

Oregon City Commission Meeting

An Overview of the City's Municipal Stormwater Permit

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Agenda

1. Overview of stormwater quality issues.
2. Recap of MS4 NPDES permit requirements.
3. New directions from EPA.
4. New permit requirements.
5. Additional resources required.

1. Overview of Stormwater Quality Issues

- Impervious surfaces prevent stormwater from soaking into the ground or being taken up by vegetation.
- Pollutants are captured and carried by runoff, including:
 - Sediment
 - Pesticides
 - Metals
 - Litter
 - Nutrients
 - Oil & Grease
 - Bacteria

Runoff from Impervious Surfaces:
Roofs
Roads
Parking lots
Sidewalks



1. Overview of Stormwater Quality Issues

- Higher flows cause erosion of streambanks.
- Impacts to property, habitat, and water quality.



1. Overview of Stormwater Quality Issues

- Water quality standards have been exceeded locally in the Willamette River:
 - Bacteria
 - Mercury
 - Temperature
- For Oregon City, TMDLs (Total Maximum Daily Loads) have been established for the Willamette River and its tributaries.

2. Recap of Permit Requirements

- Early 1990s
 - Municipalities with >100,000 in population were required to get Phase I NPDES permits for runoff from their municipal separate storm sewer systems (MS4s).
- Applied to six permit areas representing approximately 33 jurisdictions in Oregon.
 - Gresham
 - Eugene
 - Salem
 - Portland
 - Clackamas County
 - Clean Water Services



2. Recap of Permit Requirements

- The central element of the permit is a stormwater management plan (SWMP).
- SWMPs are required to include specific categories of activities/practices.
 - Objective is to reduce the discharge of pollutants to the “maximum extent practicable” (MEP).
- Sampling of stormwater runoff is also required.



2. Recap of Permit Requirements

Oregon City MS4 NPDES Permit History

■ 1991-1993 (Permit Application)

- SWMP Development
- Monitoring implementation.

■ 1995–2000 (First Permit)

- SWMP implementation.
- Monitoring implementation.

■ 2004-2009 (Second Permit)

- Updated SWMP implementation.
- Updated monitoring plan and implementation.
- New requirement to quantify pollutant loads.

■ 2012-2017 (Third Permit)

- Updated SWMP implementation.
- Updated monitoring plan and implementation.
- New/additional requirements.



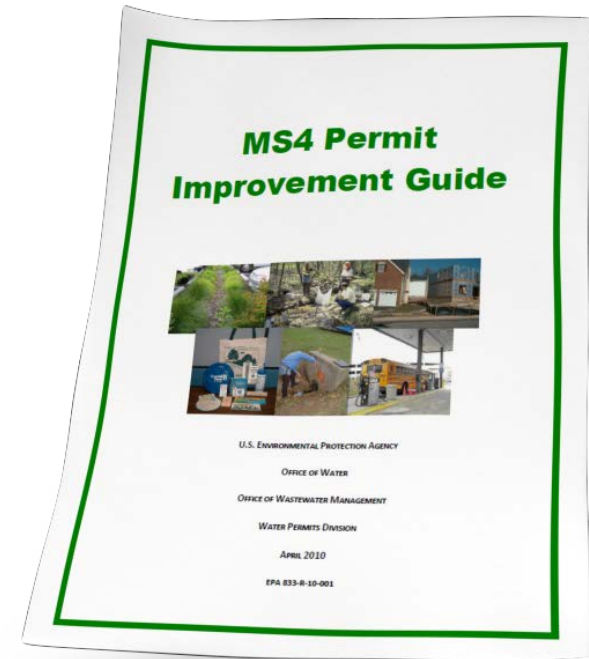
2. Recap of Permit Requirements

Oregon City Activities to Date:

- General SWMP categories:
 - public education and outreach
 - public involvement
 - illicit discharges detection and elimination
 - industrial and commercial inspections
 - municipal operations
 - construction site erosion control
 - water quality standards for new development
 - private water quality facility maintenance
- Monitoring
- Annual reporting
- Ongoing adaptive management

3. New Directions from EPA

- Permit provisions should be clear, specific, measurable and enforceable.
 - more specific measurable goals
 - tracking measures
- Permits should include specific requirements to control stormwater discharges from new development and redevelopment.
 - volume reduction
 - low impact development
 - flow duration/hydromodification
- Requirement for MS4s to address stormwater discharges in areas of existing development through retrofits.



