

# **Soil Information for All Uses**

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## **Suitabilities and Limitations for Use**

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

## **Water Management**

Water Management interpretations are tools for evaluating the potential of the soil in the application of various water management practices. Example interpretations include pond reservoir area, embankments, dikes, levees, and excavated ponds.

## **Stormwater Management - Infiltration (NY)**

Proper management of stormwater runoff from construction sites and developed areas is an issue of growing importance in New York State. During construction, exposed soil is subject to a greater risk of erosion, resulting in a greater potential for sedimentation in waterways. Stormwater runoff increases on the rooftops of buildings, paved parking lots, and other impervious surfaces, and thus increases the potential for flooding and discharge of polluted runoff into open water. Management of stormwater runoff can prevent or reduce the availability, release, or transport of substances that can degrade surface and ground waters. Guidelines and design criteria for stormwater management practices have been established by the New York State Department of Environmental Conservation (2008).

This interpretation is designed to evaluate the limitations of soils for stormwater management practices. The purpose of the interpretation is to help decision makers use soil survey information in the selection and implementation of the stormwater management practices best suited to a particular location. The information in the interpretations is intended for planning purposes and does not eliminate the need for on-site investigation of the soil.

Rating class terms indicate the extent to which the soils are limited by the soil features that influence the design, construction, and performance of stormwater management practices. "Least limited" indicates that the soil has features that are

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very favorable for this practice. Good performance and low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the practice. The limitations can be overcome or minimized by special planning, design, or construction. Fair performance and moderate maintenance can be expected. "Most limited" indicates that the soil has one or more features that are unfavorable for the practice. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive construction procedures. Poor performance and high maintenance can be expected.

The rating class is based on the maximum value of the rating indices generated for each soil feature considered. Where the rating value is:

equal to 0.0, the rating class is "least limited."

greater than 0 and less than 1.0, the rating class is "somewhat limited."

equal to 1.0, the rating class is "most limited."

Design criteria in the "New York State Stormwater Management Design Manual" (New York State Department of Environmental Conservation, 2008) were used to guide the selection of potentially limiting soil properties. Additional limiting features incorporated into the interpretations are based on soil function for the specific practice.

### Infiltration Practices

This interpretation evaluates the limitations of soils for stormwater management infiltration practices. Infiltration practices collect stormwater runoff in basins (or trenches) for storage prior to filtration through undisturbed soil in the basin (or trench) floor and sides. Deep, well drained, and permeable soils are required for implementing infiltration practices. Following is a synopsis of the soil features considered in this interpretation.

**Excessive permeability:** Excessive permeability in one or more layers may allow stormwater to move rapidly through the soil without sufficient filtering, resulting in a potential for groundwater contamination. Additional pretreatment or soil amendments may be required as part of an infiltration practice. The interpretation evaluates the range (low to high) of permeability values for the most transmissive layer in the soil.

**Low permeability:** Low permeability restricts movement of water through the soil, impeding the infiltration function. The interpretation evaluates the range (low to high) of permeability values for the least transmissive layer in the soil.

**Slope gradient:** Excessive slope limits the functionality of an infiltration practice. The representative slope gradient percent for the soil component is the property evaluated.

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Depth to bedrock: Limited depth to bedrock impedes excavation and restricts infiltration. The minimum depth to bedrock is the property evaluated.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this feature impedes excavation and restricts infiltration. The minimum depth to a manufactured layer is the property evaluated.

Depth to saturation: A seasonal high water table in the upper part of the soil limits the storage capacity of an infiltration practice. The interpretation evaluates the minimum depth to a zone of saturation.

Excessive fines: Soils with a high content of silt and clay may become plugged with sediment from stormwater, resulting in restricted infiltration. The interpretation evaluates the weighted average of the percent clay and percent silt, for depths greater than 36 inches.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater management practices. For example, proximity and slope direction from the installation practice to a drinking water well are important considerations when sites for infiltration practices are selected.

The components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed in the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as the one listed for the map unit. The percent composition of these components is described. As a result, the percentage of the rating class in the map unit is indicated.

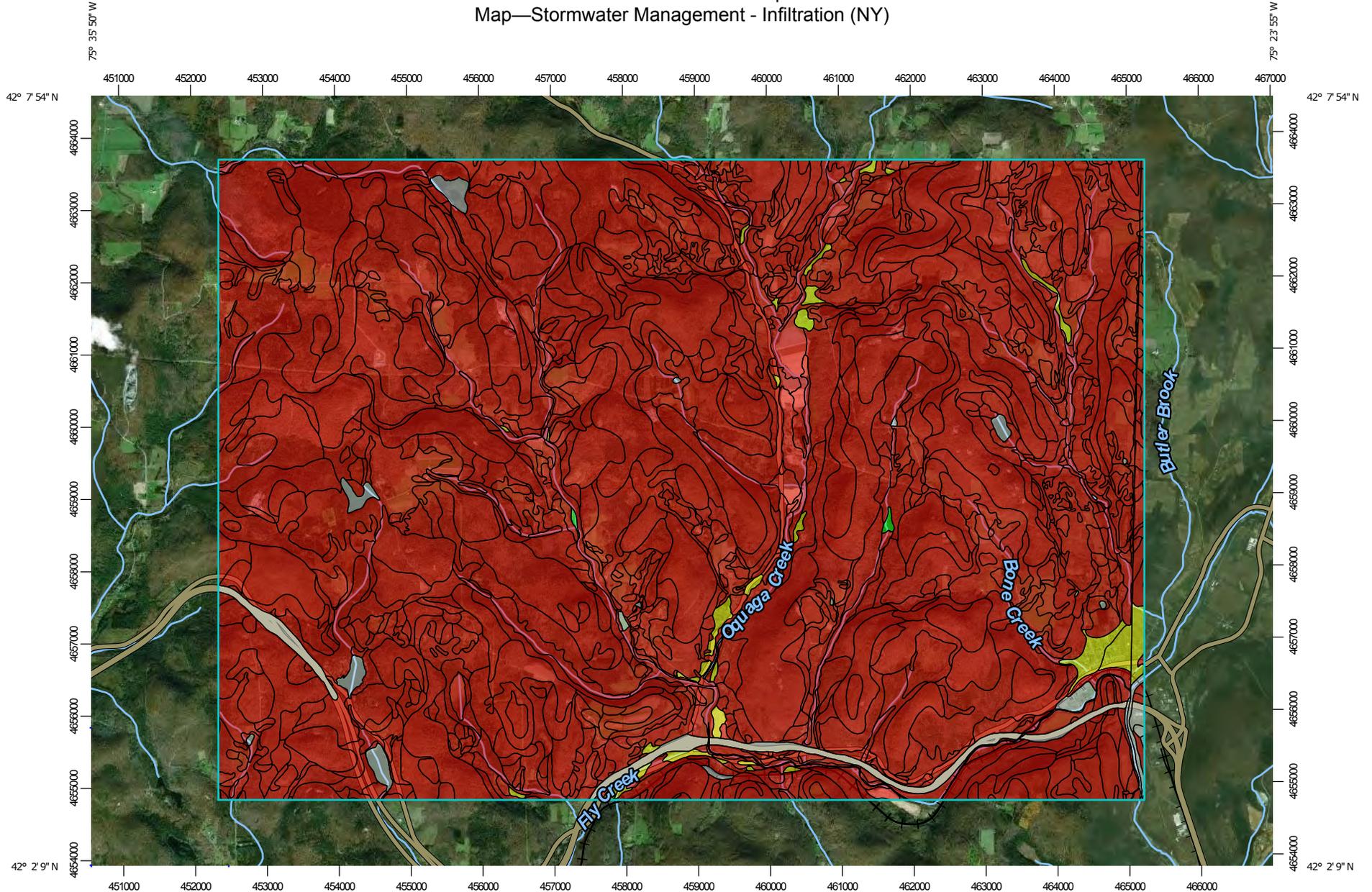
Other components with different ratings may occur in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the "Stormwater Management (NY)" report from the Soil Reports tab in Web Soil Survey.

### References:

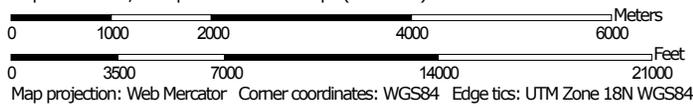
New York State Department of Environmental Conservation. April 2008. New York State Stormwater Management Design Manual.

New York State Department of Environmental Conservation. June 2000. Urban/Stormwater Runoff Management Practices Catalogue for Nonpoint Source Pollution Prevention in New York State.

# Custom Soil Resource Report Map—Stormwater Management - Infiltration (NY)



Map Scale: 1:75,100 if printed on A landscape (11" x 8.5") sheet.



### MAP LEGEND

- Area of Interest (AOI)**
  -  Area of Interest (AOI)
- Background**
  -  Aerial Photography
- Soils**
  - Soil Rating Polygons**
    -  Most limited
    -  Somewhat limited
    -  Least limited
    -  Not rated or not available
  - Soil Rating Lines**
    -  Most limited
    -  Somewhat limited
    -  Least limited
    -  Not rated or not available
  - Soil Rating Points**
    -  Most limited
    -  Somewhat limited
    -  Least limited
    -  Not rated or not available
- Water Features**
  -  Streams and Canals
- Transportation**
  -  Rails
  -  Interstate Highways
  -  US Routes
  -  Major Roads
  -  Local Roads

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:15,800 to 1:24,000.

