

The Milwaukee Experience Green Infrastructure: Overview of Legal Issues

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Milwaukee Metropolitan Sewerage District

November 16, 2012

NACWA Developments in Law Seminar

Working to Protect Lake Michigan



Preserving The Environment •
Improving Water Quality

What is Green Infrastructure?

- No regulatory definition
- EPA Guidance
<http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm>
- EPA Policy Memos
- “Use of Green Infrastructure in NPDES Permits and Enforcement” 8/16/2007



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 16 2007

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

MEMORANDUM

SUBJECT: Use of Green Infrastructure in NPDES Permits and Enforcement

TO: Water Division Directors, Regions 1 – 10
Regional Counsel/Enforcement Coordinators, Regions 1 - 10
State NPDES Directors

FROM: Linda Boornazian, Director *Linda Boornazian*
Water Permits Division (MC 4203M)

Mark Pollins, Director *Kate Anderson*
Water Enforcement Division (MC 2243A)

Administrator Stephen Johnson entered into an agreement on April 19, 2007, with State, environmental and wastewater utility groups to formalize the use of green infrastructure¹ approaches.² As part of the agreement, the Agency committed to develop “memoranda ... that would explain how regulatory and enforcement officials should evaluate and provide appropriate credit for the use of green infrastructure in meeting Clean Water Act requirements.” One frequently encountered question is how green infrastructure practices fit into existing regulatory programs.

¹ Green Infrastructure uses natural or engineered systems – such as green roofs, rain gardens and permeable pavement – that mimic natural processes and direct stormwater to areas where it can be infiltrated, evapotranspired or re-used. Green infrastructure can provide many environmental benefits: stormwater control, air quality improvements, urban heat island mitigation, energy demand reductions, carbon sequestration, headwaters protection, etc.

² Green Infrastructure Statement of Intent,
http://www.epa.gov/npdes/pubs/gi_intentstatement.pdf.

In developing permit requirements³, permitting authorities may structure their permits, as well as guidance or criteria for stormwater plans and CSO long-term control plans, to encourage permittees to utilize green infrastructure approaches, where appropriate, in lieu of or in addition to more traditional controls.

EPA will also consider the feasibility of the use of green infrastructure as a water pollution control technology in its enforcement activities, and encourages state authorities to do likewise.

We are working on more specific guidance to help facilitate implementing this message -- e.g., model permit and enforcement consent decree language, and we are compiling examples of where green infrastructure has been incorporated into permits and enforcement mechanisms in an appropriate and effective manner.

If you have examples of permits, CSO long term control plans or settlements that utilize green infrastructure, or have any questions on this matter, please contact either of us, or have your staff contact Jenny Molloy of Water Permits Division at molloy.jennifer@epa.gov, 202 564-1939 or Gary Hudiburgh of Water Enforcement Division at hudiburgh.gary@epa.gov, 202 564-0626.

cc: Steven Neugeboren, Office of General Counsel, (MC 2355A)

³ NPDES permits require compliance with effluent limitations developed to meet technology-based requirements, as well as more stringent water quality-based requirements; the permits also contain general and special conditions, including monitoring and reporting. The discharger makes the decision on how to achieve compliance with limitations and conditions contained in an NPDES permit, and may decide to make use of green infrastructure to comply with NPDES permit terms, limitations and conditions. These permits must meet the requirements of CWA §§ 301, 302, 306, 307, 308, and 313. EPA has issued regulations to implement the NPDES program, 40 CFR Parts 122 – 125, and guidance and policy.

Proposed MMSD Discharge Permit

- Incorporates Green Infrastructure projects
- WHY? MMSD 2020 Facility Plan Findings
- Stormwater (both urban and rural, agricultural) is largest pollutant load; NOT CSO's or SSO's

GI in the permit

- *Proposed* permit term
- Section 4, Combined Sewer Overflow Requirements
- Subsection 4.10 Wet Weather Management—Green Infrastructure
- **Stormwater capture standard: Minimum 1 million gallons per year beginning in 2013 or 5 million gallons over the life of the permit**

GI Capture Volume: Permit Language

Wet Weather Management – Green Infrastructure

- Beginning in calendar year 2012 and each year thereafter for the term of this permit, the Permittee, along with its partners, will endeavor to implement green infrastructure projects and initiatives with the goal of annually capturing a minimum of 1 million gallons of storm water or cumulatively collecting 5 million gallons during the term of the permit. Projects and initiatives that may be implemented to achieve compliance with this performance standard are included in the August 1, 2011 memo subject: “Fresh Coast Solutions Best Management Practices Capture Capacity Table for Permitting Use”.

