.gov

h. Documentation of the following information:

(1) Dates and locations of IDDE screenings conducted in accordance with section 3.3.2.

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

3.3.4 The co-permittee shall take appropriate action to remove known illicit discharges from its MS4 system discovered under section 3.3 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.

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

a. An illicit discharge that originates from the co-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.

3.3.6 The name, title and phone number of the individual(s) responsible for responding to reports of illicit discharges and spills shall be included in the illicit discharge response procedure.

3.4 Construction Site Pollutant Control
Except for the University of Wisconsin-Madison as identified under section 4.6 of this permit, the co-permittee shall implement and enforce its program to reduce the discharge of sediment and construction materials from construction sites. The co-permittee shall implement the following measurable goals:

3.4.1 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 co-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.

Note: The Department has guidance, dated February 2015, defining common plan of development at:
https://dnr.wi.gov/topic/stormwater/documents/GuidanceCommonPlan.pdf

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 practices may be found on the Department's Internet site at:
https://dnr.wi.gov/topic/stormwater/standards/const_standards.html

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

(1) BMPs for construction sites that, by design, discharge no more than 5 tons per acre per year, or to the Maximum Extent Practicable (MEP), 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 MEP, 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 3.10, 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

3.4.2 Erosion and sediment 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.

3.4.3Administrative 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.

3.4.4 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: Municipal construction site inspectors should 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 co-permittee shall inspect all construction sites, at a minimum, in accordance with the frequency specified in **Error! Reference source not found.** below.

Table 3: Construction Site Inspection Frequency

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 construction 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

c. Construction site inspection documentation. Compliance with the inspection requirements in 3.4.4.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.

3.5 Post-Construction Storm Water Management

Except for the University of Wisconsin – Madison as identified under section 4.6, the co-permittee shall implement and enforce its program to require control of discharges from areas of new development, infill, and redevelopment, after construction is completed. The co-permittee shall implement the following measurable goals:

3.5.1 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 co-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 practices 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 3.5.1.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 3.10, 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

3.5.2 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.

3.5.3 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 should be conducted for all construction sites (both publicly or privately sponsored) with greater than one acre of land disturbance.

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

3.5.4 Long-term maintenance, inspections and enforcement. Written procedures that will be used by the co-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 3.5.1.c and d of this permit. The procedures shall include:

a. A mechanism for tracking regulated sites.

b. A set inspection frequency of no less than once per permit term.

c. Inspection documentation.

d. Follow up enforcement with timeframes for corrective maintenance.

3.6 Pollution Prevention

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

3.6.1 Storm water management facilities. Update and maintain an inventory of municipally owned or operated storm water best management 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 best management practice:

a. A key corresponding to the location of the BMP on the storm sewer system map required under section 3.8.

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 owned by another entity but used by the co-permittee to meet a water quality requirement in this permit, written documentation that the co-permittee has permission from the owner to use the BMP for this purpose.

3.6.2 For each BMP inventoried under section 3.6.1, the co-permittee shall develop and implement a maintenance plan with inspection procedures and schedule to maintain the pollutant removal operating efficiency of the practice in compliance with any water quality requirement under this permit. Documentation of inspections and maintenance activities shall be maintained.

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

3.6.3 Municipally owned facilities. The Storm Water Pollution Prevention Plans (SWPPPs) for municipal garages, municipal storage areas, and other sources of storm water pollution from municipal facilities located within the permitted area shall be maintained and updated annually as needed and shall include the information in sections 3.6.3.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 3.8.

(2) The contact information for the individual(s) 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 co-permittee's 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 co-permittee is not required to comply with section 3.6.3 if the co-permittee certifies that the municipal facility qualifies for no exposure with the Department's concurrence.

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

(2) The co-permittee shall certify for no exposure for each facility at least once each permit term. The co-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.

3.6.4 Implement 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

3.6.5 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 co-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 co-permittee shall maintain documentation of the number of catch basins cleaned, standard operating procedures, and an estimate of the weight in tons of material collected annually.

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

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

d. Leaf management. Proper management of leaves and grass clippings from municipally owned properties and private property. The program may include instructions to private property owners for on-site composting, on-site beneficial reuse, or

yard waste drop-off as opposed to a municipal collection program. On-site management and/or drop-off shall be communicated to private property owners in accordance with the public education and outreach program implemented under section 3.1 of this permit. If the co-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 co-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 3.8. If the disposal location is outside of the MS4 boundary, then the co-permittee can provide documentation if the disposal is taken elsewhere.

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

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

a. Contact information for the individual(s) 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. Alternatively, this information may be reported on a storm by storm basis, which will be more useful to correlate with air or pavement temperature and snow depth.

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 co-permittee is responsible for, and an estimate in acres of the total area of municipally-owned parking lots treated with deicing products by the co-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 3.8.

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

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

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

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

3.6.7 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, shall be implemented in accordance with a site-specific nutrient application schedule based on appropriate soil tests.

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

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

Note: Additional information on green infrastructure and low impact development may be found on the following USEPA Internet sites:
https://www.epa.gov/green-infrastructure
https://www.epa.gov/nps/urban-runoff-low-impact-development

3.6.9 Internal training and education. At a minimum, the co-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 3.6. 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 co-permittee shall inform contractors performing any services to implement section 3.6 of the permit requirements and expectations. The co-permittee shall also inform their elected officials of the permit requirements and expectations.

3.7 Storm Water Quality Management (Developed Urban Area Standard)
Each co-permittee shall continue to 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 151.121 through 151.126 or ss. 151.242 through 151.246, Wis. Adm. Code. The co-permittee shall implement the following measurable goals:

3.7.1 To the maximum extent practicable, the co-permittee shall implement and maintain storm water management practices necessary to meet the more restrictive total suspended solids reduction of the following:

a. As required under s. 281.16(2)(am)3., Wis. Stats., the co-permittee shall maintain source area controls, structural storm water management facilities, and non-structural storm water BMPs that the co-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.

b. Maintain 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 practices, and non-structural control practices implemented to achieve the 20% reduction in total suspended solids shall be maintained.

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: http://dnr.wi.gov/topic/stormwater/standards/ms4_modeling.html. The co-permittee may elect to meet the applicable total suspended solids standard above on a watershed or regional basis by working with other co-permittee(s) to provide regional treatment that collectively meets the standard.

3.8 Storm Sewer System Map

3.8.1 Each co-permittee shall continue to maintain its own 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:

a. Identification of waters of the state, name and 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 municipal separate storm sewer conveyance systems.

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

c. 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 co-permittee's area may be obtained from the Department.

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

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

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

g. Identification of streets. Note that other geographic features such as railroads, airports, and water features may be identified.

3.8.2 The City of Madison shall maintain the common storm sewer system map for the entire group permit area. Each co-permittee is responsible for providing annual updates to the City of

Madison for updating the common storm sewer system map for inclusion in the annual report as outlined in section 3.9. The common storm sewer system map shall contain the following components:

a. Delineation and identification of storm water drainage basins including watersheds, sub-watersheds, and sewersheds using the naming conventions developed by the City of Madison.

b. Locations of major structural controls including retention, detention, and infiltration facilities.

c. Locations of publicly owned parks, recreational areas, and other open lands such as environmental corridors and conservancies.

d. Municipal boundaries for all co-permittees.

e. Central Urban Service Area boundaries.

f. Geographic features including streets, highways, railroads, airports, and water features.

g. Township and Range System.

h. Contours at a minimum interval of ten feet.

3.8.3 Each co-permittee shall ensure that the information provided on the common storm sewer system map for the co-permittee's areas of jurisdiction is updated annually to reflect improvements to the MS4 through December 31 of each year. Each co-permittee shall be responsible for delivering hard copy changes for the storm sewer system map to the City of Madison by January 31 each year.

3.8.4 The City of Madison shall submit the annually updated common storm sewer system map to the Department with the annual report as outlined in section 3.9.

3.9 Annual Report

Each co-permittee shall submit an annual report to the Department by **March 31 of the following year**. The co-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:

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

Note: Dane County will provide the information for the assessment of the information and education plan since it has taken the lead in the implementation of that plan. However, each co-permittee will be expected to report on its respective public information and education efforts.

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

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

3.9.4 Identification of any known water quality improvements or degradation in the receiving water to which the co-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.

3.9.5 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 3 of this permit or lack of progress towards meeting a measurable goal, the co-permittee shall initiate program changes to improve their effectiveness.

3.9.6 If applicable, notice that the co-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.

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

3.9.8. 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

3.10 Cooperation

The co-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 co-permittee is ultimately responsible for compliance with the conditions of this permit. The co-permittee may rely on another municipality or contract with another entity to satisfy a condition of this permit if all the following are met:

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

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

3.10.3 The other municipality or entity agrees to implement a control measure or permit requirement on the co-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 an adequate storm water ordinance(s) within a town, the town would then not have to adopt its own ordinance. However, the town, as the co-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 co-permittee must evaluate that the entity is completing inspections as agree upon. The co-permittee should not assume that another entity

is implementing a permit condition as required because the co-permittee remains responsible for compliance with the conditions of this permit.

3.11 Amendments

The co-permittee shall amend a program required under this permit as soon as practicable if the co-permittee becomes aware that it does not meet a requirement of this permit. The co-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 co-permittee may include a deadline for amending and implementing the amendment.

3.12 Reapplication for Permit Coverage

To retain authorization to discharge after the expiration date of this permit, the co-permittee shall apply for reissuance of this permit in accordance with the requirements of s. NR 216.09, Wis. Adm. Code, at least 180 days prior to this permit's expiration date.

4. SPECIAL RESPONSIBILITIES FOR CERTAIN CO-PERMITTEES

In addition to the requirements specified in sections 1 through 3 of this permit, certain co-permittees have additional or special requirements that apply to them as follows:

4.1 City of Madison

The City of Madison shall meet the following requirements:

4.1.1 Facilitate and prepare and provide the agenda and minutes for the quarterly meetings required under section 2.8.

4.1.2 Manage and annually update the common storm sewer system map required under section 3.8.2 of this permit. Any apportioning of the funds needed to manage and update the storm sewer system map may be negotiated between the City of Madison and the co-permittees.

4.1.3 Establish new or updated intergovernmental agency agreement(s) with the University of Wisconsin to meet the requirements identified within section 4.6.2. The status of all draft intergovernmental agency agreements shall be reported in the annual report by the City of Madison to establish new or updated intergovernmental agency agreements by the expiration of this permit. Once a new or revised intergovernmental agency agreement is made, it shall be submitted with the next annual report.

4.2 City of Middleton

The City of Middleton is required to comply with the following:

4.2.1 The pumped discharge from Tiedeman Pond shall be operated in a manner to prevent accumulated sediment from discharging from Tiedeman Pond.

4.2.2 The discharge shall be operated in a manner to prevent downgradient erosion.

4.2.3 For the term of this permit, the City of Middleton's average annual pollutant load reductions applied to the drainage area to Tiedeman Pond have been calculated to be 79.7% for total suspended solids (TSS) and 47.2% for total phosphorus (TP).

Note: The above reductions were calculated using effluent monitoring data from 2006 to 2014 as compared to the WinSLAMM predicted annual average influent load. At next permit reissuance, the future pollutant reduction can be calculated using effluent monitoring data representing annual average conditions as compared to WinSLAMM predicted annual average influent load.

4.2.4 The WLA assigned to the Tiedeman Pond discharge permit no. WI-0049956-1 shall not be included in the percent reduction analysis required under Appendix A, section A.2, A.4 or A.5 of this permit.

4.2.5 Monitor the discharge from Tiedeman Pond at a location representative of the discharge from the pond as identified in Table 4. The sampling of total phosphorus and total suspended solids is only required in calendar years 2022 and 2023. The results shall be reported to the Department as indicated in section 6.22 of this permit.

Table 3: Sampling Point 001 – Tiedeman Pond Discharge

Parameter	Units	Sample Frequency	Sample Type
Flow Rate	MGD	Daily	Calculated
Phosphorus, Total*	mg/L	2/Month	Grab
Suspended Solids, Total*	mg/L	2/Month	Grab

* Sampling for total phosphorus and total suspended solids is only required in calendar years 2022 and 2023.

4.3 Village of Shorewood Hills

Establish new or updated intergovernmental agency agreement(s) with the University of Wisconsin to meet the requirements identified within section 4.6.2. The status of all draft intergovernmental agency agreements shall be reported in the annual report by the Village of Shorewood Hills to establish new or updated intergovernmental agency agreements by the expiration of this permit. Once a new or revised intergovernmental agency agreement is made, it shall be submitted with the next annual report.

4.4 City of Stoughton

The City of Stoughton is required to comply with the following:

4.4.1 The pumped discharge from Paradise Pond shall be operated in a manner to prevent accumulated sediment from discharging from Paradise Pond.

4.4.2 The discharge shall be operated in a manner to prevent downgradient erosion.

4.4.3 For the term of this permit, the City of Stoughton's annual average pollutant load reductions applied to the drainage area to Paradise Pond have been calculated to be 82.1% for TSS and 56.0% for TP.

Note: The above reductions were based on WinSLAMM modeling of annual average conditions with a weir outlet as opposed to pumping. At next permit reissuance (or upon DNR concurrence of the treatment performance documented by analysis of the 2017 to 2021 monitoring data), the future treatment performance can be calculated using effluent monitoring data representing annual average conditions as compared to WinSLAMM predicted annual average influent load.

4.4.4 Monitor the discharge from Paradise Pond at a location representative of the discharge from the pond as identified in Table 5. The sampling of total phosphorus and total suspended solids is required through calendar year 2021. The results shall be reported to the Department as indicated in section 6.22 of this permit.

Table 5: Sampling Point 002 – Paradise Pond Discharge

Parameter	Units	Sample Frequency	Sample Type
Discharge Volume	MG	Daily	Calculated
Phosphorus, Total*	mg/L	2/Pumping Event	Grab
Suspended Solids, Total*	mg/L	2/Pumping Event	Grab

* Sampling for total phosphorus and total suspended solids is only through calendar year 2021.

4.5 Dane County
Dane County shall meet the following requirements:

4.5.1 As specified in the information and education agreement, maintain a half-time position to provide public information and education services under this permit on behalf of the co-permittees.

4.5.2 In consultation with the Department and other co-permittees, function as the lead agency in implementation of the information and education plan prepared on behalf of the co-permittees.

4.5.3 Provide updates on the status and implementation of the information and education plan at the quarterly meetings and provide information on plan implementation for the annual report required under section 3.9.

4.6 University of Wisconsin-Madison
As a state entity, the University of Wisconsin – Madison (University) has limited statutory authority to implement and enforce requirements of sections 3.4 and 3.5 of this permit. Therefore, their written storm water management program shall specify their collaboration with other government or non-government agencies, municipalities, or local or federal partners to establish the intent of sections 3.4 and 3.5.

In addition to the applicable requirements specified in sections 1 through 3 of this permit, the University of Wisconsin – Madison shall meet the following requirements:

4.6.1 In their storm water management plan, the University shall address how construction site pollutant control and post-construction storm water management is achieved by construction activity contracted and performed by the University, construction activity contracted by the University of Wisconsin System (UWS), and construction activity contracted by Department of Administration Division (DOA), Division of Facility Development and Management (DFDM), and how each of these construction administration options is consistent with the requirements of section 3.4 and 3.5.

4.6.2 Establish new or updated intergovernmental agency agreements with the Village of Shorewood Hills, the City of Madison, the United States, and any other applicable co-permittees. These intergovernmental agreements shall include, at a minimum:

a. Defining responsibilities in regard to managing, inspecting, and reporting of all above ground and underground storm water conveyance into, out of, or through the permit area of the University.

b. Means and methods of storm water and illicit discharge reporting requirements between the University and other co-permittees.

c. The implementation and management of SWPPPs from lands or operations of the University outside of its permit jurisdictional area.

The status of all draft intergovernmental agency agreements shall be reported in the annual report by the University to establish new or updated intergovernmental agency agreements by the expiration of this permit. Once a new or revised intergovernmental agency agreement is made, it shall be submitted with the next annual report.

4.6.3 Continue to implement policies and procedures to the extent of its legal authority to control illicit discharges to and from those portions of the MS4 that it owns or operates consistent with

the requirements of section 3.3 of this permit.

4.6.4 To the maximum extent practicable, the University of Wisconsin – Madison is encouraged to utilize the resources available through its academic and research programs to facilitate compliance with the requirements of this permit.

5. COMPLIANCE SCHEDULE

The co-permittee shall comply with the specific permit conditions contained in sections 2 and 3 according to the schedule in this section 5 and Table 6. The co-permittee shall begin implementing any updates to its storm water management programs no later than March 31, 2021. Required reports and permit compliance documents shall be submitted electronically through the Department's electronic reporting system.

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

5.1 Impaired Waterbodies and Total Maximum Daily Loads

5.1.1 The co-permittee shall determine whether any part of its MS4 discharge to an impaired water body as required under section 1.8.2 of this permit **by March 31 of each odd-numbered year.**

5.1.2 If the co-permittee is subject to TMDL requirements under section 1.8, the co-permittee shall submit to the Department materials in accordance with the schedule as required in Appendix A of this permit.

5.2 Public Outreach and Education

The co-permittee shall submit to the Department the public education and outreach program developed for the term of this permit as required under section 3.1 of this permit by **March 31, 2021**. Include with the annual report submittal via the Department's electronic reporting system.

5.3 Public Involvement and Participation

The co-permittee shall submit to the Department the public involvement and participation program developed for the term of this permit as required under section 3.2 of this permit by **March 31, 2021.** Include with the annual report submittal via the Department's electronic reporting system.

5.4 Illicit Discharge Detection and Elimination

The co-permittee shall submit to the Department the illicit discharge detection and elimination program developed for the term of this permit as required under section 3.3.2 to 3.3.6 of this permit by **March 31, 2021**. Include with the annual report submittal via the Department's electronic reporting system.

