TOWN of WESTON, CONNECTICUT

Incorporated 1787

Conservation Commission

RECEIVED
AUG 22 2024
TOWN OF WESTON
CONSERVATION COMMISSION

INLAND WETLANDS AND WATERCOURSES APPLICATION

This Application is for a five-year permit to conduct a regulated activity or activities pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Weston ("The Regulations")

PROPERTY ADDRESS: 20 Hillcrest Lane

Assessor's Map # 8 **Block #** 1 **Lot #** 16

PROJECT DESCRIPTION *(general purpose)* Please see attached Memo.
revised engineer's report and asbuilt survey

Total Acres 2.03 Total Acres of Wetlands and Watercourses _____

Acreage of Wetlands and Watercourses Altered _____ Upland Area Altered _____

Acres Linear Feet of Stream Alteration _____ Total Acres Proposed Open Space _____

OWNER(S) OF RECORD: *(Please list all owners, attach extra sheet if necessary)*

Name: Joseph and Irina Leone Phone: 845-913-8057

Address: 20 Hillcrest Lane

Email: joseph.i.leone@gmail.com

APPLICANT/AUTHORIZED AGENT:

Name: _____ Phone: _____

Address: _____

Email: _____

CONSULTANTS: *(Please provide, if applicable)*

Engineer: _____ Phone: _____

Address: _____ Email: _____

Soil Scientist: _____ Phone: _____

Address:_____ Email: _____

Legal Counsel: _____ Phone: _____

Address:_____ Email: _____

Surveyor: _____ Phone: _____

Address:_____ Email: _____

PROPERTY INFORMATION

Property Address: _____

Existing Conditions *(Describe existing property and structures)*: _____

_____

Provide a detailed description and purpose of proposed activity *(attach sheet with additional information if needed)*:_____

_____

Is this property within a subdivision *(circle)*: Yes or No
Square feet of proposed impervious surfaces *(roads, buildings, parking, etc.)*: _____

Subject property to be affected by proposed activity contains:

- ☐ wetlands soils
- ☐ swamp
- ☐ floodplain
- ☐ marsh
- ☐ bog
- ☐ lake or pond
- ☐ stream or river
- ☐ other _____

The proposed activity will involve the following within wetlands, watercourse, and/or review area:

- ☐ Alteration
- ☐ Discharge to
- ☐ Removal of Materials
- ☐ Construction
- ☐ Discharge from
- ☐ Deposition of Materials
- ☐ Pollution
- ☐ Bridge or Culvert
- ☐ Other_____

Amount, type, and location of materials to be removed, deposited, or stockpiled:

_____

Description, work sequence, and duration of activities:

_____

_____

Describe alternatives considered and why the proposal described herein was chosen:

_____

Does the proposed activity involve the installation and/or repair of an existing septic system(s) *(circle)*: Yes or No

The Westport/Weston Health District Approval: _____

ADJOINING MUNICIPALITIES AND NOTICE:

If any of the situations below apply, the applicant is required to give written notice of his/her application to the Inland Wetlands Agency of the adjoining municipality, on the same day that he/she submits this application. Notification must be sent by Certified Mail with Return Receipt Requested.

The property is located within 500 feet of any town boundary line;
A significant portion of the traffic to the completed project will use streets within the adjoining municipality to enter or exit the site;

A portion of the water drainage from the project site will flow through and significantly impact the sewage system or drainage systems within the adjoining municipality; or
Water runoff from the improved site will impact streets or other municipal or private property within the adjoining municipality

AQUARION WATER COMPANY

Pursuant to Section 8.4 of the Weston regulations, the Aquarion Water Company must be notified of any regulated activity proposed within its watersheds. Maps showing approximate watershed boundaries are available at the office of the Commission. If the project site lies within these boundaries, send notice, site plan, and grading and erosion control plan via certified mail, return receipt requested, within seven (7) days of submitting application to the Commission, to:

George S. Logan, Director – Environmental Management
Aquarion Water Company
714 Black Rock Turnpike
Easton, CT 06612

The Commissioner of the Connecticut Department of Public Health must also be notified in the same manner in a format prescribed by that commissioner.

The undersigned, as owner(s) of the property, hereby consents to necessary and proper inspections of the above mentioned property by Commissioners and agents of the Conservation Commission, Town of Weston, at reasonable times, both before and after a final decision has been issued by the Commission.

