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 Hillsboro, OR 97124
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McNamee/Miranda M49 Dwelling Storm Drainage Report

March 5, 2021

RE: Miranda M49 - Water Quality Report
 13221 NW McNamee Road
 Tax Lot 702, Tax Map 2N1W32B

This report deals with the proposed residence to be located on Parcel 2 of Partition Plat No. 2012-047. A proposed single-family residence with a roof area of approximately 1,500 square feet is proposed to be constructed on the lot. Access to the lot will be via a driveway from NW McNamee Road. The paved portion of the driveway area totals approximately 1,000 square feet.

All roof and driveway drainage will be piped to a single lined storm water flow-thru planter facility located on the east side of the residence. This lot is in Soils Group 7B, 7C, 7D - Cascade silt loam, hydrologic group C as reported in the Soil survey of Multnomah County, Oregon, US Department of Agriculture, Soil Conservation Services (see attached). The Geotechnical Report by Geo Pacific Engineering, Inc. **dated March 5, 2021** recommends that the stormwater treatment facilities be lined with an impermeable barrier and stormwater not be discharged directly to slopes.

Based on the above information and recommendations, we have designed the lined storm water planter facility which will treat the roof and driveway discharges and will limit the discharge rate (under a 25-year storm event) to no more than that which currently occurs from this area. See the attached drawing which shows the following described facilities. The HydroCAD model calculates a pre-developed peak runoff rate of **0.03 cfs** for the 25-year return interval storm event (see attached).

Flow from the driveway areas will be collected in a sumped catch basin to limit the amount of oil and floatables reaching the storm water planter facilities. Roof discharge will be directed directly to the storm water planter facilities.

The storm water planter facilities will be lined with an impermeable membrane. The rock storage area under the growing media will store the runoff for discharge through a perforated pipe to the flow dispersion trench located down slope of the storm water planter facilities. The peak flow to the dispersion trench will be limited by a flow control manhole which will include an orifice structure for flow limitation.

Design of the stormwater catch basin and discharge line, roof discharge line, storm water planter facilities, flow control structure and dispersion trench will be included in the final design for this project.

Sincerely
 Steven M. White, P.E.



Attachments: Soils Map, Preliminary Site Plan, Pre-Developed HydroCAD Calc's.

