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Drainage Summary Report

Property of Darren & Caren Cohen – 960 Green Meadow Lane, Mamaroneck, NY

The owners propose constructing an addition on their property on Green Meadow Lane. The site presently consists of a residence, pool, patio, walkways and driveway. The proposed improvements to the 26,534.5 square-foot site will increase the impervious area on the site by approximately 736 SF. This report will show that the runoff from the rear of the proposed house addition and gravel backout area will be treated in an underground stormwater detention system and will not have an adverse impact on downslope properties or drainage facilities.

Presently runoff from the site flows generally from a high point at the house, then northerly and westerly across the property, towards adjacent parcels, and ultimately into the street. The existing roof leaders discharge through the existing front stone wall onto the street. Runoff from the existing house and driveway flows untreated and unabated off the site. The proposed construction will not alter the existing drainage paths onto and off this site.

Our office has analyzed the increase in runoff rate generated by the 1-, 2-, 5-, 10-, 25-, 50- and 100-Year, 24-Hour Storms. The entire parcel, including the existing house, driveway, walkways, pool and patios have been identified as “Site” in the enclosed existing conditions analysis. Using the Soil Conservation Service TR-20 Method, the increase in runoff rate was calculated for the pre- and post-development conditions for the site including the new proposals. Under the proposed conditions analysis, the rear of the proposed addition, as well as the proposed gravel back-out area and the lawn that drains to this area, have been included in the “Rear Addition” sub-watershed. The remainder of the site (including the front of the proposed addition and the aforementioned impervious surfaces) has been included in the “Site” sub-watershed. Table I below summarizes the existing and proposed runoff rates for the design storms.

Table I – Summary of Runoff Rates from Site

Storm Event	Flow/Volume	Existing	Proposed	Δ	$\Delta(\%)$
1-Year	q (cfs)	0.73	0.70	-0.03	-4.11%
	v (CF)	3,012.00	2,881.00	-131.00	-4.35%
2-Year	q (cfs)	0.95	0.91	-0.04	-4.21%
	v (CF)	3,913.00	3,742.00	-171.00	-4.37%
5-Year	q (cfs)	1.37	1.31	-0.06	-4.38%
	v (CF)	5,620.00	5,375.00	-245.00	-4.36%
10-Year	q (cfs)	1.75	1.67	-0.08	-4.57%
	v (CF)	7,200.00	6,886.00	-314.00	-4.36%
25-Year	q (cfs)	2.37	2.27	-0.10	-4.22%
	v (CF)	9,846.00	9,417.00	-429.00	-4.36%
50-Year	q (cfs)	2.95	2.82	-0.13	-4.41%
	v (CF)	12,344.00	11,807.00	-537.00	-4.35%
100-Year	q (cfs)	3.67	3.51	-0.16	-4.36%
	v (CF)	15,514.00	14,839.00	-675.00	-4.35%

To achieve the decrease in runoff rates shown in Table I above, we propose retaining the runoff from the back of the proposed addition in the gravel beneath the proposed GravelPave2 garage back-out area. This area will have approximately two (2) feet of stone beneath it, and will have a void storage volume of 483 CF. The Water Quality Volume (“WQV”) for the site is 114.7 CF, which will be detained in the stone beneath the GravelPave2 driveway. It is important to note that the surface area of the rear addition and driveway back-out area is greater than the increase in impervious area for the site, so the driveway will be treating the equivalent of the increase in impervious area. Based on the test holes performed on the site, the bottom of the gravel will be set three (3) feet above mottling or groundwater.

Because the limits of disturbance associated with the construction of the addition and driveway is greater than 1,000 SF, we have prepared a Stormwater Pollution Prevention Plan (SWPPP) per Section 294-8B of the Village of Mamaroneck Village Code (“the Code”). Below is a description of how the SWPPP is consistent with Subsections 1-3 of Section 294-8B of the Code:

(1) All SWPPPs shall provide the following background information and erosion and sediment controls:

(a) “Background information about the scope of the project, including location, type and size of project”

Stated above.

(b) “Site map/construction drawing(s) at a scale not smaller than one inch equals 50 feet, or as otherwise approved by the SMO, for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharges(s);”

See site plan.

