

Chapter 10 – General Design Guidance for Stormwater Infiltration Systems

Introduction

On-site infiltration of stormwater using LID site planning and design strategies and structural stormwater Best Management Practices (BMPs) is fundamental to preserving pre-development site hydrology, including groundwater recharge, and minimizing stormwater pollutant loads. As described in [Chapter 4 - Stormwater Management Standards and Performance Criteria](#) and [Chapter 7 - Overview of Structural Stormwater Best Management Practices](#) of this Manual, stormwater infiltration systems are a key practice for meeting the stormwater retention requirements of the runoff volume and pollutant reduction standard (Standard 1). Stormwater infiltration is therefore an important and integral element of stormwater management systems for many types of land development projects. Infiltration-based stormwater BMPs also require careful siting and design for an effective long-term performance.

This chapter provides general guidance on the design of infiltration-based structural stormwater BMPs, including:

Infiltration BMPs

- Infiltration Trench
- Infiltration Chamber
- Infiltration Basin
- Dry Well
- Infiltrating Catch Basin
- Permeable Pavement

Filtering BMPs (when designed for infiltration, i.e., unlined)

- Bioretention
- Tree Filter
- Surface Sand Filter

Water Quality Conveyance BMPs (when designed for infiltration, i.e., unlined)

- Dry Water Quality Swale

What's New in this Chapter?

- ❖ This chapter is a new addition to the Connecticut Stormwater Quality Manual
- ❖ Provides general design guidance for stormwater infiltration systems, which are a key practice for meeting on-site stormwater retention requirements
- ❖ Includes updated guidance on soil evaluation and infiltration system sizing methods

Connecticut Stormwater Quality Manual

The information in this chapter is intended for use with the BMP-specific design guidance in [Chapter 13 - Structural Stormwater BMP Design Guidance](#) for stormwater infiltration practices. [Chapter 8 - Selection Considerations for Stormwater BMPs](#) provides selection and siting considerations for infiltration systems and other structural stormwater BMPs, while [Chapter 9 - Stormwater Retrofits](#) addresses stormwater retrofits including use of infiltration systems to retrofit existing developed sites and drainage systems.