5.5 Construction Site Pollutant Control

The co-permittee shall submit to the Department the construction site pollutant control program developed for the term of this permit as required under sections 3.4.2 to 3.4.4 of this permit by **March 31, 2021**. Include with the annual report submittal via the Department's electronic reporting system.

5.6 Post-Construction Storm Water Management

The co-permittee shall submit to the Department the post-construction storm water management program developed for the term of this permit as required under sections 3.5.2 to 3.5.4 of this permit by **March 31, 2021**.

5.7 Pollution Prevention

5.7.1 The co-permittee shall submit to the Department the municipal storm water management facility inventory as required under section 3.6.1 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.

5.7.2 The co-permittee shall submit to the Department the maintenance plan for municipal storm water management facilities as required under section 3.6.2 of this permit by **March 31, 2021**.

5.7.3 The co-permittee shall update SWPPPs for municipally owned properties as needed as required under section 3.6.3 of this permit. When a SWPPP is updated, it shall be submitted by **March 31 of each year** to the Department.

5.8 Storm Water Quality Management

The co-permittee shall report compliance with the developed urban area performance standards as required under section 3.7 of this permit by **March 31 of each year**.

5.9 Storm Sewer System Map

The co-permittee shall update the storm sewer system map as required under section 3.8 of this permit. When the MS4 map is updated, it shall be submitted by **March 31 of each year** to the Department.

5.10 Annual Report

The co-permittee shall submit to the Department an annual report as required under section 3.9 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 6: Compliance Schedule for Permit Requirements

PERMIT SECTION	ACTIVITY	COMPLIANCE DATE	COMMENTS
Section 1.8.1	Total Maximum Daily Load implementation	See Appendix A.	Applies to a co-permittee that discharges to the Rock River TMDL.
Section 1.8.2	Discharges to an impaired water body	By March 31 of each odd-numbered year thereafter	All co-permittees.
Section 3.1	Public Education and Outreach – Submit public education and outreach program for the permit term with annual report	March 31, 2021	All co-permittees
Section 3.2	Public Involvement and Participation – Submit public involvement and participation program for the permit term with annual report	March 31, 2021	All co-permittees
Section 3.3.2 to 3.3.6	Illicit Discharge Detection and Elimination – Submit illicit discharge detection and elimination program for the permit term with annual report	March 31, 2021	All co-permittees
Section 3.4.2 to 3.4.4	Construction Site Pollutant Control – Submit construction site pollutant control program for the permit term with annual report	March 31, 2021	All co-permittees
Section 3.5.2 to 3.5.4	Post-Construction Storm Water Management – Submit post-construction storm water management program for the permit term with annual report	March 31, 2021	All co-permittees
Section 3.6	Pollution Prevention – Section 3.6.1, submit the municipal storm water management facility inventory with annual report	March 31, 2021, and annually thereafter (if updates)	All co-permittees
	Pollution Prevention – Section 3.6.2, submit the maintenance plan for municipal storm water management facilities with annual report	March 31, 2021	All co-permittees
	Pollution Prevention – Section 3.6.3, submit SWPPPs for municipally owned properties with annual report	March 31 of each year reporting on previous calendar year (if updates)	All co-permittees
Section 3.7	Storm Water Quality Management – Report TSS percent reduction	March 31 of each year reporting on previous calendar year (if updates)	All co-permittees
Section 3.8.2	Common Storm Sewer Map	March 31, and annually thereafter (if updates)	City of Madison
Section 3.9	Submit Annual Report	March 31 of each year reporting on previous calendar year	All co-permittees

6. GENERAL CONDITIONS

The conditions in s. NR 205.07(1) and (3), Wis. Adm. Code, are incorporated by reference in this permit. The co-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.

6.1 Duty to Comply: The co-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.

6.2 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.

6.3 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 co-permittee's ability to meet the remaining scheduled due dates.

6.4 Noncompliance

6.4.1 Upon becoming aware of any co-permit noncompliance that may endanger public health or the environment, the co-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 co-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.

6.4.2 Reports of any other noncompliance not covered under General Conditions sections 6.3, 6.4.1, or 6.6. shall be submitted with the annual report. The reports shall contain all the information listed in General Conditions section 6.4.1.

6.5 Duty to Mitigate: The co-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.

6.6 Spill Reporting: The co-permittee shall immediately notify the Department, in accordance with s. 292.11(2)(a), Wis. Stats., which requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the DNR immediately of any discharge not authorized by the permit. The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call the DNR's 24-hour HOTLINE at 1-800-943-0003.
Note: For details on state and federal reportable quantities, visit:
https://dnr.wi.gov/topic/Spills/define.html

6.7 Proper Operation and Maintenance: The co-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 include 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.

6.8 Bypass: The co-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 1.12 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.

6.9 Duty to Halt or Reduce Activity: Upon failure or impairment of storm water management practices identified in the storm water management program, the co-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.

6.10 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.

6.11 Additional Monitoring: If a co-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.

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

6.12.1 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;

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

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

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

6.13 Duty to Provide Information: The co-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 co-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 co-permittee shall also furnish the Department, upon request, copies of records required to be kept by the co-permittee.

6.14 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.

6.15 Other Information: Where the co-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.

6.16 Records Retention: The co-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 co-permittee shall retain records documenting implementation of the minimum control measures in sections 3.1 through 3.6 of this permit for a period of at least 5 years from the date the record was generated.

6.17 Permit Actions: As provided in s. 283.53, Wis. Stats., after notice and opportunity for a hearing, this permit may be modified, suspended or revoked, in whole or in part, for cause. If a co-permittee files a request for a permit modification, revocation or reissuance, or a notification of planned change or anticipated noncompliance, this action by itself does not relieve the co-permittee of any permit condition.

6.18 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.

6.19 Attainment of Water Quality Standards after Authorization: At any time after authorization, the Department may determine that the discharge of storm water from a co-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 co-permittee to do one of the following:

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

6.19.2 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.

6.20 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 co-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. To reapply for permit coverage, a co-permittee shall send a letter to the Department that includes proposed changes to the storm sewer system map, storm water management program and any other relevant change.

6.21 Need to Halt or Reduce Activity not a Defense: It is not a defense for a co-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.

Sections 6.22 through 6.25 apply to effluent sampling and monitoring result associated with the pumped discharges from Tiedeman Pond by the City of Middleton and Paradise Pond by the City of Stoughton.

6.22 Monitoring Results: Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

6.23 Sampling and Testing Procedures: Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

6.24 Recording of Results: The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

6.25 Reporting of Monitoring Results: The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.

7. DEFINITIONS USED IN THIS PERMIT

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

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

7.2 Department means the Wisconsin Department of Natural Resources.

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

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

7.5 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.

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

7.7 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 co-permittee or the Department identifies it as a significant source of a pollutant to waters of the state.

7.8 Impaired Water means a water body 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 water body's designated use.

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

7.10 Jurisdiction means the area where the co-permittee has authority to enforce its ordinance(s) or otherwise has authority to exercise control over a particular activity of concern.

7.11 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.

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

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

7.13.1 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.

7.13.2 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.

7.14 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.

7.15 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 the following criteria:

7.15.1 Owned or operated by a municipality.

7.15.2 Designed or used for collecting or conveying storm water.

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

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

7.16 New MS4 Discharge of Pollutants means an MS4 discharge that would first occur after the co-permittee's effective date of coverage under WPDES permit nos. WI-S050075-1 or WI-S058416-3 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 such permit. The City of Stoughton and Village of Cottage Grove had an effective date of coverage of November 13, 2006 under WPDES permit no. WI-S050075-1 and the other 19 co-permittees had an effective date of coverage of July 1, 2009 under WPDES permit no. WI-S058416-3.

7.17 Outfall means the point at which storm water is discharged to waters of the state or to a storm sewer of another MS4.

7.18 Permitted Area means the areas of land under the jurisdiction of the co-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.

7.19 Pollutant of Concern means a pollutant that is causing impairment of a water body.

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

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

7.22 Redevelopment means areas where development is replacing older development.

7.23 Riparian Landowners are the owners of lands bordering lakes and rivers.

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

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

7.26 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.

7.27 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.

7.28 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.

7.29 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.

7.30 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.

7.31 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.

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

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

Appendix A: MS4 Co-Permittees Subject to the Rock River TMDL

A.1 Applicability and Structure of Appendix.

A.1.1 Applicability. In accordance with section 1.8.1, this Appendix A applies to co-permittees subject to "Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids in the Rock River Basin," approved by USEPA September 2011.

A.1.2 Structure of Appendix. This appendix is structured to provide co-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 co-permittees that are participating in an approved adaptive management plan. Section A.4 details requirements for co-permittees that can comply with the TMDL during this permit term. Section A.5 applies to co-permittees who have not been able to utilize sections A.3 or A.4. Section A.5 contains two compliance tracks; co-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 Table A. 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 target 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 co-permittee provided all of the following conditions are met:

a. By October 31, 2023, the co-permittee submits the necessary data and documentation to the Department that demonstrates that the co-permittee meets the percent reductions stipulated in Table A for each reachshed that the MS4 discharges to and for each pollutant of concern.

b. The documentation summitted by the co-permittee includes the policies, procedures, and regulatory mechanisms that the co-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 co-permittee receives written concurrence from the Department by April 30, 2024, that the co-permittee has achieved full TMDL compliance.

A.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 by the effective date of this permit the co-permittee has chosen to participate in an adaptive management project that has been approved by the Department the co-permittee shall continue to participate in the implementation of the adaptive management project.

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

A.4.1 By March 31, 2020, the co-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 co-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 co-permittee cannot meet the requirements stipulated under sections A.3 or A.4, the co-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 co-permittee determines that the applicable requirements contained in section A.2.2 will not be achieved by October 31, 2023, then the co-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 co-permittee shall submit a written TMDL implementation plan to the Department identifying and describing the actions that the co-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.

The percent reductions under sections A.5.2.a and A.5.2.b are measured from the baseline assumptions for the Rock River TMDLs, which represent compliance with s. NR 151.13, Wis. Adm. Code, to the total reductions listed in Table A (see example calculation below). The baseline assumption for the Rock River TMDL is a 40% reduction from no-controls for TSS and a 27% reduction from no-controls for TP.

Note: Refer to the applicable TMDL reports for additional discussions on baseline.

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: Example calculation to meet section A.5.2.a for total suspended solids (TSS)
"Municipality A" has modeled a no-controls TSS load of 50 tons/year for reachshed 2 and 100 tons/ year for Reachshed 3.

Determine Calculated Wasteload Allocation
"Municipality A" has area in Rock River TMDL reachsheds 2 and 3. From Table A.1, the TMDL requires the following reductions from no controls which under section A.2 must ultimately achieve a mass reduction as follows:

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

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

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

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

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

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

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

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

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

a. Pursuant to the co-permittee's authority under s. 281.33(6)(a)2., Wis. Stats., the co-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 co-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 controls measures that may exist. The co-permittee may also establish TP reduction levels for redevelopment projects.

Note: The co-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 co-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 co-permittee takes a TSS and/or TP reduction credit. The co-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 co-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 co-permittee shall revise or promulgate a municipal ordinance that requires the submittal of record drawings for storm water management facility that the co-permittee takes a TSS and/or TP credit. The co-permittee shall require submittal of the record drawings 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 co-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 co-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 co-permittee shall inventory the condition of the conveyance systems and outfalls. Where erosion or scour is occurring, the co-permittee shall develop a schedule to stabilize the identified areas over a 5-year period.

f. The co-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 water body for which a WLA has been assigned to the co-permittee. The co-permittee shall develop and implement a maintenance plan for each new structural BMP.

g. The co-permittee shall conduct an analysis of the current municipal street cleaning program, to determine if additional pollutant loading reductions can be achieved. The co-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 co-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 co-permittee shall meet the following reporting requirements:

A.6.1 Compliance Determination Reporting. The co-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 co-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 co-permittees complying with a Department approved adaptive management plan under section A.3.2, by October 31, 2023, the co-permittee shall submit documentation to the Department to verify that the co-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 co-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 co-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 co-permittee's percent reduction needed to comply with its TMDL WLA from the no-controls modeling condition.

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

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

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

(5) The existing storm water control measures, including the type of measure, area treated in acres, the pollutant load reduction efficiency, and confirmation of the co-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 co-permittee is not achieving the requirements stipulated in section A.2, the co-permittee shall submit an updated written TMDL implementation plan to the Department that describes how the co-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 Table A. 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 practicable, 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 A: Rock River Basin TMDL Load Reductions Necessary to Meet TMDL Wasteload Allocations by TMDL Reachshed

Reachshed Number (TMDL Subbasin)	Water Body Name	TSS % Reduction from No-controls	TP % Reduction from No-controls
45	Maunesha River	44.8	36.5
62	Pheasant Branch Creek	82.0	78.1
63	Spring (Dorn) Creek	46.6	37.2
64	Yahara River, Lake Mendota, Lake Monona	73.0	61.3
65	Nine Springs Creek	67.6	62.8
66	Yahara River, Lake Waubesa, Lake Kegonsa	62.2	54.0
67	Yahara River	40.0	27.0
68	Yahara River	50.8	65.0
69	Yahara River	52.6	79.6
83	Lake Koshkonong	55.0	54.0

Appendix 2 - SWPPP (P2) Team Roster

Streets Division

SWPPP Coordinator

Phil Nehmer

Contact Info: 608-266-4769 (O)
608-445-1515 (C)
_____(H)

Team Members

1. Chad Veinot Office – 267-1960 Cell 714-745-4064
2. Phil Gaebler Office - 266-4059 Cell 608-332-2032
3. Phil Nehmer Office - 266-4769 Cell 608-445-1515

Appendix 3: Spill Prevention, Control and Counter Measures Plan

Compliance Inspection

Review Page

In accordance with 40 CFR 112.5 (b), a review and evaluation of this Spill Prevention,

Control and Countermeasures Plan (SPCC) will be conducted every three years. A registered Professional Engineer shall certify any change or amendment to the SPCC plan. This certification must be completed within six months after a change in facility design, construction, operation or maintenance occurs which affects the facility's potential for discharge of oil into or upon the Navigable Waters of the United States or adjoining shorelines.

Review Dates	**Signature**
1. July 1, 2023	_____
2. July 1, 2026	_____
3. July 1, 2029	_____
4. July 1, 2032	_____
5. July 1, 2035	_____

_____

* SPCC plan amended and certified by a Registered Professional Engineer per 40 CFR 112.3 (d)

Management Approval

The City of Madison is committed to the prevention of discharges of any nature into navigable waters or the surrounding habitat. Therefore, a regular review and update of spill prevention, control and countermeasures procedures will be held to the highest standards.

_____	_____
Authorized Facility Representative	Signature
_____	_____
Title	Date

Facility Distance to Navigable Waters and Adjoining Shorelines

The site flows through one concrete pipe discharging directly to Wingra Creek. The maps provided in Appendix 5 show outfall locations and drainage from the site to Wingra Creek and Lake Monona.

Facility Storage

There are no above ground storage tanks at the TEPW site.

Potential Spill Predictions, Volumes, Rates and Control

Aboveground Storage Tanks not associated with emergency generators

Source	Type of failure	Volume (gal)	Rate of Flow (Gal./Hr.)	Direction of Flow	Containment (Gal.)

Spill Prevention Measures

Buildings have floor drains connected to the sanitary sewer system.

Spill Control Equipment and Cleanup:

a. Spill control equipment on site includes absorbent pads and sorbent socks, granular sorbent, brooms and shovels. Spill cleanup materials are located in the maintenance building.

Appendix 4: Site Inspection Form

TRAFFIC ENGINEERING STORMWATER QUARTERLY INSPECTION REPORT

Inspections must be conducted by a person with the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and evaluate the effectiveness of best management practices required by this permit. Retain a copy of the completed and signed form with the SWPPP.

FACILITY NAME:	**INSPECTION TIME:** **DATE:**

WEATHER INFORMATION:

- Description of Weather Conditions (e.g., sunny, cloudy, raining, snowing, etc.):
  _____
  _____
- Was stormwater (e.g., runoff from rain or snowmelt) flowing at outfalls and/or discharge areas shown on the Site Map during the inspection: ☐ **Yes** ☐ **No** ☐ **Comments:**
  _____
  _____

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BEST MANAGEMENT PRACTICES EVALUATION

	Yes	**No**	**Findings and Remedial Action Documentation:** Describe any findings below and the schedule for remedial action completion including the date initiated and date completed or expected to be completed.
SWPPP and Site Map: Have a copy of the SWPPP and site map with you during the inspection so that you can ensure they are current and accurate. Use it as an aide in recording the location of any issues you identify during the inspection. • Is the Site Map current and accurate? • Is the SWPPP inventory of activities, materials and products current? Any new potential pollutant sources must be added to the map and reflected in the *SWPPP Facility Assessment & Tables 2, 2A, 3 and 5.*			

	Yes	**No**	**NA**	**Findings and Remedial Action Documentation:**
Vehicle/Equipment Areas: ***Equipment cleaning: Check NA if not performed on-site. Skip section.*** Is equipment washed and/or cleaned only in designated areas? • Observe washing: Is all wash water captured and properly disposed of? ***Equipment fueling: Check NA if not performed on-site. Skip section.*** • Are all fueling areas free of contaminant buildup and evidence of chronic leaks/spills? • Are all chemical liquids, fluids, and petroleum products, on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater? • Are structures in place to prevent precipitation from accumulating in containment areas? o If not, is there any water or other fluids accumulated within the containment area? o Note: If containment areas are not covered to prevent water from accumulating, the SWPPP must include a plan describing how accumulated water will be managed and disposed of.				

