MUNICIPAL STORMWATER CODE REQUIREMENTS

Municipal stormwater code promotes public health, safety, and welfare in compliance with state and federal laws. The Eastern Washington Phase II Municipal Stormwater Permit (Permit) requires jurisdictions to develop and administer code to:

- Prohibit non-stormwater discharges into their stormwater system.
- Require erosion and sediment controls, and other construction-phase stormwater pollution controls.
- Require post-construction stormwater controls.

ADDITIONAL INFORMATION

City of Yakima stormwater code can be found here: Construction Stormwater Runoff - https:// www.codepublishing.com/WA/Yakima/#!/Yakima07/ Yakima0782.html#7.82

Post-Construction Stormwater Runoff—https:// www.codepublishing.com/WA/Yakima/#!/Yakima07/ Yakima0783.html#7.83

TECHNICAL STANDARDS

The Stormwater Management Manual for Eastern Washington (SWMMEW) provides technical guidance in the design, operation, and maintenance to control the quantity and quality of stormwater runoff from development projects in Eastern Washington.

Applying these measures can support achieving compliance with state and federal water quality laws, contributing to the protection of the beneficial uses of surface and groundwaters.

ADDITIONAL INFORMATION

SWMMEW: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwaterpermittee-guidance-resources/Stormwater-manuals



BEST MANAGEMENT PRACTICES FOR REDUCING ADVERSE IMPACTS FROM STORMWATER RUNOFF FROM DEVELOPMENT SITES

Best Management Practices (BMPs) include a schedule of activities, prohibited practices, maintenance procedures, and structural and/or managerial practices approved by the Department of Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to receiving waters.



Bioinfiltration BMP in Eastern Washington.

The Permit requires project proponents and property owners to adhere to the Permit's minimum technical requirements. These include BMP selection, design, installation, operation, and maintenance standards for projects meeting the threshold triggers in the SWMMEW.

Failure to adequately select, design, and install required BMPs violates local code and may result in penalties.



Constructed stormwater wetland during construction.

ADDITIONAL INFORMATION

SWMMEW Chapter 1.5

Permit Appendix 1: *https://ecology.wa.gov/DOE/ files/7f/7f049302-50bb-4b67-9724-1a43cd521922.pdf*

MUNICIPAL STORMWATER RESOURCE

This brochure introduces topics essential to stormwater design and includes resources for engineers, development review staff, and land use planners.



Bioretention BMP in Eastern Washington.

FOR MORE INFORMATION CONTACT US

CITY OF YAKIMA 129 N. 2nd St. Yakima, WA 98901 www.yakimawa.gov



Randy Meloy, P.E. Surface Water Engineer (509) 576-6606 Randy.meloy@yakimawa.gov Municipal Stormwater Management Requirements Overview

Developed for Engineers, Development Review Staff, & Land Use Planners



DEVELOPMENT OF STORMWATER SITE & EROSION CONTROL PLANS

A Stormwater Site Plan (SSP) contains the technical information and analysis necessary for regulatory agencies to evaluate a proposed development project for compliance. Contents of the SSP vary with the type and size of the project, individual site characteristics, and local jurisdictional requirements. Developing a SSP consists of the following steps:

- 1. Collect and analyze information on existing conditions.
- 2. Prepare preliminary development layout.
- 3. Perform off-site analysis.
- 4. Determine applicable SWMMEW core elements.
- 5. Prepare a permanent stormwater control plan.
- 6. Select construction stormwater pollution prevention BMPs (projects may require a Construction Stormwater Pollution Prevention Plan).
- 7. Complete the SSP.
- 8. Check compliance with all applicable SWMMEW core elements.

