

DNR Storm Water Program Updates

Topics

- Guidance Updates
- Technical Standard Updates
- MS4 Updates



Guidance

Post-Construction Storm Water for Solar Projects

Final Guidance Available For Post-Construction Storm Water Management Options For Ground-Mounted Solar Array Areas

March 12, 2024

The Wisconsin Department of Natural Resources (DNR) has finalized guidance for [Post-Construction Storm Water Management Options for Ground-Mounted Solar Array Areas](#) in March 2024.

Where one or more acres of land are disturbed, the guidance document provides example implementation and design considerations for ground-mounted solar installation projects to meet the post-construction performance standards of ss. NR 151.122 to 151.124, Wis. Adm. Code.

This guidance identifies considerations when utilizing the vegetation under and around ground-mounted solar arrays as a storm water management practice to satisfy post-construction performance standards.



Post-Construction Modeling Guidance

DNR Storm Water Guidance Update Available For Comment

The Post-Construction Storm Water Modeling Guidance is available for review and comment until **Friday, March 1, 2024**. The draft guidance is available on the DNR's [Storm Water Publications/Guidance](#) webpage.

The Post-Construction Storm Water Modeling Guidance is being updated to clarify the establishment of numeric credit for storm water treatment and infiltration. The sections with new or substantial revisions are shaded in yellow, but the DNR will consider comments on any section of this guidance.

To comment on the guidance document:

- Submit your comments via email to DNRGuidanceDocuments@wisconsin.gov by midnight on Friday, March 1, 2024.
- Keep comments specific and directly related to this guidance document.
- You may insert your comments into the Adobe pdf document or otherwise indicate the section to which your comments refer. If you have general comments applicable to the entire guidance document, please note them as such.

After the notice period is complete, all comments will be considered. Revisions may be made to the draft document, and the final guidance document will be made available to internal and stakeholders.



Technical Standards

Dry Pond Technical Standard

- Currently in initial review
- Ready for broad review in April or May



Sand Filter

- Currently in initial review
- Ready for broad review in April or May



Zero Valent Iron (ZVI)



Enhanced Phosphorus Removal

- Two technical standards in development
 - Flow-weighted chemical addition
 - Episodic chemical addition



MS4s

URBAN SOIL HEALTH AS A STORMWATER QUALITY MANAGEMENT PRACTICE

WHY AN URBAN HEALTHY SOILS PROJECT?

- Urban/suburban soils are often highly impacted from historical uses and past land development techniques, which negatively impacts stormwater management.
- The complexity and variation in urban/suburban landscapes can limit the use of traditional and conventional stormwater treatment strategies and options.
- Healthy soils are an important component of high-functioning ecosystems, including in urban/suburban areas, and healthy soils can provide another stormwater strategy and option towards achieving broader water management goals and additional co-benefits.
- Use and adoption of an urban healthy soils strategy is currently limited by lack of knowledge, information, experiences, technical guidance, and current conditions, which can lead to a perception that healthy soils are not a viable option because it does not work, is too costly or would be difficult to maintain.

WHAT ARE THE ANTICIPATED OUTCOMES OF THE PROJECT?

- Compilation of recent research, science and practical expertise that can be used to develop a technical standard or urban soil health strategy.
- Preparation for pilot project that implements an urban health soil practice for water quality and other co-benefits.
- Framework/outline for a public education and outreach initiative to improve stakeholder and public awareness.

WHO IS LEADING THE URBAN SOIL HEALTH PROJECT, AND WHEN DOES THE PROJECT BEGIN?

- A Department of Natural Resources and Milwaukee Metropolitan Sewerage District co-lead project that will begin in May 2023 with an anticipated completion date of December 2023.

