



ENGINEERING MEMORANDUM

To: Town of Monroe, Application Review Team

From: Kevin Solli, P.E. / Solli Engineering
Chris Pawlowski, EIT / Solli Engineering

Subject: Excavation / Filling Permit Application
10 & 36 Main Street, Monroe, Connecticut 06468

Date: July 26, 2021
Revised September 15, 2021

CC: Arnold Karp / Karp Associates, Inc.

Solli Engineering, LLC has prepared this Memorandum to provide an analysis of the earthwork, zoning compliance, grading design, soil erosion control measures and stormwater management associated with the proposed excavation/filling activity located at 10 & 36 Main Street in Monroe, Connecticut. The design is in compliance with applicable Town of Monroe regulations as well as other applicable state and federal requirements. The following summarizes the proposed project activities.

Property Description:

The project site is comprised of 10 & 36 Main Street in Monroe, Connecticut. The total site is approximately 14.35 acres, comprised of 5.22 acres within 10 Main Street and 9.13 acres within 36 Main Street. The site is bound by Main Street (Route 25) to the west, Victoria Drive to the north, and commercial developed land to the east and south. Both properties are owned by 10 & 36 Main Street LLC and zoned Business District 2 (B-2). See Figure 1, Site Location Map, for a depiction of the project location.

The project site was visited by a certified soil scientist from William Kenny Associates, LLC on April 22, 2021. William Kenny Associates determined that one inland wetland system was identified and delineated. The system, which is located in the eastern portion of 10 Main Street, is a woodland wetland. No wetland soils or watercourses were found within the property of 36 Main Street. See the Wetland Delineation Report, prepared by William Kenny Associates, LLC for additional detail on the site wetlands assessment.

Property History:

Prior to 1984, 36 Main Street consisted of land totaling approximately 2.35 acres and was bounded by Main Street (Route 25) to the west, a children's camp to the north, a former railway to the east and 10 Main Street to the south. A residential dwelling occupied this property at that time but was later demolished. In 1984, a land transfer of the railway parcel and a portion of the children's camp site were deeded over to 36 Main Street creating the current 5.4-

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acre parcel. This land was occupied by a dwelling unit and driveway associated with the camp site; these site features have since been demolished. The site has remained vacant since these features were demolished. Over the years, the site has grown over with woody vegetation, consisting of evergreens and deciduous trees.

The property at 10 Main Street was previously occupied by a $\pm 34,000$ SF building and an additional $\pm 11,567$ warehouse. The buildings were owned and operated by Vishay Intertechnology, Inc. the buildings were demolished at some time in 2013, and the site has remained vacant since that time.

Project Narrative:

The project proposes to import approximately 165,912 cubic yards of fill material from various sites to 10 & 36 Main Street, to fill to an average elevation of approximately 328 feet. The project proposes to place fill over an area on the property, which is subject to an environmental land use restriction, while the balance of the fill is proposed to support future site development. A substantial portion of the fill will be sourced from the property of 127 Main Street as part of the site development project approved by the Town of Monroe Inland Wetlands and Planning & Zoning Commissions. The project site can be accessed off Main Street (Route 25), which will serve as the main site entrance. Temporary construction fence is to be placed along Main Street. See the Cut/Fill Analysis Plan, Figure 7, for additional details.

The soil erosion and sediment control measures proposed for the filling activity have been designed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The soil erosion and sediment control measures proposed as part of this project include mulch berms, geotextile silt fences, stone check dams, temporary diversion swales, construction entrances, dust control measures, riprap stabilization, silt sack inlet protection for existing drainage features, sediment traps and a sediment basin. At the beginning of construction, three sediment traps and one sediment basin will be constructed along the eastern limit of disturbance. The sediment basin and sediment traps are proposed in low-lying areas and have been sized to provide a minimum storage as required per the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Sediment Basin #1 is located at the northeastern end of the property. See plan Sheet 2.21, Grading & Soil Erosion Control Plan and the Soil Erosion Control Phasing Plan (Sheet 2.31) for more detail on the soil erosion and sediment control measures.

At the completion of the filling operation, the entire limit of disturbance will be seeded to provide stabilization and erosion control as well as provide improved curve numbers and time of concentrations compared to that of existing conditions, decreasing peak flows. At the completion of the project, the sediment will be removed from the traps and basin and the sediment basin will be seeded and maintained to provide additional storm water detention until future potential development commences. A progress reporting form has also been prepared for the project and can be found in Appendix C.

Drainage Analysis:

The stormwater management plan and design for 10 & 36 Main Street is intended to be in compliance with the 2004 Connecticut Stormwater Quality Manual, while taking prevailing site conditions and practical considerations into account.

Stormwater runoff analysis, for both existing and proposed conditions, was performed using the software package Hydroflow Hydrograph Extension. This software uses computer implementation of the SCS-TR-55 methodology to compute volumes and rates of runoff. The watershed area, rainfall depths and intensity, curve number and time of concentration are factors that influence the computed results and are shown in the Hydrology Report in Appendix B.

Rainfall depths were taken from NOAA’s National Weather Service Atlas 14, Point Precipitation Frequency Estimates and were used for calculating the volumes and rates of runoff for this project. The depths are listed in Table 1 below:

Table 1: Rainfall Data

Return Period	24-hr Rainfall Depth (in)
2-year	3.56
5-year	4.63
10-year	5.51
25-year	6.72
50-year	7.62
100-year	8.60

Hydraflow Hydrographs Extension automatically computes the rainfall intensity from its own IDF curves when the rainfall intensity data is provided. Table 2 shows the data that was used to generate the IDF curves. This information was taken from the NOAA’s National Weather Service Atlas 14, Point Precipitation Frequency Estimates.

Table 2: IDF Table

Intermediate Intensity Values (in/hr)				
Return Period	5-Minute	15-Minute	30-Minute	60-Minute
2-year	5.10	2.83	1.97	1.26
5-year	6.31	3.51	2.44	1.56
10-year	7.32	4.07	2.83	1.81
25-year	8.71	4.84	3.36	2.15
50-year	9.76	5.42	3.77	2.42
100-year	10.80	6.03	4.19	2.68

Existing Hydrology:

According to NRCS Soil Survey Geographic database for the State of Connecticut, the majority of the site is comprised of Canton and Charlton soils with 15 to 25 percent slopes. These soils have a hydrologic soil group rating of B. See Figure 3, Soil Survey Map, in Appendix A for more detail regarding soil boundaries.

Approximately 14.85 acres were analyzed for stormwater management purposes. Based on existing drainage patterns, the 14.85-acre area was considered one existing drainage area, labeled Existing Drainage Area 1 (EDA-1). The approximate location and delineation of this drainage area can be seen on Sheet DA-1, Existing Drainage Area Map, found in Appendix B.

EDA-1 has a contributing area of approximately 14.85 acres. This area encompasses the majority of the site starting at the crown within Main Street (Route 25) and reaching all the way east until the edge of the existing wetlands. The majority of runoff from EDA-1 flows east, overland, into the existing wetlands onsite. Pre-existing conditions were considered in the analysis, as 36 Main Street was previously comprised of mostly woods.

Characteristics of this drainage area is summarized in Table 3.

Table 3: Existing Drainage Area Characteristics

Drainage Area	Area (Acres)	Curve Number (CN)	Time of Concentration (Minutes)
EDA-1	14.71	72	17.5

Existing peak flows and volumes of runoff for all analyzed storm-events are summarized in Table 3. Calculations for the existing hydrology can be found in Appendix B.

Table 4: Existing Peak Flows

Drainage Area	Peak Flow (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
EDA-1	13.79	23.65	32.43	45.06	54.79	65.55

Proposed Hydrology:

The proposed grading of the excavation/fill activity consists of drainage areas that are of similar patterns to existing contributing areas, within the 14.85 acres analyzed. Based on the proposed drainage patterns, the 14.85-acre area was divided into three (3) contributing drainage areas, labeled Proposed Drainage Area 1A (PDA-1A), Proposed Drainage Area 1B (PDA-1B) and Proposed Drainage Area 1C (PDA-1C). The approximate location and delineation of these drainage areas can be seen on Sheet DA-2, Proposed Drainage Area Map, found in Appendix B.

PDA-1A has a contributing area of approximately 12.03 acres. This encompasses the majority of the site covering from Route 25 all the way to the proposed Stormwater Basin #1. The majority of runoff from PDA-1A flows east, overland, into Stormwater Basin #1 located to the west of the existing wetlands area. PDA-1A is proposed to be seeded and established in the finished condition.

PDA-1B has a contributing area of approximately 1.81 acres. This area is comprised of southern end of the property, including grass and stone lined swales. Outside of the swales and existing woodlands, the area is to be seeded and established in the finished condition. Runoff from PDA-1B will travel east, overland, before entering the proposed swales and discharging into the existing wetlands along the eastern property line.

PDA-1C has a contributing area of approximately 1.01 acres. This area is comprised of the land directly to the west of the existing wetlands, most of which is existing woods that is to remain untouched. Runoff from PDA-1C will travel overland before reaching the existing wetlands onsite.

Characteristics of these drainage areas are summarized in Table 5. A map depicting proposed drainage areas can be found in Appendix B.

Table 5: Proposed Drainage Area Characteristics

Drainage Area	Area (Acres)	Curve Number (CN)	Time of Concentration (Minutes)
PDA-1A	12.03	61	26.6
PDA-1B	1.81	58	10.5
PDA-1C	1.01	47	10.8

Proposed peak flows and volumes for all analyzed storms are summarized in Table 5. Calculations for the proposed hydrology can be found in Appendix C.

Table 5: Proposed Peak Flows

Drainage Area	Peak Flow (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
PDA-1A	4.05	9.02	13.89	21.37	27.36	34.18
PDA-1B	0.55	1.48	2.42	3.89	5.06	6.43
PDA-1C	0.02	0.19	0.46	1.02	1.52	2.12
Overall (PDA-1)	2.50	7.80	10.95	19.03	26.66	31.82

In an effort to improve the quality of the stormwater discharged from the site, the project will retain the water quality volume within the proposed Stormwater Quality Basin (Basin #1). Basin #1 will also provide additional storage for future development plans while as reducing the peak rate of runoff during the proposed excavation and filling activities. The basin is designed to provide a total storage capacity of approximately 25,584 cubic feet at a peak elevation of 298.81 during the 100-year storm to maximize the amount of detention on the site, with a required water quality volume of 3,708 cubic feet, and a provided stormwater quality volume of 3,885 cubic feet. With a top elevation of 300.00 for the proposed basin and a peak elevation of 298.81 during the 100-year storm, the basin provides a minimum of 1' of freeboard. Stormwater is discharged from the water quality basin via an outlet control structure (OCS-1). The outlet control structure is a Connecticut State Highway Department, "C-L" top, standard catch basin configuration in which the top of frame acts as a weir. The outlet control structure features an 18" orifice with an invert of 294.50 and discharges through a 24" HDPE pipe to a level spreader. For more details on the configuration and drainage features of Stormwater Basin #1 and OCS-1, see Sheet 2.21, Grading & Soil Erosion Control Plan.

The proposed stormwater quality basin (Basin #1) is designed to attenuate the overall peak discharge rate for the 2-, 5-, 10-, 25-, 50-, and 100-year storm event; so that the overall proposed peak flow is less than the overall existing peak flow. The SCS TR-55 methodology was used to compute the peak discharge rates. Refer to Appendix B for calculations of the existing and proposed hydrology. The existing discharge rates and the proposed peak discharge rates, associated with the filling activities, are summarized in the table below (proposed rates are depicted in bold).

Table 6: Peak Flows Comparison

Drainage Area	Peak Flow (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
EDA-1	13.79	23.65	32.43	45.06	54.79	65.55
PDA-1	2.50	7.80	10.95	19.03	26.66	31.82

In addition to the water quality volume provided in the stormwater quality basin, there are also two grass-lined swales proposed as a water quality measure. Both swales are proposed up-gradient of Basin #1. The swales both feature a 2' depth with a longitudinal slope of 2%.

Post-Construction Site Maintenance:

The property owner shall maintain its property at 10 & 36 Main Street, Monroe, Connecticut in accordance with this site maintenance plan, as follows, to maintain the aesthetic quality and cleanliness of the site:

- There are to be no construction activities within the wetland areas, those areas will remain undisturbed as required.
- Main Street shall be checked for potential perimeter erosion, trash, spillage, and pavement conditions during these inspections.
- The sediment traps shall be inspected bi-annually in May and November and cleaned of excessive sediment and debris.
- Maintain each construction entrance anti-tracking pads with silt fence along the edge of the pads.

Earthwork Analysis:

The proposed excavation and filling project will have slopes that range from approximately 1.0 percent within the parking area to 30-50 percent within landscaped fill slopes around the edge of the project site. Elevations will range from a high of approximately 346 feet, in the northwest corner of the site, to a low of approximate 292 feet edge of the existing wetlands along the eastern property edge. The project was designed in order to raise the grades of the site to be closer to the elevations along Main Street (Route 25) in order to support future site development. There will be a proposed filling of 183,009 CY, and a cut of 15,219 CY, resulting in a net import of 167,790 CY. The majority of the excavation/ filling activities are to take place outside of the regulated area. Within the regulated area, there will be a proposed filling of 2,029 CY, and a cut of 2,680 CY, resulting in a net export of 651 CY. No fill is to be placed within the 100-year floodplain.

Supporting Documents:

Appendix A:

Figures

Site Location Map (Figure 1)
FEMA Flood Map (Figure 2)
Soil Survey Map (Figure 3)
National Diversity Database Map (Figure 4)
Regulated Area Map (Figure 5)
Slope Area Map (Figure 6)
Cut/Fill Exhibit (Figure 7)

Appendix B:

Hydrology

Existing Drainage Area Map (DA-1)
Proposed Drainage Area Map (DA-2)
NOAA Atlas Precipitation Data
Watershed Model Schematic
Hydraflow Stormwater Analysis
Hydraflow Return Period Recap Report
Hydraflow Summary Reports
Hydraflow Stormwater Pond Report
Curve Number Calculations
Time of Concentration Calculations
Water Quality Volume Calculations

Appendix C:

Inspections

Excavation/Fill Permit Progress Report Form

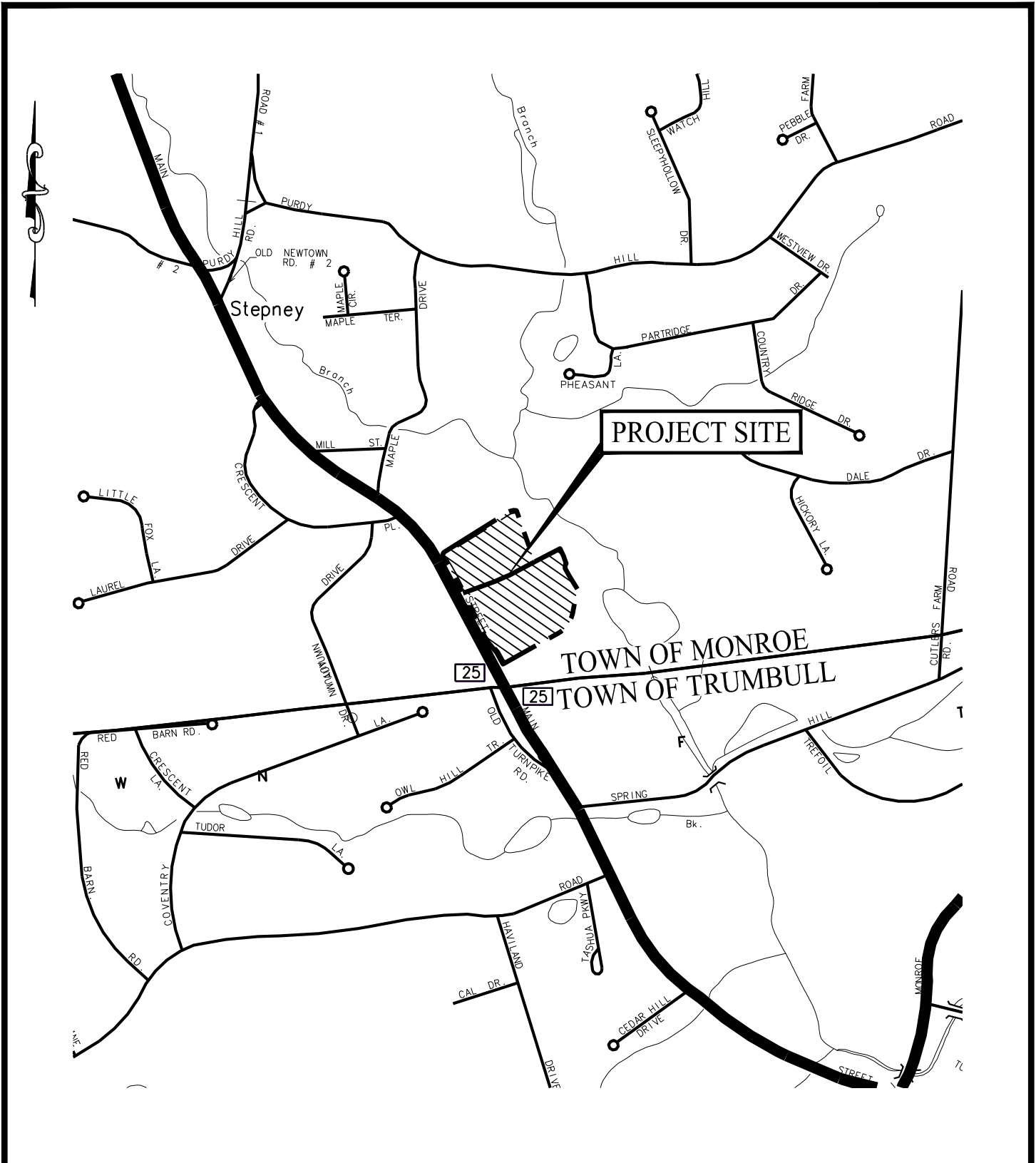
Appendix D:

Plans

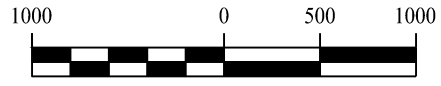
Grading & Soil Erosion Control Plan (Sheet 2.21)
Reclamation Plan (Sheet 2.61)

APPENDIX A
FIGURES

- Site Location Map (Figure 1)
- FEMA Flood Map (Figure 2)
- Soil Survey Map (Figure 3)
- Natural Diversity Database Map (Figure 4)
- Regulated Area Map (Figure 5)
- Slope Area Map (Figure 6)
- Cut/Fill Exhibit (Figure 7)



