



Supplemental Manual to the DOE Stormwater Management Manual for Western Washington

Volume V Runoff Treatment BMPs

City of Auburn Community Development and Public Works Department

Effective Date: 1/1/2017

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Chapter 1 – Introduction

1.1 Purpose of this Volume

Volume V of the City of Auburn (COA) Supplemental Manual to the Department of Ecology’s (DOE) Stormwater Management Manual for Western Washington (SWMMWW) provides additional guidance for selection and design of stormwater treatment facilities for new development and redevelopment projects to comply with Minimum Requirement #6 – Runoff Treatment, and the design of On-Site Stormwater Management BMPs to comply with Minimum Requirement #5 – On-Site Stormwater Management.

1.2 Content and Organization of this Volume

The COA Supplemental Manual Volume V is organized to correspond to the DOE SWMMWW Volume V. This Volume should be used in conjunction with the SWMMWW to design stormwater treatment and on-site stormwater management facilities for installation within the City of Auburn.

Important additions and changes contained in the COA Supplemental Manual for this Volume include:

- **Chapter 4: General Requirements for Stormwater Facilities** gives additional general requirements for facilities in the City of Auburn.
 - **Section 4.3.1** provides setback requirements for stormwater facilities.
- **Chapter 5: On-Site Stormwater Management**
 - **Section 5.3.1** defines the City requirements for meeting BMP T5.13 Post-Construction Soil Quality and Depth.
- **Chapter 7: Infiltration and Bioretention Treatment Facilities**
 - **Section 7.2** provides additional site analysis requirements for infiltration and bioretention facilities.
 - **Section 7.4** provides additional design criteria for BMP T7.30 Bioretention Cells, Swales, and Planter Boxes.

Omitted Sections

Several chapters and sections in Volume V of the DOE SWMMWW do not require any additional clarification in the COA Supplemental Manual. Refer to the DOE SWMMWW for the following chapters and sections:

- **Chapter 1: Introduction**
 - **Sections 1.3 and 1.4 (all subsections)**
- **Chapter 2: Treatment Facility Selection Process**
 - **Section 2.1 and 2.2 (all subsections)**
- **Chapter 3: Treatment Facility Menus (all sections)**
- **Chapter 4: General Requirements for Stormwater Facilities**

- Sections 4.1 and 4.2 (all subsections)
- Section 4.3.2
- Sections 4.4 – 4.6 (all subsections)
- **Chapter 5: On-Site Stormwater Management**
 - Sections 5.1 and 5.2
 - Section 5.3.2
- **Chapter 6: Pretreatment (all sections)**
- **Chapter 7: Infiltration and Bioretention Treatment Facilities**
 - Sections 7.1 and 7.3
- **Chapter 8: Filtration Treatment Facilities (all sections)**
- **Chapter 9: Biofiltration Treatment Facilities (all sections)**
- **Chapter 10: Wetpool Facilities (all sections)**
- **Chapter 11: Oil and Water Separators (all sections)**
- **Chapter 12: Emerging Technologies (all sections)**
- **Appendices V-A – V-E**

Chapter 4 – General Requirements for Stormwater Facilities

Additional Requirements for the City of Auburn

Refer to Appendix K Stormwater Facility Access Requirements, Volume I if the COA Supplemental Manual for storm facility access criteria.

- All storm facility landscape planting and seeding plans shall be prepared and sealed by a Washington State licensed professional Landscape Architect or similar specialist approved by the City of Auburn.
- Water quality systems shall be designed for simplicity and ease of maintenance.
- Treatment systems shall be designed so that drainage from the right-of-way does not discharge onto private property unless a deviation request is submitted. If a deviation request is granted, a pre-treatment oil/water separator approved by the City is required prior to discharge into the private system. The owner will be responsible for maintenance and repair of the system, including the oil/water separator. A Stormwater Easement and Maintenance Agreement with the City will be required.