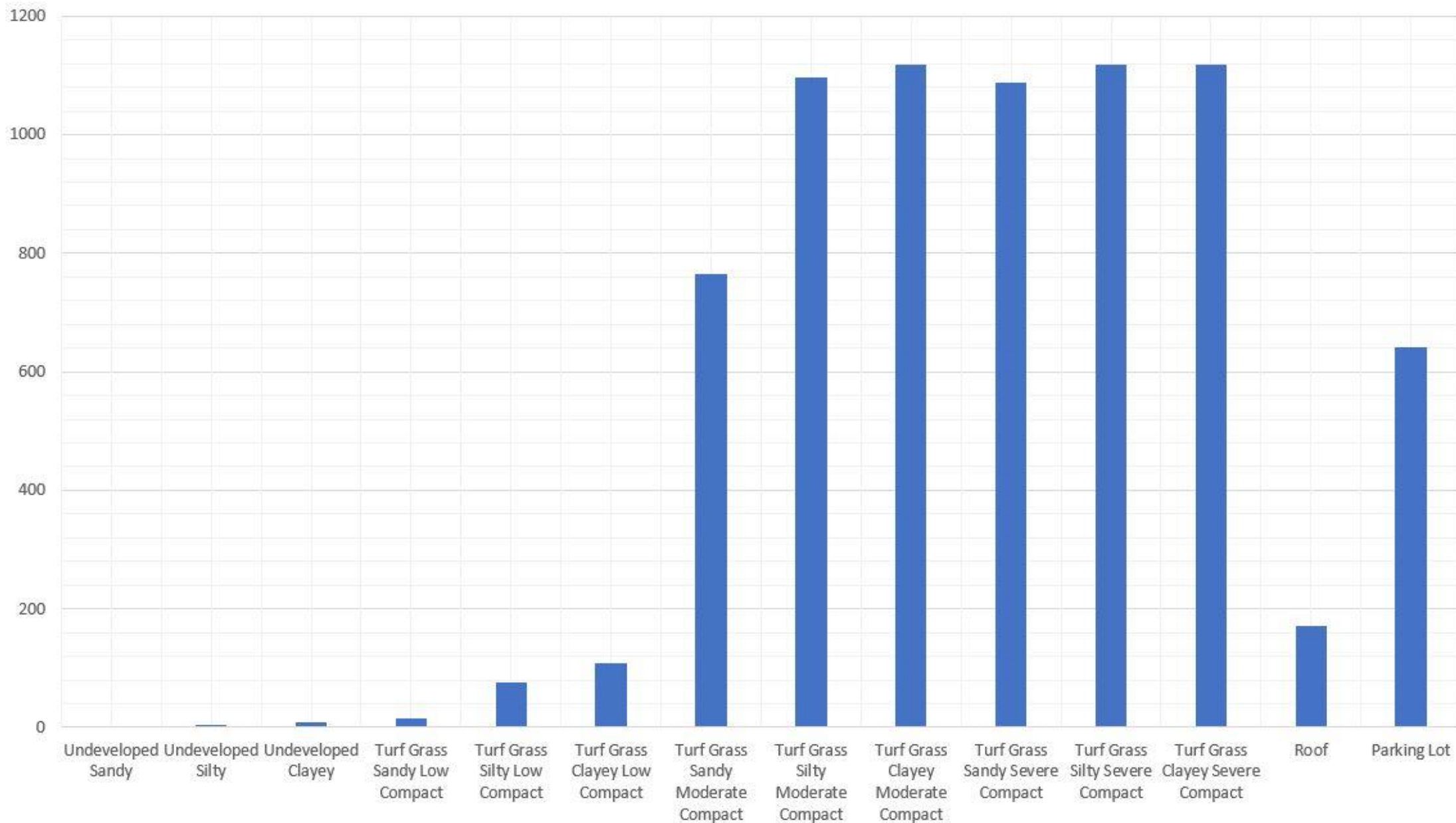
WHAT PROJECT TEAM ROLES ARE NEEDED, WHO SHOULD PARTICIPATE ON THE PROJECT TEAM, AND WHAT IS THE TIME COMMITMENT?

