



City of Eugene Stormwater Program

City-wide green infrastructure

Project at a Glance

Utility Overview

- Utility: City of Eugene Public Works, Stormwater Program
- Location: Eugene, Oregon
- Population served: 168,000
- Service area: 41 square miles

Challenges

- Managing urban stormwater to meet multiple objectives
- Reducing pollutant discharges in local waterways

Solution

Comprehensive stormwater management program, including city-wide green infrastructure program, implementing localized stormwater best management practice (BMP) solutions on public and private property.

Program Costs and Funding Sources

- Stormwater Utility Fund: \$24.9 million
 - Public Works: \$16 million
 - Capital Projects: \$2.7 million
 - “Green Infrastructure Staffing” of one full-time employee: \$100,000
 - Partnership with Long Tom Watershed Council to construct voluntary retrofits on private property, Stormwater Fund: \$100,000 (total, between 2012 and 2018)
- Funding Sources:
 - Stormwater User Fees: \$19 million
 - Stormwater System Development Charges (SDCs): \$4.6 million

Benefits

-  363 public green infrastructure facilities
-  1,000 private green infrastructure facilities
-  Over 20,000 native trees and plants planted
-  Reduced pollutant levels in local waterways

-  Regulatory compliance with federal rules for water quality in city’s urban streams
-  Cost-effective implementation of stormwater management best practices (BMPs)
-  Community engagement in helping to reduce stormwater pollution





Eugene faces two key water management challenges: managing urban stormwater and reducing pollutant discharges in local waterways

BACKGROUND

Eugene, Oregon, is located in the center of western Oregon, about 100 miles south of Portland and halfway between the Pacific Ocean and the Cascade Mountains. Eugene is surrounded by foothills and forests to the south, east, and west. North is the broad Willamette Valley—consisting mostly of farmland. The Willamette and McKenzie Rivers and their streams and creeks run through town. With approximately 168,000 residents Eugene is the second largest city in Oregon and the seat of Lane County.

The City Public Works Department provides Eugene’s stormwater services. The public stormwater collection and conveyance system includes approximately 600 miles of enclosed pipes and other built-infrastructure such as culverts and catch basins, over 1,000 green infrastructure facilities such as planters, swales, and rain gardens, and over 39 miles of streams, rivers, and open channels.

CHALLENGE

Eugene faces two key water management challenges: managing urban stormwater to meet multiple objectives and reducing pollutant discharges in local waterways.

In particular, as anticipated in the early 1990s, the City’s Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System permit (MS4 Permit) issued pursuant to the federal Clean Water Act regulated urban stormwater discharges into the Willamette River as well as other local waterways in and around Eugene, and required, among other things, that the City implement best management practices (BMPs) designed to reduce pollutant discharges from the municipal stormwater system to the maximum extent practicable.

SOLUTION

For the past two decades Eugene has worked to deploy stormwater management strategies that are both effective