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: Broome County, New York  
 Survey Area Data: Version 15, Oct 8, 2017

Soil Survey Area: Delaware County, New York  
 Survey Area Data: Version 19, Oct 8, 2017

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Mar 14, 2012—May 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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**Tables—Stormwater Management - Infiltration (NY)**

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI					
AcA	Alden and Chippewa soils, 0 to 3 percent slopes	Most limited	Alden (45%)	Depth to saturation (1.00)	49.6	0.2%					
				Excessive fines (1.00)							
				Low permeability (0.50)							
			Chippewa (40%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
			Chippewa, very poorly drained (10%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
			Volusia (5%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
Ad	Alluvial land	Most limited	Fluvaquents (50%)	Depth to saturation (1.00)	350.6	1.2%					
				Excessive fines (0.50)							
			Udifluvents (30%)	Depth to saturation (1.00)							
			ArD	Arnot channery silt loam, 0 to 25 percent slopes			Most limited	Arnot (75%)	Depth to bedrock (1.00)	57.6	0.2%
									Slope (0.50)		
Mardin (10%)	Low permeability (1.00)	Depth to saturation (1.00)									
		Slope (0.50)									

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Lordstown (10%)	Depth to bedrock (1.00)		
				Slope (0.50)		
			Tuller, somewhat poorly drained (5%)	Depth to bedrock (1.00)		
				Depth to saturation (1.00)		
				Low permeability (0.50)		
Br	Braceville gravelly silt loam	Most limited	Braceville (75%)	Depth to saturation (1.00)	2.3	0.0%
				Low permeability (0.50)		
				Excessive fines (0.50)		
CcC	Lackawanna channery silt loam, 5 to 15 percent slopes	Most limited	Lackawanna (85%)	Low permeability (1.00)	2,101.5	7.4%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Morris (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Oquaga (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
CcD	Lackawanna channery silt loam, 15 to 25 percent slopes	Most limited	Lackawanna (90%)	Low permeability (1.00)	2,760.6	9.7%

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Oquaga (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
CcE	Lackawanna channery silt loam, 25 to 35 percent slopes	Most limited	Lackawanna (80%)	Low permeability (1.00)	1,044.3	3.7%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Cadosia, very stony (10%)	Slope (1.00)		
				Excessive fines (0.50)		
			Oquaga, very stony (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
ChA	Chenango and Howard gravelly loams, 0 to 5 percent slopes	Somewhat limited	Chenango (50%)	Excessive permeability (0.50)	94.9	0.3%
ChC	Chenango and Howard gravelly loams, 5 to 15 percent slopes	Somewhat limited	Chenango (50%)	Excessive permeability (0.50)	177.1	0.6%

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI					
				Slope (0.50)							
ChD	Chenango and Howard gravelly loams, 15 to 25 percent slopes	Most limited	Chenango (45%)	Slope (1.00)	86.7	0.3%					
				Excessive permeability (0.50)							
			Howard (35%)	Excessive permeability (1.00)							
				Slope (1.00)							
ChE	Chenango and Howard gravelly loams, 25 to 40 percent slopes	Most limited	Chenango (40%)	Slope (1.00)	29.0	0.1%					
				Excessive permeability (0.50)							
			Howard (35%)	Excessive permeability (1.00)							
				Slope (1.00)							
CpB	Chippewa channery silt loam, 3 to 8 percent slopes	Most limited	Chippewa (85%)	Low permeability (1.00)	3.6	0.0%					
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
			Volusia (10%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
				Slope (0.50)							
			Chippewa, very poorly drained (5%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
			CuB	Wellsboro channery silt loam, 2 to 8 percent slopes			Most limited	Wellsboro (85%)	Low permeability (1.00)	628.9	2.2%
									Depth to saturation (1.00)		
Excessive fines (0.50)											
Morris (5%)	Low permeability (1.00)										

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Lackawanna (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Oquaga (5%)	Depth to bedrock (1.00)		
				Slope (0.50)		
CuC	Wellsboro channery silt loam, 8 to 15 percent slopes	Most limited	Wellsboro (90%)	Low permeability (1.00)	1,202.6	4.2%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Lackawanna (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Morris (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
CuD	Wellsboro channery silt loam, 15 to 25 percent slopes	Most limited	Wellsboro (85%)	Low permeability (1.00)	893.7	3.2%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Lackawanna (5%)	Low permeability (1.00) Depth to saturation (1.00) Slope (1.00) Excessive fines (0.50)		
			Oquaga (5%)	Depth to bedrock (1.00) Slope (1.00)		
			Morris (5%)	Low permeability (1.00) Depth to saturation (1.00) Slope (0.50) Excessive fines (0.50)		
Cw	Cut and fill lands, loamy materials	Not rated	Udorthents, loamy (80%) Mardin (5%) Volusia (5%) Canaseraga (5%) Dalton (5%)		273.6	1.0%
Cy	Cut and fill lands, silty materials	Not rated	Udorthents, silty (75%) Udifluvents (5%) Unadilla (5%) Fluvaquents (5%) Wayland (5%) Scio (5%)		30.4	0.1%
LdB	Lordstown channery silt loam, 0 to 5 percent slopes	Most limited	Lordstown (80%) Arnot (10%) Mardin (10%)	Depth to bedrock (1.00) Depth to bedrock (1.00) Low permeability (1.00) Depth to saturation (1.00) Excessive fines (0.50)	8.3	0.0%
LdC	Lordstown channery silt	Most limited	Lordstown (90%)	Depth to bedrock (1.00)	224.0	0.8%

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI					
	loam, 5 to 15 percent slopes			Slope (0.50)							
			Arnot (5%)	Depth to bedrock (1.00)							
			Mardin (5%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (0.50)							
LdD	Lordstown channery silt loam, 15 to 25 percent slopes	Most limited	Lordstown (85%)	Depth to bedrock (1.00)	273.8	1.0%					
				Slope (1.00)							
			Mardin (5%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Slope (0.50)							
				Excessive fines (0.50)							
			Cadosia, very stony (5%)	Slope (1.00)							
				Excessive fines (0.50)							
			Arnot (5%)	Depth to bedrock (1.00)							
				Slope (0.50)							
LoE	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	Most limited	Oquaga (40%)	Depth to bedrock (1.00)	1,024.2	3.6%					
				Slope (1.00)							
			Lordstown (40%)	Depth to bedrock (1.00)							
				Slope (1.00)							
			LrF	Lordstown and Oquaga soils, 35 to 60 percent slopes			Most limited	Lordstown (45%)	Depth to bedrock (1.00)	765.7	2.7%
									Slope (1.00)		
Oquaga (35%)	Depth to bedrock (1.00)										
	Slope (1.00)										
LsE	Lordstown and Oquaga extremely stony and rocky soils, 0 to 35 percent slopes	Most limited	Lordstown (40%)	Depth to bedrock (1.00)	3,848.8	13.6%					
				Slope (1.00)							
			Oquaga (30%)	Depth to bedrock (1.00)							
				Slope (1.00)							

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI					
Mf	Made land, sanitary land fill	Not rated	Udorthents, refuse substratum (80%)		7.6	0.0%					
			Scio (5%)								
			Chippewa (5%)								
			Tioga (5%)								
			Udorthents, loamy (5%)								
MhB	Mardin channery silt loam, 2 to 8 percent slopes	Most limited	Mardin (85%)	Low permeability (1.00)	70.0	0.2%					
				Depth to saturation (1.00)							
				Excessive fines (0.50)							
			Lordstown (5%)	Depth to bedrock (1.00)							
			Volusia (5%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Excessive fines (1.00)							
			Bath (5%)	Low permeability (1.00)							
				Depth to saturation (1.00)							
				Slope (0.50)							
				Excessive fines (0.50)							
			MhC	Mardin channery silt loam, 8 to 15 percent slopes			Most limited	Mardin (88%)	Low permeability (1.00)	683.0	2.4%
									Depth to saturation (1.00)		
Slope (0.50)											
Excessive fines (0.50)											
Bath (5%)	Low permeability (1.00)										
	Depth to saturation (1.00)										
	Slope (1.00)										

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Volusia (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Lordstown (2%)	Depth to bedrock (1.00)		
				Slope (1.00)		
MhD	Bath channery silt loam, 15 to 25 percent slopes	Most limited	Bath (85%)	Low permeability (1.00)	416.4	1.5%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Lordstown (10%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Mardin (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
MhE	Bath channery silt loam, 25 to 35 percent slopes	Most limited	Bath (75%)	Low permeability (1.00)	309.5	1.1%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Cadosia, very stony (10%)	Slope (1.00)		
				Excessive fines (0.50)		
			Lordstown (10%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Mardin (5%)	Low permeability (1.00)		

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
MnC	Mardin-Chenango channery silt loams, 5 to 15 percent slopes	Most limited	Mardin (50%)	Low permeability (1.00)	2.4	0.0%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Howard (5%)	Excessive permeability (1.00)		
				Slope (0.50)		
			Volusia (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Canaseraga (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
MrF	Bath and Lackawanna soils, 35 to 65 percent slopes	Most limited	Bath (40%)	Low permeability (1.00)	353.6	1.2%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Lackawanna (35%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Lordstown, very stony (10%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Cadosia, very stony (10%)	Slope (1.00)		
				Excessive fines (0.50)		
			Mardin (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
Ms	Middlebury silt loam	Most limited	Middlebury (90%)	Depth to saturation (1.00)	376.1	1.3%
MtB	Morris channery silt loam, 2 to 8 percent slopes	Most limited	Morris (90%)	Low permeability (1.00)	1,418.5	5.0%
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
			Norwich (5%)	Excessive fines (0.50)		
				Low permeability (1.00)		
				Depth to saturation (1.00)		
			Norwich (5%)	Excessive fines (1.00)		
Low permeability (1.00)						
Depth to saturation (1.00)						
MtC	Morris channery silt loam, 8 to 15 percent slopes	Most limited	Morris (85%)	Low permeability (1.00)	2,788.2	9.8%
				Depth to saturation (1.00)		
				Slope (0.50)		

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Norwich (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Oquaga (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
MuD	Morris and Tuller soils, 3 to 25 percent slopes, very stony	Most limited	Morris, very stony (40%)	Low permeability (1.00)	403.0	1.4%
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Tuller, poorly drained (20%)	Depth to bedrock (1.00)		
				Depth to saturation (1.00)		
				Low permeability (0.50)		
			Tuller, somewhat poorly drained (15%)	Depth to bedrock (1.00)		
				Depth to saturation (1.00)		
				Low permeability (0.50)		
			Oquaga, very stony (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Wellsboro, very stony (5%)	Low permeability (1.00)		