Equipment maintenance:	Yes	No	NA	Findings and Remedial Action Documentation:
• Are maintenance tools, equipment and materials stored under shelter, elevated and covered? • Are all drums and containers of fluids stored with proper cover and containment? • Are exteriors of containers kept outside free of deposits? • Are any vehicles and/or equipment leaking fluids? Identify leaking equipment. • Is there evidence of leaks or spills since last inspection? Identify and address. • Are materials, equipment, and activities located so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas)? Add any additional site-specific BMPs: _____ _____ _____ _____				

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BEST MANAGEMENT PRACTICES EVALUATION				
Good Housekeeping BMPs:	**Yes**	**No**	**NA**	**Findings and Remedial Action Documentation:**
1. Are paved surfaces free of accumulated dust/sediment and debris? • Date of last quarterly vacuum/sweep _____ • Are there areas of erosion or sediment/dust sources that discharge to storm drains? 2. Are all waste receptacles located outdoors: • In good condition? • Not leaking contaminants? • Closed when is not being accessed? • External surfaces and area free of excessive contaminant buildup? 3. Are the following areas free of accumulated dust/sediment, debris, contaminants, and/or spills/leaks of fluids? • External dock areas • Pallet, bin, and drum storage areas • Maintenance shop(s) • Equipment staging areas (loaders, tractors, trailers, forklifts, etc) • Around bag-house(s) • Around bone yards • Other areas of industrial activity: _____ _____ _____ _____ _____ _____ _____ _____				

Spill Response and Equipment:	**Yes**	**No**	**NA**	**Findings and Remedial Action Documentation:**
Are spill kits available, in the following locations? • Fueling stations • Transfer and mobile fueling units • Vehicle and equipment maintenance areas Do the spill kits contain all the permit required items? • Oil absorbents capable of absorbing 15 gallons of fuel. • A storm drain plug or cover kit. • A non-water containment boom, a minimum of 10 feet in length with a 12 gallon absorbent capacity. • A non-metallic shovel. • Two five-gallon buckets with lids. Are contaminated absorbent materials properly disposed of?				
I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BEST MANAGEMENT PRACTICES EVALUATION				
General Material Storage Areas: • Are damaged materials stored inside a building or another type of storm resistance shelter? • Are all uncontained material piles stored in a manner that does not allow discharge of impacted stormwater? • Are scrap metal bins covered? • Are outdoor containers covered?	**Yes**	**No**	**NA**	**Findings and Remedial Action Documentation:**

II. CORRECTIVE ACTION AND SWPPP MODIFICATIONS DESCRIPTIONS: Additional space to describe inspection findings and corrective actions if needed. Provide brief explanation of the general location and the rationale for the additional or different BMPs.				

III. CERTIFICATION STATEMENTS AND SIGNATURES:

Inspector - Certification: This section must be completed by the person who conducted the site inspection prior to submitting this form to the person with signature authority or a duly authorized representative of that person.

☐ The facility is in compliance with the terms and conditions of the SWPPP and the Stormwater General Permit.

☐ The facility is out of compliance with the terms and conditions of the SWPPP and the Industrial Stormwater General Permit. This report includes the remedial actions that must be taken to meet the requirements of the SWPPP and permit, including a schedule of implementation of the remedial actions.

"*I certify that this report is true, accurate, and complete, to the best of my knowledge and belief.*"

Inspector's Name – Printed	**Inspector's Signature**	**Inspector's Title**	**Date**

Permittee – Certification:

☐ The facility is in compliance with the terms and conditions of the SWPPP and the Industrial Stormwater General Permit.

☐ The facility is out of compliance with the terms and conditions of the SWPPP and the Industrial Stormwater General Permit. This report includes the remedial actions that must be taken to meet the requirements of the SWPPP and permit, including a schedule of implementation of the remedial actions.

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

PRINTED NAME of person with **Signature Authority** or a **Duly Authorized Representative**[1]	SIGNATURE of person with **Signature Authority** or a **Duly Authorized Representative**[1]	**DATE**

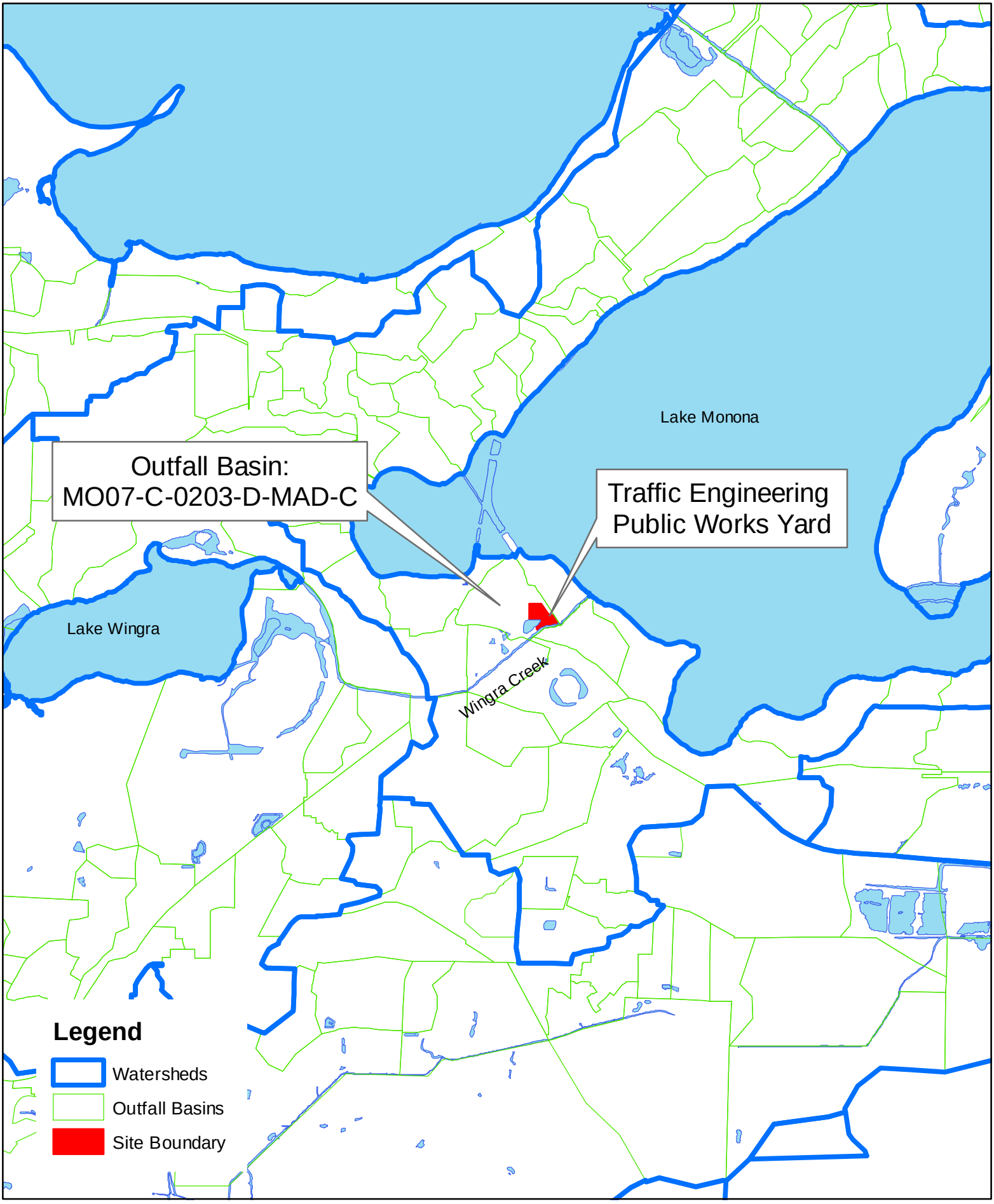
[1]A person is duly authorized representative only if 1) the authorization is made in writing by a person described in APPENDIX 2 and submitted to Engineering, and 2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated *facility*, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

Appendix 5: Drainage Maps

Traffic Engineering Public Yard Drainage Map

N
W E
S

0 100 200 400 Feet



Appendix 5: Site Map
Traffic Engineering Public Yard
Drainage Map

Appendix 6: Site Assessment

Traffic Engineering
Madison, WI

Areas Of Interest

Flow Path

0 45 90 180 Feet

N

ACTIVITY/MATERIAL	LOCATION MAP ID		POTENTIAL POLLUTANTS						STORM WATER RISK		CURRENT PRACTICE
	Indoors	*Outdoors*	*Sediment*	*Nutrients*	*Metals*	*Hydrocarbons*	*Toxins*	*other*	*Likelihood of Contact*	Risk of release	
Sign Anchor Storage		M-1	○	–	–	–	–		●	○	● Material stored uncovered outside
Paint Storage	B1-1		–	–	●	●	○	Street marking paint	○	○	● Paint stored in building without trench drain.
Parking Meter Supplies	B1-2		–	–	○	–	○		○	○	
LP Gas Storage		M-2	–	–		●	–		○	○	● Stored covered in separate shed
Vehicle storage and parking	B1-3	M-11	●	–	●	●	○	Leaks and spills - Fuel benzene, oil, hydraulic oil, transmission fluids, brake fluids, ethylene glycol, lead acid	●	◒	● Outside vehicle storage drains to stormsewer and overland flow to drainage way
Street Marking Trailers		M-3	●	–	●	●	–		◒	◒	● Outside storage drains to stormsewer
Metals recycling		M-4		–	●	●	–		●	◒	● Material stored in uncovered dumpsters outside
Vehicle washing	B2-3		●	–	–	–	–		○	○	● Vehicle washing is performed indoors washbays are connected to the sanitary sewer system
Water Wall Paint Booth	B2-4		–		◒	●	●		○	◒	● Water used in the process is treated and recycled. When drained water goes to the sanitary system
Paint and Solvent Storage	B2-6		–	–	–	●	●	household cleaners	○	◒	● Stored inside a locked closet
Paint Chip Collection Pit			–	–	–	●	●		○	○	● Pretreatment before sanitary sewer
Drainage way		M-5	◒	–	–	–	–		●	◒	● Parking lot runoff routed to storm sewer
lightpole storage		M-7	-	–	○	-	-		●	○	● Stockpiled uncovered outside
Sign Post Storage		M-8	-	–	○	-	-		●	○	● Stockpiled uncovered outside
Manhole Rim and Cover Storage		M-9	-	–	◒	-	-		●	○	● Stockpiled uncovered outside

KEY

●	High
◒	Medium
○	Low
–	Not Applicable

Traffic Engineering Yard
M-1: Sign Anchors

Traffic Engineering Yard
B1-1 : Street Paint Storage

Traffic Engineering Yard
B1-2 : Parking Meter Supplies

Traffic Engineering Yard
M-2 : LP Storage

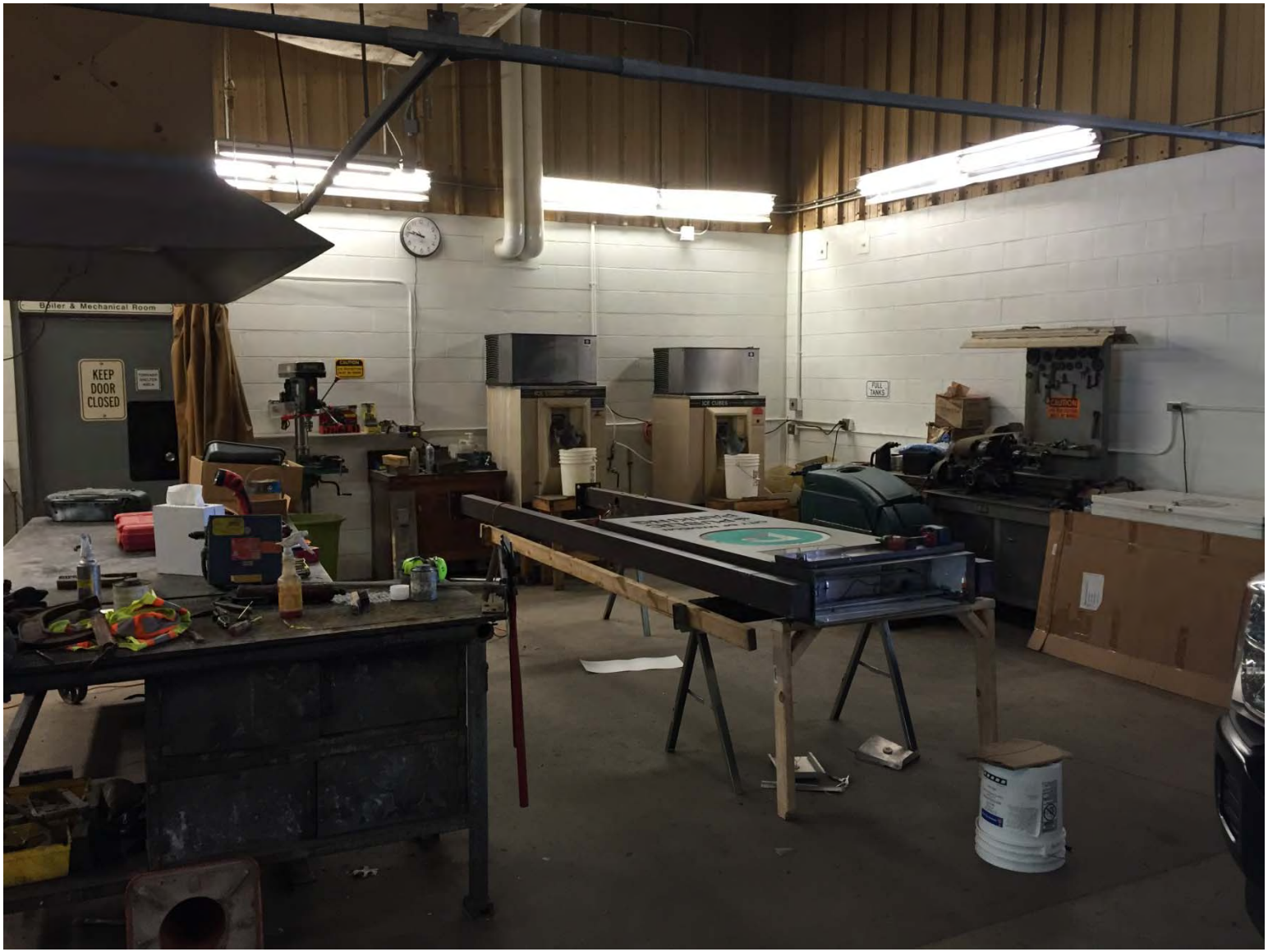
Traffic Engineering Yard
B1-3 : Vehicle and Equipment Storage

Traffic Engineering Yard
B1-4: Glass bead Storage

Traffic Engineering Yard
M-3 : Street Painting Trailers

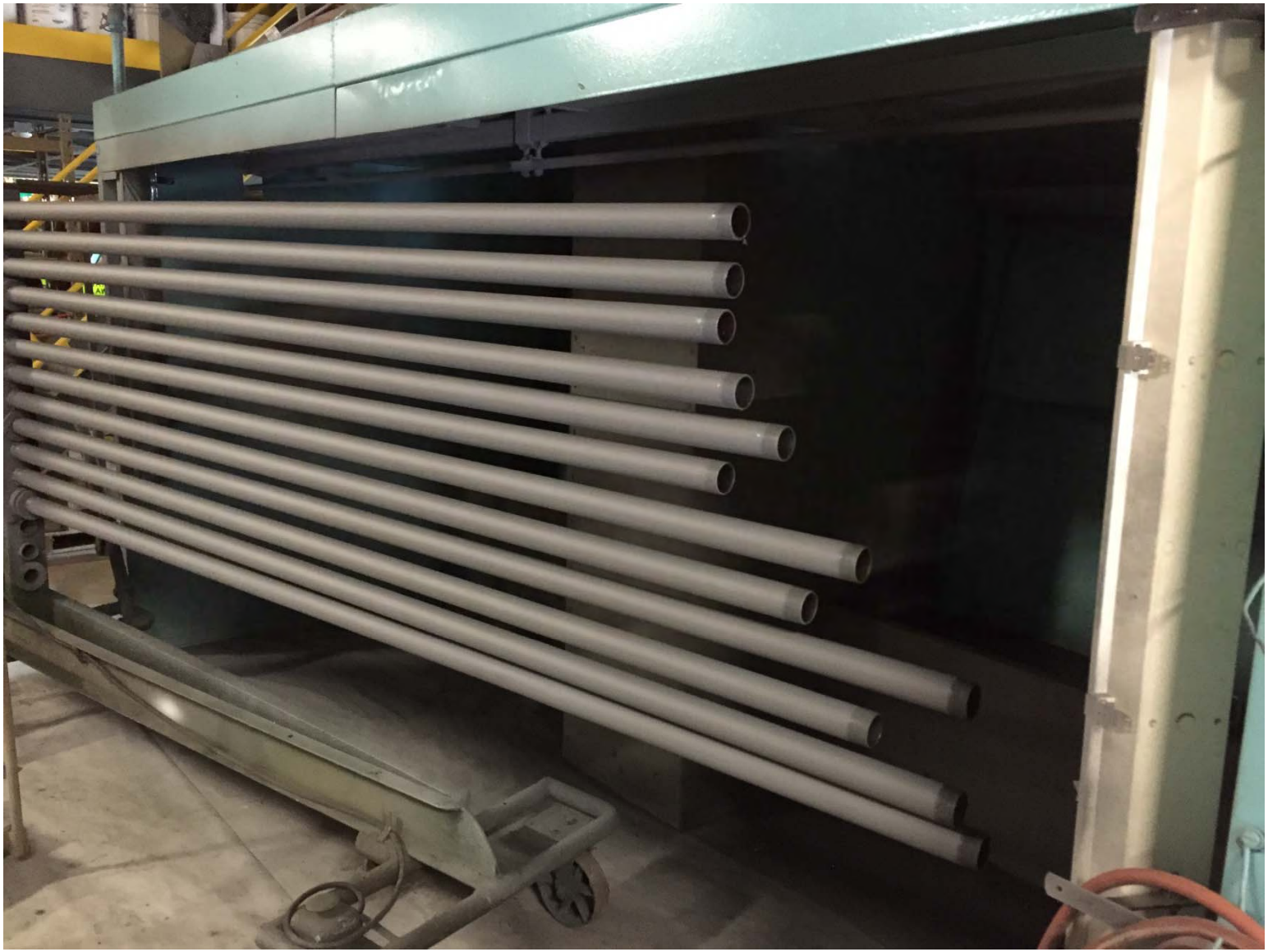
Traffic Engineering Yard
M-4: Metals Recycling