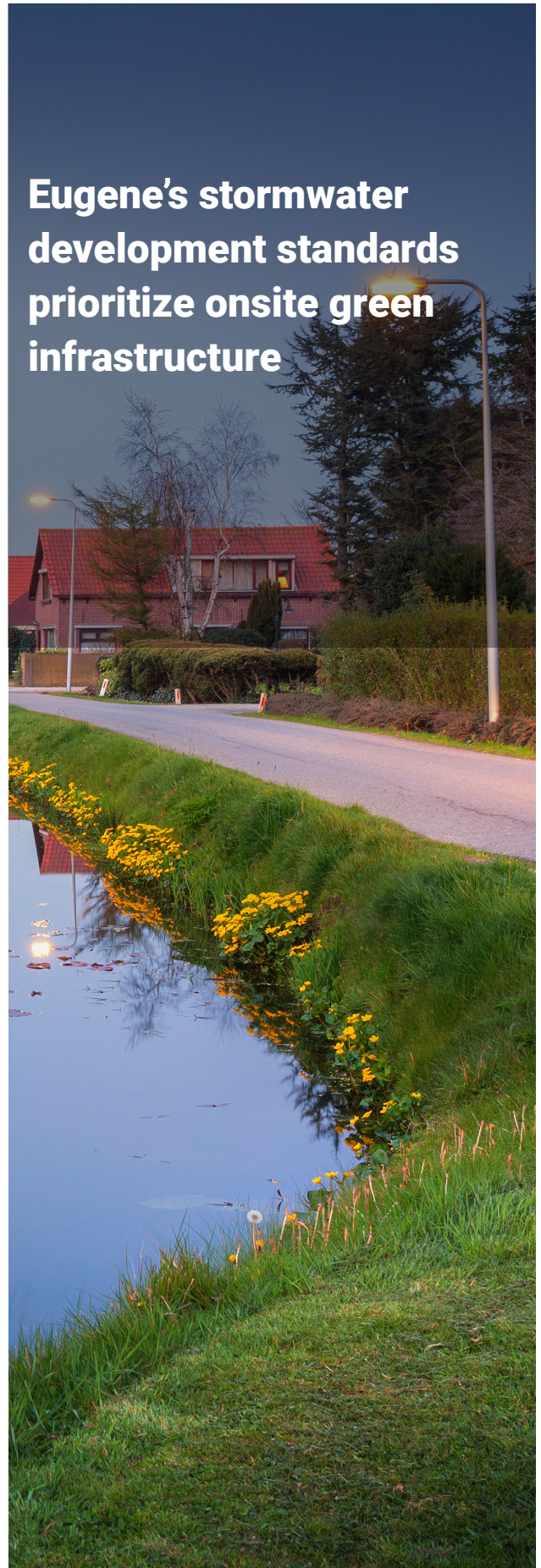
at addressing water quality and flooding challenges and are affordable. The City's choice to include city-wide green infrastructure projects on both public and private properties has helped to meet stormwater program goals. This means that for Eugene, its MS4 Permit BMPs include localized green infrastructure such as tree planting and onsite stormwater capture and treatment requirements for new development. To implement these BMPs, in 1993, the Eugene City Council adopted a Comprehensive Stormwater Management Plan (Stormwater Plan). At the time, the City thought holistically about how to manage its urban stormwater and align that strategy with the City's overall sustainability, open space, educational, and other community values.

In addition, in 2014, changes were made to the City's stormwater development standards to prioritize the use of onsite green infrastructure facilities "that promote the use of natural and built systems for infiltration, evapotranspiration and reuse of rainwater and that use or mimic natural hydrologic processes while capturing and treating approximately 80% of the average annual rainfall." These development standards, which apply to specified new construction and significant re-development, create a hierarchy of preferences with onsite capture, i.e., infiltration, first followed by filtration, i.e., treatment, then by off-site mitigation. Before a developer can use filtration or off-site treatment it must demonstrate that an onsite strategy is not feasible according to specified criteria.

There are two main aspects to Eugene's city-wide green infrastructure program: (1) projects on public property and (2) projects on private property. Projects on public property are constructed by the Public Works Department or as privately engineered public improvements and are typically located in the public rights of way or on other publicly-owned spaces such as parks or city operations and maintenance sites. Projects on private property are constructed by developers or Eugene residents and businesses on their own property.

For stormwater retrofits on existing private commercial properties, Eugene partners with the Long Tom Watershed

Eugene's stormwater development standards prioritize onsite green infrastructure



Council to work with property owners who are interested in voluntarily incorporating green infrastructure stormwater installations as part of the watershed council's Urban Waters & Wildlife Program. For example, in 2014, the City provided technical staff assistance and construction match funding in support of the watershed council and property owner for installation of a 20,000 square-foot innovative stormwater retention pond that "treats runoff from nearly one acre of roof and parking lot surfaces, reducing pollutant loads to Amazon Creek and providing high wildlife value." This partnership between the City and watershed council provides important water quality benefits and leverages the watershed council's expertise and relationship-building acumen with the City's expertise, funding, and stormwater program goals. water quality benefits and leverages the watershed council's expertise and relationship building acumen with the city's expertise, funding, and stormwater program goals.