(c) “Description of the soil(s) present at the site;”

See soil data on Sheet 1 of the site plan.

(d) “Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (Erosion Control Manual), not more than five acres shall be disturbed at any one time unless pursuant to an approved SWPPP;”

See Sheet 2 of the site plan.

(e) “Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;”

Silt fence, gravel anti-tracking pads and stockpile areas as shown on the plan will achieve this goal.

(f) “Description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;”

Soil stockpiles ringed with silt fence, and the silt fence itself, will minimize exposing construction and waste materials from entering stormwater.

(g) “Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project closeout;”

See construction sequence on Sheet 2 of the site plan.

(h) “A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;”

See Sheet 2 of the site plan set.

(i) “Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;”

See Sheet 2 of the site plan.

(j) “Temporary practices that will be converted to permanent control measures;”

All temporary erosion controls will be removed, and exposed areas will be vegetated as lawn as a permanent control measure.

(k) “Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;”

See Sheet 2 of the site plan.

(l) “Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;”

See Sheet 2 of the site plan.

(m) “Name(s) of the receiving water(s);”

Runoff from this site ultimately enters Long Island Sound approximately 1,000 feet away from the parcel.

(n) Delineation of SWPPP implementation responsibilities for each part of the site;

See Sheet 2 of the site plan.

(o) Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and

The proposed silt fence will achieve this goal.

(p) Any existing data that describes the stormwater runoff at the site.

See the narrative on Page 1 above.

(2) Postconstruction runoff controls for new development and redevelopment projects.

(a) “All construction activities for new development resulting in a land disturbance greater than 200 square feet and less than 2,000 square feet shall include stormwater quantity controls, as described in the New York State Stormwater Management Design Manual, to attenuate the postdevelopment twenty-five-year design storm, twenty-four-hour peak discharge rate (Qf) to predevelopment rates.”

Not applicable as described above.

(b) “All construction activities resulting in a land disturbance greater than 2,000 square feet and less than one acre shall include stormwater quality and quantity controls (postconstruction stormwater runoff controls), as set forth in § **294-9** and described in the Design Manual, to provide treatment of the water quality volume (WQv) through runoff reduction, and to attenuate the postdevelopment twenty-five-year design storm, twenty-four-hour peak discharge rate (Qf) to predevelopment rates.”

See explanation on Page 2 for this report.

(c) "All construction activities for new development resulting in a land disturbance greater than one acre shall include stormwater quality and quantity controls (postconstruction stormwater runoff controls), as set forth in § **294-9** and described in the Design Manual, to provide treatment of the water quality volume (WQv) through runoff reduction, and to attenuate the postdevelopment one-, ten- and one-hundred-year design storms, twenty-four-hour peak discharge rate (Qf) to predevelopment rates."

Not applicable as site disturbance is less than one acre.

(d) "Additionally, stormwater runoff from land development and redevelopment activities discharging a pollutant of concern to either an impaired water identified on the Department's 303(d) list of impaired waters or a total maximum daily load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of the impairment shall comply with the requirements for postconstruction stormwater control as outlined in Subsection **B(2)(c)** above."

Not applicable to this project.

(e) "All construction activities that meet the "redevelopment project" criteria shall comply with items in Subsection **B(2)(a)** through **(d)** above, including "Chapter **9**: Redevelopment Projects" of the Design Manual. The sizing criteria described in Chapter **9** cannot be used to address runoff from new development. If a construction project includes both new development and redevelopment, the stormwater management practices for the new development portion of the project must be designed in accordance with the sizing criteria in Chapter 4 of the Design Manual, and the redevelopment portion of the project is subject to the sizing criteria in Section 9.3.2 of the Design Manual."

This project can be considered a redevelopment as it is for a residential addition and driveway on a site that has an existing house and driveway. We have complied with this section of the Code as we explain how we have addressed Section 294-B(2) above.

(3) SWPPP requirements:

(a) "All information in § **294-7** of this chapter;"

This drainage summary report and our site plan set contain this information.

(b) "Description of each postconstruction stormwater management practice (practices shall be as approved in Chapter 4 of the New York State DEC Stormwater Design Manual);"

See Sheet 2 of the site plan.