The undersigned hereby acknowledges to have read the "Application Requirements and Procedures" in completing this application.

The undersigned hereby certifies that the information provided in this application, including its supporting documentation is true and he/she is aware of the penalties provided in Section 22a-376 of the Connecticut General Statues for knowingly providing false or misleading information.

8/13/24

Signature of Owner(s) of Record — Date

Signature of Authorized Agent — Date

FOR OFFICE USE ONLY

Administrative Approval — Initials — Date

August 15, 2024

Weston Conservation Commission
24 School Road
Weston, Connecticut 06883-1028

RE: Modification of Site Plan #2224 dated July 24, 2023 (revised August 1, 2023) prepared by Fairfield County Engineering LLC

Dear Commission Members,

I respectfully request a modification of the above-referenced site plan previously approved by the Commission in connection with the pool and patio project at my home located at 20 Hillcrest Lane. Specifically, regarding drainage mitigation, I request not installing the Cultec system and rain garden shown in the site plan.

I have included with this application an updated Drainage Report, dated August 14, 2024, prepared by Fairfield County Engineering LLC in which the engineer reviewed the as-built project (including 265 square feet of 8-10 inch thick gravel installed around two sides of the pool to further improve drainage) and modified his prior report to conclude, "**The increased runoff resulting from the proposed site improvements will be retained in an on-site retention system. The runoff from the pool will be stored in the 4" freeboard section of the pool. There is no need for a separate underground retention system [e.g., Cultec system] or rain garden**." Please also note the following:

I. The northwest corner of the rain garden would be located a mere 10 feet from the edge of the pool and patio. Such close proximity, combined with the extensive size of the garden, would severely impact the aesthetics and appearance of the pool area and backyard. More importantly, such close proximity of a depressed area (essentially an enormous ditch) poses significant safety and liability concerns for my three young children, dogs and other visitors to the pool area. I am deeply worried that children playing around the pool area and patio would frequently fall into the ditch of the rain garden and seriously injure themselves. When the rain garden was introduced into the site plan, I genuinely did not realize from reviewing the

drawing that, in actuality, the garden would ultimately be so large and so close to the patio and pool. Otherwise I would have raised these objections much earlier in the approval process.

II. A memo submitted by Dr. Failla to the Commission on August 22, 2023 did not recommend a rain garden and even questioned the need for a Cultec system, stating "Subsequently, the applicant decreased the patio to about one-third the original proposal, which is now being presented. Given that the patio is smaller and further away from the wetlands and in area of the property near a play set that will be removed, I recommend that the commission consider whether the drainage infiltration system is needed and to rely on the relatively small size of the patio and its distance across lawn and the vegetated wetland edge to buffer run off adequately without an infiltration system in another part of the property."

I kindly remind the Commission that the as-built patio is significantly smaller and much further distanced from the wetlands as the patio that I originally had in mind. More importantly, from an engineering perspective, the updated Drainage Report does not call for any Cultec system or rain garden. Thank you for taking the time to consider this matter.

Sincerely,

Joseph Leone

Joseph Leone

From: Joseph Leone <joseph.i.leone@gmail.com>
Sent: Tuesday, August 13, 2024 11:17:24 AM
To: Conservation Planner <conservationplanner@westonct.gov>
Subject: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: [EXTERNAL] Re: 20 Hill Crest Permit CC-23-09-COM

Hi Tom, thanks again for meeting earlier. I spoke to my mason and he gave me the following information (see below) regarding the gravel and pipes in stone walls. Is this sufficient to include in my updated memo to the Commission, or would you also like to come do a site visit to inspect? Happy to accommodate and move this along in any way I can. Best, Joe

-The gravel consists of 8-10 inches thick gravel on top of compacted dirt. There is no sand underneath the gravel. All of the gravel is 3/4 inch stone, which according to the mason is standard size for drainage purposes.

-Under the stepping stones is a dry pack mix comprised mainly of concrete sand and septic sand, which according to the mason is beneficial for extra drainage.

-The pipes in the retaining walls are Schedule 40 pipe and 2-2.5 inches in size. They alleviate hydrostatic pressure behind the walls. I will take and submit photos of the pipes as we discussed.

-Behind each stone wall is additional gravel and 3 inch minus rip rap stone.