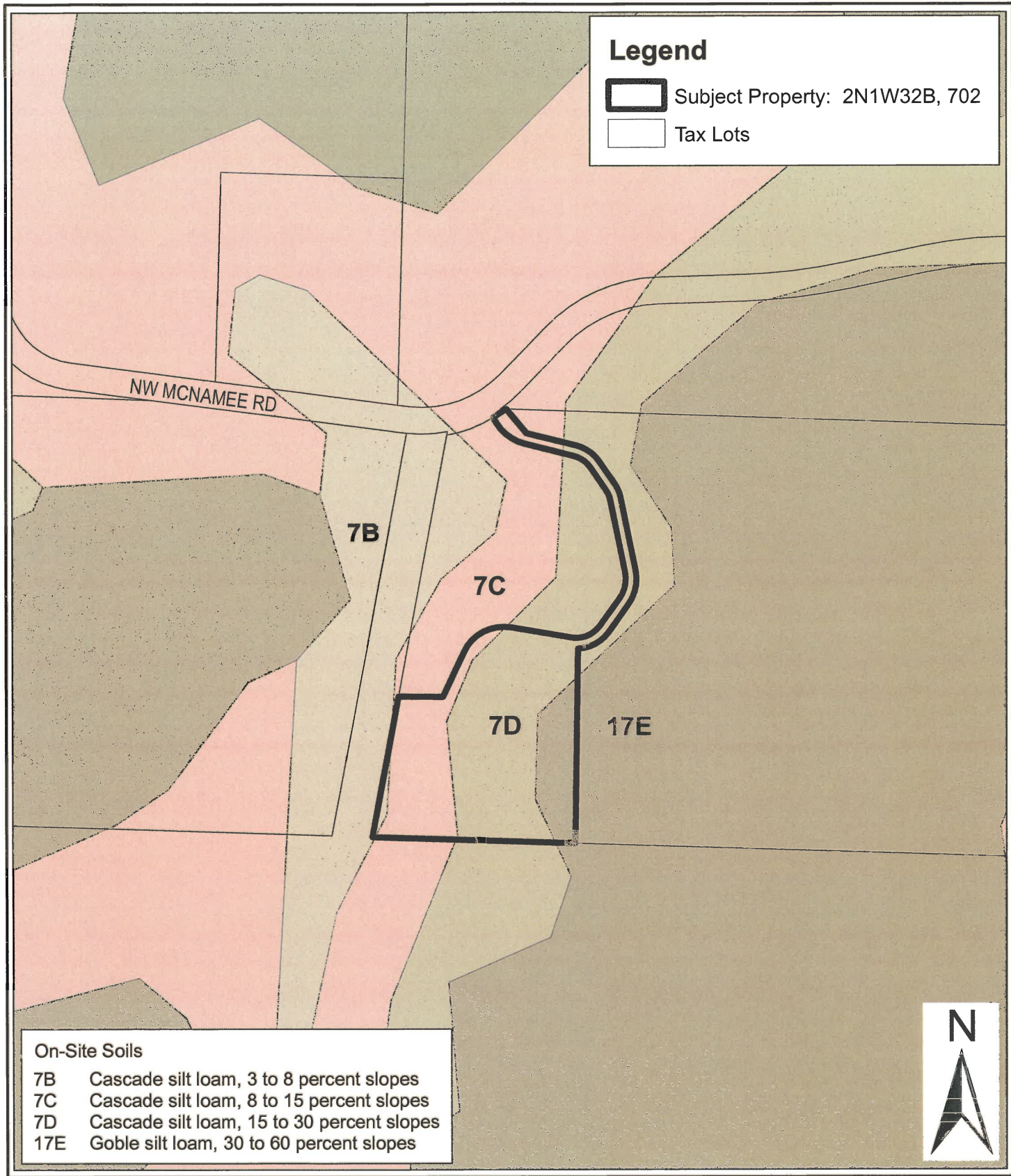


Engineering • Planning
 Managers • Matthew Newman &
 Steve White PE

EXPIRES: 6/30/22

Legend

-  Subject Property: 2N1W32B, 702
-  Tax Lots



On-Site Soils	
7B	Cascade silt loam, 3 to 8 percent slopes
7C	Cascade silt loam, 8 to 15 percent slopes
7D	Cascade silt loam, 15 to 30 percent slopes
17E	Goble silt loam, 30 to 60 percent slopes



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Soils Map
Miranda Property, Parcel 2, PP 2012-077
Multnomah County, Oregon

Source:
Metro Data Resource Center's, RLIS, Feb 2021.

Date:	03/05/2021
Scale:	1 in. = 200 ft.
Project #:	N0713
Drawn By:	CEB



Land Use Planning Division
 1600 SE 190th Ave.
 Portland OR 97233
 Phone: 503-988-3043
 land.use.planning@multco.us
 https://multco.us/landuse/

STORMWATER DRAINAGE CONTROL CERTIFICATE >500 SQUARE FEET OF NEW / REPLACED IMPERVIOUS SURFACES

NOTE TO PROPERTY OWNER/APPLICANT: Please have an Oregon Licensed Professional Engineer fill out this Certificate and attach a signed site plan, stamped and signed storm water system details, and stamped and signed storm water calculations used to support the conclusion. Please note that replacement of existing structures does not provide a credit to the square footage threshold.

Property Address or Legal Description: 13221 NE McNamee Road

Description of Project: M49 RESIDENCE

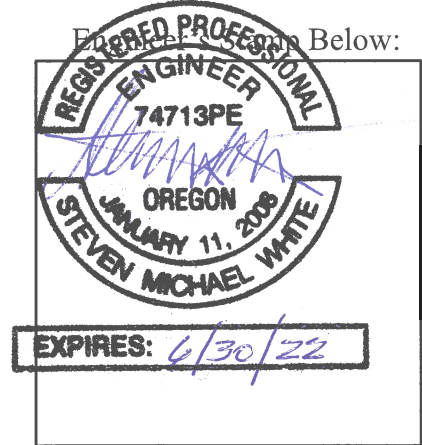
The following stormwater drainage control system will be required:

- Use of Gutter, downspout, and splash block drainage control system;
- Natural Infiltration Process; or
- Construction of an on-site storm water drainage control system.

The rate of stormwater runoff attributed to the new/replaced development for a 10-year/24-hour storm event will be no greater than that which existed prior to any development as measured from the property line or from the point of discharge into a water body with the use of the designated system [MCC 39.6235].

