

Memo

To: Ruji Ding, P.E.
From: Joe Taflin, P.E.
CC: Wes Geisbrecht
 Phil McCullough, McCullough Architects
Date: June 27, 2025

Subject: Sears Plat – Proposed Stormwater Conditions at Lot 2

The Lot 2 house plans for the Sears Plat short plat development, located at 7414 78th Ave SE in Mercer Island, have been submitted for building permit. This memo serves to document the proposed stormwater management conditions proposed for Lot 2 and conformance with the requirements established with the approved Preliminary Plat, dated February 7, 2024 (SUB23-001), and the Final Engineering Plans, dated August 14, 2024 (2403-206).

Planned Conditions

The Sears Plat development is a 4-lot single family residential development located at 7414 78th Ave SE in Mercer Island, Washington. The development has been mass graded and utilities have been installed per the approved Final Engineering Plans, dated August 14, 2024. Per the approved plat, the development of the lots shall conform to the following coverage requirements:

Table 1: Lot Information

LOT INFORMATION								
LOT #	GROSS FLOOR AREA CALCULATIONS		LOT SLOPE CALCULATIONS				LOT COVERAGE CALCULATIONS	
	LOT AREA	MAX GROSS FLOOR AREA (SF)	HIGHEST ELEVATION (FT)	LOWEST ELEVATION (FT)	SHORTEST DISTANCE (FT)	LOT SLOPE (%)	NET MAX LOT COVERAGE (%)	NET MAX LOT COVERAGE (SF)
1	16,254	6,502	308.6	291.7	272.7	6.20%	40%	6,502
2	12,959	5,184	311.6	295.7	341.3	4.65%	40%	5,184
3	12,498	4,999	320.5	310.2	129.8	8.00%	40%	4,999
4	15,924*	6,370	328.2	315.9	211.9	5.82%	40%	5,059

*(GROSS LOT AREA) – (EASEMENT AREA) = NET LOT AREA
 15,924 – 3,277 = 12,647 SF

Lot 2 has been highlighted in Table 1 above.

Lot 2 as proposed with this building permit submittal is as follows:

LOT INFORMATION					
LOT#	LOT AREA (SF)	LOT COVERAGE CALCULATIONS			
		GROSS MAX LOT COVERAGE ALLOWED (% / SF)		GROSS MAX LOT COVERAGE PROVIDED (% / SF)	
2	12,498	40%	4,999	40%	4,995

As illustrated in the table above, the gross lot coverage is 40%, which matches the maximum allowed. Gross Floor Areas are documented by the architect in the house building plans.

Proposed Stormwater Management

The Lot 2 house roof area runoff will be collected in roof drains and routed down to a below-grade roof drain leader pipe that will wrap around the house and connect to the storm stub connection from the storm main in the street that was constructed with the Final Engineering Plans. The storm stub connects to the detention vault further west in the development after routing through a water quality treatment facility. The storm stub invert is 303.42 while the main floor elevation is proposed to be 310.25. A small portion of roof area over the west patio will drain to the detention tank.

The driveway will surface flow to a new trench drain that will be installed along the garage entrance, where it will be routed to the storm stub. The storm stub will route runoff to a water quality facility and after treatment to the detention vault.

The foundation drainage will be collected by a 4-inch perforated PVC pipe that wraps around the basement foundation and connects to the catch basin located at the west end of Lot 2, since the foundation drain is lower than the available stormwater stub from the storm main in the street. The new catch basin will discharge drainage westward via a new 6-inch storm line to a SDMH, which is part of the detention tank system located in the drive aisle. The new 6-inch storm line is shown in a Post Permit Revision to C5.01 of the Final Engineering Plans, with the revision dated June 11, 2025. Additionally, a small covered patio area and a pair of window wells will also drain to the new 6-inch storm line. The basement floor elevation is at 300.08, the patio elevation is at 302.25, and the new 6-inch storm stub is at 298.00 at the catch basin.

