MEMO

MULTI/TECH
ENGINEERING SERVICES, INC.

REGISTERED PROFESSIONAL ENGINEER
80415
OREGON
JANUARY 3, 2011
NATALIE G. JANNEY
Renew date: 6.30.2027

Date: October 31, 2025

To: City of Stayton
Public Works

From: Natalie G. Janney, P.E.

RE: ***Phillips Phase 3 – Stormwater Analysis***

Stormwater from the Phillips subdivision leaves the Phillips pond and will head through a new swale before connecting with the existing north-south and flowing to Mill Creek. As part of the design approval for the Phillips Phase 1 and 2 process, the ultimate design of Phase 3 was included in the analysis.

The breakdown of lots is as follows:

Phase 1 – 20 lots

Phase 2 – 26 lots

Phase 3 – 22 lots

The total number of lots is 68, which is the number included in the approved Phillips Subdivision Stormwater Analysis. See the portion from the Stormwater Analysis below that discusses the number of lots used for the analysis:

> Two post-developed curve numbers and areas were used for analysis. The City of Stayton has expressed that for the new ditch that is proposed for Stage 1, that the ultimate build out of the Phillips Subdivision should be used. This would avoid possibly having to widen the ditch in a year when the final design is engineered and constructed. This seemed reasonable. For this reason, the new conveyance ditch is designed for 68 lots. This included 5.964 acres of paved road and sidewalk, 3.746 acres of roof, 8.071 acres of landscaped area, and a 1.977 acre pond. This yielded a weighted curve number of 83.

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And the results section, which states the number of lots again:

Hydrograph Results

Below are the results of the hydrograph analysis. These results are based on the full build of Phillips Subdivision (68 lots) and all the impervious surfaces associated with the full build.

Table 6: Detention Facility Design Hydrograph analysis results

		Pre-developed		Developed		Allowable Flowrate (cfs)	Detention Required (ft^3)	Design Outlet (cfs)
		Flowrate (cfs)	Volume (ft^3)	Flowrate (cfs)	Volume (ft^3)			
Water Quality	Quail Run	--	--	0.35	--	--	--	0.63
	Phillips	--	--	1.43	--			
MOU 10 pre/ 25 post	Quail Run	6.34		8.52		7.87	98097	4.40
	Phillips	1.53	65862.72	11.05	163959.8			
2 year	Quail Run	2.53		2.53		3.08	46914	1.64
	Phillips	0.55	28793.16	4.56	75707.28			
5 year	Quail Run	4.33		4.33		5.25	57673	2.44
	Phillips	0.92	46086.48	6.58	103759.9			
10 year	Quail Run	6.34		6.34		7.87	67431	3.33
	Phillips	1.53	65862.72	8.77	133293.6			
25 year	Quail Run	8.52		8.52		10.79	76317	4.40
	Phillips	2.27	87642.72	11.05	163959.8			
50 year	Quail Run	10.77		10.77		13.87	84376	6.00
	Phillips	3.1	111121.6	13.4	195497.3			
100 year	Quail Run	11.25		11.25		14.53	85900	6.39
	Phillips	3.28	115956.7	13.88	201857			

The approved design meets the City of Stayton Design Standards adopted in 2023. The design is able to treat all of the hard surface generated from all three phases. The runoff leaving the Phillips pond is restricted such that it does not exceed the predeveloped flowrate. The flow is restricted to predeveloped rates for the 2, 5, 10, 25, 50, and 100 year storms. The 25 year storm event is further restricted to the 10 year predeveloped rate in accordance with the City of Stayton Memorandum of Understanding.

The proposal of Phase 3 does not deviate from the stormwater analysis that has been approved. For this reason, no stormwater submittals have been included for the land use application. The land use proposal is in conformance with the approved design and meets the City of Stayton Design Standards.