Traffic Engineering Yard
B2-1 : Electrical Supply Storage



Traffic Engineering Yard
B2-2: Silk Screen and Welding

Traffic Engineering Yard
B2-3: Vehicle Washing



Traffic Engineering Yard
B2-4: Water Wall Painting Booth

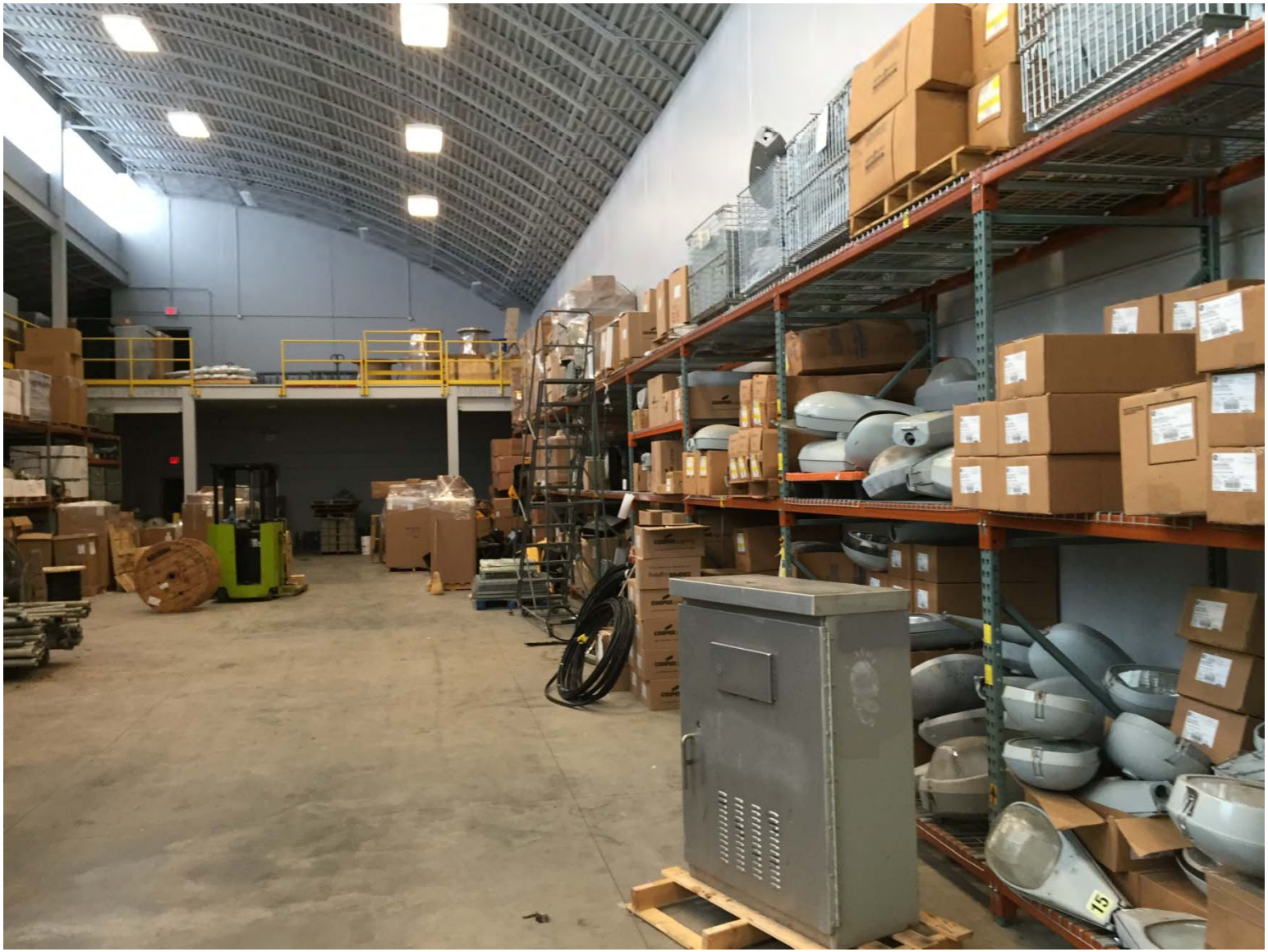
Traffic Engineering Yard
B2-5 : Paint and Paint Thinner Room

Traffic Engineering Yard
B2-6 : Sign Preparation Area and Cleaning – Floor Drain to Sanitary Sewer

Traffic Engineering Yard
M-11 : Employee Parking

Traffic Engineering Yard
M-5 : Drainage Way

Traffic Engineering Yard
M-6 : Sign Storage



Traffic Engineering Yard
B3-1 : Street Light Storage

Traffic Engineering Yard
M-7 : Light Pole Storage

Traffic Engineering Yard
M-8 : Sign Post and Electrical Storage

Traffic Engineering Yard
M-9 : Manhole Lids and Rims

Traffic Engineering Yard
M-10: Drainage Way

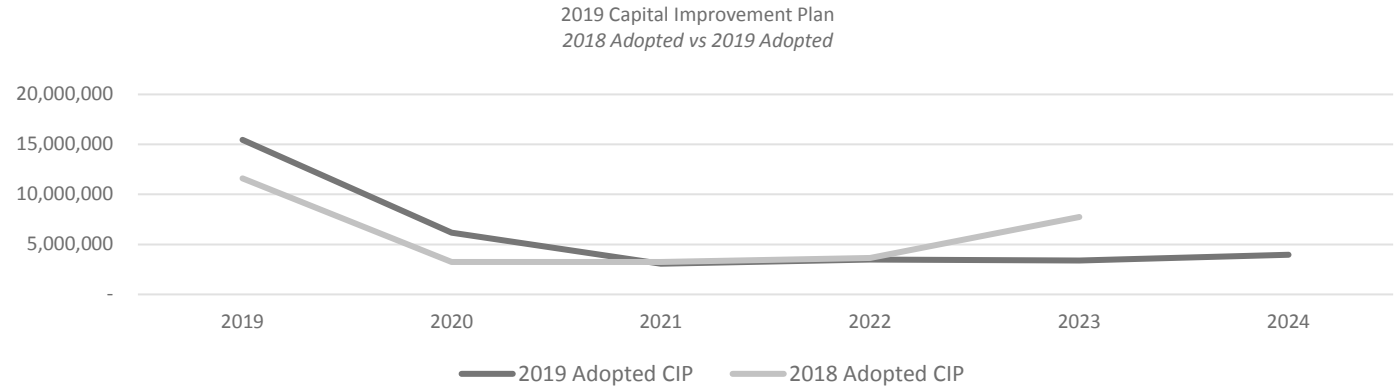
Stormwater Utility

Capital Improvement Plan

Project Summary

	2019	2020	2021	2022	2023	2024
Citywide Flood Mitigation	7,770,000	2,800,000	525,000	530,000	675,000	650,000
Starkweather Coagulant Treatment	1,500,000	100,000	75,000	-	-	-
Storm Sewer System Improvements	675,000	475,000	375,000	375,000	400,000	387,500
Stormwater Quality System Improvements	5,073,000	2,350,000	1,640,000	2,130,000	2,000,000	2,450,000
Street Cleaning Equipment - Streets	440,000	455,000	455,000	465,000	300,000	470,000
Total	**$ 15,458,000**	**$ 6,180,000**	**$ 3,070,000**	**$ 3,500,000**	**$ 3,375,000**	**$ 3,957,500**

Changes from 2018 CIP



Project Adjustments

- Starkweather Coagulant Treatment: Project budget reduced ($2.2m)

Program Adjustments

- Citywide Flood Mitigation: Program budget increased in 2019 via Common Council amendment #9 ($5.7m)
- Stormwater Quality System Improvements: Program budget increased in out-years ($1.0m)
- Street Cleaning Equipment: Program budget increased in out-years ($0.3m)

Stormwater Utility

Budget Overview

2019 CIP by Expenditure Type

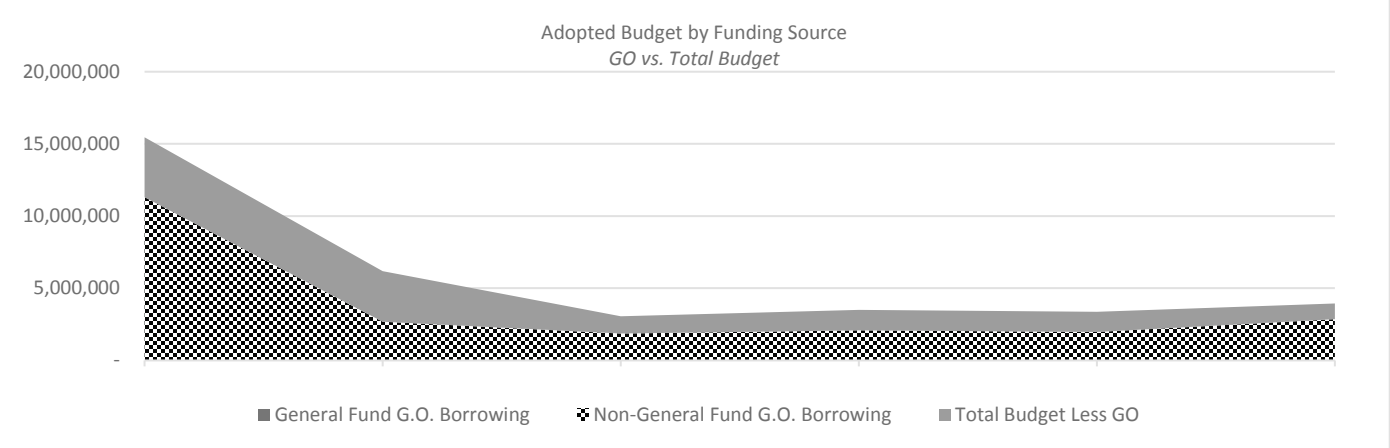
	2019	2020	2021	2022	2023	2024
Machinery and Equipment	440,000	455,000	455,000	465,000	300,000	470,000
Stormwater Network	15,018,000	5,725,000	2,615,000	3,035,000	3,075,000	3,487,500
Total	**$ 15,458,000**	**$ 6,180,000**	**$ 3,070,000**	**$ 3,500,000**	**$ 3,375,000**	**$ 3,957,500**

2019 CIP by Funding Source

	2019	2020	2021	2022	2023	2024
Non-GF GO Borrowing	11,317,000	2,675,000	1,868,000	2,085,000	1,980,000	2,862,500
County Sources	150,000	-	-	-	-	-
Impact Fees	2,376,000	-	-	-	-	-
Reserves Applied	1,575,000	1,260,000	1,157,000	1,370,000	1,370,000	1,050,000
TIF Proceeds	-	2,200,000	-	-	-	-
Trade In Allowance	40,000	45,000	45,000	45,000	25,000	45,000
Total	**$ 15,458,000**	**$ 6,180,000**	**$ 3,070,000**	**$ 3,500,000**	**$ 3,375,000**	**$ 3,957,500**

Borrowing Summary

	2019	2020	2021	2022	2023	2024
Borrowing Schedule						
General Fund G.O. Borrowing	-	-	-	-	-	-
Non-General Fund G.O. Borrowing	11,317,000	2,675,000	1,868,000	2,085,000	1,980,000	2,862,500
Total	**$ 11,317,000**	**$ 2,675,000**	**$ 1,868,000**	**$ 2,085,000**	**$ 1,980,000**	**$ 2,862,500**
Annual Debt Service						
General Fund G.O. Borrowing	-	-	-	-	-	-
Non-General Fund G.O. Borrowing	1,471,210	347,750	242,840	271,050	257,400	372,125



Stormwater Utility

Project Overview

Project **Citywide Flood Mitigation** **Project #** **11513**

Project Description

This program funds improvements to the stormwater network in the City where flooding occurs during large rain events. The goal of the program is to eliminate flooding and protect property from damage. Funding in 2019 is for flood mitigation at McKenna Boulevard on the City's west side. Common Council amendment #9 added funding to 2019 for watershed studies, land acquisitions, and public works projects as a direct result from the August 2018 flood event.

Project Budget by Funding Source

	Reauth	2019	2020	2021	2022	2023	2024
Non-GF GO Borrowing	141,906	6,600,000	350,000	230,000	285,000	305,000	375,000
Impact Fees	-	620,000	-	-	-	-	-
Reserves Applied	73,735	550,000	250,000	295,000	245,000	370,000	275,000
State Sources	4,167	-	-	-	-	-	-
TIF Proceeds	-	-	2,200,000	-	-	-	-
TOTAL	**$ 219,807**	**$ 7,770,000**	**$ 2,800,000**	**$ 525,000**	**$ 530,000**	**$ 675,000**	**$ 650,000**

Project **Starkweather Coagulant Treatment** **Project #** **10368**

Project Description

This project funds stormwater diversion runoff from the East Branch of Starkweather Creek to an existing reconfigured pond on land north of Milwaukee Street and east of the Starkweather Creek in the Town of Blooming Grove. Coagulant will be added to diverted runoff allowing it to dissolve phosphorous, preventing it from settling in the pond. The goal of this project is to remove 85% of available phosphorous from the water and to reduce total suspended solids. The new system is expected to remove approximately 1,600 pounds of phosphorous, which is 12% of the City's required regulatory reduction of 13,000 pounds. Funding in 2019 is for construction. Common Council amendment #9 reduced funding in 2019 to support the Citywide Flood Mitigation program projects prioritized in 2019.

Project Budget by Funding Source

	Reauth	2019	2020	2021	2022	2023	2024
Non-GF GO Borrowing	1,727,895	1,500,000	-	75,000	-	-	-
County Sources	1,000,000	-	-	-	-	-	-
Reserves Applied	104,695	-	100,000	-	-	-	-
TOTAL	**$ 2,832,590**	**$ 1,500,000**	**$ 100,000**	**$ 75,000**	**$ -**	**$ -**	**$ -**

Project **Storm Sewer System Improvements** **Project #** **11664**

Project Description

This program funds improvements to the storm sewer network by providing repairs, rehabilitation, and expansion throughout the City. The goal of this program is to ensure a reliable storm sewer system for City residents. The program includes annual minor projects for storm sewer cured-in-place-pipe lining (CIPP), storm sewer improvements in developing areas, and stormwater conveyance improvements.

Project Budget by Funding Source

	Reauth	2019	2020	2021	2022	2023	2024
Non-GF GO Borrowing	-	475,000	275,000	140,000	125,000	150,000	237,500
Reserves Applied	16,962	200,000	200,000	235,000	250,000	250,000	150,000
TOTAL	**$ 16,962**	**$ 675,000**	**$ 475,000**	**$ 375,000**	**$ 375,000**	**$ 400,000**	**$ 387,500**

Project **Stormwater Quality System Improvements** **Project #** **11665**

Project Description

This program funds stormwater quality improvement projects associated with the City's WDNR/EPA stormwater discharge permit. The goal of this program is to improve the quality of the stormwater and compliance with environmental guidelines and initiatives. Projects within the program are prioritized annually and include: greenway reconstructions, storm water pond improvements, shoreline restoration, urban water quality projects, and the City's participation in the Adaptive Management Program with the Madison Metropolitan Sewerage District. Smaller projects include rain gardens with street reconstruction and maintenance dredging.

Project Budget by Funding Source

	Reauth	2019	2020	2021	2022	2023	2024
Non-GF GO Borrowing	2,951,536	2,742,000	2,050,000	1,423,000	1,675,000	1,525,000	2,250,000
County Sources	347,048	150,000	-	-	-	-	-
Impact Fees	-	1,756,000	-	-	-	-	-
Reserves Applied	243,977	425,000	300,000	217,000	455,000	475,000	200,000
State Sources	150,000	-	-	-	-	-	-
TOTAL	**$ 3,692,561**	**$ 5,073,000**	**$ 2,350,000**	**$ 1,640,000**	**$ 2,130,000**	**$ 2,000,000**	**$ 2,450,000**

Project **Street Cleaning Equipment - Streets** **Project #** **11666**

Project Description

This program funds the street sweeping equipment replacements. The City's street sweeping equipment life cycle is five years with interim maintenance. The goal of this program is to reduce the discharge of pollutants and solids to the lakes by removing material from the streets surface before it is mixed with storm water runoff. Funding in 2019 is for two street cleaning vehicles.

