

Stormwater Management Report

For the Proposed:

O&G Earth Products Showcase

Located at:

**10 Colton Rd
East Lyme, Connecticut**

Prepared for Submission to:

**Town of East Lyme, Connecticut
Planning and Zoning Commission**

February 11, 2021

Prepared for:

**O&G Building Group
O&G Industries, Inc.
112 Wall Street
Torrington, CT 06790**

Prepared by:



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Meriden, Connecticut 06450
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BL Project Number: 2100074

Narrative/Executive Summary

This report has been prepared in support of a Plan application to the Town of East Lyme by O&G Industries, Inc., for a proposed Materials Sales Yard and Office Northeast to be located at 10 Colton Road, on land formerly occupied by Ryder Truck Rental Inc. The subject property is approximately 2.73 acres and is currently developed with a one-story 10,137 SF building and associated parking and improvements. There are no existing wetlands on or adjacent to the subject property.

The proposed redevelopment includes the expansion of the existing paved area to create space for bins of various earth materials, and the construction of a truck scale, and patio area with flagpole, associated stormwater improvements.

The overall existing drainage onsite will be improved with the use of Best Management Practices (BMPs) for water quality and runoff management through treatment, detention and outlet control. The water quality volume for new impervious areas will be captured and infiltrated into the ground beneath the proposed paved areas.

A HydroCAD model, utilizing TR-55 methodology, was developed to evaluate the existing and proposed drainage conditions of the property. To mitigate the increase in impervious coverage on the site a subsurface detention/infiltration system will be installed with an outlet control structure to provide stormwater runoff rate control. The results of the analysis demonstrate that there will not be an increase in peak stormwater runoff rates for the 2-, 10-, 25-, and 100-year storm events. Water Quality Best Management Practices (BMPs) have been incorporated into the project design to provide a minimum required 80% TSS removal. A hydrodynamic separator will be placed upstream of the underground system to remove sediment particles and floatable debris, and keep them from reaching the underground system.

The proposed stormwater management system is designed to be in compliance with the Town of East Lyme regulations and the 2004 Connecticut Stormwater Quality Manual as well as the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

There are no known drainage rights or drainage easements recorded between the property and contiguous State properties.

Existing Conditions

General Existing Site Conditions

Generally, the topography of the site slopes downward from south to north. A central wooded low area collects runoff from the southern portion of the site and direct runoff towards the east where it sheet flows towards the property line. The remainder of the site pitches to the north where

stormwater runoff is discharged via sheet flow towards Interstate 95. A small portion of the site along Colton Road drains to the south towards the street. There is no existing stormwater collection system on site.

The property is approximately 2.73 acres in size. Approximately 1.78 acres of the site is currently developed with a building, pavement, gravel, and improved surfaces. The remaining 0.95 acres of the site is undeveloped wooded and brush areas.

Proposed Conditions

General Proposed Site Conditions

The proposed development includes the expansion of the impervious paved area by approximately 30,000 SF. The proposed paved area will mimic the existing topography of the land and stormwater runoff will be collected in proposed catch basins. The new stormwater collection system will convey collected runoff through in-line hydrodynamic separators sized to removed 80% total suspended solids, then into an underground detention/infiltration system.

The new underground system has been sized to retain and recharge the water quality volume for the improvements while also providing detention for stormwater runoff in order to mitigate the effects of the increase in impervious area and runoff. As a result, the proposed peak rate of runoff has been limited to match predevelopment levels in accordance with applicable standards.

The overall drainage onsite will be improved through the use of Best Management Practices (BMPs) for water quality and runoff management through means of treatment, detention and outlet control.

Stormwater Management

Stormwater Attenuation

A hydrologic analysis to determine peak stormwater discharge rates was performed using the HydroCAD stormwater modeling system computer program, version 10.00 developed by HydroCAD Software Solutions, LLC. Hydrographs for each watershed were developed using the SCS Synthetic Unit Hydrograph Method. Rainfall depths and distribution taken from the NOAA Atlas 14 for East Lyme, Connecticut were used for the calculation of peak flow rates and are listed in Table 3. The drainage areas, or sub-drainage areas as labeled by the program, are depicted by hexagons on the attached drainage diagrams. Pre- and post-development HydroCAD output are attached.

**Table 1 – Rainfall Depths per NOAA Atlas 14
24-hour Rainfall Data**

Return Period	24-hour Rainfall Depth
2-year	3.52”
10-year	5.42”
25-year	6.61”
100-year	8.45”

The results of the analysis can be found in Table 4 below of the 2-, 10-, 25-, and 100-year storm events. With the use of detention structures with outlet control structures the site proposed stormwater management system meets the requirements of the Town of East Lyme Regulations as well as the 2004 Connecticut Stormwater Quality Manual at all discharge design point locations by not increasing peak runoff rates from the proposed developments at the site.

Table 2 – Existing vs Proposed Peak Rates of Runoff

Analysis Point	Peak Flows (CFS)			
	2-YR	10-YR	25-YR	100-YR
EDA-101	7.05	12.24	15.56	20.65
PDA-101	0.37	2.60	4.60	21.39

Stormwater Quality

Along with the reduction of peak storm water discharge rates, an important element of the proposed drainage system is to improve the quality of discharge leaving the property. BMPs for stormwater runoff quality have been implemented in this design.

Hydrodynamic separators will be installed downstream of the stormwater collection networks prior to discharging to the detention systems. This unit has been proven to improve storm water quality. The unit has been designed in an “in-line” configuration, which improves the efficiency and is sized to treat the Water Quality Flow (WQF) per the 2004 Connecticut Stormwater Quality Manual. The “in-line” hydrodynamic separators will provide for 80% total suspended solid removal from collected runoff meeting the Connecticut guidelines and applicable Town of East Lyme regulations. Additionally, the underground detention system will retain and infiltrate at minimum the 1” WQV significantly reducing downstream pollutant load and meeting the Town of East Lyme Municipal Separate Storm Sewer System (MS4) requirements for these systems.

The following calculations summarize the water quality analysis:

- Total Impervious Area Proposed = 45,292.75 SF
 - Patio Area = 2,322.83 SF
 - Parking/Storage Area = 42,969.92 SF
 - Existing Impervious Area (i.e. Building, parking area, etc.) area excluded from the calculation above.
- **Required Water Quality Volume = 3,572 CF**
- **Provided Water Quality Volume = 3,572 CF**
- Per NRCS Web Soil Survey
 - The site infiltration rate is assumed as 10 Micrometer/Second or 1.41732 inches/hour
 - Per the CT Water Quality Manual, field observation should be reduced by ½ (or have a safety factor of 2, meaning the designed infiltration rate should be 0.70 inches per hour.
 - The minimum allowable infiltration rate per CT WQ Manual is 0.3 in/hr. Therefore, 0.7 in/hr is okay for design.
 - Note:
 - A higher infiltration rate will not allow for a smaller system in regard to WQ retention. The full required WQV must be retained regardless of the infiltration rate of the soils.
- The following Cultec Products would be sufficient to detain and infiltrate the required WQ Volume. The information shown below does not account for routing of stormwater to the system of the final elevation of the system.
 - C-100HD
 - R-150XL HD
 - R-330XL HD

Soil Erosion and Sediment Control

A soil erosion and sediment control plan has been developed to protect the adjacent roadways, storm drainage systems, properties and wetland areas and any adjacent water course from sediment laden surface runoff and erosion.

Sediment control will be accomplished through rapid stabilization and by the installation of mechanical devices, including a temporary gravel construction entrance, silt fence, haybales, and storm drain inlet protection. The proposed construction activities will be in accordance with policies and requirements of the 2002 Connecticut Guidelines for Sedimentation and Erosion Control, as amended as well as the applicable requirements of the Town of East Lyme. Permanent stabilization will occur as quickly as possible with site-specific seeding mixtures and as required by local officials.

Structural practices utilized as part of this development will include:

1. Temporary Construction Entrance

A temporary construction entrance shall be installed at the stone construction entrance of the development. Mud and debris shall be washed from all construction vehicles and equipment before leaving the site. The sediment laden water will be diverted to a proposed sediment basin/trap. Water tanks will be used if public water is unavailable.

2. Silt Fence

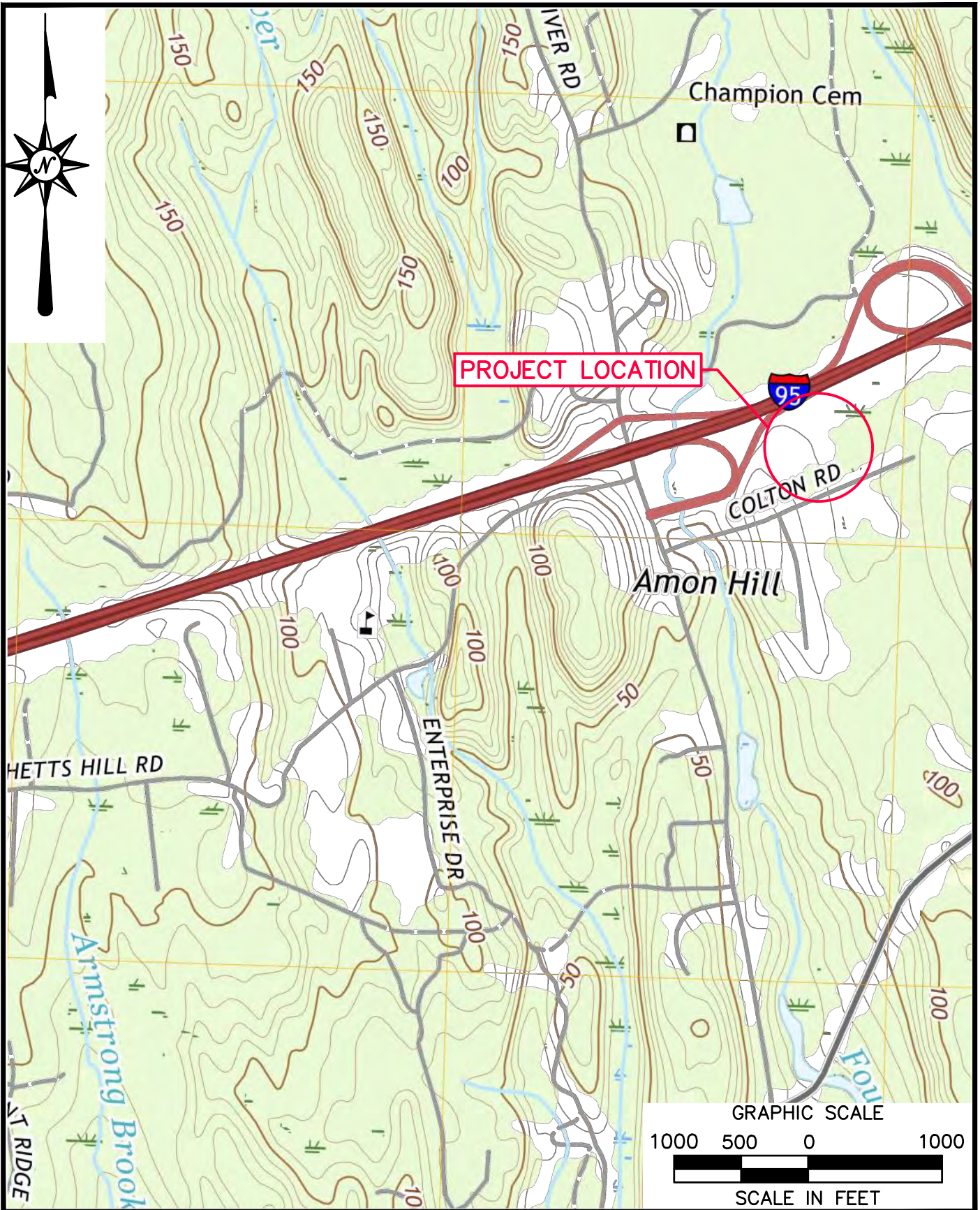
Silt fence shall be installed downstream of disturbed areas to filter the sediment laden sheet flow. Haybale backing will be used upstream of wetlands.

3. Inlet Protection

All storm inlets existing and constructed, that could potentially receive sediment laden runoff will have silt sack and/or haybale protection installed until site stabilization is complete.

Conclusion

The stormwater design for the project development meets regulatory requirements and stormwater quality goals. The stormwater BMPs aid in keeping pollutants out of the adjacent roadways and properties and maximize the potential for groundwater recharge as well as attenuating peak flows by detaining stormwater for the most frequent storm events as practical. Stormwater quality is being addressed by water quality structures providing the minimum required 80% TSS removal as required in the CT Stormwater Manual. The proposed stormwater management system will meet the stormwater quality requirements of the State of Connecticut and the Town of East Lyme while improving overall existing site drainage condition.



