



NOTICE OF PUBLIC MEETING
SUDBURY CONSERVATION COMMISSION
Virtual Meeting 6:45 PM

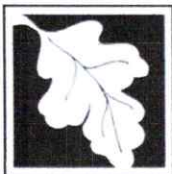
The Sudbury Conservation Commission will hold a public meeting to review the Request for Determination of Applicability filing under the Wetlands Protection Act and the Sudbury Wetlands Administration Bylaw for the after-the-fact reconstruction of an existing patio, construction of a retaining wall and construction of a new patio within the 100-foot Buffer Zone at 96 Cutler Farm Road, in Sudbury, MA. Rachel and Joshua Heckler, Applicant. The meeting will be held on Monday, May 23, 2022 at 6:45 pm, via Zoom.

Copies of the application may be reviewed on the Conservation Department web page at:

<https://sudbury.ma.us/conservationcommission/meeting/conservation-commission-meeting-monday-may-23-2022/>

Please contact the Conservation Office with any questions at 978-440-5470.

SUDBURY CONSERVATION COMMISSION
April 29, 2022



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

City/Town

A. General Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Rachel and Joshua Heckler

rachelandjosh@gmail.com

Name

E-Mail Address

96 Cutler Farm Road

Mailing Address

Sudbury

MA

01776

City/Town

State

Zip Code

978-443-0710

Phone Number

Fax Number (if applicable)

2. Representative (if any):

Firm

Contact Name

E-Mail Address

Mailing Address

City/Town

State

Zip Code

Phone Number

Fax Number (if applicable)

B. Determinations

1. I request the Conservation Commission make the following determination(s). Check any that apply:

- a. whether the area depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
b. whether the boundaries of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
c. whether the work depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any municipal wetlands ordinance or bylaw of:

Sudbury

Name of Municipality

- e. whether the following scope of alternatives is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

96 Cutler Farm Road

Street Address

Sudbury

City/Town

L10-0404

Parcel/Lot Number

Assessors Map/Plat Number

- b. Area Description (use additional paper, if necessary):

The work area is situated on a grassy area at the side and back of the house.

The grassy area turns into a wooded area which then abuts a man made pond. The work area is 75-100 feet from the man made pond. Please see the included map for more details.

- c. Plan and/or Map Reference(s):

Heckler Patio Project

Title

Date

5/4/22

Title

Date

Title

Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

We are currently repairing the existing footprint of our original patio located at the back of the house and extending the patio to the side of our house. The new patio on the side of the house will be 25 x 30 feet. The side of the property where the patio is being built is being regraded to no longer slope down towards the back of the property. With this regrade, there will be a small retaining wall on the back side of the patio. The existing patio currently has a dry well. In order to mitigate any runoff on the new patio section, we have hired a land surveyor to determine the best course of action. His mitigation plan is attached to this application. There will be no tree removal for this project. We will be removing some invasive buckthorn that lines the side and back of the property and will be replacing with native plants. We have already removed some burning bushes. We have also removed our existing shed which was located behind the old patio location and will be relocating it to the driveway side of the house (see included map). It will be the same size of the existing shed (10 x 12).



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

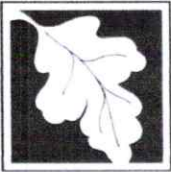
C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Rachel and Joshua Heckler

Name

96 Cutler Farm Road

Mailing Address

Sudbury

City/Town

MA

State

01776

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant

Date

Signature of Representative (if any)

Date

DRAINAGE SUMMARY
96 CUTLER FARM ROAD
SUDBURY, MASSACHUSETTS

May 3, 2022

Lakeview Engineering Associates
P.O. Box 787
Hudson, Massachusetts 01749

DRAINAGE SUMMARY
96 CUTLER FARM ROAD
SUDBURY, MASSACHUSETTS

The proposed project consists of the reconstruction of the existing patio and the addition of a new patio area with retaining walls to hold the existing, surrounding grades. The existing patio has an approximate area of 450 square feet. The total impervious area of the new patio is approximately 900 square feet, including the retaining walls. The existing patio has a leach pit below patio grade for drainage purposes. It is proposed to provide a leaching trench for the new patio area that would be outside the finish patio area, as noted on the attached sketch. The patio would have a drain inlet & a 4" PVC pipe to connect to the trench. The soils on site are a medium sand overlaying a courser, stony sand material. These soils are well suited for infiltration purposes. This soils typically have a 2 minute per inch percolation rate an infiltration rate of 0.042 feet per minute. The recommended, long term infiltration rate for design purposes is "Rawls" rate for sandy material of 0.0115 feet per minute. The analysis of runoff volume and the infiltration capacity was based on the "Rawls" rate of 0.0115 feet per minute for a conservative recharge rate calculation.