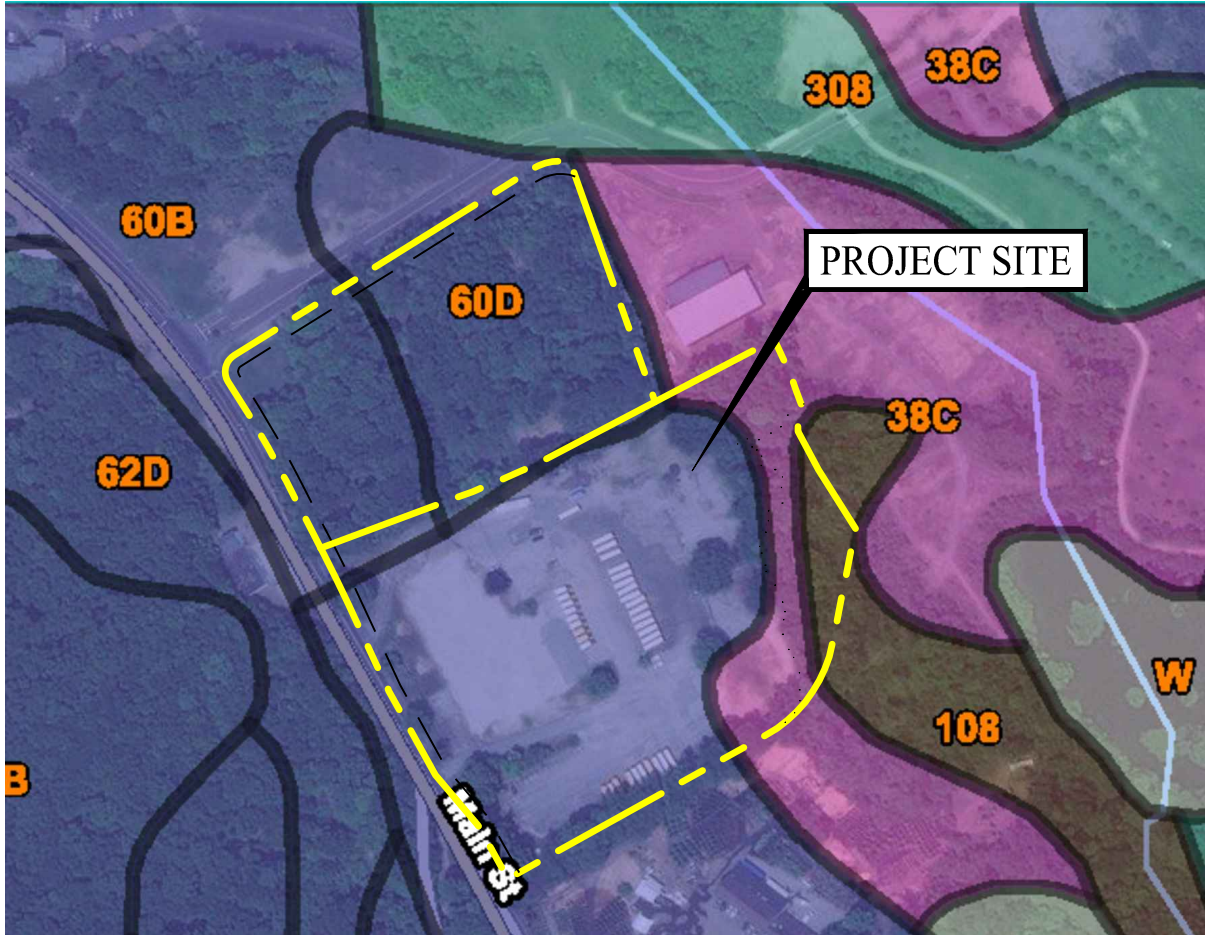
NOTE: BASE MAP INFORMATION TAKEN FROM
[HTTP://CT.GOV/DOT](http://ct.gov/dot), MAP NUMBERS 084 AND 144



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SITE LOCATION MAP
 10 & 36 MAIN STREET
 MONROE, CONNECTICUT

Project #:	2008001
Plan Date:	07/26/21
Scale:	1" = 1000'
Figure:	1



Map unit symbol	Map unit name	Rating
38C	Hinckley loamy sand, 3 to 15 percent slopes	A
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	B
60D	Canton and Charlton soils, 15 to 25 percent slopes	B
108	Saco silt loam	B/D
306	Udorthents-Urban land complex	B

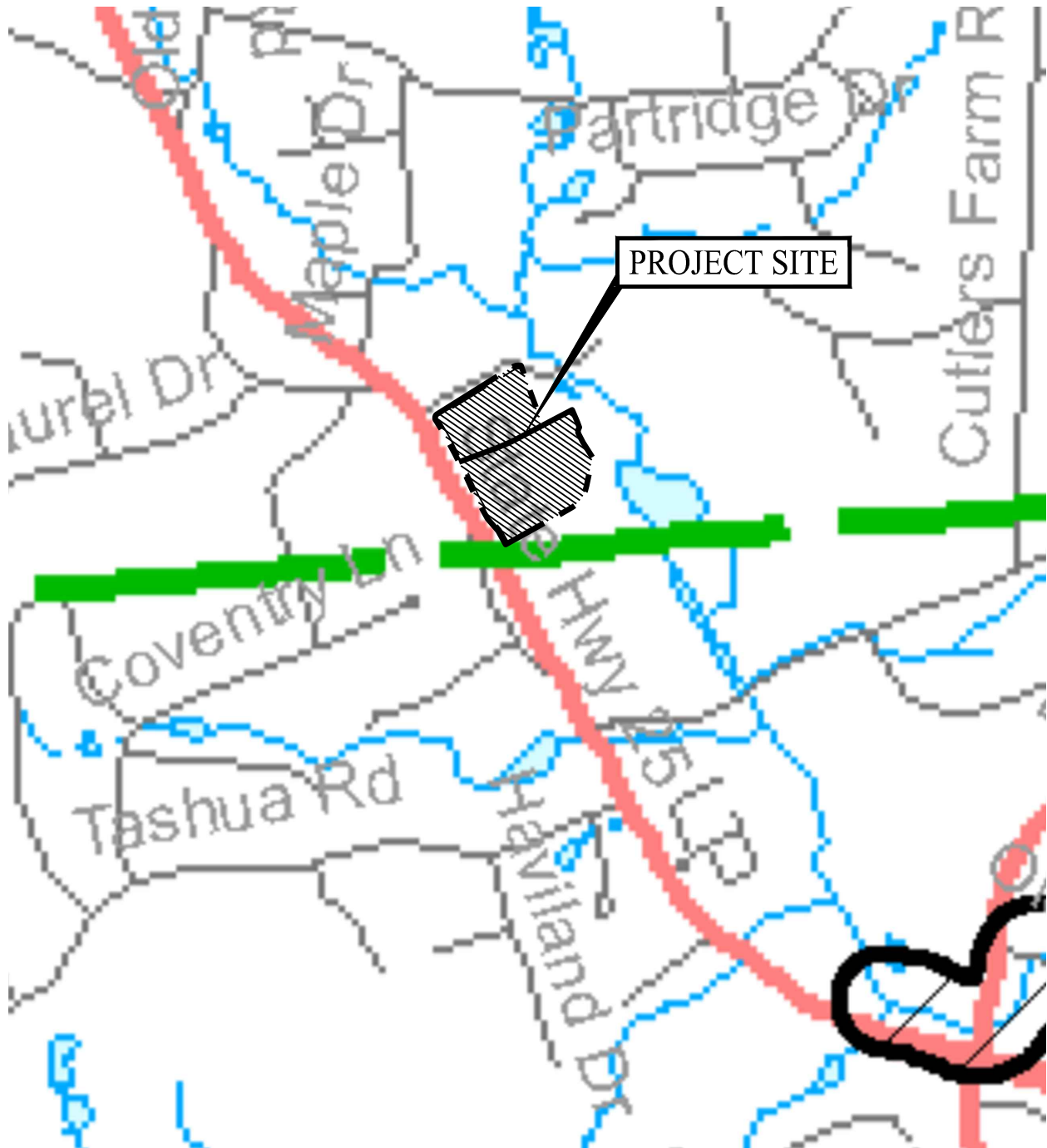
NOTE: BASE MAP INFORMATION TAKEN FROM THE NATURAL RESOURCES CONSERVATION SERVICE, URL: [HTTP://WEBSOILSURVEY.NRCS.USDA.GOV](http://websoilsurvey.nrcs.usda.gov)
 DATE OF IMAGE: JUNE 03, 2021.



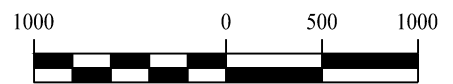
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SOIL SURVEY MAP
 10 & 36 MAIN STREET
 MONROE, CONNECTICUT

Project #: 2008001
 Plan Date: 07/26/21
 Scale: 1" = 300'
 Figure: 3



NOTE: BASE MAP INFORMATION TAKEN FROM CT DEEP NATURAL DIVERSITY DATA BASE AREAS, MONROE, CT DECEMBER 2019 (MAP ND085.PDF)
 URL: [HTTPS://PORTAL.CT.GOV/DEEP/ENDANGERED-SPECIES/NATURAL-DIVERSITY-DATA-BASE-MAP](https://portal.ct.gov/deep/endangered-species/natural-diversity-data-base-map)



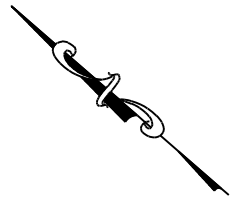
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NATURAL DIVERSITY MAP
 10 & 36 MAIN STREET
 MONROE, CONNECTICUT

Project #:	2008001
Plan Date:	07/26/21
Scale:	1" = 1000'
Figure:	4





GENERAL NOTES

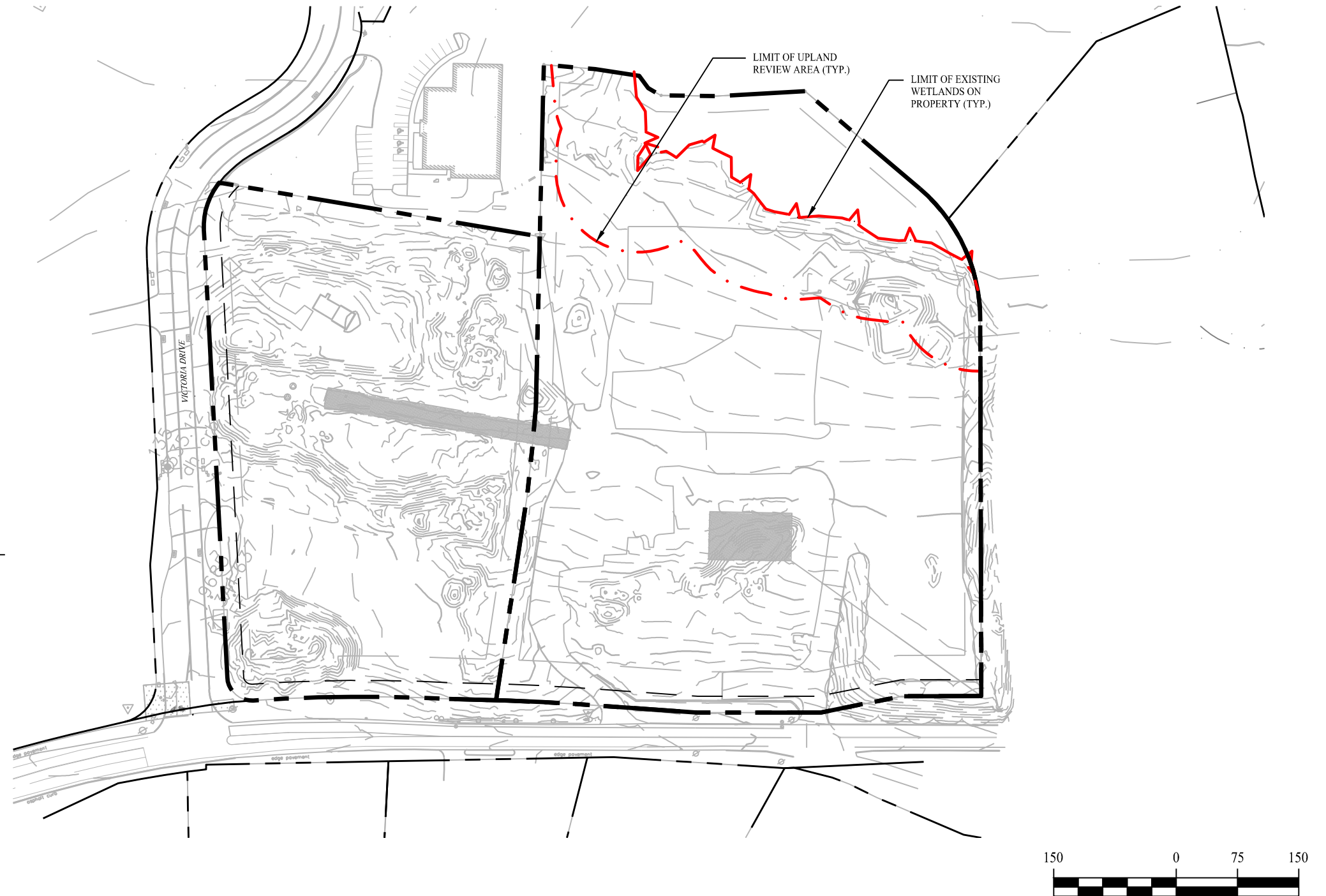
1. WETLANDS WERE DELINEATED AND FLAGGED BY WILLIAM KENNY ASSOCIATES, LLC ON APRIL 22, 2021.



WETLAND AREA TABLE	
AREA	ACRES
PROPERTY AREA	14.35±
WETLANDS ON PROPERTY	0.86±
UPLAND REVIEW AREA ON PROPERTY	2.47±
WETLANDS TO BE ALTERED	0.00±
UPLAND REVIEW AREA TO BE ALTERED	1.09±
TOTAL REGULATED AREA TO BE ALTERED	1.09±

LEGEND

-  PROPERTY LINE
-  RIGHT-OF-WAY LINE
-  LIMIT OF WETLANDS
-  LIMIT OF UPLAND REVIEW AREA



Rev. #:	Date	Description
1	09/15/21	RESPONSE TO COMMENTS

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Drawn By:	MDM
Checked By:	KMS
Project #:	2008001
Plan Date:	07/26/21
Scale:	1" = 150'





Project: EXCAVATION/ FILLING PERMIT
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 MONROE, CONNECTICUT

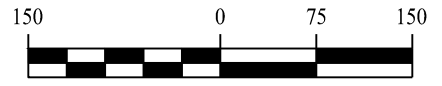
Sheet Title:
 REGULATED AREA
 MAP

SHEET #:
FIG. 5



Slopes Table

Number	Minimum Slope	Maximum Slope	Color	Area
1	0.00%	10.00%		343209.84
2	10.00%	15.00%		62739.07
3	15.00%	25.00%		61398.43
4	25.00%	25000.00%		145981.52



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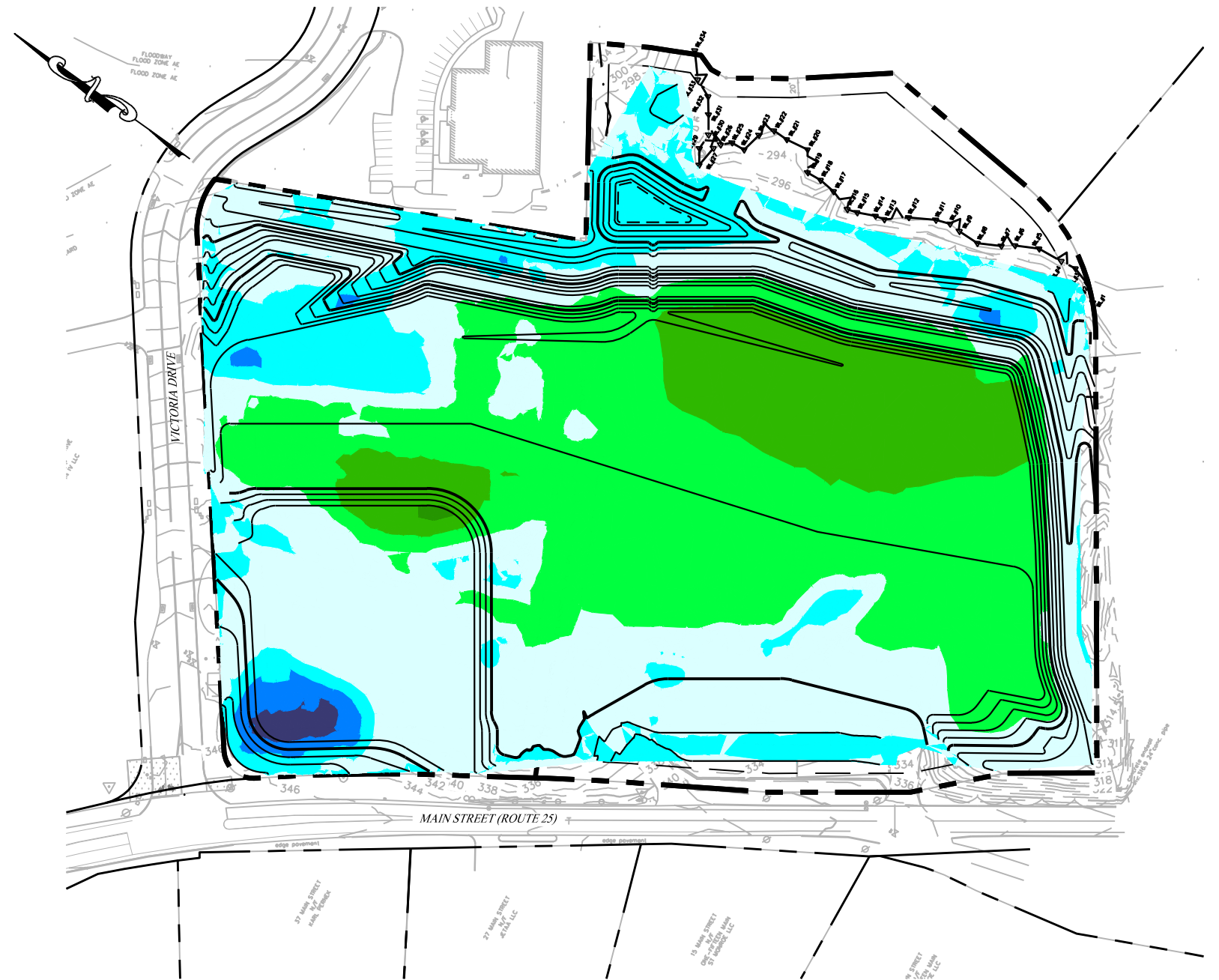
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Drawn By: MDM
Checked By: KMS
Project #: 2008001
Plan Date: 07/26/21
Scale: 1" = 150'

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Sheet Title:
SLOPE AREA MAP

SHEET #:
FIG. 6



Elevations Table

Number	Minimum Elevation	Maximum Elevation	Color	Area
1	-30.000	-20.000	Dark Blue	2837.34
2	-20.000	-10.000	Blue	7544.78
3	-10.000	0.000	Cyan	87911.10
4	0.000	10.000	Light Cyan	209601.82
5	10.000	20.000	Light Green	173381.84
6	20.000	30.000	Green	62615.63
7	30.000	40.000	Dark Green	470.38



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Scale: 1" = 150'