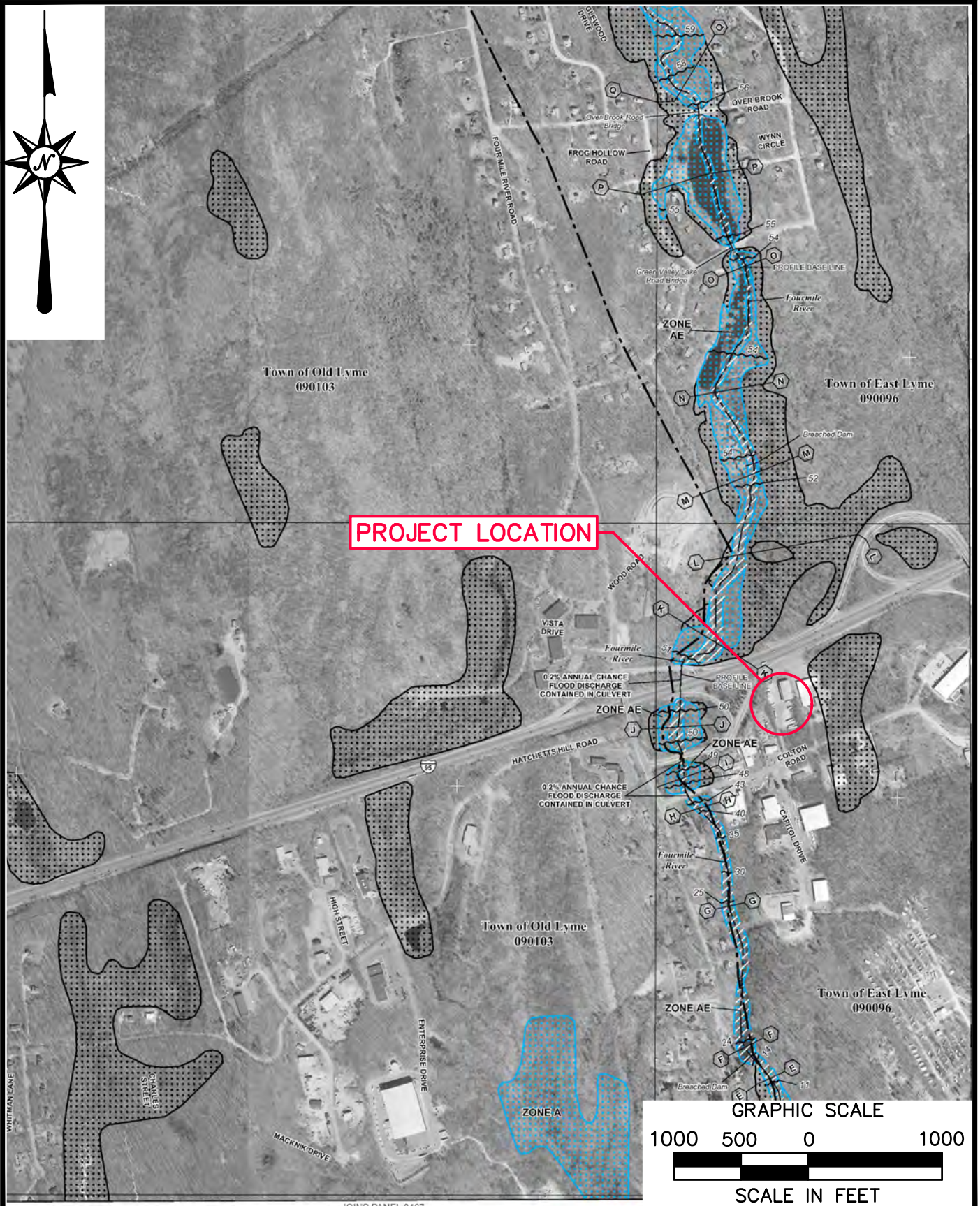
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING

**EARTH PRODUCTS
SHOWCASE**
10 COLTON ROAD
EAST LYME, CONNECTICUT

Designed
Drawn
Reviewed
Scale
Project No.
Date
CAD File

M.A.G.
M.A.G.
1"=1000'
2100074
02/11/2021
EXH2100074-LOCATION MAP

FIGURE 1
USGS LOCATION MAP



ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING

**EARTH PRODUCTS
SHOWCASE**
10 COLTON ROAD
EAST LYME, CONNECTICUT

Designed M.A.G.
Drawn M.A.G.
Reviewed
Scale 1"=100'
Project No. 2100074
Date 02/11/2021
CAD File EXH210007401-FEMA

FIGURE 2
FEMA FLOOD MAP

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Connecticut State Plane Zone (FIPS zone 0600). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on FIRM panels produced for this coastal study revision was derived from digital orthophotography. Base map files were provided in digital form by the Connecticut Department of Environmental Protection. Ortho imagery was produced at a scale of 1:12,000. Aerial photography is dated 2000, 2004 and 2005. The projection used in the preparation of this map was Connecticut State Plane zone (FIPZONE0600). The horizontal datum was NAD83, GRS1980 spheroid.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LIMWA)**. The LIMWA represents the approximate landward limit of the 1.5 foot breaking wave. The effects of wave hazards between the VE Zone and the LIMWA (or between the shoreline and the LIMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

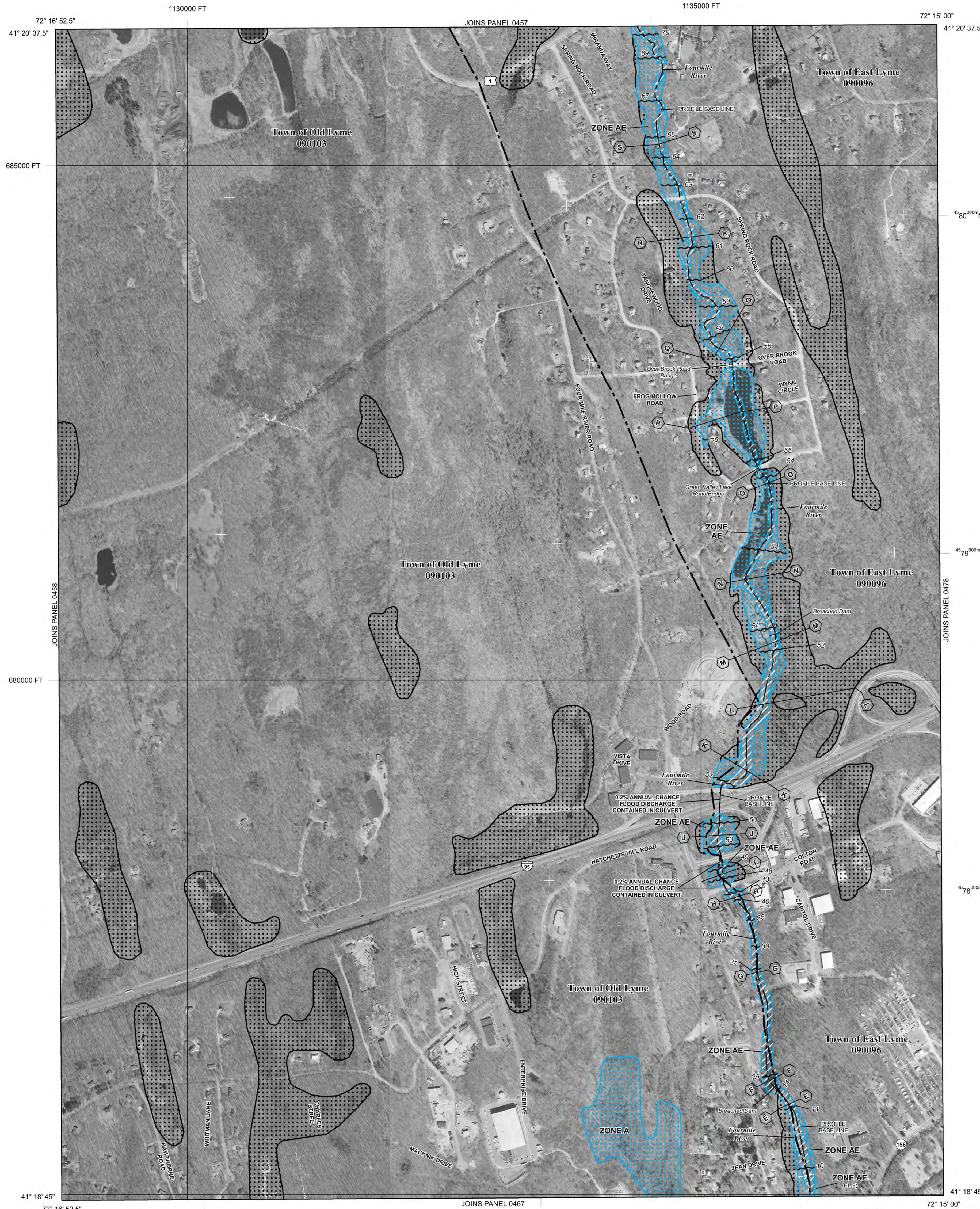
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/nfp>.

Only coastal structures that are certified to provide protection from the 1 percent annual chance flood are shown on this panel. However, all structures taken into consideration for the purpose of coastal flood hazard analysis and mapping are present in the FIRM database in S_Gen_Struct.



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.
- OTHER AREAS
- ZONE D** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE X** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPAs)
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- Limit of Moderate Wave Action
- Limit of Moderate Wave Action coincident with Zone Break
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- Cross section line
- Culvert
- Bridge
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT
- 49°09'00"N
- DX5510 X
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- MAP REPOSITORIES
- Refer to Map Index for Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
- July 18, 2011
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
- August 5, 2013 - to change Base Flood Elevations and Special Flood Hazard Areas, to change zone designations, to update the effects of wave action, to update corporate limits, to add roads and road names and to modify Coastal Barrier Resources System units.
- For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
- To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 500 1000 FEET

150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0459J

FIRM

FLOOD INSURANCE RATE MAP

NEW LONDON COUNTY, CONNECTICUT (ALL JURISDICTIONS)

PANEL 459 OF 554
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EAST LYME, TOWN OF	090096	0459	J
OLD LYME, TOWN OF	090103	0459	J

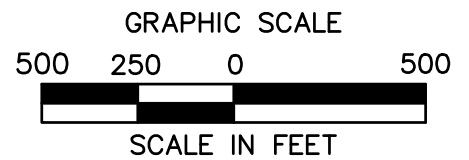
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 0901C0459J
MAP REVISED AUGUST 5, 2013
Federal Emergency Management Agency



LEGEND

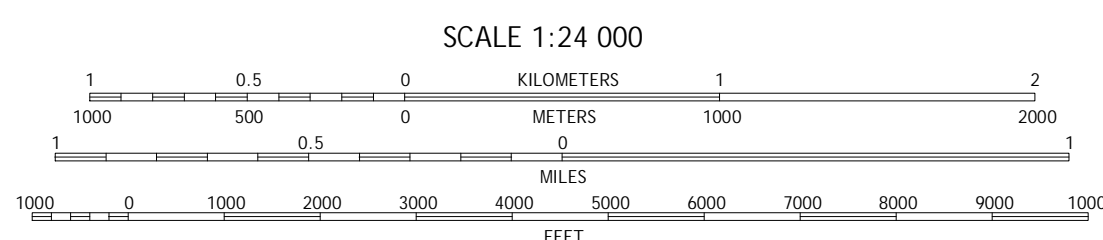
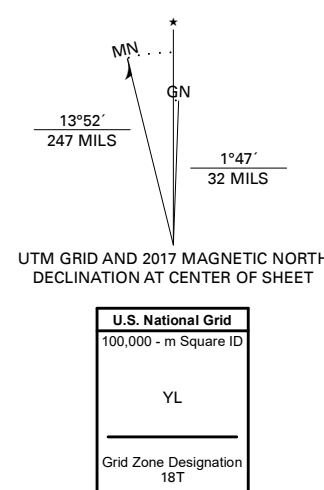
- 306 - UDORTHENTS-URBAN LAND COMPLEX
- 45 B - WOODBRIDGE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES





Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84) Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 18T
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, July 2016 - September 2016
Roads.....U.S. Census Bureau, 2016
Names.....GNIS, 1979 - 2017
Hydrography.....National Hydrography Dataset, 2004 - 2018
Contours.....National Elevation Dataset, 2012
Boundaries.....Multiple sources: see metadata file 2016 - 2017
Wetlands.....FWS National Wetlands Inventory 2010



SCALE 1:24 000
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18



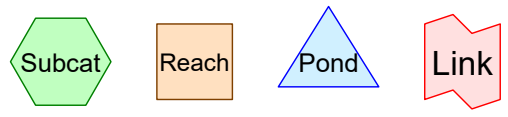
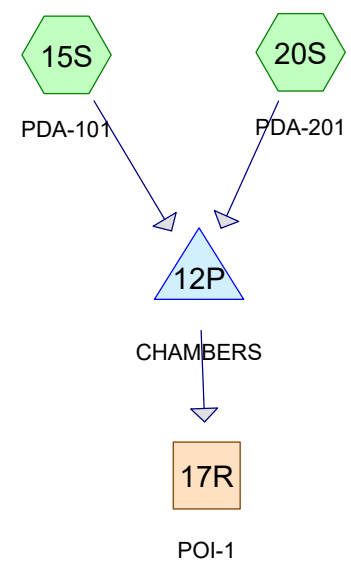
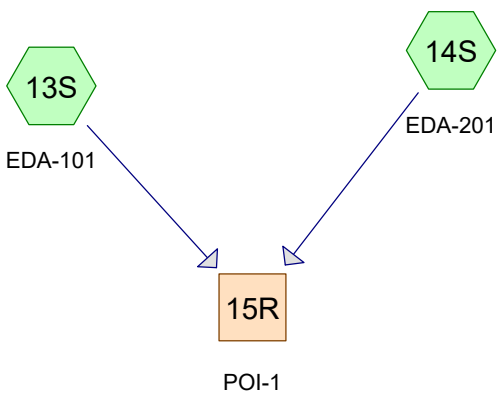
ADJOINING QUADRANGLES

1	2	3
4	5	6
7	8	9

- 1 Deep River
- 2 Palmertown
- 3 Easton
- 4 Niantic
- 5 Orient
- 6 Plum Island

ROAD CLASSIFICATION

	Expressway		Local Connector
	Secondary Hwy		Local Road
	Ramp		4WD
	Interstate Route		US Route
			State Route



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.257	69	50-75% Grass cover, Fair, HSG B (15S, 20S)
0.006	79	50-75% Grass cover, Fair, HSG C (20S)
0.548	74	>75% Grass cover, Good, HSG C (13S)
1.761	98	Paved parking (15S, 20S)
0.684	98	Paved parking, HSG B (13S)
0.230	98	Roofs, HSG B (13S)
0.233	98	Unconnected roofs, HSG B (15S)
0.572	73	Woods, Fair, HSG C (14S)
4.290	90	TOTAL AREA

C-DAT-2100074

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.403	HSG B	13S, 15S, 20S
1.126	HSG C	13S, 14S, 20S
0.000	HSG D	
1.761	Other	15S, 20S
4.290		TOTAL AREA

C-DAT-2100074

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.257	0.006	0.000	0.000	0.263	50-75% Grass cover, Fair	15S, 20S
0.000	0.000	0.548	0.000	0.000	0.548	>75% Grass cover, Good	13S
0.000	0.684	0.000	0.000	1.761	2.445	Paved parking	13S, 15S, 20S
0.000	0.230	0.000	0.000	0.000	0.230	Roofs	13S
0.000	0.233	0.000	0.000	0.000	0.233	Unconnected roofs	15S
0.000	0.000	0.572	0.000	0.000	0.572	Woods, Fair	14S
0.000	1.403	1.126	0.000	1.761	4.290	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	12P	64.75	64.55	40.0	0.0050	0.012	15.0	0.0	0.0

C-DAT-2100074

Type II 24-hr 100-yr Rainfall=7.94"

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Printed 2/11/2021

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Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 13S: EDA-101	Runoff Area=1.462 ac 62.52% Impervious Runoff Depth>6.62" Tc=5.0 min CN=89 Runoff=15.83 cfs 0.807 af
Subcatchment 14S: EDA-201	Runoff Area=0.572 ac 0.00% Impervious Runoff Depth>4.75" Tc=5.0 min CN=73 Runoff=4.83 cfs 0.227 af
Subcatchment 15S: PDA-101	Runoff Area=63,399 sf 85.41% Impervious Runoff Depth>7.22" Tc=5.0 min CN=94 Runoff=16.41 cfs 0.875 af
Subcatchment 20S: PDA-201	Runoff Area=34,875 sf 93.71% Impervious Runoff Depth>7.46" Tc=5.0 min CN=96 Runoff=9.12 cfs 0.497 af
Reach 15R: POI-1	Inflow=20.65 cfs 1.034 af Outflow=20.65 cfs 1.034 af
Reach 17R: POI-1	Inflow=21.39 cfs 0.843 af Outflow=21.39 cfs 0.843 af
Pond 12P: CHAMBERS	Peak Elev=86.13' Storage=0.563 af Inflow=25.52 cfs 1.373 af Discarded=0.17 cfs 0.288 af Primary=21.39 cfs 0.843 af Outflow=21.56 cfs 1.131 af

Total Runoff Area = 4.290 ac Runoff Volume = 2.406 af Average Runoff Depth = 6.73"
32.23% Pervious = 1.383 ac 67.77% Impervious = 2.907 ac

Summary for Subcatchment 13S: EDA-101

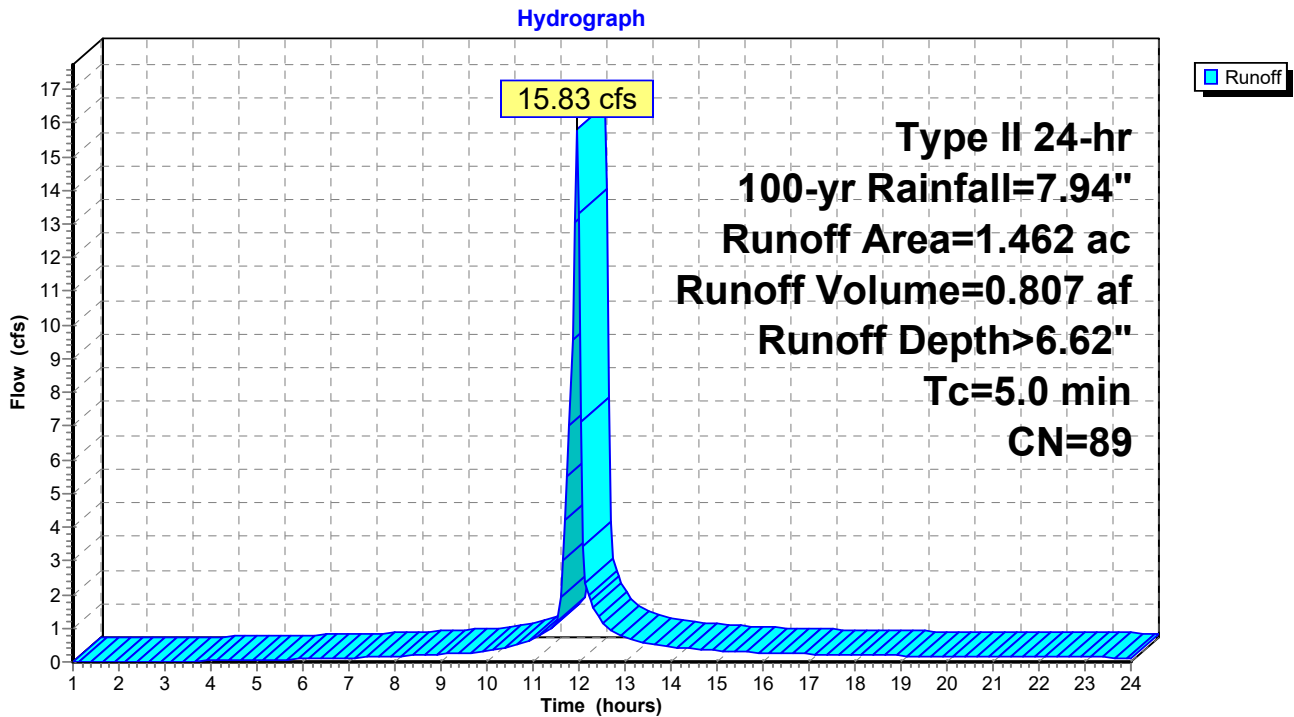
Runoff = 15.83 cfs @ 11.95 hrs, Volume= 0.807 af, Depth> 6.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=7.94"

Area (ac)	CN	Description
0.230	98	Roofs, HSG B
0.684	98	Paved parking, HSG B
0.548	74	>75% Grass cover, Good, HSG C
1.462	89	Weighted Average
0.548		37.48% Pervious Area
0.914		62.52% Impervious Area

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

Subcatchment 13S: EDA-101



Hydrograph for Subcatchment 13S: EDA-101

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
1.00	0.08	0.00	0.00	14.25	6.58	5.30	0.41
1.25	0.11	0.00	0.00	14.50	6.65	5.37	0.39
1.50	0.13	0.00	0.00	14.75	6.72	5.43	0.37
1.75	0.15	0.00	0.00	15.00	6.78	5.49	0.35
2.00	0.17	0.00	0.00	15.25	6.83	5.55	0.33
2.25	0.20	0.00	0.00	15.50	6.89	5.60	0.31
2.50	0.22	0.00	0.00	15.75	6.94	5.65	0.29
2.75	0.25	0.00	0.00	16.00	6.99	5.70	0.27
3.00	0.27	0.00	0.00	16.25	7.03	5.74	0.26
3.25	0.30	0.00	0.01	16.50	7.08	5.78	0.25
3.50	0.33	0.00	0.02	16.75	7.12	5.82	0.24
3.75	0.35	0.01	0.02	17.00	7.16	5.86	0.24
4.00	0.38	0.01	0.03	17.25	7.20	5.90	0.23
4.25	0.41	0.02	0.04	17.50	7.24	5.94	0.22
4.50	0.44	0.03	0.04	17.75	7.28	5.98	0.22
4.75	0.47	0.03	0.05	18.00	7.31	6.01	0.21
5.00	0.50	0.04	0.06	18.25	7.35	6.05	0.20
5.25	0.53	0.05	0.06	18.50	7.38	6.08	0.19
5.50	0.57	0.07	0.07	18.75	7.41	6.11	0.19
5.75	0.60	0.08	0.08	19.00	7.45	6.14	0.18
6.00	0.64	0.09	0.09	19.25	7.48	6.17	0.17
6.25	0.67	0.11	0.09	19.50	7.50	6.20	0.17
6.50	0.71	0.13	0.10	19.75	7.53	6.23	0.16
6.75	0.75	0.14	0.11	20.00	7.56	6.25	0.15
7.00	0.79	0.16	0.12	20.25	7.58	6.28	0.15
7.25	0.83	0.18	0.13	20.50	7.61	6.30	0.15
7.50	0.87	0.21	0.13	20.75	7.64	6.33	0.15
7.75	0.91	0.23	0.14	21.00	7.66	6.35	0.14
8.00	0.95	0.26	0.15	21.25	7.68	6.38	0.14
8.25	1.00	0.28	0.17	21.50	7.71	6.40	0.14
8.50	1.05	0.32	0.19	21.75	7.73	6.43	0.14
8.75	1.11	0.35	0.22	22.00	7.76	6.45	0.14
9.00	1.17	0.39	0.24	22.25	7.78	6.47	0.14
9.25	1.23	0.44	0.26	22.50	7.80	6.50	0.14
9.50	1.29	0.48	0.26	22.75	7.83	6.52	0.13
9.75	1.36	0.53	0.29	23.00	7.85	6.54	0.13
10.00	1.44	0.58	0.33	23.25	7.87	6.56	0.13
10.25	1.52	0.65	0.39	23.50	7.90	6.58	0.13
10.50	1.62	0.72	0.45	23.75	7.92	6.61	0.13
10.75	1.73	0.81	0.54	24.00	7.94	6.63	0.13
11.00	1.87	0.92	0.65				
11.25	2.03	1.06	0.86				
11.50	2.25	1.24	1.12				
11.75	3.07	1.97	5.51				
12.00	5.26	4.03	13.29				
12.25	5.61	4.36	1.83				
12.50	5.84	4.58	1.18				
12.75	6.00	4.73	0.88				
13.00	6.13	4.86	0.74				
13.25	6.24	4.97	0.64				
13.50	6.34	5.07	0.56				
13.75	6.43	5.16	0.50				
14.00	6.51	5.23	0.44				

