

Brown Caldwell

City of Gladstone

Gladstone's NPDES and TMDL Requirements

February 23 | 2016



Acronyms

BMP – Best Management Practice

MEP – Maximum Extent Practicable

MS4 – Municipal Separate Storm Sewer System

NPDES – National Pollutant Discharge Elimination System

SWMP – Stormwater Management Plan

TMDL – Total Maximum Daily Load

Agenda

- Stormwater Quality Issues
- Stormwater Regulations
- Gladstone's Stormwater Permit and Stormwater Program
- Where are we now?
 - Planning
 - Implementation

Goals

- Understand why stormwater can be a problem for water quality.
- Identify stormwater pollution sources.
- Understand what the City is required to do for stormwater.
- Discuss what has been done to date.
- Discuss what program gaps exist.

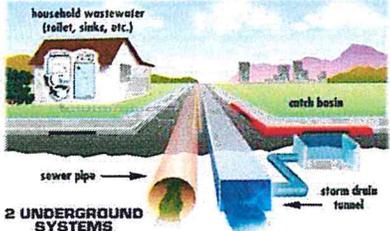
What is Stormwater?

Water Quality Issues

Brown Caldwell

What is Stormwater Runoff?

Impervious surfaces such as roofs, roads, parking lots and sidewalks prevent rainfall from soaking into the ground or being taken up by vegetation.



2 UNDERGROUND SYSTEMS

Where Does Stormwater Go?



- Surface Waters or Underground
 - Gutters, catchbasins, pipes, outfalls
 - Ditches, open channels
 - Streams and Rivers
- Pollutants on ground conveyed via stormwater and enter natural system
- No end of pipe treatment system (treatment plant)

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Water Quality Problems with Stormwater

- Pollutants captured and carried by runoff include:
 - sediment,
 - nutrients,
 - pesticides,
 - oil & grease,
 - metals,
 - bacteria, and
 - litter.



Water Quality Problems with Stormwater

- Increased Volume of Runoff is a Problem Too
 - Higher flows and volumes can lead to flooding (due to pipe capacity issues) and the erosion of streambanks which impacts property, habitat, and water quality.



Stormwater Regulations

Regulatory Background (Clean Water Act, TMDLs, NPDES)

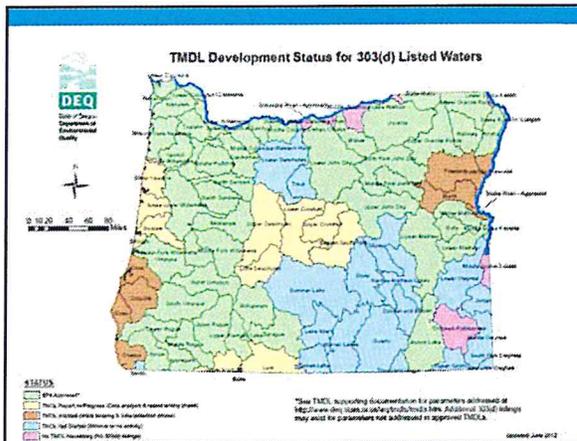


Clean Water Act

- Enacted in 1972
- Achieve the goal of restoring and maintaining the "chemical, physical and biological integrity of the nations waters".
- EPA was directed to administer programs towards achieving goals.
 1. Implement water quality standards (TMDLs)
 2. Regulate the discharge of pollutants (NPDES Permits)

Total Maximum Daily Load (TMDL) Program

- Water quality standards established by DEQ to protect established beneficial uses (recreation, human health, aquatic health).
- If water quality standards are exceeded, the water body is placed on a 303(d) list and a TMDL must be developed.
- TMDL programs establish the allowable pollutant load a water body can receive without exceeding standards.
- The allowable load is distributed/allocated among the various dischargers/jurisdictions (Designated Management Agencies [DMAs]).