(c) "Site map/construction drawing(s) showing the specific location(s) and size(s) of each postconstruction stormwater management practice;"

See Sheet 1 of the site plan.

(d) “Hydrologic and hydraulic analysis for all structural components of the stormwater management system for the applicable design storms;”

See enclosed HydroCAD analysis for both existing and proposed conditions that accompanies this report.

(e) “Comparison of postdevelopment stormwater runoff conditions with predevelopment conditions;”

See Page 1 of this report.

(f) “Dimensions, material specifications and installation details for each postconstruction stormwater management practice;”

See Sheet 2 of the site plan.

(g) Maintenance schedule to ensure continuous and effective operation of each postconstruction stormwater management practice;

See Sheet 2 of the site plan.

(h) “Maintenance easements, if applicable, to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property;”

Not applicable to this project.

(i) “Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management practices in accordance with § **294-9** of this chapter;”

A maintenance schedule has been included on Sheet 2 of the plan set.

(j) The SWPPP shall be prepared by a New York State licensed professional engineer, certified professional in erosion and sediment control (CPESC), or licensed landscape architect and must be signed by the professional preparing the plan, who shall certify that the design of all stormwater management practices meets the requirements in this chapter.

Drainage plan and drainage summary report were prepared by a Licensed Professional Engineer in the State of New York.

With the proposed structures in place, it is our professional opinion that there will be no adverse hydrological or hydraulic impacts caused to surrounding or downstream properties or drainage facilities by this development. Under the New York State Department of Environmental Conservation (NYSDEC) regulations, a Notice of Intent (NOI) is not required for this project because the amount of on-site disturbance is less than one acre. To the best of my knowledge, this drainage proposal complies with the NYSDEC and Village of Mamaroneck Stormwater Regulations.

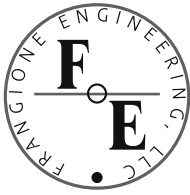


Enclosures

Respectfully submitted,
Frangione Engineering, LLC

A handwritten signature in blue ink, appearing to read "R. Frangione", written over the printed name.

Robert M. Frangione, P.E.
Owner & Chief Engineer
April 26, 2023



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Storm Water Quality Calculations
Cohen – 960 Green Meadow Lane, Mamaroneck, NY
April 21, 2023

Water Quality Volume (WQV) – Proposed Addition and Driveway

Total Contributing Area = 0.026 ac. = 1,156 SF

Note: Impervious Area being treated (926 SF) is greater than impervious area increase, which is 736 SF.

Impervious Area = 926 SF = 0.021 ac.

Woods Area = 0 SF = 0.0 ac.

Lawn Area = 230 SF = 0.005 ac.

$$\%I = (0.021/0.026) = 0.808$$

$$RvI = 0.95$$

$$\%T = (0.005/0.026) = 0.192$$

$$RvT = 0.22$$

$$\%F = (0.00/0.063) = 0.0$$

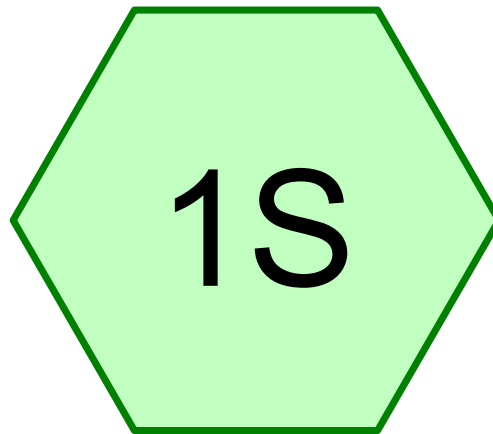
$$RvF = 0.04$$

$$\begin{aligned} R &= (RvI \times \%I) + (RvT \times \%T) + (RvF \times \%F) \\ &= (0.95)(0.808) + (0.22)(0.192) + (0.04)(0.0) = 0.81 \end{aligned}$$

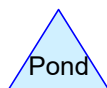
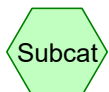
$$\begin{aligned} WQV &= (1.5'' \times R \times A)/12 \\ &= (1.5'' \times 0.81 \times 0.026 \text{ ac.})/12 = 0.0026 \text{ ac.-ft.} = 114.7 \text{ CF} \end{aligned}$$

Proposed Detention Facility: GravelPave2 Driveway with 24" of stone beneath

Volume of Storage Provided = 483 CF (per HydroCAD analysis) > WQV.