Stormwater Capture Capacity of Green Infrastructure Measures (January, 2011 revision)

| GI Measure | Gallons/unit of measurement (Capacity of area in any given storm)^D | Units | Assumptions |
|-------------------------------|--|-------------------|----------------------|
| Constructed wetlands | 805,000 | Acre | |
| Native Landscaping | 65,000 | Acre | |
| Porous Pavement | 435,600 | Acre | |
| Rain barrels | 55 | Rain Barrel | MMSD Rain Barrel |
| Cisterns ^A | 1,000 | Cistern | 1,000 Gallon Cistern |
| Green Alley/Street/ Lots | 435,600 | Acre | |
| Stormwater Trees ^B | 309 | Per Tree/Per Year | |
| Bioswale | 5 | Cu. Ft. | |
| Greenways | 245,000 | Mile | |
| Greenseams ^{TM C} | 651,702 (Hydric) | Acre | |
| | 65,000 (Non-hydric) | Acre | |
| Rain Gardens | 3 | Sq. Ft. | |
| Green Roof | 3 | Sq. Ft. | |

Types of Green Infrastructure

- Greenseams®
- Fresh Coast Green Solutions: pervious parking lots, rain barrels, rain gardens, green roofs
- Private Property I/I Program
- Newly constructed wetlands
- Kinnickinnic River Wet Weather Management Project
- Deconstruction of homes in flood plain
- Toilet rebate program
- Low flow shower heads

December 20, 2011

Determining the Potential of Green Infrastructure to Reduce Overflows in Milwaukee



MMSD Contract No: M03002P01
MMSD File Code: M009PE000.P7400

Prepared for:



Preserving The Environment •
Improving Water Quality

Milwaukee Metropolitan Sewerage District
260 W Seeboth Street
Milwaukee, WI 53204

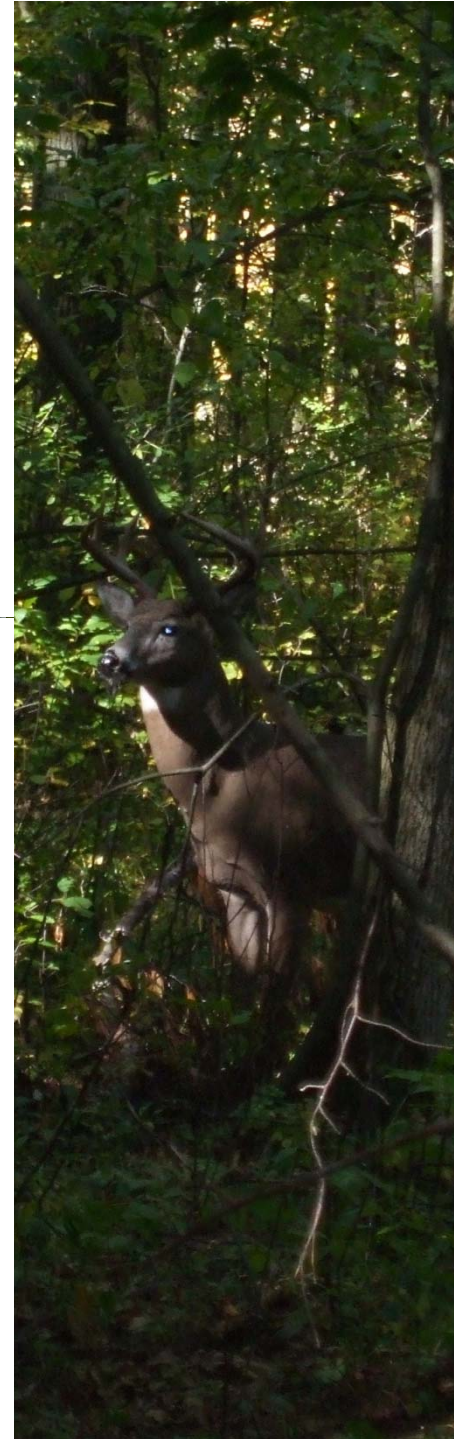


Prepared by:
2020 Facilities Plan Team:

Brown
Caldwell

HNTB

Tt
TETRA TECH



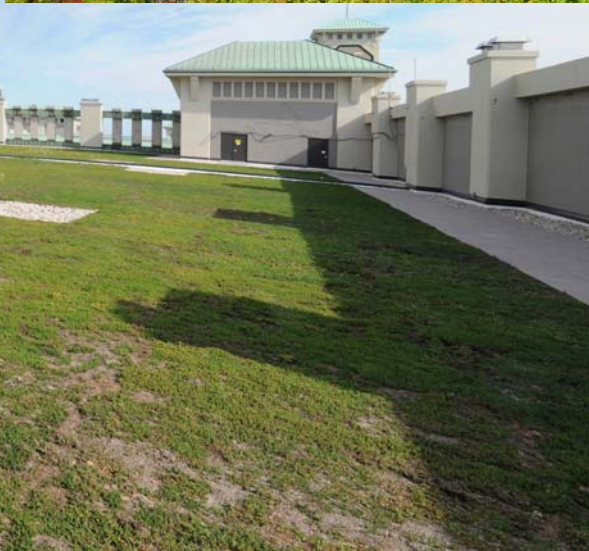
Rain Gardens



More than **26,700** Plants Sold Since 2006



Green Roofs



5.9
a6ires
2003

mmms Rain barrels



More than
17,000
SOLD
Since 2002



measuring greater milwaukee's future...
one drop at a time.

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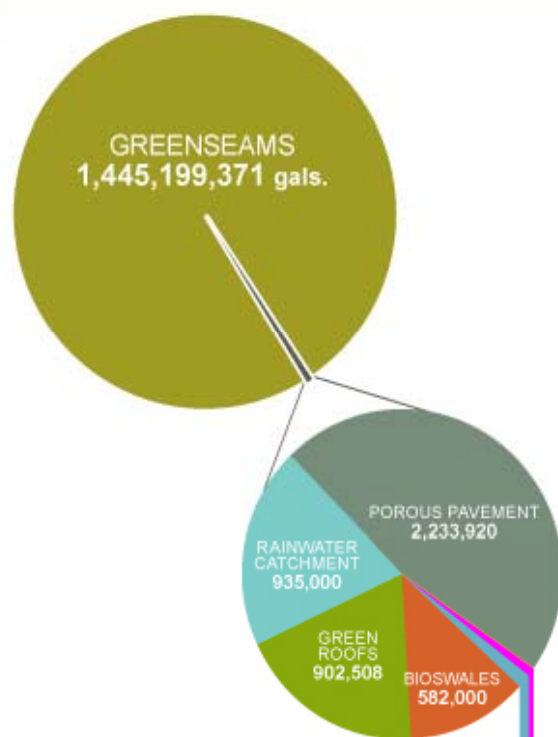
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H2OCapture

Our region's green infrastructure

Our Greenseams program captures a significant amount of stormwater every time it rains. Besides Greenseams, 10 other green infrastructure strategies help protect basements, sewers and area waterways every time it rains.

[Learn More](#)