Project: EXCAVATION/ FILLING PERMIT
APPLICATION
10 & 36 MAIN STREET
MONROE, CONNECTICUT

Sheet Title:
CUT/FILL EXHIBIT

SHEET #:
FIG. 7






APPENDIX B
HYDROLOGY

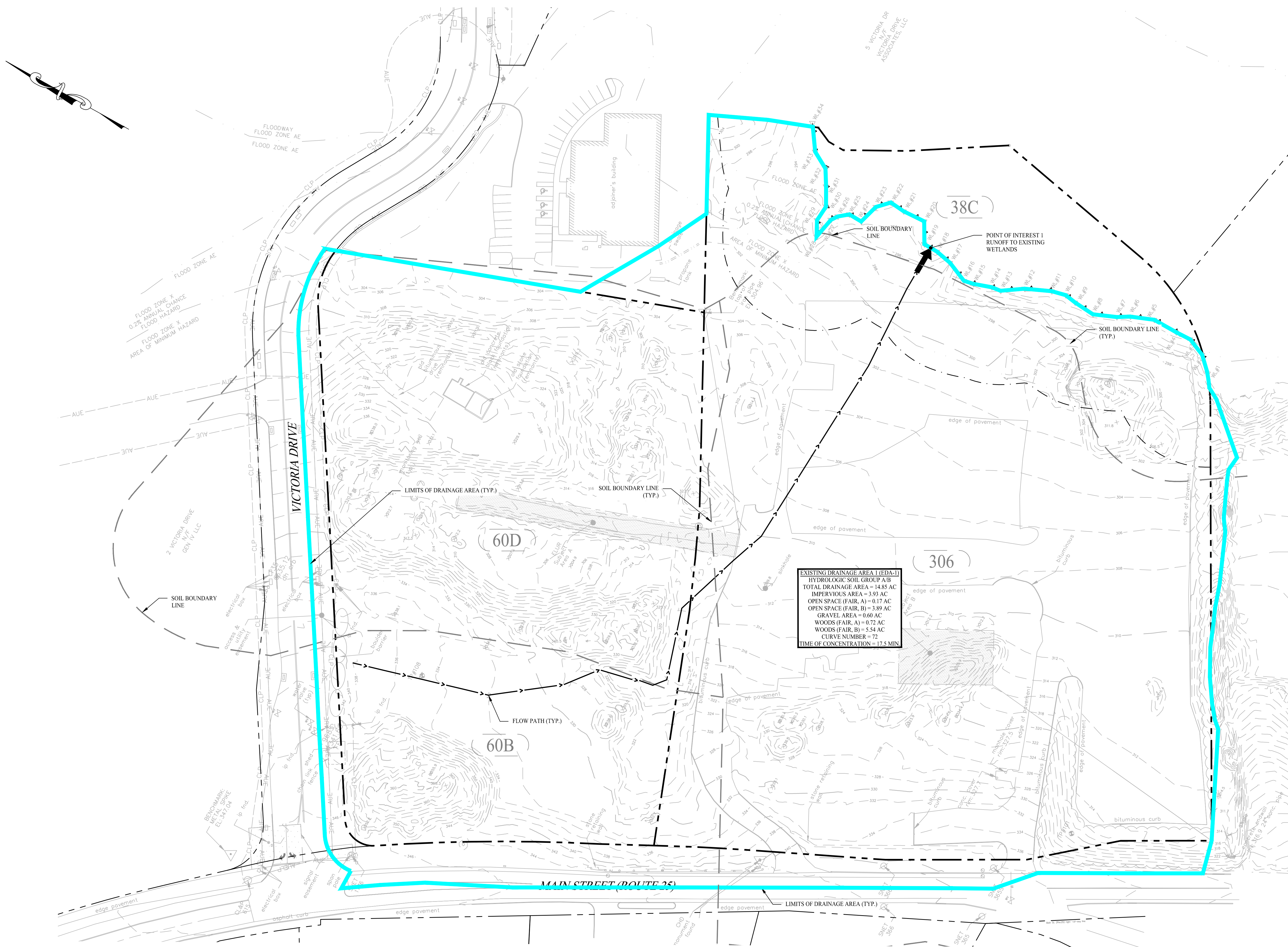
Existing Drainage Area Map (DA-1)
Proposed Drainage Area Map (DA-2)
NOAA Atlas Precipitation Data
Watershed Model Schematic
Hydraflow Stormwater Analysis
Hydraflow Return Period Recap Report
Hydraflow Summary Reports
Hydraflow Stormwater Pond Report
Curve Number Calculations
Time of Concentration Calculations
Water Quality Calculations

GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE 2000 CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT) DRAINAGE MANUAL AND THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.
3. PRE-EXISTING CONDITIONS WERE EVALUATED FOR THE DRAINAGE CALCULATIONS.

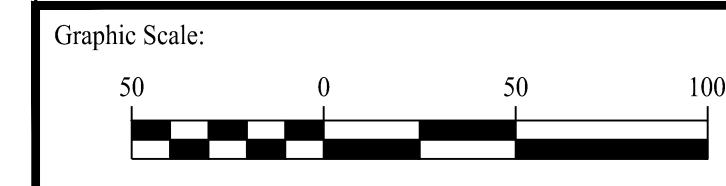
LEGEND

-  PROPERTY LINE
-  LIMITS OF EXISTING DRAINAGE AREA
-  FLOW PATH
-  HYDROLOGIC SOIL GROUP
-  SOIL BOUNDARY LINE



EXISTING DRAINAGE AREA I (EDA-I)
 HYDROLOGIC SOIL GROUP A/B
 TOTAL DRAINAGE AREA = 14.85 AC
 IMPERVIOUS AREA = 3.93 AC
 OPEN SPACE (FAIR, A) = 0.17 AC
 OPEN SPACE (FAIR, B) = 3.89 AC
 GRAVEL AREA = 0.60 AC
 WOODS (FAIR, A) = 0.72 AC
 WOODS (FAIR, B) = 5.54 AC
 CURVE NUMBER = 72
 TIME OF CONCENTRATION = 17.5 MIN.

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Drawn By:	CJP	Kevin Solli, P.E. CT 25759
Checked By:	LAM	
Approved By:	KMS	
Project #:	2008001	
Plan Date:	07/26/21	
Scale:	1" = 50'	

EXCAVATION/FILLING PERMIT APPLICATION
 10 & 36 MAIN STREET
 MONROE, CONNECTICUT






Sheet Title:	EXISTING DRAINAGE AREA MAP	Sheet #:	DA-1
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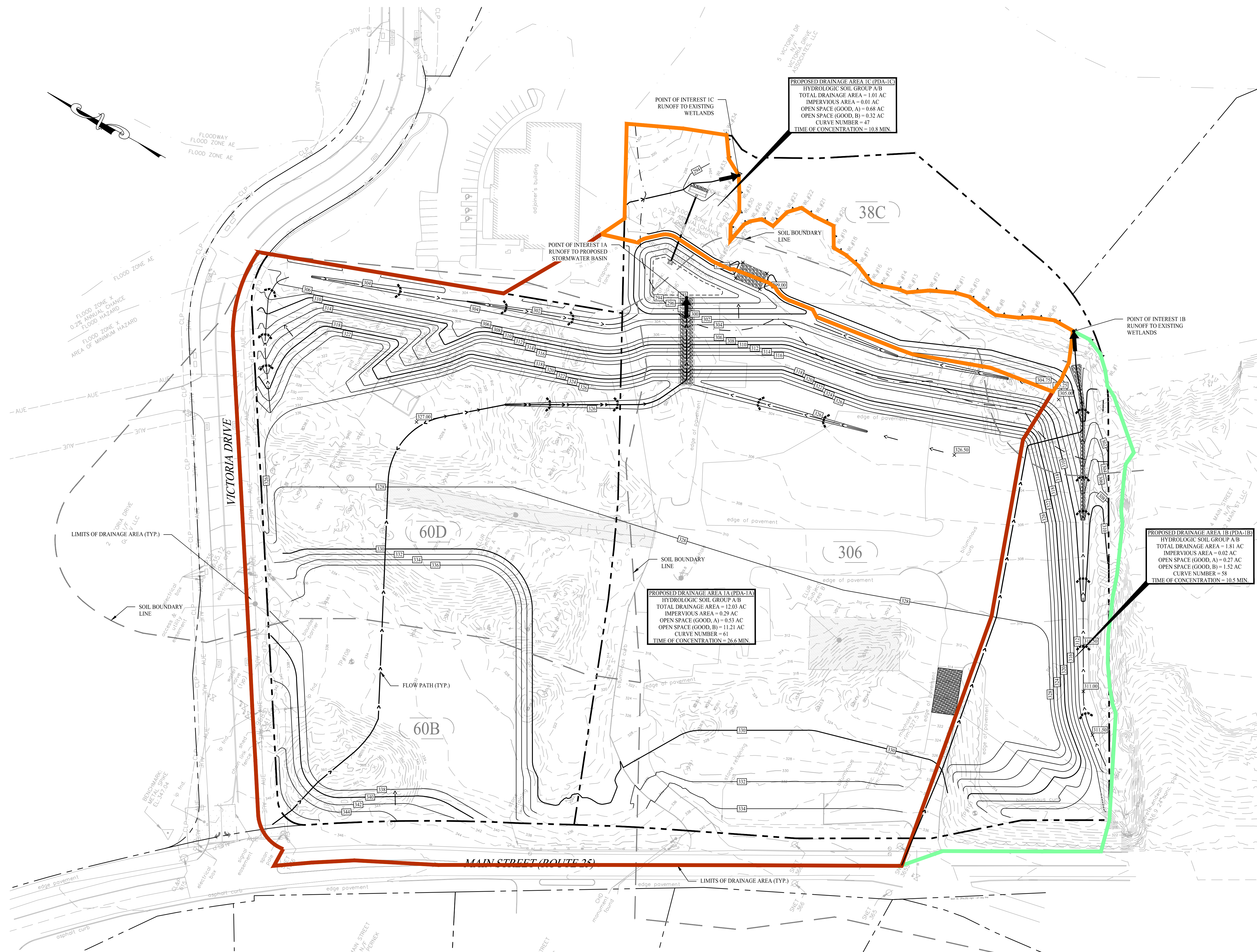
Jul 27, 2021 - 10:02am Anthony
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GENERAL NOTES

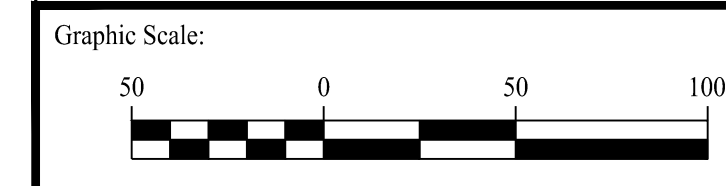
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2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

-  PROPERTY LINE
-  LIMITS OF EXISTING DRAINAGE AREA
-  FLOW PATH
-  HYDROLOGIC SOIL GROUP
-  SOIL BOUNDARY LINE



Rev. #:	Date	Description



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Project #:	2008001	
Plan Date:	07/26/21	
Scale:	1" = 50'	

EXCAVATION/FILLING PERMIT APPLICATION
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Sheet Title:	PROPOSED DRAINAGE AREA MAP	Sheet #:	DA-2
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Jul 27, 2021 - 10:02am Anthony
 X:\SE Files\Project Data\2020\2008001 - 10 & 36 Main Street - Monroe, CT\Cadd Data\Excavation and Fill Permit\20200801-JM-1.dwg



NOAA Atlas 14, Volume 10, Version 3
Location name: Monroe, Connecticut, USA*
Latitude: 41.2987°, Longitude: -73.2479°
Elevation: 346.16 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

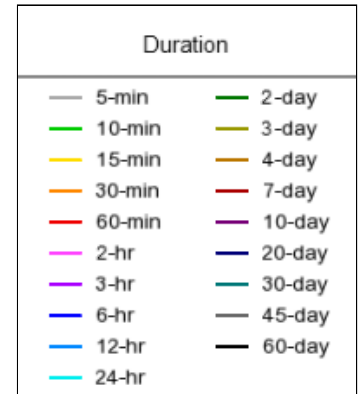
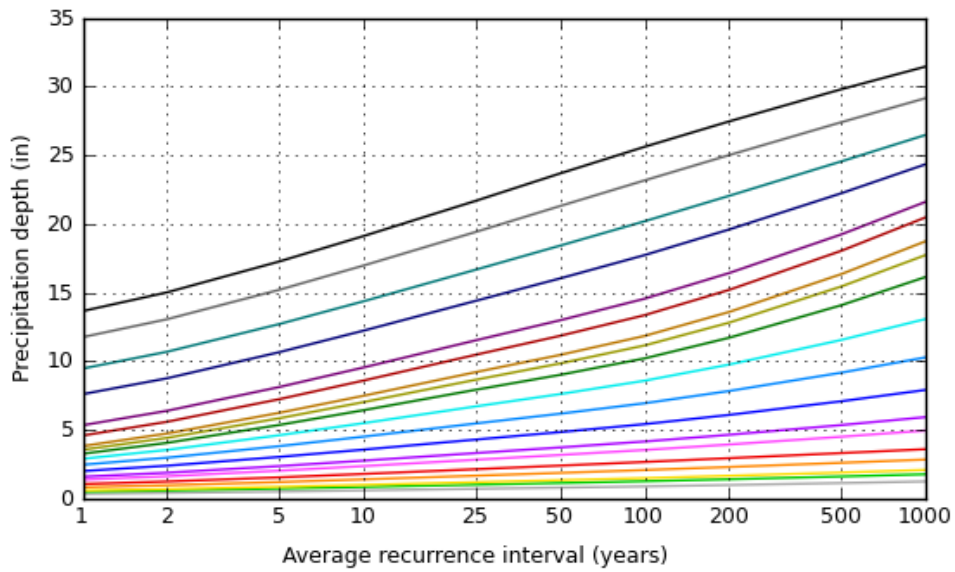
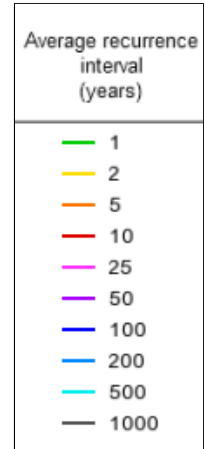
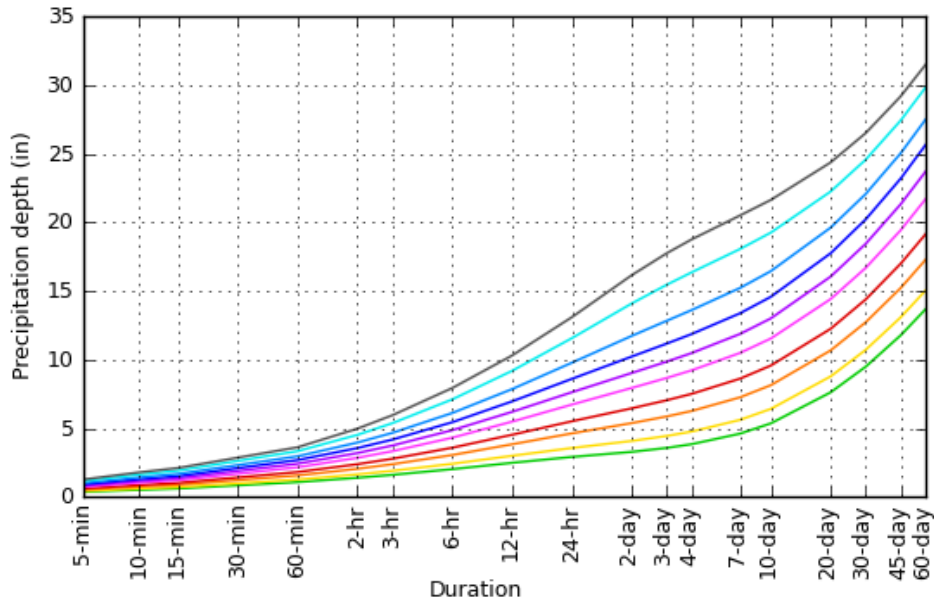
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.363 (0.277-0.464)	0.425 (0.324-0.544)	0.526 (0.400-0.676)	0.610 (0.462-0.787)	0.726 (0.534-0.968)	0.813 (0.587-1.10)	0.904 (0.635-1.26)	1.00 (0.673-1.43)	1.15 (0.742-1.67)	1.26 (0.799-1.87)
10-min	0.514 (0.392-0.658)	0.602 (0.459-0.771)	0.745 (0.567-0.959)	0.864 (0.654-1.12)	1.03 (0.756-1.37)	1.15 (0.831-1.56)	1.28 (0.900-1.79)	1.42 (0.954-2.02)	1.63 (1.05-2.37)	1.79 (1.13-2.65)
15-min	0.604 (0.462-0.774)	0.708 (0.540-0.907)	0.877 (0.667-1.13)	1.02 (0.770-1.31)	1.21 (0.889-1.61)	1.36 (0.978-1.84)	1.51 (1.06-2.10)	1.68 (1.12-2.38)	1.91 (1.24-2.79)	2.10 (1.33-3.12)
30-min	0.840 (0.642-1.08)	0.984 (0.751-1.26)	1.22 (0.927-1.57)	1.41 (1.07-1.83)	1.68 (1.24-2.24)	1.89 (1.36-2.55)	2.10 (1.47-2.91)	2.32 (1.55-3.29)	2.62 (1.70-3.82)	2.86 (1.81-4.23)
60-min	1.08 (0.822-1.38)	1.26 (0.961-1.62)	1.56 (1.19-2.01)	1.81 (1.37-2.34)	2.15 (1.58-2.86)	2.42 (1.74-3.26)	2.68 (1.87-3.71)	2.96 (1.98-4.19)	3.33 (2.15-4.85)	3.61 (2.29-5.35)
2-hr	1.39 (1.07-1.77)	1.64 (1.26-2.09)	2.05 (1.57-2.61)	2.38 (1.81-3.05)	2.84 (2.10-3.77)	3.19 (2.31-4.30)	3.56 (2.51-4.92)	3.95 (2.66-5.57)	4.52 (2.93-6.54)	4.97 (3.16-7.31)
3-hr	1.61 (1.24-2.04)	1.90 (1.46-2.41)	2.38 (1.83-3.03)	2.78 (2.12-3.55)	3.33 (2.47-4.40)	3.74 (2.72-5.02)	4.17 (2.96-5.78)	4.66 (3.14-6.55)	5.37 (3.49-7.74)	5.95 (3.78-8.72)
6-hr	2.02 (1.57-2.54)	2.41 (1.87-3.04)	3.05 (2.36-3.85)	3.58 (2.75-4.54)	4.31 (3.22-5.67)	4.86 (3.56-6.50)	5.44 (3.89-7.51)	6.11 (4.13-8.52)	7.10 (4.63-10.2)	7.93 (5.06-11.5)
12-hr	2.48 (1.94-3.10)	2.99 (2.34-3.75)	3.83 (2.98-4.81)	4.53 (3.50-5.70)	5.48 (4.12-7.17)	6.20 (4.57-8.25)	6.96 (5.01-9.57)	7.85 (5.33-10.9)	9.18 (6.01-13.1)	10.3 (6.59-14.9)
24-hr	2.91 (2.29-3.62)	3.56 (2.80-4.43)	4.63 (3.62-5.77)	5.51 (4.29-6.90)	6.72 (5.09-8.76)	7.62 (5.67-10.1)	8.60 (6.24-11.8)	9.77 (6.66-13.5)	11.6 (7.59-16.4)	13.1 (8.40-18.8)
2-day	3.28 (2.59-4.05)	4.07 (3.22-5.03)	5.37 (4.23-6.65)	6.45 (5.05-8.02)	7.94 (6.05-10.3)	9.02 (6.76-11.9)	10.2 (7.50-14.0)	11.7 (8.01-16.1)	14.1 (9.27-19.8)	16.2 (10.4-23.0)
3-day	3.57 (2.83-4.39)	4.44 (3.52-5.46)	5.86 (4.63-7.23)	7.04 (5.53-8.72)	8.66 (6.63-11.2)	9.85 (7.41-13.0)	11.2 (8.23-15.3)	12.8 (8.78-17.5)	15.5 (10.2-21.6)	17.7 (11.4-25.2)
4-day	3.84 (3.06-4.70)	4.76 (3.78-5.83)	6.26 (4.96-7.69)	7.50 (5.91-9.26)	9.22 (7.07-11.9)	10.5 (7.89-13.8)	11.9 (8.75-16.2)	13.6 (9.33-18.5)	16.4 (10.8-22.8)	18.8 (12.1-26.6)
7-day	4.61 (3.69-5.61)	5.61 (4.48-6.84)	7.25 (5.77-8.86)	8.61 (6.82-10.6)	10.5 (8.06-13.4)	11.9 (8.96-15.5)	13.4 (9.85-18.0)	15.2 (10.5-20.6)	18.0 (12.0-25.0)	20.5 (13.3-28.9)
10-day	5.35 (4.30-6.50)	6.41 (5.14-7.79)	8.13 (6.50-9.91)	9.56 (7.60-11.7)	11.5 (8.89-14.7)	13.0 (9.82-16.8)	14.6 (10.7-19.5)	16.4 (11.4-22.1)	19.2 (12.8-26.6)	21.6 (14.0-30.3)
20-day	7.62 (6.16-9.19)	8.78 (7.08-10.6)	10.7 (8.58-12.9)	12.2 (9.79-14.9)	14.4 (11.1-18.1)	16.0 (12.1-20.4)	17.7 (13.0-23.3)	19.6 (13.6-26.2)	22.2 (14.8-30.5)	24.4 (15.8-33.9)
30-day	9.48 (7.69-11.4)	10.7 (8.68-12.9)	12.7 (10.3-15.3)	14.4 (11.5-17.4)	16.7 (12.9-20.8)	18.4 (13.9-23.3)	20.2 (14.8-26.2)	22.1 (15.4-29.3)	24.6 (16.4-33.5)	26.5 (17.3-36.8)
45-day	11.8 (9.58-14.1)	13.1 (10.6-15.7)	15.2 (12.3-18.3)	17.0 (13.7-20.5)	19.4 (15.1-24.0)	21.3 (16.1-26.7)	23.2 (16.9-29.8)	25.0 (17.5-33.1)	27.4 (18.4-37.2)	29.2 (19.0-40.3)
60-day	13.7 (11.2-16.3)	15.0 (12.3-17.9)	17.3 (14.0-20.7)	19.1 (15.4-23.0)	21.7 (16.9-26.7)	23.7 (18.0-29.6)	25.6 (18.7-32.7)	27.5 (19.3-36.2)	29.8 (20.1-40.4)	31.5 (20.6-43.4)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