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Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Arnot (5%)	Depth to bedrock (1.00)		
				Slope (0.50)		
			Lackawanna, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Chippewa, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
OuC	Oquaga channery silt loam, 5 to 15 percent slopes	Most limited	Oquaga (90%)	Depth to bedrock (1.00)	711.6	2.5%
			Arnot, very stony (5%)	Depth to bedrock (1.00)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
OuD	Oquaga channery silt loam, 15 to 25 percent slopes	Most limited	Oquaga (85%)	Depth to bedrock (1.00)	1,898.7	6.7%
				Slope (1.00)		
			Cadosia, very stony (5%)	Slope (1.00)		
				Excessive fines (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Amot (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
Ta	Tioga silt loam	Most limited	Tioga (90%)	Depth to saturation (1.00)	204.9	0.7%
Tg	Tioga gravelly silt loam, fan	Most limited	Tioga (85%)	Depth to saturation (1.00)	146.7	0.5%
TuD	Tuller channery silt loam, 0 to 25 percent slopes	Most limited	Tuller, poorly drained (50%)	Depth to bedrock (1.00)	0.8	0.0%
				Depth to saturation (1.00)		
				Low permeability (0.50)		
			Tuller, somewhat poorly drained (25%)	Depth to bedrock (1.00)		
				Depth to saturation (1.00)		
				Low permeability (0.50)		
UnB	Unadilla silt loam, 0 to 5 percent slopes	Least limited	Unadilla (80%)		12.3	0.0%
UnC	Unadilla silt loam, 5 to 15 percent slopes	Somewhat limited	Unadilla (75%)	Slope (0.50)	35.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	Most limited	Volusia (90%)	Low permeability (1.00)	250.9	0.9%
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Chippewa (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Mardin (5%)	Low permeability (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
VoC	Volusia channery silt loam, 8 to 15 percent slopes	Most limited	Volusia (90%)	Low permeability (1.00)	1,396.8	4.9%
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
				Slope (0.50)		
			Mardin (6%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Chippewa (4%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
VoD	Volusia channery silt loam, 15 to 25 percent slopes	Most limited	Volusia (90%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (1.00)		
			Mardin (7%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Chippewa (3%)	Low permeability (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI				
				Depth to saturation (1.00)						
				Excessive fines (1.00)						
W	Water	Not rated	Water (100%)		198.6	0.7%				
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	Most limited	Wayland (60%)	Depth to saturation (1.00)	348.8	1.2%				
Excessive fines (1.00)										
Wayland, very poorly drained (30%)			Depth to saturation (1.00)							
			Excessive fines (1.00)							
Wakeville (10%)			Depth to saturation (1.00)							
			Excessive fines (0.50)							
<b>Subtotals for Soil Survey Area</b>							<b>28,048.9</b>	<b>99.0%</b>		
<b>Totals for Area of Interest</b>							<b>28,323.3</b>	<b>100.0%</b>		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
BtC	Bath channery silt loam, 8 to 15 percent slopes	Most limited	Bath (90%)	Low permeability (1.00)	0.5	0.0%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Mardin (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Lordstown (5%)	Depth to bedrock (1.00)		
Slope (1.00)						
BtE	Bath channery silt loam, 25 to	Most limited	Bath (75%)	Low permeability (1.00)	2.6	0.0%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
	35 percent slopes			Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Cadosia, very stony (10%)	Slope (1.00)		
				Excessive fines (0.50)		
			Lordstown (10%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Mardin (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			ChA	Chenango gravelly silt loam, 0 to 3 percent slopes		
LaC	Lackawanna flaggy silt loam, 8 to 15 percent slopes	Most limited	Lackawanna (85%)	Low permeability (1.00)	2.4	0.0%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Wellsboro (10%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Oquaga (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			LaD	Lackawanna flaggy silt loam, 15 to 25 percent slopes		
Depth to saturation (1.00)						
Slope (1.00)						

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Oquaga (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
LdE	Lackawanna and Bath soils, 15 to 35 percent slopes, very stony	Most limited	Lackawanna, very stony (50%)	Low permeability (1.00)	37.4	0.1%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Bath, very stony (30%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Mardin, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Wellsboro, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Oquaga, very stony (5%)	Depth to bedrock (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Slope (1.00)		
			Lordstown, very stony (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
LoC	Lordstown channery silt loam, 8 to 15 percent slopes	Most limited	Lordstown (90%)	Depth to bedrock (1.00)	7.8	0.0%
				Slope (0.50)		
			Arnot (5%)	Depth to bedrock (1.00)		
			Mardin (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
MdB	Mardin channery silt loam, 3 to 8 percent slopes	Most limited	Mardin (85%)	Low permeability (1.00)	8.6	0.0%
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Volusia (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Lordstown (5%)	Depth to bedrock (1.00)		
			Bath (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
MdC	Mardin channery silt loam, 8 to 15 percent slopes	Most limited	Mardin (88%)	Low permeability (1.00)	39.7	0.1%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Bath (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Volusia (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Lordstown (2%)	Depth to bedrock (1.00)		
				Slope (1.00)		
MdD	Mardin channery silt loam, 15 to 25 percent slopes	Most limited	Mardin (85%)	Low permeability (1.00)	0.5	0.0%
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Bath (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Lordstown (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
			Volusia (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
				Slope (0.50)		
MsB	Morris and Volusia soils, 2 to 10 percent	Most limited	Morris, very stony (50%)	Low permeability (1.00)	3.8	0.0%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI				
	slopes, very stony			Depth to saturation (1.00)						
Excessive fines (0.50)										
Volusia, very stony (30%)			Low permeability (1.00)							
			Depth to saturation (1.00)							
Gretor (5%)			Excessive fines (1.00)							
			Depth to bedrock (1.00)							
			Depth to saturation (1.00)							
Chippewa, very stony (5%)			Low permeability (0.50)							
			Depth to saturation (1.00)							
			Excessive fines (1.00)							
Wellsboro, very stony (5%)			Low permeability (1.00)							
			Depth to saturation (1.00)							
			Slope (0.50)							
			Excessive fines (0.50)							
Mardin, very stony (5%)			Low permeability (1.00)							
			Depth to saturation (1.00)							
			Slope (0.50)							
			Excessive fines (0.50)							
No			Norchip silt loam, 0 to 3 percent slopes	Most limited			Norchip (85%)	Low permeability (1.00)	4.0	0.0%
								Depth to saturation (1.00)		
	Excessive fines (1.00)									

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Norchip, very poorly drained (10%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
			Ontusia (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
OpC	Oquaga channery silt loam, 8 to 15 percent slopes	Most limited	Oquaga (90%)	Depth to bedrock (1.00)	2.6	0.0%
				Slope (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (0.50)		
			Arnot, very stony (5%)	Depth to bedrock (1.00)		
OpD	Oquaga channery silt loam, 15 to 25 percent slopes	Most limited	Oquaga (85%)	Depth to bedrock (1.00)	1.4	0.0%
				Slope (1.00)		
			Cadosia, very stony (5%)	Slope (1.00)		
				Excessive fines (0.50)		
			Wellsboro (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Arnot (5%)	Depth to bedrock (1.00)		
				Slope (1.00)		
OpE	Oquaga channery silt loam, 25 to 35 percent slopes	Most limited	Oquaga (80%)	Depth to bedrock (1.00)	4.9	0.0%
				Slope (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Cadosia, very stony (10%)	Slope (1.00) Excessive fines (0.50)		
			Arnot, extremely stony (5%)	Depth to bedrock (1.00) Slope (1.00)		
			Lackawanna (5%)	Low permeability (1.00) Depth to saturation (1.00) Slope (1.00) Excessive fines (0.50)		
OpF	Oquaga channery silt loam, 35 to 50 percent slopes	Most limited	Oquaga (80%)	Depth to bedrock (1.00) Slope (1.00)	7.8	0.0%
			Cadosia, very stony (10%)	Slope (1.00) Excessive fines (0.50)		
			Arnot, extremely stony (10%)	Depth to bedrock (1.00) Slope (1.00)		
OrC	Oquaga, Lordstown, and Arnot soils, 2 to 15 percent slopes, very rocky	Most limited	Oquaga (25%)	Depth to bedrock (1.00) Slope (0.50)	3.3	0.0%
			Lordstown (25%)	Depth to bedrock (1.00) Slope (0.50)		
			Arnot (25%)	Depth to bedrock (1.00) Slope (0.50)		
OrE	Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky	Most limited	Oquaga (25%)	Depth to bedrock (1.00) Slope (1.00)	13.1	0.0%
			Lordstown (25%)	Depth to bedrock (1.00) Slope (1.00)		
			Arnot (25%)	Depth to bedrock (1.00) Slope (1.00)		
OrF	Oquaga, Lordstown, and Arnot soils, 35 to 70 percent	Most limited	Oquaga (25%)	Depth to bedrock (1.00) Slope (1.00)	3.7	0.0%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
	slopes, very rocky		Lordstown (25%)	Depth to bedrock (1.00) Slope (1.00)		
			Arnot (25%)	Depth to bedrock (1.00) Slope (1.00)		
Pc	Philo silt loam	Most limited	Philo (80%)	Depth to saturation (1.00) Excessive permeability (0.50)	2.4	0.0%
RhB	Riverhead loam, 3 to 8 percent slopes	Most limited	Riverhead (85%)	Excessive permeability (1.00)	4.4	0.0%
TeB	Torull-Gretor complex, 0 to 6 percent slopes	Most limited	Torull (40%)	Depth to bedrock (1.00) Depth to saturation (1.00) Low permeability (0.50)	3.7	0.0%
			Gretor (40%)	Depth to bedrock (1.00) Depth to saturation (1.00) Low permeability (0.50)		
Ud	Udorthents, graded	Not rated	Udorthents (80%)		17.1	0.1%
			Unnamed soils (10%)			
			Urban land (5%)			
			Rock outcrop (5%)			
VoB	Volusia channery silt loam, 3 to 8 percent slopes	Most limited	Volusia (90%)	Low permeability (1.00) Depth to saturation (1.00) Excessive fines (1.00)	3.8	0.0%
			Chippewa (5%)	Low permeability (1.00) Depth to saturation (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (1.00)		
			Mardin (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
W	Water	Not rated	Water (100%)		27.4	0.1%
WFC	Wellsboro and Mardin soils, 2 to 15 percent slopes, very stony	Most limited	Wellsboro, very stony (50%)	Low permeability (1.00)	14.2	0.1%
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Mardin, very stony (30%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (0.50)		
				Excessive fines (0.50)		
			Lackawanna, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Bath, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Slope (1.00)		
				Excessive fines (0.50)		
			Morris, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Excessive fines (0.50)		
			Volusia, very stony (5%)	Low permeability (1.00)		
				Depth to saturation (1.00)		
				Excessive fines (1.00)		
Wg	Wenonah silt loam	Most limited	Wenonah (85%)	Depth to saturation (1.00)	13.7	0.0%
<b>Subtotals for Soil Survey Area</b>					<b>274.4</b>	<b>1.0%</b>
<b>Totals for Area of Interest</b>					<b>28,323.3</b>	<b>100.0%</b>

Rating	Acres in AOI	Percent of AOI
Most limited	27,406.9	96.8%
Somewhat limited	349.4	1.2%
Least limited	12.3	0.0%
Null or Not Rated	554.7	2.0%
<b>Totals for Area of Interest</b>	<b>28,323.3</b>	<b>100.0%</b>

