Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST1: Runoff Area=2,415,970 sf 0.18% Impervious Runoff Depth>3.33"
Flow Length=2,110' Slope=0.1600 '/' Tc=17.6 min CN=70 Runoff=238.68 cfs 15.390 af

Subcatchment POST1-0: Runoff Area=260,310 sf 3.77% Impervious Runoff Depth>4.06"
Tc=10.0 min CN=77 Runoff=39.15 cfs 2.023 af

Subcatchment POST1-1: Runoff Area=259,180 sf 3.36% Impervious Runoff Depth>3.75"
Tc=10.0 min CN=74 Runoff=36.33 cfs 1.859 af

Subcatchment POST1-2: Runoff Area=260,270 sf 3.77% Impervious Runoff Depth>1.74"
Tc=10.0 min CN=53 Runoff=16.75 cfs 0.865 af

Subcatchment POST1-3: Runoff Area=260,270 sf 3.77% Impervious Runoff Depth>1.74"
Tc=10.0 min CN=53 Runoff=16.75 cfs 0.865 af

Pond POND1: Peak Elev=474.75' Storage=0.975 af Inflow=108.66 cfs 5.612 af
Discarded=10.68 cfs 3.551 af Primary=84.88 cfs 2.058 af Outflow=95.56 cfs 5.609 af

Link PA1: Inflow=320.19 cfs 17.448 af
Primary=320.19 cfs 17.448 af

Total Runoff Area = 79.339 ac Runoff Volume = 21.002 af Average Runoff Depth = 3.18"
98.77% Pervious = 78.364 ac 1.23% Impervious = 0.975 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST1: Runoff Area=2,415,970 sf 0.18% Impervious Runoff Depth>1.90"
Flow Length=2,110' Slope=0.1600 '/' Tc=17.6 min CN=70 Runoff=136.10 cfs 8.797 af

Subcatchment POST1-0: Runoff Area=260,310 sf 3.77% Impervious Runoff Depth>2.48"
Tc=10.0 min CN=77 Runoff=24.33 cfs 1.235 af

Subcatchment POST1-1: Runoff Area=259,180 sf 3.36% Impervious Runoff Depth>2.23"
Tc=10.0 min CN=74 Runoff=21.89 cfs 1.104 af

Subcatchment POST1-2: Runoff Area=260,270 sf 3.77% Impervious Runoff Depth>0.78"
Tc=10.0 min CN=53 Runoff=6.80 cfs 0.390 af

Subcatchment POST1-3: Runoff Area=260,270 sf 3.77% Impervious Runoff Depth>0.78"
Tc=10.0 min CN=53 Runoff=6.80 cfs 0.390 af

Pond POND1: Peak Elev=473.98' Storage=0.726 af Inflow=59.37 cfs 3.118 af
Discarded=9.06 cfs 2.481 af Primary=33.01 cfs 0.636 af Outflow=42.07 cfs 3.116 af

Link PA1: Inflow=169.07 cfs 9.433 af
Primary=169.07 cfs 9.433 af

Total Runoff Area = 79.339 ac Runoff Volume = 11.915 af Average Runoff Depth = 1.80"
98.77% Pervious = 78.364 ac 1.23% Impervious = 0.975 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment POST1: Runoff Area=2,415,970 sf 0.18% Impervious Runoff Depth>0.55"
Flow Length=2,110' Slope=0.1600 '/' Tc=17.6 min CN=70 Runoff=35.48 cfs 2.548 af

Subcatchment POST1-0: Runoff Area=260,310 sf 3.77% Impervious Runoff Depth>0.87"
Tc=10.0 min CN=77 Runoff=8.53 cfs 0.432 af

Subcatchment POST1-1: Runoff Area=259,180 sf 3.36% Impervious Runoff Depth>0.72"
Tc=10.0 min CN=74 Runoff=6.97 cfs 0.359 af

Subcatchment POST1-2: Runoff Area=260,270 sf 3.77% Impervious Runoff Depth>0.09"
Tc=10.0 min CN=53 Runoff=0.12 cfs 0.044 af

Subcatchment POST1-3: Runoff Area=260,270 sf 3.77% Impervious Runoff Depth>0.09"
Tc=10.0 min CN=53 Runoff=0.12 cfs 0.044 af

Pond POND1: Peak Elev=471.65' Storage=0.198 af Inflow=15.54 cfs 0.878 af
Discarded=4.84 cfs 0.877 af Primary=0.00 cfs 0.000 af Outflow=4.84 cfs 0.877 af

Link PA1: Inflow=35.48 cfs 2.548 af
Primary=35.48 cfs 2.548 af

Total Runoff Area = 79.339 ac Runoff Volume = 3.426 af Average Runoff Depth = 0.52"
98.77% Pervious = 78.364 ac 1.23% Impervious = 0.975 ac

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.137	39	>75% Grass cover, Good, HSG A (POST1-0, POST1-1, POST1-2, POST1-3)
0.337	61	>75% Grass cover, Good, HSG B (POST1-0)
0.526	80	>75% Grass cover, Good, HSG D (POST1-0, POST1-1)
0.975	98	IMPERVIOUS (POST1, POST1-0, POST1-1, POST1-2, POST1-3)
5.192	30	Woods, Good, HSG A (POST1, POST1-2, POST1-3)
5.569	55	Woods, Good, HSG B (POST1)
35.448	70	Woods, Good, HSG C (POST1)
29.153	77	Woods, Good, HSG D (POST1, POST1-0, POST1-1, POST1-2, POST1-3)
79.339	**68**	**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRE1: Runoff Area=3,456,000 sf 0.00% Impervious Runoff Depth>3.03"
Flow Length=2,110' Slope=0.1600 '/' Tc=17.6 min CN=67 Runoff=311.09 cfs 20.036 af