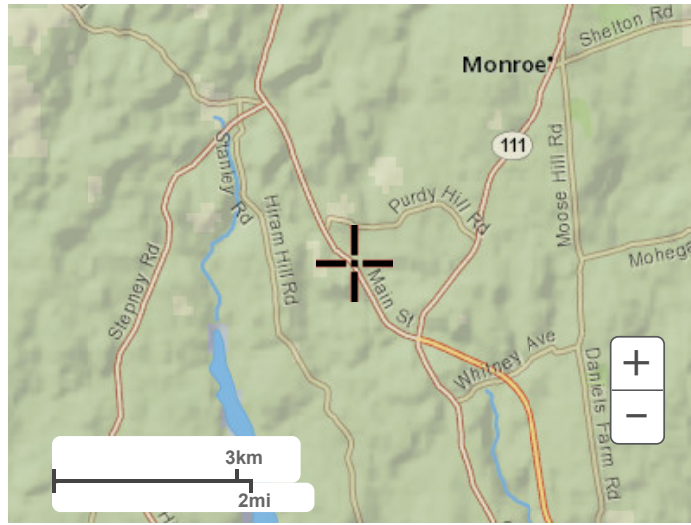
PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.2987°, Longitude: -73.2479°



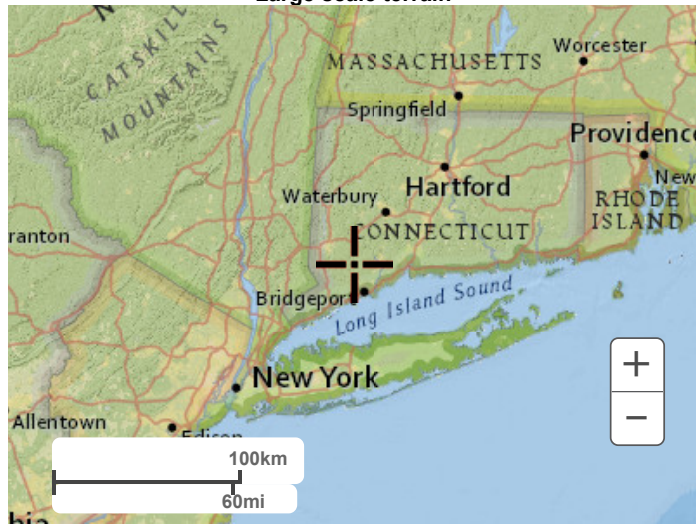
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Maps & aerials

Small scale terrain



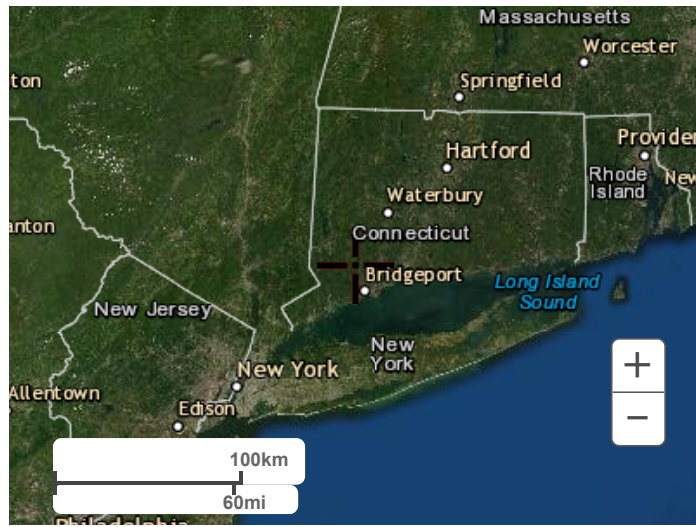
Large scale terrain



Large scale map



Large scale aerial



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NOAA Atlas 14, Volume 10, Version 3
Location name: Monroe, Connecticut, USA*
Latitude: 41.2987°, Longitude: -73.2479°
Elevation: 346.16 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerials](#)

PF tabular

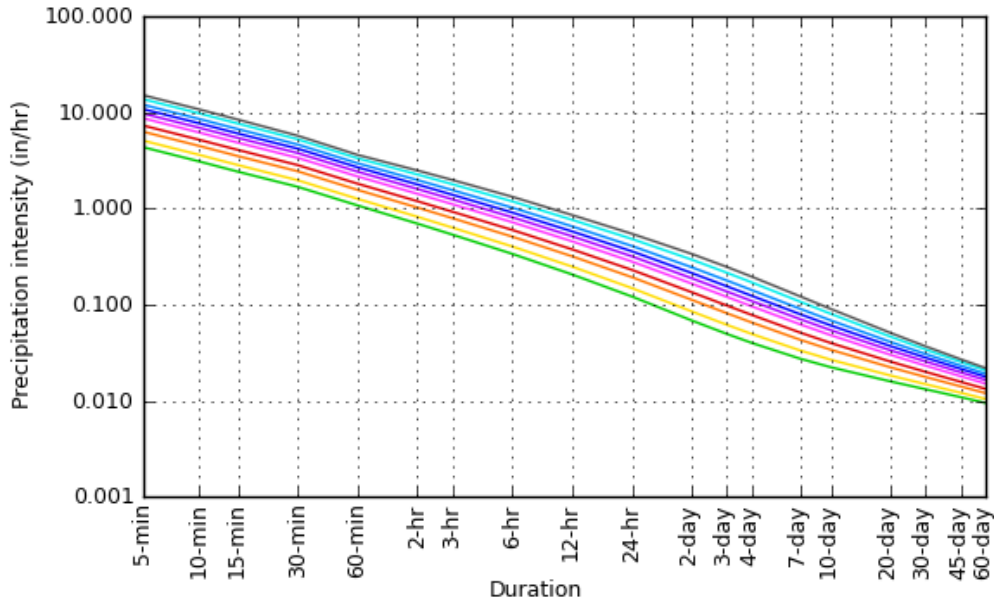
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.36 (3.32-5.57)	5.10 (3.89-6.53)	6.31 (4.80-8.11)	7.32 (5.54-9.44)	8.71 (6.41-11.6)	9.76 (7.04-13.2)	10.8 (7.62-15.1)	12.0 (8.08-17.1)	13.8 (8.90-20.1)	15.1 (9.59-22.4)
10-min	3.08 (2.35-3.95)	3.61 (2.75-4.63)	4.47 (3.40-5.75)	5.18 (3.92-6.69)	6.17 (4.54-8.23)	6.91 (4.99-9.37)	7.69 (5.40-10.7)	8.54 (5.72-12.1)	9.75 (6.31-14.2)	10.7 (6.79-15.9)
15-min	2.42 (1.85-3.10)	2.83 (2.16-3.63)	3.51 (2.67-4.51)	4.07 (3.08-5.25)	4.84 (3.56-6.45)	5.42 (3.91-7.35)	6.03 (4.24-8.40)	6.70 (4.49-9.50)	7.65 (4.95-11.1)	8.42 (5.33-12.5)
30-min	1.68 (1.28-2.15)	1.97 (1.50-2.52)	2.44 (1.85-3.13)	2.83 (2.14-3.65)	3.36 (2.47-4.48)	3.77 (2.72-5.10)	4.19 (2.93-5.81)	4.63 (3.11-6.57)	5.24 (3.39-7.63)	5.72 (3.62-8.47)
60-min	1.08 (0.822-1.38)	1.26 (0.961-1.62)	1.56 (1.19-2.01)	1.81 (1.37-2.34)	2.15 (1.58-2.86)	2.42 (1.74-3.26)	2.68 (1.87-3.71)	2.96 (1.98-4.19)	3.33 (2.15-4.85)	3.61 (2.29-5.35)
2-hr	0.696 (0.535-0.886)	0.820 (0.630-1.04)	1.02 (0.782-1.31)	1.19 (0.906-1.53)	1.42 (1.05-1.88)	1.60 (1.16-2.15)	1.78 (1.25-2.46)	1.98 (1.33-2.79)	2.26 (1.47-3.27)	2.49 (1.58-3.66)
3-hr	0.534 (0.412-0.678)	0.632 (0.487-0.802)	0.793 (0.609-1.01)	0.925 (0.707-1.18)	1.11 (0.822-1.46)	1.25 (0.907-1.67)	1.39 (0.986-1.92)	1.55 (1.05-2.18)	1.79 (1.16-2.58)	1.98 (1.26-2.90)
6-hr	0.337 (0.262-0.424)	0.402 (0.312-0.507)	0.509 (0.394-0.643)	0.598 (0.460-0.758)	0.720 (0.538-0.947)	0.811 (0.595-1.09)	0.908 (0.649-1.25)	1.02 (0.690-1.42)	1.19 (0.773-1.70)	1.32 (0.844-1.93)
12-hr	0.206 (0.161-0.258)	0.248 (0.194-0.311)	0.318 (0.247-0.399)	0.376 (0.290-0.473)	0.455 (0.342-0.595)	0.514 (0.379-0.685)	0.577 (0.415-0.794)	0.652 (0.442-0.903)	0.762 (0.498-1.09)	0.855 (0.547-1.24)
24-hr	0.121 (0.095-0.151)	0.148 (0.117-0.184)	0.193 (0.151-0.240)	0.230 (0.179-0.287)	0.280 (0.212-0.365)	0.318 (0.236-0.421)	0.358 (0.260-0.492)	0.407 (0.277-0.561)	0.482 (0.316-0.682)	0.546 (0.350-0.783)
2-day	0.068 (0.054-0.084)	0.085 (0.067-0.105)	0.112 (0.088-0.139)	0.134 (0.105-0.167)	0.165 (0.126-0.214)	0.188 (0.141-0.249)	0.213 (0.156-0.293)	0.244 (0.167-0.334)	0.293 (0.193-0.413)	0.336 (0.217-0.480)
3-day	0.050 (0.039-0.061)	0.062 (0.049-0.076)	0.081 (0.064-0.100)	0.098 (0.077-0.121)	0.120 (0.092-0.156)	0.137 (0.103-0.181)	0.155 (0.114-0.213)	0.178 (0.122-0.243)	0.215 (0.141-0.300)	0.246 (0.159-0.350)
4-day	0.040 (0.032-0.049)	0.050 (0.039-0.061)	0.065 (0.052-0.080)	0.078 (0.062-0.097)	0.096 (0.074-0.124)	0.109 (0.082-0.143)	0.124 (0.091-0.169)	0.142 (0.097-0.193)	0.170 (0.112-0.238)	0.195 (0.126-0.277)
7-day	0.027 (0.022-0.033)	0.033 (0.027-0.041)	0.043 (0.034-0.053)	0.051 (0.041-0.063)	0.062 (0.048-0.080)	0.071 (0.053-0.092)	0.080 (0.059-0.107)	0.091 (0.062-0.122)	0.107 (0.071-0.149)	0.122 (0.079-0.172)
10-day	0.022 (0.018-0.027)	0.027 (0.021-0.032)	0.034 (0.027-0.041)	0.040 (0.032-0.049)	0.048 (0.037-0.061)	0.054 (0.041-0.070)	0.061 (0.045-0.081)	0.069 (0.047-0.092)	0.080 (0.053-0.111)	0.090 (0.058-0.126)
20-day	0.016 (0.013-0.019)	0.018 (0.015-0.022)	0.022 (0.018-0.027)	0.026 (0.020-0.031)	0.030 (0.023-0.038)	0.033 (0.025-0.043)	0.037 (0.027-0.048)	0.041 (0.028-0.055)	0.046 (0.031-0.064)	0.051 (0.033-0.071)
30-day	0.013 (0.011-0.016)	0.015 (0.012-0.018)	0.018 (0.014-0.021)	0.020 (0.016-0.024)	0.023 (0.018-0.029)	0.026 (0.019-0.032)	0.028 (0.020-0.036)	0.031 (0.021-0.041)	0.034 (0.023-0.047)	0.037 (0.024-0.051)
45-day	0.011 (0.009-0.013)	0.012 (0.010-0.014)	0.014 (0.011-0.017)	0.016 (0.013-0.019)	0.018 (0.014-0.022)	0.020 (0.015-0.025)	0.021 (0.016-0.028)	0.023 (0.016-0.031)	0.025 (0.017-0.034)	0.027 (0.018-0.037)
60-day	0.009 (0.008-0.011)	0.010 (0.009-0.012)	0.012 (0.010-0.014)	0.013 (0.011-0.016)	0.015 (0.012-0.019)	0.016 (0.012-0.021)	0.018 (0.013-0.023)	0.019 (0.013-0.025)	0.021 (0.014-0.028)	0.022 (0.014-0.030)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

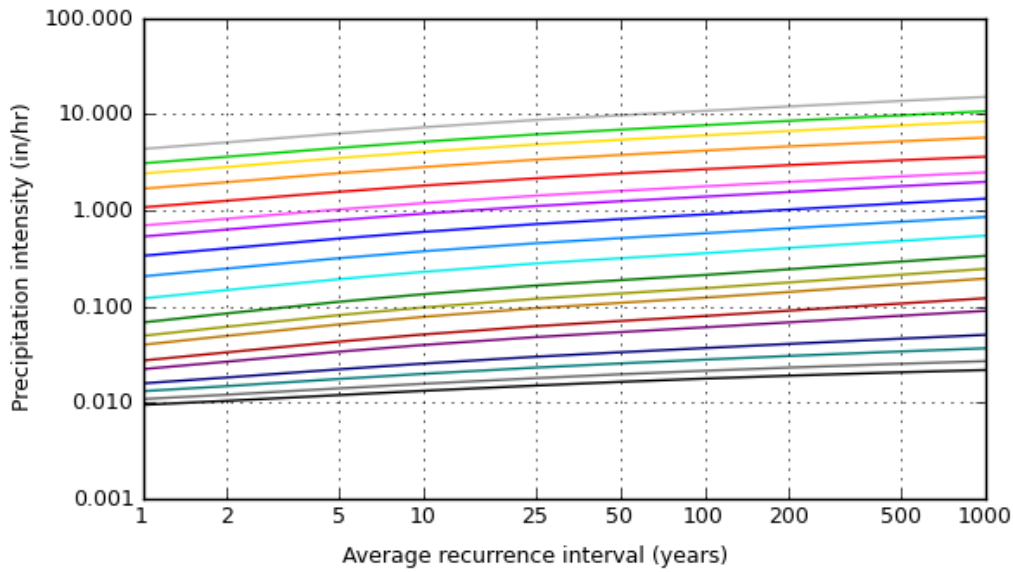
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PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 41.2987°, Longitude: -73.2479°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000

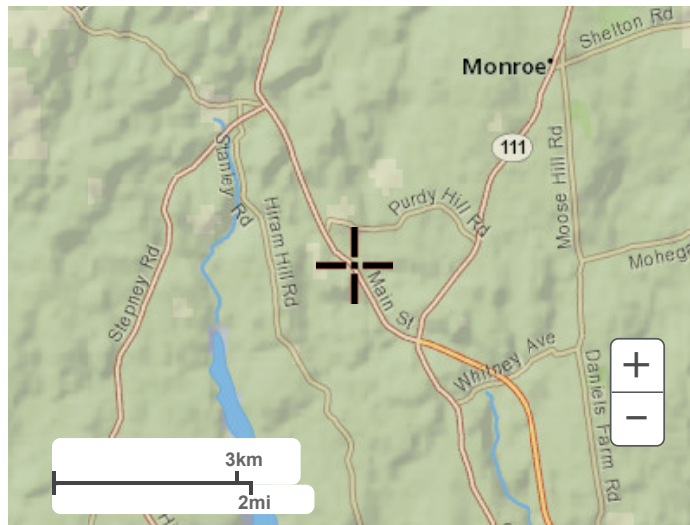


Duration
5-min
10-min
15-min
30-min
60-min
2-hr
3-hr
6-hr
12-hr
24-hr
2-day
3-day
4-day
7-day
10-day
20-day
30-day
45-day
60-day