Site



Routing Diagram for 960 Green Meadow Existing
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960 Green Meadow Existing*Type III 24-hr 100-Year Rainfall=9.10"*

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Events for Subcatchment 1S: Site

Event	Runoff (cfs)	Volume (cubic-feet)
1-Year	0.73	3,012
2-Year	0.95	3,913
5-Year	1.37	5,620
10-Year	1.75	7,200
25-Year	2.37	9,846
50-Year	2.95	12,344
100-Year	3.67	15,514

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Type III 24-hr 100-Year Rainfall=9.10"

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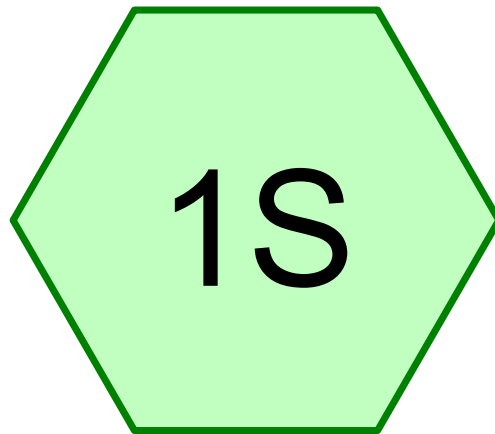
Summary for Subcatchment 1S: Site

Runoff = 3.67 cfs @ 12.20 hrs, Volume= 15,514 cf, Depth> 7.02"

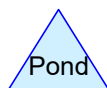
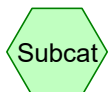
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	3,611	98	Ex. House
*	2,911	98	Ex. pool & patio
*	2,031	98	Ex. Drive
*	732	98	Ex. Walks
*	100	98	Ex. Pads
*	201	98	Ex. Stepping Stones
	16,949	74	>75% Grass cover, Good, HSG C
	26,535	83	Weighted Average
	16,949		63.87% Pervious Area
	9,586		36.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0170	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.50"
0.6	98	0.0310	2.83		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
15.2	198	Total			



Site



Routing Diagram for 960 Green Meadow Existing
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960 Green Meadow Existing

Type III 24-hr 1-Year Rainfall=2.90"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=26,535 sf 36.13% Impervious Runoff Depth>1.36"
Flow Length=198' Tc=15.2 min CN=83 Runoff=0.73 cfs 3,012 cf

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Type III 24-hr 2-Year Rainfall=3.40"

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment 1S: Site

Runoff Area=26,535 sf 36.13% Impervious Runoff Depth>1.77"
Flow Length=198' Tc=15.2 min CN=83 Runoff=0.95 cfs 3,913 cf

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Type III 24-hr 5-Year Rainfall=4.30"

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment 1S: Site

Runoff Area=26,535 sf 36.13% Impervious Runoff Depth>2.54"
Flow Length=198' Tc=15.2 min CN=83 Runoff=1.37 cfs 5,620 cf

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Type III 24-hr 10-Year Rainfall=5.10"

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment 1S: Site

Runoff Area=26,535 sf 36.13% Impervious Runoff Depth>3.26"
Flow Length=198' Tc=15.2 min CN=83 Runoff=1.75 cfs 7,200 cf

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Type III 24-hr 25-Year Rainfall=6.40"

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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment 1S: Site

Runoff Area=26,535 sf 36.13% Impervious Runoff Depth>4.45"
Flow Length=198' Tc=15.2 min CN=83 Runoff=2.37 cfs 9,846 cf

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Type III 24-hr 50-Year Rainfall=7.60"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=26,535 sf 36.13% Impervious Runoff Depth>5.58"
Flow Length=198' Tc=15.2 min CN=83 Runoff=2.95 cfs 12,344 cf