In addition, the City's program has a robust education and outreach element. This part of the program includes stormwater FAQs, a video with tips for reducing stormwater pollution, a fact sheet for Eugene residents about how they can install rain gardens on their property, a list of recommended plants for private rain gardens based on the species used on public installations, and explanatory newsletter materials about options for addressing stormwater onsite. The City also provides stormwater focused curricula for local schools tied to state benchmarks with an emphasis on Willamette Valley waterways. Further, the Public Works Department holds outreach events to engage directly with the community. In FY18, over 84,000 Clean Water Connections newsletters were mailed to all households within the Eugene urban growth boundary and over 2,700 local students received the Stormwater Pollution Learn and Share (SPLASH) curriculum. Another area of program development is that City staff are exploring a potential green streets stewards program that would allow adjacent property owners to adopt vegetated facilities that are adjacent to their homes.

In the coming years, Eugene's stormwater management strategies will also continue to be informed by the City's Sustainability Plan that was initially adopted in 2010 and



Eugene partners with the Long Tom Watershed Council to foster green infrastructure retrofits



Eugene has installed 363 public and permitted 1,000 private green infrastructure projects

will be updated in 2019. The 2019 update will include actionable strategies for mitigating and adapting to the impacts of climate change. Among these are green stormwater infrastructure, which the City’s Sustainability Office will implement in partnership with the Public Works Department.

RESULTS

City-wide, decentralized green infrastructure has benefited Eugene in several ways.

Water Resource Benefits

Eugene’s stormwater management strategy has helped the City meet the requirements of its MS4 permit and improve water quality for Eugene’s many urban streams. 20 years of water quality data indicate downward trends in pollutant levels for many contaminants of concern including total suspended solids, nutrients, and metals, variously, at several monitoring locations. One exception is that zinc in stormwater and receiving water samples is trending up and, as a result, the City is working with other agencies locally and state-wide to explore effective alternatives to moss removal products containing zinc and ramping up community education about these alternatives.

In total, since the early 1990s, Eugene has installed 363 public and permitted 1,000 private green infrastructure facilities.

Economic Benefits

The City’s program is cost effective. When the city was in the process of establishing its stormwater development standards, the City undertook an analysis of the cost of treating stormwater runoff with a centralized system versus requiring developed properties to manage their stormwater onsite. The city found that distributed stormwater infrastructure was more cost-effective than a centralized strategy due to the added benefits of a decentralized approach. This was fundamentally why Eugene chose to implement green infrastructure as part

of its overall stormwater management program.

Social Benefits

The program has engaged Eugene residents in the stormwater management process, helping the community understand the potential water quality impacts of urban stormwater runoff and how they can be part of the solution. Also, in FY18, more than 1,300 trees were planted through a combination of volunteer activities, new development requirements, city street improvement projects, and replacement plantings.

In addition, modelled after a program developed in the Portland area, Eugene and local partners developed a stormwater maintenance training for landscape contractors and, in March 2018, the first training was held. Twenty-five local contractors attended the 2-day training and passed an exam allowing them to be put on a list of trained maintenance contractors that is distributed to the public.

Given the benefits of green infrastructure, the Public Works Department will continue employing these strategies together with other City departments, its customers, and local community organizations.

Sources

City of Eugene: [Stormwater Program](#)
City of Eugene: [Stormwater Fees](#)
City of Eugene: [Stormwater FAQs](#)
City of Eugene: [MS4 Permit](#)
City of Eugene: [Comprehensive Stormwater Management Plan](#)
City of Eugene: [Stormwater Development Standards](#)
City of Eugene: [City of Eugene Public Stormwater Management Facilities](#)
City of Eugene: [Community Climate and Energy Action Plan 2013 Progress Report](#)
City of Eugene: [Tentative Climate Action Plan 2.0 Timeline](#)
City of Eugene: [Climate Action Plan 2.0 Project Summary](#)
City of Eugene: [Stormwater Basin Master Plan Willamette River Basin](#)
City of Eugene: [FY19 Adopted Budget](#)
Long Tom Watershed Council: [Urban Waters & Wildlife Program](#)
November 13, 2018, Interview with City of Eugene Stormwater Department Staff
December 6, 2018, Interview with City of Eugene Sustainability Office Staff



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