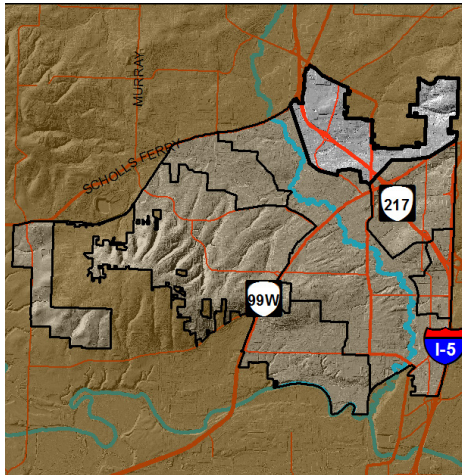




Ash Creek Study Area



Existing Conditions

Ash Creek flows southwest into the northeast corner of Tigard. The Ash Creek study area is 1.4 sq. mi.

Ash Creek and its tributaries drain an urbanized area of southwest Portland. In Tigard, the creek flows under Hwy 217, past Washington Square Mall, and under railroad tracks to meet Fanno Creek near SW North Dakota Street.

The basin was developed before most

water quality requirements and stream and wetland setbacks were in effect.

Washington Square Mall and adjacent developments comprise more than 200 acres of impervious area with no water quality treatment.

In the hilly upper basin, homes and yards were sometimes built over the creek. In the flatter lower basin, commercial development has straightened the creek

and encroached into the historically wide floodplain.

Many culverts in the basin were designed to handle stream flows based on historic conditions, and they are overwhelmed by the increased runoff from urbanization.

Where the creek is constricted by culverts, bridges, or beaver dams, local flooding often occurs. Without a

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Issues and Risks

The Stormwater Master Plan assessed the risk of erosion in Tigard's streams. The assessment analyzed the likelihood of erosion based on stream geology and the consequence of erosion based on the stream's proximity to important features such as roads, sewer lines, and buildings.

The headwaters of Ash Creek pass through homeowner association open space and Senn Park in a steep canyon which also carries a 12-in diameter sanitary sewer pipe. This reach is classified as a severe overall erosion risk. Most of the remaining portion of the main stem in Tigard has moderate to moderately severe overall risk. A tributary that flows parallel to SW Spruce Street is classified as moderately low risk.

Ash Creek is water quality limited under

the Clean Water Act for phosphorus, bacteria, dissolved oxygen, and temperature.

Pollutants commonly associated with urban runoff from commercial areas include metals, hydrocarbons, and particles, which can cause cloudy water.

Beneficial uses of spawning and rearing for threatened steelhead, which require cold water, are protected under the Clean Water Act through a Total Maximum Daily Load for temperature.

Ash Creek lacks shade where riparian canopy cover has been reduced or removed by development. Shade from canopy cover effectively cools streams.

Proposed Strategies and Solutions

The primary strategies in Ash Creek are stream resilience and shading. The highest priority capital improvement projects are located in the lower basin within a mile of Fanno Creek.

Reconnecting the floodplain in two locations should reduce local flooding and fortify the creek to handle the unmanaged runoff from upstream development, including in Portland. These two projects also will allow for riparian restoration to increase stream shading to decrease temperatures.