960 Green Meadow Existing*Type III 24-hr 100-Year Rainfall=9.10"*

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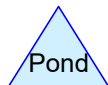
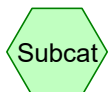
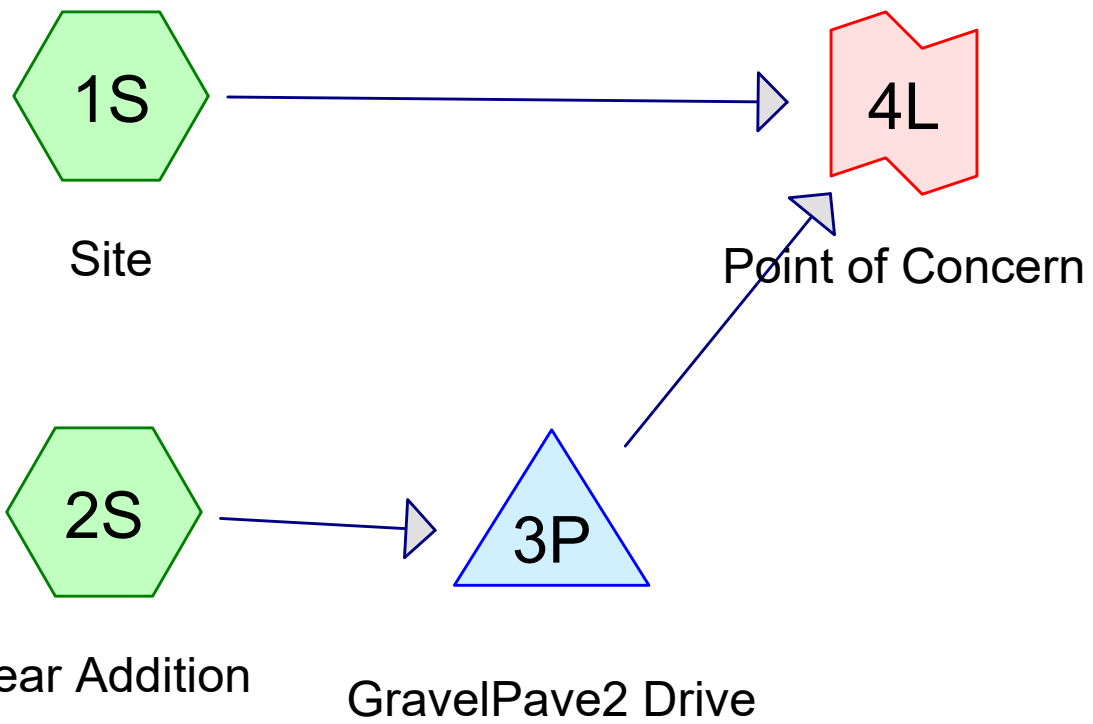
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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

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

Subcatchment 1S: SiteRunoff Area=26,535 sf 36.13% Impervious Runoff Depth>7.02"
Flow Length=198' Tc=15.2 min CN=83 Runoff=3.67 cfs 15,514 cf



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Events for Link 4L: Point of Concern

Event	Primary (cfs)	Volume (cubic-feet)
1-Year	0.70	2,881
2-Year	0.91	3,742
5-Year	1.31	5,375
10-Year	1.67	6,886
25-Year	2.27	9,417
50-Year	2.82	11,807
100-Year	3.51	14,839

960 Green Meadow Proposed

Type III 24-hr 100-Year Rainfall=9.10"

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Summary for Subcatchment 1S: Site

Runoff = 3.51 cfs @ 12.20 hrs, Volume= 14,839 cf, Depth> 7.02"
 Routed to Link 4L : Point of Concern

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs
 Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	3,964	98	Ex. House w. addition
*	2,911	98	Ex. pool & patio
*	1,312	98	Pr. Asphalt Drive
	214	96	Gravel surface, HSG C
*	694	98	Pr. Walks
*	100	98	Ex. Pads
*	201	98	Ex. Stepping Stones
	15,983	74	>75% Grass cover, Good, HSG C
	25,379	83	Weighted Average
	16,197		63.82% Pervious Area
	9,182		36.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0170	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.50"
0.6	98	0.0310	2.83		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
15.2	198	Total			

960 Green Meadow Proposed

Type III 24-hr 100-Year Rainfall=9.10"

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Summary for Subcatchment 2S: Rear Addition