- The project team is looking for individuals or professionals that can serve on the core project team, serve as a technical advisor, or review and validate the deliverables.
- The project team is looking for individuals or professionals with an interest in the promotion and use of a health soils strategy, including the following professionals/individuals
 - Experience with managing soils or landscapes in an urban setting
 - Academia or research institutes with knowledge of soils and related processes
 - Non-governmental organizations or non-profits with experience delivering environmental-focused educational outreach programs and services
 - Governmental organization with experience planning or implementing water quality improvement strategies, approaches, or techniques
 - Recommendations for others?
- Monthly meetings with limited project tasks outside of the meetings.



Mike Marek, Marek Landscaping
James Jutrzonka, Blue Ribbon Organics
Phil Purpero, C.W. Purpero
John Siepmann, Siepmann Realty
Kevin Kratt, Tetra Tech
Melinda Dejewski, City of West Allis
Jake Fincher, Sweet Water
Dave Giordano, Root Pike WIN
Josh Odekirk, NRCS
Rick Nitz, NRCS
Nick Balster, UW Madison
Geoff Siemering, UW Madison
Neal O'Reilly, UW Milwaukee
Stu Schwartz, University of Maryland Baltimore County
Kristin Schultheis, MMSD
Andy Kaminski, MMSD
Taylor Tabbert, MMSD
Susan Coyle, MMSD
Ben Benninghoff, DNR
Jesse Bennett, DNR
Pete Wood, DNR

TSS Loading (lbs/acre/yr)



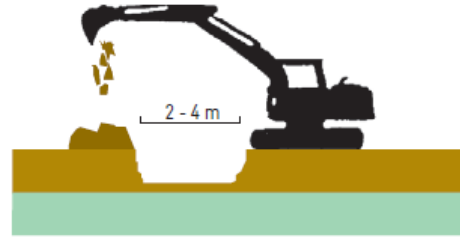
Suburban Subsoiling Euclid Middle School : Overview



Complete Cultivation Method



1. Strip top layer. This may be accomplished in two or more passes 15 to 25 cm in thickness depending on friability. Cultivate in an arc to a final working width of between 7 to 8 metres.



2. Place the spoil in front of the void. Drop material from height to further assist the break up. Large lumps may require further breaking up at this stage. Repeat (1) until final working width of between 2 to 4 metres is accomplished.



3. On completion of working width the next stage can be started. Cultivate second layer to required depth. If friable this may be broken up by simply lifting and raking the spoil. Long teeth on the bucket can assist in the breaking up process.