The runoff conditions for the developed patio area were calculated using the SCS TR-20 based Hydrocad computer program. Based on this evaluation (see attached), the proposed patio would generate approximately 0.005 acre feet of runoff from a two year storm event, which would be a typical heavy rainfall for this area. As proposed, the infiltration trench would fully contain & infiltrate this volume of runoff. Based on a twenty five year storm, the patio would generate a runoff volume of approximately 0.007 acre feet. The infiltration trench would contain & infiltrate approximately 86% of this volume during the storm event, with the excess backed up into the patio. This excess volume would eventually drain back to the nitration trench as the patio walls would act as a storage basin. As noted, the proposed mitigation system will store & infiltrate all of the added runoff from the patio area under both a typical heavy rainfall and a severe rainfall event without a discharge to the surface.



- Landmarks
 - Building - Town
 - Building - Conservation
 - Recreation
 - School
- Bridges
- Driveways
- Parking Lots
- Medians
- Sidewalks
- Curbs
- Roads
 - Paved Roads
 - Unpaved Roads
- Buildings
 - Buildings
 - Parcels
- Certified Vernal Pools
- Estimated Habitats of Rare
- Potential Vernal Pools - 12
- Priority Habitats of Rare Sp.
- Wetlands Town 2008
 - Open Water
 - Deep Marsh
 - Shallow Marsh/Mead
 - Bog
 - Shrub Swamp
 - Wooded Swamp Det
 - Wooded Swamp Cor
 - Wooded Swamp Mix
 - Streams Critho
- Streams CIR
- Lake/Reservoir
- MA Highways
 - Interstate
 - US Highway
 - Numbered Routes
- Town Boundary
- Streets