**Rating Options—Stormwater Management - Infiltration (NY)**

*Aggregation Method: Dominant Condition*

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*

## Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

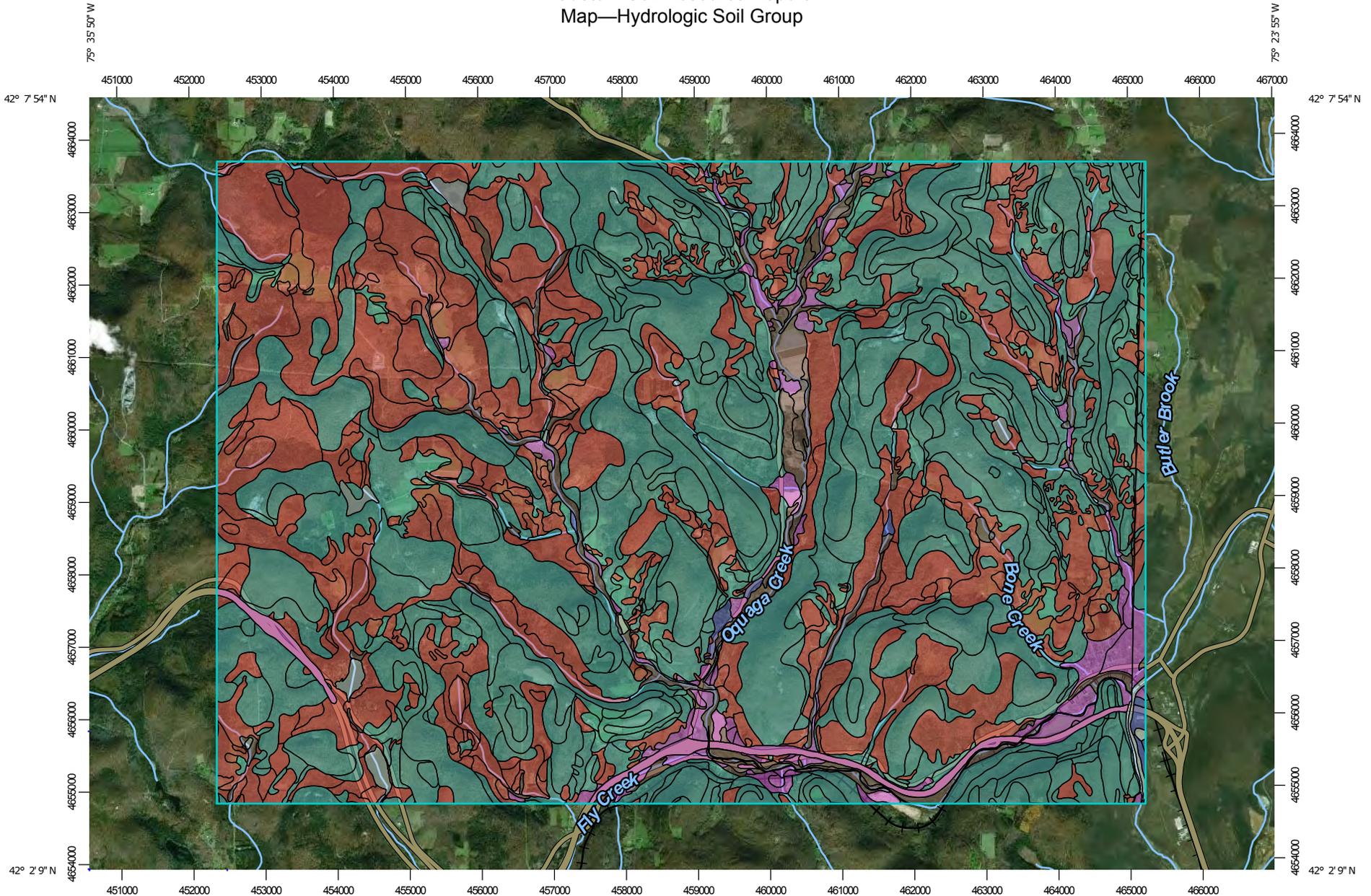
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at

## Custom Soil Resource Report

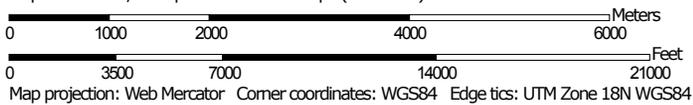
or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report  
Map—Hydrologic Soil Group



Map Scale: 1:75,100 if printed on A landscape (11" x 8.5") sheet.



### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

**Soil Rating Lines**

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

**Soil Rating Points**

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

**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 scales ranging from 1:15,800 to 1:24,000.

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: Broome County, New York  
 Survey Area Data: Version 15, Oct 8, 2017

Soil Survey Area: Delaware County, New York  
 Survey Area Data: Version 19, Oct 8, 2017

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Mar 14, 2012—May 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AcA	Alden and Chippewa soils, 0 to 3 percent slopes	D	49.6	0.2%
Ad	Alluvial land	B/D	350.6	1.2%
ArD	Arnot channery silt loam, 0 to 25 percent slopes	D	57.6	0.2%
Br	Braceville gravelly silt loam	C/D	2.3	0.0%
CcC	Lackawanna channery silt loam, 5 to 15 percent slopes	C	2,101.5	7.4%
CcD	Lackawanna channery silt loam, 15 to 25 percent slopes	C	2,760.6	9.7%
CcE	Lackawanna channery silt loam, 25 to 35 percent slopes	C	1,044.3	3.7%
ChA	Chenango and Howard gravelly loams, 0 to 5 percent slopes	A	94.9	0.3%
ChC	Chenango and Howard gravelly loams, 5 to 15 percent slopes	A	177.1	0.6%
ChD	Chenango and Howard gravelly loams, 15 to 25 percent slopes	A	86.7	0.3%
ChE	Chenango and Howard gravelly loams, 25 to 40 percent slopes	A	29.0	0.1%
CpB	Chippewa channery silt loam, 3 to 8 percent slopes	D	3.6	0.0%
CuB	Wellsboro channery silt loam, 2 to 8 percent slopes	D	628.9	2.2%
CuC	Wellsboro channery silt loam, 8 to 15 percent slopes	D	1,202.6	4.2%
CuD	Wellsboro channery silt loam, 15 to 25 percent slopes	D	893.7	3.2%
Cw	Cut and fill lands, loamy materials	A	273.6	1.0%
Cy	Cut and fill lands, silty materials	A	30.4	0.1%
LdB	Lordstown channery silt loam, 0 to 5 percent slopes	C	8.3	0.0%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
LdC	Lordstown channery silt loam, 5 to 15 percent slopes	C	224.0	0.8%
LdD	Lordstown channery silt loam, 15 to 25 percent slopes	C	273.8	1.0%
LoE	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	C	1,024.2	3.6%
LrF	Lordstown and Oquaga soils, 35 to 60 percent slopes	C	765.7	2.7%
LsE	Lordstown and Oquaga extremely stony and rocky soils, 0 to 35 percent slopes	C	3,848.8	13.6%
Mf	Made land, sanitary land fill	C	7.6	0.0%
MhB	Mardin channery silt loam, 2 to 8 percent slopes	D	70.0	0.2%
MhC	Mardin channery silt loam, 8 to 15 percent slopes	D	683.0	2.4%
MhD	Bath channery silt loam, 15 to 25 percent slopes	C	416.4	1.5%
MhE	Bath channery silt loam, 25 to 35 percent slopes	C	309.5	1.1%
MnC	Mardin-Chenango channery silt loams, 5 to 15 percent slopes	D	2.4	0.0%
MrF	Bath and Lackawanna soils, 35 to 65 percent slopes	C	353.6	1.2%
Ms	Middlebury silt loam	B/D	376.1	1.3%
MtB	Morris channery silt loam, 2 to 8 percent slopes	D	1,418.5	5.0%
MtC	Morris channery silt loam, 8 to 15 percent slopes	D	2,788.2	9.8%
MuD	Morris and Tuller soils, 3 to 25 percent slopes, very stony	D	403.0	1.4%
OuC	Oquaga channery silt loam, 5 to 15 percent slopes	C	711.6	2.5%
OuD	Oquaga channery silt loam, 15 to 25 percent slopes	C	1,898.7	6.7%
Ta	Tioga silt loam	A	204.9	0.7%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Tg	Tioga gravelly silt loam, fan	A	146.7	0.5%
TuD	Tuller channery silt loam, 0 to 25 percent slopes	D	0.8	0.0%
UnB	Unadilla silt loam, 0 to 5 percent slopes	B	12.3	0.0%
UnC	Unadilla silt loam, 5 to 15 percent slopes	B	35.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	D	250.9	0.9%
VoC	Volusia channery silt loam, 8 to 15 percent slopes	D	1,396.8	4.9%
VoD	Volusia channery silt loam, 15 to 25 percent slopes	D	83.3	0.3%
W	Water		198.6	0.7%
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	B/D	348.8	1.2%
<b>Subtotals for Soil Survey Area</b>			<b>28,048.9</b>	<b>99.0%</b>
<b>Totals for Area of Interest</b>			<b>28,323.3</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BtC	Bath channery silt loam, 8 to 15 percent slopes	C	0.5	0.0%
BtE	Bath channery silt loam, 25 to 35 percent slopes	C	2.6	0.0%
ChA	Chenango gravelly silt loam, 0 to 3 percent slopes	A	42.2	0.1%
LaC	Lackawanna flaggy silt loam, 8 to 15 percent slopes	C	2.4	0.0%
LaD	Lackawanna flaggy silt loam, 15 to 25 percent slopes	C	1.5	0.0%
LdE	Lackawanna and Bath soils, 15 to 35 percent slopes, very stony	C	37.4	0.1%
LoC	Lordstown channery silt loam, 8 to 15 percent slopes	C	7.8	0.0%
MdB	Mardin channery silt loam, 3 to 8 percent slopes	D	8.6	0.0%
MdC	Mardin channery silt loam, 8 to 15 percent slopes	D	39.7	0.1%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MdD	Mardin channery silt loam, 15 to 25 percent slopes	D	0.5	0.0%
MsB	Morris and Volusia soils, 2 to 10 percent slopes, very stony	D	3.8	0.0%
No	Norchip silt loam, 0 to 3 percent slopes	D	4.0	0.0%
OpC	Oquaga channery silt loam, 8 to 15 percent slopes	C	2.6	0.0%
OpD	Oquaga channery silt loam, 15 to 25 percent slopes	C	1.4	0.0%
OpE	Oquaga channery silt loam, 25 to 35 percent slopes	C	4.9	0.0%
OpF	Oquaga channery silt loam, 35 to 50 percent slopes	C	7.8	0.0%
OrC	Oquaga, Lordstown, and Arnot soils, 2 to 15 percent slopes, very rocky	C	3.3	0.0%
OrE	Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky	C	13.1	0.0%
OrF	Oquaga, Lordstown, and Arnot soils, 35 to 70 percent slopes, very rocky	C	3.7	0.0%
Pc	Philo silt loam	B/D	2.4	0.0%
RhB	Riverhead loam, 3 to 8 percent slopes	A	4.4	0.0%
TeB	Torull-Gretor complex, 0 to 6 percent slopes	D	3.7	0.0%
Ud	Udorthents, graded	B	17.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	D	3.8	0.0%
W	Water		27.4	0.1%
WfC	Wellsboro and Mardin soils, 2 to 15 percent slopes, very stony	D	14.2	0.1%
Wg	Wenonah silt loam	B	13.7	0.0%
<b>Subtotals for Soil Survey Area</b>			<b>274.4</b>	<b>1.0%</b>
<b>Totals for Area of Interest</b>			<b>28,323.3</b>	<b>100.0%</b>

