



PONDEROSA CIVIL

December 5, 2025

Ruji Ding
City of Mercer Island Development Engineering
9611 SE 36th Street
Mercer Island, WA 98040

Project: 2707 Mercer Island SFR
Subject: Quantitative Downstream Analysis

Mr. Ding:

This letter provides the quantitative downstream analysis for the single-family residence located at 2707 70th Avenue Southeast.

1. Define and map the study area:

The included exhibit, generated from City of Mercer Island online GIS mapping, provides the boundaries of the site and land disturbance, topographic contours, downstream flowpath, and tributary drainage area. No existing or potential problems exist or are known to exist in the downstream system, and none were identified on the available online City of Mercer Island resources.

2. Review all available information on the study area:

All available information was reviewed for the subject project. Based on the City of Mercer Island online GIS mapping and resources, the project is located within Drainage Basin 17. The site is infeasible for infiltration and within a mapped landslide hazard area, and erosion hazard area. Based on the FEMA Flood Insurance Rate map, the site is not located within the 100-year floodplain.

3. Field inspect the study area:

During the investigation, no potential problems or capacity concerns were observed. Immediately downstream of the project site, the system is comprised entirely of a closed-pipe system, which discharges to Lake Washington. No signs of erosion or other flooding issues that may indicate an undersized system were observed.

4. Describe the drainage system, and its existing and predicted problems:

The downstream system is comprised entirely of manmade elements, from the project site to the eventual outfall to Lake Washington. A series of type 1 catch basins and 12-inch concrete storm pipe make up the city system, beyond 0.25-mile downstream. The system eventually discharges to Lake Washington via an 18-inch culvert. All type 1

catch basins downstream of the site provide catchment for runoff. Some of them are located in the flowline of the pavement, while others are within grassy vegetation. No signs of ponding or flooding were observed.

Based on this qualitative downstream analysis, no existing or potential flooding or erosion issues were observed in the downstream storm system. It is my professional opinion that this project will not create any potential downstream storm system issues.

Sincerely,

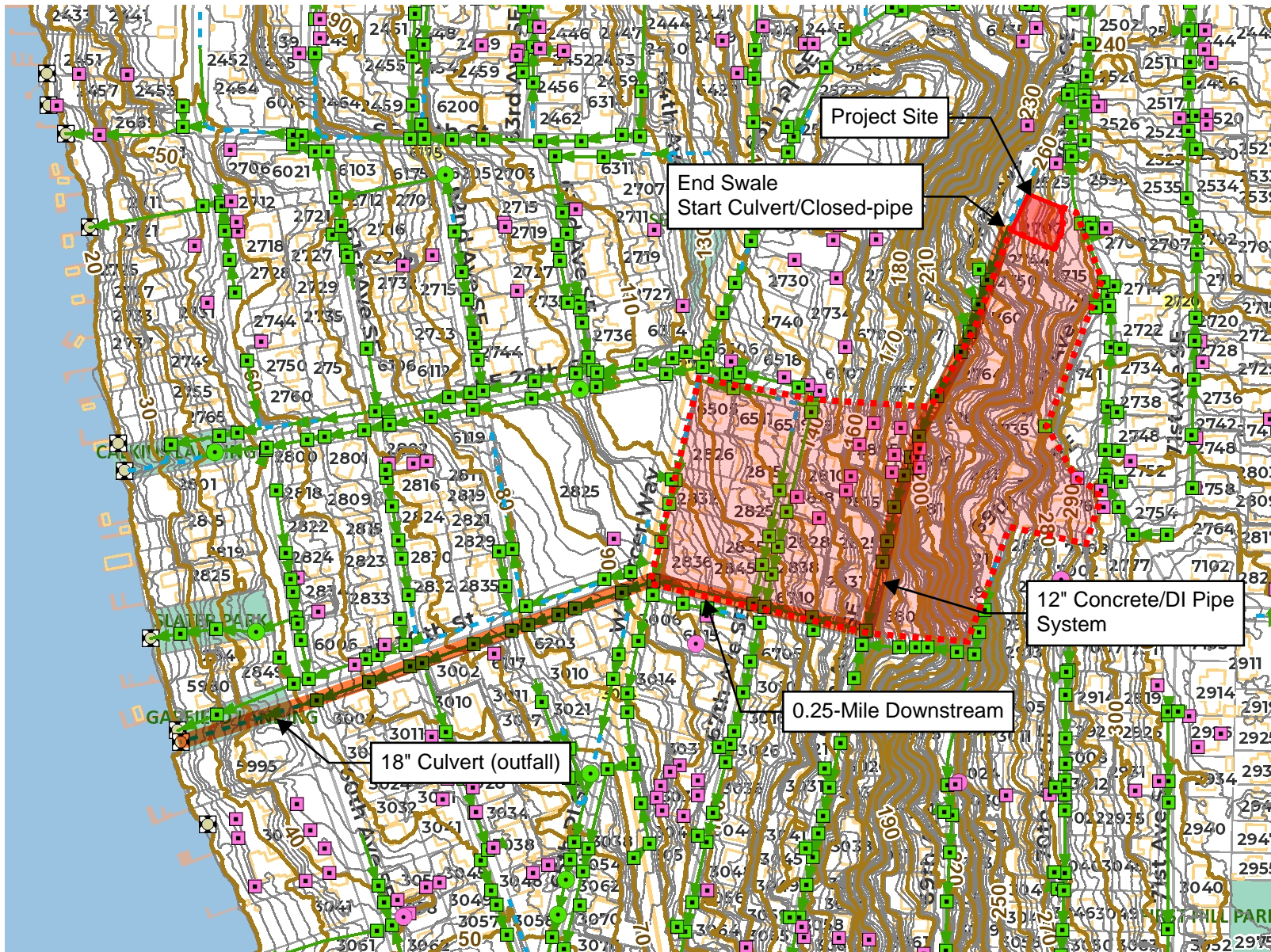


Andrew Coito-Poile, PE
Ponderosa Civil



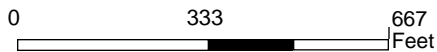
12.21.2025





Legend

- Storm Catch Basin**
 - CB, City Owned
 - CB, Private
 - CB, Unknown
 - Type 2, City Owned
 - Type 2, Private
 - Type 2, Unknown
- Storm Main**
 - Pipe
 - Open Watercourse
 - Piped Watercourse
 - Ditch
 - - - Culvert
 - - - Other
- Storm Main - Private
- ⊠ Storm Discharge Point
- 10ft Lidar Contours (2016)
- 2ft Lidar Contours (2016)
- Address
- Building
- Property Line
- Docks
- Freeway
- Major Street
- Street
- Parks
- Lake Washington



1 inch =
666.666666666667
feet



Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.

Notes