20 Hillcrest – Pool, Patio Walkway Retaining Wall - Leone CC 23-09 Modification Request 8-27-2023

Gmail Joseph Leone <joseph.i.leone@gmail.com>

20 Hillcrest

wayne fairfieldce.com <wayne@fairfieldce.com> Wed, Aug 14, 2024 at 6:22 PM
To: Joseph Leone <joseph.i.leone@gmail.com>

Hi Joe

Please find the revised report attached.
There's no need for the Cultecs or the rain garden.

Best regards,

Wayne D'Avanzo, P.E.

Fairfield County Engineering LLC
60 Winfield Street
Norwalk, CT 06855

Phone: 203 831 8005 (land line - Do not text)
Fax: 203 831 8006

2 attachments

2224_DrainRev1.doc
860K

2224HydroCAD ReportRev1.pdf
195K

DRAINAGE REPORT

PREPARED FOR

EXISTING AND PROPOSED SITE CONDITIONS

LOCATED AT:

FCE #2224

20 HILLCREST LANE

WESTON, CONNECTICUT

July 24, 2023
Revised to August 14, 2024

FAIRFIELD COUNTY ENGINEERING, LLC
CIVIL ENGINEERS

60 WINFIELD ST.
NORWALK, CONNECTICUT 06855
(203) 831-8005
FAX: (203) 831-8006
E-mail to: wayne@fairfieldce.com

NARRATIVE:

The subject of this report is a 2.03 acre parcel located at 20 Hillcrest Lane in Weston. The purpose of this report is to determine the existing and proposed runoffs resulting from the proposed site improvements in order to design a stormwater management system.

EXISTING CONDITIONS:

The subject parcel is located at the east side of Hillcrest Lane, approximately 700 feet from its intersection with Newtown Turnpike. The lot currently contains a single family residence, driveway, patios and walks. The lot slopes moderately to steeply across its width, from the southeast down to the northwest.

Existing soils at this location, as identified in the NRCS Soil Survey of Fairfield County, Connecticut, consist of a combination of Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony, which has a Hydrologic classification of 'C', Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes, which has a Hydrologic classification of "D", and Canton and Charlton soils, 15 to 25 percent slopes and Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky, both of which have a Hydrologic classification of "B".

For the purposes of this analysis a Hydrologic classification of "C" was used, as it represents a majority of the lot area, and is the soil type in the area of proposed activity.

The existing runoff as developed from a 50-Year rainfall event is 12.87 c.f.s.

PROPOSED CONDITIONS:

The proposal for this site is to construct a rear pool.

The proposed runoff (unmitigated) from a 50-Year rainfall event is 12.87 c.f.s.

COMPUTATIONS:

The following computations of the existing and proposed conditions runoff flows were derived from the HydroCAD computer software. HydroCAD follows the NRCS TR-20 procedure for computing stormwater runoff. Computations were performed for a 50-year storm event, which has a 2% chance of occurring in any given 12 month period.

Existing Conditions:

House	4,488 s.f.	CN 98
Driveway	6,183 s.f.	CN 98
Patios	874 s.f.	CN 98
Gravel area	325 s.f.	CN 85
Walks	441 s.f.	CN 98
Lawn	76,265 s.f.	CN 79
Total -	88,576 s.f.	

Weighted CN - 82

Proposed Conditions:

House	4,488 s.f.	CN 98
Driveway	6,183 s.f.	CN 98
Patios	874 s.f.	CN 98
Gravel area	325 s.f.	CN 85
Walks	441 s.f.	CN 98
Pool	880 s.f.	CN 98
Patio	440 s.f.	CN 98
Lawn	74,945 s.f.	CN 79
Total -	88,576 s.f.	

Weighted CN - 82

Water Quality Volume

$I = (15.4 \times 0.009) + 0.05 = 0.1886$

WQV = (0.1886 (2.03 acres)/12) = 0.0319048 ac-ft = 1,389.8 ft^3.

Groundwater Recharge Volume

GWV = 1,389.8 x 0.1 = 139.0 ft^3.

SUMMARY

Existing Runoff (50 Year):	12.87 c.f.s.
Proposed Runoff (50 Year):	12.87 c.f.s.
Proposed Impervious Run-off Retained (50 Year):	0.15 c.f.s
Proposed Run-off from Areas Bypassing Retention plus overflow (50 Year):	12.75 c.f.s.