Runoff = 0.23 cfs @ 12.08 hrs, Volume= 795 cf, Depth> 8.25"
Routed to Pond 3P : GravelPave2 Drive

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=9.10"

	Area (sf)	CN	Description
*	351	98	Rear of Addition
*	575	98	GravelPave2 Drive
*	230	74	Lawn pitched to drive, HSG C
	1,156	93	Weighted Average
	230		19.90% Pervious Area
	926		80.10% Impervious Area

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

960 Green Meadow Proposed

Type III 24-hr 100-Year Rainfall=9.10"

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Summary for Pond 3P: GravelPave2 Drive

Inflow Area = 1,156 sf, 80.10% Impervious, Inflow Depth > 8.25" for 100-Year event
 Inflow = 0.23 cfs @ 12.08 hrs, Volume= 795 cf
 Outflow = 0.03 cfs @ 12.59 hrs, Volume= 795 cf, Atten= 86%, Lag= 30.5 min
 Discarded = 0.03 cfs @ 12.59 hrs, Volume= 795 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 4L : Point of Concern

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2
 Peak Elev= 31.03' @ 12.59 hrs Surf.Area= 575 sf Storage= 240 cf

Plug-Flow detention time= 47.7 min calculated for 795 cf (100% of inflow)
 Center-of-Mass det. time= 47.6 min (809.3 - 761.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	29.99'	494 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.99	575	0.0	0	0
30.00	575	40.0	2	2
31.00	575	40.0	230	232
32.00	575	40.0	230	462
32.09	575	40.0	21	483
32.10	575	100.0	6	489
32.11	575	100.0	6	494

Device	Routing	Invert	Outlet Devices
#1	Discarded	29.99'	2.040 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 24.40'
#2	Primary	32.00'	28.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Discarded OutFlow Max=0.03 cfs @ 12.59 hrs HW=31.03' (Free Discharge)
 ↑1=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=29.99' (Free Discharge)
 ↑2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

960 Green Meadow Proposed*Type III 24-hr 100-Year Rainfall=9.10"*

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Stage-Area-Storage for Pond 3P: GravelPave2 Drive

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
29.99	575	0
30.04	575	12
30.09	575	23
30.14	575	34
30.19	575	46
30.24	575	58
30.29	575	69
30.34	575	81
30.39	575	92
30.44	575	103
30.49	575	115
30.54	575	127
30.59	575	138
30.64	575	149
30.69	575	161
30.74	575	173
30.79	575	184
30.84	575	196
30.89	575	207
30.94	575	218
30.99	575	230
31.04	575	242
31.09	575	253
31.14	575	264
31.19	575	276
31.24	575	288
31.29	575	299
31.34	575	311
31.39	575	322
31.44	575	333
31.49	575	345
31.54	575	357
31.59	575	368
31.64	575	379
31.69	575	391
31.74	575	403
31.79	575	414
31.84	575	426
31.89	575	437
31.94	575	448
31.99	575	460
32.04	575	471
32.09	575	483

960 Green Meadow Proposed

Type III 24-hr 100-Year Rainfall=9.10"