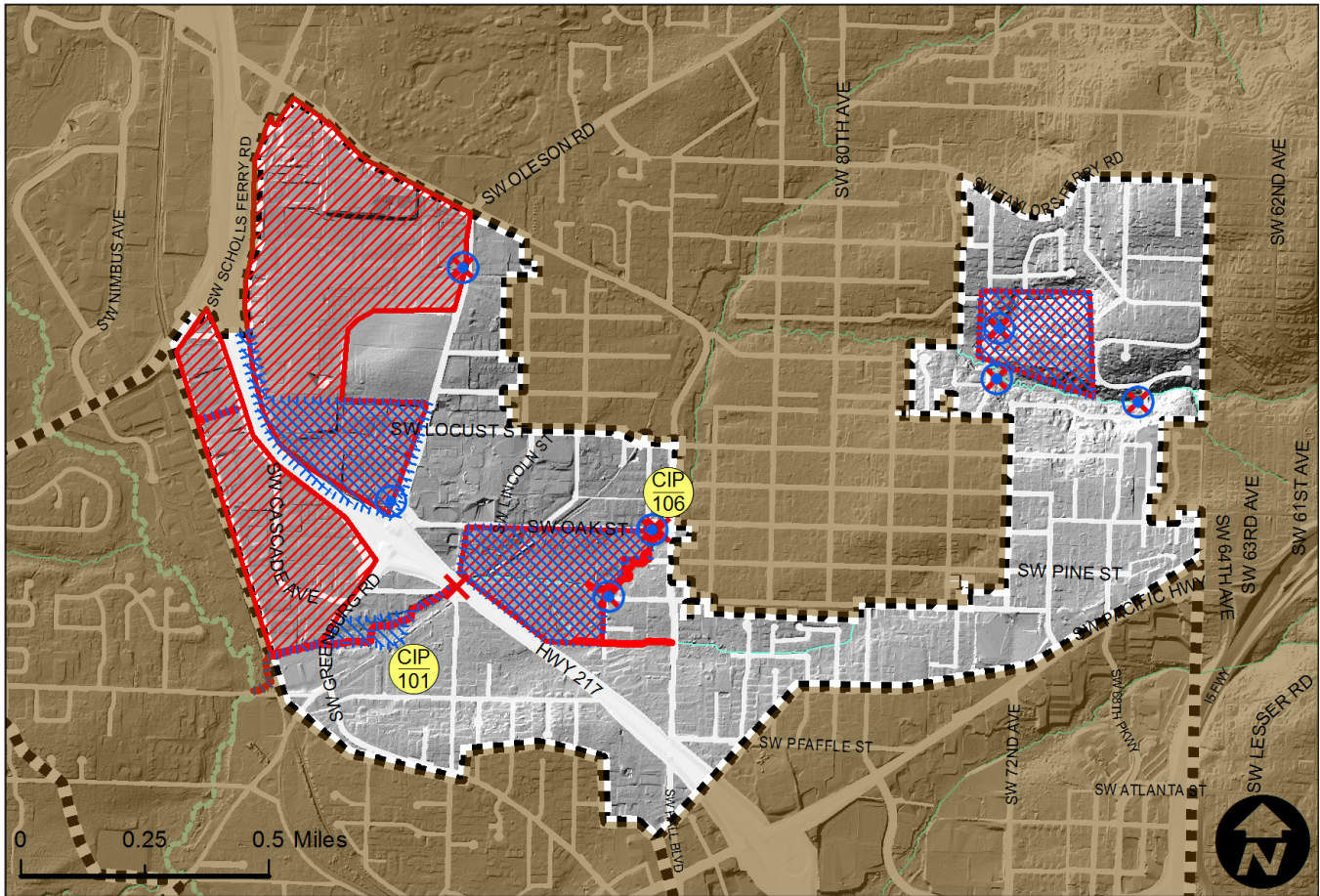
Shade could also be increased through partnerships to restore vegetated buffers and dedicate them to the City when properties along Ash Creek redevelop.

Improvements in water quality are most

likely near Hwy 217. The Washington Square Mall Retrofit Plan program will focus on studying and identifying the most effective locations for mitigating the effects of runoff from acre upon acre of impervious surface.


Proposed CIPs	
Bagan Park Stream Restoration and Water Quality Enhancement	
Rank: 9	CIP 101
Oak Street Property Acquisition and Detention	
Rank: 14	CIP 106
Total Cost: \$1.3 million	

Ash Creek Study Area




Legend

 Capital Improvement Project

 Study Area

Known Issues

 Point

 Line

 Area

Potential Projects

 Point

 Line

 Area

functioning floodplain, floods impact roads and businesses during bigger storms.

Throughout the study area, channels are eroding downward and creating nearly vertical banks, a process called incision. Incision decreases the ability of a stream to overtop into its floodplain and sends more water downstream. This process exacerbates any downstream flooding.

East of Hwy 217, Ash Creek flows into

a large wetland. From this point to the confluence with Fanno Creek, most of Ash Creek and its adjacent riparian corridor are classified as Highest Value Habitat in the Tualatin Basin Fish & Wildlife Habitat Program to meet the State of Oregon's Planning Goal 5 to protect natural resources and conserve open spaces.

Steelhead trout are known by Oregon Department of Fish & Wildlife to use Ash Creek. In the Tualatin Basin, steelhead

trout are listed as threatened under the Endangered Species Act.

Beaver are active throughout Ash Creek.