CONCLUSIONS:

The increased runoff resulting from the proposed site improvements will be retained in an on-site retention system. The runoff from the pool will be stored in the 4" freeboard section of the pool.

There is no need for a separate underground retention system or rain garden.

This will decrease the net peak runoff during a 50 Year storm to 12.75 c.f.s. from its current peak of 12.87 c.f.s.

The proposed retention system provides 290 ft^3 of storage, which will accommodate the runoff from a 50 Year rainfall event routed to the system.

The proposed improvements will have no adverse impact on surrounding properties.

Existing Conditions

Subcat Reach Pond Link

Routing Diagram for 2224Existing
Prepared by Fairfield County Engineering LLC, Printed 8/13/2024

Summary for Subcatchment 1S: Existing Conditions

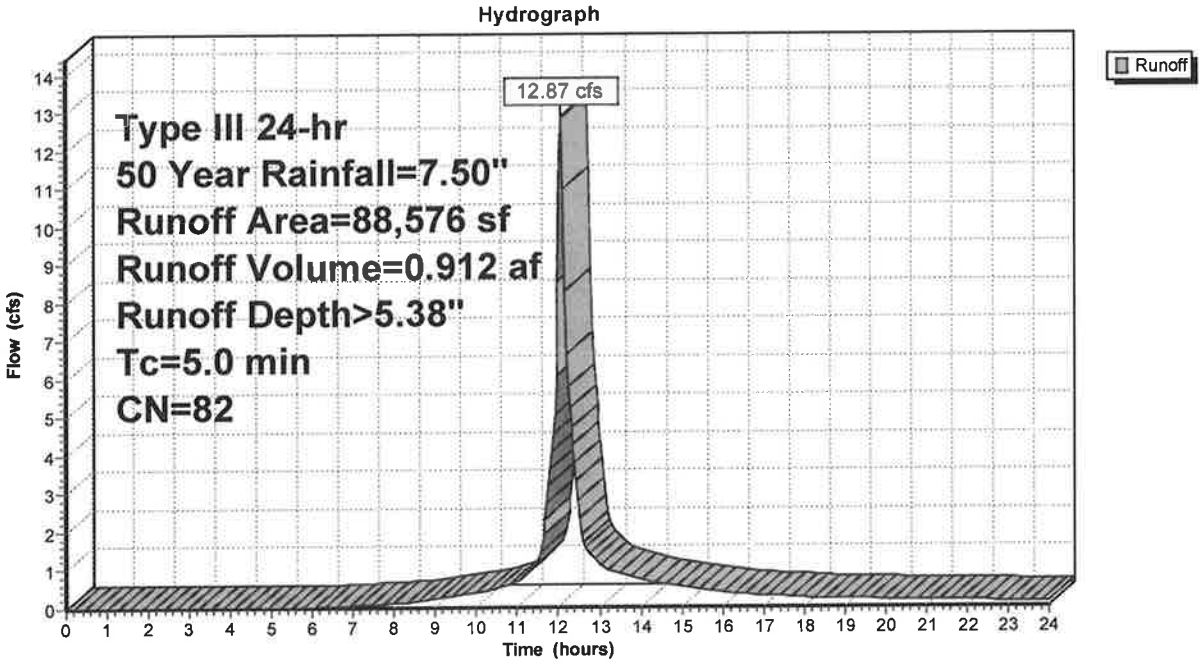
Runoff = 12.87 cfs @ 12.07 hrs, Volume= 0.912 af, Depth> 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Type III 24-hr 50 Year Rainfall=7.50"

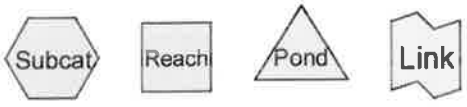
	Area (sf)	CN	Description
*	4,488	98	House
*	6,183	98	Driveway
*	874	98	Patios
*	325	85	Gravel area
*	441	98	Walks
	76,265	79	50-75% Grass cover, Fair, HSG C
	88,576	82	Weighted Average
	76,590		86.47% Pervious Area
	11,986		13.53% Impervious Area

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

Subcatchment 1S: Existing Conditions



Proposed Conditions



Routing Diagram for 2224Proposed
Prepared by Fairfield County Engineering LLC, Printed 8/13/2024
HydroCAD® 10.00-26 s/n 06020 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: Proposed Conditions