Gladstone TMDL Requirements

- TMDL Watersheds – Lower Willamette River and Clackamas River
- TMDL Parameters
 - Temperature
 - Mercury
 - Bacteria
- TMDL Implementation Requirements
 - Gladstone TMDL Implementation Plan (2008) for Temperature
 - NPDES MS4 Permit for Bacteria
 - DEQ is still evaluating mercury

NPDES Permitting Program

- CWA Section 402 – Permits for discharges/point sources (National Pollutant Discharge Elimination System Permits)
 - Industries
 - Wastewater treatment plants
- CWA Section 404 – Permits for the discharge of dredged or fill materials into waters or wetlands.
- 1987 Water Quality Act
 - Expanded permitting to non-point sources (stormwater runoff)
 - Municipal Separate Storm Sewers (MS4s)
 - Construction site runoff
 - General industrial categories (SIC code)

NPDES MS4 Permitting Program

- Early 1990s–Municipalities with >100,000 in population were required to get Phase I NPDES MS4 permits for runoff from their municipal separate storm sewer systems (MS4s).
- Early 2000s – Municipalities with > 10,000 in population were required to get Phase II NPDES MS4 permits

Gladstone’s Stormwater Permit

- Gladstone received a Phase I NPDES MS4 permit for municipal stormwater discharges in 1995.
 - Permit issued by DEQ.
 - Co-permittee with Clackamas County and other cities.
 - Permit reissued in 2012.
 - 5-year implementation term
 - Permit requires annual reporting



Gladstone's Stormwater Program

- Gladstone uses a Stormwater Management Plan (SWMP) to document permit compliance.
 - SWMP prepared in 2012.
 - SWMP includes best management practices (BMPs) or activities to comply with permit requirements.
 - BMPs include:
 - Operational Activities
 - Planning Activities
 - Maintenance Activities
 - Monitoring Activities
 - Reporting Activities

Gladstone's Stormwater Permit and Program

Requirements of the NPDES MS4 Program



SWMP Requirements – What Does the City have to do?

#1: Illicit Discharge Detention and Elimination

- Inspect outfalls for non-allowable discharges.
- Implement spill response activities.
- Respond and document public complaints.
- Conduct enforcement response procedures and follow-up time frames.
- Develop standard operating procedures with pollutant screening action levels.
- Maintain and update maps of outfalls.



Responsibility	Consultant	Maintenance Staff	Administration	Other
IDDE		<input checked="" type="radio"/>	<input checked="" type="radio"/>	

SWMP Requirements – What Does the City have to do?

#2: Industrial and Commercial Development

- Identify high pollutant generating businesses in the community.
- Conduct stormwater inspections of high-pollutant generating facilities with a business inspection program.
- Screen businesses to see if they need a separate permit from DEQ.



Responsibility	Consultant	Maintenance Staff	Administration	Other
Industrial/Commercial		<input checked="" type="radio"/>	<input checked="" type="radio"/>	

SWMP Requirements – What Does the City have to do?

#3: Construction Site Runoff

- Maintain IGA with Clackamas County to require erosion control permits for developments greater than 1,000 sf and review erosion control plans.
- Work with Clackamas County to conduct site inspections.
- Respond to enforcement needs per Clackamas County's inspection results.
- Inspect sites permitted by DEQ.



Responsibility	Consultant	Maintenance Staff	Administration	Other
Erosion Control		<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

SWMP Requirements – What Does the City have to do?

#4: Education and Outreach

- Provide public education and outreach materials via website and news letters.
- Provide education to construction site operators.
- Participate in intergovernmental coordination efforts.
- Sponsor volunteer catch basin marking.
- Provide education on private stormwater facility maintenance.
- Provide funding for Regional Coalition of Clean Rivers and Streams.
- Train municipal employees



Responsibility	Consultant	Maintenance Staff	Administration	Other
Public Education	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

SWMP Requirements – What Does the City have to do?

#5: Post Construction Stormwater Control

- Implement current stormwater design standards to address water quality.
- Maintain IGA with Clackamas County and Sisul Engineering to conduct stormwater plan review on the City's behalf.
- Revise the design standards and code language related to design storms and stormwater treatment facilities.
- Prioritize low-impact development practices.
- Conduct inspections of post-construction stormwater treatment systems.