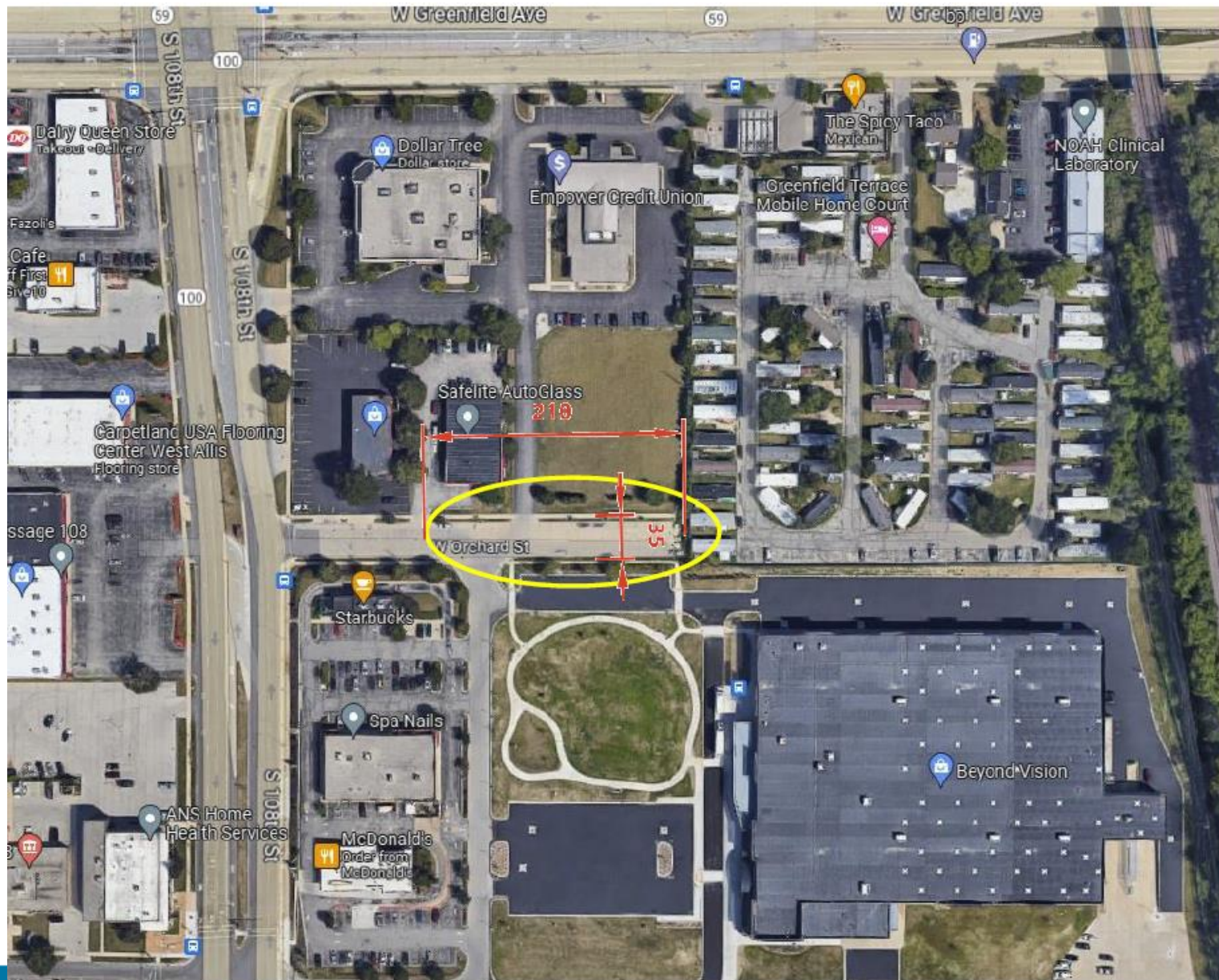
4. If material is not friable, scrape in 15 to 25 cm layers; lift and drop to assist break up. Spoil is replaced directly into the bottom of the void. Cultivate entire working length lifting spoil and dropping to increase the cultivating effect.



5. Move machine forward and pull top layer into void. Level off and move back 3 to 4 metres. Repeat (1) through (5) until strip complete.



6. The finished profile.



Long-Term Maintenance Agreement Project

Topics	Tasks
Program Support	
	Develop Maintenance Agreement Model/Template
	Develop Practice Specific Inspection/Maintenance Plan Template
	Develop Practice Specific Inspection/Maintenance Documentation Form
	Develop Practice Specific Inspection/Maintenance Outreach Materials
	Develop SW Practice Inspection Contractor List
	Develop SW Practice Maintenance Contractor List
	Identify SW Practice Inspection/Maintenance Funding Sources
Existing Approaches	
	Identify current SER MS4 Programs & Procedures (including implementation)
	Review & evaluate agreements submitted with NOIs
	Review & evaluate agreements submitted with NOTs
	Identify current funding sources for inspection & maintenance
	Develop a summary of findings
Implementation Improvement	
	Identify alternative approaches for conducting inspections
	Identify alternative approaches for conducting maintenance
	Identify alternative options for funding inspection and maintenance activities
	Develop recommendations

Post Construction Ordinance	Post Construction Ordinance - Performance Standards	Post Construction Ordinance - Long Term Maintenance	Post-Construction Written Program	LTMA Template	Inspection Procedures	Enforcement Procedures	BMP Inventory	Do they have a procedure for inspecting and maintaining private BMPs (question b.)	Private BMP Inspections (AR, question 5.c)	Enforcement (AR, question 5.g)
Yes	Yes	Yes	Yes	Yes	By Village once every 5 yrs	Inform owner with deadline for correction	Yes	Yes	0	None
Yes	Yes	Yes	Yes	Yes	By Village once per year	Work with owner	Not Found	Yes	48	2 Verbal Warnings

Chapter 275. Zoning

Article VIII. General Development Regulations

§ 275-55.1. Post-construction stormwater management.