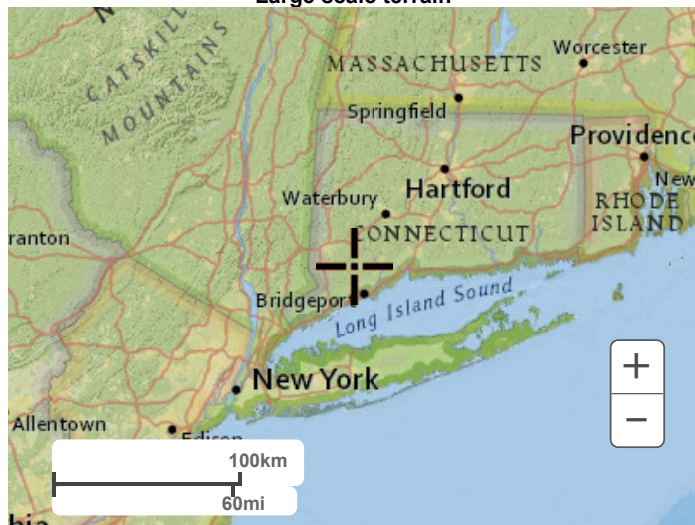
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Maps & aerials

Small scale terrain



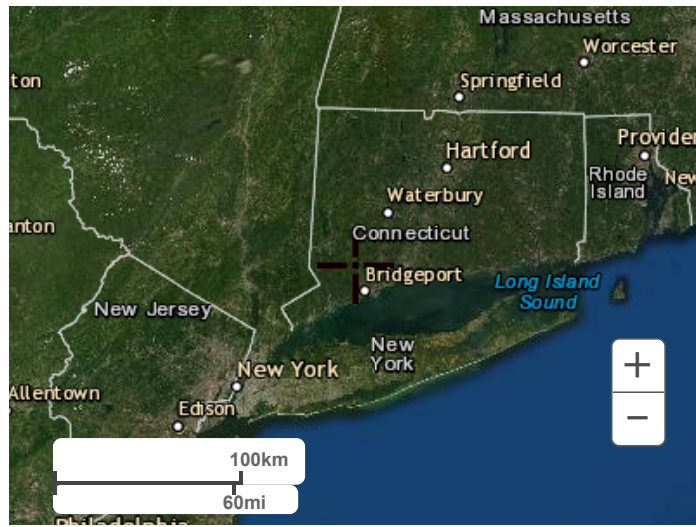
Large scale terrain



Large scale map



Large scale aerial



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Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022


1 - EDA-1




2 - PDA-1A



3 - PDA-1B



4 - PDA-1C



5 - Stormwater Basin #1



6 - Overall PDA

Legend

Hyd. Origin	Description
1	SCS Runoff EDA-1
2	SCS Runoff PDA-1A
3	SCS Runoff PDA-1B
4	SCS Runoff PDA-1C
5	Reservoir Stormwater Basin #1
6	Combine Overall PDA

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	-----	-----	13.79	-----	23.65	32.43	45.06	54.79	65.55	EDA-1
2	SCS Runoff	-----	-----	4.054	-----	9.017	13.89	21.37	27.36	34.18	PDA-1A
3	SCS Runoff	-----	-----	0.547	-----	1.480	2.421	3.885	5.064	6.427	PDA-1B
4	SCS Runoff	-----	-----	0.022	-----	0.190	0.462	1.023	1.517	2.116	PDA-1C
5	Reservoir	2	-----	2.303	-----	7.132	9.917	17.23	23.87	28.34	Stormwater Basin #1
6	Combine	3, 4, 5	-----	2.498	-----	7.798	10.95	19.03	26.66	31.82	Overall PDA

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	13.79	1	734	61,838	-----	-----	-----	EDA-1
2	SCS Runoff	4.054	1	747	26,403	-----	-----	-----	PDA-1A
3	SCS Runoff	0.547	1	733	3,189	-----	-----	-----	PDA-1B
4	SCS Runoff	0.022	1	753	505	-----	-----	-----	PDA-1C
5	Reservoir	2.303	1	766	22,513	2	295.20	6,247	Stormwater Basin #1
6	Combine	2.498	1	766	26,207	3, 4, 5	-----	-----	Overall PDA
2008001-Hydrology.gpw					Return Period: 2 Year			Monday, 09 / 13 / 2021	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	23.65	1	733	102,162	-----	-----	-----	EDA-1	
2	SCS Runoff	9.017	1	742	50,724	-----	-----	-----	PDA-1A	
3	SCS Runoff	1.480	1	730	6,495	-----	-----	-----	PDA-1B	
4	SCS Runoff	0.190	1	739	1,541	-----	-----	-----	PDA-1C	
5	Reservoir	7.132	1	755	46,833	2	295.95	9,274	Stormwater Basin #1	
6	Combine	7.798	1	753	54,870	3, 4, 5	-----	-----	Overall PDA	
2008001-Hydrology.gpw					Return Period: 5 Year			Monday, 09 / 13 / 2021		

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	32.43	1	733	138,432	-----	-----	-----	EDA-1	
2	SCS Runoff	13.89	1	741	74,162	-----	-----	-----	PDA-1A	
3	SCS Runoff	2.421	1	729	9,761	-----	-----	-----	PDA-1B	
4	SCS Runoff	0.462	1	733	2,720	-----	-----	-----	PDA-1C	
5	Reservoir	9.917	1	757	70,272	2	296.82	13,616	Stormwater Basin #1	
6	Combine	10.95	1	751	82,753	3, 4, 5	-----	-----	Overall PDA	
2008001-Hydrology.gpw					Return Period: 10 Year			Monday, 09 / 13 / 2021		

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	45.06	1	733	191,410	-----	-----	-----	EDA-1	
2	SCS Runoff	21.37	1	740	110,103	-----	-----	-----	PDA-1A	
3	SCS Runoff	3.885	1	729	14,853	-----	-----	-----	PDA-1B	
4	SCS Runoff	1.023	1	730	4,726	-----	-----	-----	PDA-1C	
5	Reservoir	17.23	1	752	106,213	2	297.94	20,260	Stormwater Basin #1	
6	Combine	19.03	1	752	125,792	3, 4, 5	-----	-----	Overall PDA	
2008001-Hydrology.gpw					Return Period: 25 Year			Monday, 09 / 13 / 2021		

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	54.79	1	732	232,498	-----	-----	-----	EDA-1	
2	SCS Runoff	27.36	1	739	138,970	-----	-----	-----	PDA-1A	
3	SCS Runoff	5.064	1	729	18,991	-----	-----	-----	PDA-1B	
4	SCS Runoff	1.517	1	730	6,454	-----	-----	-----	PDA-1C	
5	Reservoir	23.87	1	749	135,079	2	298.27	22,645	Stormwater Basin #1	
6	Combine	26.66	1	748	160,525	3, 4, 5	-----	-----	Overall PDA	
2008001-Hydrology.gpw					Return Period: 50 Year			Monday, 09 / 13 / 2021		

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

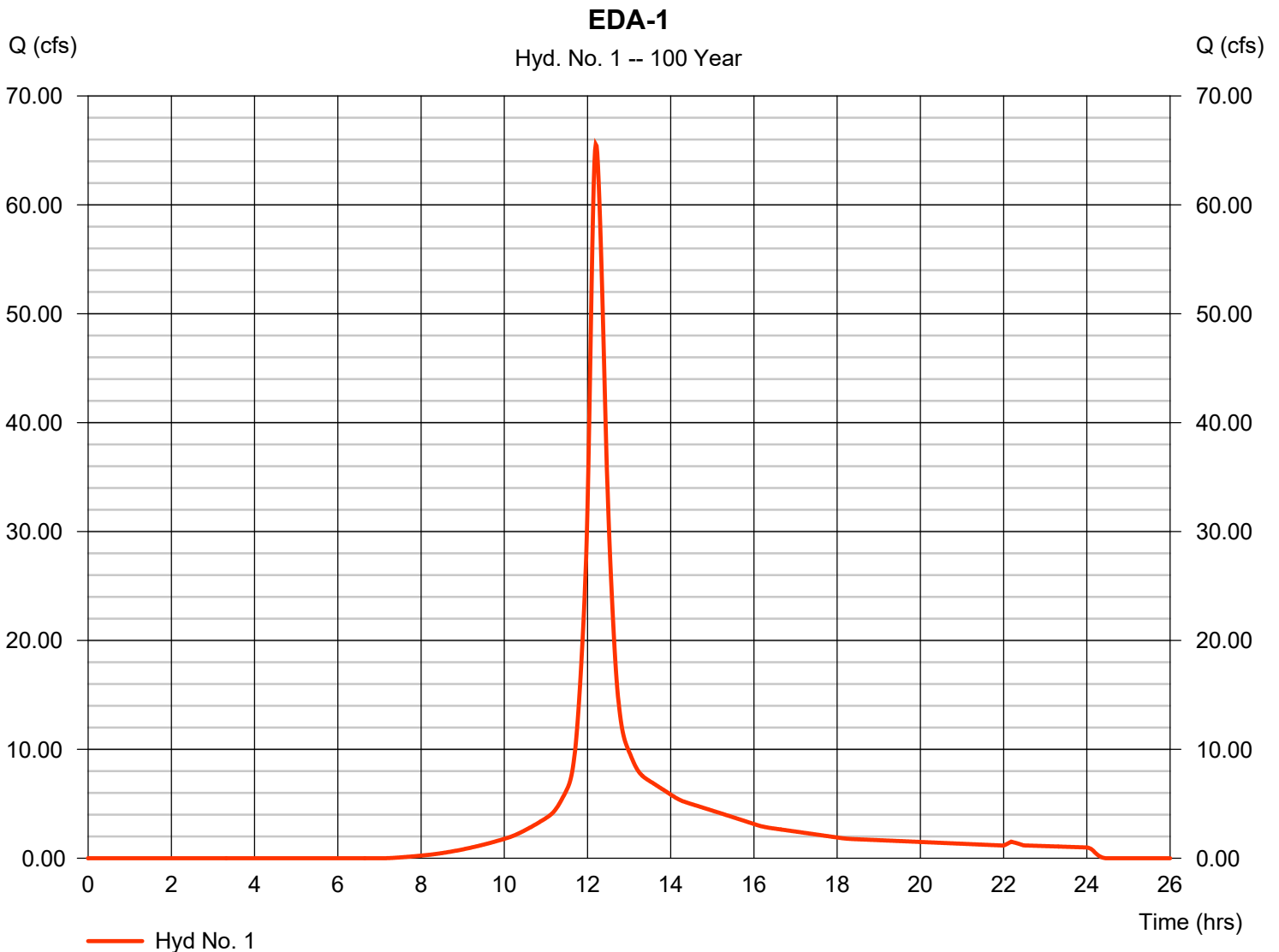
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	SCS Runoff	65.55	1	732	278,440	-----	-----	-----	EDA-1	
2	SCS Runoff	34.18	1	739	172,005	-----	-----	-----	PDA-1A	
3	SCS Runoff	6.427	1	728	23,765	-----	-----	-----	PDA-1B	
4	SCS Runoff	2.116	1	729	8,525	-----	-----	-----	PDA-1C	
5	Reservoir	28.34	1	751	168,115	2	298.81	26,584	Stormwater Basin #1	
6	Combine	31.82	1	746	200,405	3, 4, 5	-----	-----	Overall PDA	
2008001-Hydrology.gpw					Return Period: 100 Year			Monday, 09 / 13 / 2021		

Hydrograph Report

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 65.55 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.20 hrs
Time interval	= 1 min	Hyd. volume	= 278,440 cuft
Drainage area	= 14.850 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 17.50 min
Total precip.	= 8.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

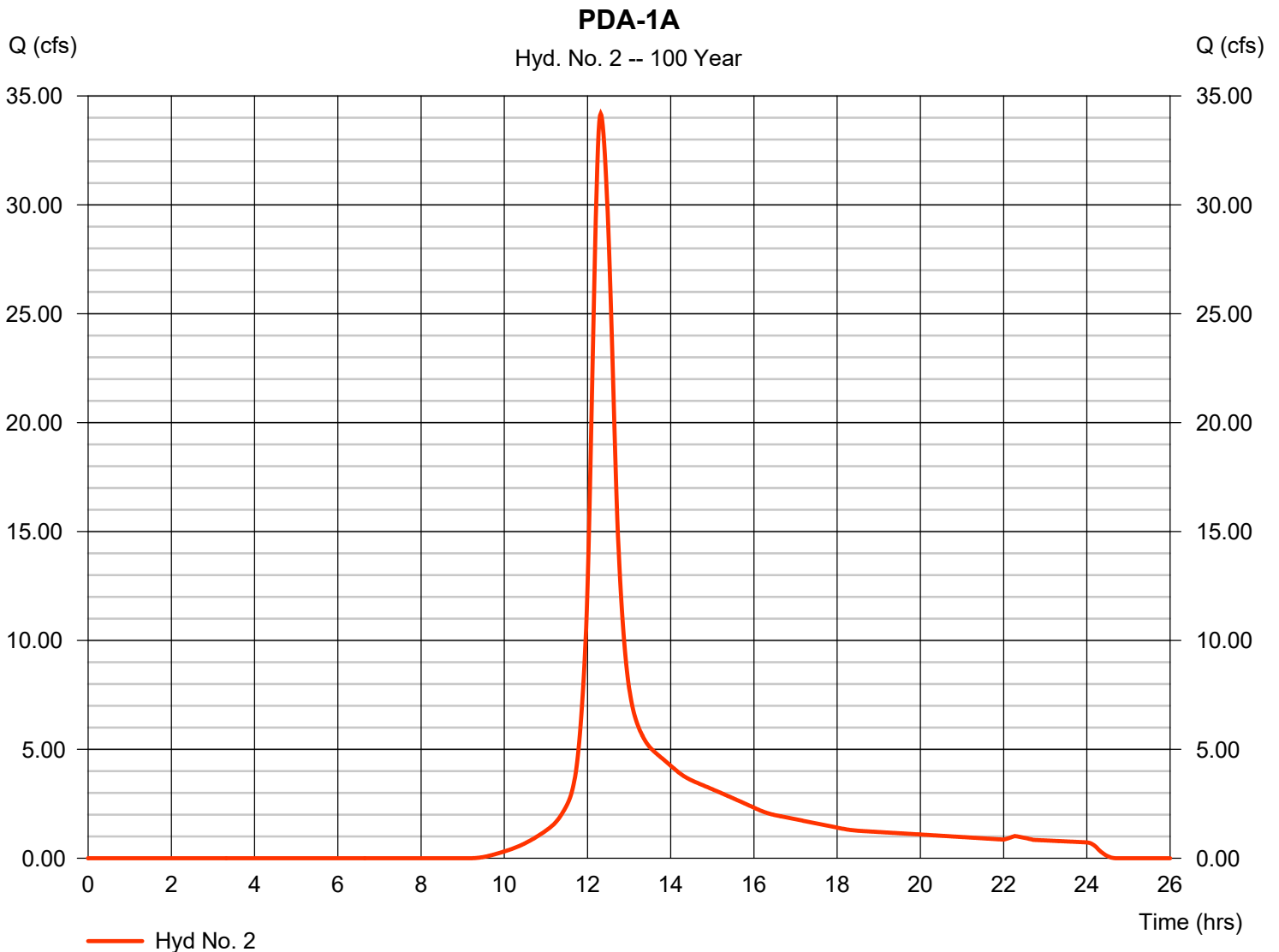


Hydrograph Report

Hyd. No. 2

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 34.18 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.32 hrs
Time interval	= 1 min	Hyd. volume	= 172,005 cuft
Drainage area	= 12.030 ac	Curve number	= 61
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 26.60 min
Total precip.	= 8.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

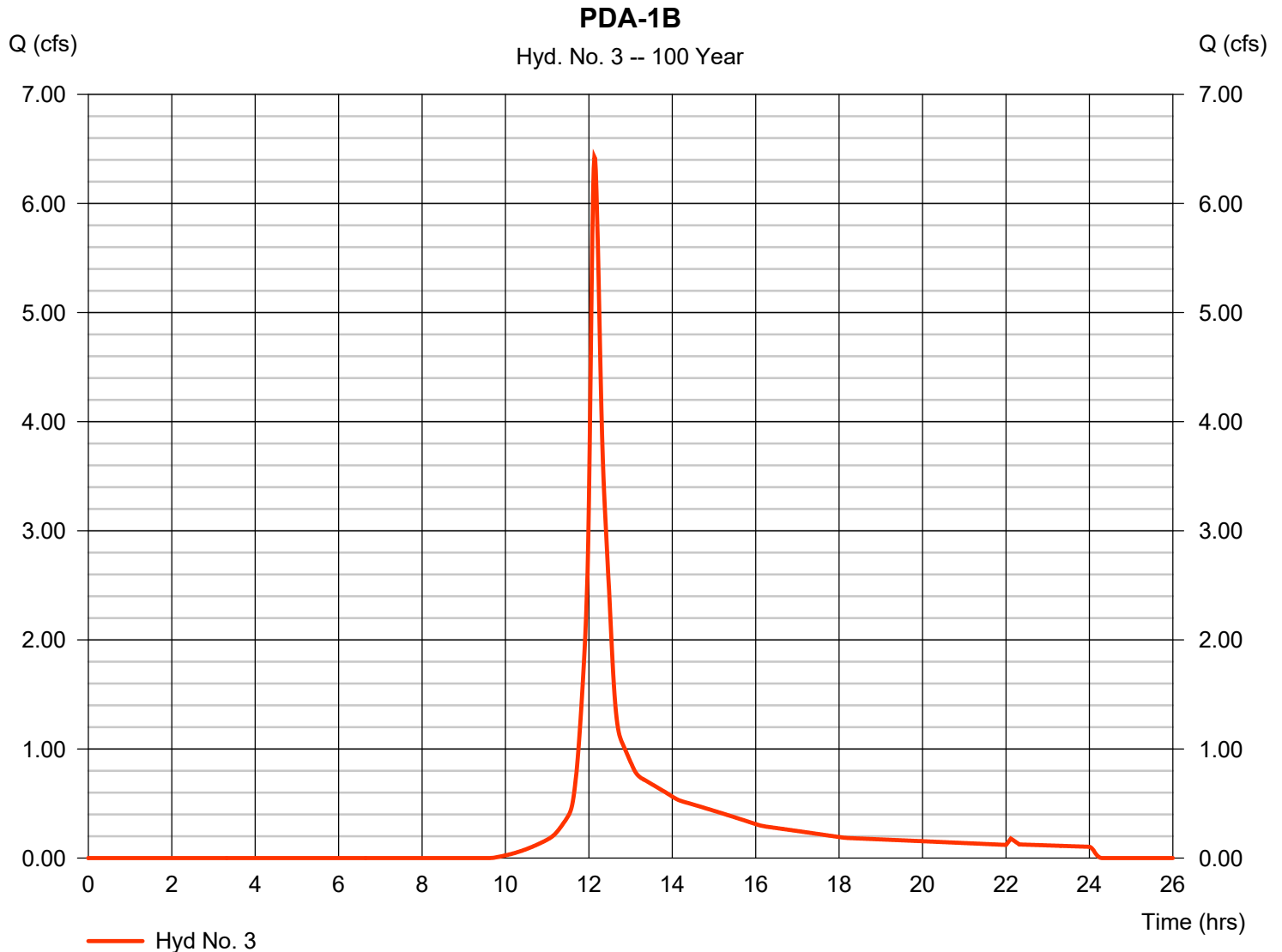


Hydrograph Report

Hyd. No. 3

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 6.427 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 23,765 cuft
Drainage area	= 1.810 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.50 min
Total precip.	= 8.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

