Multnomah County
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: 12424 NW SPRINGVILLE ROAD

Description of Project: NEW SINGLE FAMILY HOME

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 02/12/22 **will meet the requirements listed above.**

Signature: _____

Print Name: ERIK M. ESPARZA

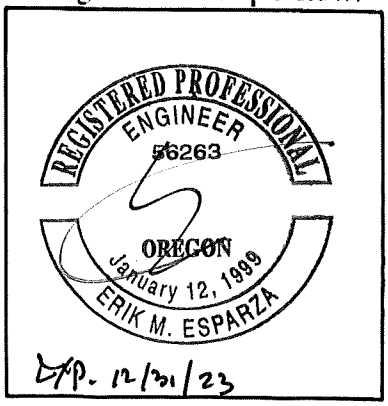
Business Name: CIVIL ENGINEER

Address: 808 SE 98th AVE, VANCOUVER, WA 98664

Phone #: 360-907-0621

Date: 02/14/22

Engineer's Stamp Below:

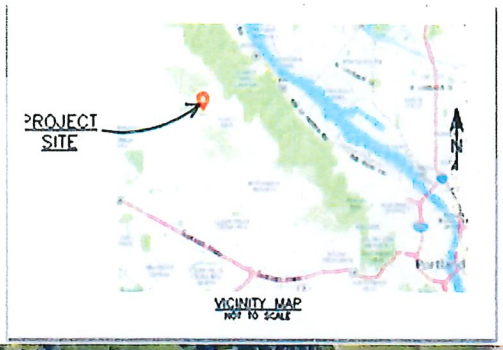


NOTE TO ENGINEER: Please check one box above. Multnomah County does not use the City of Portland's storm water ordinance. As part of your review, MCC 39.6235 requires that you must consider all new, replaced, and existing structures and impervious areas and determine that the newly generated stormwater 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.

PROJECT: **12424 NW Springville Road**

Portland, OR 97279

1N1 W15C – 00600 R96 1150770	54.49 acres
1N1 W16D – 02800 R96 1160130	22.27 acres
Total Area	76.81 acres



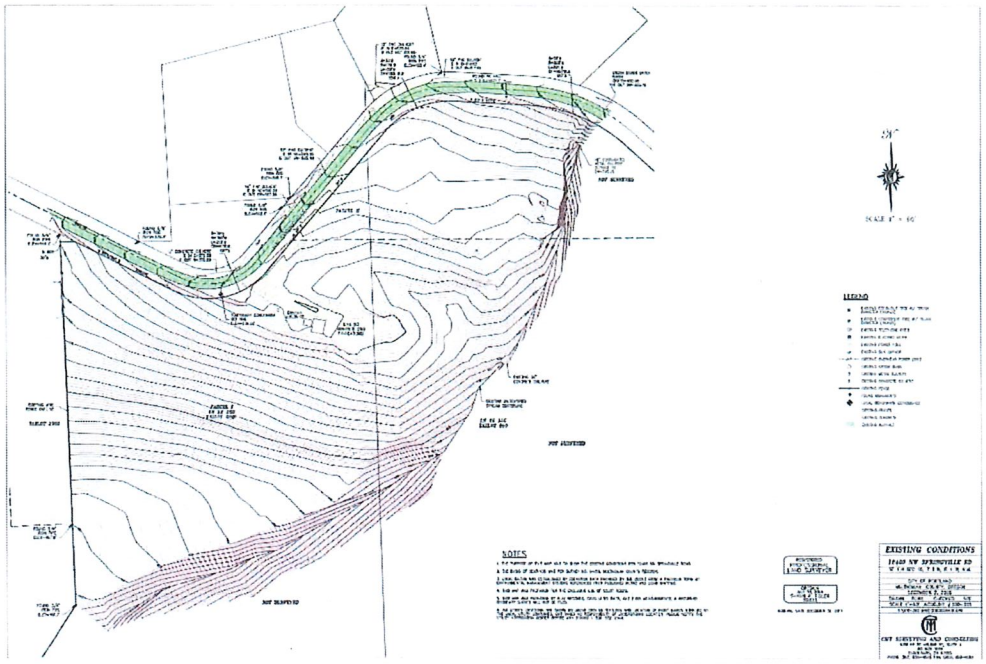
REGISTERED PROFESSIONAL ENGINEER
56263
OREGON
January 12, 1999
ERIK M. ESPARZA
12/31/23