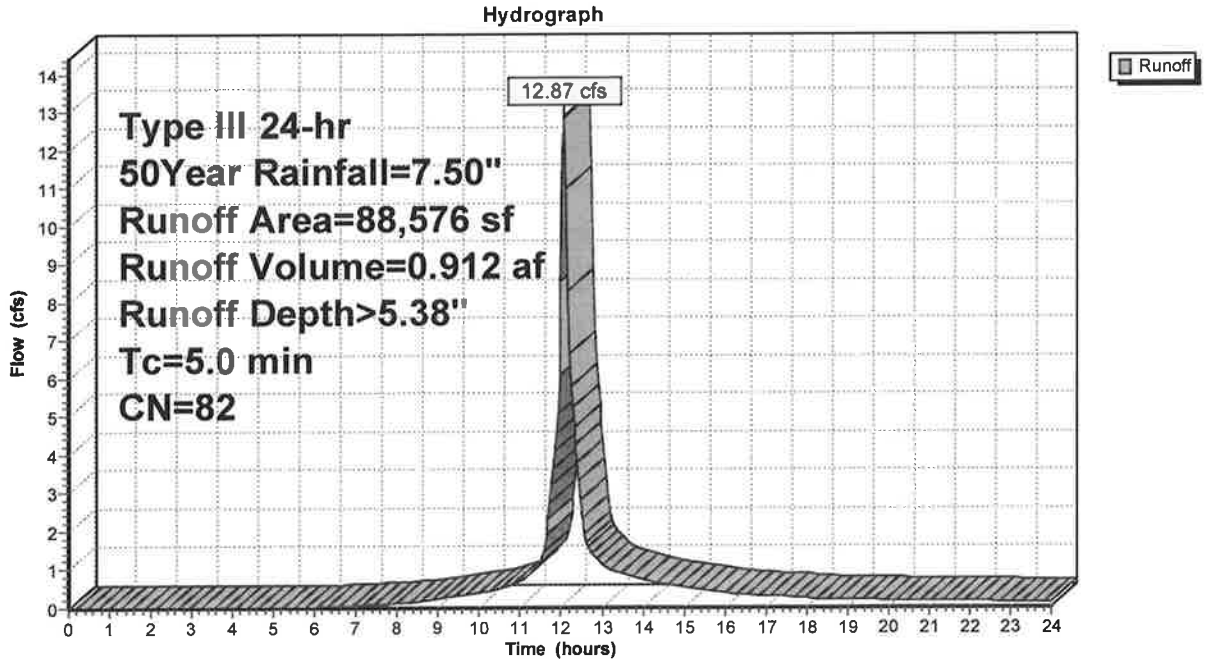
Runoff = 12.87 cfs @ 12.07 hrs, Volume= 0.912 af, Depth> 5.38"