Summary for Subcatchment 14S: EDA-201

Runoff = 4.83 cfs @ 11.96 hrs, Volume= 0.227 af, Depth> 4.75"

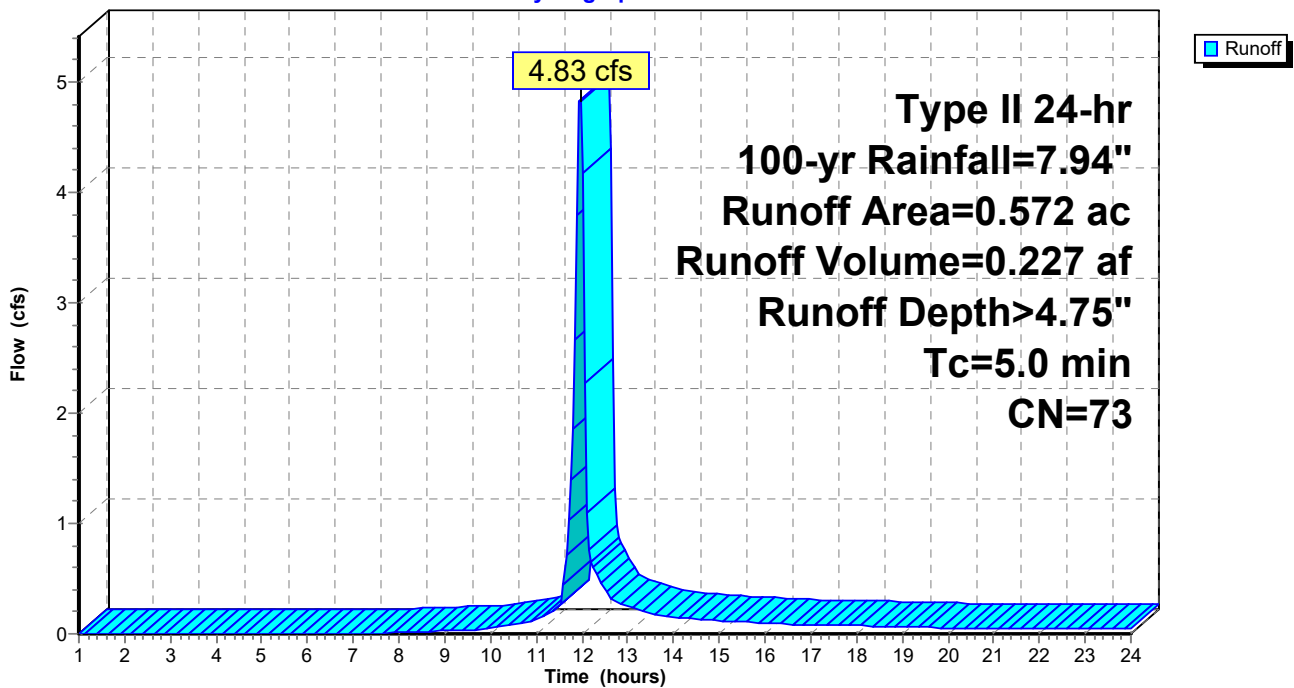
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=7.94"

Area (ac)	CN	Description
0.572	73	Woods, Fair, HSG C
0.572		100.00% Pervious Area

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

Subcatchment 14S: EDA-201

Hydrograph



Hydrograph for Subcatchment 14S: EDA-201

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
1.00	0.08	0.00	0.00	14.25	6.58	3.58	0.14
1.25	0.11	0.00	0.00	14.50	6.65	3.64	0.13
1.50	0.13	0.00	0.00	14.75	6.72	3.69	0.13
1.75	0.15	0.00	0.00	15.00	6.78	3.74	0.12
2.00	0.17	0.00	0.00	15.25	6.83	3.79	0.11
2.25	0.20	0.00	0.00	15.50	6.89	3.84	0.11
2.50	0.22	0.00	0.00	15.75	6.94	3.88	0.10
2.75	0.25	0.00	0.00	16.00	6.99	3.92	0.09
3.00	0.27	0.00	0.00	16.25	7.03	3.96	0.09
3.25	0.30	0.00	0.00	16.50	7.08	4.00	0.09
3.50	0.33	0.00	0.00	16.75	7.12	4.04	0.08
3.75	0.35	0.00	0.00	17.00	7.16	4.07	0.08
4.00	0.38	0.00	0.00	17.25	7.20	4.11	0.08
4.25	0.41	0.00	0.00	17.50	7.24	4.14	0.08
4.50	0.44	0.00	0.00	17.75	7.28	4.17	0.07
4.75	0.47	0.00	0.00	18.00	7.31	4.21	0.07
5.00	0.50	0.00	0.00	18.25	7.35	4.24	0.07
5.25	0.53	0.00	0.00	18.50	7.38	4.27	0.07
5.50	0.57	0.00	0.00	18.75	7.41	4.29	0.07
5.75	0.60	0.00	0.00	19.00	7.45	4.32	0.06
6.00	0.64	0.00	0.00	19.25	7.48	4.35	0.06
6.25	0.67	0.00	0.00	19.50	7.50	4.37	0.06
6.50	0.71	0.00	0.00	19.75	7.53	4.40	0.06
6.75	0.75	0.00	0.00	20.00	7.56	4.42	0.05
7.00	0.79	0.00	0.00	20.25	7.58	4.44	0.05
7.25	0.83	0.00	0.00	20.50	7.61	4.47	0.05
7.50	0.87	0.00	0.01	20.75	7.64	4.49	0.05
7.75	0.91	0.01	0.01	21.00	7.66	4.51	0.05
8.00	0.95	0.01	0.01	21.25	7.68	4.53	0.05
8.25	1.00	0.02	0.01	21.50	7.71	4.55	0.05
8.50	1.05	0.02	0.02	21.75	7.73	4.57	0.05
8.75	1.11	0.03	0.02	22.00	7.76	4.60	0.05
9.00	1.17	0.04	0.03	22.25	7.78	4.62	0.05
9.25	1.23	0.06	0.03	22.50	7.80	4.64	0.05
9.50	1.29	0.07	0.03	22.75	7.83	4.66	0.05
9.75	1.36	0.09	0.04	23.00	7.85	4.68	0.05
10.00	1.44	0.11	0.05	23.25	7.87	4.70	0.05
10.25	1.52	0.14	0.06	23.50	7.90	4.72	0.05
10.50	1.62	0.17	0.08	23.75	7.92	4.74	0.05
10.75	1.73	0.21	0.10	24.00	7.94	4.76	0.04
11.00	1.87	0.26	0.13				
11.25	2.03	0.33	0.18				
11.50	2.25	0.44	0.25				
11.75	3.07	0.90	1.40				
12.00	5.26	2.49	4.17				
12.25	5.61	2.77	0.60				
12.50	5.84	2.95	0.39				
12.75	6.00	3.09	0.30				
13.00	6.13	3.20	0.25				
13.25	6.24	3.29	0.22				
13.50	6.34	3.38	0.19				
13.75	6.43	3.45	0.17				
14.00	6.51	3.52	0.15				

Summary for Subcatchment 15S: PDA-101

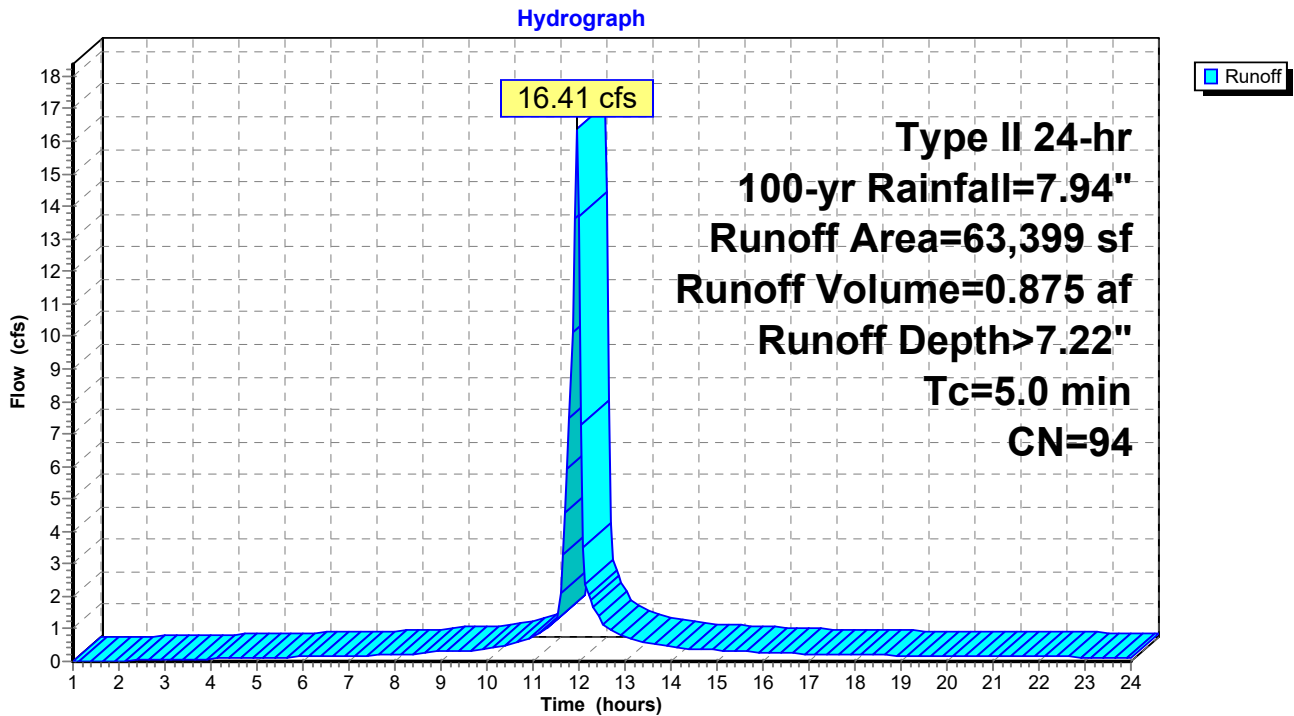
Runoff = 16.41 cfs @ 11.95 hrs, Volume= 0.875 af, Depth> 7.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=7.94"

Area (sf)	CN	Description
9,252	69	50-75% Grass cover, Fair, HSG B
10,137	98	Unconnected roofs, HSG B
* 44,010	98	Paved parking
63,399	94	Weighted Average
9,252		14.59% Pervious Area
54,147		85.41% Impervious Area
10,137		18.72% Unconnected