Responsibility	Consultant	Maintenance Staff	Administration	Other
Post-Construction	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

SWMP Requirements – What Does the City have to do?

#6: Pollution Prevention for Municipal Operations

- Street sweep a minimum of four times per year.
- Provide curbside leaf pick-up.
- Require OSHA certification for employees that apply pesticides/ fertilizers.
- Maintain IGA with Clackamas County to conduct I&I investigations as necessary.
- Implement a program to control the release of materials related to fire-fighting training and activities.
- Reduce the impact of stormwater runoff from municipal facilities. Implement controls to limit seepage from the sanitary sewer system into the MS4.



Responsibility	Consultant	Maintenance Staff	Administration	Other
Pollution Prevention	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

SWMP Requirements – What Does the City have to do?

#7: Structural Stormwater Control O&M

- Conduct inspections of the stormwater conveyance components annually.
- Require maintenance agreements for private water quality facilities installed per design standards.
- Conduct inspections and maintenance of public water quality facilities.
- Conduct mapping of public water quality facilities.
- Implement maintenance program for private water quality facilities.
 - Inventory and mapping
 - Inspections
 - Enforcement



Responsibility	Consultant	Maintenance Staff	Administration	Other
Stormwater O&M	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

SWMP Requirements – What Does the City have to do?

#8: Other

- Conduct Water Quality Monitoring (Annually)
- Complete a Stormwater Master Plan (1/1/14)
- Identify and Implement a Stormwater Retrofit (7/1/15)
- Conduct a Hydromodification Assessment (7/1/15)
- Conduct Annual Reporting (Annually)
- Conduct Pollutant Load Evaluation and Trends Analysis (11/1/15)
- Reapply for the NPDES MS4 permit (September 2016)
- Comply with TMDL Requirements (Annually)



Responsibility	Consultant	Maintenance Staff	Administration	Other
Other	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Stormwater Program Status

Where are we now?



What has been completed to date?

- Stormwater Master Plan (Adopted 11/2015)
 - Systemwide Mapping
 - CIP Development/ Retrofit Evaluation
 - Stormwater Utility Rate Evaluation



What has been completed to date?

- Hydromodification Assessment (Submitted August 2015)
 - Stream Evaluation
 - Risk Assessment
 - Strategy Development
- Pollutant Loads Analysis (Submitted 2/1/2016)
 - Map known stormwater treatment systems
 - Evaluate pollutant load reduction
 - Compare to TMDL requirements



What has been completed to date?

- Annual Reporting (due November 1 each year)*
 - Monitoring data
 - Status of implementing BMPs
 - Adaptive management
 - Expenditures
 - Changes to permit area
 - Estimate of total new and replaced impervious area
 - Enforcement activities

* Gladstone requested an extension to submit this year's annual report by 2/1/16.

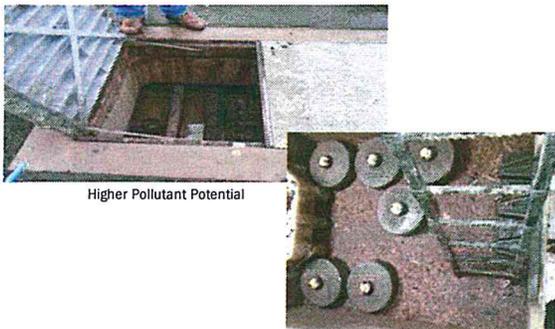
Observed Program Implementation Gaps

- Based on review of information for annual reporting
 - #1 Illicit Discharge Detection and Elimination
 - No tracking of outfall inspections.
 - #2 Industrial & Commercial Facilities
 - Active screening of businesses not occurring in conjunction with SOP
 - No inspection schedule is adhered to
 - #3 Construction Site Runoff Control
 - Operating under an expired IGA with CCSD #1
 - Code language is out of date and inconsistent with current practices
 - No tracking of city staff attendance at preconstruction conferences