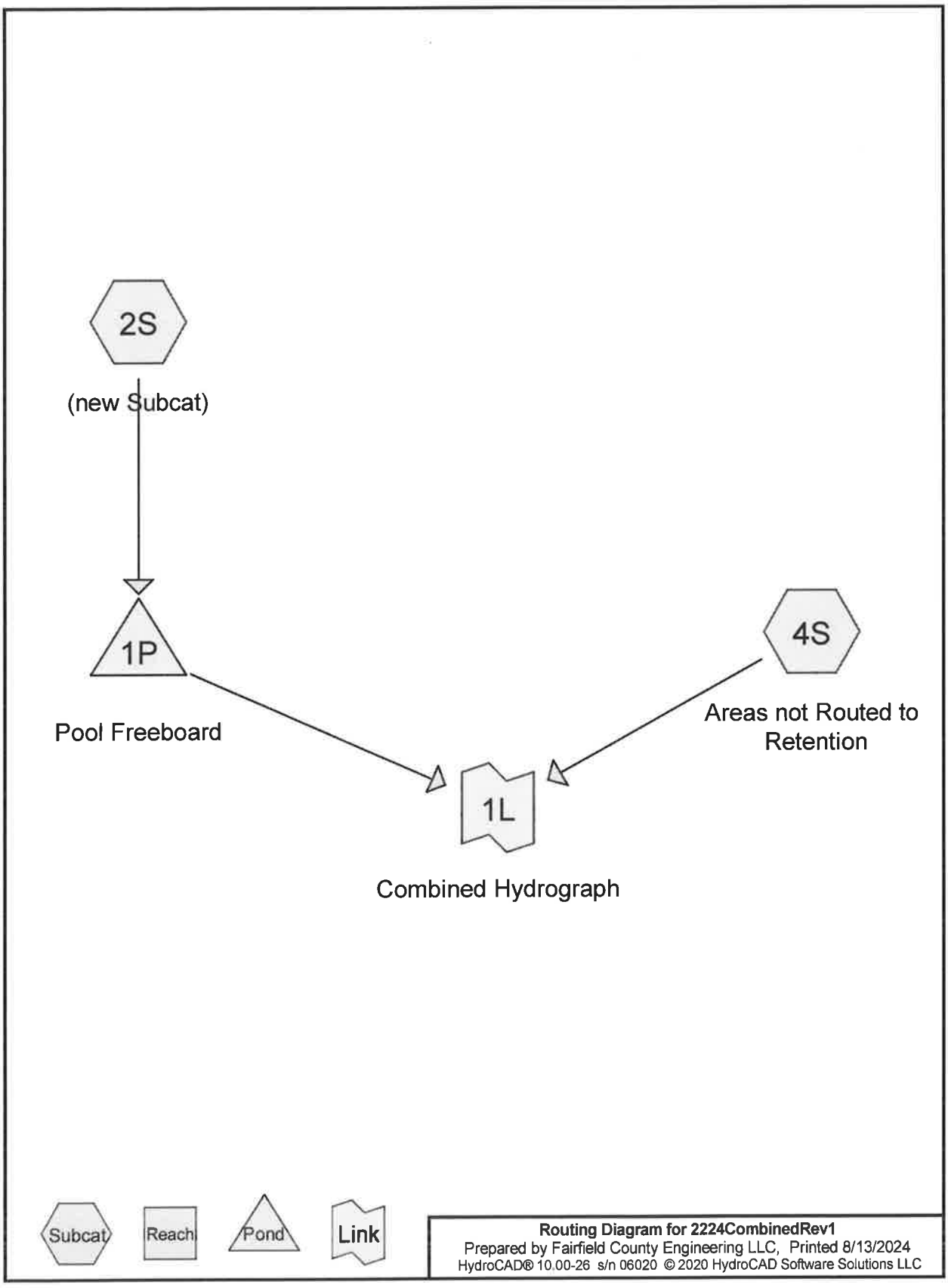
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Type III 24-hr 50Year Rainfall=7.50"

	Area (sf)	CN	Description
*	4,488	98	House
*	6,183	98	Driveway
*	874	98	Patios
*	325	85	Gravel area
*	441	98	Walks
*	880	98	Pool
*	440	98	Patio
	74,945	79	50-75% Grass cover, Fair, HSG C
	88,576	82	Weighted Average
	75,270		84.98% Pervious Area
	13,306		15.02% Impervious Area

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

Subcatchment 2S: Proposed Conditions





Summary for Subcatchment 2S: (new Subcat)

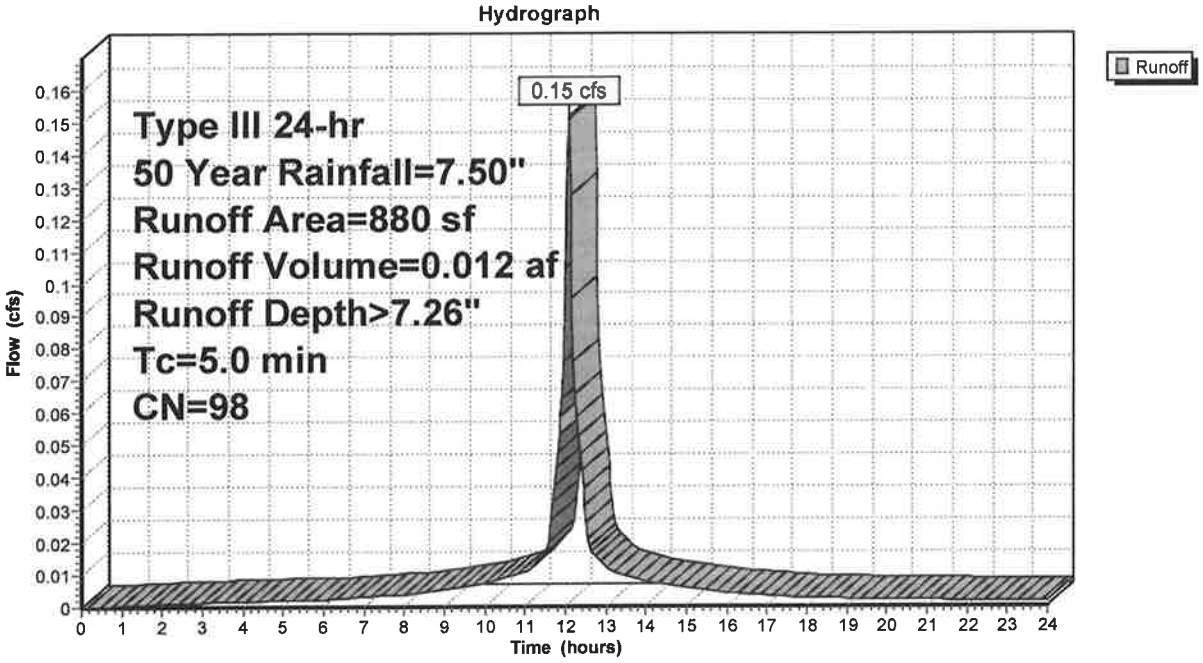
Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 7.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Type III 24-hr 50 Year Rainfall=7.50"