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

Subcatchment 15S: PDA-101



Hydrograph for Subcatchment 15S: PDA-101

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
1.00	0.08	0.00	0.00	14.25	6.58	5.87	0.41
1.25	0.11	0.00	0.00	14.50	6.65	5.94	0.39
1.50	0.13	0.00	0.00	14.75	6.72	6.01	0.37
1.75	0.15	0.00	0.01	15.00	6.78	6.07	0.35
2.00	0.17	0.00	0.02	15.25	6.83	6.12	0.33
2.25	0.20	0.01	0.02	15.50	6.89	6.18	0.31
2.50	0.22	0.01	0.03	15.75	6.94	6.23	0.29
2.75	0.25	0.02	0.04	16.00	6.99	6.28	0.27
3.00	0.27	0.03	0.05	16.25	7.03	6.32	0.26
3.25	0.30	0.04	0.06	16.50	7.08	6.36	0.25
3.50	0.33	0.05	0.06	16.75	7.12	6.41	0.25
3.75	0.35	0.06	0.07	17.00	7.16	6.45	0.24
4.00	0.38	0.07	0.08	17.25	7.20	6.49	0.23
4.25	0.41	0.09	0.09	17.50	7.24	6.53	0.23
4.50	0.44	0.10	0.09	17.75	7.28	6.56	0.22
4.75	0.47	0.12	0.10	18.00	7.31	6.60	0.21
5.00	0.50	0.14	0.11	18.25	7.35	6.63	0.20
5.25	0.53	0.16	0.12	18.50	7.38	6.67	0.20
5.50	0.57	0.18	0.13	18.75	7.41	6.70	0.19
5.75	0.60	0.20	0.13	19.00	7.45	6.73	0.18
6.00	0.64	0.22	0.14	19.25	7.48	6.76	0.17
6.25	0.67	0.25	0.15	19.50	7.50	6.79	0.17
6.50	0.71	0.28	0.16	19.75	7.53	6.82	0.16
6.75	0.75	0.30	0.17	20.00	7.56	6.84	0.15
7.00	0.79	0.33	0.17	20.25	7.58	6.87	0.15
7.25	0.83	0.37	0.18	20.50	7.61	6.89	0.15
7.50	0.87	0.40	0.19	20.75	7.64	6.92	0.15
7.75	0.91	0.43	0.20	21.00	7.66	6.94	0.15
8.00	0.95	0.47	0.21	21.25	7.68	6.97	0.14
8.25	1.00	0.50	0.23	21.50	7.71	6.99	0.14
8.50	1.05	0.55	0.25	21.75	7.73	7.02	0.14
8.75	1.11	0.59	0.28	22.00	7.76	7.04	0.14
9.00	1.17	0.64	0.31	22.25	7.78	7.06	0.14
9.25	1.23	0.70	0.32	22.50	7.80	7.09	0.14
9.50	1.29	0.75	0.33	22.75	7.83	7.11	0.14
9.75	1.36	0.81	0.36	23.00	7.85	7.13	0.13
10.00	1.44	0.88	0.40	23.25	7.87	7.16	0.13
10.25	1.52	0.96	0.46	23.50	7.90	7.18	0.13
10.50	1.62	1.05	0.53	23.75	7.92	7.20	0.13
10.75	1.73	1.15	0.63	24.00	7.94	7.22	0.13
11.00	1.87	1.27	0.74				
11.25	2.03	1.43	0.96				
11.50	2.25	1.63	1.24				
11.75	3.07	2.42	5.93				
12.00	5.26	4.57	13.70				
12.25	5.61	4.91	1.87				
12.50	5.84	5.13	1.21				
12.75	6.00	5.29	0.90				
13.00	6.13	5.43	0.75				
13.25	6.24	5.54	0.65				
13.50	6.34	5.64	0.57				
13.75	6.43	5.73	0.50				
14.00	6.51	5.80	0.45				

Summary for Subcatchment 20S: PDA-201

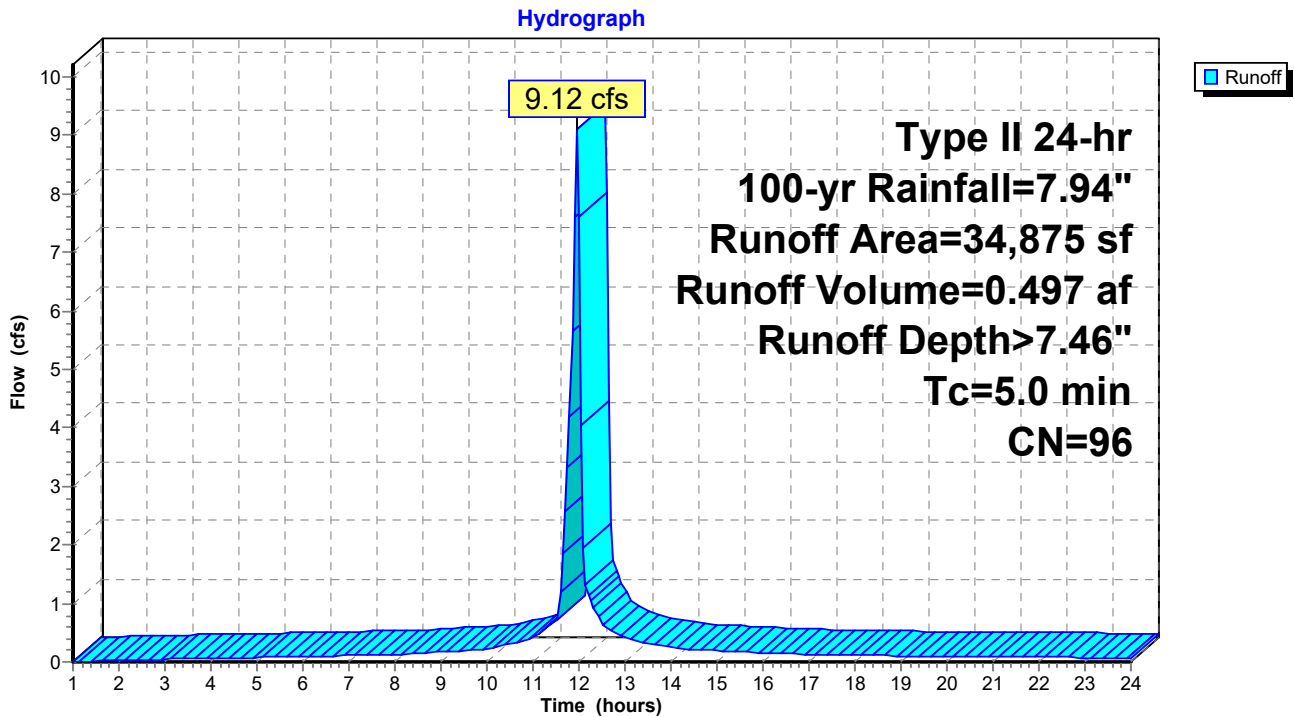
Runoff = 9.12 cfs @ 11.95 hrs, Volume= 0.497 af, Depth> 7.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-yr Rainfall=7.94"

Area (sf)	CN	Description
1,926	69	50-75% Grass cover, Fair, HSG B
268	79	50-75% Grass cover, Fair, HSG C
* 32,681	98	Paved parking
34,875	96	Weighted Average
2,194		6.29% Pervious Area
32,681		93.71% Impervious Area

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

Subcatchment 20S: PDA-201



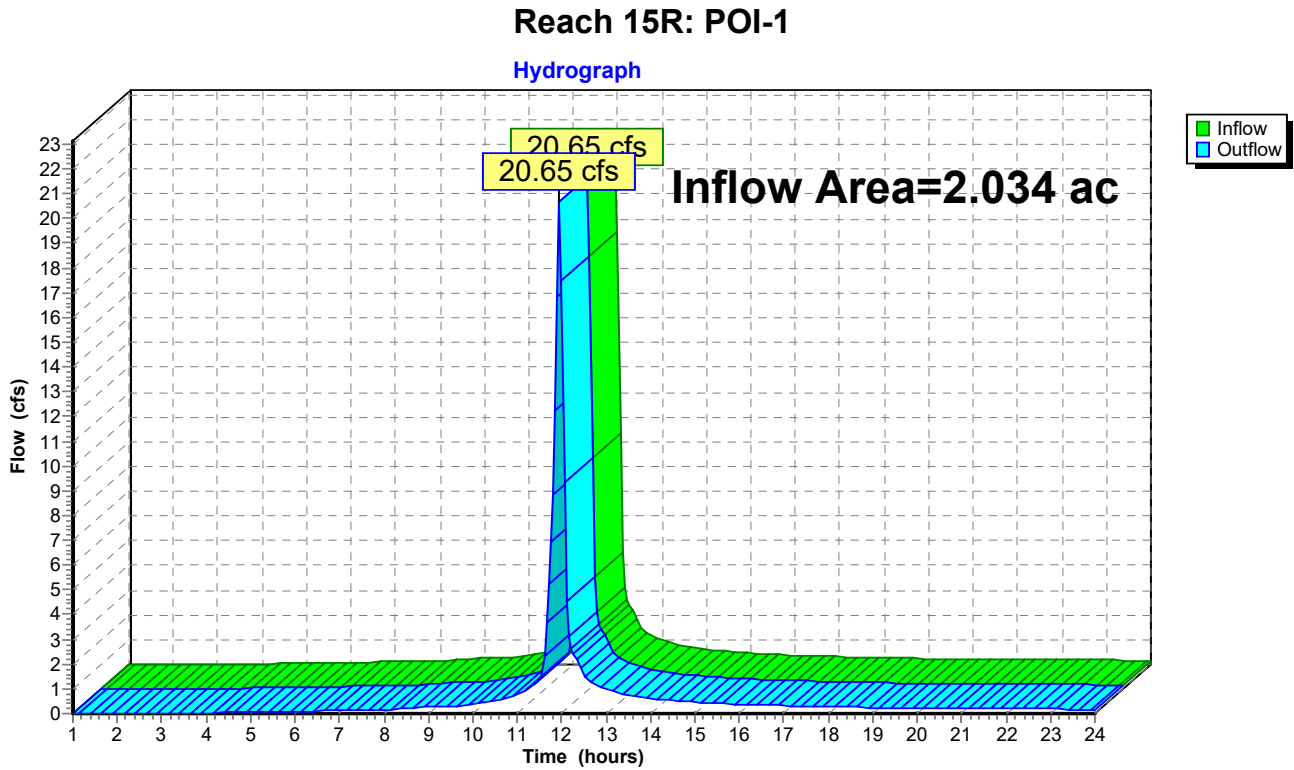
Hydrograph for Subcatchment 20S: PDA-201

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
1.00	0.08	0.00	0.00	14.25	6.58	6.11	0.23
1.25	0.11	0.00	0.00	14.50	6.65	6.18	0.22
1.50	0.13	0.00	0.01	14.75	6.72	6.24	0.21
1.75	0.15	0.01	0.02	15.00	6.78	6.30	0.20
2.00	0.17	0.02	0.02	15.25	6.83	6.36	0.18
2.25	0.20	0.03	0.03	15.50	6.89	6.41	0.17
2.50	0.22	0.04	0.03	15.75	6.94	6.46	0.16
2.75	0.25	0.05	0.04	16.00	6.99	6.51	0.15
3.00	0.27	0.06	0.04	16.25	7.03	6.56	0.14
3.25	0.30	0.07	0.05	16.50	7.08	6.60	0.14
3.50	0.33	0.09	0.05	16.75	7.12	6.64	0.14
3.75	0.35	0.11	0.05	17.00	7.16	6.68	0.13
4.00	0.38	0.12	0.06	17.25	7.20	6.72	0.13
4.25	0.41	0.14	0.06	17.50	7.24	6.76	0.12
4.50	0.44	0.16	0.07	17.75	7.28	6.80	0.12
4.75	0.47	0.19	0.07	18.00	7.31	6.84	0.12
5.00	0.50	0.21	0.08	18.25	7.35	6.87	0.11
5.25	0.53	0.23	0.08	18.50	7.38	6.90	0.11
5.50	0.57	0.26	0.08	18.75	7.41	6.94	0.10
5.75	0.60	0.29	0.09	19.00	7.45	6.97	0.10
6.00	0.64	0.31	0.09	19.25	7.48	7.00	0.10
6.25	0.67	0.34	0.10	19.50	7.50	7.03	0.09
6.50	0.71	0.38	0.10	19.75	7.53	7.05	0.09
6.75	0.75	0.41	0.11	20.00	7.56	7.08	0.08
7.00	0.79	0.44	0.11	20.25	7.58	7.11	0.08
7.25	0.83	0.48	0.11	20.50	7.61	7.13	0.08
7.50	0.87	0.51	0.12	20.75	7.64	7.16	0.08
7.75	0.91	0.55	0.12	21.00	7.66	7.18	0.08
8.00	0.95	0.59	0.13	21.25	7.68	7.21	0.08
8.25	1.00	0.63	0.14	21.50	7.71	7.23	0.08
8.50	1.05	0.68	0.15	21.75	7.73	7.25	0.08
8.75	1.11	0.73	0.17	22.00	7.76	7.28	0.08
9.00	1.17	0.78	0.18	22.25	7.78	7.30	0.08
9.25	1.23	0.84	0.19	22.50	7.80	7.33	0.08
9.50	1.29	0.90	0.19	22.75	7.83	7.35	0.07
9.75	1.36	0.96	0.21	23.00	7.85	7.37	0.07
10.00	1.44	1.04	0.23	23.25	7.87	7.39	0.07
10.25	1.52	1.12	0.27	23.50	7.90	7.42	0.07
10.50	1.62	1.21	0.31	23.75	7.92	7.44	0.07
10.75	1.73	1.32	0.36	24.00	7.94	7.46	0.07
11.00	1.87	1.44	0.43				
11.25	2.03	1.61	0.55				
11.50	2.25	1.81	0.70				
11.75	3.07	2.62	3.33				
12.00	5.26	4.80	7.60				
12.25	5.61	5.14	1.03				
12.50	5.84	5.36	0.67				
12.75	6.00	5.52	0.50				
13.00	6.13	5.66	0.41				
13.25	6.24	5.77	0.36				
13.50	6.34	5.87	0.31				
13.75	6.43	5.96	0.28				
14.00	6.51	6.04	0.25				