Project Budget by Funding Source

	Reauth	2019	2020	2021	2022	2023	2024
Reserves Applied	3,667	400,000	410,000	410,000	420,000	275,000	425,000
Trade In Allowance	-	40,000	45,000	45,000	45,000	25,000	45,000
TOTAL	**$ 3,667**	**$ 440,000**	**$ 455,000**	**$ 455,000**	**$ 465,000**	**$ 300,000**	**$ 470,000**

Stormwater Utility

2019 Appropriation Schedule

2019 Appropriation — Adopted Budget

	Request	Executive	GO Borrowing	Other	Total
Citywide Flood Mitigation	900,000	900,000	6,600,000	1,170,000	7,770,000
Starkweather Coagulant Treatment	2,700,000	2,700,000	1,500,000	-	1,500,000
Storm Sewer System Improvements	675,000	675,000	475,000	200,000	675,000
Stormwater Quality System Improvements	5,073,000	5,073,000	2,742,000	2,331,000	5,073,000
Street Cleaning Equipment - Streets	440,000	440,000	-	440,000	440,000
Total	**$ 9,788,000**	**$ 9,788,000**	**$ 11,317,000**	**$ 4,141,000**	**$ 15,458,000**

Reauthorized Appropriation

	GO Borrowing	Other	Total
Citywide Flood Mitigation	141,906	77,901	219,807
Starkweather Coagulant Treatment	1,727,895	1,104,695	2,832,590
Storm Sewer System Improvements	-	16,962	16,962
Stormwater Quality System Improvements	2,951,536	783,194	3,734,730
Street Cleaning Equipment - Streets	-	3,667	3,667
Total	**$ 4,821,337**	**$ 1,986,419**	**$ 6,807,756**

Total 2019 Appropriation

	$ 16,138,337	**$ 6,127,419**	**$ 22,265,756**

ORG / OBJECT / PROJ YR/PR	JNL	EFF DATE	SRC	REF1	REF2	REF3	CHECK #	OB	AMOUNT	NET LEDGER BALANCE
84110	54535	00000 STM ADM MEMBERSHIP								
19/01	2747	01/31/19	API	602001	19000518	448612	101705		600.00	600.00
5920		LWM MEMBERSHIP 2019				LEAGUE OF WISCONSIN				
19/01	3206	01/31/19	API	600632		454573	103731		15,945.00	16,545.00
6216		MAMSWAP 1/1 - 12/31/2019				DANE COUNTY				
19/01	3233	01/31/19	API	602001	19000676	454694	103473		2,000.00	18,545.00
6273		LWM-LEAF STUDY SUPPORT 2019				LEAGUE OF WISCONSIN				
19/01	3330	01/24/19	API	703056		459241			135.00	18,680.00
6811		ASCE MBRSHP GREG FRIES				AMER SOC CIVIL ENGIN				
19/02	3024	02/24/19	API	613024		463825			5.50	18,685.50
6975		WGFOA MEMBERSHIP DUES: S DANNE				UNIVERSITY OF WISCON				
19/02	3024	02/24/19	API	700078		463813			1,000.00	19,685.50
6975		CLEAN LAKES ALLIANCE ANNUAL				CO CLEAN LAKES ALLIANCE				
19/03	2352	03/24/19	API	707403		464666			26.91	19,712.41
7090		AMAZON BUSINESS MEMBERSHIP				AMAZON.COM AMZN.COM/				
19/03	3072	03/24/19	API	614724		467823			1,000.00	20,712.41
7377		EARTH DAY CONFERENCE SPONSORSH				UNIV OF WI FOUNDATN				
19/06	2943	06/24/19	API	700455		495238			50.40	20,762.81
9137		GFOA MEMBERSHIPS: SCHMIEDICKE,				GOVERNMENT FINANCE O				
19/06	3367	06/24/19	API	700698		499666			1,480.00	22,242.81
9510		APWA ANNUAL MEMBERSHIP RENEWAL				AMERICAN PUBLIC WORK				
19/09	3822	09/24/19	API	167957		526254			4.40	22,247.21
1315		NOTARY PUBLIC FEE - E. PEDERSO				STATE OF WISCONSIN				
LEDGER BALANCES --- DEBITS:						22,247.21	CREDITS:	.00	NET:	22,247.21
84113	54535	00000 STM AD INS MEMBERSHIP								
19/01	3355	01/24/19	API	700198		463600			30.60	30.60
6974		WSLS MBRSHP: BOB ONEILL				PAYPAL				
19/01	3355	01/24/19	API	700198		463601			30.60	61.20
6974		WSLS MBRSHP: JEREMY SANDSNES				PAYPAL				
LEDGER BALANCES --- DEBITS:						61.20	CREDITS:	.00	NET:	61.20
GRAND TOTAL --- DEBITS:						22,308.41	CREDITS:	.00	NET:	22,308.41

ORG YR/PR	OBJECT PROJ JNL EFF DATE	SRC	REF1	REF2	REF3	CHECK #	OB	AMOUNT	NET LEDGER BALANCE

13 Records printed

** END OF REPORT - Generated by CHASE D OBRIEN **

MADISON AREA MUNICIPAL STORMWATER PARTNERSHIP

2019 ANNUAL INFORMATION AND EDUCATION WORK PLAN

DISTRIBUTED TO PARTNERSHIP MEMBERS ON DECEMBER 13TH, 2018

The Madison Area Municipal Stormwater Partnership (MAMSWaP), under the auspices of a five-year memorandum of understanding through 2018 (extended through 2019), currently consists of 22 entities that have agreed to jointly implement stormwater outreach to reduce negative stormwater impacts. Members include the Cities of Fitchburg, Madison, Monona, Middleton, Stoughton, Sun Prairie and Verona; the Villages of Cottage Grove, Cross Plains, DeForest, Maple Bluff, McFarland, Shorewood Hills, Waunakee and Windsor; the Towns of Burke, Blooming Grove, Madison, Middleton, Westport; Dane County and the University of Wisconsin–Madison.

The MAMSWaP Information and Education (I&E) Committee assists the Dane County Stormwater Education Coordinator (SWEC) with development and implementation of projects and plans. Regular participation on the I&E Committee has included representatives from the Cities of Fitchburg, Madison, and Stoughton, Village of DeForest, Town of Westport, Dane County, Madison Metropolitan Sewerage District (MMSD), Wisconsin Department of Natural Resources (WDNR), AECOM, the University of Wisconsin Extension and UW Madison.

The MAMSWaP Annual I&E Work Plan seeks to meet or exceed the minimum requirements and elements outlined in the current WPDES Permit Number WI-S058416-3 (effective July 1, 2009 – June 30, 2014 and continuing until permit re-issuance); and, WPDES Permit Number WI-S050075-2 (May 1, 2014 – April 30, 2019) for the Village of Cottage Grove and City of Stoughton; and, WPDES Permit Number WI-S05018-1 (May 1, 2014 – April 30, 2019) for the Village of Cross Plains, by developing and implementing a coordinated, regional outreach effort using consistent messages among and between communities to reduce the quantity and improve the quality of urban stormwater runoff and identify and eliminate illicit discharges. Numbered items are the specific elements from the permit language. Language for elements C(1)(b)(6) and (7) has been updated to reflect permit reissuance language anticipated by Wisconsin Department of Natural Resources staff. Proposed activities addressing the following required permit elements for 2019 are listed in Table 1.1.

C(1)(b)(1). Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.
C(1)(b)(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.
C(1)(b)(3). Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.
C(1)(b)(4). Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.

C(1)(b)(5). Promote infiltration of residential stormwater runoff from rooftop downspouts, driveways and sidewalks.
C(1)(b)(6). Inform and where appropriate 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.
C(1)(b)(7). Identify businesses and activities that may pose a stormwater contamination concern, and where appropriate, educate specific audiences on methods of stormwater pollution prevention.
C(1)(b)(8). Promote environmentally sensitive land development designs by developers and designers.

Municipal Responsibilities

It is not enough for municipalities to merely be an actively paying contributor to the Partnership. There are specific actions each municipality must do. For example, while MAMSWaP has created a useful website, each municipality needs to link to www.ripple-effects.com. Other examples include:

- using the articles and other tools developed for municipalities in municipal newsletters or utility bill inserts,
- using displays developed for municipalities,
- providing information on municipal web sites and social media sites
- issuing press releases to local newspapers, and
- implementing storm drain marking programs.

Municipalities must document in their reports to WDNR how they have used the materials developed by the I&E Committee.

Additional Activities and Ongoing Tasks

The actions listed below are completed and/or implemented annually by the SWEC and consume a considerable amount of the half-time hours available.

- Quarterly reporting to member municipalities.
- Biennial reporting to WDNR.
- Bill municipalities and track payments.
- Develop annual work plan.
- Develop/provide presentations focused on audience interests/concerns.
- Maintain and use existing listserv and distribution lists and develop new lists (as needed) to disseminate information.
- Continue providing organizations and community groups' assistance and collaborating with projects.
- Promote and advocate for stormwater focused trainings, webinars and lectures for contractors, municipal staff, designers and developers.
- Search and promote grant opportunities to fund stormwater practices or programs for municipalities, citizens, schools, water groups, businesses, etc.

- Promote stormwater related resources including: curriculum developed for MAMSWaP, A Reflection of Us All DVD and other videos on stormwater practices, the Dane Co. Erosion Control and Stormwater Management Manual, and the Enviroscape model.
- Continue to coordinate outreach with other local water groups.

Acknowledgments

The Madison Area Municipal Stormwater Partnership's 2019 Annual Information and Education Work Plan was developed by the MAMSWaP I&E Committee. Committee member expertise, input and municipal cooperation was crucial for plan development and will continue to play an integral role in addressing stormwater runoff in Dane County. Thank you to everyone who helped.

I&E Committee Members Contributing to the 2019 Annual I&E Work Plan
Claudia Guy, City of Fitchburg
Jeremy Balousek, Dane County Land and Water Resources Department
Kelli Bialkowski, Village of DeForest
Christal Campbell, Dane County Land and Water Resources Department
Chris Egger, UW–Madison
Rick Eilertson, AECOM
Phil Gaebler, City of Madison
Mindy Habecker, Dane County – UW Extension
Kathy Lake, Madison Metropolitan Sewerage District
Kim McCutcheon, Wisconsin Department of Natural Resources
Rodney Scheel, City of Stoughton
Tom Wilson, Town of Westport

For more information, visit www.ripple-effects.com or contact Christal Campbell at 608-224-3746 or campbell.christal@countyofdane.com.

Table 1.1 – 2019 MAMSWaP Information and Education Activities

Activity	Notes	Responsible Parties/Partners	Timing	Performance Goal	Permit Requirement Addressed
1. Develop and distribute articles and messages with stormwater BMP's to municipalities and water groups.	Create seasonal communication toolkits with articles, FB posts, graphics, etc.	SWEC, MAMSWaP Communities	Jan-Dec	Create and distribute at least 4 seasonal communication toolkits to partners.	C.1.b.1 C.1.b.2 C.1.b.3 C.1.b.5 C.1.b.7
2. Continue work on web-based interactive map of MAMSWaP area watersheds and sewershed including: municipal boundaries, control practices and stormwater drainage networks, BMPs.	Integrate info to promote reporting of illicit discharge, BMPs.	SWEC, MAMSWaP Communities, CARPC	Jan-Dec	Continue to add to base map using data from partners. Start to identify where practices/projects are implemented on map (rain gardens, storm drain murals, etc.) Build into existing Ripple Effects web site.	C.1.b.1 C.1.b.5 C.1.b.7 C. 1.b. 8
3. Promote and use educational tools targeting the K-12th grade audience (storm drain marking, Enviroscape, Stormwater Curriculumtabletop rainfall simulator, stormwater video).	Include info on stormwater resources in newsletters and through communication tools to formal and non-formal educators and groups.	SWEC, MAMSWaP Communities	Jan-Dec	Use tools in at least 5 presentations geared at the K-12 audience. Check out stormwater education tools to at least 5 educators/groups through the UW Extension Natural Resources Education Center.	C.1.b.1 C.1.b.2 C.1.b.4
4. Design and paint 10 storm drain inlets to raise awareness that runoff drains to local waters and is not treated.	Develop storm drain mural grant application. Work with Dane Arts Mural Arts (DAMA), Dane County Office of Lakes and Watersheds, and local municipalities to select suitable locations and secure approvals	SWEC DAMA MAMSWaP Communities	Jan- Aug	Advertise storm drain mural grant program and select 10 groups to partner with to create and paint 10 inlet designs. Provide partner groups with articles to promote project locally. Add new murals to Storm Drain Mural Project map.	C.1.b.1
5. Collaborate with WI Salt Wise partners to promote, develop and distribute resources to reduce chloride containing deicers and	Update WI Salt Wise web site. Update toolkit with articles, FB posts, graphics, posters, etc.	WI Salt Wise partners, SWEC, MAMSWaP Communities	Nov-Feb	Update and distribute WI Salt Wise communication toolkit.	C.1.b.2 C.1.b.7

encourage using the right amount for safety.					
6. Assist in offering winter maintenance trainings in Dane Co. area.	2 trainings	WI Salt Wise Partners, SWEC, Southern Wisconsin Association of Public Works Supervisors (SWAPS), American Public Works Association	Sept-Nov	Hold 1 winter maintenance training with at least 20 participants. Hold 1 calibration training with at least 20 participants.	C.1.b.2 C.1.b.7
7. Implement leaf-free streets for clean waters campaign aimed at keeping streets leaf free before the rain.	Articles, FB posts, rain alerts, graphics, advertising, flyers, door hangers etc.	SWEC, MAMSWaP Communities, Water-related groups	Aug-Oct	Update and distribute leaf-free streets community engagement toolkit.	C.1.b.3
8. Implement Plant Dane Program.	Coordinate ordering, update web site, develop materials, promote, and manage orders and pick up event.	SWEC MAMSWaP Communities	Jan-Mar	Create and distribute Plant Dane toolkit. Solicit and collect donations for at least 10 community projects. Sell at least 10,000 native plants through Plant Dane Cost Share Program.	C.1.b.3 C1.b.4 C.1.b.5
9. Offer advanced rain garden workshop to assist residents/groups looking to install a rain garden.	Solicit help from partners/professionals to staff tables on design, plant selection, installation and maintenance.	SWEC, MAMSWaP Communities	Mar	Hold advanced rain garden workshop with at least 15 participants.	C.1.b.5
10. Integrate Ripple Effects brand into future campaigns and programs.	All programs will be linked visually following Ripple Effects Design Guide criteria.	SWEC	Jan-Dec	Ripple Effects brand will be integrated into all campaigns and outreach programs.	N/A
11. Make updates to Ripple Effects web site to keep site	Monitor analytics and try to boost hits and	SWEC	Jan-Dec	Update content and organize Ripple Effects web site to better engage partners	N/A

fresh and current.	time on site.			and citizens in stormwater practices. Create more links to promote other county and partner programs. Increase visits to site compared to 2018.	
12. Develop 5 Year Intergovernmental Agreement to Fund Position for Stormwater Information, Education and Outreach Coordinator for MAMSWaP (2020-2024).	Model after past 5-year Intergovernmental Agreement	SWEC, MAMSWaP Communities	Mar-Jun	Agreement will be approved and signed by all MAMSWaP municipalities contributing funds for I&E Services by Dec. 31st.	N/A
13. Develop MAMSWaP 5-year Information and Education Plan (2020-2024)	Model after past 5-year I&E Plan Use results of MAMSWaP Survey to guide I&E Plan.	SWEC, MAMSWaP Communities	Mar-Jun	Plan to be reviewed and approved by the MAMSWaP I&E Committee by Dec. 31st.	All

City of Madison Ponds by Watershed		
Pond Name	Watershed	Max level Surface Area
Ashworth Drive	BADGER MILL CREEK	1.12
Brader Way Blackhawk ChurchS	BADGER MILL CREEK	2.00
Brader Way Blackhawk ChurchS2	BADGER MILL CREEK	1.33
BraderWayBlackhawkChurchSInfl	BADGER MILL CREEK	0.29
BurntSiennaDr	BADGER MILL CREEK	0.86
DegersWay	BADGER MILL CREEK	0.40
ElverParkMiddle	BADGER MILL CREEK	5.43
ElverParkUpper	BADGER MILL CREEK	2.67
FieldstoneUpper	BADGER MILL CREEK	0.56
GlacierCrossing	BADGER MILL CREEK	0.35
GoldenHue	BADGER MILL CREEK	0.31
Greentree	BADGER MILL CREEK	3.69
HawksLandingLBMCEast	BADGER MILL CREEK	1.79
HawksLandingLBMCNorth	BADGER MILL CREEK	2.41
HawksLandingLBMCSW	BADGER MILL CREEK	0.63
HawksWoodsSystem	BADGER MILL CREEK	1.54
HighPointEstates	BADGER MILL CREEK	2.24
IceAgeRidge	BADGER MILL CREEK	0.58
JeffyTrailHawksCreekUBMC	BADGER MILL CREEK	0.57
JeffyTrailHawksCreekUBMCInfl	BADGER MILL CREEK	0.12
JeffyTrailHawksCreekUBMCWet	BADGER MILL CREEK	0.38
LBMCMidtownWoods	BADGER MILL CREEK	0.59
LBMCMidtownWoods2	BADGER MILL CREEK	0.24
LBMCMidtownWoodsInfl	BADGER MILL CREEK	0.15
LBMCPineHIllDr100yr	BADGER MILL CREEK	1.54
LBMCPineHillDrInfl	BADGER MILL CREEK	0.86
LBMCPineHillDrWetPond	BADGER MILL CREEK	0.52
ManchesterPark	BADGER MILL CREEK	2.86
ManchesterParkUpper	BADGER MILL CREEK	0.08
MansionHillAve	BADGER MILL CREEK	4.99
MapleGrove	BADGER MILL CREEK	1.54
MidTownAtHawksRidge	BADGER MILL CREEK	0.09
MidTownAtHawksRidgeBioret	BADGER MILL CREEK	0.08
MidtownCommons	BADGER MILL CREEK	0.31
MidtownRitz	BADGER MILL CREEK	0.60
MoonlightTrailLindenParkW	BADGER MILL CREEK	0.69
NewberyHeightsDry	BADGER MILL CREEK	0.34
PrairieHills	BADGER MILL CREEK	1.99
PrairieHills1	BADGER MILL CREEK	0.47
PrairieHills2	BADGER MILL CREEK	1.36
QuarryCove	BADGER MILL CREEK	0.12
Rayovac	BADGER MILL CREEK	2.62
RustlingBirchRd	BADGER MILL CREEK	2.16
RustlingBirchRd1	BADGER MILL CREEK	0.96
RustlingBirchRd2	BADGER MILL CREEK	0.90

