

Hydrograph Report

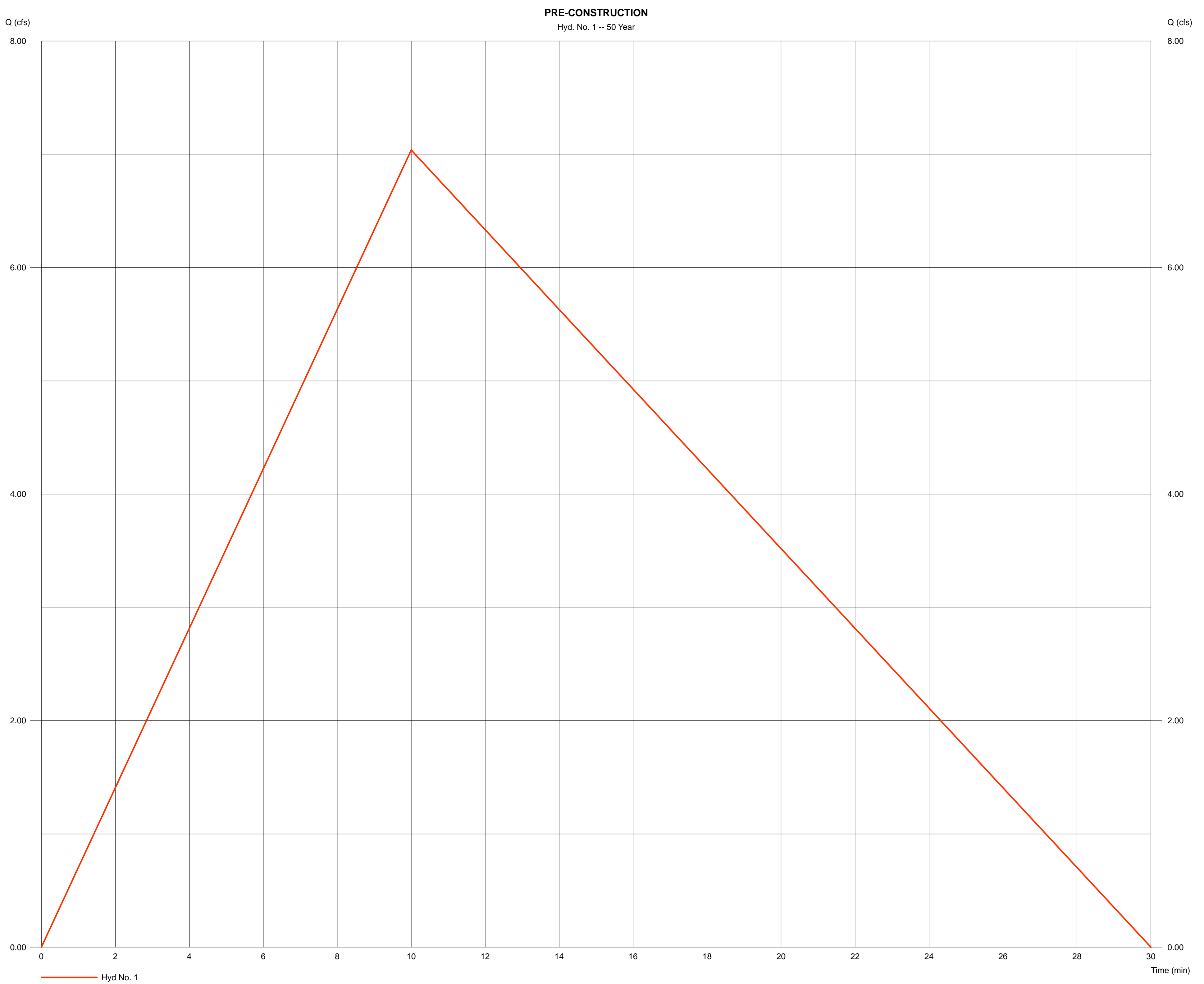
Hyd. No. 1

PRE-CONSTRUCTION

Hydrograph type = Rational
Storm frequency = 50 yrs
Time interval = 1 min
Drainage area = 2.150 ac
Intensity = 6.062 in/hr
IDF Curve = connecticut.IDF