The data shown on this site are provided for informational land

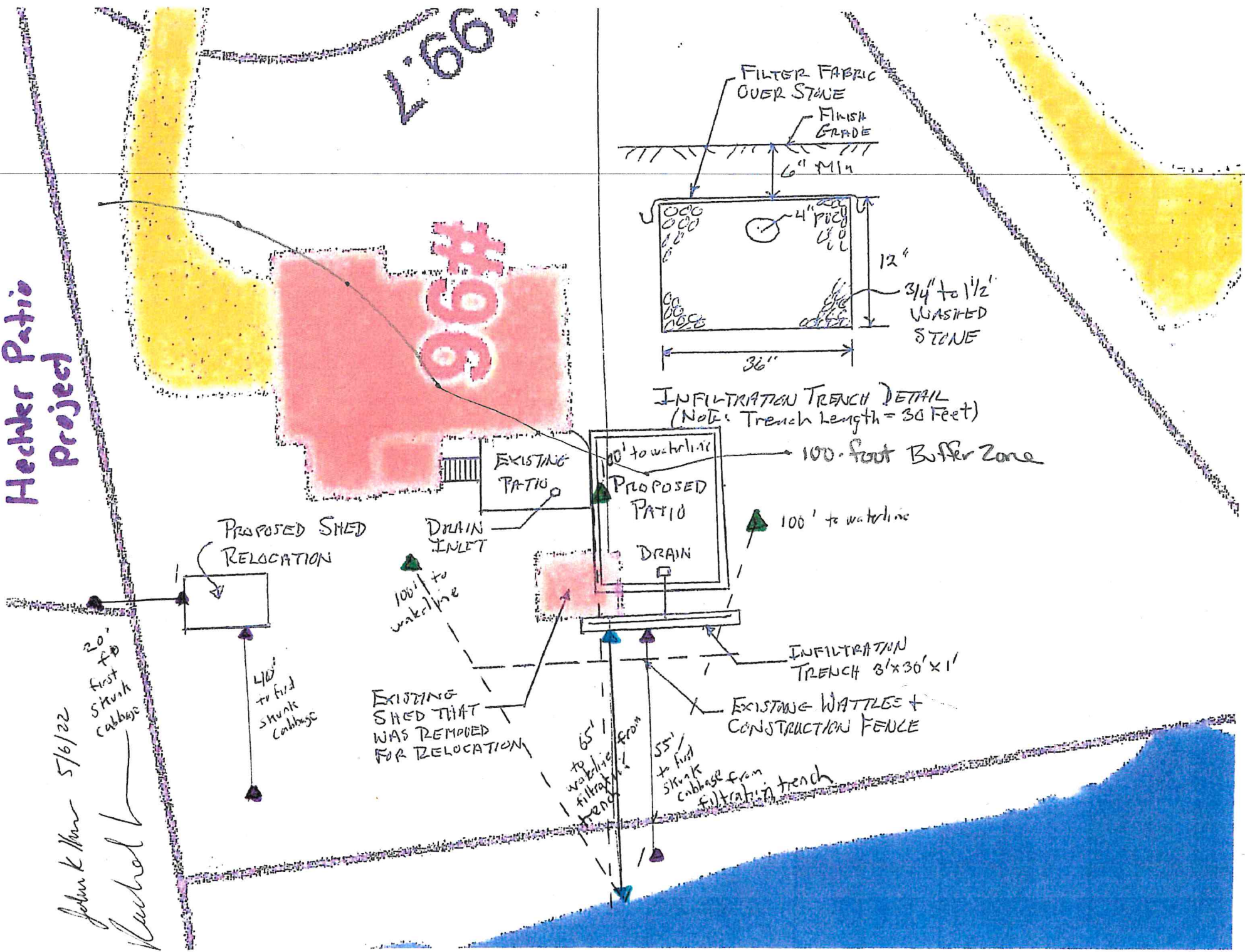
Hecker Patio Project

John K. Mor 5/6/22

Michael

2.66

#96



FILTER FABRIC OVER STONE
FINISH GRADE
6" MIN

4" PUGH
12"
3/4" to 1/2" WASHED STONE
36"

INFILTRATION TRENCH DETAIL
(Note: Trench length = 30 Feet)

100-foot Buffer Zone

100' to waterline

PROPOSED SHED RELOCATION

DRAIN INLET

PROPOSED PATIO

DRAIN

EXISTING SHED THAT WAS REMOVED FOR RELOCATION

INFILTRATION TRENCH 3'x30'x1'

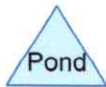
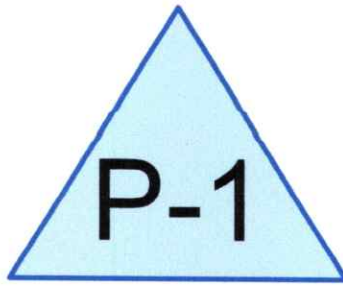
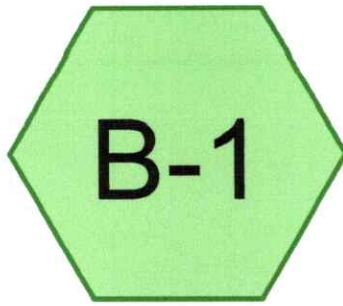
EXISTING WATTLES + CONSTRUCTION FENCE

65' to waterline from trench

55' to first struck cabbage from infiltration trench

40' to first struck cabbage

20' x 8' first struck cabbage



96 Cutler Farm Road

Type III 24-hr Rainfall=3.20" (2 Yr.)

Prepared by {enter your company name here}

Page 2

HydroCAD® 6.00 s/n 001746 © 1986-2001 Applied Microcomputer Systems

4/30/2022

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=3.20"
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment B-1: Proposed Patio Area

Tc=5.0 min CN=98 Area=900 sf Runoff= 0.06 cfs 0.005 af

Pond P-1: Infiltration Trench

Peak Storage= 33 cf Inflow= 0.06 cfs 0.005 af
Discarded= 0.02 cfs 0.005 af Primary= 0.00 cfs 0.000 af Outflow= 0.02 cfs 0.005 af

Runoff Area = 0.021 ac Volume = 0.005 af Average Depth = 2.77"

96 Cutler Farm Road

Type III 24-hr Rainfall=3.20" (2 Yr.)

