

ENB-4.01 - Stormwater Management Manual

STORMWATER MANAGEMENT MANUAL

September 2004, Revision #3

Administrative Rule Adopted by Bureau of Environmental Services Pursuant to Rule-Making Authority
ARB-ENB-4.01

[Link to Greenstreet Details interim administrative rule](#) (PDF document, 7.30 MB)

[The text of the entire manual is available in PDF format.](#) What follows is an excerpt from the Introduction to the manual:

1.1 PURPOSE AND APPLICABILITY OF MANUAL

1.1.1 Purpose of Manual

Stormwater management is a key element in maintaining and enhancing the City's livability. As the City is developed, the impervious surfaces that are created increase the amount of runoff during rainfall events, disrupting the natural hydrologic cycle. Without control, these conditions erode stream channels, prevent groundwater recharge, and are the cause of combined sewer overflows (CSOs) and basement sewer backups. Parking lots, roadways, rooftops, and other impervious surfaces increase the pollution levels and temperature of stormwater runoff that is transported to streams, rivers, and groundwater resources. Protecting these waters is vital for a great number of reasons, including fish and wildlife habitat, human health, recreation, and drinking water.

The purpose of this Stormwater Management Manual is to provide stormwater management principles and techniques that help preserve or mimic the natural hydrologic cycle, minimize sewer system problems, and achieve water quality goals. The manual provides developers and design professionals with specific requirements for reducing the impacts of increased stormwater runoff flow quantity and pollution resulting from new development and redevelopment.

1.1.2 Applicability of Manual

This manual's requirements apply to all projects within the City of Portland, whether public or private.

- Projects of any size are required to comply with stormwater destination/ disposal requirements as identified in Section 1.4 of this manual. Specific facility designs that meet these requirements are presented in Chapter 2.0.
- All projects developing or redeveloping over 500 square feet of impervious surface, or existing properties proposing new stormwater discharges off-site, are required to comply with pollution reduction and flow control requirements, presented in Sections 1.5 and 1.6, respectively. Specific facility designs that meet these requirements are presented in Chapter 2.0.
- All projects constructing destination/disposal, pollution reduction, or flow control facilities are also required to comply with operations and maintenance requirements, as outlined in Chapter 3.0.
- Projects that are classified as high risk because of certain site characteristics or activities (listed in Section 4.1.1) must comply with the source control requirements identified in Chapter 4.0.

1.2 SUMMARY OF MANUAL CONTENTS

How to Use This Manual, provides a flow chart for the navigation of the manual for projects of all sizes and types. It also takes a number of example projects step-by-step through the manual.

Chapter 1.0: General Requirements & Policies, outlines the purpose and applicability of this manual and defines terms. It outlines pollution reduction, flow control, and destination/disposal requirements, explains the rules for connecting to existing systems, and differentiates public and private stormwater management systems. This chapter also discusses the City's policies regarding the protection of open drainageways. Finally, it identifies special circumstances that may make it impractical to implement on-site pollution reduction or flow control to the standards specified in this manual.

Chapter 2.0: Stormwater Management Facility Design, provides methods for selecting and designing stormwater management facilities that accomplish Stormwater Management Manual Page 1-2 Adopted July 1, 1999; revised September 1, 2004 pollution reduction, flow control, and/or destination/disposal standards. The "simplified," "presumptive," and "performance" approaches are presented.

Chapter 3.0: Operations & Maintenance, presents operations and maintenance (O&M) requirements and provides templates for stormwater management facility O&M plans.

Chapter 4.0: Source Controls, addresses site activities and characteristics with the potential to generate pollutants that may not be addressed solely through the pollution reduction facilities presented in Chapter 2.0. It identifies when and what kinds of source controls are required.

Appendix A: City Code Chapter 17.38, Policy Framework, Appeals & Update Process, contains the section of City Code that includes stormwater management policies and standards and that officially recognizes the City's Stormwater Management Manual. The appendix also includes the policy framework for the City's stormwater management requirements, the appeals process, and the process for updating this manual.

Appendix B: Vendor Submission Guidance for Evaluating Stormwater Treatment Technologies, describes the City's testing protocol for acceptance of stormwater pollution reduction facilities. It includes a detailed definition of the City's basic pollution reduction requirement of 70 percent total suspended solids (TSS) removal.

Appendix C: Santa Barbara Urban Hydrograph Method, describes the Santa Barbara Urban Hydrograph method of computing stormwater runoff hydrographs. It includes the City's 24-hour rainfall depths, formulas for computing time of concentration, and runoff curve numbers.

Appendix D: Simplified Approach Sizing Calculations, provides a sample of the method used to calculate the simplified approach sizing factors.

Appendix E: Pollution Reduction Storm Report, outlines the rationale behind the development of Portland's pollution reduction storm intensity and volume, and the associated goal of treating 90 percent of the average annual runoff.

Appendix F: Facility Planting & Soil Recommendations, presents recommended plant species, soil, and design information for landscaped stormwater management facilities.

2008 Stormwater Management Manual - PDF Files

The [Manual](#) is in PDF format . If you don't have Adobe Acrobat Reader, you can [download the latest version](#) for free.

[Link to Greenstreet Details interim administrative rule](#) (PDF document, 7.30 MB)

HISTORY

Adopted July 1, 1999 by Bureau of Environmental Services. Revised September 1, 2002. Submitted for inclusion in PPD May 14, 2003.

Revised September 1, 2004. Revision submitted for inclusion in PPD September 29, 2004.

Greenstreet Details interim administrative rule adopted by Director of Bureau of Environmental Services and submitted for inclusion in PPD August 10, 2007.