Summary for Reach 15R: POI-1

Inflow Area = 2.034 ac, 44.94% Impervious, Inflow Depth > 6.10" for 100-yr event
Inflow = 20.65 cfs @ 11.95 hrs, Volume= 1.034 af
Outflow = 20.65 cfs @ 11.95 hrs, Volume= 1.034 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs



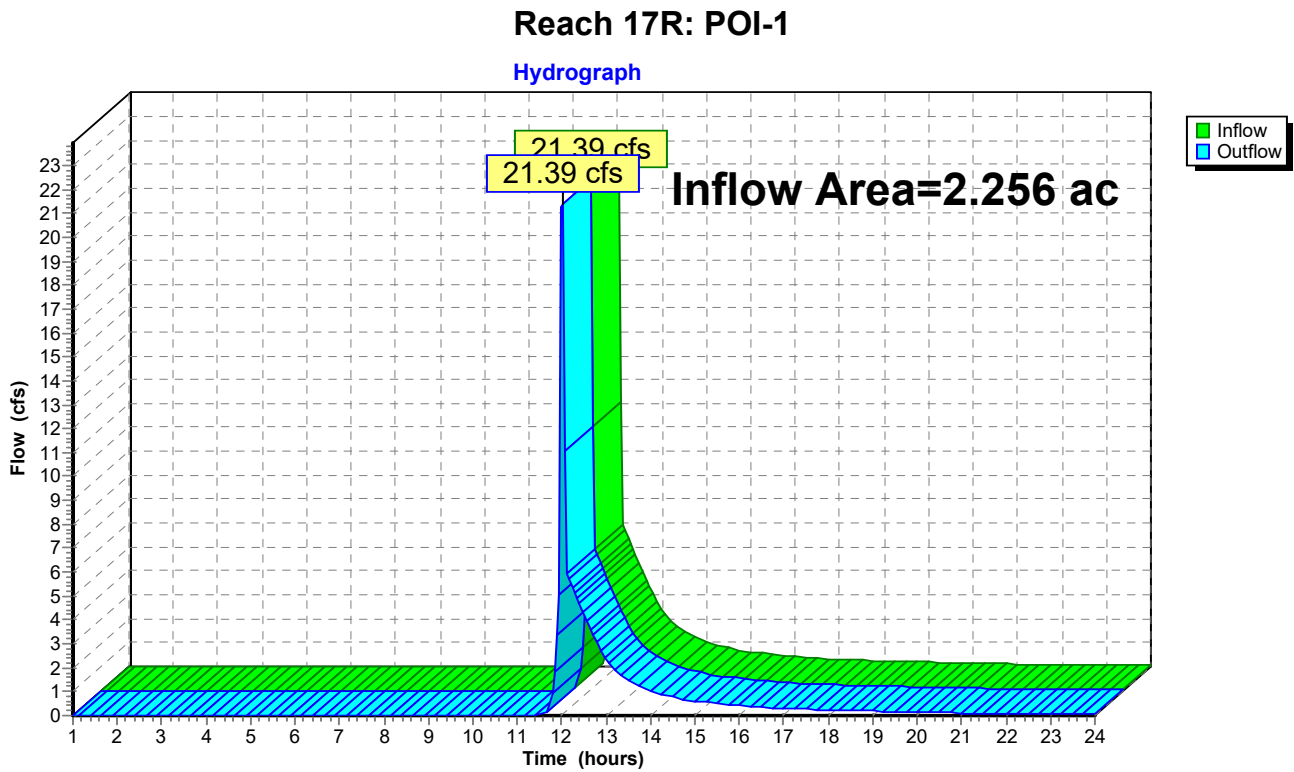
Hydrograph for Reach 15R: POI-1

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
1.00	0.00		0.00	14.25	0.55		0.55
1.25	0.00		0.00	14.50	0.52		0.52
1.50	0.00		0.00	14.75	0.49		0.49
1.75	0.00		0.00	15.00	0.47		0.47
2.00	0.00		0.00	15.25	0.44		0.44
2.25	0.00		0.00	15.50	0.41		0.41
2.50	0.00		0.00	15.75	0.39		0.39
2.75	0.00		0.00	16.00	0.36		0.36
3.00	0.00		0.00	16.25	0.35		0.35
3.25	0.01		0.01	16.50	0.34		0.34
3.50	0.02		0.02	16.75	0.33		0.33
3.75	0.02		0.02	17.00	0.32		0.32
4.00	0.03		0.03	17.25	0.31		0.31
4.25	0.04		0.04	17.50	0.30		0.30
4.50	0.04		0.04	17.75	0.29		0.29
4.75	0.05		0.05	18.00	0.28		0.28
5.00	0.06		0.06	18.25	0.27		0.27
5.25	0.06		0.06	18.50	0.26		0.26
5.50	0.07		0.07	18.75	0.25		0.25
5.75	0.08		0.08	19.00	0.24		0.24
6.00	0.09		0.09	19.25	0.23		0.23
6.25	0.09		0.09	19.50	0.22		0.22
6.50	0.10		0.10	19.75	0.21		0.21
6.75	0.11		0.11	20.00	0.20		0.20
7.00	0.12		0.12	20.25	0.20		0.20
7.25	0.13		0.13	20.50	0.20		0.20
7.50	0.14		0.14	20.75	0.20		0.20
7.75	0.15		0.15	21.00	0.19		0.19
8.00	0.16		0.16	21.25	0.19		0.19
8.25	0.18		0.18	21.50	0.19		0.19
8.50	0.21		0.21	21.75	0.19		0.19
8.75	0.24		0.24	22.00	0.19		0.19
9.00	0.27		0.27	22.25	0.18		0.18
9.25	0.29		0.29	22.50	0.18		0.18
9.50	0.30		0.30	22.75	0.18		0.18
9.75	0.33		0.33	23.00	0.18		0.18
10.00	0.38		0.38	23.25	0.18		0.18
10.25	0.45		0.45	23.50	0.18		0.18
10.50	0.53		0.53	23.75	0.17		0.17
10.75	0.64		0.64	24.00	0.17		0.17
11.00	0.78		0.78				
11.25	1.03		1.03				
11.50	1.37		1.37				
11.75	6.91		6.91				
12.00	17.46		17.46				
12.25	2.43		2.43				
12.50	1.58		1.58				
12.75	1.18		1.18				
13.00	0.99		0.99				
13.25	0.85		0.85				
13.50	0.75		0.75				
13.75	0.66		0.66				
14.00	0.59		0.59				

Summary for Reach 17R: POI-1

Inflow Area = 2.256 ac, 88.35% Impervious, Inflow Depth > 4.48" for 100-yr event
Inflow = 21.39 cfs @ 12.01 hrs, Volume= 0.843 af
Outflow = 21.39 cfs @ 12.01 hrs, Volume= 0.843 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs



Hydrograph for Reach 17R: POI-1

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
1.00	0.00		0.00	14.25	0.88		0.88
1.25	0.00		0.00	14.50	0.77		0.77
1.50	0.00		0.00	14.75	0.68		0.68
1.75	0.00		0.00	15.00	0.61		0.61
2.00	0.00		0.00	15.25	0.55		0.55
2.25	0.00		0.00	15.50	0.50		0.50
2.50	0.00		0.00	15.75	0.46		0.46
2.75	0.00		0.00	16.00	0.42		0.42
3.00	0.00		0.00	16.25	0.39		0.39
3.25	0.00		0.00	16.50	0.36		0.36
3.50	0.00		0.00	16.75	0.33		0.33
3.75	0.00		0.00	17.00	0.30		0.30
4.00	0.00		0.00	17.25	0.28		0.28
4.25	0.00		0.00	17.50	0.27		0.27
4.50	0.00		0.00	17.75	0.25		0.25
4.75	0.00		0.00	18.00	0.23		0.23
5.00	0.00		0.00	18.25	0.22		0.22
5.25	0.00		0.00	18.50	0.21		0.21
5.50	0.00		0.00	18.75	0.20		0.20
5.75	0.00		0.00	19.00	0.19		0.19
6.00	0.00		0.00	19.25	0.17		0.17
6.25	0.00		0.00	19.50	0.16		0.16
6.50	0.00		0.00	19.75	0.15		0.15
6.75	0.00		0.00	20.00	0.14		0.14
7.00	0.00		0.00	20.25	0.13		0.13
7.25	0.00		0.00	20.50	0.12		0.12
7.50	0.00		0.00	20.75	0.12		0.12
7.75	0.00		0.00	21.00	0.11		0.11
8.00	0.00		0.00	21.25	0.10		0.10
8.25	0.00		0.00	21.50	0.10		0.10
8.50	0.00		0.00	21.75	0.09		0.09
8.75	0.00		0.00	22.00	0.09		0.09
9.00	0.00		0.00	22.25	0.08		0.08
9.25	0.00		0.00	22.50	0.08		0.08
9.50	0.00		0.00	22.75	0.07		0.07
9.75	0.00		0.00	23.00	0.07		0.07
10.00	0.00		0.00	23.25	0.07		0.07
10.25	0.00		0.00	23.50	0.06		0.06
10.50	0.00		0.00	23.75	0.06		0.06
10.75	0.00		0.00	24.00	0.06		0.06
11.00	0.00		0.00				
11.25	0.00		0.00				
11.50	0.00		0.00				
11.75	0.42		0.42				
12.00	21.22		21.22				
12.25	5.38		5.38				
12.50	4.24		4.24				
12.75	3.14		3.14				
13.00	2.36		2.36				
13.25	1.84		1.84				
13.50	1.48		1.48				
13.75	1.22		1.22				
14.00	1.03		1.03				

Summary for Pond 12P: CHAMBERS

Inflow Area = 2.256 ac, 88.35% Impervious, Inflow Depth > 7.30" for 100-yr event
 Inflow = 25.52 cfs @ 11.95 hrs, Volume= 1.373 af
 Outflow = 21.56 cfs @ 12.01 hrs, Volume= 1.131 af, Atten= 16%, Lag= 3.3 min
 Discarded = 0.17 cfs @ 5.70 hrs, Volume= 0.288 af
 Primary = 21.39 cfs @ 12.01 hrs, Volume= 0.843 af

Routing by Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 86.13' @ 12.00 hrs Surf.Area= 0.244 ac Storage= 0.563 af

Plug-Flow detention time= 144.0 min calculated for 1.131 af (82% of inflow)
 Center-of-Mass det. time= 69.1 min (822.2 - 753.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	63.45'	0.200 af	59.50'W x 178.50'L x 3.54'H Field A 0.864 af Overall - 0.362 af Embedded = 0.501 af x 40.0% Voids
#2A	63.95'	0.362 af	Cultec R-330XLHD x 300 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 12 rows
		0.563 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	63.45'	0.700 in/hr Exfiltration over Surface area
#2	Primary	64.75'	15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.75' / 64.55' S= 0.0050 ' /' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.17 cfs @ 5.70 hrs HW=63.59' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=20.32 cfs @ 12.01 hrs HW=84.35' (Free Discharge)
 ↑**2=Culvert** (Inlet Controls 20.32 cfs @ 16.56 fps)

Pond 12P: CHAMBERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf

Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

Row Length Adjustment= +1.50' x 7.45 sf x 12 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

25 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 176.50' Row Length +12.0" End Stone x 2 = 178.50' Base Length

12 Rows x 52.0" Wide + 6.0" Spacing x 11 + 12.0" Side Stone x 2 = 59.50' Base Width

6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

300 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 12 Rows = 15,781.2 cf Chamber Storage

37,615.2 cf Field - 15,781.2 cf Chambers = 21,833.9 cf Stone x 40.0% Voids = 8,733.6 cf Stone Storage

Chamber Storage + Stone Storage = 24,514.8 cf = 0.563 af

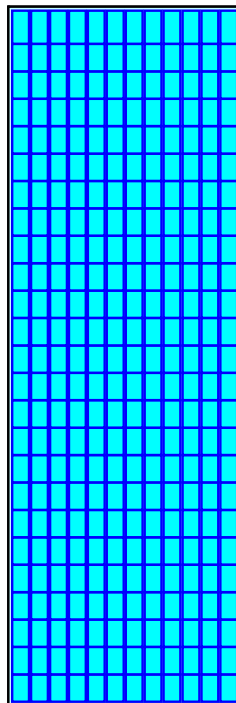
Overall Storage Efficiency = 65.2%

Overall System Size = 178.50' x 59.50' x 3.54'