Prepared by {enter your company name here}

Page 3

HydroCAD® 6.00 s/n 001746 © 1986-2001 Applied Microcomputer Systems

4/30/2022

Subcatchment B-1: Proposed Patio Area

Runoff = 0.06 cfs @ 12.07 hrs, Volume= 0.005 af

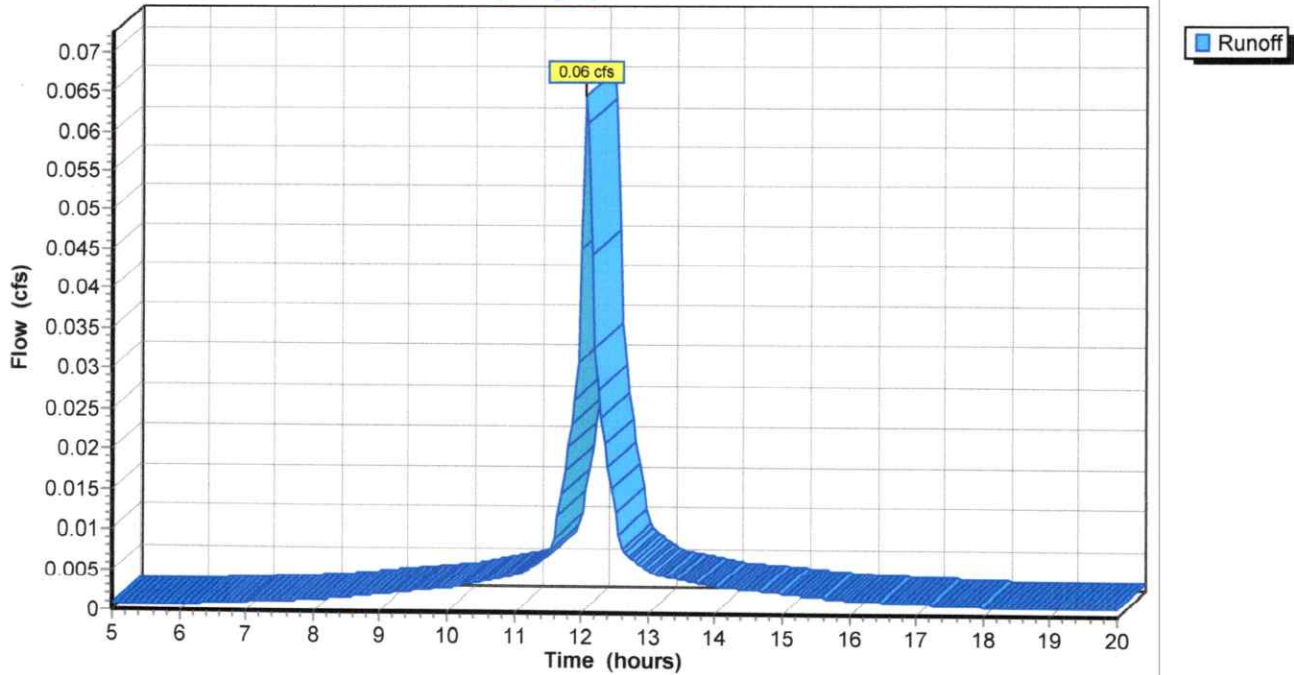
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=3.20"

Area (sf)	CN	Description
900	98	Paved parking & roofs

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

Subcatchment B-1: Proposed Patio Area

Hydrograph Plot



96 Cutler Farm Road

Type III 24-hr Rainfall=3.20" (2 Yr.)

Prepared by {enter your company name here}

Page 4

HydroCAD® 6.00 s/n 001746 © 1986-2001 Applied Microcomputer Systems

4/30/2022

Pond P-1: Infiltration Trench

Inflow = 0.06 cfs @ 12.07 hrs, Volume= 0.005 af
 Outflow = 0.02 cfs @ 11.85 hrs, Volume= 0.005 af, Atten= 69%, Lag= 0.0 min
 Discarded = 0.02 cfs @ 11.85 hrs, Volume= 0.005 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 99.82' Storage= 33 cf

Plug-Flow detention time= 8.0 min calculated for 0.005 af (100% of inflow)

Elevation (feet)	Cum.Store (cubic-feet)
98.50	0
99.00	16
99.50	33
100.50	34
101.50	35

Discarded OutFlow (Free Discharge)