Sandstone	BADGER MILL CREEK	1.04
ShadyBirchAtSugarMaple	BADGER MILL CREEK	0.95
SiliconPrairie	BADGER MILL CREEK	5.60
SiliconPrairieAtSugarMaple	BADGER MILL CREEK	1.14
SiliconPrairieAtSugarMaple1	BADGER MILL CREEK	0.33
SiliconPrairieAtSugarMaple2	BADGER MILL CREEK	0.45
SiliconPrairieInfl1	BADGER MILL CREEK	0.39
SiliconPrairieInfl2	BADGER MILL CREEK	1.75
SiliconPrairieRet	BADGER MILL CREEK	2.21
SPointAtHarvestMoon	BADGER MILL CREEK	3.59
SPointAtHarvestMoon2	BADGER MILL CREEK	2.28
StrawHarvestLane	BADGER MILL CREEK	1.18
StrawHarvestLane1	BADGER MILL CREEK	0.54
StrawHarvestLane2	BADGER MILL CREEK	0.50
SundanceAtPineHollow	BADGER MILL CREEK	0.27
SundanceAtPineHollow1	BADGER MILL CREEK	0.04
SundanceAtPineHollow2	BADGER MILL CREEK	0.19
UBMCAvalonLane	BADGER MILL CREEK	4.13
UBMCConfluenceNorthRainGarden	BADGER MILL CREEK	0.25
UBMCConfluenceSouthRainGarden	BADGER MILL CREEK	0.32
UBMCFlagstone	BADGER MILL CREEK	1.77
UBMCHawksCreek1	BADGER MILL CREEK	0.37
UBMCHawksCreek100yr	BADGER MILL CREEK	1.25
UBMCHawksCreek2	BADGER MILL CREEK	0.60
UBMCLindenParkEast	BADGER MILL CREEK	0.95
UBMCLindenParkEast1	BADGER MILL CREEK	0.41
UBMCLindenParkEast2	BADGER MILL CREEK	0.37
UBMCRegionalCentral2	BADGER MILL CREEK	12.93
UBMCRegionalCentralNW1	BADGER MILL CREEK	1.16
UBMCRegionalLindenParkS	BADGER MILL CREEK	1.63
UBMCRegionalWest1	BADGER MILL CREEK	2.32
UBMCRegionalWest2	BADGER MILL CREEK	9.61
UBMCSouthRegionalBasin100yr	BADGER MILL CREEK	14.92
UBMCSouthRegionalBasinE	BADGER MILL CREEK	3.34
UBMCSouthRegionalBasinW	BADGER MILL CREEK	9.99
UBMCSouthUWResearchNE	BADGER MILL CREEK	1.56
UBMCSouthUWResearchW_Main	BADGER MILL CREEK	2.72
ValleyRidge	BADGER MILL CREEK	2.29
ValleyRidgeApartments	BADGER MILL CREEK	0.52
ValleyViewatRedan	BADGER MILL CREEK	0.74
WestBadgerMillCreek	BADGER MILL CREEK	1.02
WesthavenMcKeeRd	BADGER MILL CREEK	0.11
WesthavenTrails	BADGER MILL CREEK	0.88
WoodsRoad1	BADGER MILL CREEK	0.13
WoodsRoad2	BADGER MILL CREEK	0.23
CoveredBridge	DOOR CREEK	0.59
HarringtonDrive	DOOR CREEK	2.55

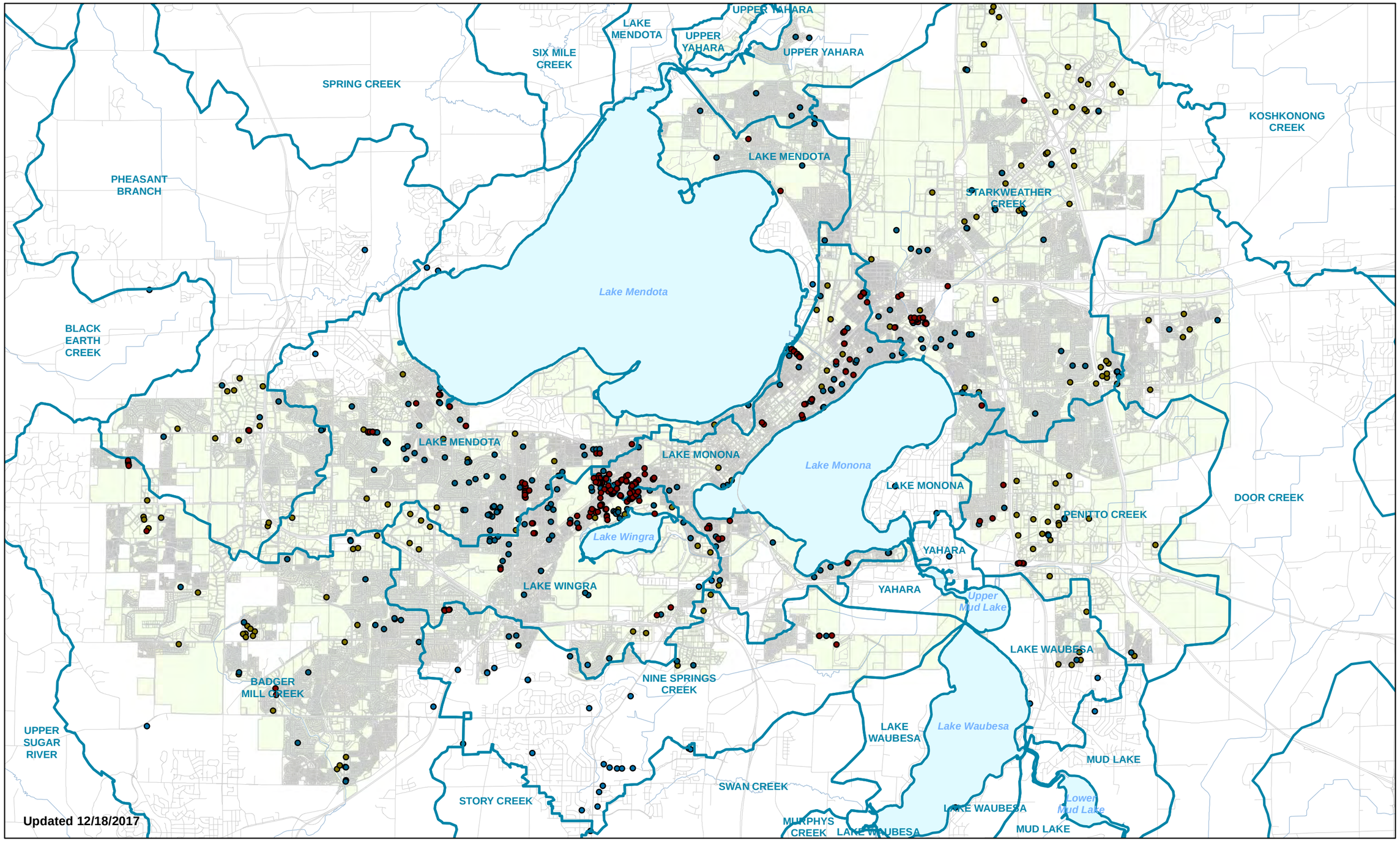
Hopewell	DOOR CREEK	2.08
MaywickEstates	DOOR CREEK	0.33
McLeanDr	DOOR CREEK	0.74
MeadowlandsNorth	DOOR CREEK	2.40
MeadowlandsSouth	DOOR CREEK	2.05
RestonHeights	DOOR CREEK	5.19
RusticDriveRegional	DOOR CREEK	3.30
RusticDrRusticAcresS	DOOR CREEK	0.11
SaturnDrive	DOOR CREEK	2.42
SaturnDriveN	DOOR CREEK	1.02
SaturnDriveS	DOOR CREEK	0.38
VenusWay	DOOR CREEK	0.18
FarEastGolfCourse	KOSHKONONG CREEK	18.28
FarEastGolfCourseLower	KOSHKONONG CREEK	9.58
FarEastGolfCourseUpper	KOSHKONONG CREEK	2.18
Dahlen&Dale	LAKE MENDOTA	1.88
GanserHeightsLower	LAKE MENDOTA	0.56
Garner	LAKE MENDOTA	1.13
Grassman	LAKE MENDOTA	1.58
IndianHillParkBioret	LAKE MENDOTA	0.05
MeadowRidge	LAKE MENDOTA	1.36
NautilusDr	LAKE MENDOTA	2.45
OldMiddletonNorth	LAKE MENDOTA	0.15
OldMiddletonSouth	LAKE MENDOTA	0.26
OwenParkRetentionE	LAKE MENDOTA	1.26
OwenParkRetentionN	LAKE MENDOTA	0.74
OwenParkRetentionW	LAKE MENDOTA	1.79
PonwoodPrivate	LAKE MENDOTA	1.70
SpringHarborBeachBioRet	LAKE MENDOTA	0.04
Stonefield	LAKE MENDOTA	1.48
StrickersForebay	LAKE MENDOTA	2.76
UniversityAtUnivRowBio	LAKE MENDOTA	0.30
UWResearchParkEast_North1	LAKE MENDOTA	1.08
UWResearchParkEast_North2	LAKE MENDOTA	2.09
UWResearchParkEast_North3	LAKE MENDOTA	3.29
UWResearchParkWest_NE	LAKE MENDOTA	0.27
WarnerMainParkingN	LAKE MENDOTA	0.36
WarnerMainParkingS	LAKE MENDOTA	0.33
WestTowneField	LAKE MENDOTA	24.28
WestTowneN	LAKE MENDOTA	2.26
WestTownePondAddition	LAKE MENDOTA	0.35
WestTowneS	LAKE MENDOTA	4.31
WestTowneUpper	LAKE MENDOTA	0.94
BerniesBeachBioret	LAKE MONONA	0.07
GoodmanPoolBioswale	LAKE MONONA	0.55
GoodmanPoolNE	LAKE MONONA	0.37
GoodmanPoolNE1	LAKE MONONA	0.07

GoodmanPoolNE2	LAKE MONONA	0.16
GoodmanPoolNSwale	LAKE MONONA	0.05
GoodmanPoolSW	LAKE MONONA	0.25
MononaAtBuckeyeTrtmt	LAKE MONONA	0.29
MononaGolfCourse_SWInner	LAKE MONONA	0.93
MononaGolfCourse_SWOuter	LAKE MONONA	0.46
Brandenburg	LAKE WAUBESA	0.88
CrestedOwlAtValorWay	LAKE WAUBESA	0.36
CrestedOwlPondOwlsCreekSW	LAKE WAUBESA	0.57
GloryCourtLibertyPlaceN	LAKE WAUBESA	0.42
HornedOwlTormeyEast	LAKE WAUBESA	0.75
OwlCreek1	LAKE WAUBESA	0.38
OwlCreek2	LAKE WAUBESA	2.10
QuinnRanchDetention	LAKE WAUBESA	0.18
SiggelGroveRet	LAKE WAUBESA	1.30
SnowOwlatHornedOwl	LAKE WAUBESA	0.44
TwinOaksNorth	LAKE WAUBESA	0.23
TwinOaksSouth	LAKE WAUBESA	0.55
UpperMudLake	LAKE WAUBESA	3.50
UpperMudLakeInfl	LAKE WAUBESA	0.95
UpperMudLakeRet	LAKE WAUBESA	1.80
ValorWayDLibertyPlaceNW	LAKE WAUBESA	0.48
EastArboretum1	LAKE WINGRA	0.17
EastArboretum2	LAKE WINGRA	0.68
EastArboretumForebay	LAKE WINGRA	0.55
EastArboretumForebay1	LAKE WINGRA	0.15
EastArboretumForebay2	LAKE WINGRA	0.31
NorthArboretum	LAKE WINGRA	5.10
NorthArboretumForebay	LAKE WINGRA	0.72
NorthwestArboretum	LAKE WINGRA	2.48
SecretPond1	LAKE WINGRA	1.97
SecretPond2	LAKE WINGRA	0.67
UWResearchParkWest_Central	LAKE WINGRA	2.16
UWResearchParkWest_SE	LAKE WINGRA	2.50
UWResearchParkWest_South	LAKE WINGRA	0.40
UWResearchParkWest_SW	LAKE WINGRA	3.80
WBadgerRd	LAKE WINGRA	2.69
WestmorelandRainGarden	LAKE WINGRA	0.02
AlliedDrBioPond	NINE SPRINGS CREEK	0.18
DunnsMarshForebay	NINE SPRINGS CREEK	0.53
EngelhartDrive	NINE SPRINGS CREEK	0.55
LorenaParkway	NINE SPRINGS CREEK	0.29
NineSpringsSyenePost	NINE SPRINGS CREEK	0.53
PostWatford	NINE SPRINGS CREEK	1.16
WBadgerRdandBeltinePrivate	NINE SPRINGS CREEK	0.24
BroadwayTIF	PENITTO CREEK	6.73
CatalinaParkway	PENITTO CREEK	1.86

CatalinaParkwayDet	PENITTO CREEK	0.92
CatalinaParkwayInfl	PENITTO CREEK	0.66
Dejope	PENITTO CREEK	0.84
DondeeRoadsBuckeyeMeadows	PENITTO CREEK	0.58
DondeeRoadsBioretention	PENITTO CREEK	0.10
DutchMill	PENITTO CREEK	0.36
EdnaTaylor1	PENITTO CREEK	0.64
EdnaTaylor2	PENITTO CREEK	0.41
EdnaTaylor3	PENITTO CREEK	0.34
EdnaTaylor3and4_100yr	PENITTO CREEK	1.80
EdnaTaylor4	PENITTO CREEK	0.74
EdnaTaylor5	PENITTO CREEK	0.37
EdnaTaylor6	PENITTO CREEK	0.58
HelgesenDr	PENITTO CREEK	2.95
KingsMillCircle	PENITTO CREEK	2.65
KippStreet	PENITTO CREEK	2.81
KippStreetE	PENITTO CREEK	0.32
KippStreetN	PENITTO CREEK	1.72
KippStreetNW	PENITTO CREEK	1.59
MononaGolfCourse_North	PENITTO CREEK	0.87
PenitoCreekFemriteDr	PENITTO CREEK	5.44
PenitoCreekPnR	PENITTO CREEK	1.27
PrairieSchooner	PENITTO CREEK	7.11
SandlewoodCircle	PENITTO CREEK	1.50
SecretPlacesAtSigglekowBioret	PENITTO CREEK	0.36
SecretPlacesAtSigglekowBioret2	PENITTO CREEK	0.58
SecretPlacesAtSigglekowEagleCave	PENITTO CREEK	0.13
SecretPlacesAtSigglekowPool1	PENITTO CREEK	0.05
SecretPlacesAtSigglekowPool2	PENITTO CREEK	0.04
SecretPlacesAtSigglekowPool3	PENITTO CREEK	0.01
SecretPlacesAtSigglekowPool4	PENITTO CREEK	0.44
SecretPlacesAtSigglekowWet	PENITTO CREEK	1.38
Tradewinds	PENITTO CREEK	1.57
WorldAgCenterSEWetland	PENITTO CREEK	9.37
AtticAngel	PHEASANT BRANCH	2.97
AtticAngel1	PHEASANT BRANCH	0.69
AtticAngel2	PHEASANT BRANCH	1.67
CapeSilverWay1	PHEASANT BRANCH	0.42
CapeSilverWay2	PHEASANT BRANCH	1.57
CommercialSquare	PHEASANT BRANCH	2.27
Fargo&CobaltE	PHEASANT BRANCH	1.11
Fargo&CobaltW	PHEASANT BRANCH	0.87
GanserHeightsUpper	PHEASANT BRANCH	0.27
Greystone	PHEASANT BRANCH	2.07
JunctionLoop	PHEASANT BRANCH	0.95
JunctionRidge	PHEASANT BRANCH	2.19
MenardsPondSystem	PHEASANT BRANCH	0.32

NorthBlackhawk	PHEASANT BRANCH	4.27
OldSaukTrail100yr	PHEASANT BRANCH	5.28
OldSaukTrailCenter	PHEASANT BRANCH	0.74
OldSaukTrailLowerStage3	PHEASANT BRANCH	0.70
OldSaukTrailLowerStage4	PHEASANT BRANCH	0.59
OldSaukTrailUpper	PHEASANT BRANCH	0.58
PleasantView	PHEASANT BRANCH	0.81
SaukCreekLower	PHEASANT BRANCH	1.67
SaukCreekUpper	PHEASANT BRANCH	0.94
SaukHeights	PHEASANT BRANCH	1.50
SWBlackhawk	PHEASANT BRANCH	12.22
WattsCommercePriv	PHEASANT BRANCH	0.19
Wexford	PHEASANT BRANCH	7.57
WexfordS	PHEASANT BRANCH	1.86
AmericanCenterAmericanPkwy	STARKWEATHER CREEK	3.12
AmericanCenterAmericanPkwy1	STARKWEATHER CREEK	0.18
AmericanCenterButtonwoodBioE	STARKWEATHER CREEK	0.14
AmericanCenterButtonwoodBioW	STARKWEATHER CREEK	0.11
AmericanCenterUWHealth1	STARKWEATHER CREEK	1.25
AmericanCenterUWHealth2	STARKWEATHER CREEK	0.11
AmericanCenterUWHealth3	STARKWEATHER CREEK	0.25
AmericanCenterUWHealth4	STARKWEATHER CREEK	1.07
AmericanCenterUWHealth5	STARKWEATHER CREEK	0.42
AmericanCenterUWHealth6	STARKWEATHER CREEK	0.38
AtlasAve	STARKWEATHER CREEK	8.69
BrighamWoods	STARKWEATHER CREEK	0.52
CenterForIndustryCommerceS	STARKWEATHER CREEK	1.58
CenterIndustryCommerceN	STARKWEATHER CREEK	4.63
ChurchillHeightsNorth	STARKWEATHER CREEK	0.35
ChurchillHeightsSouth	STARKWEATHER CREEK	1.31
CommercialAve	STARKWEATHER CREEK	0.84
CottageGroveRd_NE	STARKWEATHER CREEK	3.85
CottageGroveRd_SW	STARKWEATHER CREEK	4.20
CrescentOaks	STARKWEATHER CREEK	0.88
GrandviewCommons	STARKWEATHER CREEK	3.84
HighCrossing	STARKWEATHER CREEK	2.24
HolyCross1	STARKWEATHER CREEK	0.57
HolyCross2	STARKWEATHER CREEK	0.19
I94USH151InterchangeNRamp	STARKWEATHER CREEK	7.56
KennedySchool	STARKWEATHER CREEK	0.59
LienRoad	STARKWEATHER CREEK	0.43
MadisonCorporateCenterNorth	STARKWEATHER CREEK	0.27
MadisonCorporateCenterSouth	STARKWEATHER CREEK	0.29
ManufacturersAtCommerce	STARKWEATHER CREEK	2.73
MestaLane	STARKWEATHER CREEK	1.90
MonumentCenter	STARKWEATHER CREEK	1.18
MonumentCenter2	STARKWEATHER CREEK	0.56