Peak discharge = 7.038 cfs
Time to peak = 10 min
Hyd. volume = 6,334 cuft
Runoff coeff. = 0.54*
Tc by User = 10.00 min
Asc/Rec limb fact = 1/2

* Composite (Area/C) = [(1.050 x 0.80) + (1.100 x 0.30)] / 2.150



Hydrograph Report

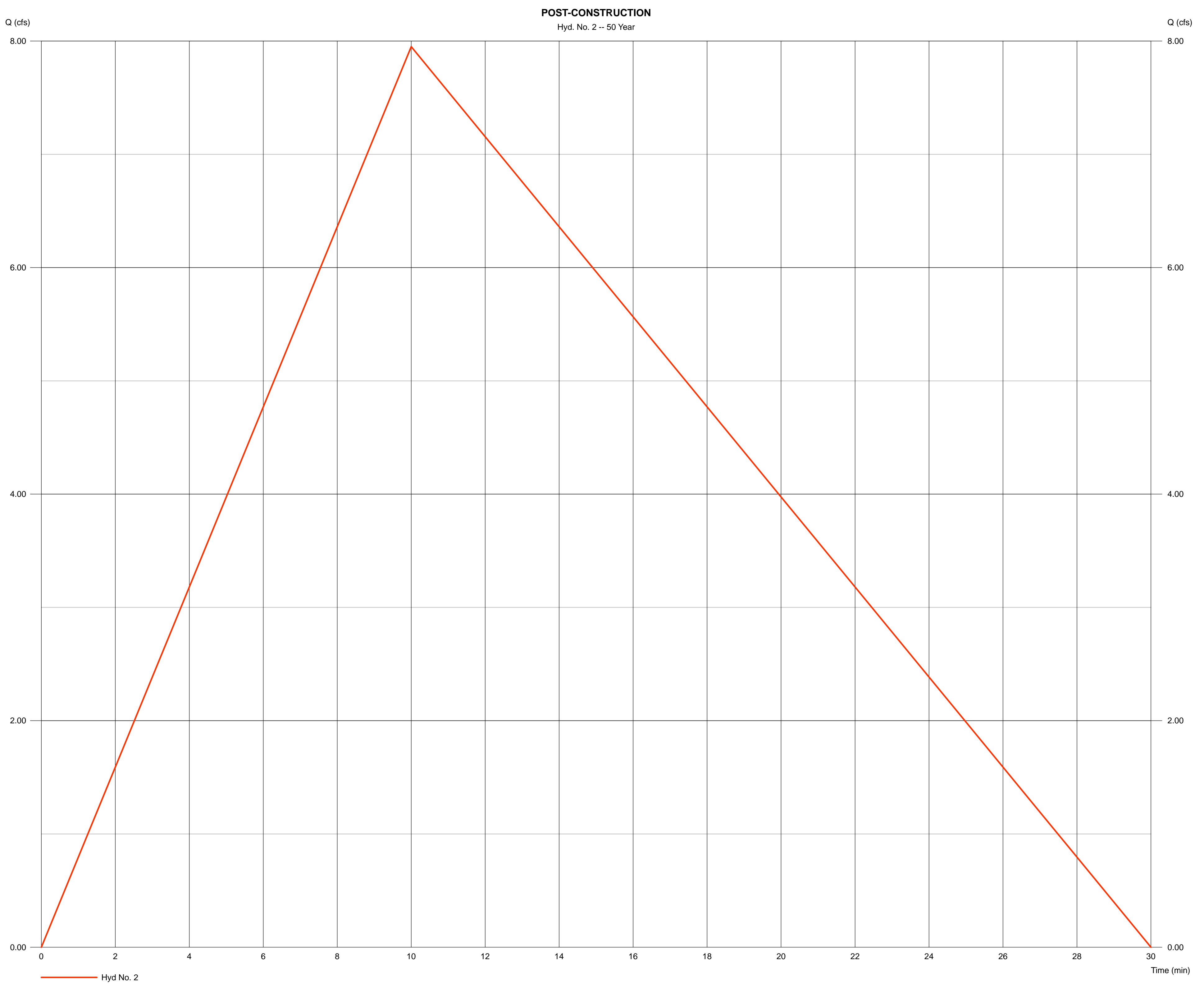
Hyd. No. 2

POST-CONSTRUCTION

Hydrograph type = Rational
Storm frequency = 50 yrs
Time interval = 1 min
Drainage area = 2.150 ac
Intensity = 6.062 in/hr
IDF Curve = connecticut.IDF

