Memorandum

To:	Adrian Esteban, PE; Alta Planning + Design
From:	Rose Horton, PE; Amanda Owings, PE; Otak
Copies:	21733
Date:	June 9, 2025
Subject:	Safer Sandy Boulevard: Existing Stormwater Conveyance Analysis
Project No.:	21733

Executive Summary

The project team reviewed available information and conducted a site visit to document the existence and condition of existing stormwater infrastructure through the Safer Sandy Boulevard project corridor. In general, runoff from the project corridor drains to Osborne Creek and Fairview Creek. Portions of the corridor are curbed to direct stormwater to catch basins and underground pipe conveyance system; there are also sections that shed to ditches. Accommodating potential roadway widening will be challenging due to steep embankment slopes; however, there are opportunities to site stormwater facilities to meet Multnomah County stormwater requirements.

Introduction

This memorandum documents the stormwater infrastructure within the public right-of-way along the NE Sandy Blvd corridor. The study area covers approximately 1.95 miles, extending from NE 201st Avenue to NE 230th Avenue.

Methodology

To understand the general flow of stormwater runoff and the extent of existing stormwater structures, the project team reviewed data from the following sources:

- As-built documentation
- Maps and GIS data provided by service providers
- Aerial mapping data provided by GeoTerra, Inc.
- Site visit by Otak engineering staff to identify stormwater infrastructure.

Findings

This segment of NE Sandy Blvd features a mix of stormwater infrastructure, including roadside ditches in non-curbed areas and catch basins along curbed sections, with the only visible public stormwater facility located at Sandy Blvd and Fairview Parkway. Drainage patterns direct stormwater to Osborne Creek, Fairview Creek, and an unnamed tributary, with opportunities for stormwater management in four relatively flat areas along the south side of the roadway if property acquisition is feasible.

Drainage Basins

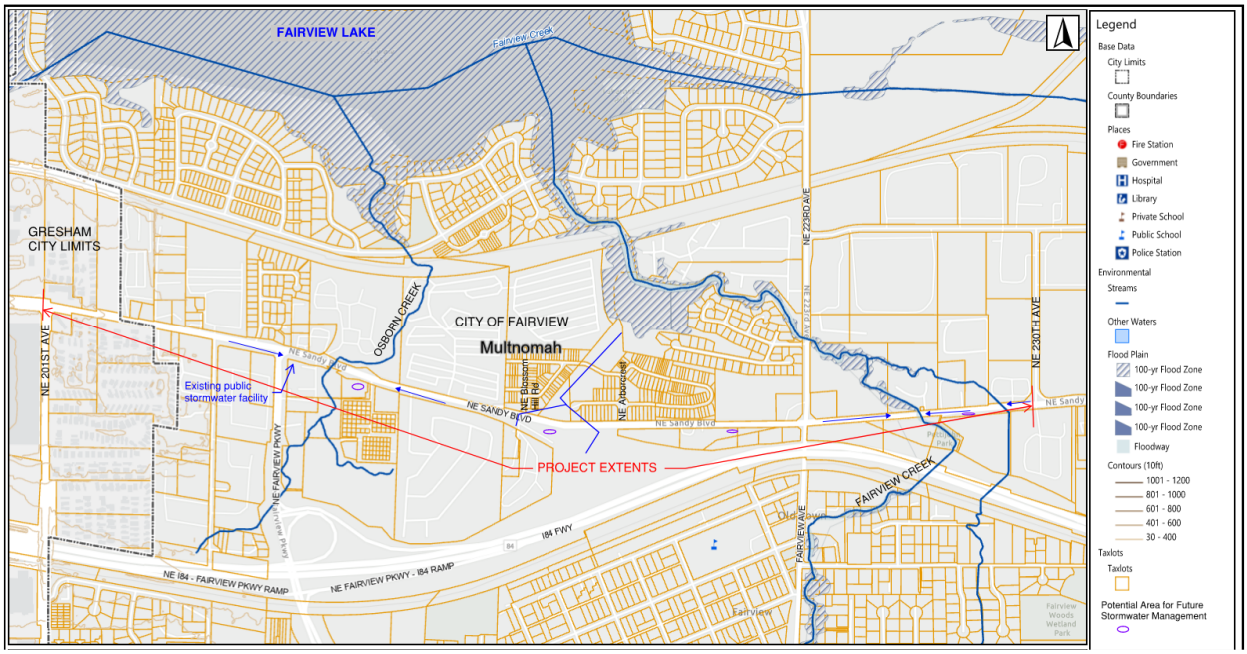
The NE Sandy Blvd project corridor is within the watershed that contributes to Fairview Lake via discharge to Osborne Creek and Fairview Creek. The western half of the project area drains towards Osborne Creek. The eastern half directly to Fairview Creek or to an unnamed tributary or a conveyance in a powerline easement which both drain to Fairview Creek.