Proposed Action:

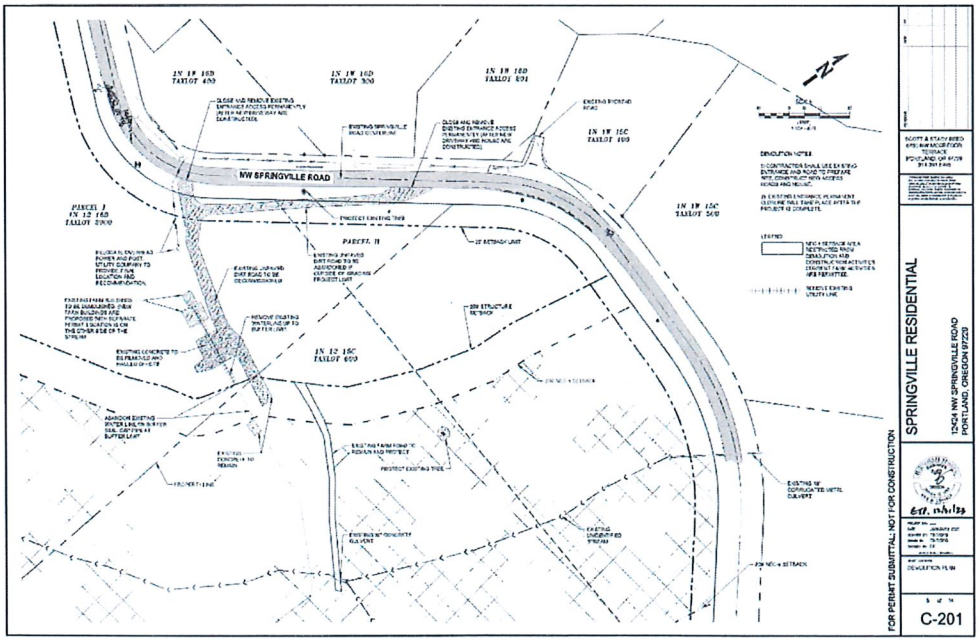
The landowner is proposing to build a new residential home on the property. The existing property consist of farmland that had 2 existing small structures (barns) in the proposed new residential home location (see figure above). There are also two relatively new structures on the southeastern portion of the property, across the small unnamed stream (see above figure). With the proposed action a Stormwater Drainage Control Certification is require per MCC 39.6235. The following report provides the calculations and assumptions for the proposed on-site drainage control system for the new residential home.

Assumptions:

WinTR-55 Small Watershed Hydrology computer modeling system was used. The following calculations were developed to analyze only the area of the proposed new residential. The area analyzed is shown below in Existing Topography and existing conditions:

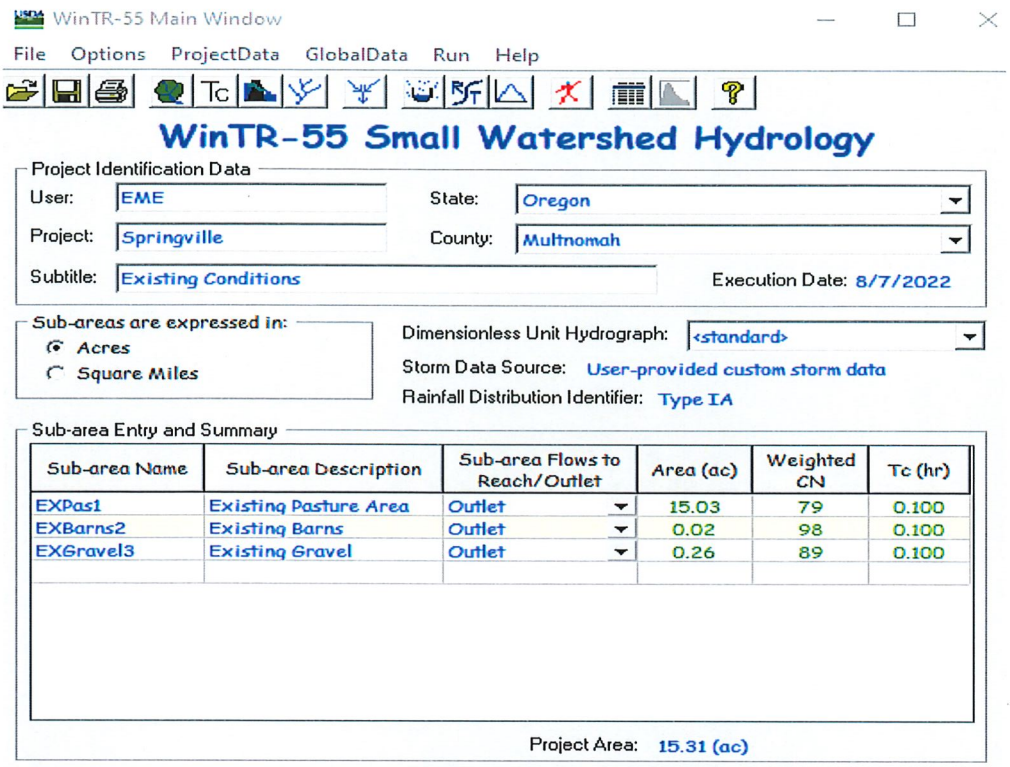


Existing Topography



Existing Conditions

The following is a summary of the **existing area** analyzed including additional data:

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EME                              Springville
                              Existing Conditions
                            Multnomah County, Oregon

                          Hydrograph Peak/Peak Time Table

 Sub-Area        Peak Flow and Peak Time (hr) by Rainfall Return Period
 or Reach       10-Yr
Identifier      (cfs)
             (hr)
-------------------------------------------------------------------------------
SUBAREAS
EXPas1            5.01
              8.01

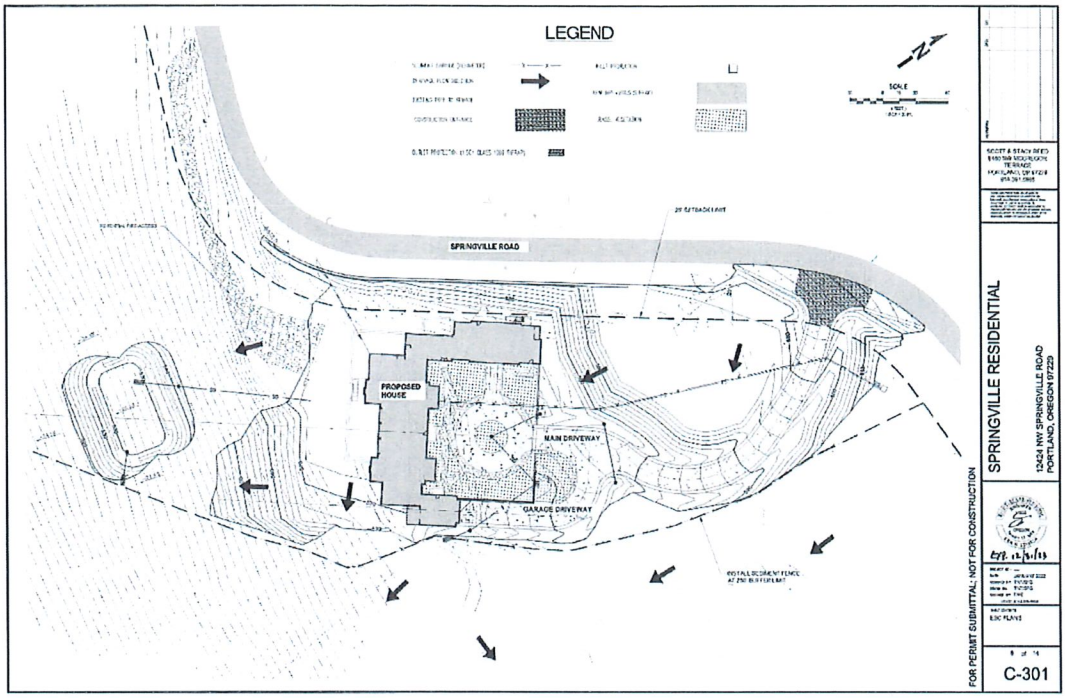
EXBarns2           .00
               n/a

