MORGAN CIVIL ENGINEERING, INC.



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Drainage Calculations for

Patrick Gemma Property Parcel 3 of Partition Plat 2000-37 Tax Lot 4100, Map 5N 10W 30DA City of Cannon Beach, Clatsop County, Oregon #21-01-Gem



RENEWAL DATE: DECEMBER 31, 2022

August 26, 2021

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<u>Draw</u>	ving No. Description
C1	Drainage Layout & Details

Tax Lot 4100, Map 5N 10W 30DA Forest Lawn Drive, Cannon Beach

Design Criteria

Drainage Run-off

Location

Property coordinates

45°53'12.7"N 45.88685 123°57'47.3"W -123.963

Rainfall Depth

NOAA Atlas 2 – Precipitation-Frequency Atlas of the Western United States

24-hour duration

2-year interval = 4.5 inches

25-year interval = 6.3 inches

100-year interval = 7.5 interval

Patrick-drain calc cover

Forest Lawn Drive, Cannon Beach

Narrative of Engineering Analysis

These calculations have been prepared to address the stormwater run-off currently running onto the subject property from adjacent areas.

Water from the adjacent property, 1603 Forest Lawn Road, is directed onto the property. Water from virtually all of Forest Lawn Drive is directed onto the property, either through a storm drainage system, or as direct run-off. Also, the water from the adjacent portion of Hemlock Street flows into the property.

The drainage system on Forest Lawn Drive collects water from the south end of the road and discharges it into near the southwestern corner.

Water from the roof of 1603 Forest Lawn Road is piped to the rear of the house, where it enters the subject property.

The attached calculations show the amount of water calculated as run-off for each contributing area.

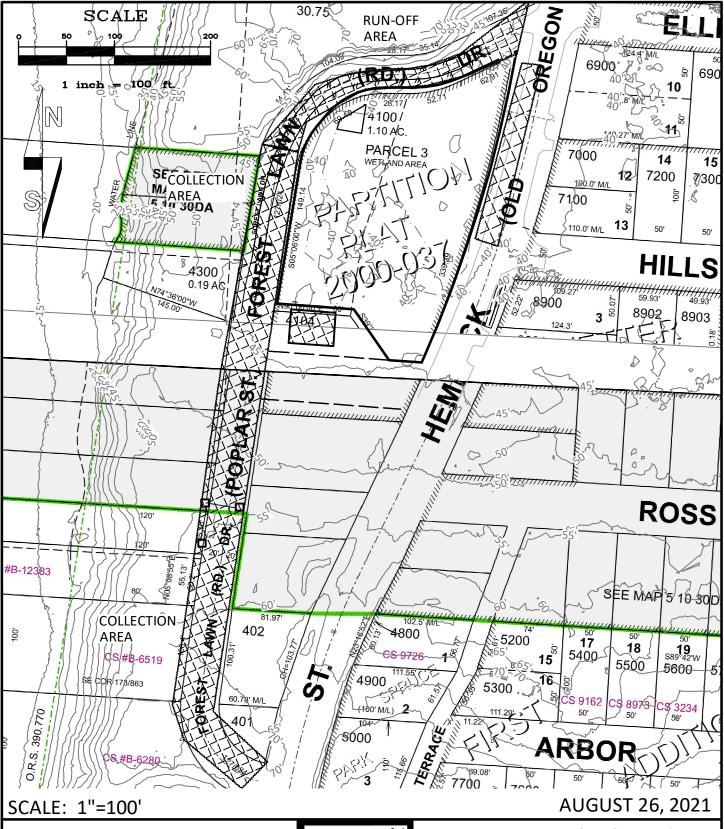
The volumes are determined for a 24-hour interval, with 25- and 100-year storm recurrence.

Patrick-drain calc cover

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Patrick Gemma							
Tax Lot 4100, Map 5	5S 10W 30DA						
Forest Lawn Drive, (Cannon Beach, Oreg	on					
#21-01-Gem							
Water run-off from	adjacent roadways	and houses					
Southern Area	Northern Area						
Forest Lawn Road	Forest Lawn Road		Roadway	Roof Run-off			
Drainage System	Road Run-off		Hemlock St	1603 Forest Lawn Road	TOTAL		
29,400	7,300	square feet	9,000	1,600	47,300		
0.67	0.17	acres	0.21	0.04	1.09		
Property coordinates							
45°53'12.7"N	45.886854						
123°57'47.3"W	-123.963131						
NOAA Atlas 2 - Prec	ipitation-Frequency	Atlas of the W	Vestern United S	States			
Southern Area	Northern Area						
Forest Lawn Road	Forest Lawn Road						
Drainage System	Road Run-off		Hemlock St	1603 Forest Lawn Road	TOTAL		
2-year storm	24 hr precipitation						
4.5	4.5	inches	4.5	4.5	TOTAL		
11,025	2,738	cf/day	3,375	600	17,738		
82,688	20,531	gal/day	25,313	4,500	133,032		
25-year storm	24 hr precipitation						
6.3	6.3	inches	6.3	6.3	TOTAL		
15,435	3,833	cf/day	4,725	840	24,833		
115,763	28,744	gal/day	35,438	6,300			
		,		,	,		
100-year storm	24 hr precipitation						
7.5	7.5	inches	7.5	7.5	TOTAL		
18,375	4,563	cf/day	5,625	1,000			
137,813	34,219	gal/day	42,188		,		
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PATRICK GEMMA

TAX LOT 4100 FOREST LAWN DRIVE DRAINAGE AREA

CANNON BEACH/MAP 5N 10W 30DA



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