300 Chambers

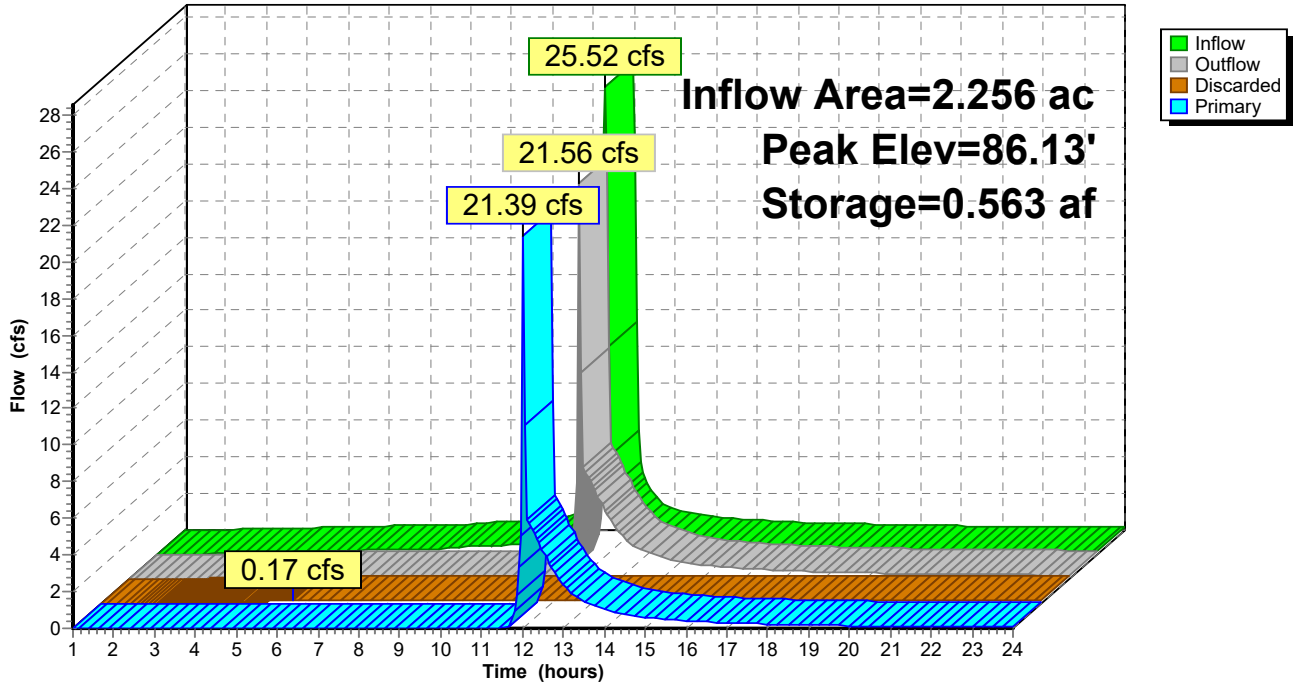
1,393.2 cy Field

808.7 cy Stone



Pond 12P: CHAMBERS

Hydrograph



Hydrograph for Pond 12P: CHAMBERS

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
1.00	0.00	0.000	63.45	0.00	0.00	0.00
1.50	0.01	0.000	63.45	0.00	0.00	0.00
2.00	0.04	0.001	63.46	0.01	0.01	0.00
2.50	0.07	0.002	63.47	0.03	0.03	0.00
3.00	0.09	0.004	63.49	0.05	0.05	0.00
3.50	0.11	0.006	63.51	0.07	0.07	0.00
4.00	0.14	0.008	63.53	0.09	0.09	0.00
4.50	0.16	0.009	63.55	0.12	0.12	0.00
5.00	0.19	0.011	63.56	0.14	0.14	0.00
5.50	0.21	0.013	63.58	0.16	0.16	0.00
6.00	0.23	0.015	63.61	0.17	0.17	0.00
6.50	0.26	0.018	63.64	0.17	0.17	0.00
7.00	0.28	0.022	63.68	0.17	0.17	0.00
7.50	0.31	0.028	63.73	0.17	0.17	0.00
8.00	0.33	0.034	63.79	0.17	0.17	0.00
8.50	0.41	0.042	63.88	0.17	0.17	0.00
9.00	0.49	0.053	63.97	0.17	0.17	0.00
9.50	0.52	0.067	64.04	0.17	0.17	0.00
10.00	0.64	0.083	64.11	0.17	0.17	0.00
10.50	0.84	0.106	64.22	0.17	0.17	0.00
11.00	1.17	0.140	64.38	0.17	0.17	0.00
11.50	1.94	0.196	64.65	0.17	0.17	0.00
12.00	21.29	0.563	86.06	21.39	0.17	21.22
12.50	1.87	0.481	66.20	4.42	0.17	4.24
13.00	1.17	0.401	65.70	2.53	0.17	2.36
13.50	0.88	0.358	65.46	1.65	0.17	1.48
14.00	0.69	0.333	65.33	1.20	0.17	1.03
14.50	0.61	0.316	65.24	0.94	0.17	0.77
15.00	0.55	0.304	65.18	0.78	0.17	0.61
15.50	0.49	0.296	65.14	0.67	0.17	0.50
16.00	0.42	0.288	65.10	0.59	0.17	0.42
16.50	0.39	0.282	65.07	0.53	0.17	0.36
17.00	0.37	0.277	65.05	0.48	0.17	0.30
17.50	0.35	0.273	65.03	0.44	0.17	0.27
18.00	0.33	0.270	65.01	0.41	0.17	0.23
18.50	0.30	0.266	65.00	0.38	0.17	0.21
19.00	0.28	0.263	64.98	0.36	0.17	0.19
19.50	0.26	0.260	64.96	0.33	0.17	0.16
20.00	0.24	0.257	64.95	0.31	0.17	0.14
20.50	0.23	0.254	64.94	0.29	0.17	0.12
21.00	0.23	0.252	64.92	0.28	0.17	0.11
21.50	0.22	0.250	64.91	0.27	0.17	0.10
22.00	0.22	0.248	64.90	0.26	0.17	0.09
22.50	0.21	0.246	64.90	0.25	0.17	0.08
23.00	0.21	0.245	64.89	0.24	0.17	0.07
23.50	0.20	0.243	64.88	0.23	0.17	0.06
24.00	0.20	0.242	64.87	0.23	0.17	0.06



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Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for State of Connecticut



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

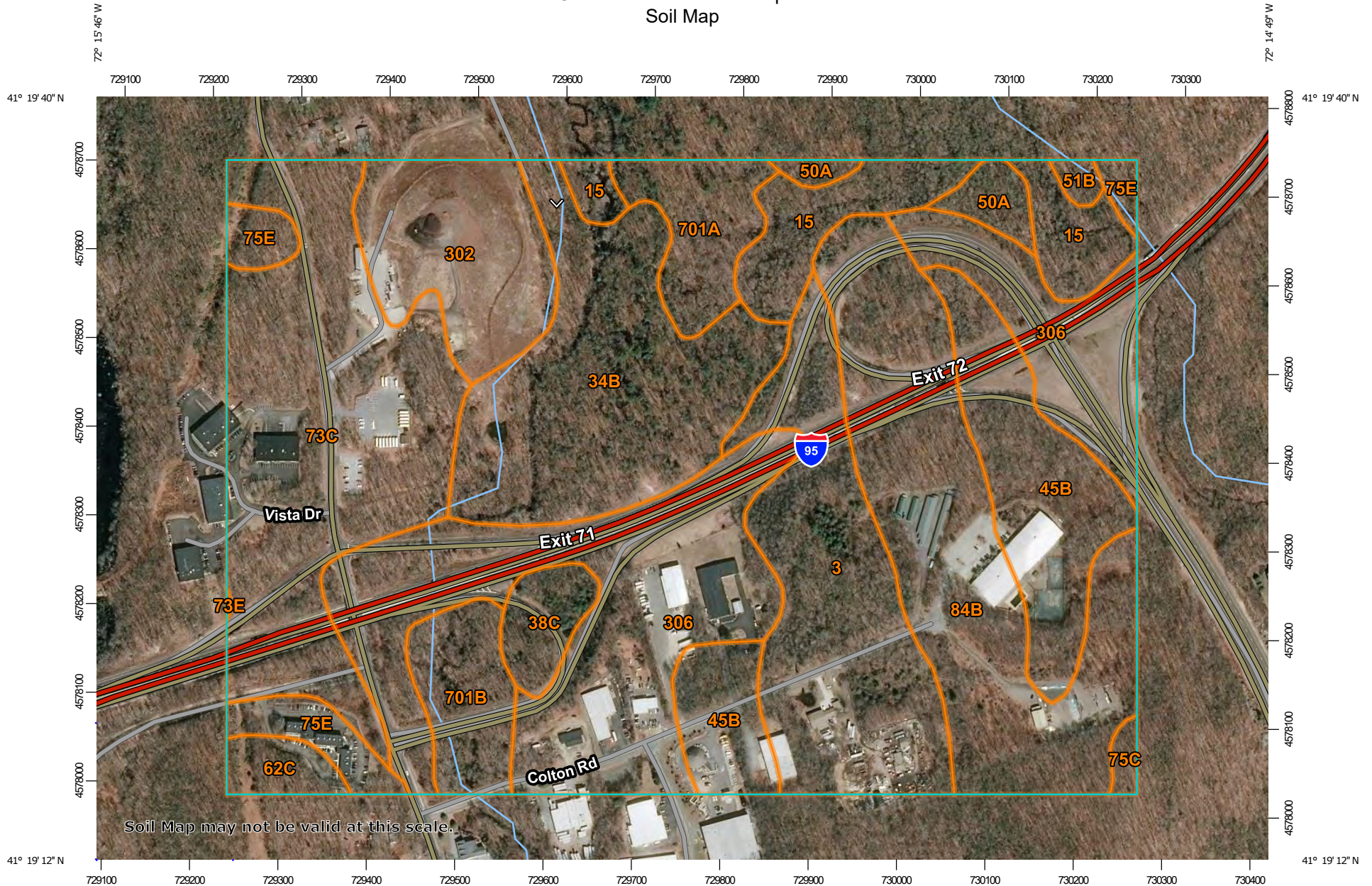
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

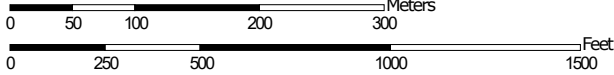
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:6,060 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
 Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2019—Mar 27, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	18.8	10.3%
15	Scarboro muck, 0 to 3 percent slopes	8.9	4.9%
34B	Merrimac fine sandy loam, 3 to 8 percent slopes	20.7	11.3%
38C	Hinckley loamy sand, 3 to 15 percent slopes	2.7	1.5%
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	14.9	8.1%
50A	Sutton fine sandy loam, 0 to 3 percent slopes	2.1	1.2%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	0.5	0.3%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	1.9	1.0%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	27.9	15.3%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	0.0	0.0%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	0.6	0.3%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	4.3	2.4%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	24.9	13.6%
302	Dumps	10.2	5.6%
306	Udorthents-Urban land complex	33.9	18.5%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	5.2	2.8%
701B	Ninigret fine sandy loam, 3 to 8 percent slopes	5.2	2.8%
Totals for Area of Interest		182.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

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shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qt

Elevation: 0 to 1,480 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 40 percent

Leicester, extremely stony, and similar soils: 35 percent

Whitman, extremely stony, and similar soils: 17 percent

Minor components: 8 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drumlins, depressions, drainageways, hills, ground moraines

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope, head slope

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 6 inches: fine sandy loam

Bw - 6 to 10 inches: sandy loam

Bg - 10 to 19 inches: gravelly sandy loam

Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent

Surface area covered with cobbles, stones or boulders: 9.0 percent

Depth to restrictive feature: 15 to 35 inches to densic material

Drainage class: Poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

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Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Leicester, Extremely Stony

Setting

Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 7 inches: fine sandy loam
Bg - 7 to 18 inches: fine sandy loam
BC - 18 to 24 inches: fine sandy loam
C1 - 24 to 39 inches: gravelly fine sandy loam
C2 - 39 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Whitman, Extremely Stony

Setting

Landform: Depressions, drainageways, hills, ground moraines, drumlins
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 1 inches: peat

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A - 1 to 10 inches: fine sandy loam
Bg - 10 to 17 inches: gravelly fine sandy loam
Cdg - 17 to 61 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 7 to 38 inches to densic material
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Swansea

Percent of map unit: 2 percent
Landform: Swamps, bogs
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

15—Scarboro muck, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svkt
Elevation: 0 to 1,350 feet