EXGravel3         0.15
              7.93


REACHES

OUTLET            5.15
```

Future development with the proposed new resident can be shown in the



Future Conditions

The following is a summary of the **future area** analyzed including additional data:

WinTR-55 Main Window

File Options ProjectData GlobalData Run Help

WinTR-55 Small Watershed Hydrology

Project Identification Data

User: EME State: Oregon

Project: Springville County: Multnomah

Subtitle: Future Conditions Execution Date: 8/7/2022

Sub-areas are expressed in:
- (•) Acres
- ( ) Square Miles

Dimensionless Unit Hydrograph: <standard>

Storm Data Source: User-provided custom storm data

Rainfall Distribution Identifier: Type IA

Sub-area Entry and Summary

Sub-area Name	Sub-area Description	Sub-area Flows to Reach/Outlet	Area (ac)	Weighted CN	Tc (hr)
House1	House & Porch	Outlet	0.38	98	0.100
GravelDW2	Drive Way & walkway	Outlet	0.46	89	0.100
Remain Pas	Remaining Pasture	Outlet	14.65	79	0.100

Project Area: 15.49 (ac)

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EME                                Springville
                                Future Conditions
                              Multnomah County, Oregon

                           Hydrograph Peak/Peak Time Table

 Sub-Area          Peak Flow and Peak Time (hr) by Rainfall Return Period
 or Reach        10-Yr
Identifier       (cfs)
              (hr)
-------------------------------------------------------------------------------
SUBAREAS
House1             0.30
              7.84

GravelDW2          0.27
              7.93

Remain Pas         4.88
              8.01


REACHES

OUTLET             5.44
```
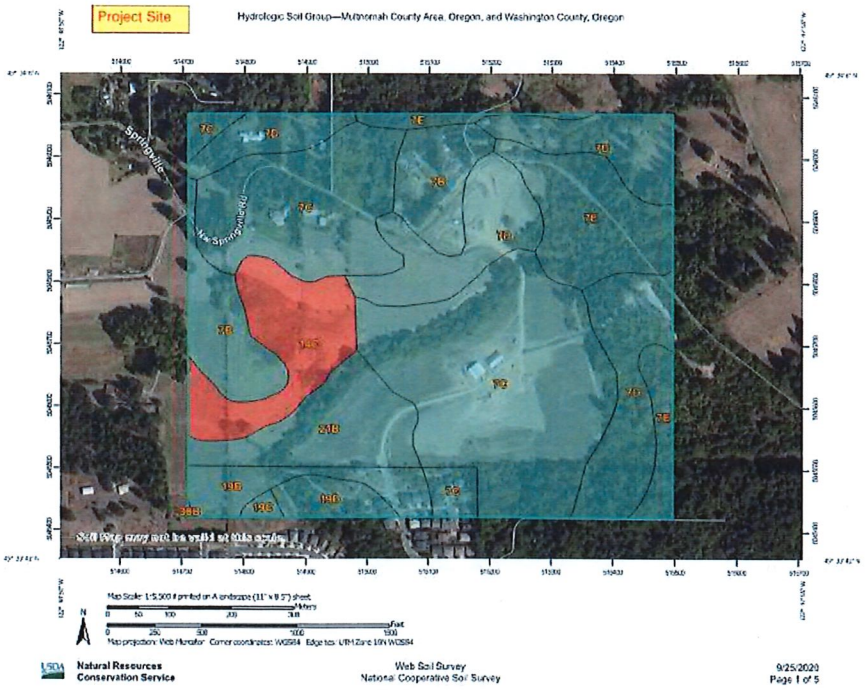