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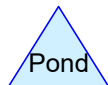
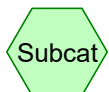
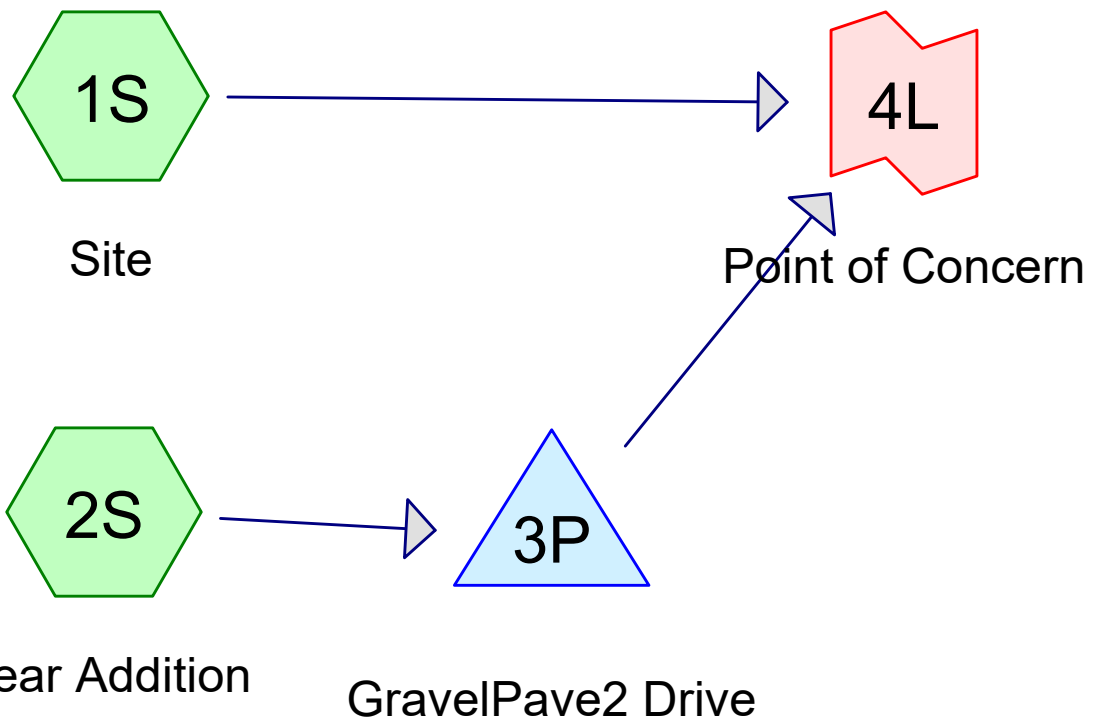
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Summary for Link 4L: Point of Concern

Inflow Area = 26,535 sf, 38.09% Impervious, Inflow Depth > 6.71" for 100-Year event
Inflow = 3.51 cfs @ 12.20 hrs, Volume= 14,839 cf
Primary = 3.51 cfs @ 12.20 hrs, Volume= 14,839 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs



960 Green Meadow Proposed

Type III 24-hr 1-Year Rainfall=2.90"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>1.36"
Flow Length=198' Tc=15.2 min CN=83 Runoff=0.70 cfs 2,881 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>2.16"
Tc=6.0 min CN=93 Runoff=0.07 cfs 208 cf

Pond 3P: GravelPave2 Drive

Peak Elev=30.09' Storage=23 cf Inflow=0.07 cfs 208 cf
Discarded=0.03 cfs 208 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 208 cf

Link 4L: Point of Concern

Inflow=0.70 cfs 2,881 cf
Primary=0.70 cfs 2,881 cf

960 Green Meadow Proposed

Type III 24-hr 2-Year Rainfall=3.40"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>1.77"
Flow Length=198' Tc=15.2 min CN=83 Runoff=0.91 cfs 3,742 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>2.64"
Tc=6.0 min CN=93 Runoff=0.08 cfs 254 cf

Pond 3P: GravelPave2 Drive

Peak Elev=30.15' Storage=36 cf Inflow=0.08 cfs 254 cf
Discarded=0.03 cfs 254 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 254 cf

Link 4L: Point of Concern

Inflow=0.91 cfs 3,742 cf
Primary=0.91 cfs 3,742 cf

960 Green Meadow Proposed

Type III 24-hr 5-Year Rainfall=4.30"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>2.54"
Flow Length=198' Tc=15.2 min CN=83 Runoff=1.31 cfs 5,375 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>3.51"
Tc=6.0 min CN=93 Runoff=0.10 cfs 338 cf

Pond 3P: GravelPave2 Drive

Peak Elev=30.27' Storage=64 cf Inflow=0.10 cfs 338 cf
Discarded=0.03 cfs 338 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 338 cf

Link 4L: Point of Concern

Inflow=1.31 cfs 5,375 cf
Primary=1.31 cfs 5,375 cf

960 Green Meadow Proposed

Type III 24-hr 10-Year Rainfall=5.10"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>3.26"
Flow Length=198' Tc=15.2 min CN=83 Runoff=1.67 cfs 6,886 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>4.29"
Tc=6.0 min CN=93 Runoff=0.12 cfs 414 cf