	Area (sf)	CN	Description
*	880	98	Pool
	880		100.00% Impervious Area

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

Subcatchment 2S: (new Subcat)



Summary for Subcatchment 4S: Areas not Routed to Retention

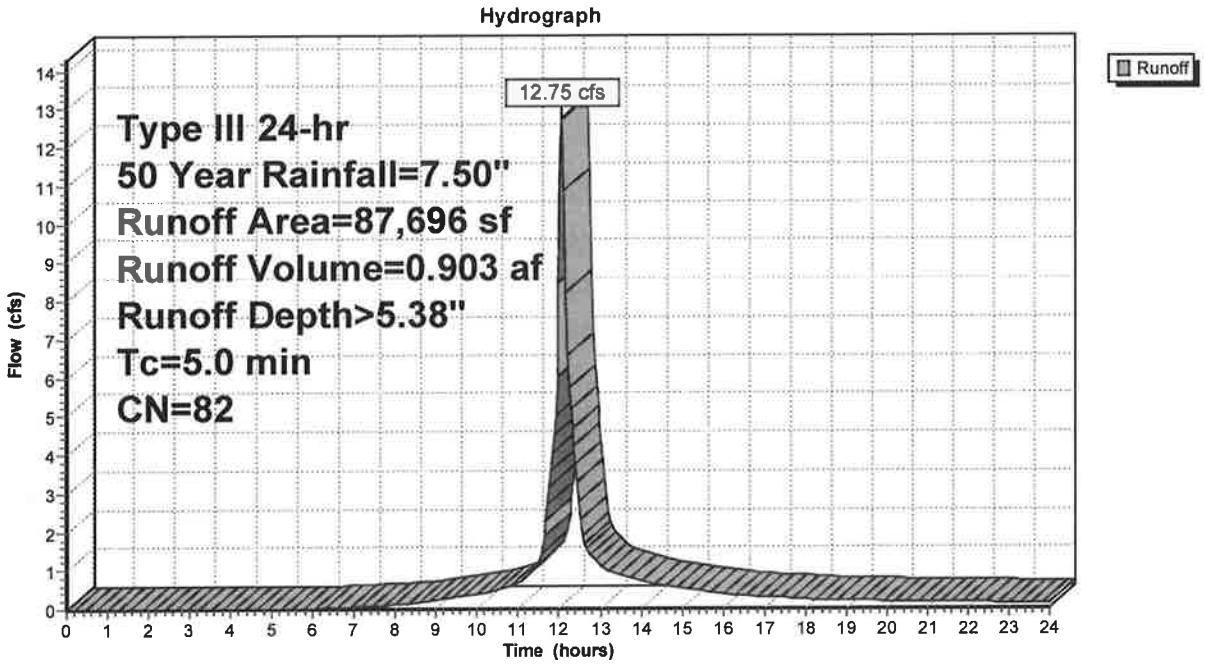
Runoff = 12.75 cfs @ 12.07 hrs, Volume= 0.903 af, Depth> 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Type III 24-hr 50 Year Rainfall=7.50"