The following Rainfall Depths were used for the calculations:

Recurrence Interval (years)	24-Hour Rainfall Depth (inches)
2	2.4
5	2.9
10	3.4
25	3.8
100	4.7

The Hydraulic Soil Group were assumed to be:

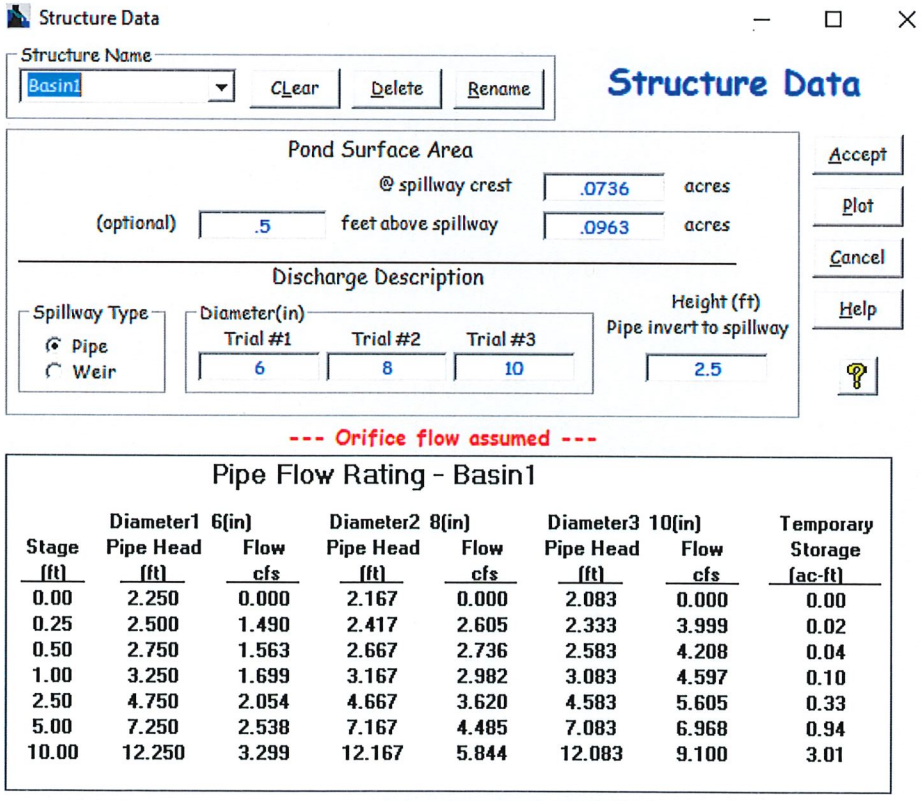


Hydrologic Soil Group

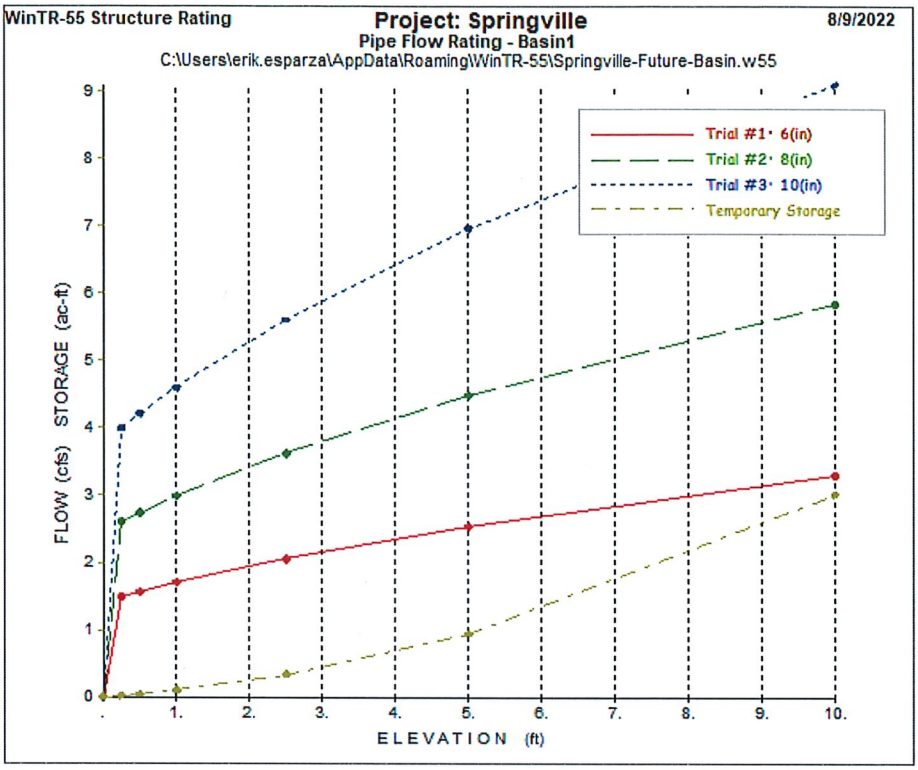
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
7B	Cascade silt loam, 3 to 8 percent slopes	C	11.7	9.2%
7C	Cascade silt loam, 8 to 15 percent slopes	C	45.7	36.1%
7D	Cascade silt loam, 15 to 30 percent slopes	C	26.9	21.2%
7E	Cascade silt loam, 30 to 60 percent slopes	C	13.9	11.0%
14C	Dayna silt loam, 3 to 12 percent slopes	D	10.0	7.9%
21B	Helvetia silt loam, 3 to 8 percent slopes	C	9.1	7.2%
Subtotals for Soil Survey Area			117.3	92.5%
Totals for Area of Interest			126.8	100.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
7C	Cascade silt loam, 7 to 12 percent slopes	C	1.6	1.3%
19B	Helvetia silt loam, 2 to 7 percent slopes	C	4.8	3.8%
19C	Helvetia silt loam, 7 to 12 percent slopes	C	0.5	0.4%