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Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Outwash deltas, depressions, drainageways, outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave
Across-slope shape: Concave, linear
Parent material: Sandy glaciofluvial deposits derived from schist and/or gneiss and/or granite

Typical profile

Oa - 0 to 8 inches: muck
A - 8 to 14 inches: mucky fine sandy loam
Cg1 - 14 to 22 inches: sand
Cg2 - 22 to 65 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 0 to 2 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F144AY031MA - Very Wet Outwash
Hydric soil rating: Yes

Minor Components

Timakwa

Percent of map unit: 10 percent
Landform: Swamps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Walpole

Percent of map unit: 8 percent
Landform: Deltas, outwash terraces, depressions, outwash plains, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Deerfield

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

34B—Merrimac fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyqs
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Merrimac and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Kames, eskers, moraines, outwash terraces, outwash plains
Landform position (two-dimensional): Backslope, footslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

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Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Outwash plains, terraces, deltas
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Deltas, outwash plains, eskers, kames
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Windsor

Percent of map unit: 3 percent
Landform: Outwash plains, deltas, dunes, outwash terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Agawam

Percent of map unit: 2 percent
Landform: Outwash terraces, outwash plains, kames, eskers, stream terraces, moraines

Custom Soil Resource Report

Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

38C—Hinckley loamy sand, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svmb
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Moraines, outwash terraces, outwash deltas, kame terraces, outwash plains, kames, eskers
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Linear, convex, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches

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Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Outwash plains, kames, eskers, moraines, outwash terraces
Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope, summit
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Eskers, moraines, kame terraces, outwash plains, outwash terraces, outwash deltas, kames
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit
Landform position (three-dimensional): Crest, head slope, nose slope, side slope, riser, tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Outwash deltas, kame terraces, outwash plains, kames, eskers, moraines, outwash terraces
Landform position (two-dimensional): Footslope, backslope, shoulder, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Outwash plains, moraines, outwash deltas, outwash terraces, kame terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave

Hydric soil rating: No

45B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2ql

Elevation: 0 to 1,470 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, fine sandy loam, and similar soils: 82 percent

Minor components: 18 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw1 - 7 to 18 inches: fine sandy loam

Bw2 - 18 to 30 inches: fine sandy loam

Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

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Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 8 percent
Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

50A—Sutton fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2xffg
Elevation: 0 to 1,240 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sutton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton

Setting

Landform: Hills, ridges, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 5 inches: fine sandy loam

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Bw1 - 5 to 17 inches: fine sandy loam

Bw2 - 17 to 25 inches: sandy loam

C1 - 25 to 39 inches: gravelly sandy loam

C2 - 39 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 14.17 in/hr)*

Depth to water table: About 12 to 27 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F144AY008CT - Moist Till Uplands

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 5 percent

Landform: Hills, ridges, ground moraines

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Crest

Down-slope shape: Linear, convex

Across-slope shape: Convex

Hydric soil rating: No

Leicester

Percent of map unit: 5 percent

Landform: Depressions, drainageways, hills, ground moraines

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear, concave

Across-slope shape: Concave

Hydric soil rating: Yes

Canton

Percent of map unit: 4 percent

Landform: Ridges, moraines, hills

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Crest

Down-slope shape: Convex, linear

Across-slope shape: Convex

Hydric soil rating: No

Whitman

Percent of map unit: 1 percent

Landform: Drumlins, ground moraines, depressions, drainageways, hills

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Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

51B—Sutton fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2xfff
Elevation: 0 to 1,410 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Sutton, very stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton, Very Stony

Setting

Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

O_i - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: fine sandy loam
Bw₁ - 7 to 19 inches: fine sandy loam
Bw₂ - 19 to 27 inches: sandy loam
C₁ - 27 to 41 inches: gravelly sandy loam
C₂ - 41 to 62 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 12 to 27 inches
Frequency of flooding: None

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Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water capacity: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B/D

Ecological site: F144AY008CT - Moist Till Uplands

Hydric soil rating: No

Minor Components

Charlton, very stony

Percent of map unit: 7 percent

Landform: Hills, ground moraines, ridges

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Hydric soil rating: No

Canton, very stony

Percent of map unit: 4 percent

Landform: Ridges, hills, moraines

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex, linear

Across-slope shape: Convex

Hydric soil rating: No

Leicester, very stony

Percent of map unit: 3 percent

Landform: Hills, drainageways, ground moraines, depressions

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes

Whitman, very stony

Percent of map unit: 1 percent

Landform: Drainageways, hills, ground moraines, drumlins, depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

62C—Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2wks7

Elevation: 0 to 1,310 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 50 percent

Charlton, extremely stony, and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

Landform: Ridges, hills, moraines

Landform position (two-dimensional): Shoulder, backslope, summit

Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

A - 2 to 5 inches: fine sandy loam

Bw1 - 5 to 16 inches: fine sandy loam

Bw2 - 16 to 22 inches: gravelly fine sandy loam

2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 9.0 percent

Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Charlton, Extremely Stony

Setting

Landform: Hills, ground moraines, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Leicester, extremely stony

Percent of map unit: 5 percent
Landform: Depressions, drainageways, hills, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Chatfield, extremely stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2w698
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent
Chatfield, very stony, and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam

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C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material

A - 1 to 2 inches: fine sandy loam

B_w - 2 to 30 inches: gravelly fine sandy loam

2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 41 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Custom Soil Resource Report

Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis, very stony

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Leicester, very stony

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

73E—Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 9lql
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 45 percent
Chatfield and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam

Bw1 - 4 to 7 inches: fine sandy loam

Bw2 - 7 to 19 inches: fine sandy loam

Bw3 - 19 to 27 inches: gravelly fine sandy loam

C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 45 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Chatfield

Setting

Landform: Hills, ridges

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 6 inches: gravelly fine sandy loam

Bw1 - 6 to 15 inches: gravelly fine sandy loam

Bw2 - 15 to 29 inches: gravelly fine sandy loam

2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Custom Soil Resource Report

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 10 percent

Hydric soil rating: No

Sutton

Percent of map unit: 5 percent

Landform: Depressions, drainageways

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Leicester

Percent of map unit: 5 percent

Landform: Depressions, drainageways

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

Hollis

Percent of map unit: 3 percent

Landform: Hills, ridges

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Unnamed, sandy subsoil

Percent of map unit: 1 percent

Hydric soil rating: No

Unnamed, red parent material

Percent of map unit: 1 percent

Hydric soil rating: No

75C—Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9lqn
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 9 inches: channery fine sandy loam
Bw2 - 9 to 15 inches: gravelly fine sandy loam
2R - 15 to 80 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

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Hydrologic Soil Group: D

Ecological site: F144AY033MA - Shallow Dry Till Uplands

Hydric soil rating: No

Description of Chatfield

Setting

Landform: Hills, ridges

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 6 inches: gravelly fine sandy loam

Bw1 - 6 to 15 inches: gravelly fine sandy loam

Bw2 - 15 to 29 inches: gravelly fine sandy loam

2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 15 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities

Slope: 3 to 15 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: Unranked

Minor Components

Charlton

Percent of map unit: 7 percent

Landform: Hills

Custom Soil Resource Report

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, sandy subsoil

Percent of map unit: 1 percent
Hydric soil rating: No

Brimfield

Percent of map unit: 1 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, red parent material

Percent of map unit: 1 percent
Hydric soil rating: No

75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 9lqp
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills, ridges

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 6 inches: gravelly fine sandy loam

Bw1 - 6 to 9 inches: channery fine sandy loam

Bw2 - 9 to 15 inches: gravelly fine sandy loam

2R - 15 to 80 inches: bedrock

Properties and qualities

Slope: 15 to 45 percent

Surface area covered with cobbles, stones or boulders: 9.0 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: F144AY033MA - Shallow Dry Till Uplands

Hydric soil rating: No

Description of Chatfield

Setting

Landform: Hills, ridges

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 6 inches: gravelly fine sandy loam

Bw1 - 6 to 15 inches: gravelly fine sandy loam

Bw2 - 15 to 29 inches: gravelly fine sandy loam

2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Custom Soil Resource Report

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities

Slope: 15 to 45 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: Unranked

Minor Components

Charlton

Percent of map unit: 7 percent

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Leicester

Percent of map unit: 5 percent

Landform: Depressions, drainageways

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

Sutton

Percent of map unit: 5 percent

Landform: Drainageways, depressions

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Unnamed, red parent material

Percent of map unit: 1 percent

Hydric soil rating: No

Brimfield

Percent of map unit: 1 percent

Landform: Hills, ridges

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, sandy subsoil

Percent of map unit: 1 percent
Hydric soil rating: No

84B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qn
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 55 percent
Montauk and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

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Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Description of Montauk

Setting

Landform: Drumlins, hills
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

A - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 14 inches: fine sandy loam
Bw2 - 14 to 25 inches: sandy loam
2Cd1 - 25 to 39 inches: gravelly loamy coarse sand
2Cd2 - 39 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 38 inches to densic material
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 24 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 5 percent
Landform: Hills, ground moraines, depressions, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave

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Hydric soil rating: Yes

Woodbridge

Percent of map unit: 5 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Charlton

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

302—Dumps

Map Unit Setting

National map unit symbol: 9lmb

Elevation: 0 to 1,200 feet

Mean annual precipitation: 37 to 56 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: Not prime farmland

Map Unit Composition

Dumps: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dumps

Typical profile

C - 0 to 65 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 2 percent

Hydric soil rating: No

Unnamed, frequently flooded

Percent of map unit: 1 percent

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Landform: Drainageways
Hydric soil rating: Yes

Westbrook

Percent of map unit: 1 percent
Landform: Tidal marshes, salt marshes
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 1 percent
Hydric soil rating: No

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None

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Frequency of ponding: None
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 8 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

701A—Ninigret fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2y07d
Elevation: 0 to 1,260 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ninigret and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ninigret

Setting

Landform: Outwash terraces, kames, moraines, outwash plains, kame terraces

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear, convex

Across-slope shape: Concave, convex

Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bw1 - 8 to 16 inches: fine sandy loam

Bw2 - 16 to 26 inches: fine sandy loam

2C - 26 to 65 inches: stratified loamy sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 18 to 38 inches to strongly contrasting textural stratification

Drainage class: Moderately well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: About 17 to 39 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C

Ecological site: F144AY026CT - Moist Silty Outwash

Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent

Landform: Moraines, kames, eskers, outwash terraces, outwash plains

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Side slope, crest, tread

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Agawam

Percent of map unit: 5 percent

Landform: Moraines, outwash terraces, outwash plains, kame terraces, kames

Landform position (two-dimensional): Shoulder, summit

Landform position (three-dimensional): Side slope, crest, tread

Down-slope shape: Convex

Across-slope shape: Convex

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Hydric soil rating: No

Tisbury

Percent of map unit: 3 percent

Landform: Outwash terraces, outwash plains, deltas, valley trains

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Raypol

Percent of map unit: 2 percent

Landform: Depressions, drainageways

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

701B—Ninigret fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2y07f

Elevation: 0 to 1,260 feet

Mean annual precipitation: 43 to 54 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Ninigret and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ninigret

Setting

Landform: Moraines, outwash plains, kame terraces, outwash terraces, kames

Landform position (two-dimensional): Backslope, footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Convex, linear

Across-slope shape: Convex, concave

Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bw1 - 8 to 16 inches: fine sandy loam

Bw2 - 16 to 26 inches: fine sandy loam

2C - 26 to 65 inches: stratified loamy sand to loamy fine sand

Properties and qualities

Slope: 3 to 8 percent

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Depth to restrictive feature: 18 to 38 inches to strongly contrasting textural stratification

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: About 17 to 39 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C

Ecological site: F144AY026CT - Moist Silty Outwash

Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent

Landform: Moraines, outwash terraces, outwash plains, kames, eskers

Landform position (two-dimensional): Backslope, footslope, shoulder, summit, toeslope

Landform position (three-dimensional): Side slope, crest, head slope, nose slope, tread

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Agawam

Percent of map unit: 5 percent

Landform: Outwash terraces, outwash plains, kame terraces, kames, moraines

Landform position (two-dimensional): Backslope, shoulder, footslope, summit, toeslope

Landform position (three-dimensional): Side slope, crest, nose slope, head slope, tread

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Tisbury

Percent of map unit: 3 percent

Landform: Valley trains, outwash plains, deltas, outwash terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Raypol

Percent of map unit: 2 percent

Landform: Depressions, drainageways

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

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