	Area (sf)	CN	Description
*	4,488	98	House
*	6,183	98	Driveway
*	874	98	Patios
*	325	85	Gravel area
*	441	98	Walks
*	440	98	Patio
	74,945	79	50-75% Grass cover, Fair, HSG C
	87,696	82	Weighted Average
	75,270		85.83% Pervious Area
	12,426		14.17% Impervious Area

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

Subcatchment 4S: Areas not Routed to Retention



Summary for Pond 1P: Pool Freeboard

Inflow Area = 0.020 ac,100.00% Impervious, Inflow Depth > 7.26" for 50 Year event
Inflow = 0.15 cfs @ 12.07 hrs, Volume= 0.012 af
Outflow = 0.09 cfs @ 12.19 hrs, Volume= 0.006 af, Atten= 38%, Lag= 7.0 min
Primary = 0.09 cfs @ 12.19 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs
Peak Elev= 0.33' @ 12.20 hrs Surf.Area= 880 sf Storage= 290 cf

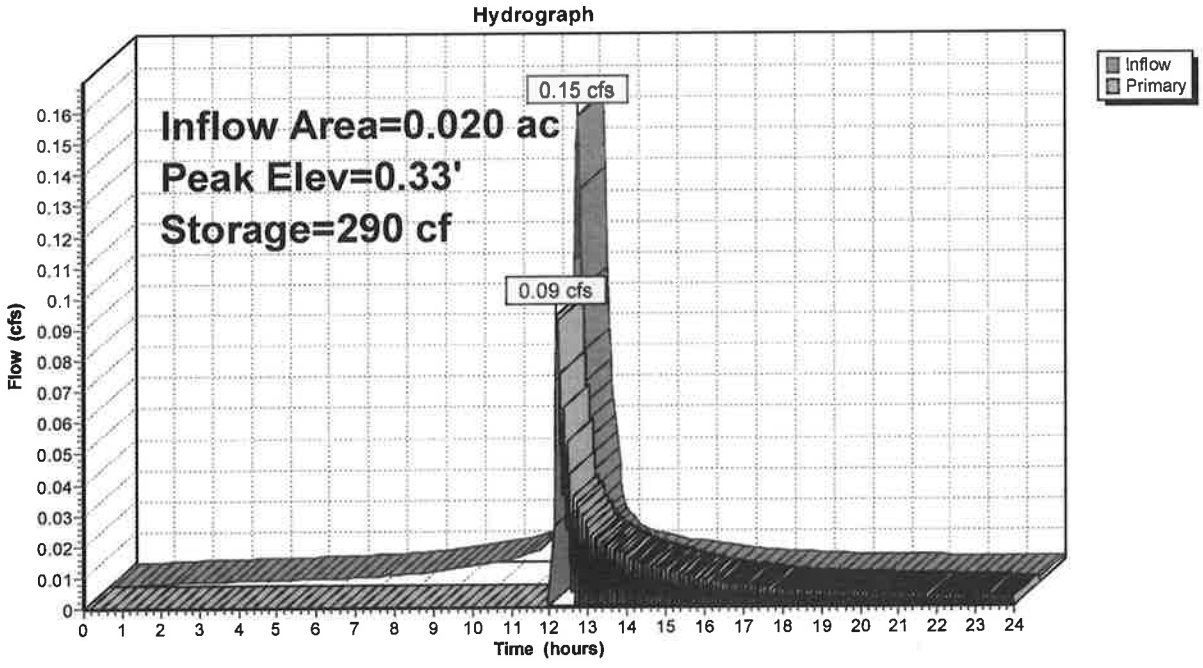
Plug-Flow detention time= 290.4 min calculated for 0.006 af (46% of inflow)
Center-of-Mass det. time= 147.5 min (888.3 - 740.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	290 cf	**40.00'W x 22.00'L x 0.33'H Prismatoid**

Device	Routing	Invert	Outlet Devices
#1	Primary	0.33'	**264.0" x 480.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 12.19 hrs HW=0.33' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.09 cfs @ 0.20 fps)

Pond 1P: Pool Freeboard



Summary for Link 1L: Combined Hydrograph

Inflow Area = 2.033 ac, 15.02% Impervious, Inflow Depth > 5.36" for 50 Year event
Inflow = 12.75 cfs @ 12.07 hrs, Volume= 0.909 af
Primary = 12.75 cfs @ 12.07 hrs, Volume= 0.909 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

Link 1L: Combined Hydrograph