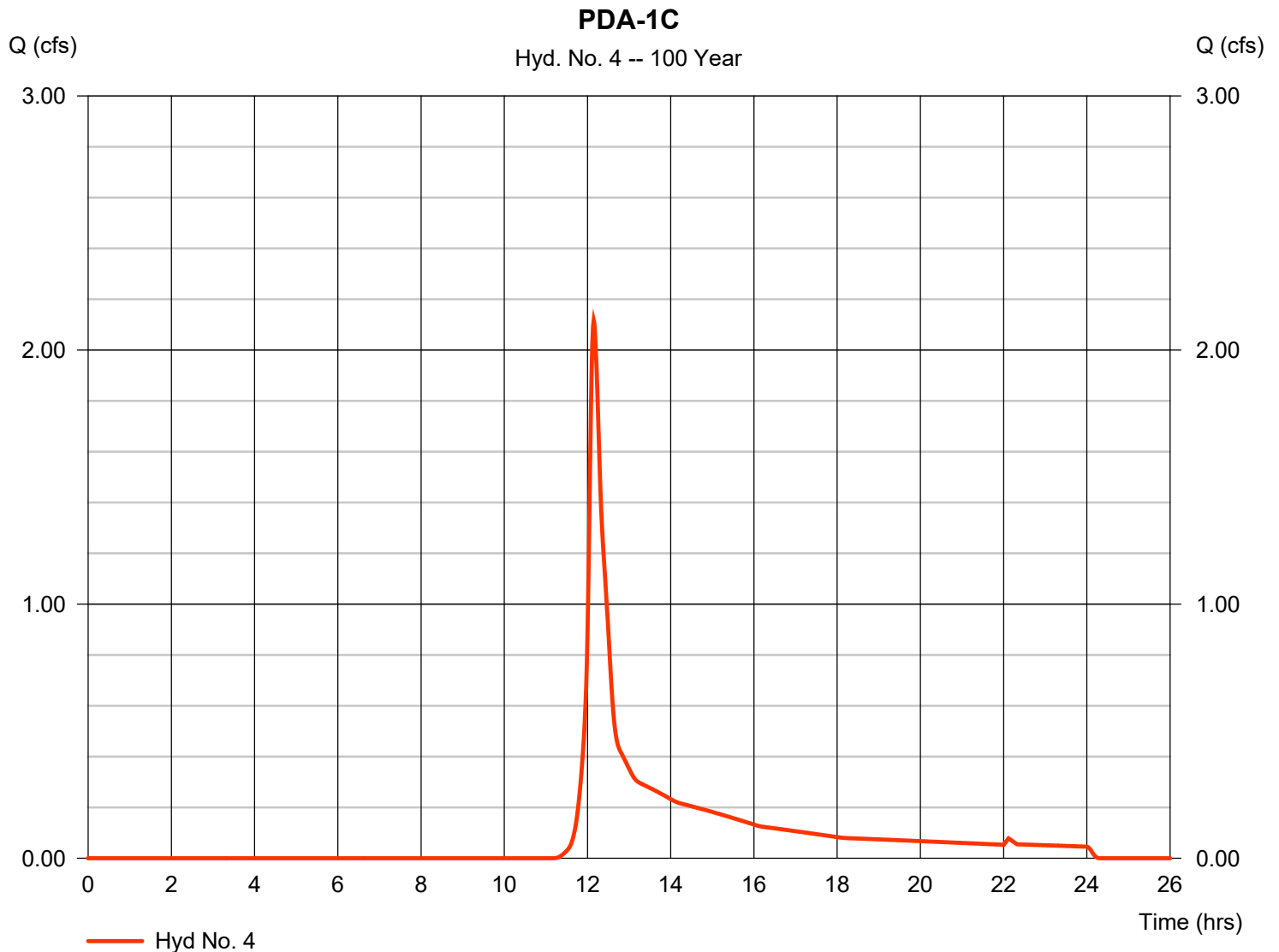


Hydrograph Report

Hyd. No. 4

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 2.116 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.15 hrs
Time interval	= 1 min	Hyd. volume	= 8,525 cuft
Drainage area	= 1.010 ac	Curve number	= 47
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.80 min
Total precip.	= 8.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



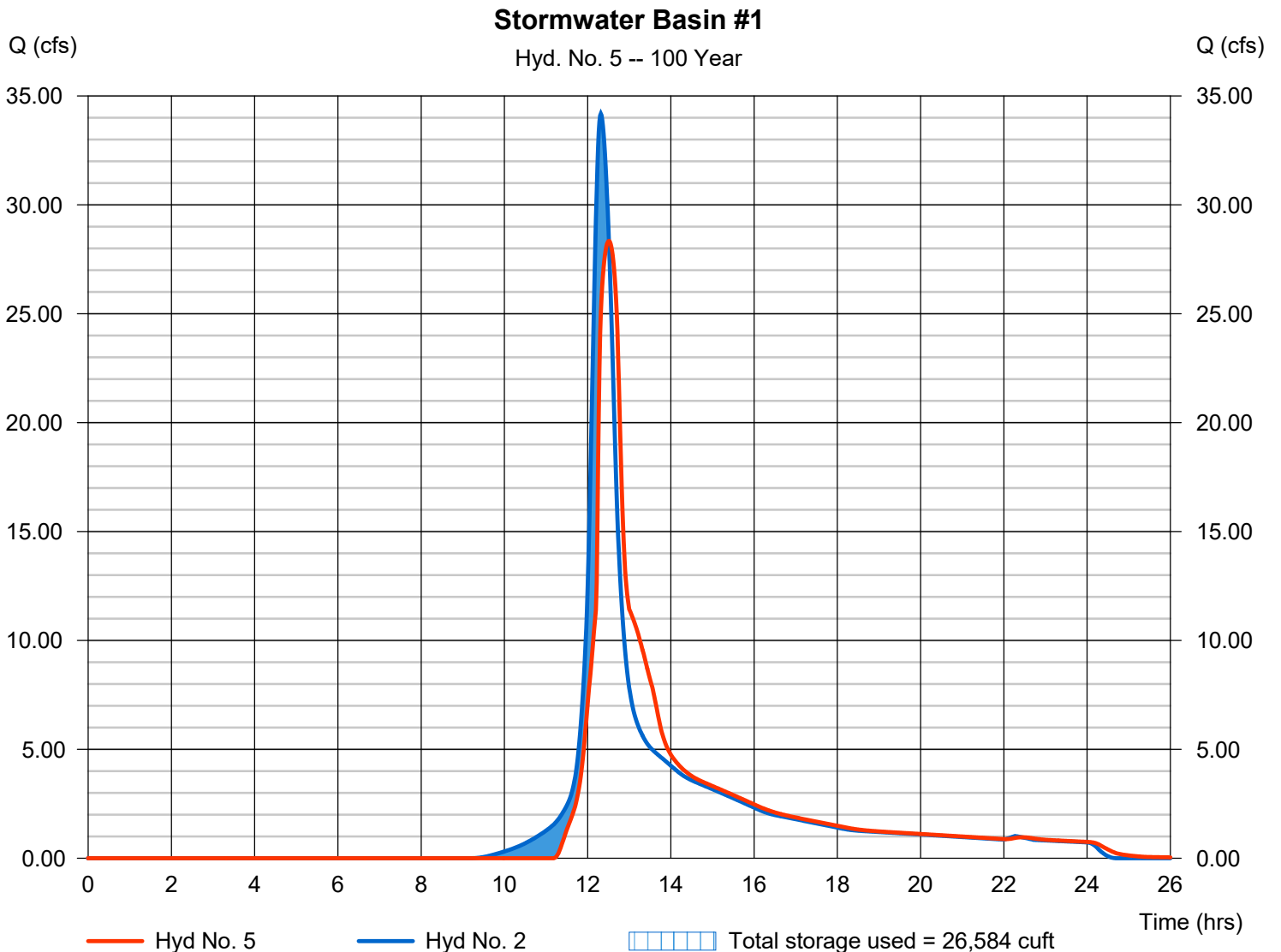
Hydrograph Report

Hyd. No. 5

Stormwater Basin #1

Hydrograph type	= Reservoir	Peak discharge	= 28.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.52 hrs
Time interval	= 1 min	Hyd. volume	= 168,115 cuft
Inflow hyd. No.	= 2 - PDA-1A	Max. Elevation	= 298.81 ft
Reservoir name	= Stormwater Basin #1	Max. Storage	= 26,584 cuft

Storage Indication method used.



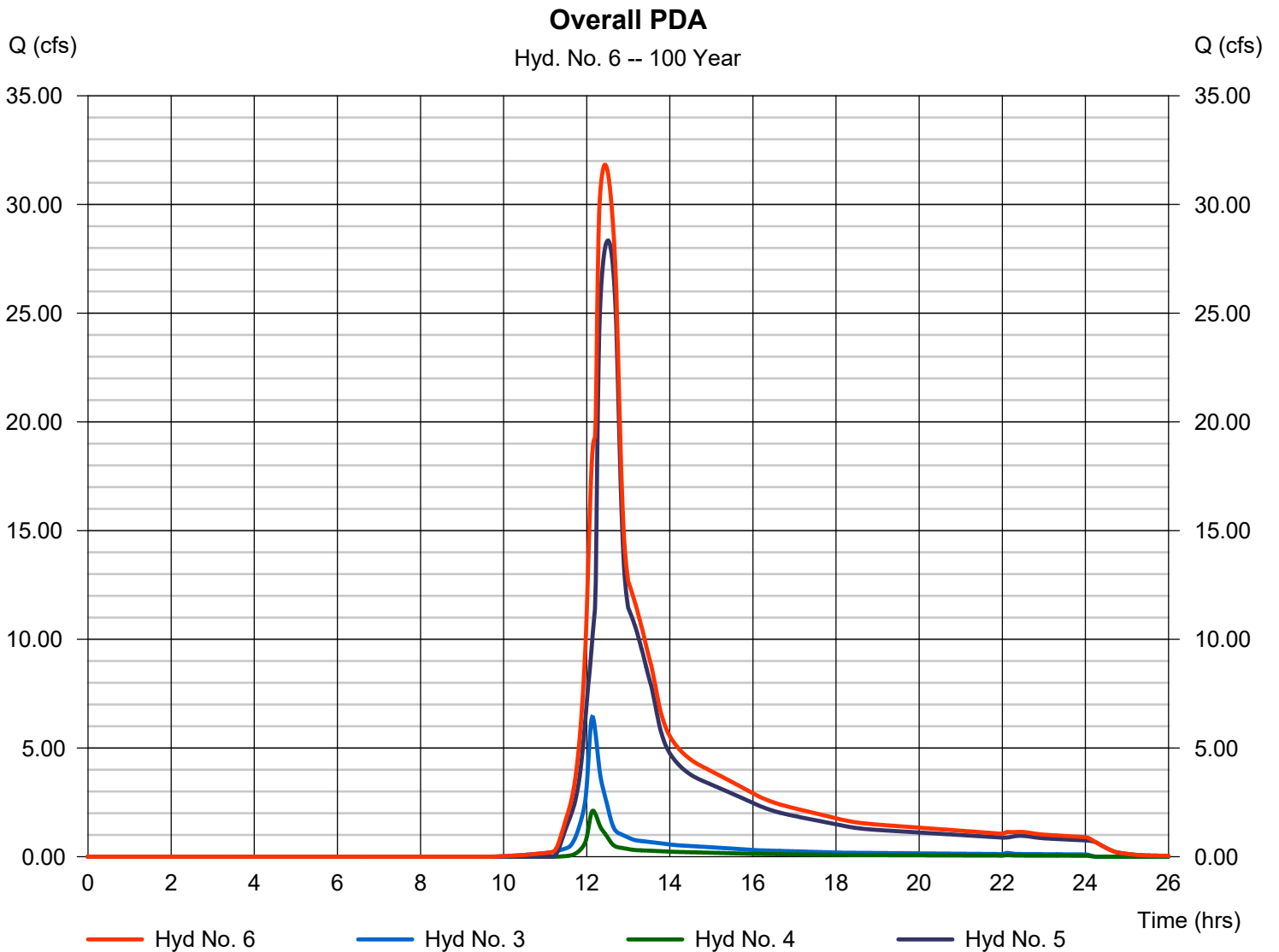
Hydrograph Report

Hyd. No. 6

Overall PDA

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 1 min
Inflow hyds. = 3, 4, 5

Peak discharge = 31.82 cfs
Time to peak = 12.43 hrs
Hyd. volume = 200,405 cuft
Contrib. drain. area = 2.820 ac



Hydrograph Report

Hyd. No. 5

Stormwater Basin #1

Hydrograph type	= Reservoir	Peak discharge	= 28.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.52 hrs
Time interval	= 1 min	Hyd. volume	= 168,115 cuft
Inflow hyd. No.	= 2 - PDA-1A	Reservoir name	= Stormwater Basin
Max. Elevation	= 298.81 ft	Max. Storage	= 26,584 cuft

Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp. Print interval = 5)

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
11.33	1.889	294.76	0.413	0.395	----	----	----	----	----	----	----	0.395
11.42	2.138	294.90	0.839	0.839	----	----	----	----	----	----	----	0.839
11.50	2.429	295.01	1.323	1.319	----	----	----	----	----	----	----	1.319
11.58	2.795	295.09	1.760	1.728	----	----	----	----	----	----	----	1.729
11.67	3.387	295.17	2.229	2.174	----	----	----	----	----	----	----	2.174
11.75	4.408	295.28	2.880	2.809	----	----	----	----	----	----	----	2.809
11.83	6.081	295.42	3.784	3.734	----	----	----	----	----	----	----	3.734
11.92	8.504	295.63	5.238	5.173	----	----	----	----	----	----	----	5.173
12.00	12.46	295.94	7.148	7.096	----	----	----	----	----	----	----	7.096
12.08	19.14	296.41	8.812	8.811	----	----	----	----	----	----	----	8.811
12.17	26.57	297.15	10.72	10.70	----	----	----	----	----	----	----	10.70
12.25	32.65	297.98	18.15	9.969	----	----	8.183	----	----	----	----	18.15
12.33	34.11	298.43	25.72	6.262	----	----	19.45	----	----	----	----	25.71
12.42	32.35	298.70	27.70	5.028	----	----	22.67	----	----	----	----	27.69
12.50	28.85	298.81	28.34	4.658	----	----	23.68	----	----	----	----	28.34
12.58	24.02	298.74	27.93	4.895	----	----	23.03	----	----	----	----	27.92
12.67	18.56	298.50	26.26	5.911	----	----	20.35	----	----	----	----	26.26
12.75	14.05	298.16	21.79	8.707	----	----	13.08	----	----	----	----	21.79
12.83	11.19	297.88	16.16	10.42	----	----	5.741	----	----	----	----	16.16
12.92	9.194	297.68	12.82	10.96	----	----	1.856	----	----	----	----	12.82

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
13.00	7.824	297.50	11.48	11.43	----	----	0.008	----	----	----	----	11.43
13.08	6.925	297.31	11.09	11.03	----	----	----	----	----	----	----	11.03
13.17	6.340	297.10	10.59	10.59	----	----	----	----	----	----	----	10.59
13.25	5.913	296.88	10.07	10.06	----	----	----	----	----	----	----	10.06
13.33	5.571	296.64	9.500	9.463	----	----	----	----	----	----	----	9.463
13.42	5.305	296.42	8.835	8.835	----	----	----	----	----	----	----	8.835
13.50	5.097	296.22	8.223	8.223	----	----	----	----	----	----	----	8.223
13.58	4.931	296.04	7.580	7.580	----	----	----	----	----	----	----	7.580
13.67	4.790	295.88	6.888	6.812	----	----	----	----	----	----	----	6.812
13.75	4.657	295.76	6.103	6.035	----	----	----	----	----	----	----	6.035
13.83	4.522	295.67	5.544	5.456	----	----	----	----	----	----	----	5.456
13.92	4.386	295.61	5.107	5.052	----	----	----	----	----	----	----	5.052
14.00	4.249	295.57	4.797	4.757	----	----	----	----	----	----	----	4.757
14.08	4.111	295.54	4.557	4.525	----	----	----	----	----	----	----	4.524
14.17	3.978	295.51	4.357	4.331	----	----	----	----	----	----	----	4.331
14.25	3.856	295.48	4.192	4.162	----	----	----	----	----	----	----	4.162
14.33	3.750	295.46	4.052	4.015	----	----	----	----	----	----	----	4.015
14.42	3.659	295.44	3.931	3.888	----	----	----	----	----	----	----	3.888
14.50	3.578	295.43	3.825	3.778	----	----	----	----	----	----	----	3.778
14.58	3.506	295.41	3.734	3.681	----	----	----	----	----	----	----	3.681
14.67	3.438	295.40	3.652	3.595	----	----	----	----	----	----	----	3.596
14.75	3.371	295.39	3.582	3.523	----	----	----	----	----	----	----	3.523
14.83	3.304	295.38	3.514	3.453	----	----	----	----	----	----	----	3.453
14.92	3.237	295.37	3.447	3.384	----	----	----	----	----	----	----	3.384
15.00	3.169	295.36	3.380	3.316	----	----	----	----	----	----	----	3.316
15.08	3.100	295.35	3.313	3.247	----	----	----	----	----	----	----	3.247
15.17	3.031	295.34	3.247	3.179	----	----	----	----	----	----	----	3.179
15.25	2.962	295.32	3.180	3.110	----	----	----	----	----	----	----	3.110

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
15.33	2.893	295.31	3.113	3.041	----	----	----	----	----	----	----	3.041
15.42	2.823	295.30	3.046	2.972	----	----	----	----	----	----	----	2.972
15.50	2.752	295.29	2.974	2.901	----	----	----	----	----	----	----	2.901
15.58	2.682	295.28	2.902	2.830	----	----	----	----	----	----	----	2.830
15.67	2.611	295.27	2.830	2.759	----	----	----	----	----	----	----	2.759
15.75	2.539	295.26	2.757	2.688	----	----	----	----	----	----	----	2.688
15.83	2.468	295.25	2.685	2.617	----	----	----	----	----	----	----	2.617
15.92	2.396	295.24	2.612	2.545	----	----	----	----	----	----	----	2.545
16.00	2.323	295.22	2.539	2.474	----	----	----	----	----	----	----	2.474
16.08	2.252	295.21	2.466	2.402	----	----	----	----	----	----	----	2.402
16.17	2.183	295.20	2.394	2.331	----	----	----	----	----	----	----	2.330
16.25	2.121	295.19	2.329	2.269	----	----	----	----	----	----	----	2.269
16.33	2.067	295.18	2.268	2.210	----	----	----	----	----	----	----	2.210
16.42	2.021	295.17	2.209	2.155	----	----	----	----	----	----	----	2.155
16.50	1.982	295.16	2.156	2.104	----	----	----	----	----	----	----	2.104
16.58	1.947	295.15	2.107	2.058	----	----	----	----	----	----	----	2.058
16.67	1.915	295.14	2.063	2.016	----	----	----	----	----	----	----	2.016
16.75	1.884	295.14	2.022	1.977	----	----	----	----	----	----	----	1.977
16.83	1.853	295.13	1.984	1.941	----	----	----	----	----	----	----	1.941
16.92	1.821	295.12	1.948	1.906	----	----	----	----	----	----	----	1.906
17.00	1.790	295.12	1.912	1.873	----	----	----	----	----	----	----	1.873
17.08	1.758	295.11	1.878	1.840	----	----	----	----	----	----	----	1.840
17.17	1.727	295.11	1.843	1.807	----	----	----	----	----	----	----	1.807
17.25	1.695	295.10	1.810	1.775	----	----	----	----	----	----	----	1.775
17.33	1.663	295.09	1.777	1.745	----	----	----	----	----	----	----	1.745
17.42	1.631	295.09	1.744	1.713	----	----	----	----	----	----	----	1.713
17.50	1.599	295.08	1.710	1.682	----	----	----	----	----	----	----	1.682
17.58	1.567	295.08	1.676	1.651	----	----	----	----	----	----	----	1.650