Stormwater requirements

Most of the NE Sandy Blvd study area lies within the Fairview city limits, while the roadway under the jurisdiction of Multnomah County. To manage roadway runoff, Multnomah County applies the requirements of the City of Portland's Stormwater Management Manual for water quality treatment. The County requires flow control of storm events from the 2-year to the 25-year to not exceed pre-development levels and requires public stormwater infrastructure to be designed to accommodate the 25-year storm.

The western most 600 to 850-ft of this NE Sandy Blvd project area falls within the jurisdiction of the City of Gresham. Gresham Stormwater Management Manual requires water quality treatment and flow control for projects that develop or redevelop 1,000 SF or more of impervious surface. Within the right-of-way, Gresham prioritizes the use of stormwater swales or, in areas with small landscape strips, stormwater tree wells to collect and treat roadway runoff. Project extents, jurisdictional boundaries and drainage features are shown on Figure 1.

Figure 1. Drainage Features within NE Sandy Blvd Project Extents



Public Stormwater Infrastructure

Existing stormwater infrastructure along the NE Sandy Blvd includes ditches along non-curbed sections of roadway and connected catch basins along the newer curbed sections of roadway. The only visible existing public stormwater management facility is on the southeast side of the intersection of Sandy Blvd and Fairview Parkway. This linear facility is poorly vegetated and has evidence of rodent burrows.

There are Underground Injection Controls (UICs) installed by ODOT prior to the transfer of NE Sandy Blvd ownership to Multnomah County, located between NE 201st Avenue and NE 207th Avenue. As these UICs are within the Columbia Wellfield Protection Area, upgrades to NE Sandy Blvd should incorporate pre-treatment retrofits to improve water quality prior to discharge. It is important to note that these UICs are technically located outside the current public right-of-way, which will require careful coordination during design and construction.

Approximately 2,850-feet of NE Sandy Blvd drains towards Osborne Creek. Between NE 204th Ave and Osborne Creek, parallel storm pipes connect catch basins at the existing curb line. County GIS indicates that the system along the southern curb discharges to the Osborne Creek culvert. If the location of the curb line moves, this is an opportunity to provide a single storm main in the roadway.

The ditch along the south side of the road between Quail and Blossom Hill Road (approximately 900-feet) includes several large rock outcroppings. This suggests that there is potential for large rock excavation to accommodate subsurface excavations. According to data from the drainage district, this ditch is piped across NE Sandy Blvd to the conveyance system in the powerline easement which connects to Fairview Creek.

Data provided by Urban Flood Safety & Water Quality District (UFSWQD), previously known as Multnomah County Drainage District, indicate that approximately 2,350-feet of Sandy Blvd between NE Blossom Hill Drive and NE 223rd Drive are conveyed north through a power line easement to Fairview Creek.

As-builts from a 2008 project improving NE 223rd Ave show that the improvements on NE 223rd Ave from the south discharge to the stormwater system in the intersection with NE Sandy Blvd. UFSWQD and Multnomah County GIS data suggest that the storm system from the intersection continues north rather than east. From NE 223rd Ave to the west, approximately 1,400 ft of NE Sandy Blvd drain to Fairview Creek.

The remaining 550 SF of roadway to NE 230th Ave shed to the unnamed tributary to Fairview Creek and the conveyance infrastructure at the NE 230th Ave intersection connects directly to the culvert of the unnamed tributary to Fairview Creek.

Along the south side of Sandy Blvd are four, relatively-flat areas that could serve as stormwater management areas if there are willing sellers.

Areas Requiring Significant Improvements

The segment of NE Sandy Blvd between NE 201st Ave and approximately NE 204th Ave is lacking in stormwater infrastructure. Consideration will need be given for existing utilities as along the north edge of pavement are two gas lines, communications, and overhead power.

As NE Sandy Blvd crosses Osborne Creek, the existing roadway shed off to an existing steep embankment down to the creek. There is limited area along the roadway for stormwater management without impact to the stream corridor, especially along the north side of the roadway.

As noted above, the south side of the road between Quail and Blossom Hill Road contains several large rock outcroppings which could impact construction of an underground storm conveyance system to connect to the existing system to the east.

From NE 223rd Ave east to Fairview Creek, the shoulders of NE Sandy Blvd slope into steep embankments, with overhead power utility poles positioned directly beside the roadway. These factors may limit the feasibility of placing stormwater management facilities along the corridor.

If site constraints are found to limit onsite stormwater treatment, the project may seek to provide equivalent offsite treatment as mitigation. During the design of NE Sandy Blvd between 230th Ave and 238th Ave, the project team determined that it was infeasible to provide water quality treatment and worked with Multnomah County to provide equivalent offsite treatment for a section of NE Glisan Street using UICs.