Peak discharge = 7.950 cfs
Time to peak = 10 min
Hyd. volume = 7,155 cuft
Runoff coeff. = 0.61*
Tc by User = 10.00 min
Asc/Rec limb fact = 1/2

* Composite (Area/C) = [(1.050 x 0.80) + (0.080 x 0.90) + (0.070 x 0.90) + (0.460 x 0.40) + (0.490 x 0.30)] / 2.150



HYDRAULIC REPORT

PREPARED
FOR

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120 Georgetown Road
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PREPARED BY:

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THE PURPOSE OF THIS HYDROLOGIC STUDY IS TO DETERMINE THE RUNOFF FROM EXISTING (PRE) & PROPOSED (POST) CONDITIONS FOR A 50 YEAR STORM EVENT. THE SITE IS LOCATED AT 120 GEORGETOWN ROAD IN WESTON, CT.

THE METHOD USED TO DETERMINE THE PEAK DISCHARGE FROM THE PROPOSED DEVELOPMENT WILL BE THE UNIVERSAL RATIONAL METHOD "Q = C I A" WHERE:

Q = PEAK DISCHARGE (CFS)
C = COEFFICIENT OF RUNOFF
I = RAINFALL INTENSITY (IN/HR)
A = WATERSHED AREA (ACRES)

THE FIRST STEP IN THIS ANALYSIS IS TO DETERMINE THE PRE-DEVELOPMENT PEAK DISCHARGE.

PRE-CONSTRUCTION:

AREA=2.15 AC

C=0.80 WETLANDS
C=0.30 MEADOW

$$C_w = \frac{1.05(0.80) + 1.10(0.30)}{2.15} = 0.54$$

AREA = 2.15 AC. C=0.54 Tc=10 min. I=6.06 in/hr

50 YEAR EVENT

Q = 7.038 CFS

(SEE HYDROGRAPHS PRE-CONSTRUCTION FOR ADDITIONAL INFORMATION)

POST-CONSTRUCTION:

AREA=2.15 AC

C=0.80 WETLANDS
C=0.90 IMPERVIOUS
C=0.40 GRASS
C=0.30 MEADOW

$$C_w = \frac{1.05(0.80) + 0.08(0.90) + 0.701(0.90) + 0.46(0.4) + 1.10(0.30)}{2.15} = 0.61$$

AREA = 2.15 AC. C=0.61 Tc=10 min. I=6.06 in/hr

50 YEAR EVENT

$$Q = 7.95 \text{ CFS}$$

SEE HYDROGRAPHS POST-CONSTRUCTION FOR ADDITIONAL INFORMATION)

LISTED BELOW IS A SUMMARY OF CALCULATIONS:

	PRE – CONSTRUCTION	POST – CONSTRUCTION (FINAL COMBINED)	CHANGE
50 YR.	= 7.038 CFS	= 7.950 CFS	= 0.912 CFS
	= 6,334 CF	= 7,155 CF	= 831 CF

THERE IS A CHANGE OF STORMWATER RUNOFF OF **0.912 CFS OR 831 CF** THROUGH A 50 YEAR STORM EVENT.

WE ARE PROPOSING 11 SC-740 STORMTECH CHAMBERS OR APPROVED EQUAL. THERE WILL BE SIX (6) CHAMBERS FOR THE PROPOSED ROOF RUN OFF AND SIX (6) CHAMBERS FOR THE PROPOSED PAVED DRIVEWAY.

**PROPOSED STORMTECH CHAMBERS
74.9 CF/CHAMBER**

831 CF/74.9 CF/CHAMBER = 11.1, SAY 12 CHAMBERS

NO SOIL INILTRATION TAKEN INTO ACCOUNT.

**REQUIRED STORAGE = 831 C.F.
PROVIDED STORAGE = 898.8 C.F.**

There was a minor increase in runoff; however the results were to minute to have any impact on the existing hydraulic computations