I certify the attached signed site plan showing the areas needed for the chosen system type, stamped and signed storm water system design details, and stamped and signed calculations dated 3-5-21 will meet the requirements listed above.

Signature: [Signature]
 Print Name: STEVE WHITE, PE
 Business Name: NW ENGINEERS
 Address: 3409 NE JOHN OLSEN AVE, Hillsboro
 Phone #: 503-601-4401
 Date: 3-5-21



NOTE TO ENGINEER: Please check one box above. Multnomah County does not use the City of Portland's storm water ordinance. As part of your review, MCC 39.6235 requires that you must consider all new, replaced, and existing structures and impervious areas and determine that the newly generated stormwater from the new or replaced impervious surfaces is in compliance with Multnomah County Code for a 10-year/24-hour storm event. This Storm Water Drainage Control Certificate does not apply to shingle or roof replacement on lawfully established structures.

§ 39.6235 STORMWATER DRAINAGE CONTROL.

(A) Persons creating new or replacing existing impervious surfaces exceeding 500 square feet shall install a stormwater drainage system as provided in this section. This subsection (A) does not apply to shingle or roof replacement on lawful structures.

(B) The provisions of this section are in addition to and not in lieu of any other provision of the code regulating stormwater or its drainage and other impacts and effects, including but not limited to regulation thereof in the SEC overlay.

(C) The provisions of this section are in addition to and not in lieu of stormwater and drainage requirements in the Multnomah County Road Rules and Design and Construction Manual, including those requirements relating to impervious surfaces and proposals to discharge stormwater onto a county right-of-way.

(D) The stormwater drainage system required in subsection (A) shall be designed to ensure that the rate of runoff for the 10-year 24-hour storm event is no greater than that which existed prior to development at the property line or point of discharge into a water body.

(E) At a minimum, to establish satisfaction of the standards in this section and all other applicable stormwater-related regulations in this code, the following information must be provided to the planning director:

(1) A site plan drawn to scale, showing the property line locations, ground topography (contours), boundaries of all ground disturbing activities, roads and driveways, existing and proposed structures and buildings, existing and proposed sanitary tank and drainfields (primary and reserve), location of stormwater disposal, trees and vegetation proposed for both removal and planting and an outline of wooded areas, water bodies and existing drywells;

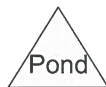
(2) Documentation establishing approval of any new stormwater surcharges to a sanitary drainfield by the City of Portland Sanitarian and/or any other agency authorized to review waste disposal systems;

(3) Certified statement, and supporting information and documentation, by an Oregon licensed Professional Engineer that the proposed or existing stormwater drainage system satisfies all standards set forth in this section and all other stormwater drainage system standards in this code; and

(4) Any other report, information, plan, certification or documentation necessary to establish satisfaction of all standards set forth in this section and all other applicable stormwater-related regulations in this code, such as, but not limited to, analyses and explanations of soil characteristics, engineering solutions, and proposed stream and upland environmental protection measures.



Original Lot



N0713--TL 702 25 Pre-Developed

Prepared by Hewlett-Packard Company

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.057	80	Small grain, SR + CR, Good, HSG C (12S)
0.057	80	TOTAL AREA

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Prepared by Hewlett-Packard Company

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.057	HSG C	12S
0.000	HSG D	
0.000	Other	
0.057		TOTAL AREA

N0713--TL 702 25 Pre-Developed

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.057	0.000	0.000	0.057	Small grain, SR + CR, Good	12S
0.000	0.000	0.057	0.000	0.000	0.057	TOTAL AREA	

N0713--TL 702 25 Pre-Developed

Type IA 24-hr 25-year Rainfall=3.90"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 12S: Original Lot

Runoff Area=2,500 sf 0.00% Impervious Runoff Depth>1.95"

Tc=5.0 min CN=80/0 Runoff=0.03 cfs 0.009 af

Total Runoff Area = 0.057 ac Runoff Volume = 0.009 af Average Runoff Depth = 1.95"

100.00% Pervious = 0.057 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 12S: Original Lot

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.03 cfs @ 7.98 hrs, Volume= 0.009 af, Depth> 1.95"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 25-year Rainfall=3.90"

Area (sf)	CN	Description
2,500	80	Small grain, SR + CR, Good, HSG C
2,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 12S: Original Lot

Hydrograph