4.3 Setbacks, Slopes, and Embankments

4.3.1 Setbacks

Additional Requirements for the City of Auburn

Project proponents should consult the Auburn City Codes to determine all applicable setback requirements. Where a conflict between setbacks occurs, the City shall require compliance with the most stringent of the setback requirements from the various codes/regulations. Auburn City Code titles and chapters that are relevant to setback requirements are as follows:

- **Chapter 13.16 Fire Hydrants** – Requirements related to fire hydrant visibility
- **Title 15 Buildings and Construction** – Requirements meeting building and fire regulations
- **Chapter 16.10 Critical Areas** – Requirements for wetland, stream, wildlife habitat area, and geologic hazard area buffer setbacks
- **Title 18 Zoning** – Requirements for lot line setbacks in all zoning classifications

Required setbacks for storm facilities are as follows:

- Minimum spacing between trenches shall be 4 feet measured from the edge of trench.
- All systems shall be at least 10 feet from any structure. If necessary, setbacks shall be increased from the minimum 10 feet in order to maintain a 1:1 side slope for future excavation and maintenance
- All systems shall be placed at least 5 feet from any property line. If necessary, setbacks shall be increased from the minimum 5 feet in order to maintain a 1:1 side slope for future excavation and maintenance.
- All facilities shall be setback from sensitive areas, steep slopes, landslide hazard areas, and erosion hazard areas as governed by the Auburn City Code. Runoff discharged near landslide hazard areas must be evaluated by a geotechnical engineer or qualified geologist. The discharge point shall not be placed on or above slopes greater than 15% or above erosion hazard areas without evaluation by a geotechnical engineer or qualified geologist and City approval.
- For sites with septic systems, all infiltration systems, unlined wetponds and detention ponds shall be downgradient of the drainfield unless the site topography clearly prohibits subsurface flows from intersecting the drainfield.

Additional setbacks for specific stormwater facilities will be noted in the appropriate section.

Chapter 5 – On-Site Stormwater Management

5.3 Best Management Practices for On-Site Stormwater Management

5.3.1 On-Site Stormwater Management BMPs

BMP T5.13 Post-Construction Soil Quality and Depth (Amended)

Additional Requirements for the City of Auburn

The City of Auburn requires using the guidelines and procedures found in *Guidelines and Resources For Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington* when implementing BMP T5.13. This document is available at:

http://www.soilsforsalmon.org/pdf/Soil_BMP_Manual.pdf

Chapter 7 – Infiltration and Bioretention Treatment Facilities

7.2 General Considerations

Additional Requirements for the City of Auburn

Perform a site suitability analysis per Section 3.3.7, Volume III of the DOE SWMMWW for all infiltration and bioretention facilities. Due to Seasonal High Groundwater, Groundwater Protection Zones, and other site conditions, the City of Auburn restricts the use of infiltration in certain areas. Refer to Appendix I, Volume I of the COA Supplemental Manual for more information on infiltration infeasibility.

7.4 Best Management Practices (BMPs) for Infiltration and Bioretention Treatment

BMP T7.30 Bioretention Cells, Swales, and Planter Boxes (Amended)

Additional Requirements for the City of Auburn

Public bioretention planter boxes require prior approval from the City Engineer.

Per Page 7-3, Volume V of the DOE SWMMWW the use of certain patented treatment systems approved by Ecology to meet Minimum Requirement #6 – Runoff Treatment does not meet the requirements of Minimum Requirement #5 – On-Site Stormwater Management. Refer to Section 2.5.5, Volume I of the DOE SWMMWW and the COA Supplemental Manual for more information on the use of Bioretention to meet Minimum Requirement #5.

Public bioretention cells and swales shall be sodded or seeded using the seed mixtures in [Table 7.4- 1 Grass Seed Mixes for Public Bioretention Facilities](#) below.

Grass Seed Mixes for Public Bioretention Facilities			
Moisture Condition By Weight	Species	Common Name	Percent
Very Moist	Agrostis tenuis	Colonial Bentgrass	50
	Festuca ruba	Red Fescue	10
	Alopecurus pratensis	Meadow Foxtail	40
Moist	Festuca arundinacea	Meadow Fescue	70
	Agrostis tenuis	Colonial Bentgrass	15
	Alopecurus pratensis	Meadow Foxtail	10
	Trifolium hybridum	White Clover	5
Moist-Dry	Agrostis tenuis	Colonial Bentgrass	10
	Festuca ruba	Red Fescue	40
	Lolium multiflorum	Annual Ryegrass	40
	Trifolium repens	White Clover	10
Application rates: Hydroseed @ 60 lbs/acre Handseed @ 2 lbs/1000 square feet			

Table 7.4- 1 Grass Seed Mixes for Public Bioretention Facilities