## **Rating Options—Hydrologic Soil Group**

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

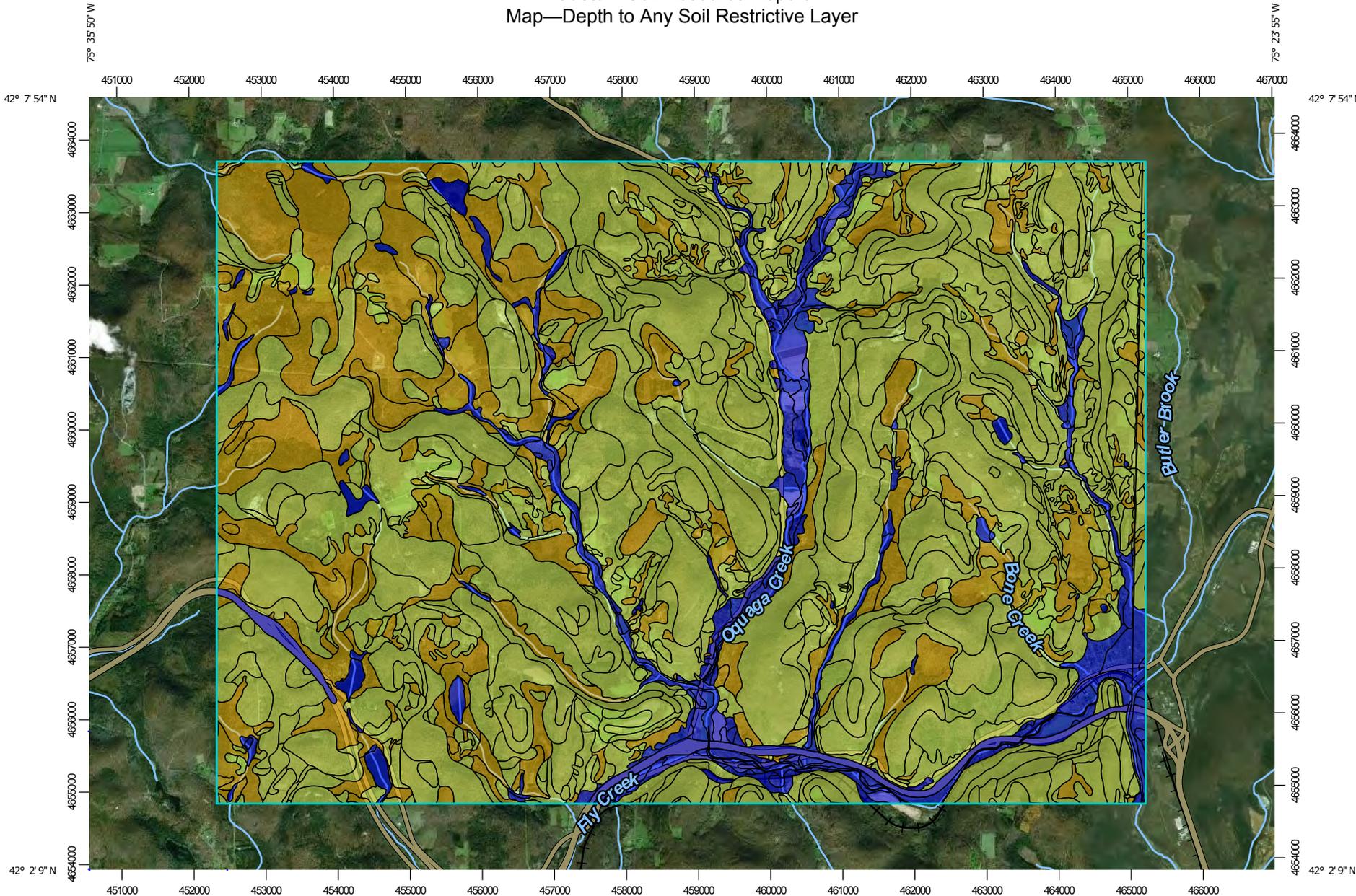
## **Depth to Any Soil Restrictive Layer**

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

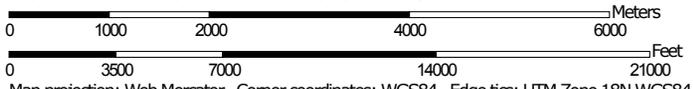
This theme presents the depth to any type of restrictive layer that is described for each map unit. If more than one type of restrictive layer is described for an individual soil type, the depth to the shallowest one is presented. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Custom Soil Resource Report  
Map—Depth to Any Soil Restrictive Layer



Map Scale: 1:75,100 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 Rating Polygons**

-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200
-  Not rated or not available

**Soil Rating Lines**

-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200
-  Not rated or not available

**Soil Rating Points**

-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200

 Not rated or not available

**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 scales ranging from 1:15,800 to 1:24,000.

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: Broome County, New York  
 Survey Area Data: Version 15, Oct 8, 2017

Soil Survey Area: Delaware County, New York  
 Survey Area Data: Version 19, Oct 8, 2017

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Mar 14, 2012—May 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Custom Soil Resource Report

**Table—Depth to Any Soil Restrictive Layer**

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
AcA	Alden and Chippewa soils, 0 to 3 percent slopes	>200	49.6	0.2%
Ad	Alluvial land	>200	350.6	1.2%
ArD	Arnot channery silt loam, 0 to 25 percent slopes	43	57.6	0.2%
Br	Braceville gravelly silt loam	46	2.3	0.0%
CcC	Lackawanna channery silt loam, 5 to 15 percent slopes	66	2,101.5	7.4%
CcD	Lackawanna channery silt loam, 15 to 25 percent slopes	66	2,760.6	9.7%
CcE	Lackawanna channery silt loam, 25 to 35 percent slopes	66	1,044.3	3.7%
ChA	Chenango and Howard gravelly loams, 0 to 5 percent slopes	>200	94.9	0.3%
ChC	Chenango and Howard gravelly loams, 5 to 15 percent slopes	>200	177.1	0.6%
ChD	Chenango and Howard gravelly loams, 15 to 25 percent slopes	>200	86.7	0.3%
ChE	Chenango and Howard gravelly loams, 25 to 40 percent slopes	>200	29.0	0.1%
CpB	Chippewa channery silt loam, 3 to 8 percent slopes	38	3.6	0.0%
CuB	Wellsboro channery silt loam, 2 to 8 percent slopes	55	628.9	2.2%
CuC	Wellsboro channery silt loam, 8 to 15 percent slopes	55	1,202.6	4.2%
CuD	Wellsboro channery silt loam, 15 to 25 percent slopes	55	893.7	3.2%
Cw	Cut and fill lands, loamy materials	>200	273.6	1.0%
Cy	Cut and fill lands, silty materials	>200	30.4	0.1%
LdB	Lordstown channery silt loam, 0 to 5 percent slopes	76	8.3	0.0%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
LdC	Lordstown channery silt loam, 5 to 15 percent slopes	76	224.0	0.8%
LdD	Lordstown channery silt loam, 15 to 25 percent slopes	76	273.8	1.0%
LoE	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	71	1,024.2	3.6%
LrF	Lordstown and Oquaga soils, 35 to 60 percent slopes	71	765.7	2.7%
LsE	Lordstown and Oquaga extremely stony and rocky soils, 0 to 35 percent slopes	71	3,848.8	13.6%
Mf	Made land, sanitary land fill	>200	7.6	0.0%
MhB	Mardin channery silt loam, 2 to 8 percent slopes	51	70.0	0.2%
MhC	Mardin channery silt loam, 8 to 15 percent slopes	51	683.0	2.4%
MhD	Bath channery silt loam, 15 to 25 percent slopes	74	416.4	1.5%
MhE	Bath channery silt loam, 25 to 35 percent slopes	74	309.5	1.1%
MnC	Mardin-Chenango channery silt loams, 5 to 15 percent slopes	51	2.4	0.0%
MrF	Bath and Lackawanna soils, 35 to 65 percent slopes	74	353.6	1.2%
Ms	Middlebury silt loam	>200	376.1	1.3%
MtB	Morris channery silt loam, 2 to 8 percent slopes	41	1,418.5	5.0%
MtC	Morris channery silt loam, 8 to 15 percent slopes	41	2,788.2	9.8%
MuD	Morris and Tuller soils, 3 to 25 percent slopes, very stony	41	403.0	1.4%
OuC	Oquaga channery silt loam, 5 to 15 percent slopes	76	711.6	2.5%
OuD	Oquaga channery silt loam, 15 to 25 percent slopes	76	1,898.7	6.7%
Ta	Tioga silt loam	>200	204.9	0.7%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Tg	Tioga gravelly silt loam, fan	>200	146.7	0.5%
TuD	Tuller channery silt loam, 0 to 25 percent slopes	43	0.8	0.0%
UnB	Unadilla silt loam, 0 to 5 percent slopes	>200	12.3	0.0%
UnC	Unadilla silt loam, 5 to 15 percent slopes	>200	35.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	43	250.9	0.9%
VoC	Volusia channery silt loam, 8 to 15 percent slopes	43	1,396.8	4.9%
VoD	Volusia channery silt loam, 15 to 25 percent slopes	43	83.3	0.3%
W	Water	>200	198.6	0.7%
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	>200	348.8	1.2%
<b>Subtotals for Soil Survey Area</b>			<b>28,048.9</b>	<b>99.0%</b>
<b>Totals for Area of Interest</b>			<b>28,323.3</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
BtC	Bath channery silt loam, 8 to 15 percent slopes	74	0.5	0.0%
BtE	Bath channery silt loam, 25 to 35 percent slopes	74	2.6	0.0%
ChA	Chenango gravelly silt loam, 0 to 3 percent slopes	>200	42.2	0.1%
LaC	Lackawanna flaggy silt loam, 8 to 15 percent slopes	66	2.4	0.0%
LaD	Lackawanna flaggy silt loam, 15 to 25 percent slopes	66	1.5	0.0%
LdE	Lackawanna and Bath soils, 15 to 35 percent slopes, very stony	66	37.4	0.1%
LoC	Lordstown channery silt loam, 8 to 15 percent slopes	76	7.8	0.0%
MdB	Mardin channery silt loam, 3 to 8 percent slopes	51	8.6	0.0%
MdC	Mardin channery silt loam, 8 to 15 percent slopes	51	39.7	0.1%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
MdD	Mardin channery silt loam, 15 to 25 percent slopes	51	0.5	0.0%
MsB	Morris and Volusia soils, 2 to 10 percent slopes, very stony	41	3.8	0.0%
No	Norchip silt loam, 0 to 3 percent slopes	38	4.0	0.0%
OpC	Oquaga channery silt loam, 8 to 15 percent slopes	76	2.6	0.0%
OpD	Oquaga channery silt loam, 15 to 25 percent slopes	76	1.4	0.0%
OpE	Oquaga channery silt loam, 25 to 35 percent slopes	76	4.9	0.0%
OpF	Oquaga channery silt loam, 35 to 50 percent slopes	76	7.8	0.0%
OrC	Oquaga, Lordstown, and Arnot soils, 2 to 15 percent slopes, very rocky	43	3.3	0.0%
OrE	Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky	43	13.1	0.0%
OrF	Oquaga, Lordstown, and Arnot soils, 35 to 70 percent slopes, very rocky	43	3.7	0.0%
Pc	Philo silt loam	>200	2.4	0.0%
RhB	Riverhead loam, 3 to 8 percent slopes	>200	4.4	0.0%
TeB	Torull-Gretor complex, 0 to 6 percent slopes	46	3.7	0.0%
Ud	Udorthents, graded	>200	17.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	43	3.8	0.0%
W	Water	>200	27.4	0.1%
WfC	Wellsboro and Mardin soils, 2 to 15 percent slopes, very stony	55	14.2	0.1%
Wg	Wenonah silt loam	>200	13.7	0.0%
<b>Subtotals for Soil Survey Area</b>			<b>274.4</b>	<b>1.0%</b>
<b>Totals for Area of Interest</b>			<b>28,323.3</b>	<b>100.0%</b>