[Amended 1-12-2016 by Ord. No. 2558]

A. Authority.

- (1) This section is adopted by the City of New Berlin under the authority granted by § 62.234, Wis. Stats. This section supersedes all provisions of an ordinance previously enacted under § 62.23, Wis. Stats., that related to stormwater management regulations. Except as otherwise specified in § 62.234, Wis. Stats., § 62.23, Wis. Stats., applies to this section and to any amendments to this section.
- (2) The provisions of this section are deemed not to limit any other lawful regulatory powers of the same governing body.
- (3) The City Common Council hereby designates the City of New Berlin to administer and enforce the provisions of this section.
- (4) The requirements of this section do not preempt more stringent stormwater management requirements that may be imposed by any of the following:
 - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under §§ 281.16 and 283.33, Wis. Stats.
 - (b) Targeted nonagricultural performance standards promulgated in rules by the Wisconsin Department of Natural Resources under § NR 151.004, Wis. Adm. Code.
 - (c) City of New Berlin approved or adopted stormwater management plans for specific areas or watersheds.

B. Findings of fact. The City Common Council finds that uncontrolled post-construction runoff has a significant impact upon water resources and the health, safety and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:

- (1) Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature.
- (2) Diminish the capacity of lakes and streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens and other urban pollutants.
- (3) Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
- (4) Reduce the quality of groundwater by increasing pollutant loading.

Privately-Owned Storm Water Facility Inspections

- Any site that contains a storm water facility (detention pond, infiltration basin, permeable pavement, etc.) shall be inspected at the frequency indicated in the site-specific long-term maintenance plan. Long-term maintenance plans are typically recorded with the county Register of Deeds prior to construction of the facility and are amended to reflected the constructed facility along with a certification by the design professional that they meet the intent of the storm water ordinance.
 - If a long-term maintenance plan does not exist for a particular storm water facility, then the facility shall be inspected at least once every year by the owner of the facility.
- An inspection report shall be completed for each inspection. Inspection reports shall be retained by the storm water facility owner for at least 5 years.
- The inspection reports shall be submitted to the Village at least once every year.
- The responsible party shall cause an inspection to be completed by a qualified professional every 5 years with a copy of this inspection report provided to the Village.
- Any citizen complaint will be investigated by Village staff with an observation of the site in question.
- Failure to perform an inspection and/or submit an inspection report to the Village by August 1st any year will result in a written notice from the Village requiring the inspection be completed and report submitted within a reasonable period of time as determined by the Village. Failure to complete the inspection and submit the inspection report within the above timelines will be considered a violation.

MS4 BMP Menu

- **What is a MS4 Best Management Practices (BMP) Menu?**
 - A list of Best Management Practices (BMPs) to MS4 Permittees which may help Permittees comply with the six minimum control measures (MCMs).
 - A tool to maintain or achieve compliance broken down by the six Minimum Control Measures (MCMs):
 - Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction, Post-Construction, and Pollution Prevention
 - Resources to fill in gaps of existing WDNR technical standards and other guidance documents.
- **Why should the WDNR develop one?**
 - Provides efficient resources for staff and customers.
 - Often sending permittee's to EPA or Minnesota's BMP Menus; but these are not specific to WI.
 - Make it easier to find existing information on WDNR's stormwater web pages.
 - The BMP menu will organize existing data and help identify areas where additional resources are needed.
- **Timeline**
 - DNR staff actively working on this project.
 - Hopeful to have this resource available by the end of the year (however, may be dependent on the type of IT work that would need to be done on the website).

MS4 TMDL Implementation Trends

- Retrofit of existing ponds (outlets, increase size or depth)
- New Ponds or biofilters
- Obtain maintenance authority for private BMPs
- Streambank stabilization
- Proprietary filters
- Pollutant trading (Watertown)

CONNECT WITH US

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"WILD WISCONSIN:
OFF THE RECORD"