↑2=Exfiltration

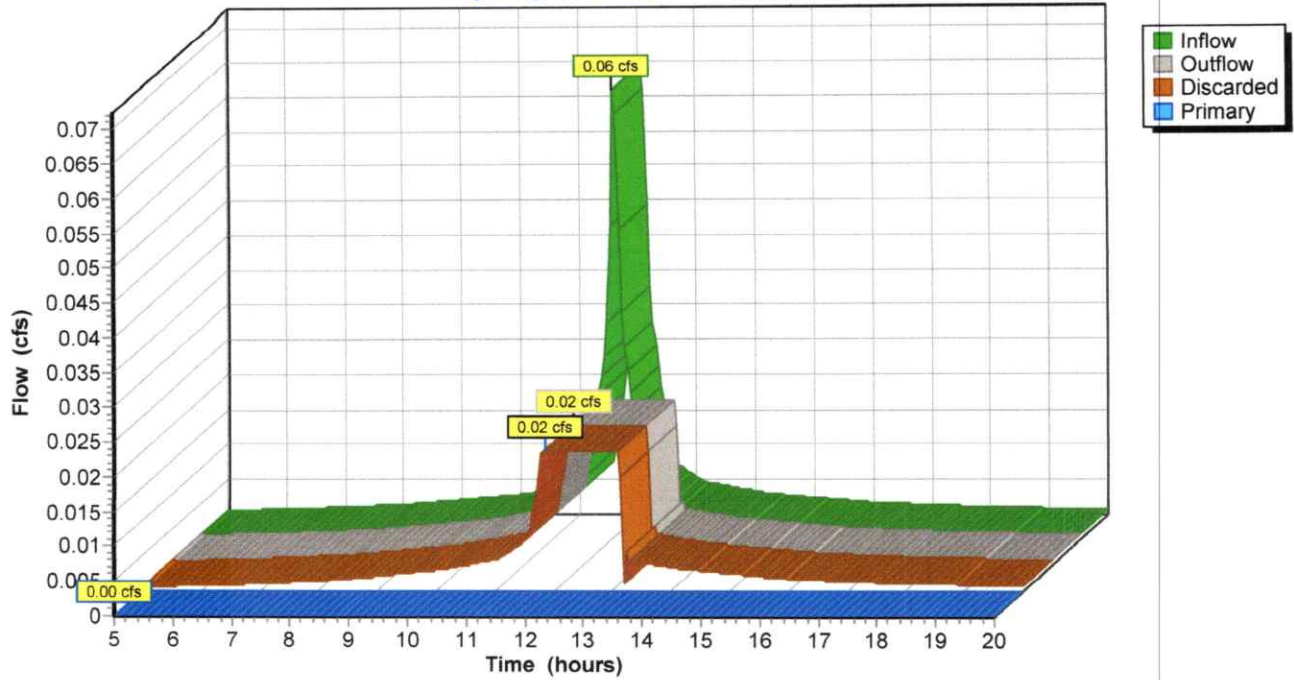
Primary OutFlow (Free Discharge)

↑1=Orifice/Grate

#	Routing	Invert	Outlet Devices
1	Primary	101.40'	6.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600
2	Discarded	98.50'	0.02 cfs Exfiltration when above invert

Pond P-1: Infiltration Trench

Hydrograph Plot



96 Cutler Farm Road

Type III 24-hr Rainfall=4.80" (25 Yr.)

Prepared by {enter your company name here}

Page 6

HydroCAD® 6.00 s/n 001746 © 1986-2001 Applied Microcomputer Systems

4/30/2022

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Type III 24-hr Rainfall=4.80"

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

Subcatchment B-1: Proposed Patio Area

Tc=5.0 min CN=98 Area=900 sf Runoff= 0.10 cfs 0.007 af

Pond P-1: Infiltration Trench

Peak Storage= 35 cf Inflow= 0.10 cfs 0.007 af

Discarded= 0.02 cfs 0.006 af Primary= 0.11 cfs 0.001 af Outflow= 0.13 cfs 0.007 af

Runoff Area = 0.021 ac Volume = 0.007 af Average Depth = 4.24"

96 Cutler Farm Road

Type III 24-hr Rainfall=4.80" (25 Yr.)