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
17.67	1.535	295.07	1.643	1.619	----	----	----	----	----	----	----	1.619
17.75	1.503	295.06	1.609	1.587	----	----	----	----	----	----	----	1.587
17.83	1.471	295.06	1.574	1.555	----	----	----	----	----	----	----	1.555
17.92	1.438	295.05	1.540	1.523	----	----	----	----	----	----	----	1.523
18.00	1.406	295.04	1.506	1.490	----	----	----	----	----	----	----	1.491
18.08	1.374	295.04	1.471	1.458	----	----	----	----	----	----	----	1.458
18.17	1.344	295.03	1.437	1.426	----	----	----	----	----	----	----	1.426
18.25	1.317	295.03	1.404	1.396	----	----	----	----	----	----	----	1.396
18.33	1.295	295.02	1.374	1.367	----	----	----	----	----	----	----	1.367
18.42	1.277	295.01	1.346	1.341	----	----	----	----	----	----	----	1.341
18.50	1.264	295.01	1.322	1.318	----	----	----	----	----	----	----	1.319
18.58	1.252	295.01	1.301	1.299	----	----	----	----	----	----	----	1.299
18.67	1.242	295.00	1.284	1.283	----	----	----	----	----	----	----	1.283
18.75	1.233	295.00	1.269	1.268	----	----	----	----	----	----	----	1.268
18.83	1.223	295.00	1.255	1.255	----	----	----	----	----	----	----	1.255
18.92	1.214	294.99	1.243	1.243	----	----	----	----	----	----	----	1.243
19.00	1.205	294.99	1.232	1.231	----	----	----	----	----	----	----	1.231
19.08	1.195	294.99	1.221	1.221	----	----	----	----	----	----	----	1.221
19.17	1.186	294.99	1.211	1.211	----	----	----	----	----	----	----	1.211
19.25	1.176	294.98	1.201	1.201	----	----	----	----	----	----	----	1.201
19.33	1.167	294.98	1.191	1.191	----	----	----	----	----	----	----	1.191
19.42	1.157	294.98	1.181	1.181	----	----	----	----	----	----	----	1.181
19.50	1.148	294.98	1.171	1.171	----	----	----	----	----	----	----	1.171
19.58	1.138	294.98	1.162	1.162	----	----	----	----	----	----	----	1.162
19.67	1.128	294.97	1.152	1.152	----	----	----	----	----	----	----	1.152
19.75	1.119	294.97	1.143	1.142	----	----	----	----	----	----	----	1.143
19.83	1.109	294.97	1.133	1.133	----	----	----	----	----	----	----	1.133
19.92	1.100	294.97	1.123	1.123	----	----	----	----	----	----	----	1.123

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
20.00	1.090	294.96	1.114	1.114	----	----	----	----	----	----	----	1.114
20.08	1.080	294.96	1.104	1.104	----	----	----	----	----	----	----	1.104
20.17	1.071	294.96	1.095	1.094	----	----	----	----	----	----	----	1.094
20.25	1.061	294.96	1.085	1.085	----	----	----	----	----	----	----	1.085
20.33	1.051	294.96	1.075	1.075	----	----	----	----	----	----	----	1.075
20.42	1.042	294.95	1.066	1.065	----	----	----	----	----	----	----	1.066
20.50	1.032	294.95	1.056	1.056	----	----	----	----	----	----	----	1.056
20.58	1.022	294.95	1.046	1.046	----	----	----	----	----	----	----	1.046
20.67	1.013	294.95	1.037	1.037	----	----	----	----	----	----	----	1.036
20.75	1.003	294.94	1.027	1.027	----	----	----	----	----	----	----	1.027
20.83	0.993	294.94	1.017	1.017	----	----	----	----	----	----	----	1.017
20.92	0.983	294.94	1.007	1.007	----	----	----	----	----	----	----	1.007
21.00	0.973	294.94	0.998	0.998	----	----	----	----	----	----	----	0.998
21.08	0.964	294.93	0.988	0.988	----	----	----	----	----	----	----	0.988
21.17	0.954	294.93	0.978	0.978	----	----	----	----	----	----	----	0.978
21.25	0.944	294.93	0.968	0.968	----	----	----	----	----	----	----	0.968
21.33	0.934	294.93	0.958	0.958	----	----	----	----	----	----	----	0.958
21.42	0.924	294.93	0.949	0.949	----	----	----	----	----	----	----	0.949
21.50	0.915	294.92	0.939	0.939	----	----	----	----	----	----	----	0.939
21.58	0.905	294.92	0.929	0.929	----	----	----	----	----	----	----	0.929
21.67	0.895	294.92	0.919	0.919	----	----	----	----	----	----	----	0.919
21.75	0.885	294.92	0.909	0.909	----	----	----	----	----	----	----	0.909
21.83	0.875	294.91	0.899	0.899	----	----	----	----	----	----	----	0.899
21.92	0.865	294.91	0.889	0.889	----	----	----	----	----	----	----	0.889
22.00	0.855	294.91	0.879	0.879	----	----	----	----	----	----	----	0.880
22.08	0.901	294.91	0.879	0.879	----	----	----	----	----	----	----	0.879
22.17	0.952	294.91	0.896	0.896	----	----	----	----	----	----	----	0.896
22.25	1.008	294.92	0.924	0.924	----	----	----	----	----	----	----	0.924

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
22.33	0.998	294.93	0.953	0.953	----	----	----	----	----	----	----	0.953
22.42	0.969	294.93	0.963	0.963	----	----	----	----	----	----	----	0.963
22.50	0.937	294.93	0.959	0.959	----	----	----	----	----	----	----	0.959
22.58	0.903	294.92	0.946	0.946	----	----	----	----	----	----	----	0.946
22.67	0.866	294.92	0.925	0.925	----	----	----	----	----	----	----	0.925
22.75	0.840	294.91	0.900	0.900	----	----	----	----	----	----	----	0.900
22.83	0.833	294.91	0.878	0.878	----	----	----	----	----	----	----	0.878
22.92	0.825	294.90	0.862	0.862	----	----	----	----	----	----	----	0.862
23.00	0.818	294.90	0.848	0.848	----	----	----	----	----	----	----	0.848
23.08	0.811	294.90	0.838	0.838	----	----	----	----	----	----	----	0.838
23.17	0.803	294.90	0.830	0.829	----	----	----	----	----	----	----	0.829
23.25	0.796	294.89	0.822	0.820	----	----	----	----	----	----	----	0.820
23.33	0.788	294.89	0.814	0.812	----	----	----	----	----	----	----	0.812
23.42	0.781	294.89	0.807	0.804	----	----	----	----	----	----	----	0.804
23.50	0.773	294.89	0.800	0.796	----	----	----	----	----	----	----	0.796
23.58	0.766	294.88	0.793	0.789	----	----	----	----	----	----	----	0.789
23.67	0.758	294.88	0.786	0.781	----	----	----	----	----	----	----	0.781
23.75	0.751	294.88	0.778	0.773	----	----	----	----	----	----	----	0.773
23.83	0.743	294.88	0.771	0.766	----	----	----	----	----	----	----	0.766
23.92	0.736	294.88	0.764	0.758	----	----	----	----	----	----	----	0.758
24.00	0.728	294.87	0.757	0.751	----	----	----	----	----	----	----	0.751
24.08	0.690	294.87	0.747	0.740	----	----	----	----	----	----	----	0.740
24.17	0.602	294.86	0.723	0.713	----	----	----	----	----	----	----	0.713
24.25	0.464	294.85	0.675	0.662	----	----	----	----	----	----	----	0.662
24.33	0.310	294.83	0.601	0.581	----	----	----	----	----	----	----	0.581
24.42	0.187	294.80	0.511	0.485	----	----	----	----	----	----	----	0.485
24.50	0.095	294.77	0.424	0.405	----	----	----	----	----	----	----	0.405
24.58	0.034	294.74	0.339	0.326	----	----	----	----	----	----	----	0.326

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...End

Pond Report

Pond No. 1 - Stormwater Basin #1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 293.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	293.00	1,951	0	0
1.00	294.00	2,711	2,320	2,320
2.00	295.00	3,567	3,129	5,449
3.00	296.00	4,529	4,038	9,487
4.00	297.00	5,567	5,039	14,526
5.00	298.00	6,713	6,130	20,656
6.00	299.00	7,923	7,309	27,965
7.00	300.00	9,704	8,798	36,763

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	18.00	Inactive	0.00
Span (in)	= 24.00	18.00	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 294.00	294.50	0.00	0.00
Length (ft)	= 60.00	0.67	0.00	0.00
Slope (%)	= 0.83	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	30.00	Inactive	0.00
Crest El. (ft)	= 297.50	299.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000	(by Wet area)		
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	293.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.10	232	293.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.20	464	293.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.30	696	293.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.40	928	293.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.50	1,160	293.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.60	1,392	293.60	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.70	1,624	293.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.80	1,856	293.80	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.90	2,088	293.90	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	2,320	294.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.10	2,633	294.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.20	2,946	294.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.30	3,259	294.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.40	3,572	294.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.50	3,885	294.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.60	4,198	294.60	0.06 ic	0.06 ic	---	---	0.00	0.00	---	---	---	---	0.058
1.70	4,511	294.70	0.22 ic	0.22 ic	---	---	0.00	0.00	---	---	---	---	0.218
1.80	4,824	294.80	0.52 ic	0.49 ic	---	---	0.00	0.00	---	---	---	---	0.490
1.90	5,136	294.90	0.84 ic	0.84 ic	---	---	0.00	0.00	---	---	---	---	0.842
2.00	5,449	295.00	1.27 ic	1.27 ic	---	---	0.00	0.00	---	---	---	---	1.265
2.10	5,853	295.10	1.81 ic	1.78 ic	---	---	0.00	0.00	---	---	---	---	1.778
2.20	6,257	295.20	2.38 ic	2.32 ic	---	---	0.00	0.00	---	---	---	---	2.316
2.30	6,661	295.30	3.03 ic	2.96 ic	---	---	0.00	0.00	---	---	---	---	2.959
2.40	7,065	295.40	3.64 ic	3.59 ic	---	---	0.00	0.00	---	---	---	---	3.586
2.50	7,468	295.50	4.30 ic	4.28 ic	---	---	0.00	0.00	---	---	---	---	4.281
2.60	7,872	295.60	5.01 ic	4.96 ic	---	---	0.00	0.00	---	---	---	---	4.964
2.70	8,276	295.70	5.76 ic	5.65 ic	---	---	0.00	0.00	---	---	---	---	5.654
2.80	8,680	295.80	6.37 ic	6.33 ic	---	---	0.00	0.00	---	---	---	---	6.335
2.90	9,084	295.90	7.00 ic	6.92 ic	---	---	0.00	0.00	---	---	---	---	6.920
3.00	9,487	296.00	7.37 ic	7.37 ic	---	---	0.00	0.00	---	---	---	---	7.368
3.10	9,991	296.10	7.84 ic	7.84 ic	---	---	0.00	0.00	---	---	---	---	7.844
3.20	10,495	296.20	8.17 ic	8.17 ic	---	---	0.00	0.00	---	---	---	---	8.167
3.30	10,999	296.30	8.48 ic	8.48 ic	---	---	0.00	0.00	---	---	---	---	8.480
3.40	11,503	296.40	8.79 ic	8.79 ic	---	---	0.00	0.00	---	---	---	---	8.787

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Stormwater Basin #1

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
3.50	12,007	296.50	9.09 ic	9.09 ic	---	---	0.00	0.00	---	---	---	---	9.089
3.60	12,510	296.60	9.38 oc	9.38 ic	---	---	0.00	0.00	---	---	---	---	9.378
3.70	13,014	296.70	9.70 oc	9.60 ic	---	---	0.00	0.00	---	---	---	---	9.603
3.80	13,518	296.80	9.91 oc	9.87 ic	---	---	0.00	0.00	---	---	---	---	9.870
3.90	14,022	296.90	10.11 oc	10.11 ic	---	---	0.00	0.00	---	---	---	---	10.11
4.00	14,526	297.00	10.40 oc	10.34 ic	---	---	0.00	0.00	---	---	---	---	10.34
4.10	15,139	297.10	10.58 oc	10.58 ic	---	---	0.00	0.00	---	---	---	---	10.58
4.20	15,752	297.20	10.83 oc	10.80 ic	---	---	0.00	0.00	---	---	---	---	10.80
4.30	16,365	297.30	11.07 oc	11.01 ic	---	---	0.00	0.00	---	---	---	---	11.01
4.40	16,978	297.40	11.28 oc	11.22 ic	---	---	0.00	0.00	---	---	---	---	11.22
4.50	17,591	297.50	11.47 oc	11.43 ic	---	---	0.00	0.00	---	---	---	---	11.43
4.60	18,204	297.60	12.07 oc	11.30 ic	---	---	0.77	0.00	---	---	---	---	12.07
4.70	18,817	297.70	13.04 oc	10.86 ic	---	---	2.18	0.00	---	---	---	---	13.04
4.80	19,430	297.80	14.69 oc	10.68 ic	---	---	4.01	0.00	---	---	---	---	14.69
4.90	20,043	297.90	16.53 oc	10.36 ic	---	---	6.18	0.00	---	---	---	---	16.53
5.00	20,656	298.00	18.51 oc	9.88 ic	---	---	8.63	0.00	---	---	---	---	18.51
5.10	21,387	298.10	20.58 oc	9.24 ic	---	---	11.34	0.00	---	---	---	---	20.58
5.20	22,118	298.20	22.63 ic	8.34 ic	---	---	14.30	0.00	---	---	---	---	22.63
5.30	22,849	298.30	24.35 ic	7.16 ic	---	---	17.20 s	0.00	---	---	---	---	24.35
5.40	23,580	298.40	25.42 ic	6.45 ic	---	---	18.97 s	0.00	---	---	---	---	25.42
5.50	24,311	298.50	26.28 ic	5.90 ic	---	---	20.38 s	0.00	---	---	---	---	26.28
5.60	25,042	298.60	27.02 ic	5.44 ic	---	---	21.58 s	0.00	---	---	---	---	27.02
5.70	25,773	298.70	27.68 ic	5.04 ic	---	---	22.64 s	0.00	---	---	---	---	27.68
5.80	26,504	298.80	28.28 ic	4.69 ic	---	---	23.59 s	0.00	---	---	---	---	28.28
5.90	27,234	298.90	28.83 ic	4.38 ic	---	---	24.45 s	0.00	---	---	---	---	28.83
6.00	27,965	299.00	29.35 ic	4.12 ic	---	---	25.23 s	0.00	---	---	---	---	29.35
6.10	28,845	299.10	29.84 ic	3.88 ic	---	---	25.96 s	2.47	---	---	---	---	32.30
6.20	29,725	299.20	30.31 ic	3.66 ic	---	---	26.64 s	6.98	---	---	---	---	37.28
6.30	30,605	299.30	30.75 ic	3.47 ic	---	---	27.28 s	12.82	---	---	---	---	43.56
6.40	31,484	299.40	31.18 ic	3.29 ic	---	---	27.88 s	19.73	---	---	---	---	50.91
6.50	32,364	299.50	31.60 ic	3.13 ic	---	---	28.46 s	27.58	---	---	---	---	59.17
6.60	33,244	299.60	32.00 ic	2.99 ic	---	---	29.00 s	36.25	---	---	---	---	68.24
6.70	34,124	299.70	32.39 ic	2.86 ic	---	---	29.53 s	45.68	---	---	---	---	78.08
6.80	35,003	299.80	32.78 ic	2.74 ic	---	---	30.04 s	55.81	---	---	---	---	88.59
6.90	35,883	299.90	33.15 ic	2.63 ic	---	---	30.52 s	66.61	---	---	---	---	99.75
7.00	36,763	300.00	33.52 ic	2.52 ic	---	---	30.99 s	78.00	---	---	---	---	111.51

...End

Pond Report

Pond No. 1 - Stormwater Basin #1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 293.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	293.00	1,951	0	0
1.00	294.00	2,711	2,320	2,320
2.00	295.00	3,567	3,129	5,449
3.00	296.00	4,529	4,038	9,487
4.00	297.00	5,567	5,039	14,526
5.00	298.00	6,713	6,130	20,656
6.00	299.00	7,923	7,309	27,965
7.00	300.00	9,704	8,798	36,763

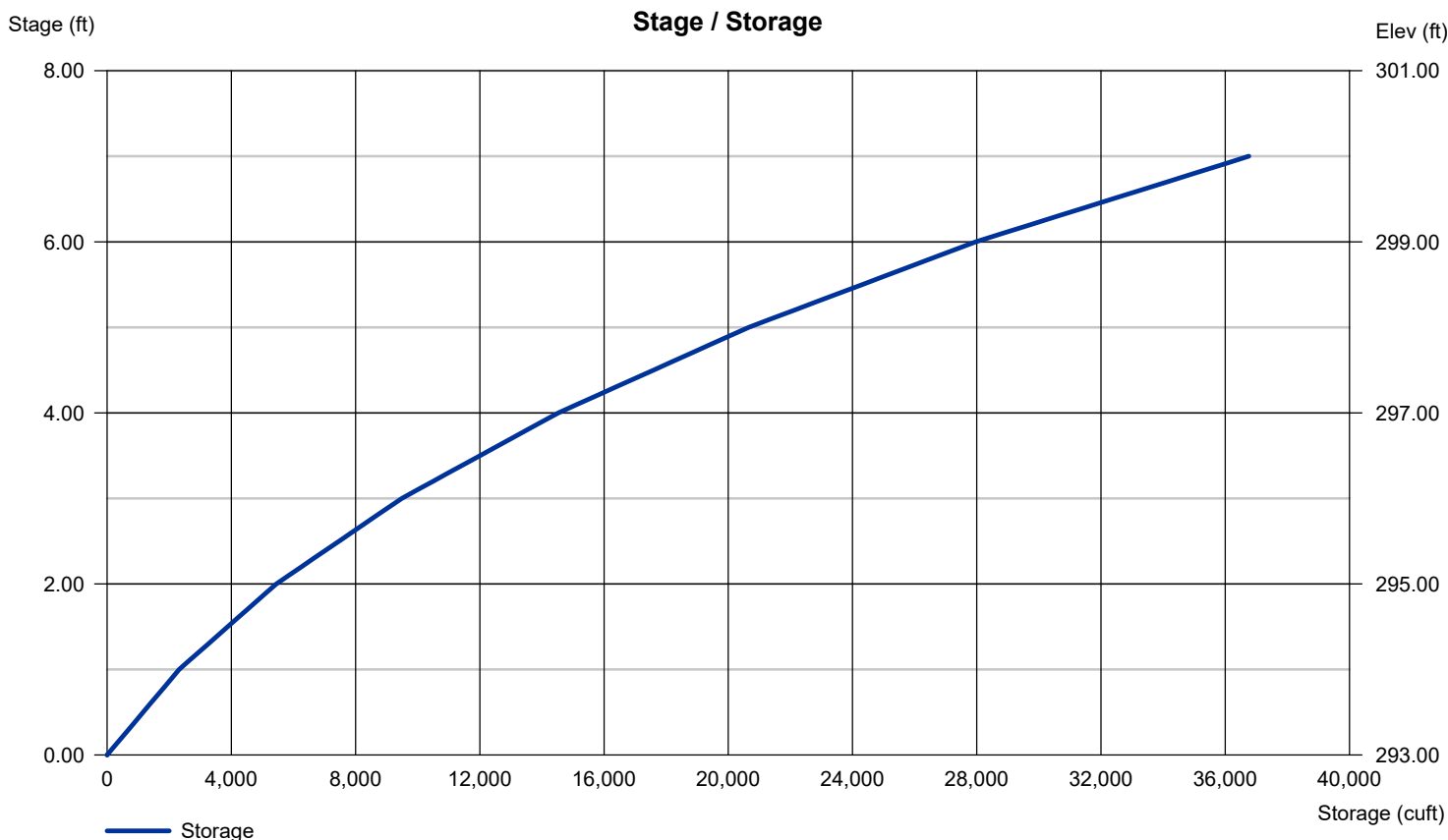
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	18.00	Inactive	0.00
Span (in)	= 24.00	18.00	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 294.00	294.50	0.00	0.00
Length (ft)	= 60.00	0.67	0.00	0.00
Slope (%)	= 0.83	0.00	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	30.00	Inactive	0.00
Crest El. (ft)	= 297.50	299.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Project Excavation/Fill Permit

