

Project Rank: 1

ID: CIP 304

Name: Gallin Court Stream & Culvert Improvements

Study Area: Bull Mountain

Location: Between SW Greenfield Drive and SW Gaarde Street

Problem Summary

Kruger Creek flows quickly northeast down from Bull Mountain through the Morningstar Greenway. Like other Bull Mountain streams, erosion is occurring.

Between SW Greenfield Drive and SW Gaarde Street, severe bank erosion has caused extensive landslides on both banks. Part of a private property on SW Gallin Court has eroded away very close to a house. The City purchased the property to prevent a life safety hazard.

Upstream, an uncovered culvert is separating and needs repair. An outfall is perched seven feet above the channel, and it is damaging the stream banks.

Downstream, public sanitary and storm sewers are located at the top of the bank. A City project armored the bank with rock, but erosion continues and may undermine the pipes.

A bioswale often floods the property.

Project Description

To protect the stream channel and banks from further erosion, the project will bury a new pipe beneath the stream to convey piped runoff from upstream development and streets. The channel and valley will be raised and graded to allow surface runoff from surrounding properties to flow to the creek.

To provide some surface water storage and protect the channel from new incision, an alternating series of grade controls and light touch grade controls will be constructed through the reach. Overflows from each pool will flow into the stormwater pipe via beehive inlets on new flow control structures.

The project will add a new retaining wall on the east bank to protect the home site from further erosion. The water quality swale will be retrofitted to prevent further degradation and flooding.

Scour protection will be provided at each outfall.

The benefits of this project include:

- Restore the floodplain, reducing erosion and downstream siltation
- Improve water quality treatment
- Protect sanitary sewer and storm pipes
- Increase safety of home site, perhaps allowing the site to be sold and returned to private ownership



Cost Estimate

Design and Permitting

Design (@ 15% of Construction)	\$290,000
Permitting, Basic + Enhanced	\$65,000
Project Administration (@ 10% Construction)	\$195,000
Total Design & Permitting	\$550,000

Construction

Tool Kit	Qty	Unit	Unit Price	Amount
Aboveground Storage	64,781	CF	\$3.50	\$227,000
Light Touch Grade Control	1,402	FT	\$55	\$78,000
Modify Flow Control, Debris Grate	3	EA	\$5,000	\$15,000
Outfall Scour Protection	2	EA	\$5,100	\$11,000
Retaining Wall, MSE up to 25 FT	2,530	SF	\$90	\$228,000
Storm Sewer Pipe	900	FT	\$185	\$167,000
Structural Grade Control	540	FT	\$270	\$146,000
<i>Subtotal</i>				<i>\$872,000</i>

Construction Administration

Mobilization (@ 10% of Construction)	\$195,000
Erosion & Sediment Control (@ 2% of Construction)	\$39,000
Temporary Water Management, Large	\$50,000
Construction Contingency (@ 40% of Construction)	\$770,000
<i>Subtotal</i>	<i>\$1,054,000</i>
Total Construction	\$1,926,000

Other Implementation

Easement or Property Acquisition	\$0
Environmental Mitigation	\$125,000
Total Other Implementation	\$125,000

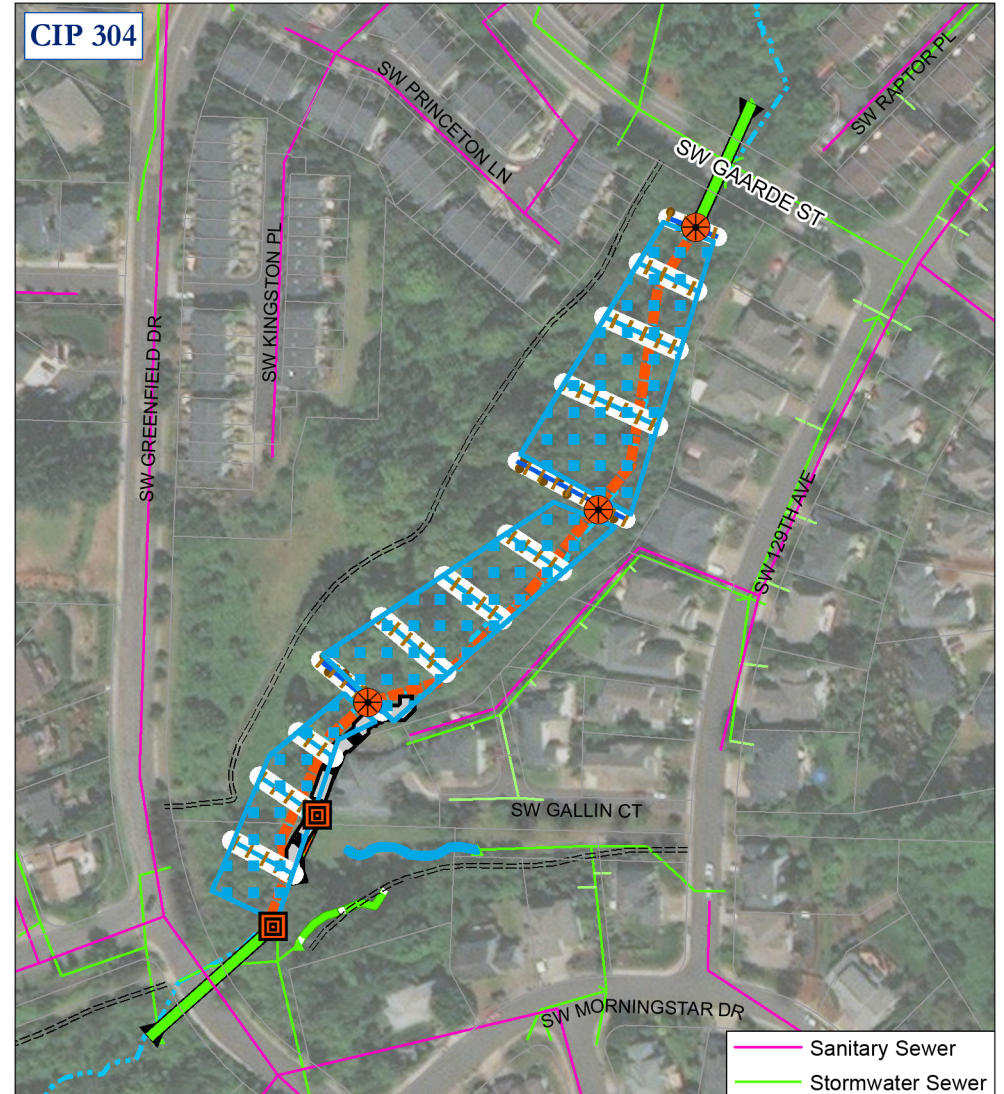
Total Project Cost (Rounded) \$2,625,000

Funding Source

75% Stormwater Fund
25% Sanitary Sewer Fund

Annual Operation & Maintenance

O&M costs will be budgeted within the ongoing routine stormwater facility maintenance program and the proposed greenway O&M program.



- 1, Above Ground Storage
- 5, Light Touch Grade Control
- 6, Modify Flow Control
- 8, Outfall Scour Protection
- 10, Retaining Wall
- 13, Storm Sewer Pipe
- 15, Structural Grade Control