MonumentCenterBioRetTrench	STARKWEATHER CREEK	0.08
NBarteltCt	STARKWEATHER CREEK	0.72
RegionalEast	STARKWEATHER CREEK	5.96
Ridgewood_East	STARKWEATHER CREEK	0.57
Ridgewood_North	STARKWEATHER CREEK	0.48
Ridgewood_West	STARKWEATHER CREEK	0.54
RoysterAve	STARKWEATHER CREEK	1.45
SHoepkerRd	STARKWEATHER CREEK	2.57
StarkweatherCreekRainGarden	STARKWEATHER CREEK	0.07
SwantonRoad	STARKWEATHER CREEK	1.91
SycamoreAve	STARKWEATHER CREEK	5.19
TanchDr_5541_Priv	STARKWEATHER CREEK	0.27
TanchoDr5302Priv1	STARKWEATHER CREEK	0.46
TanchoDr5302Priv2	STARKWEATHER CREEK	0.50
TruaxAirPark	STARKWEATHER CREEK	1.00
WalmartPrivate	STARKWEATHER CREEK	0.91
WhitetailRidge	STARKWEATHER CREEK	2.16
Woodmans	STARKWEATHER CREEK	5.04
Cherokee_atWheeler	UPPER YAHARA	1.40
WheelerRd@DelawareBlvdCherokee	UPPER YAHARA	2.87
WheelerRd@IleneLnCherokee	UPPER YAHARA	4.51
Wingra Park Bioretention	LAKE WINGRA	0.10



City of Madison - Rain Gardens
672 Rain Gardens and Counting

0 1 2 4 Miles

N W E S

CITY OF MADISON

ENGINEERING DIVISION

STANDARD OPERATING PROCEDURE

WET DETENTION POND INSPECTION AND MAINTENANCE

A. BACKGROUND

Wet detention ponds play in important role in storm water quality and flood mitigation throughout the City. Proper maintenance is essential in order to meet the City's water quality goals, and to ensure proper flood protection.

Per the Wisconsin Department of Natural Resources, a wet detention pond is, "*A permanent pool of water with designed dimensions, inlets, outlets and storage capacity, constructed to collect, detain, treat and release stormwater runoff.*"

The City of Madison's (City's) pond network consists of both publicly and privately maintained ponds. All ponds owned and/or operated by the City of Madison will be inspected in accordance with this Standard Operating Procedure (SOP). All ponds that contribute to the City's compliance with the Municipal Separate Storm Sewer Systems permit or the Total Maximum Daily Load requirements will be inspected and maintained per this SOP.

Private ponds will be inspected and maintained in accordance with individual maintenance agreements between the City and the pond owner.

B. INSPECTION

1. Overview

The intent of wet detention pond inspections is to determine if the facility is in good condition and operating appropriately. City-maintained facilities shall be inspected on a five (5)-year cycle, by qualified personnel, or more frequently if needed. Inspection personnel will be trained by pond and greenway staff.

2. Records Review

i. GIS Records: Prior to field inspections, the inspector should familiarize themselves with the existing data for each pond site, including ownership and maintenance responsibility. This review should also include reviewing the Engineering Features Layer, as well as the public and private storm sewer records. If there are questions about what may be encountered in the field, pond and greenway staff should be consulted.

ii. Previous Inspections: The inspector should familiarize themselves with the previous inspections for each location, in order to develop a baseline for what the site looked like during the previous inspection, if possible. This will be important information in determining if the site is actively degrading.

iii. As-Builts: If as-builts area available, the inspector should review them to better understand the site and the assets to be inspected. If there are questions about what may be encountered in the field, pond and greenway staff should be consulted.

3. Records Locations

Record Type	Record Location
Previous Inspections	M:\PlanVault\Ponds
CityWorks Records	
Engineering Features Layer	
Pond Node Layer	Madmaps.DATA_ADM.Pond_Greenway
Pond Node Folders	M:\PlanVault\Ponds
Asset Rating Guidance Sheets	M:\PlanVault\Ponds_Inspections

Storm Sewer Records	
Project Folders	M:\DESIGN\Projects or M:\DESIGN\SEWER\DGN
As-Builts	M:\PlanVault\ConstructionProjects

4. Key Personnel

Name	Notifications	Title
Madeline Dumas	Vegetation Issues, Maintenance Issues	Greenway Vegetation Coordinator
Greg Fries	Major Issues	Deputy City Engineer
Phil Gaebler		Water Resources Engineer
Joanna O'Brien	Survey Requests, Misc Issues, Repairs Needed	Engineer
Daniel Olivares	Encroachments	Engineer
Janet Schmidt	Major Issues, Repairs	Principal Engineer – Stormwater Utility
Ryan Schmidt	CityWorks Maintenance Requests, Misc Issues	Operations Supervisor
Sally Swenson	Survey Requests, Misc Issues, Repairs Needed	Engineer

5. Surface Inspections

Provided doing so does not endanger the inspector, the entire pond parcel should be systematically walked to identify any deficiencies. At no time should the inspector enter storm structures.

i. Site Access: Sites should not be accessed through private property. Site access should be through adjacent right-of-way, adjacent Stormwater Utility parcels, or from public easements.

ii. Site Photos: The photographic log should provide enough detail to inform staff, who have not visited the site, of the current conditions. This means the inspector should provide a thorough photographic record of the inspection, including photos of all mapped and unmapped features, photos that provide a general understanding of overall site layout and conditions, photos detailing any identified deficiencies, as well as photos of features in good condition.

iii. Verify Mapped Features: During the site inspection, the accuracy of mapped facilities should be reviewed and updated as necessary. The inspector should familiarize themselves with the mapped records for the site, and bring a copy of these records to the field. Errors or unmapped features should be noted. Information necessary to make revisions to unmapped, or incorrectly mapped features should be collected to aid in records revisions, or to allow surveyors to locate the feature. All correctly mapped features should be noted.

iv. Inspect Individual Assets: All mapped and unmapped assets and feature should be inspected while on site. A list of typical pond assets is included here, but other features may be present, and should also be thoroughly inspected.
   a. Inlet Structures (pipes and structures that bring water into the pond): Inspect inlet structures for clogs, missing grates, missing lids, cracks, general condition of connected pipes, etc. Verify the inlet structure matches City records. If not, the inspector should take photos and measurements of the structure so that an accurate record can be created. If necessary note the structure requires survey.
   b. Outlet Structures: Inspect outlet structures for clogs, missing grates, missing lids, cracks, general condition of connected pipes, etc. Verify the inlet structure matches City records. If not, the inspector should take photos and measurements of the structure so that an accurate record can be created. If necessary note the structure requires survey.

c. Emergency Overflows: Earthen berms should be inspected for signs of erosion, missing vegetation, the presence of woody vegetation, significant animal burrows, and other elements that may impact the overflow. Concrete weirs should be inspected for significant cracks, spall, exposed rebar, missing elements, and other notable items.
d. Safety Bench: Safety benches should be inspected for appropriate size and vegetation. THE INSPECTOR SHOULD NOT WALK OUT ONTO THE SAFETY BENCH; this is a visual inspection only. If the safety bench appears smaller than 8-feet in width, this should be noted. If inappropriate vegetation, such as wood vegetation, is growing on the safety shelf, it should be noted.
e. Plunge Pool: Plunge pools should be inspected in a similar manner to the pond as a whole. The inspector should look for evidence of sediment accumulation, such as sediment visible above the water level, or visible just below the water level.
f. Embankments: Embankments should be inspected for evidence of erosion, rutted areas, gullies, significant animal burrows, etc. The inspector should also note any large rocks or stumps that may impact mowing operations. Also, the inspector should note if any settling appears to have occurred on the embankments or other pond features.

v. Inspect Vegetative Cover: It is important to inspect the pond for the appropriateness of the vegetation. Vegetation on embankments, spillways, etc. should be healthy stands of herbaceous vegetation. Woody vegetation should not be present in these locations. The inspector should note if woody vegetation is creeping into access routes, inlet structures, outlet structures, or is inhibiting other access or maintenance. Alternatively, trees and shrubs that have been intentionally planted should be inspected for obvious signs of damage, rot, or other issues. The Greenway Vegetation Coordinator, Engineering Landscape Architect, or other staff will also be inspecting pond parcels for vegetative health and maintenance needs.

vi. Riprap: Riprap is likely to be present at outfalls, pond overflows, or other areas where erosion is likely. Riprap should be inspected for general stone condition. Items to note are general size and condition of stone. If the stones appear to be cracked or degrading this should be noted. So should loss or movement of riprap, inadequacy of riprap size or extents, and the presence of any unwanted vegetation growth in the riprap (trees, shrubs, etc.).

vii. Access Roads: If reinforced access roads, or access paths are noted in the as-builts or plan sheets, the inspector should walk these to determine if they are in good condition. Items to note include, condition of road surface, presence of ruts, encroachment of vegetation, or any other factors that may limit access to the site.

viii. Verify Key Elevation Data: During the records review and field inspection, the inspector should note what elevation information has been verified by as-built or survey data, what can be accurately measured in the field, and what items may need to be surveyed to provide the most accurate records. Key elevation data for ponds should be noted for inlet structures, outlet structures, any weirs, pond overflows, permanent pool elevations, etc. If settlement has potentially caused the water flow path to change, this should be brought to the immediate attention of a supervisor.

ix. Encroachments: While on site, or during the records review, the inspector should note any encroachments onto City property. This may be small items, such as debris or gardens, or more significant features, such as fences, structures, surfaces, etc. Any potential encroachments should be noted and brought to the attention of a supervisor for further action.

6. **Bathymetric Measurements**

Bathymetric measurements, or measurements of the pond bottom, need to be collected to determine pond efficacy. The percentage of the permanent pool that is less than 3 feet will need to be determined.

i. Ponds Less Than 5 Years Old, or That Have Been Dredged Within 5 Years: Ponds that are less than 5 years old should be well within the design life for sediment storage. These ponds do not need to have pond bottoms surveyed. The inspector should visually inspect the pool area to determine if any sediment accumulation is noticeable near inlets or outfalls, or around the safety bench.

ii. Ponds Five to 15 Years Old: Ponds that are between 5 and 15 years old should have the pond bottoms spot checked for sediment accumulation. This may be achieved by sounding the pond bottom with a rod, or by collecting elevations with a castable depth finder. The inspector will be trained in the use of either method.

iii. Ponds 15+ Years Old: Ponds older than 15 years should be surveyed to determine overall sediment accumulation. City staff or consulting surveyors will complete a thorough bathymetric survey and report data to the inspector.

7. **Recording Data**

All assets should be given a numerical value that represents overall condition. The numerical value should be based on the Asset Rating Guidance Sheets, and should also take into account the condition of the asset from previous inspections. The numerical rating should be entered into CityWorks.

i. Photos: Photos should be recorded in CityWorks. If CityWorks is unavailable, the photos name should contain the date and a unique identifier. If CityWorks is unavailable, photos should be transferred into the Pond Node Folder.
ii. Notes: Notes should be recorded in CityWorks. If CityWorks is unavailable, print copies of the CityWorks inspection sheets and bring them to the field to be filled out manually. Information should be entered into CityWorks at a later date, and scanned and placed in the Pond Node Folder.
iii. Bathymetric Data: Bathymetric data should be compiled into tabular or comma delimited filed. The file format should contain one point per line. If possible, points should be in a PNEZD (point number, northing, easting, elevation, description) format. If possible, points should be reported in Wisconsin County Coordinate System – Dane Zone, NAD 83 horizontal coordinate system and be referenced to NAVD 88 (pre 2007 adjustment) vertical datum. In instances where the pond depth is sounded with a rod, the depths and approximate locations should be recorded to the best of the inspector's ability, and in a manner that allows other staff to interpret the data.

8. **Reporting Findings**

The majority of inspection findings can be recorded in CityWorks without follow-up. However, there are instances where additional actions are required.

i. Clogged Inlets or Outlets: A work order should be submitted through CityWorks to remove the accumulated material.
ii. Unmapped or Incorrectly Mapped Assets: A clear description of mapping changes should be sent to either pond mapping personnel or storm sewer mapping personnel. If survey is necessary to accurately identify, this shall be combined with "vi. Missing Survey Data" and sent to be survey staff.
iii. Loss or Failure of Riprap: A work order should be submitted through CityWorks to replace the stone.

iv. Concrete Structure Damage: If significant, or worsening, cracks, spalling, breaks, etc. are noted in concrete structures, it should be brought to the attention of pond and greenway staff.
v. Disconnected Pipes and Missing Grates: A work order should be submitted through CityWorks.
vi. Missing Survey Data: Where additional survey data is needed, the inspector should notify pond and greenway staff. This information will be compiled and submitted to survey staff when schedules permit.
vii. Encroachments: Encroachments should be brought to the attention of the staff listed in XX.
viii. Significant Determination: If any part of the pond site, or an individual asset has significantly deteriorated since the previous inspection, it should be brought to the immediate attention of pond and greenway staff.
ix. Additional Items: If any other items appear to be out of order, they should be brought to the attention of pond and greenway staff.

9. Data Analysis

Following the inspection of each greenway, the data will be reviewed to determine if additional actions are necessary.

i. Vegetation Maintenance: The Greenway Vegetation Coordinator will determine if the current vegetation management is still appropriate for the site. If modifications need to be made, they will do so.

ii. Overall Inspection: The inspector and pond and greenway staff will review the inspection information and determine if this site has deteriorated significantly, or if the site is in need of significant action. If so, the site will be added to a future projects list to be included for reconstruction funding in a future budget cycle.

iii. Sediment Accumulation: The inspector or pond and greenway staff will use the bathymetry data collected to create a surface of the pond bottom. This surface will be compared with the permanent pool elevation to determine what percentage of the permanent pool area is less than 3 feet deep. All pond bathymetry and surface data will be mapped in ArcGIS.

C. MAINTENANCE

1. Vegetation Maintenance:

Vegetation maintenance is coordinated by the Greenway Vegetation Coordinator and Operations staff. Maintenance schedules are determined by the individual site, type of vegetation, presence of invasive species, and seasonal weather conditions. Vegetation maintenance operations include mowing, brushing, invasive species removal, prescribed burns, and tree clearing. If site specific needs are identified, the Greenway Vegetation Coordinator and Operations staff develop individual maintenance plans.

2. Work Orders

Specific problems identified in the field should be identified by placing a work order in CityWorks. These include missing grates, missing lids, minor erosion issues, specific vegetation issues, etc. Inspectors, or anyone performing site visits, can submit work orders via CityWorks. Large, or system-wide issues, should be brought to the attention of pond and greenway staff.

3. Sediment Removal

Ponds that are found to have less than 50 percent of the available settling capacity will be marked for dredging. Depending on pond size, this may be completed by City Operations staff, or managed as a Public

Works Contract. All ponds with less than 50 percent settling capacity will be dredged within the five year inspection schedule.

4. Significant Deficiencies

Significant deficiencies that are identified and cannot be handled by a work order will be included in larger repair projects. These may be managed by City Operations staff, or managed as a Public Works Contract.

D. PRIVATE WET DETENTION PONDS

Wet detention ponds that are privately owned and operated are relatively common in the City. Private ponds are to be inspected annually, per maintenance agreements with the City. Inspection records are submitted to the City. The pond owner will typically have a window in which to repair any deficiencies.

