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ENGINEERING REPORT – STORM WATER MANAGEMENT

PROJECT : NO. 7 RIMMON HILL ROAD
BEACON FALLS, CONNECTICUT
PROPOSED RESIDENTIAL STRUCTURE

PREPARED BY: EDWARD C. LEAVY P.E

December 8, 2022

General Information Approximately on-half the site will remain undisturbed by the proposed construction of a multi-family residential structure as will the area. Proposed construction will result in impervious areas consisting of the residential structure and driveway. The volume of water generated by the first inch of rain Water Quality Volume) was calculated and also the increase of storm water from a two -year frequency storm. Additional storm water resulting from the new construction will be accommodated by twelve Cultec Recharger units set in crushed stone. Two yard drains will collect the surface water. One will also serve as a overflow drain.

Design Methodology

In calculating the runoff resulting from the proposed improvements, a Type III, 24-hour storm was used. Intellisolve software was used which utilizes the SCS method. The minimum five minutes time of concentration recommended was used because of the short travel distance (hydraulic length). CN value of 61 was used for pre-construction and a composite CN of 69.5 was used 98 for post construction.

Post-construction CN

0.133 acres x 98 = 13.034
0.447 acres x 61 = 27.267
Composite CN = 40.301/0.580 = 69.5

Results

Hydrographs for pre-construction, No.1 and post-construction, No.2 are included in this report.
Preconstruction: Peak Flow – 0.05 cfs. Volume - 447 cu. ft.
Post Construction: Peak Flow – 0.27 cfs. Volume – 1,054 cu. ft
Increase in volume – 607 cu. ft.

Proposed System

Twelve Recharger Units – Capacity 694.4 cu. ft.

Edward C. Leavy

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

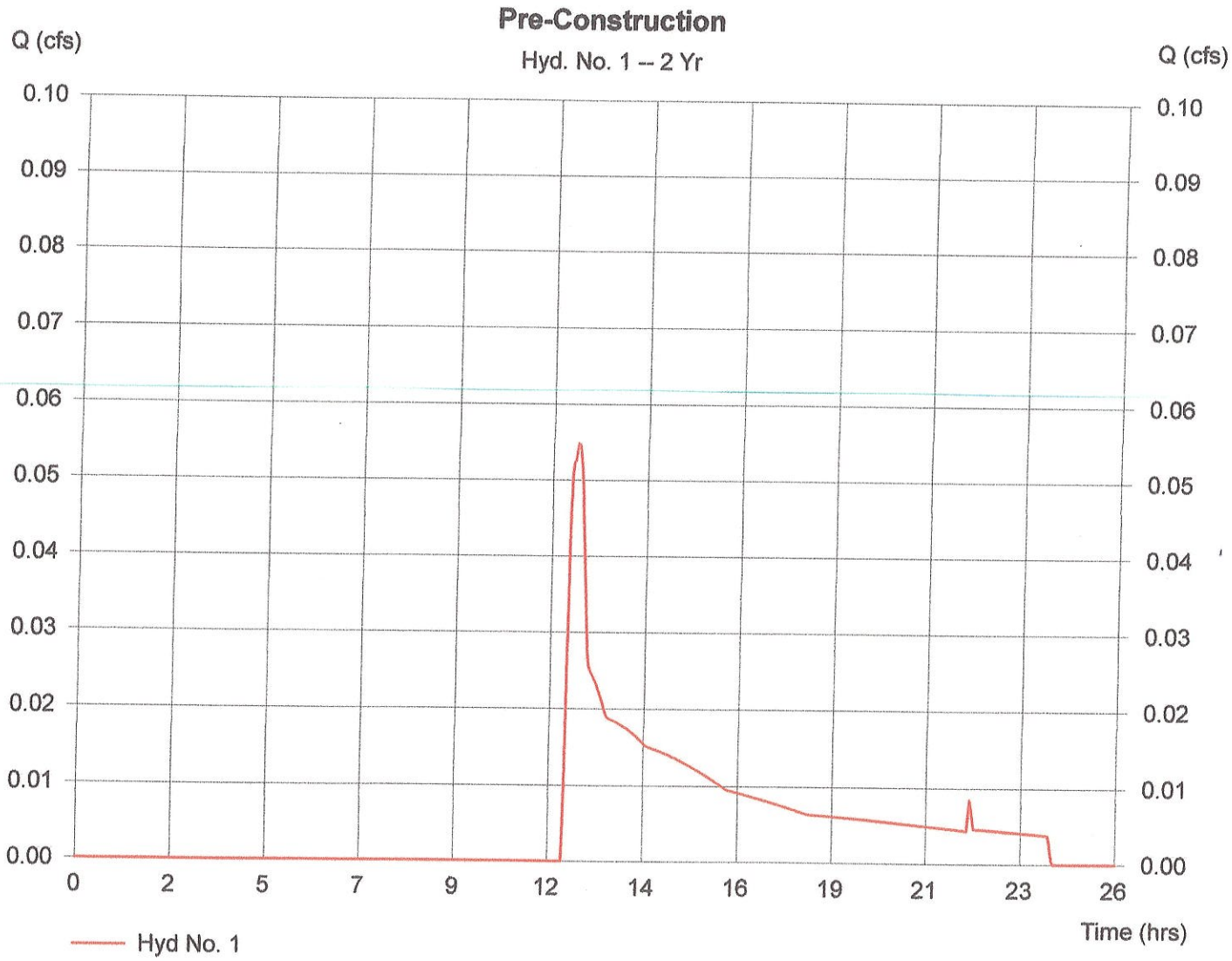
Friday, Dec 9 2022, 6:39 AM

Hyd. No. 1

Pre-Construction

Hydrograph type	= SCS Runoff	Peak discharge	= 0.05 cfs
Storm frequency	= 2 yrs	Time interval	= 2 min
Drainage area	= 0.58 ac	Curve number	= 61
Basin Slope	= 10.0 %	Hydraulic length	= 220 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 2.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 447 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Friday, Dec 9 2022, 6:40 AM

Hyd. No. 2

Post-Construction

Hydrograph type	= SCS Runoff	Peak discharge	= 0.27 cfs
Storm frequency	= 2 yrs	Time interval	= 1 min
Drainage area	= 0.58 ac	Curve number	= 69.5
Basin Slope	= 4.0 %	Hydraulic length	= 160 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 2.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 1,054 cuft