OREGON CITY

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M E M O R A N D U M

TO:	Planning Commission
C:	Laura Terway, Community Development Director
	John M. Lewis, Public Works Director
FROM:	Aleta Froman-Goodrich, P.E.
SUBJECT:	City of Oregon City Stormwater Management Standards and Requirements for New Development to Ensure Water Quality Protection
DATE:	April 25, 2018
PLANNING FILE:	2018 LUBA Remand

This memorandum is intended to provide information about the City of Oregon City's stormwater management requirements as it applies to new development and how these requirements ensure for water quality protection to the downstream waterways.

The City of Oregon City Stormwater Management Standards and National Pollutant Discharge Elimination System (NPDES) MS4 Permit Obligations Related to Water Quality Protection for Newell Canyon

Oregon City is a co-permittee on the Clackamas County NPDES MS4 Phase I Permit, which governs municipal discharges of stormwater to waters of the state. The NPDES MS4 Phase I Permit requires the City to implement a Stormwater Management Plan (SWMP) that meets minimum performance measures. The City's current SWMP includes the following programs:

- Illicit Discharge Detection and Elimination Program (OCMC 8.08)
- Industrial and Commercial Facilities Screening Program (OCMC 8.08)
- Construction Site Runoff Control Program (OCMC 17.47)
- Education and Outreach, including staff training
- Public Involvement and Participation
- Post Construction Site Runoff program (OCMC 13.12)
- Pollution Prevention Measures for Municipal Operations
- Stormwater Management Facilities Operations and Maintenance (OCMC 13.12)

The City produces an annual report to track activities related to each of these SWMP elements and to document compliance with the permit requirements.
https://www.orcity.org/publicworks/npdes-annual-reports

The City also conducts water quality monitoring, in conjunction with other Clackamas County co-permittees and reports water quality monitoring results to DEQ.

Erosion Problems

One focus of water quality protection is to prevent and reduce erosion of natural systems. Elevated levels of erosion contribute to sediment accumulation, turbidity, and decreased water quality in creeks and rivers. Erosion can also destabilize channel banks. In 2015, the NPDES MS4 permit required the City to conduct a hydromodification assessment to evaluate this issue in Oregon City's streams.

The City's Hydromodification Study – completed by Brown and Caldwell in June 2015 – looked specifically at channel stability and erosion. The 2015 study targeted Abernethy Creek tributaries, including Newell Canyon. The field investigations showed that stream channels in Oregon City show signs of hydromodification (erosion, incision, widening).

In 2015, the City adopted Ordinance No. 15-1006 to update the stormwater code (OCMC 13.12) and adopt the current *Stormwater and Grading Design Standards*, which are now in line with best practices to prevent hydromodification. The updated design standards require new development and redevelopment to put in controls to reduce erosive stormwater flows. The aim is to prevent any further erosion caused from development to occur instreams including Newell Canyon.

Other recommendations resulting from the Hydromodification Study are listed in the following table.

Recommendation from 2015 Hydromodification Study		Action
Projects	• Implement key projects to address in-stream hydromodification problems, such as significant erosion at stormwater outfalls and culvert constrictions.	• The City engaged ODOT to complete a stabilization project at Highway 213/Beavercreek Road in 2017. • The City is developing a design to stabilize the "Scatter Canyon" tributary at Mountain View Cemetery.
Evaluation	• Perform additional field assessments to evaluate impacts on Beaver Creek tributaries (south portion of the City). • Continue to monitor problem areas through annual inspections and documentation of changes in stream channels.	• The City completed additional field investigations in 2016 as part of the current Stormwater Master Plan project. • The City performs annual inspections of erosion problem areas.

Planning	• Implement a stormwater Retrofit Plan to increase stormwater mitigation in previously developed areas. • Develop a Stormwater Master Plan that includes in-stream projects to address problem areas. • Prioritize locations for potential future property acquisition along stream corridors.	• The City's current retrofit plan as developed in July 2015. • The City is currently developing the Stormwater Master Plan, including in-stream projects to address problem areas. • This action is dependent on funding and City priorities.

Other Water Quality Evaluations

MS4 NPDES permit also requires the City to conduct analyses to look at regulated pollutants in the Willamette and Clackamas Rivers. Newell Canyon is a contributing system, and was therefore included in the study area. Water quality models have been developed to support Pollutant Load Reduction Evaluations and Wasteload Allocation Attainment Assessments (most recently in 2015/2016), both looking at bacteria. The City also established pollutant reduction goals ("benchmarks") to target over the next permit term. These benchmarks have been submitted to DEQ as required.

The City also conducted a 303(d) Evaluation (Brown and Caldwell, 2015) to identify actions that the City could take to reduce other water quality pollutants of concern. The pollutants evaluated included biological criteria, dissolved oxygen, chlorophyll a, PCBs and organochlorine pesticides, and iron, many of which are surrogates for larger groups of pollutants. The evaluation concluded that the City has sufficient controls in place to address the pollutants of concern. Recommendations from the 303(d) evaluations include:

- Continued implementation of the Stormwater and Grading Design Standards
- Focusing stormwater-related public outreach and staff training efforts on proper landscaping and yard maintenance practices to reduce pollutant discharges
- Continued implementation of the City's illicit discharge program, focusing on proper material disposal and elimination of illegal dump sites.

Additional documents and reports related to the City's NPDES MS4 Permit and water quality program can be found at: **https://www.orcity.org/publicworks/npdes-documents-page**

In summary, the City of Oregon City's adopted 2015 Stormwater and Grading Design Standards has improved the overall stormwater management systems currently being constructed with new developments. New developments are required to comply with City standards that provide the best management practices for water quality protection from stormwater runoff.