19D	Helvetia silt loam, 12 to 20 percent slopes	C	2.6	2.1%
36B	Saum silt loam, 2 to 7 percent slopes	C	0.0	0.0%
Subtotals for Soil Survey Area			9.5	7.5%
Totals for Area of Interest			126.8	100.0%

The proposed stormwater control structure (Basin1):



Stage (ft)	Diameter1 6(in) Pipe Head (ft)	Diameter1 6(in) Flow cfs	Diameter2 8(in) Pipe Head (ft)	Diameter2 8(in) Flow cfs	Diameter3 10(in) Pipe Head (ft)	Diameter3 10(in) Flow cfs	Temporary Storage (ac-ft)
0.00	2.250	0.000	2.167	0.000	2.083	0.000	0.00
0.25	2.500	1.490	2.417	2.605	2.333	3.999	0.02
0.50	2.750	1.563	2.667	2.736	2.583	4.208	0.04
1.00	3.250	1.699	3.167	2.982	3.083	4.597	0.10
2.50	4.750	2.054	4.667	3.620	4.583	5.605	0.33
5.00	7.250	2.538	7.167	4.485	7.083	6.968	0.94
10.00	12.250	3.299	12.167	5.844	12.083	9.100	3.01



Recommendations

Based on the above calculations, the proposed stormwater structure will convey no more than the existing conditions flows at 10-year/24-hour storm event. Therefore, the proposed future residential areas will have not impact to the existing drainage basin.