Learn How To Capture Stormwater

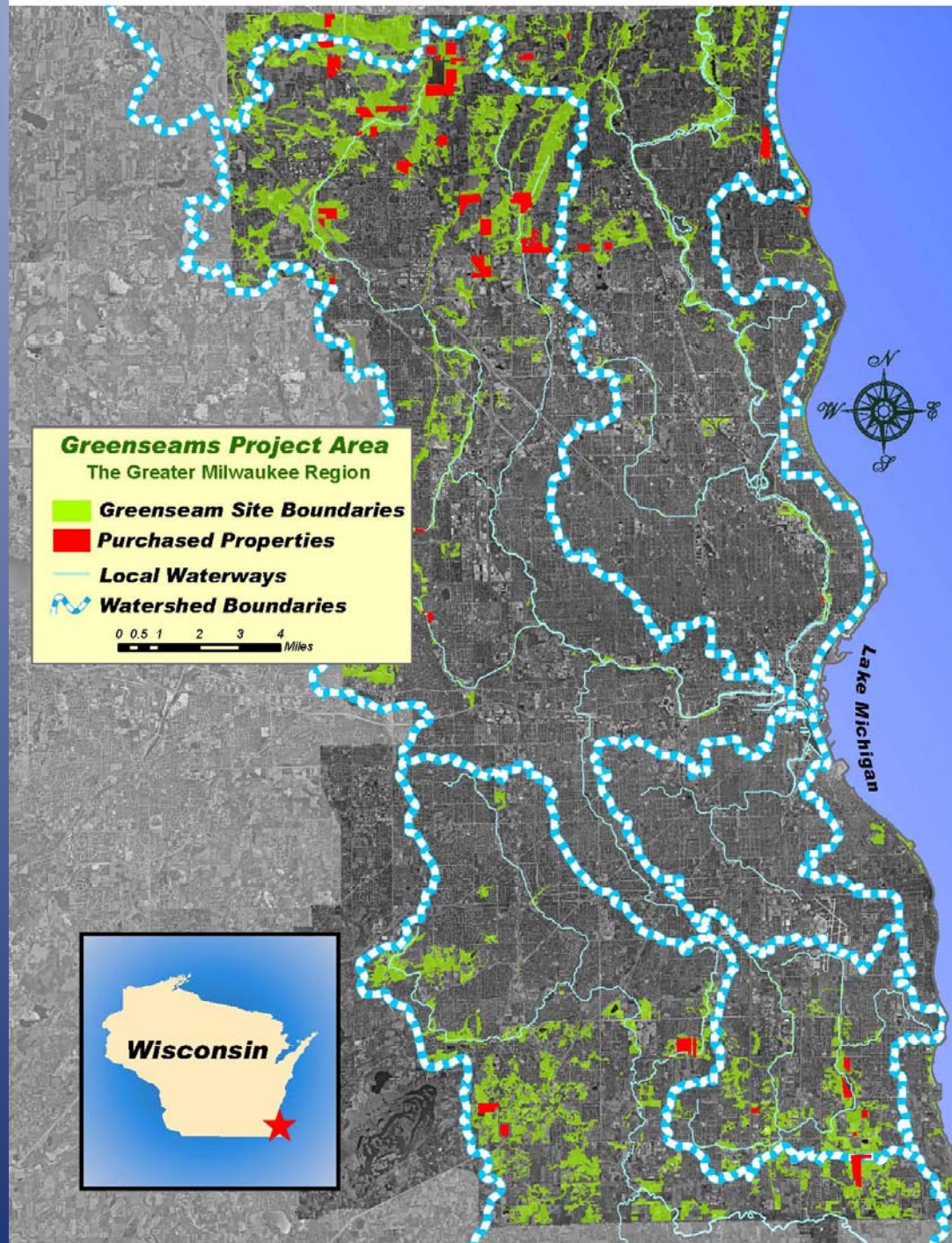
Do you want to reduce stormwater pollution, conserve water and save money?

Green infrastructure allows us to collect and infiltrate stormwater by keeping it out of sewers and waterways, reducing flooding and basement back-ups. It can be as simple as connecting a rain barrel to your home or planting native vegetation.

Read more in our **Learn** section about how you can use green infrastructure to capture stormwater.

Greenseams®

- Preserves critical flood plain areas
- Voluntary purchases of undeveloped properties
- Space along streams, shorelines and wetlands
- Total acreage: 2,473 (84 parcels)
- The Conservation Fund since 2001



Grant/Funding Partners

- Wisconsin Coastal Management Program
- Wisconsin Knowles Nelson Stewardship Fund
- U.S. Fish and Wildlife Service
- Fund for Lake Michigan
- Local Land Trusts
- Local Municipalities

Types of acquisitions

1. Transfer of Fee Simple to MMSD
2. Transfer of Fee Simple to MMSD and subsequent transfer to local municipality or land trust subject to MMSD Permanent Conservation Easement
3. MMSD obtains Permanent Conservation Easement with title remaining with original owners

Conservation Easement Key Terms

- Uniform Conservation Easement Act
- Sec. 700.40, Wisconsin Statutes
- Grantee honors intentions of Grantor to protect in perpetuity the Conservation Values of the Property
- Prohibited Uses: no subdivision, no commercial or industrial use, no buildings other than trails, no disturbance of trees

Conservation Easement Key Terms

Prohibited Uses

- Property may not be used to mitigate upstream development.
- No dumping; no motorized vehicles; no placement of advertising signs or billboards; no construction of ponds or alteration of watercourses; no use for agricultural purposes, including grazing
- No placement of fence on or around Property

Conservation Easement Key Terms

- Grantee Rights: To enter at reasonable times; to prevent any activity inconsistent with Conservation Purpose
- Grantor Reserved Rights: Vary with Property
- Example: To allow a snowmobile trail through eastern half of the Property
- Grantor retains all responsibilities and bears all costs related to ownership, upkeep and maintenance of Property.

Green Infrastructure Lessons Learned

- Support Green Infrastructure with Watershed Planning; incorporate into your permit
- Partner with Grant Agencies
- Develop a Metric
- Maintenance of Green Infrastructure
- Public Education
- Check out www.mmsd.com