3. New Directions from EPA

- Assess impacts from hydromodification.
- Enhance public and private water quality facility maintenance programs.
- Augment monitoring programs.
 - pesticides, TMDL parameters, biological, geomorphology, etc.
- Conduct program audits
 - The Clackamas permit is next – likely this summer.



4. New Requirements in the Permit

General Summary

- Continue with ongoing SWMP activities/practices.
- Document programs and activities in standard operating procedures.
- Increase frequency and coverage of inspections and maintenance.
- Document enforcement response procedures.



4. New Requirements in the Permit

Water Quality Standards for New Development

- Previous Requirement:
 - Require new development to address water quality.
- New Requirements:
 - Optimize on-site retention of runoff.
 - Target pre-development hydrology.
 - Minimize runoff volumes.
 - Prioritize low-impact development (LID) practices.
- New City Obligations:
 - Revise the City's stormwater design standards, codes, and design manual.
 - Implement a program for off-site mitigation for development activities that can not meet the new post-construction requirements.



4. New Requirements in the Permit

Monitoring

- Oregon City's Existing Program
 - Participating in regional monitoring program with other Clackamas County co-permittees.
 - Instream Sampling – Oregon City collects samples from 6 of the 23 regional sites.
 - Outfall Sampling – Oregon City collects samples from 2 of the regional 11 sites.
- New Additional Requirements
 - Report on runoff flow rates.
 - Conduct pesticide monitoring.
 - Conduct mercury monitoring.
 - Conduct or participate in biological monitoring.



4. New Requirements in the Permit

New Element - Hydromodification Assessment

- Collect relevant data and information.
- Develop strategies to address data gaps.
- Identify strategies to reduce hydromodification.
- Develop approaches to address hydromodification.



4. New Requirements in the Permit

New Element - Retrofit Assessment

- Develop a plan to identify and prioritize retrofits of the existing system to address water quality.
 - Identify high priority retrofit areas.
 - Identify preferred retrofit measures.
 - Develop a retrofit priority list.
 - Develop a timeline and cost estimate for constructing retrofits.
- Identify one retrofit for construction and initiate construction.

4. New Requirements in the Permit

New Element – Evaluate Ability and Feasibility of Achieving Standards

- What is the best that could be achieved through available practices?
- What would that cost?
- Is it feasible and over what timeframe?

New Element - Adaptive Management Process

- Submit a process for conducting adaptive management.

4. New Requirements in the Permit

Upcoming Compliance Deadlines:

- 2013
 - Industrial/Commercial Inspection Program.
 - Municipal Facilities Inventory and Stormwater Management Strategies.
 - Implement Inspection Program for Private Water Quality Facilities.
- 2014
 - Identify a retrofit project for construction.
 - Update standards for new development and develop an associated stormwater management manual.
 - Update enforcement response procedures for Erosion Control.

4. New Requirements in the Permit

Upcoming Compliance Deadlines (continued):

- 2015
 - Evaluate effectiveness of public education program.
 - Develop a hydromodification assessment.
 - Develop a retrofit plan.
 - Submit pollutant load reduction evaluation.
 - Submit WLA Attainment Assessment.
 - Conduct 303(d) pollutant evaluation.
- 2016
 - Submit a permit renewal application.
 - Submit TMDL benchmarks.
- 2017
 - Initiate construction of retrofit project.
 - Update the City's stormwater master plan.

5. Additional Resources Required

Permit Requirement	\$	Staff	CIP	Training
IDDE	○	○		○
Industrial/Commercial	○	●		●
Construction Site Runoff		○		○
Education and Outreach	●	●		●
Public Involvement		○		
Post-Construction	●	●		●
Pollution Prevention	●	●	●	●
O&M		●		●
Hydromodification Assessment	●	●		
Retrofit Evaluation	●	●	●	
Monitoring	●	●		○
TMDL Evaluation	●	●		
Adaptive Management	○	○		○

Relative Scale:

Black = Significant

White = Not as Significant

5. Additional Resources Required

Estimate of Additional Annual Resources Required:

- Costs*: \$75,000 - \$180,000
- Staff: \$55,000
- CIP: \$50,000 - \$250,000 (Years 4-5 only)
- Training: \$5,000 (Years 2-5)

* Costs are for external services for development of plans, studies, and lab costs.

Questions?