## **Rating Options—Depth to Any Soil Restrictive Layer**

*Units of Measure:* centimeters

*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No

## **Water Features**

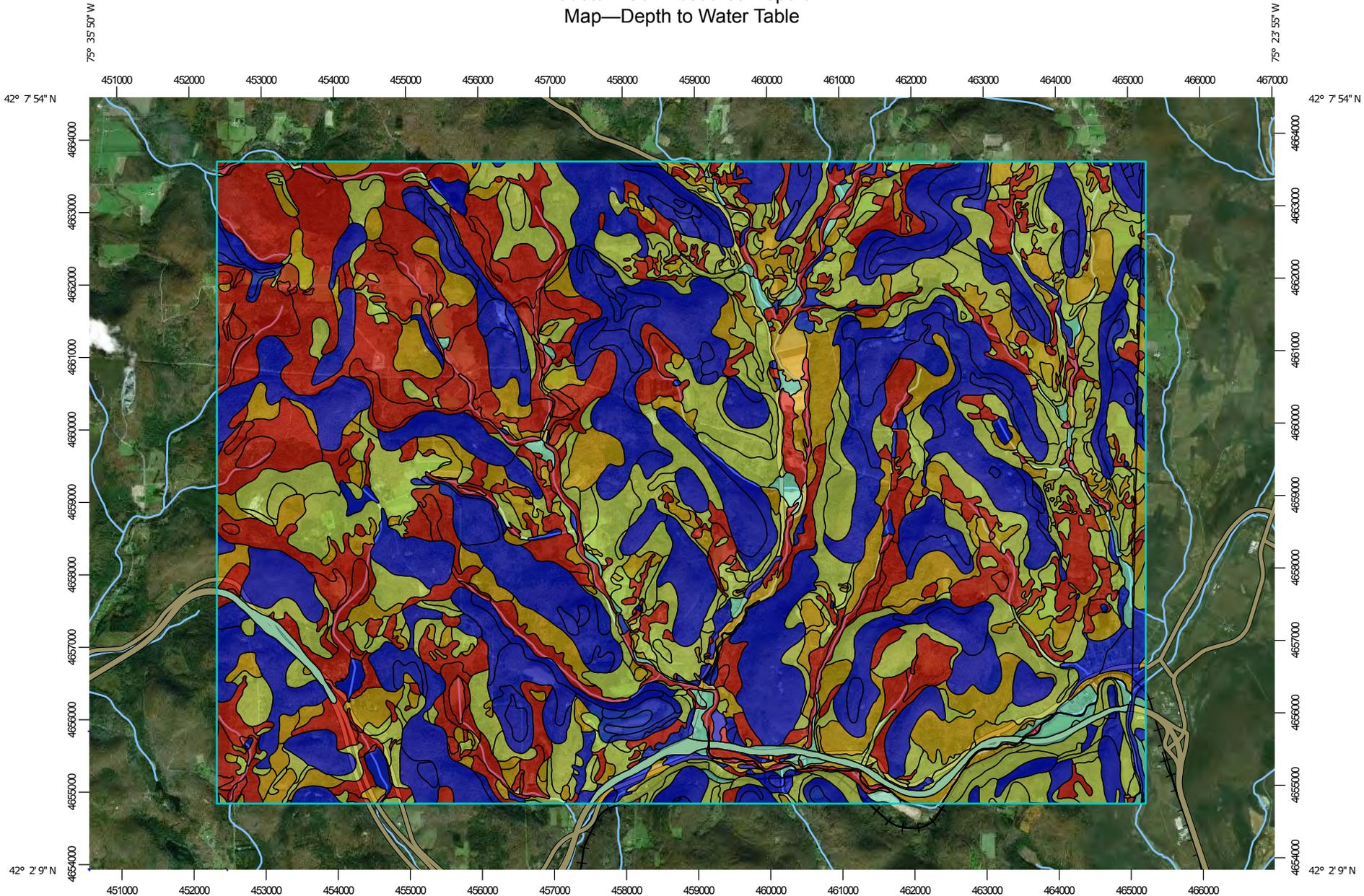
Water Features include ponding frequency, flooding frequency, and depth to water table.

### **Depth to Water Table**

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

# Custom Soil Resource Report Map—Depth to Water Table



Map Scale: 1:75,100 if printed on A landscape (11" x 8.5") sheet.

0 1000 2000 4000 6000 Meters

0 3500 7000 14000 21000 Feet

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 Rating Polygons**

-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200
-  Not rated or not available

**Soil Rating Lines**

-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200
-  Not rated or not available

**Soil Rating Points**

-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200

**Water Features**  
 Streams and Canals

**Transportation**

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

**Background**  
 Aerial Photography

 Not rated or not available

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:15,800 to 1:24,000.

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: Broome County, New York  
 Survey Area Data: Version 15, Oct 8, 2017

Soil Survey Area: Delaware County, New York  
 Survey Area Data: Version 19, Oct 8, 2017

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Mar 14, 2012—May 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Custom Soil Resource Report

**Table—Depth to Water Table**

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
AcA	Alden and Chippewa soils, 0 to 3 percent slopes	0	49.6	0.2%
Ad	Alluvial land	0	350.6	1.2%
ArD	Arnot channery silt loam, 0 to 25 percent slopes	>200	57.6	0.2%
Br	Braceville gravelly silt loam	41	2.3	0.0%
CcC	Lackawanna channery silt loam, 5 to 15 percent slopes	64	2,101.5	7.4%
CcD	Lackawanna channery silt loam, 15 to 25 percent slopes	64	2,760.6	9.7%
CcE	Lackawanna channery silt loam, 25 to 35 percent slopes	64	1,044.3	3.7%
ChA	Chenango and Howard gravelly loams, 0 to 5 percent slopes	>200	94.9	0.3%
ChC	Chenango and Howard gravelly loams, 5 to 15 percent slopes	>200	177.1	0.6%
ChD	Chenango and Howard gravelly loams, 15 to 25 percent slopes	>200	86.7	0.3%
ChE	Chenango and Howard gravelly loams, 25 to 40 percent slopes	>200	29.0	0.1%
CpB	Chippewa channery silt loam, 3 to 8 percent slopes	0	3.6	0.0%
CuB	Wellsboro channery silt loam, 2 to 8 percent slopes	46	628.9	2.2%
CuC	Wellsboro channery silt loam, 8 to 15 percent slopes	46	1,202.6	4.2%
CuD	Wellsboro channery silt loam, 15 to 25 percent slopes	46	893.7	3.2%
Cw	Cut and fill lands, loamy materials	137	273.6	1.0%
Cy	Cut and fill lands, silty materials	137	30.4	0.1%
LdB	Lordstown channery silt loam, 0 to 5 percent slopes	>200	8.3	0.0%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
LdC	Lordstown channery silt loam, 5 to 15 percent slopes	>200	224.0	0.8%
LdD	Lordstown channery silt loam, 15 to 25 percent slopes	>200	273.8	1.0%
LoE	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	>200	1,024.2	3.6%
LrF	Lordstown and Oquaga soils, 35 to 60 percent slopes	>200	765.7	2.7%
LsE	Lordstown and Oquaga extremely stony and rocky soils, 0 to 35 percent slopes	>200	3,848.8	13.6%
Mf	Made land, sanitary land fill	122	7.6	0.0%
MhB	Mardin channery silt loam, 2 to 8 percent slopes	43	70.0	0.2%
MhC	Mardin channery silt loam, 8 to 15 percent slopes	43	683.0	2.4%
MhD	Bath channery silt loam, 15 to 25 percent slopes	69	416.4	1.5%
MhE	Bath channery silt loam, 25 to 35 percent slopes	69	309.5	1.1%
MnC	Mardin-Chenango channery silt loams, 5 to 15 percent slopes	43	2.4	0.0%
MrF	Bath and Lackawanna soils, 35 to 65 percent slopes	69	353.6	1.2%
Ms	Middlebury silt loam	41	376.1	1.3%
MtB	Morris channery silt loam, 2 to 8 percent slopes	25	1,418.5	5.0%
MtC	Morris channery silt loam, 8 to 15 percent slopes	25	2,788.2	9.8%
MuD	Morris and Tuller soils, 3 to 25 percent slopes, very stony	25	403.0	1.4%
OuC	Oquaga channery silt loam, 5 to 15 percent slopes	>200	711.6	2.5%
OuD	Oquaga channery silt loam, 15 to 25 percent slopes	>200	1,898.7	6.7%
Ta	Tioga silt loam	137	204.9	0.7%