Observed Program Implementation Gaps

- Based on review of information for annual reporting
 - #4 Public Education and Outreach
 - Targeted outreach information (specific to stormwater) not routinely disseminated.
 - No tracking of trainings or meeting attendance.
 - #6 Post-construction Site Runoff
 - Code language not updated per current requirements
 - Stormwater requirements not consistently implemented via Clackamas land use review and City development review consultant
 - Difficulty in implementation development permitting process
 - #7 Pollution Prevention
 - No routine maintenance schedule (catch basin cleaning, street sweeping)
 - Limited tracking of stormwater treatment facility installations and ongoing maintenance
 - No implementation of the City's Stormwater Pollution Prevention Plan for municipal operations

Clean Stormwater Facilities Regularly



Current Program Limitation

- Limited number of staff dedicated to stormwater infrastructure maintenance
- A reactive (not proactive) approach to stormwater planning and management
- No dedicated fund to manage stormwater program or implement stormwater improvements (CIPs)
- No system asset management and digital tracking of asset information
- Outdated municipal code and design standards (developers don't know what to do)
- Confusing development review process with limited engagement from city staff

Penalties:

ORS 468.140 Civil Penalties: DEQ may impose a penalty of up to \$10,000 per day for violation of a term, condition, or requirement of a permit.

40 CFR 122.41(a): Any person who violates any permit condition, term, or requirement may be subject to a federal civil penalty not to exceed \$32,500 per day for each violation.

ORS 468.943 and 40 CFR 122.41(a): Water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000 or imprisonment for not more than one year, or both.

ORS 468.946: A person who knowingly discharges is subject to a felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison.

40 CFR 122.41(a): A person who knowingly discharges is subject to a federal civil penalty not to exceed \$100,000, and up to 6 years in prison.

Next Steps

- Permit Renewal Application
 - Due every five years – 9/16/2016:
 - SWMP changes
 - Pollutant loads estimate
 - TMDL Benchmarks
 - Adaptive management
 - MEP analysis
 - Maps
 - Updates to monitoring plan
 - Service area expansions
 - Fiscal evaluation

Wrap Up/ Questions?



February 16, 2016

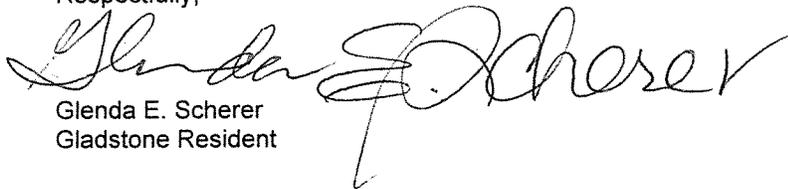
Dear Gladstone City Council,

With Mayor Jacobellis's recent resignation, our city government has a vacancy. At the City Council meeting on February 8, our City Attorney advised City Council that the Gladstone City Charter specified that the vacancy was to be filled by appointment. By charter, it is the city council's responsibility and right to appoint an individual and fill that vacancy. The City Attorney also stated the council might be able to take the interpretation that the vacancy could remain vacant until filled by election. I urge the council to fill the vacancy, as that action that would support staying true to our city charter.

If the council opted to not fill the vacancy, the city council in effect would be garnering more concentrated power for each member. Instead of being one of seven voting on any given issue, they would become one of six. In addition, it would make it more challenging to pass resolutions. From a mathematical perspective, it would require a 66% support of a measure as opposed to 57% support that exists under the charter. Every vote that ends up in a tie, a three/three split, would be a NO vote. There is much work to be done in our city, so we cannot afford to slow the process of government by allowing this vacancy to exist.

Our city council government was created and designed to function and operate with a full council, six councilors and one mayor. This designated membership number, 7 allows for diversity of perspective and yet encourages functionality of government. I urge the City Council to start and complete that process swiftly, so that the Gladstone City Council can get on with the goal of making Gladstone the best place to live.

Respectfully,

A handwritten signature in black ink, appearing to read "Glenda E. Scherer". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Glenda E. Scherer
Gladstone Resident