Link PA1: Inflow=311.09 cfs 20.036 af
Primary=311.09 cfs 20.036 af

Total Runoff Area = 79.339 ac Runoff Volume = 20.036 af Average Runoff Depth = 3.03"
100.00% Pervious = 79.339 ac 0.00% Impervious = 0.000 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRE1: Runoff Area=3,456,000 sf 0.00% Impervious Runoff Depth>1.68"
Flow Length=2,110' Slope=0.1600 '/' Tc=17.6 min CN=67 Runoff=170.28 cfs 11.096 af

Link PA1: Inflow=170.28 cfs 11.096 af
Primary=170.28 cfs 11.096 af

Total Runoff Area = 79.339 ac Runoff Volume = 11.096 af Average Runoff Depth = 1.68"
100.00% Pervious = 79.339 ac 0.00% Impervious = 0.000 ac

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRE1: Runoff Area=3,456,000 sf 0.00% Impervious Runoff Depth>0.44"
Flow Length=2,110' Slope=0.1600 '/' Tc=17.6 min CN=67 Runoff=37.26 cfs 2.911 af

Link PA1: Inflow=37.26 cfs 2.911 af
Primary=37.26 cfs 2.911 af

Total Runoff Area = 79.339 ac Runoff Volume = 2.911 af Average Runoff Depth = 0.44"
100.00% Pervious = 79.339 ac 0.00% Impervious = 0.000 ac

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.017	30	Woods, Good, HSG A (PRE1)
6.074	55	Woods, Good, HSG B (PRE1)
35.448	70	Woods, Good, HSG C (PRE1)
29.800	77	Woods, Good, HSG D (PRE1)
79.339	**67**	**TOTAL AREA**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
143D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony	B	21.8	5.0%
161E	Lyman-Tunbridge-Rock outcrop complex, 25 to 60 percent slopes	D	65.5	15.1%
347B	Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony	A/D	8.2	1.9%
365E	Monadnock and Berkshire soils, 25 to 60 percent slopes, extremely stony	B	57.4	13.2%
414	Moosilauke fine sandy loam	A/D	1.4	0.3%
495	Ossipee mucky peat	B/D	7.7	1.8%
513A	Ninigret fine sandy loam, 0 to 3 percent slopes	C	5.9	1.4%
526A	Caesar loamy sand, 0 to 3 percent slopes	A	5.3	1.2%
526E	Caesar loamy sand, 15 to 50 percent slopes	A	12.1	2.8%
613B	Croghan loamy fine sand, 0 to 8 percent slopes	A	24.1	5.5%
Totals for Area of Interest			**434.9**	**100.0%**

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORI

The soil surveys that comprise your A
1:20,000.

Warning: Soil Map may not be valid a

Enlargement of maps beyond the sca
misunderstanding of the detail of map
line placement. The maps do not sho
contrasting soils that could have bee
scale.

Please rely on the bar scale on each
measurements.

Source of Map: Natural Resources
Web Soil Survey URL:
Coordinate System: Web Mercator

Maps from the Web Soil Survey are t
projection, which preserves direction
distance and area. A projection that p
Albers equal-area conic projection, s
accurate calculations of distance or a

This product is generated from the U
of the version date(s) listed below.

Soil Survey Area: Cheshire County
Survey Area Data: Version 27, Aug

Soil map units are labeled (as space
1:50,000 or larger.

Date(s) aerial images were photogra
31, 2020

The orthophoto or other base map or
compiled and digitized probably diffe
imagery displayed on these maps. A
shifting of map unit boundaries may b

ATTACHMENTS

Inspection and Maintenance Log
Extreme Precipitation Tables
Hydrologic Soil Group Map
Pre-Development Condition HydroCAD Analysis
Post-Development Condition HydroCAD Analysis
Erosion Control and Stormwater Management Plan

Respectfully submitted,

Stephanie L. Richard

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SITE DESCRIPTION

The site is an approximately 81-acre undeveloped lot. Average site slopes are 15-25%. The lot has frontage on Scotland Road and Pudding Hill Road.

PRE-DEVELOPMENT CONDITIONS

The pre-development conditions were analyzed based on site conditions of an entirely undeveloped wooded lot.

POST-DEVELOPMENT CONDITIONS

The post-development conditions were analyzed based on an assumed residential development scenario. Each proposed lot was assumed to be developed with 10,890 square feet of impervious area (from house, driveway, etc), 32,670 square feet of grass lawn, for a total developed area of 1 acre.

STORMWATER MANAGEMENT PLAN

Additional runoff resulting from the assumed residential development can be managed using typical best management practices stormwater ponds. The stormwater management measures were designed using HydroCAD software and were sized for peak runoff during the 25-year design storm.

Erosion control measures shall be used during construction including construction fence and silt socks or silt fence.

Wetlands and wetland buffers shall not be disturbed.

PRE- AND POST-DEVELOPMENT COMPARISIONS

The pre- and post-development flow conditions were analyzed for the 2, 10-, 25-, 50-, and 100-year design storms. Data for the 2-, 10-, and 25-year design storms is shown below. Data for the remaining design storms can be found in the attached HydroCAD calculations. The rainfall data was taken from the Northeast Regional Climate Center. The 25-year design storm is 5.08 inches over a 24-hour period.

The peak runoff rates for the pre- and post-development conditions are as follows:

	PRE1	POST1
2-year	37.26 cfs	35.48 cfs
10-year	106.92 cfs	92.12 cfs
25-year	170.28 cfs	169.07 cfs

The peak runoff rates in the post-development condition are less than the peak runoff rates in the pre-development condition.