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Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Tg	Tioga gravelly silt loam, fan	137	146.7	0.5%
TuD	Tuller channery silt loam, 0 to 25 percent slopes	15	0.8	0.0%
UnB	Unadilla silt loam, 0 to 5 percent slopes	>200	12.3	0.0%
UnC	Unadilla silt loam, 5 to 15 percent slopes	>200	35.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	21	250.9	0.9%
VoC	Volusia channery silt loam, 8 to 15 percent slopes	21	1,396.8	4.9%
VoD	Volusia channery silt loam, 15 to 25 percent slopes	21	83.3	0.3%
W	Water	>200	198.6	0.7%
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	0	348.8	1.2%
<b>Subtotals for Soil Survey Area</b>			<b>28,048.9</b>	<b>99.0%</b>
<b>Totals for Area of Interest</b>			<b>28,323.3</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
BtC	Bath channery silt loam, 8 to 15 percent slopes	69	0.5	0.0%
BtE	Bath channery silt loam, 25 to 35 percent slopes	69	2.6	0.0%
ChA	Chenango gravelly silt loam, 0 to 3 percent slopes	>200	42.2	0.1%
LaC	Lackawanna flaggy silt loam, 8 to 15 percent slopes	64	2.4	0.0%
LaD	Lackawanna flaggy silt loam, 15 to 25 percent slopes	64	1.5	0.0%
LdE	Lackawanna and Bath soils, 15 to 35 percent slopes, very stony	64	37.4	0.1%
LoC	Lordstown channery silt loam, 8 to 15 percent slopes	>200	7.8	0.0%
MdB	Mardin channery silt loam, 3 to 8 percent slopes	43	8.6	0.0%
MdC	Mardin channery silt loam, 8 to 15 percent slopes	43	39.7	0.1%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
MdD	Mardin channery silt loam, 15 to 25 percent slopes	43	0.5	0.0%
MsB	Morris and Volusia soils, 2 to 10 percent slopes, very stony	25	3.8	0.0%
No	Norchip silt loam, 0 to 3 percent slopes	0	4.0	0.0%
OpC	Oquaga channery silt loam, 8 to 15 percent slopes	>200	2.6	0.0%
OpD	Oquaga channery silt loam, 15 to 25 percent slopes	>200	1.4	0.0%
OpE	Oquaga channery silt loam, 25 to 35 percent slopes	>200	4.9	0.0%
OpF	Oquaga channery silt loam, 35 to 50 percent slopes	>200	7.8	0.0%
OrC	Oquaga, Lordstown, and Arnot soils, 2 to 15 percent slopes, very rocky	>200	3.3	0.0%
OrE	Oquaga, Lordstown, and Arnot soils, 15 to 35 percent slopes, very rocky	>200	13.1	0.0%
OrF	Oquaga, Lordstown, and Arnot soils, 35 to 70 percent slopes, very rocky	>200	3.7	0.0%
Pc	Philo silt loam	48	2.4	0.0%
RhB	Riverhead loam, 3 to 8 percent slopes	>200	4.4	0.0%
TeB	Torull-Gretor complex, 0 to 6 percent slopes	13	3.7	0.0%
Ud	Udorthents, graded	91	17.1	0.1%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	21	3.8	0.0%
W	Water	>200	27.4	0.1%
WfC	Wellsboro and Mardin soils, 2 to 15 percent slopes, very stony	46	14.2	0.1%
Wg	Wenonah silt loam	137	13.7	0.0%
<b>Subtotals for Soil Survey Area</b>			<b>274.4</b>	<b>1.0%</b>
<b>Totals for Area of Interest</b>			<b>28,323.3</b>	<b>100.0%</b>

**Rating Options—Depth to Water Table**

*Units of Measure:* centimeters

*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No

*Beginning Month:* January

*Ending Month:* December

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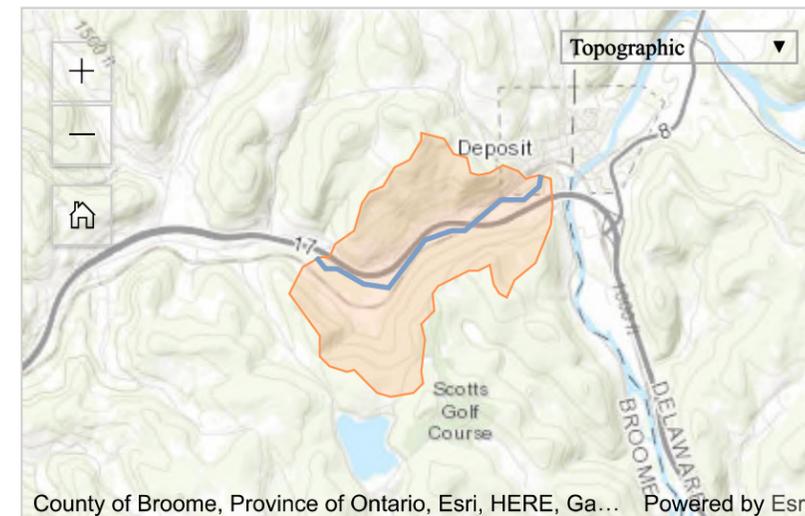
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## Watershed Report

The Watershed Report provides a variety of stream, catchment and watershed related information from the [National Hydrography Dataset Plus](#) (NHDPlus Version 2) and other sources including the extensive collection of [StreamCat](#) landscape layers. A catchment is the local area draining directly to the selected stream segment. A watershed is the drainage area extending from the downstream end of the stream segment (outlet) upstream to the headwaters. The map displays the stream segment and catchment.



For the stream segment	Value
Stream Name	Oquaga Creek
Stream Order	3
Stream Level	2
Mean annual flow volume (estimate)	114.43 cfs
Mean annual flow velocity (estimate)	1.32 fps
Stream Length	4.26 km
Stream Time of Travel (estimate)	0.12 days

View catchment and watershed data from either the NHDPlus or StreamCat datasets by clicking on the appropriate tab below:

[NHDPlus Catchment and Watershed Data](#)

[StreamCat Catchment and Watershed Data](#)

### StreamCat Search

**Area of Interest:**

All

**Landscape Class:**

All

**Landscape Metric Type:**

All

**StreamCat Results: 412 of 412** StreamCat variables selected

Area of Interest (AOI)	Value
Area of catchment	7.64 km <sup>2</sup>
Area of watershed	170.98 km <sup>2</sup>
Area within a 100m buffer of NHD streams in catchment	0.94 km <sup>2</sup>
Area within a 100m buffer of NHD streams in watershed	28.30 km <sup>2</sup>

2006 National Land Cover Database Agricultural Land Cover on Slopes <span>i</span>	Value	AOI Percent Covered*
Percent agricultural land cover (classes 81 and 82) of the catchment area classified by the NLCD2006 landscape raster where slope is greater than 10%.	0.44%	100.00%
Percent agricultural land cover (classes 81 and 82) of the watershed area classified by the NLCD2006 landscape raster where slope is greater than 10%.	8.00%	100.00%
Percent agricultural land cover (classes 81 and 82) of the catchment area classified by the NLCD2006 landscape raster where slope is equal to or greater than 20%.	0.02%	100.00%
Percent agricultural land cover (classes 81 and 82) of the watershed area classified by the NLCD2006 landscape raster where slope is equal to or greater than 20%.	1.11%	100.00%

Agricultural Nitrogen Inputs <span>i</span>	Value	AOI Percent Covered*
Mean rate of biological nitrogen fixation from the cultivation of crops in kg N/ha/yr within the local catchment.	0.34 kg/ha/yr	100.00%
Mean rate of biological nitrogen fixation from the cultivation of crops in kg N/ha/yr within the total upstream watershed.	0.87 kg/ha/yr	100.00%
Mean rate of synthetic nitrogen fertilizer application in kg N/ha/yr within the local catchment.	0.40 kg/ha/yr	100.00%
Mean rate of synthetic nitrogen fertilizer application in kg N/ha/yr within the total upstream watershed.	1.02 kg/ha/yr	100.00%
Mean rate of manure application from confined animal feeding operations in kg N/ha/yr within the local catchment.	0.45 kg/ha/yr	100.00%
Mean rate of manure application from confined animal feeding operations in kg N/ha/yr within the total upstream watershed.	1.14 kg/ha/yr	100.00%

<b>Base Flow Index</b> ⓘ	<b>Value</b>	<b>AOI Percent Covered*</b>
Ratio of base flow to total flow, expressed as a percentage within the local catchment.	40.69%	100.00%
Ratio of base flow to total flow, expressed as a percentage within the total upstream watershed.	40.64%	100.00%

<b>Canal Density</b> ⓘ	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of NHDPlusV2 line features within the local catchment classified as canal, ditch, or pipeline.(kilometer of canal/square kilometer).	0 km/km <sup>2</sup>	100.00%
Density of NHDPlusV2 line features within the total upstream watershed classified as canal, ditch, or pipeline.(kilometer of canal/square kilometer).	0 km/km <sup>2</sup>	100.00%

<b>National Coal Resource Dataset System</b> ⓘ	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of georeferenced coal mine sites within the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced coal mine sites within the total upstream watershed.	0 sites/km <sup>2</sup>	100.00%

<b>Dam Density and Storage Volume</b> ⓘ	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of georeferenced dams within the local catchment.	0 dams/km <sup>2</sup>	100.00%
Density of georeferenced dams within the upstream watershed.	0.01 dams/km <sup>2</sup>	100.00%
Mean NID storage volume of all dam reservoirs (NID_STORA in NID) within the local catchment.	0 m <sup>3</sup> /km <sup>2</sup>	100.00%
Mean NID storage volume of all dam reservoirs (NID_STORA in NID) within the total upstream watershed.	12,408.30 m <sup>3</sup> /km <sup>2</sup>	100.00%
Mean normal storage volume of all dam reservoirs (NORM_STORA in NID) within the local catchment.	0 m <sup>3</sup> /km <sup>2</sup>	100.00%
Mean normal storage volume of all dam reservoirs (NORM_STORA in NID) within the total upstream watershed.	6,103.15 m <sup>3</sup> /km <sup>2</sup>	100.00%

<b>National Elevation Dataset</b> ⓘ	<b>Value</b>	<b>AOI Percent Covered*</b>
Mean of all elev_cm values within the local catchment divided by 100 to convert cm to m.	402.75 m	100.00%
Mean of all elev_cm values within the upstream watershed divided by 100 to convert cm to m.	492.00 m	100.00%

<b>Facility Registry Services (FRS): Toxic Release Inventory (TRI), National Pollutant Discharge Elimination System (NPDES), and Superfund Sites</b> ⓘ	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of georeferenced National Pollutant Discharge Elimination System sites within the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced National Pollutant Discharge Elimination System sites within the upstream watershed.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced National Pollutant Discharge Elimination System sites within the riparian mask of the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced National Pollutant Discharge Elimination System sites within the riparian mask of the upstream watershed.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Superfund sites within the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Superfund sites within the upstream watershed.	0 sites/km <sup>2</sup>	100.00%