Pond 3P: GravelPave2 Drive

Peak Elev=30.39' Storage=91 cf Inflow=0.12 cfs 414 cf
Discarded=0.03 cfs 414 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 414 cf

Link 4L: Point of Concern

Inflow=1.67 cfs 6,886 cf
Primary=1.67 cfs 6,886 cf

960 Green Meadow Proposed

Type III 24-hr 25-Year Rainfall=6.40"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>4.45"
Flow Length=198' Tc=15.2 min CN=83 Runoff=2.27 cfs 9,417 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>5.57"
Tc=6.0 min CN=93 Runoff=0.16 cfs 537 cf

Pond 3P: GravelPave2 Drive

Peak Elev=30.59' Storage=138 cf Inflow=0.16 cfs 537 cf
Discarded=0.03 cfs 537 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 537 cf

Link 4L: Point of Concern

Inflow=2.27 cfs 9,417 cf
Primary=2.27 cfs 9,417 cf

960 Green Meadow Proposed

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Type III 24-hr 50-Year Rainfall=7.60"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>5.58"
Flow Length=198' Tc=15.2 min CN=83 Runoff=2.82 cfs 11,807 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>6.76"
Tc=6.0 min CN=93 Runoff=0.19 cfs 651 cf

Pond 3P: GravelPave2 Drive

Peak Elev=30.79' Storage=183 cf Inflow=0.19 cfs 651 cf
Discarded=0.03 cfs 651 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 651 cf

Link 4L: Point of Concern

Inflow=2.82 cfs 11,807 cf
Primary=2.82 cfs 11,807 cf

960 Green Meadow Proposed

Type III 24-hr 100-Year Rainfall=9.10"

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Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 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 1S: Site

Runoff Area=25,379 sf 36.18% Impervious Runoff Depth>7.02"
Flow Length=198' Tc=15.2 min CN=83 Runoff=3.51 cfs 14,839 cf

Subcatchment 2S: Rear Addition

Runoff Area=1,156 sf 80.10% Impervious Runoff Depth>8.25"
Tc=6.0 min CN=93 Runoff=0.23 cfs 795 cf

Pond 3P: GravelPave2 Drive

Peak Elev=31.03' Storage=240 cf Inflow=0.23 cfs 795 cf
Discarded=0.03 cfs 795 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 795 cf

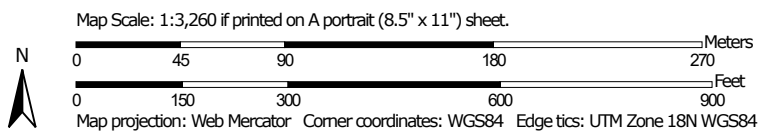
Link 4L: Point of Concern

Inflow=3.51 cfs 14,839 cf
Primary=3.51 cfs 14,839 cf

Hydrologic Soil Group—Westchester County, New York (960 Green Meadow Lane Soil Map)



Soil Map may not be valid at this scale.




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

4/21/2023
Page 1 of 4

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 INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Westchester County, New York
 Survey Area Data: Version 18, Sep 10, 2022

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
UhB	Urban land-Charlton complex, 3 to 8 percent slopes	D	9.6	35.5%
UIC	Urban land-Charlton-Chatfield complex, rolling, very rocky		17.4	64.3%
W	Water		0.1	0.2%
Totals for Area of Interest			27.1	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.


If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Project Identification:		Cohen			Hole 1		
Test Location:		960 Green Meadow			Depth = 34"		
Liquid Used:		Water	pH:	7.0			
Tested By:		RMF					
Depth to water table:		>60"					
							Remarks
Trial #	Start / End	Date MM/DD/YY	Time HR:MIN	Elapsed Time Chg/(Total) Min	Gauge Depth, in.	Inner Infiltration Rate in/Hr.	Weather conditions Etc...
1	Start Test	4/7/2023	12:33	0:15	0.06		57 degrees & overcast
	End Test	"	12:48	0:15	1.00	3.75	
2	Start Test	"	12:49	0:15	0.06		
	End Test	"	1:04	0:30	1.19	4.50	
3	Start Test	"	1:05	0:15	0.06		
	End Test	"	1:20	0:45	1.06	4.00	
					Average	4.08	
					Design rate (50% Clog)	2.04	