

Low Impact Development Pilot Projects

Naval District Washington



Introduction

Low Impact Development (LID) is the use of small-scale stormwater management controls that are placed at sources of pollution and distributed throughout a facility to control the effects of urban runoff. These sustainable management measures are designed to filter pollutants, control peak runoff rates, and control the volume of runoff that enters receiving waters and wetlands. When used in conjunction with pollution prevention and proper site design this approach is a powerful tool that can be used to help protect and restore the environment.

This project is part of an overall initiative by Naval District Washington (NDW) to help maintain and restore the water quality of the Anacostia and Potomac Rivers and the Chesapeake Bay. Over the next several months, NDW will be constructing a series of LID urban-retrofit pilot projects at several NDW installations including the Washington Navy Yard, U.S. Naval Observatory, the Potomac Annex, the Nebraska Avenue Complex, and the Anacostia Annex. Entire parking lots, roadways, and open space will be retrofit with these techniques. Construction costs, maintenance requirements/costs, and pollution-control effectiveness will be documented and evaluated. The information on the efficacy of this technology will then be made available to other Naval and Federal Facilities and the District of Columbia for use in their stormwater management and pollution control programs.

Project Areas

There will be over 10 different types of pollutant-filtering, runoff volume control, and runoff peak flow control techniques that will be installed or used at the Navy Yard and the Anacostia Annex. The main areas of this first phase of retrofits at the Navy Yard will be in Willard Park and the Dental Clinic

parking lots. Individual LID practices will also be installed at other selected locations within the Washington Navy Yard.

The Willard Park parking area will demonstrate how a parking lot can be retrofit during replacement or repair of existing structures and how to retrofit existing parking areas with minimal disturbance. One of the main LID techniques used in this parking area and throughout the NDW facilities will be bioretention. Bioretention is the use of landscaped areas that use a specialized mix of soils and plants to filter pollutants, reduce runoff volume, and control the timing of runoff. Individual bioretention cells and strips between the parking areas will be installed. Other LID practices to be used include pavement sections that store water and release it slowly, rain barrels that help conserve runoff, and storm drain inlets that are retrofit to control runoff timing and/or the volume of trash entering the river.

The Dental Clinic (Building 166) parking area will demonstrate how an entire parking area can be retrofit with LID techniques during a major reconstruction or restoration. The main practices installed here will be bioretention islands, sand filter gutter strips, and permeable pavers between the parking rows.

Other individual LID practices that will be used throughout NDW facilities include street tree boxes that filter pollutants, disconnecting building downspouts, storm drain inlet structures that trap sediment, amendments to soils in open space areas that retain water to help reduce peak runoff volume, and additional bioretention structures.