The Permit requires proactively managing erosionrelated risks during construction. Developers must consider each of the following elements of pollution prevention to determine appropriate controls for the project site:

- 1. Clearing Limits
- 2. Construction Access
- 3. Flow Rates
- 4. Sediment Controls
- 5. Soil Stabilization
- 6. Slope Protection
- 7. Drain Inlet Protection
- 8. Channel and Outlet Stabilization
- 9. Pollutant Controls
- 10. Dewatering
- 11. BMP Maintenance
- 12. Project Management
- 13. Low-Impact Development Facility Protection

ADDITIONAL INFORMATION

SWMMEW Chapter 3 (SSP) & Chapter 7

(ECP): WSDOT Temporary Erosion and Sediment Control Manual:

https://wsdot.wa.gov/engineering-standards/allmanuals-and-standards/manuals/temporary-erosionand-sediment-control-manual

City of Yakima Construction Stormwater Runoff—https:// www.codepublishing.com/WA/Yakima/#!/Yakima07/ Yakima0782.html#7.82

LOW IMPACT DEVELOPMENT

Low Impact Development (LID) applies stormwater and land use management strategies that strive to mimic natural processes utilizing the following principles:

- Preserve native vegetation.
- Protect critical areas.
- Minimize impervious surfaces.
- Minimize grading and compaction of site soils.
- Preserve existing flow paths.
- Infiltrate stormwater runoff.
- Disperse stormwater.
- Utilize natural surfaces.
- Utilize small-scale, distributed LID BMPs.

Examples of practices adhering to these principles include: bioretention, rain gardens, dispersion, and permeable pavements. Implementing LID principles and practices manages runoff in a way that reduces the impact of built areas and promotes ecological functions.

The Permit requires jurisdictions to implement a policy encouraging project proponents to maintain natural drainages to the Maximum Extent Practicable. This includes minimizing the disturbance of native soils and vegetation, reducing the total amount of impervious surfaces, nonstructural preventive actions, and pollutant source reduction approaches. In utilizing LID approaches, consider site conditions and long-term maintenance.



Bioretention cells are an example of LID BMPs.

ADDITIONAL INFORMATION

SWMMEW Appendix 3-D: Guidance on Low Impact Development Site Planning Principles and Design Strategies

City of Yakima Construction SWPPP Element #13—protect Low-Impact Development (LID) BMPs: https://www.codepublishing.com/WA/ Yakima/#!/Yakima07/Yakima0782.html#7.82.130

UNDERGROUND INJECTION CONTROL

Underground Injection Control (UIC) wells are structures used to direct stormwater runoff underground, usually under the force of gravity.

UIC wells consist of:

- A dug hole whose depth exceeds its largest surface dimension.
- An underground fluid distribution system (e.g., perforated pipes).

Examples of stormwater UIC wells: drywells, an infiltration trench containing perforated pipe, bioretention systems with a perforated pipe below the treatment soil, and stormwater infiltration chamber systems.

The Department of Ecology regulates UIC wells under the statewide UIC program to prevent groundwater contamination. *Owners of stormwater UICs must apply the guidance in the SWMMEW and submit UIC registration applications 60 days prior to construction to allow for sufficient review time.*

All UIC wells not operated in accordance with the law may result in a violation, including action for injunctive relief.



Drywells are an example of a UIC.

ADDITIONAL INFORMATION

SWMMEW Chapter 5.6: Defines site suitability, treatment requirements, and stormwater discharges to UIC well design criteria.

Ecology's UIC Program: https://ecology.wa.gov/ Regulations-Permits/Guidance-technical-assistance/ Underground-injection-control-program

UIC Registration: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Undergroundinjection-control-program/Register-UIC-wells-online

INFILTRATION

The SWMMEW defines infiltration as the downward movement of water from the land surface to the subsoil. Infiltration BMP design allows stormwater runoff to soak into the ground as a means of filtering out pollutants and recharging groundwater.

Examples of infiltration BMPs: dispersion, bioinfiltration, drywells, infiltration ponds and trenches, bioretention, and permeable pavement.



Runoff infiltrates through permeable pavement.



Dispersion BMPs allow runoff to infiltrate over a large area.

ADDITIONAL INFORMATION

SWMMEW Chapters 5.4 and 6.3 include design and installation information for infiltration BMPs. Some infiltration BMPs qualify as UIC wells and must follow requirements of the statewide UIC program (see UIC section for more information).