APPENDIX A: POND INVENTORY

APPENDIX B: INSPECTION FORMS

APPENDIX C: ASSET RATING GUIDANCE SHEET

Event	Date	Presenter
Ripple Effects- Rain Garden Workshop	2/23/2019	Maddie Dumas, Carrisa Wegner, Christal Campbell
Fox Wolf Conference - Leaf Management	3/5/2019	Phil Gaebler
Fox Wolf Conference - Flood Response	3/5/2019	Jojo Obrien
Watershed Study Strickers PIM	4/21/2019	Jojo Obrien, Lauren Streigl, Phil Gaebler, Janet Schmidt, Sally Swenson, Matt Allie, Hannah Mohelnitzky
Watershed Study Spring Harbor PIM	4/22/2019	Jojo Obrien, Lauren Streigl, Phil Gaebler, Janet Schmidt, Sally Swenson, Matt Allie, Hannah Mohelnitzky
Watershed Study Wingra West PIM	5/1/2019	Jojo Obrien, Lauren Streigl, Phil Gaebler, Janet Schmidt, Sally Swenson, Matt Allie, Hannah Mohelnitzky
Focus Group meetings	5/1/2019 - 8/1/219	Phil Gaebler, Jojo Obrien, Lauren Striegl, Caroline Burger, Janet Schmidt
Watershed Study Pheasant Branch PIM	5/4/2019	Jojo Obrien, Lauren Streigl, Phil Gaebler, Janet Schmidt, Sally Swenson, Matt Allie, Hannah Mohelnitzky
Podcast - Historic Flooding 1-yr	8/14/2019	Jojo Obrien, Phil Gaebler, Hannah Mohelnitzky
Podcast- Wait that’s my yard	8/28/2019	Greg Fries, Christy Bachmann, Hannah Mohelnitzky
Podcast- Salt: Great for French fries, not so great for fish	8/30/2019	Christal Campbell, Phil Gaebler, Hannah Mohelnitzky
Podcast - Before you redo your basement	9/23/2019	Jojo Obrien, Phil Gaebler, Hannah Mohelnitzky
Green Tier Tour	9/28/2019	Phil Gaebler, Megan Eberhart
Podcast - Mulch a better option for your leaves	10/8/2019	Jojo Obrien, Phil Gaebler, Hannah Mohelnitzky
Watershed Study Dunn's Marsh PIM	10/16/2019	Janet schmidt, Caroline Burger, Lauren Striegl, Matt Allie, Richie, Hannah Mohelnitzky
Watershed Study East Badger Mill Creek PIM	10/23/2019	Janet schmidt, Caroline Burger, Lauren Striegl, Matt Allie, Richie, Hannah Mohelnitzky
Watershed Study Pheasant Branch PIM	10/28/2019	Janet schmidt, Caroline Burger, Lauren Striegl, Matt Allie, Richie, Hannah Mohelnitzky
Edgewood College Water Presentation	10/31/2019	Phil Gaebler
Podcast- Finish your Fall To-Do	11/12/2019	Jojo Obrien,Bryan Johnson, Hannah Mohelnitzky
Podcast - Down the Drain	11/25/2019	Jay Schlimgen,Emily Jones, Hannah Mohelnitzky
Podcast - PFAS Explained Clearly	11/27/2019	Brynn Bemis, Joe Grande, Hannah Mohelnitzky
Podcast - A sweet perspective on Salty Storms	12/17/2019	Steve Schultz, Phil Gaebler, Hannah Mohelnitzky
Salt Certification Classes	4/1/2019; 10/08/2019; 10/09/2019; 12/06/2019	Fortin Consulting, Phil Gaebler.

MadisonWaterWays

News from your Stormwater Utility & Sewer Utility

cityofmadison.com/engineering/stormwater FALL, 2019

One Year Later, Watershed Data to be Shared

It's been one year since the worst flooding hit Madison and surrounding areas, and the Engineering Division has not stopped working on moving toward possible solutions. Come fall 2019, City engineers plan to continue work through focus groups intensely with communities hardest hit by flooding after a successful kickoff to its watershed studies.

A watershed is an area of land where precipitation that falls on it, drains to a common waterway, such as a stream or lake. The watershed acts like a funnel by collecting all the water within the area and channeling it to a single point.

The studies, public information meetings and focus groups were put together and made a priority after extreme flooding, particularly in the west and far west side of Madison, and large rain events in the area the past three years (2016, 2017 and 2018). The City approved a budget in November 2018 to fund the studies.

Meetings were held for the following watersheds: Strickers/Mendota, Spring Harbor, Wingra West and Madison Pheasant Branch. All meetings were well-attended. Additional meetings for the Dunn's Marsh, Greentree/McKenna and Willow Creek watersheds will also be held in the fall/winter of 2019.

City engineers used a new public information format in the first set of watershed study meetings, which included a presentation, breakout small group sessions and a question and answer panel. The Engineering Stormwater Section made the changes to the meeting format to be more available, transparent, equitable and supportive to the community, especially those impacted directly by flooding.

City of Madison engineers and a Brown and Caldwell consultant address questions from the public.

Janet Schmidt, City of Madison Engineering Division Principal Engineer, leads the stormwater section of the Engineering Division. "We are very pleased with the interest and support in our study efforts. We encourage people to become involved in learning more about their watersheds," Schmidt said. "Being able to look at watersheds in a more holistic fashion will be important as we work on flooding and green infrastructure solutions to help address the needs of the community."

The studies are expected to take over 18 months. During this time, the City will look at watersheds as a whole to make sure solving a flooding problem upstream will not push more water downstream and cause more flooding. By completing these studies, City engineers can create models of the existing infrastructure within a watershed and see where flooding may happen during different sized storms. From there, the City can simulate how solutions will impact the whole system.

City of Madison Engineering Division Engineer Phil Gaebler presents at the Madison Pheasant Branch Watershed Public Information Meeting on May 4 at Edgewood College Deming Way Campus, in Madison, Wis.

Eventually, the City plans to complete watershed studies city-wide. For now, it has prioritized the first four based on extreme flooding from summer of 2018. In all, there are eight watersheds the city will focus on in 2019.

As fall and winter approaches, flooding solutions will continue to remain a priority for the Engineering Division. To stay informed and updated, visit the City's flooding website at cityofmadison.com/flooding.

A Word from the City Engineer, Rob Phillips

Making sure stormwater infrastructure can support massive rain events is more important now than ever to City Engineering. Not only is the infrastructure part of our work a priority, the work and collaboration with our community has increasingly become a permanent lens in everything we do, especially from a stormwater perspective. We've passed the one-year anniversary of the worst floods in the City's history, but know some of our neighbors are still recovering from the devastating events.

Our team of engineers saw and heard this when they launched our first round of public information meetings for the watershed studies, which is a process of data gathering, sharing and testing possible solutions in our stormwater infrastructure. Staff presented, listened and answered the public's concerns during the meetings face-to-face. Our staff gave options for residents to better prepare their homes, educated neighborhoods on the inner workings of stormwater infrastructure and facilitated focus groups to learn more specifically personalized situations where residents are still struggling. We anticipate sharing the data and possible options for improvement in late fall, early winter. We hope the public will join us as we work together to find solutions.

Currently, portions of the stormwater system can't handle the intense rain events that are happening more often. There are many reasons for this, but most are tied to the evolution of road and storm sewer design standards. As we move forward with design solutions, it will be important to mesh traditional public works projects (pipes and roads) with green infrastructure that will be spatially diverse and located on both public and private property to reach acceptable solutions to these problems.

Thank you to everyone who helped last summer with the flooding efforts, everyone who has continued to help our City heal and everyone who has reported flooding data to our engineers as part of our watershed studies. We're all working together to make our City a better place for years to come.

RESULTS ARE IN: Study Shows Simple Raking Techniques can Reduce Phosphorus Dramatically

Did you know that one pound of dissolved phosphorus can attribute to approximately 500 lbs. of algae? Keeping leaves out of the street is a significant step to reducing the amount of total phosphorus in our lakes and groundwater. For five years, City Engineering worked with the United States Geological Survey, Wisconsin Department of Natural Resources and residents in study zones.

The study revealed that if residents change the way leaves are actively collected and removed, the total phosphorus entering lakes can be reduced by 44 percent. More specifically during the fall leaf pickup, if residents actively remove leaves from the street, they can reduce phosphorus by 80 percent in the heaviest leaf areas.

However, the key to reduce the amount of phosphorus is focusing on wet leaves. The study found dry leaves do not cause the problem; it is the leaves in the street as water washes through them. When leaves get wet from stormwater, the water dissolves the phosphorus off the leaves and creates a "leaf tea," which finds its way to groundwater and lakes.

What you can do to help protect the lakes: Rake leaves out of the street and gutter. Once back on the grass, the easiest way to manage leaves is to mow them directly into your lawn with a mulching mower.

For more information about leaf collection, drop-off sites and composting, visit **cityofmadison.com/streets.**

Don't Break the Bank before Remodeling your Basement

Before any resident pours thousands of dollars into renovating a basement, there are a few questions worth asking so the money doesn't seep into places it shouldn't.

» First: Ask and/or research about home history. If a basement is old and moist, waterproof it before finishing the remodel and have backup systems in place (backup, battery operated sump pump etc.).

» If a resident lives in a low-lying area (Isthmus, or other filled wetland), it's most likely going to have groundwater issues. It's probably unwise to finish the basement.

» If your basement has had flooding issues previously, understand the source of flooding and work on correcting it before you invest in any remodeling.

» If a sump pump is running continuously, that is a sign there is high groundwater near the home.

» Make sure there are systems in place to prevent general basement flooding. For more information about basement drainage, and how to prevent flooding, visit the cityofmadison.com/engineering website, where there's a guide dedicated to basement drainage education.

For a more detailed conversation about basement drainage, search "Everyday Engineering" in iTunes or Google Play, and click on the episode about basement remodeling.

Expanding Communication, Adding Resources: City Engineering Launches Podcast, Facebook Page

The City of Madison Engineering Division is growing its communication strategy. This means more resources to connect with residents, more collaborative conversations and more resources for the community to use and ask questions to get answers.

» The Engineering Division invites everyone in the community to "like" its Facebook page: facebook.com/CityofMadisonEngineering. From road closures, educational posts and news releases, the Engineering Division's new Facebook page is most importantly a resource for the community to connect and collaborate in an open line of communication with the Division.

» The Engineering Division also has a new podcast on Apple iTunes and Google Play. In "Everyday Engineering," Public Information Officer Hannah Mohelnitzky hosts engineers to talk about topics that impact the Madison area from an infrastructure standpoint. In just 15-20 minutes, anyone listening can learn and listen to complex topics, easily explained to help citizens make educated decisions for their homes. From flooding, public right of way homeowner responsibilities to ways to incorporate solar in an affordable way, search "Everyday Engineering" in Apple iTunes or Google Play.

» The City of Madison Engineering Division revamped the City's flooding website with new resources for any resident who wants to prepare a home before, during or after a flood event. From weekly flooding updates on lake levels to emergency information during a flooding event, click over to cityofmadison.com/flooding to see the new page and use its resources before another flooding event impacts the City.

City of Madison Engineering Public Information Officer Hannah Mohelnitzky, Engineers Jojo O'Brien and Phil Gaebler record the Division's first podcast, named "Everyday Engineering."

Green Thumb Meets Stormwater Management: Rain Gardens

A rain garden is a shallow depression in your yard planted with native flowering plants and grasses. Not only does it look beautiful and add curb appeal, it soaks up rainwater from a home's downspouts, driveway or lawn. In fact, a well-designed rain garden can absorb up to 30 percent more rainwater than a typical patch of shallow-rooted turf grass. Untreated runoff, carrying all sorts of nutrients, is absorbed into the soil instead of flowing into storm drains that lead directly to area rivers and lakes.

Some factors to consider when planting a rain garden include location, size, plant selection and soil.

» **Location:** Rain gardens should be at least ten feet away from the house so water is less likely to seep into the foundation. Avoid building over a sewer lateral or buried utilities. Call Digger's Hotline at 1-800-242-8511 before digging. Locate a garden area that will catch runoff from the roof, such as near a downspout that gets full or partial sun exposure.

» **Size:** Rain gardens are typically between 100-300 square feet in size. The depth may be about 6-8 inches deep. However, the yard's slope may dictate the need to dig deeper.

» **Soil:** After choosing a rain garden depth, identify the lawn's soil type. Soil in southern Wisconsin trends toward sandy or silty, so peat may be added to enhance absorption.

» **Plant Selection:** Nursery professionals or garden clubs can suggest plants best suited for a rain garden based on soil, light exposure and design. Garden clubs often sell native species that are best adapted to Wisconsin's climate, attract birds and pollinators, have root systems that facilitate infiltration and are hardy enough to survive drought. When choosing natives, think about height, colors and when plants will bloom.

» **Maintenance:** After planting, mulch and water every other day until plants are established. Weed as needed. Leave vegetation for the winter to provide cover and food for birds. Remove dead vegetation in spring. Any sand accumulation in the rain garden may be removed with a shovel and placed in the garbage can.

Great Resources!

» City Engineering rain garden webpage: cityofmadison.com/engineering/stormwater/raingardens

» Olbrich Botanical Gardens: Take a class or get your plant questions answered by a horticulture librarian or volunteers at 3330 Atwood Avenue. Check out www.olbrich.org for details.

» Streets and Recycling: Wood mulch for purchase at City's brush processing center, 121 E. Olin Ave., cityofmadison.com/streets/yardWaste/woodMulch.cfm

» Madison Public Library: Research and discover gardening resources at nine locations through the City of Madison and online, madisonpubliclibary.org.

Photo on the left shows a rain garden that has been excavated and is ready for planting. The excavated soil was mounded on the downslope side of the hill to capture potential overflow.
Photo on the right shows a rain garden in with native boneset, ironweed and Culver's root in full bloom.

City Seeks Complete Count for 2020 Census

by Breana Collins, Ben Zellers, City of Madison Planning Division

The 2020 Census is approaching.

The Census is a once-per-decade count of all people living in the United States that is mandated by the Constitution. The count will begin in mid-March of 2020, when most households will receive a mailed invitation to respond online or by phone. Federal law requires the Census Bureau to keep personally identifiable information confidential. The information cannot be shared with any other governmental agencies, landlords, credit agencies or anywhere else outside the Census Bureau.

The Census usually takes less than ten minutes to complete, but brings ten years of benefits. The Census informs how $675 billion of federal funds, an average of more than $2,000 per person, will be allocated for things like transportation, education, health care, housing, child care and more. The Census count is also important to ensure equal representation when drawing aldermanic districts, county board districts, state senate and assembly districts and U.S. House of Representative districts. District boundaries are based on the total population count, not the number of voters or citizens. Lack of a complete and accurate Census count can lead to underrepresentation in certain areas and a lack of funding for important community programs and infrastructure.

To find out more about what the City is doing, learn about 2020 Census events and updates, and find out about what you can do to help spread the word, please visit **cityofmadison.com/2020Census.** The City of Madison wants to ensure all residents are counted. Help shape our future by completing the Census next year!

Get Salt Certified, Minimize Salt Use

The City of Madison Engineering Division would like to encourage the community to select "salt certified" winter maintenance professionals or contractors. This fall, Madison residents can help protect fresh water resources, which can start with certification. Salt Certification is a training that teaches and encourages winter maintenance professionals to use the least amount of de-icing material necessary to keep parking lots, roads, sidewalks and driveways safe. Once the training is complete, the winter maintenance professional earns "salt certification."

If a resident hires a contractor to remove snow and ice, residents should check to see if the contractor is certified through the City of Madison's Winter Salt Certification Program. If not, residents should encourage contractors to become certified and to follow locally developed application rates. Both the list of certified applicators and upcoming training dates are available at: cityofmadison.com/live-work/sustainability/winter-salt-certification.

Being responsible with winter salt use starts when the first snow falls. Consider these practices to minimize salt use and get ahead of snow and ice removal:

» Shovel: Clear walkways and other areas before the snow turns to ice. Removing more snow manually means applying less salt and the more effective it will be.
» Sweep: Sweep excess salt from walkways and parking lots after it snows and **before** it rains to prevent salt from washing down storm drains and into local waterways.
» Scatter: A coffee mug of salt is enough to treat an entire 20-foot driveway or 10 sidewalk squares.
» Switch: Below 15 degrees Fahrenheit, switch to a different ice melter (like a blend) or sand for traction on pavement.

For a toolkit to talk with neighbors and businesses about reducing salt use, check out WI SaltWise Partnership, a coalition of municipalities and organizations from across Dane County working together to protect our lakes, streams and drinking water. Learn more: www.wisaltwise.com

CITY OF MADISON ENGINEERING DIVISION
210 MARTIN LUTHER KING JR BLVD RM 115
MADISON WI 53703

Help Wanted

Adopt-a-Median Applicants

The Adopt-A-Median Program is an opportunity for community members to maintain existing medians around Madison, reduce the cost to the City for median maintenance and improve the appearance and environment in Madison.

To apply for the program, click over to the Engineering Division's website: cityofmadison.com/engineering/adopt.cfm

CITY ENGINEERING CONTACTS

Main Office:
(608) 266-4751

Erosion Control:
(608) 267-1199

Stormwater Utility Billing:
(608) 267-1199

Sidewalk Concerns:
(608) 266-4537

Sewer Maintenance:
(608) 266-4430

STORMWATER ANNUAL REPORT INFORMATION					
	2015	**2016**	**2017**	**2018**	**2019**
Sweeping Debris (C.Y.)	40,610	24,725	26,645	37,390	46,772
Street Swept (Miles)	40,215	39,544	41,023	39,477	54,000
Sweeping Debris (Tons)	7,256	4,351	4,551	4,802	7,837
Street Sweeping Cost	$2,010,051	$2,058,087	$1,996,559	$1,985,724	$2,238,301
Leaves (Tons)	15,581	15,774	16,361	15,966	17,524
Leaf Collection Cost	$2,139,050	$1,966,863	$2,105,306	$2,256,818	$2,274,087
Yard Waste (Tons)	3,557	3,037	2,487	2,506	2,748
Yard Waste Cost	$716,854	$672,253	$800,151	$848,340	$828,646
Salt Used: January	2,552	1,632	2,069	2,012	1,806
Salt Used: February	1,571	2,357	442	1,610	5,316
Salt Used: March	756	103	2,391	416	690
Salt Used: April	0	0	711	1,546	0
Salt Used: November	656	0	0	514	1,417
Salt Used: December	902	3,496	1,025	995	813
Brine (Gallons)					144,408.75
Total Salt Used (Tons)	6,437	7,586	6,638	7,093	10,042
Sand Used: January	4,193	3,090	1,431	1,992	3,105
Sand Used: February	2,326	1,946	2,126	2,974	4,611
Sand Used: March	379	0	1,480	407	791
Sand Used: November	365	0	39	284	1,228
Sand Used: December	560	2,055	1,912	995	739
Sand Used (Tons)	7,823	7,092	6,988	6,652	10,475
Snow Removal Cost	5,305,037	5,644,562	5,067,250	5,529,683	6,571,787
Waste Oil (Gallons)	18,970	20,660	22,860	23,117	19,220