

ID: CIP 504

Name: Red Rock Grade Control & Culvert Improvement

Study Area: Red Rock Creek

Location: South of Hwy 99 between I-5 and SW 68th Pkwy

Problem Summary

Red Rock Creek enters Tigard flowing southwest from I-5 through a three acre woodland. The land drops steeply from I-5 to SW 68th Parkway. The creek serves a large urbanized basin upstream in Portland, and is also highly urbanized downstream in Tigard.

Red Rock Creek rises quickly and flows fast during storms, when urban runoff rushes to the creek. The developed area surrounding Red Rock Creek has

little stormwater management. Soils are eroding around the sanitary sewer trunk line, which follows the entire length of the creek.

In this location, the creek is incised, with vertical banks. There is nothing to slow or store runoff.

The culvert under SW 68th Parkway also is causing erosion of the downstream channel.

Project Description

The project will slow storm flows descending in Red Rock Creek from I-5 and stabilize the channel.

A series of structural grade controls will slow flows in the channel to reduce pressure on the downstream system. The grade controls will also provide stability in the steep channel, reducing erosion and sedimentation, and protecting the sanitary sewer line.

New scour protection downstream of the culvert will prevent erosion.

This project is one of a series of five in the Red Rock Creek basin. It is the

upstream-most proposed project.

The effects of slowing and controlling storm flows in this upstream reach will be noticeable throughout the downstream basin.

The benefits of this project include:

- Stabilize banks and protect sanitary sewer line downstream
- Reduce downstream erosion
- Reduce downstream sedimentation and flooding
- Improve water quality



Cost Estimate

Design & Permitting

Design (@ 20% of Construction)	\$150,000
Permitting, Basic + Enhanced	\$45,000
Project Administration (@ 12% Construction)	\$90,000
Total Design & Permitting	\$285,000

Construction

Tool Kit	Qty	Unit	Unit Price	Amount
Outfall Scour Protection	1	EA	\$5,100	\$6,000
Structural Grade Control	1,205	FT	\$270	\$326,000
Subtotal				\$332,000

Construction Administration

Mobilization (@ 10% of Construction)	\$75,000
Erosion & Sediment Control (@ 2% of Construction)	\$15,000
Temporary Water Management, Medium	\$25,000
Construction Contingency (@ 40% of Construction)	\$300,000
Subtotal	\$415,000
Total Construction	\$747,000

Other Implementation

Easement or Property Acquisition	\$25,000
Environmental Mitigation	\$80,000
Total Other Implementation	\$105,000

Total Project Cost (Rounded) \$1,150,000

Funding Source

50% Stormwater Fund
50% Sanitary Sewer Fund

Annual Operation & Maintenance

Operation and maintenance costs will be budgeted within the following programs:

- Proposed culvert assessment and maintenance program
- Proposed greenway O&M program