Prepared by {enter your company name here}

Page 7

HydroCAD® 6.00 s/n 001746 © 1986-2001 Applied Microcomputer Systems

4/30/2022

Subcatchment B-1: Proposed Patio Area

Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af

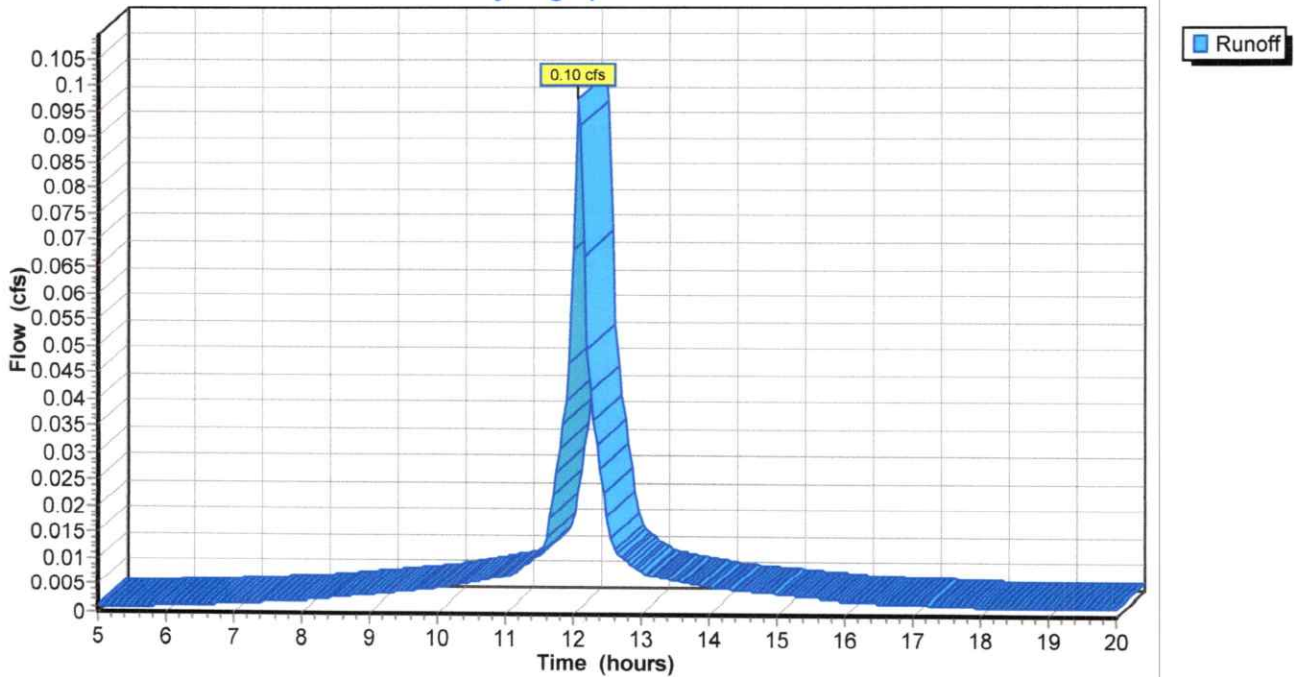
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr Rainfall=4.80"

Area (sf)	CN	Description
900	98	Paved parking & roofs

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

Subcatchment B-1: Proposed Patio Area

Hydrograph Plot



96 Cutler Farm Road

Type III 24-hr Rainfall=4.80" (25 Yr.)

Prepared by {enter your company name here}

HydroCAD® 6.00 s/n 001746 © 1986-2001 Applied Microcomputer Systems

Pond P-1: Infiltration Trench

Inflow = 0.10 cfs @ 12.07 hrs, Volume= 0.007 af
 Outflow = 0.13 cfs @ 12.10 hrs, Volume= 0.007 af, Atten= 0%, Lag= 1.9 min
 Discarded = 0.02 cfs @ 11.70 hrs, Volume= 0.006 af
 Primary = 0.11 cfs @ 12.10 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 101.47' Storage= 35 cf

Plug-Flow detention time= 7.5 min calculated for 0.007 af (100% of inflow)

Elevation (feet)	Cum.Store (cubic-feet)
98.50	0
99.00	16
99.50	33
100.50	34
101.50	35

Discarded OutFlow (Free Discharge)

↑2=Exfiltration

Primary OutFlow (Free Discharge)

↑1=Orifice/Grate

#	Routing	Invert	Outlet Devices
1	Primary	101.40'	6.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600
2	Discarded	98.50'	0.02 cfs Exfiltration when above invert

Pond P-1: Infiltration Trench

Hydrograph Plot