By CJP

Date 07/26/21

Location 10/36 Main Street, Monroe CT

Checked LAM

Date 07/26/21

Bold one: **Existing** Proposed

Existing Drainage Area 1 (EDA-1)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			3.93	385.14
B	Pervious Area - Fair	69			3.89	268.41
A	Woods - Fair	39			0.72	28.08
B	Woods - Fair	60			5.54	332.40
B	Gravel Area	85			0.60	51.00
A	Pervious Area - Fair	49			0.17	8.33
						0.00
						0.00
Totals =					14.85	1073.36

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{1073.36}{14.85} = 72.28$ Use CN = **72**

Project Excavation/Fill Permit

By CJP

Date 07/26/21

Location 10/36 Main Street, Monroe CT

Checked LAM

Date 07/26/21

Bold one: Existing **Proposed**

Proposed Drainage Area 1A (PDA-1A)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			0.29	28.42
B	Pervious Area - Good	61			11.21	683.81
A	Pervious Area - Good	39			0.53	20.67
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					12.03	732.90

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{732.90}{12.03} = 60.92$ Use CN = **61**

Project Excavation/Fill Permit

By CJP

Date 07/26/21

Location 10/36 Main Street, Monroe CT

Checked LAM

Date 07/26/21

Bold one: Existing **Proposed**

Proposed Drainage Area 1B (PDA-1B)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			0.04	3.92
B	Pervious Area - Good	61			1.50	91.50
A	Pervious Area - Good	39			0.27	10.53
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					1.81	105.95

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{105.95}{1.81} = 58.54$ Use CN = **59**

Project Excavation/Fill Permit

By CJP

Date 07/26/21

Location 10/36 Main Street, Monroe CT

Checked LAM

Date 07/26/21

Bold one: Existing **Proposed**

Proposed Drainage Area 1C (PDA-1C)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			0.01	0.98
B	Pervious Area - Good	61			0.32	19.52
A	Pervious Area - Good	39			0.68	26.52
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					1.01	47.02

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{47.02}{1.01} = 46.55$ Use CN = **47**

Project Excavation/Fill Permit By CJP Date 07/26/21
 Location 10/36 Main Street, Monroe, CT Checked LAM Date 07/26/21
 Bold One: **Present** Developed
 Bold One: **T_c** **T_t** through subarea Existing Drainage Area 1 (EDA-1)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total L ≤ 300 ft)
4. Two-yr 24-hr rainfall, P₂
5. Land slope, s

$$6. T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Segment ID	AB	
	Dense Grasses	
	0.240	
ft	150	
in	3.56	
ft/ft	0.040	
hr	0.236	+
Compute T _t		= 0.236

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Segment ID	BC	CD	DE	EF
	unpaved	unpaved	paved	unpaved
ft	130	220	330	66
ft/ft	0.11	0.03	0.04	0.09
ft/s	5.28	2.88	4.04	4.84
hr	0.007	0.021	0.023	0.004
Compute T _t		+	+	+

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

$$18. T_t = \frac{L}{3600 V}$$

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Segment ID		
ft ²		
ft		
ft		
ft/ft		
ft/s		
hr		
Compute T _t		= 0.000
Hours		= 0.291
Minute		= 17.5

Project Excavation/Fill Permit By CJP Date 07/26/21
 Location 10/36 Main Street, Monroe, CT Checked LAM Date 07/26/21
 Bold One: Present **Developed**
 Bold One: **T_c** **T_t** through subarea Proposed Drainage Area 1A (PDA-1A)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total L ≤ 300 ft)
4. Two-yr 24-hr rainfall, P₂
5. Land slope, s

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$$

Compute T_t

Segment ID	AB	BC
	Dense Grasses	Dense Grasses
	0.240	0.240
	69.72	80.28
	3.56	3.56
	0.14	0.01
	0.078	0.288

= 0.366

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	CD	DE	EF
	unpaved	unpaved	unpaved
	171	18	247
	0.01	0.33	0.02
	1.35	9.31	2.04
	0.035	0.001	0.034

= 0.069

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

Compute r

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	FG	GH
	12	14
	11	16
	1.09091	0.87500
	0.02	0.36
	0.025	0.033
	8.93	24.78
	212	88
	0.007	0.001

= 0.008

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = 0.443

Minutes = 26.6

Project Excavation/Fill Permit By CJP Date 07/26/21
 Location 10/36 Main Street, Monroe, CT Checked LAM Date 07/26/21
 Bold One: Present **Developed**
 Bold One: **T_c** **T_t** through subarea Proposed Drainage Area 1B (PDA-1B)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total L ≤ 300 ft)
4. Two-yr 24-hr rainfall, P₂
5. Land slope, s

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$$

Compute T_t

Segment ID	AB	BC
	Pavement	Dense Grasses
	0.011	0.240
	32.7	81.9
	3.56	3.56
	0.05	0.09
	0.006	0.104
	+	
	=	
	0.110	

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	CD	DE
	unpaved	unpaved
	373.1	58.5
	0.01	0.41
	1.69	10.33
	0.061	0.002
	+	
	+	
	=	
	0.063	

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

Compute r

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	EF	EF
	10	10
	12	12
	0.83333	0.83333
	0.064	0.16
	0.033	0.025
	10.12	21.11
	78.5	37.3
	0.002	0.000
	+	
	=	
	0.003	
	=	
	0.175	
	=	
	10.5	

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = 0.175
 Minutes = 10.5

Project Excavation/Fill Permit By CJP Date 07/26/21
 Location 10/36 Main Street, Monroe, CT Checked LAM Date 07/26/21

Bold One: Present **Developed**

Bold One: **T_c** **T_t** through subarea Proposed Drainage Area 1C (PDA-1C)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total L ≤ 300 ft)
4. Two-yr 24-hr rainfall, P₂
5. Land slope, s

$$T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$$

Compute T_t

Segment ID	AB		
	Dense Grasses		
	0.240		
	130		
ft			
	3.56		
in			
	0.06		
ft/ft			
	0.180	+	
hr			= 0.180

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID			
ft			
ft/ft			
ft/s			
hr		+	
			+
			=
			<input type="text"/>

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

Compute r

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID			
ft ²			
ft			
ft			
ft/ft			
ft/s			
ft			
hr		+	
			=
			0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = **0.180**
Minutes = **10.8**

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR DRAINAGE BASIN PDA-1A

Project: Excavation/Filling Permit Application
Location: 10 & 36 Main Street, Monroe, Connecticut
Date: 07/26/21

Water Quality Volume Calculations:

$$WQV = \frac{(1)(R)(A)}{12}$$

Where:
 WQV = water quality volume (ac-ft)
 R = volumetric runoff coefficient = 0.05+0.009(I)
 I = percent impervious cover (see below)
 A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
 I = percent impervious cover
 A_{IMP} = area of impervious cover
 A_{TOT} = total area of watershed

Watershed Description:

PDA-1A

Area of impervious coverage, A _{IMP}	<input type="text" value="0.31"/>	Acres	
Total area of watershed, A _{TOT}	<input type="text" value="14.85"/>	Acres	
Percent impervious cover, I	<input type="text" value="2.09"/>	%	
Volumetric runoff coefficient, R	<input type="text" value="0.07"/>		
Water Quality Volume, WQV	<input type="text" value="0.085"/>	ac-ft	<input type="text" value="3,708"/> cf

APPENDIX C
INSPECTIONS

Excavation/Fill Permit Progress Report Form



Title: 10 & 36 Main Street Excavation/Fill Permit
Location: 10 & 36 Main Street, Monroe, CT
Permit: EFP XXXX-XX

IL #: XX
Project #: 2008001
Field Date: XX/XX/XXXX

EXCAVATION/FILL PERMIT PROGRESS REPORT

Name(s) of Individual(s) performing inspection:		AM	PM
Name of Inspecting Engineer/Position	Weather:	XXXXX	XXXXXX
	Temperature:	H: XX°F	L: XX°F

Time of Inspection:

Start: XX A.M.	Fill amount imported since last inspection:	±XXXX CY
End: XX A.M.	Fill amount imported to date:	±XXXX CY

Work Completed

Unanticipated Field Work/Delays

Material Report

Source of Material:		
Monthly Import Amount:		Cumulative Import Amount:
Is Import Material Contaminated?		Method of Determination:

Condition of Site Access and Control Measures

Condition of Soil Erosion and Sedimentation Control Measures

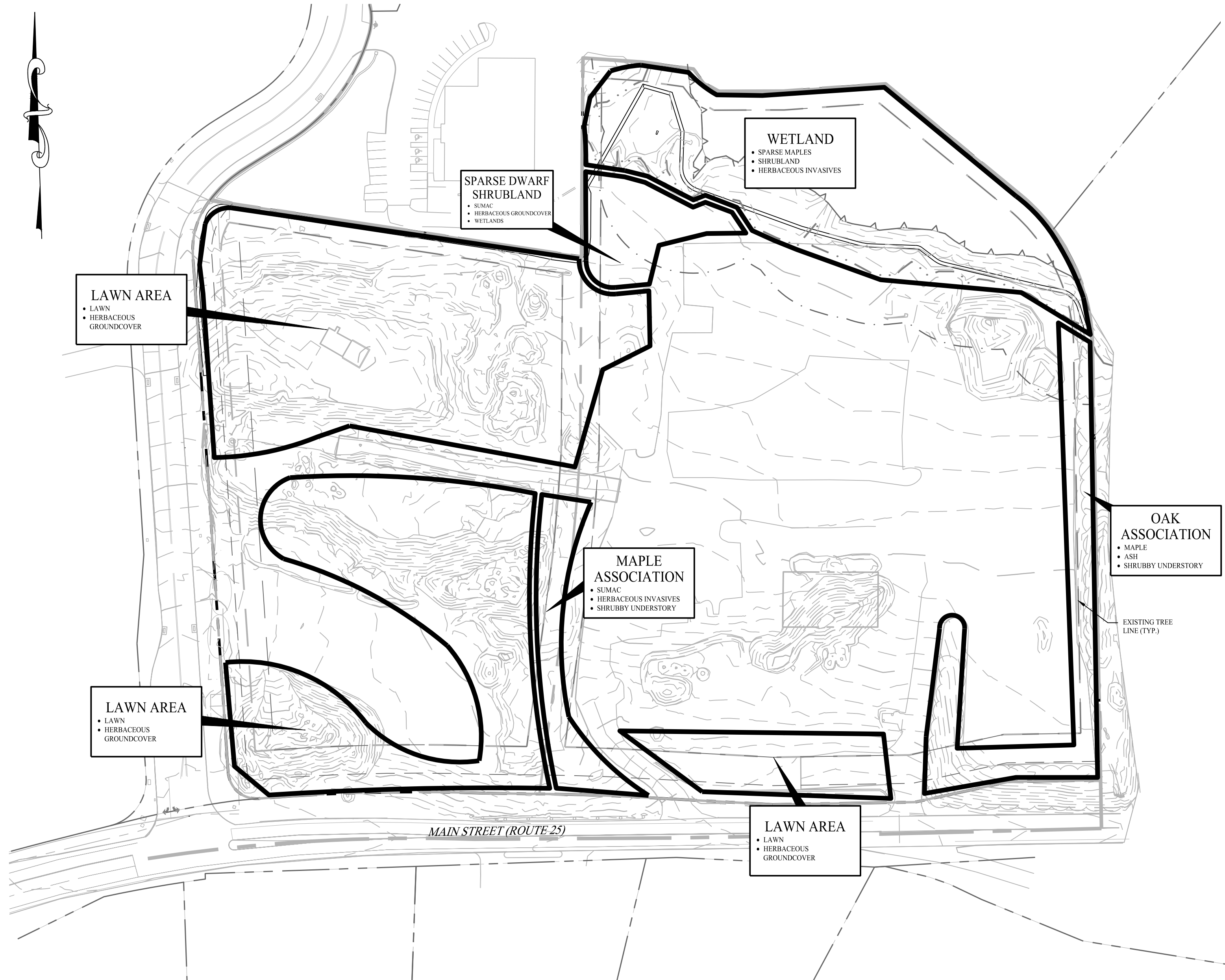
Condition of Drainage Control Measures & Corrective or Added Measures

Additional Inspection Required:	YES	NO	If Yes, Date: N/A
--	-----	----	--------------------------

Inspector(s) Signature(s): _____

APPENDIX D
PLANS

Grading & Soil Erosion Control Plan (Sheet 2.21)
Reclamation Plan (Sheet 2.61)



PRE VEGETATION MAP
SCALE: 1" = 100'



POST VEGETATION MAP
SCALE: 1" = 100'

LEGEND

	PROPERTY LINE
	ADJOINING LOT LINE
	MAJOR CONTOURS
	MINOR CONTOURS
	LIMIT OF DISTURBANCE
	EXISTING TREE LINE
	PROPOSED TREE LINE
	PREVIOUSLY DELINEATED WETLANDS
	WETLAND LINE
	LIMIT OF 100' UPLAND REVIEW AREA
	SEEDED LAWN AREA
	NEW ENGLAND CONSERVATION WILDLIFE MIX
	EXISTING WOODED AREA TO REMAIN
	CONSTRUCTION ENTRANCE

- GENERAL NOTES**
- EXISTING SITE CONDITIONS TAKEN FROM A PLAN ENTITLED "PROPERTY SURVEY OF 10 & 36 MAIN STREET, MONROE, CONNECTICUT" DATED: 05/21/21; SCALE: 1" = 60'; PREPARED BY ACCURATE LAND SURVEYING, LLC. REFER TO SAID PLAN FOR ALL DIMENSIONS, BEARINGS OR ANGLES OF PROPERTY LINES, EASEMENTS AND RIGHT-OF-WAYS.
 - THE AREAS OF EXISTING VEGETATION HAVE BEEN FIELD VERIFIED BY A LICENSED LANDSCAPE ARCHITECT ON 05/27/21.
 - SPECIES DEPICTED ON PRE-VEGETATION MAP INDICATE MAJOR PLANT ASSOCIATIONS AND ARE NOT INTENDED TO REPRESENT A DETAILED INVENTORY OF THE SITE'S PLANT MATERIAL.
 - A SITE RESTORATION PLAN MUST BE IMPLEMENTED IN THE EVENT FUTURE DEVELOPMENT OF THE SITE DOES NOT MATERIALIZE WITHIN TWO (2) YEARS OF THE COMPLETION OF EXCAVATION.

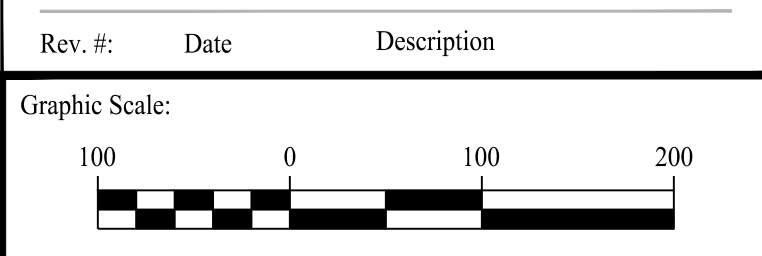
- LAWN SEED MIX**
- PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 1" DIAMETER.
 - THE FOLLOWING SEED MIX SHALL BE SOWN AT THE RATES AS DEPICTED:

CREeping RED FESCUE	1 LB. / 1,000 SF
PERENNIAL RYEGRASS	3 LBS. / 1,000 SF
KENTUCKY BLUEGRASS	1 LB. / 1,000 SF
 - SEED MIX SHALL BE MULCHED WITH SALT HAY OR UNROTTED SMALL GRAIN STRAW AT A RATE OF 2 TONS / ACRE OR 90 LBS. / 1,000 SF.
 - SEEDING DATES FOR THIS MIXTURE SHALL BE AS FOLLOWS:

SPRING: APRIL 1 - MAY 31
FALL: AUGUST 16 - OCTOBER 31
 - GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED.
 - ALL DISTURBED AREAS TO BE STABILIZED WITH SEED MIX AS SPECIFIED.

- NEW ENGLAND CONSERVATION WILDLIFE MIX**
- PRODUCED BY NEW ENGLAND WETLAND PLANTS, INC.; WWW.NEWP.COM; 820 WEST STREET, AMHERST, MA 01002; (413) 548-8000.
 - PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 1" DIAMETER.
 - THE SEED MIX SHALL BE APPLIED AT A RATE OF 1 LB. / 1,750 SQUARE FEET.
 - SEED MIX SHALL BE MULCHED WITH SALT HAY OR UNROTTED SMALL GRAIN STRAW AT A RATE OF 2 TONS / ACRE OR 90 LBS. / 1,000 SF.
 - SEEDING DATES FOR THIS MIXTURE SHALL BE AS FOLLOWS:

SPRING: APRIL 1 - MAY 31
FALL: AUGUST 16 - OCTOBER 31
 - GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED.
 - ALL DISTURBED AREAS TO BE STABILIZED WITH SEED MIX AS SPECIFIED.



SOLLI ENGINEERING
 501 Main Street, Monroe, CT 06468 T: (203) 880-5455 F: (203) 880-9695
 351 Newbury Street, Boston, MA 02115 T: (617) 203-3160 F: (203) 880-9695

Drawn By:	FLO
Checked By:	MFB
Approved By:	KMS
Project #:	2008001
Plan Date:	07/26/21
Scale:	1" = 100'

Mary Blackburn, P.L.A.
CT 1499

EXCAVATION/FILLING PERMIT APPLICATION
 10 & 36 MAIN STREET
 MONROE, CONNECTICUT

Sheet Title:	Reclamation Plan
Sheet #:	2.61