<b>Facility Registry Services (FRS): Toxic Release Inventory (TRI), National Pollutant Discharge Elimination System (NPDES), and Superfund Sites</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of georeferenced Superfund sites within the riparian mask of the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Superfund sites within the riparian mask of the upstream watershed.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Toxic Release Inventory sites within the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Toxic Release Inventory sites within the upstream watershed.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Toxic Release Inventory sites within the riparian mask of the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced Toxic Release Inventory sites within the riparian mask of the upstream watershed.	0 sites/km <sup>2</sup>	100.00%

<b>Wildland Fire Perimeters By Year 2000 - 2010 <span style="font-size: small;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage forest loss to fire (fire perimeter) in 2000 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2000 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2000 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2000 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2001 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2001 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2001 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2001 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2002 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2002 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2002 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2002 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2003 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2003 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2003 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2003 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2004 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2004 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2004 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2004 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2005 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2005 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2005 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2005 within the riparian mask of the total upstream watershed.	0%	100.00%

<b>Wildland Fire Perimeters By Year 2000 - 2010</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage forest loss to fire (fire perimeter) in 2006 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2006 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2006 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2006 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2007 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2007 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2007 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2007 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2008 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2008 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2008 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2008 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2009 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2009 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2009 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2009 within the riparian mask of the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2010 within the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2010 within the total upstream watershed.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2010 within the riparian mask of the local catchment.	0%	100.00%
Percentage forest loss to fire (fire perimeter) in 2010 within the riparian mask of the total upstream watershed.	0%	100.00%

<b>Forest Loss By Year 2001 to 2013 </b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percent of forest loss detected primarily in the year 2001 within the local catchment.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2001 within the total upstream watershed.	0.03%	100.00%
Percent of forest loss detected primarily in the year 2001 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2001 within the riparian mask of the total upstream watershed.	0.05%	100.00%
Percent of forest loss detected primarily in the year 2002 within the local catchment.	0.13%	100.00%
Percent of forest loss detected primarily in the year 2002 within the total upstream watershed.	0.11%	100.00%
Percent of forest loss detected primarily in the year 2002 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2002 within the riparian mask of the total upstream watershed.	0.18%	100.00%
Percent of forest loss detected primarily in the year 2003 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2003 within the total upstream watershed.	0.02%	100.00%

<b>Forest Loss By Year 2001 to 2013</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percent of forest loss detected primarily in the year 2003 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2003 within the riparian mask of the total upstream watershed.	0.00%	100.00%
Percent of forest loss detected primarily in the year 2004 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2004 within the total upstream watershed.	0.04%	100.00%
Percent of forest loss detected primarily in the year 2004 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2004 within the riparian mask of the total upstream watershed.	0.03%	100.00%
Percent of forest loss detected primarily in the year 2005 within the local catchment.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2005 within the total upstream watershed.	0.04%	100.00%
Percent of forest loss detected primarily in the year 2005 within the riparian mask of the local catchment.	0.10%	100.00%
Percent of forest loss detected primarily in the year 2005 within the riparian mask of the total upstream watershed.	0.03%	100.00%
Percent of forest loss detected primarily in the year 2006 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2006 within the total upstream watershed.	0.04%	100.00%
Percent of forest loss detected primarily in the year 2006 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2006 within the riparian mask of the total upstream watershed.	0.02%	100.00%
Percent of forest loss detected primarily in the year 2007 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2007 within the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2007 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2007 within the riparian mask of the total upstream watershed.	0.00%	100.00%
Percent of forest loss detected primarily in the year 2008 within the local catchment.	0.02%	100.00%
Percent of forest loss detected primarily in the year 2008 within the total upstream watershed.	0.04%	100.00%
Percent of forest loss detected primarily in the year 2008 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2008 within the riparian mask of the total upstream watershed.	0.02%	100.00%
Percent of forest loss detected primarily in the year 2009 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2009 within the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2009 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2009 within the riparian mask of the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2010 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2010 within the total upstream watershed.	0.02%	100.00%

<b>Forest Loss By Year 2001 to 2013</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percent of forest loss detected primarily in the year 2010 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2010 within the riparian mask of the total upstream watershed.	0%	100.00%
Percent of forest loss detected primarily in the year 2011 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2011 within the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2011 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2011 within the riparian mask of the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2012 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2012 within the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2012 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2012 within the riparian mask of the total upstream watershed.	0%	100.00%
Percent of forest loss detected primarily in the year 2013 within the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2013 within the total upstream watershed.	0.01%	100.00%
Percent of forest loss detected primarily in the year 2013 within the riparian mask of the local catchment.	0%	100.00%
Percent of forest loss detected primarily in the year 2013 within the riparian mask of the total upstream watershed.	0.05%	100.00%

<b>Olson and Hawkins (2014) Geochemical and Geophysical Characteristics </b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Lithological aluminum oxide content in surface or near surface geology, expressed as a percentage within the local catchment.	7.92%	100.00%
Lithological aluminum oxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	8.12%	100.00%
Lithological calcium oxide content in surface or near surface geology, expressed as a percentage within the local catchment.	1.98%	100.00%
Lithological calcium oxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	2.12%	100.00%
Lithological ferric oxide content in surface or near surface geology, expressed as a percentage within the local catchment.	2.38%	100.00%
Lithological ferric oxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	2.47%	100.00%
Lithological potassium oxide content in surface or near surface geology, expressed as a percentage within the local catchment.	1.63%	100.00%
Lithological potassium oxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	1.64%	100.00%
Lithological magnesium oxide content in surface or near surface geology, expressed as a percentage within the local catchment.	1.27%	100.00%
Lithological magnesium oxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	1.36%	100.00%

<b>Olson and Hawkins (2014) Geochemical and Geophysical Characteristics</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Lithological sodium oxide content in surface or near surface geology, expressed as a percentage within the local catchment.	0.61%	100.00%
Lithological sodium oxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	0.63%	100.00%
Lithological phosphorus pentoxide content in surface or near surface geology, expressed as a percentage within the local catchment.	0.17%	100.00%
Lithological phosphorus pentoxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	0.18%	100.00%
Lithological sulfur content in surface or near surface geology, expressed as a percentage within the local catchment.	0.25%	100.00%
Lithological sulfur content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	0.28%	100.00%
Lithological silicon dioxide content in surface or near surface geology, expressed as a percentage within the local catchment.	68.50%	100.00%
Lithological silicon dioxide content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	67.58%	100.00%
Lithological nitrogen content in surface or near surface geology, expressed as a percentage within the local catchment.	0.02%	100.00%
Lithological nitrogen content in surface or near surface geology, expressed as a percentage within the total upstream watershed.	0.03%	100.00%
Hydraulic conductivity (in micrometers per second) of surface or near surface geology, within the local catchment.	0.16%	100.00%
Hydraulic conductivity (in micrometers per second) of surface or near surface geology, within the total upstream watershed.	0.14%	100.00%
Compressive strength, measured as uniaxial compressive strength (in megaPascals) of surface or near surface geology, within the local catchment	85.68%	100.00%
Compressive strength, measured as uniaxial compressive strength (in megaPascals) of surface or near surface geology, within the total upstream watershed	83.32%	100.00%

<b>2006 National Land Cover Database Impervious Surfaces <span style="font-size: 0.8em;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Mean imperviousness of anthropogenic surfaces within catchment.	1.45%	100.00%
Mean imperviousness of anthropogenic surfaces within watershed.	0.38%	100.00%
Mean imperviousness of anthropogenic surfaces within catchment and within a 100-m buffer of NHD stream lines.	4.99%	100.00%
Mean imperviousness of anthropogenic surfaces within watershed and within a 100-m buffer of NHD stream lines.	1.07%	100.00%

<b>Soil Erodibility (KFFACT) <span style="font-size: 0.8em;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Mean agricultural surface soil erodibility factor adjusted within the local catchment.	0.02	100.00%
Mean agricultural surface soil erodibility factor adjusted within the total upstream watershed.	0.05	100.00%
Mean surface soil erodibility factor adjusted within the local catchment.	0.32	100.00%
Mean surface soil erodibility factor adjusted within the total upstream watershed.	0.33	100.00%

<b>Surficial Lithology</b> <span style="font-size: small;">i</span>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of catchment area classified as lithology type: alkaline intrusive volcanic rock.	0%	100.00%
Percentage of watershed area classified as as lithology type: alkaline intrusive volcanic rock.	0%	100.00%
Percentage of catchment area classified as lithology type: alluvium and fine-textured coastal zone sediment.	0%	100.00%
Percentage of watershed area classified as as lithology type: alluvium and fine-textured coastal zone sediment.	0%	100.00%
Percentage of catchment area classified as lithology type: carbonate residual material.	0%	100.00%
Percentage of watershed area classified as as lithology type: carbonate residual material.	0%	100.00%
Percentage of catchment area classified as lithology type: coastal zone sediment, coarse-textured.	0%	100.00%
Percentage of watershed area classified as as lithology type: coastal zone sediment, coarse-textured.	0%	100.00%
Percentage of catchment area classified as lithology type: colluvial sediment.	0%	100.00%
Percentage of watershed area classified as as lithology type: colluvial sediment.	0%	100.00%
Percentage of catchment area classified as lithology type: eolian sediment, coarse-textured (sand dunes).	0%	100.00%
Percentage of watershed area classified as as lithology type: eolian sediment, coarse-textured (sand dunes).	0%	100.00%
Percentage of catchment area classified as lithology type: eolian sediment, fine-textured (glacial loess).	0%	100.00%
Percentage of watershed area classified as as lithology type: eolian sediment, fine-textured (glacial loess).	0%	100.00%
Percentage of catchment area classified as lithology type: extrusive volcanic rock.	0%	100.00%
Percentage of watershed area classified as as lithology type: extrusive volcanic rock.	0%	100.00%
Percentage of catchment area classified as lithology type: glacial outwash and glacial lake sediment, coarse-textured.	0%	100.00%
Percentage of watershed area classified as as lithology type: glacial outwash and glacial lake sediment, coarse-textured.	0%	100.00%
Percentage of catchment area classified as lithology type: glacial lake sediment, fine-textured.	0%	100.00%
Percentage of watershed area classified as as lithology type: glacial lake sediment, fine-textured.	0%	100.00%
Percentage of catchment area classified as lithology type: glacial till, clayey.	0%	100.00%
Percentage of watershed area classified as as lithology type: glacial till, clayey.	0%	100.00%
Percentage of catchment area classified as lithology type: glacial till, coarse-textured.	0%	100.00%
Percentage of watershed area classified as as lithology type: glacial till, coarse-textured.	0%	100.00%
Percentage of catchment area classified as lithology type: glacial till, loamy.	100.00%	100.00%
Percentage of watershed area classified as as lithology type: glacial till, loamy.	100.00%	100.00%
Percentage of catchment area classified as lithology type: hydric, peat and muck.	0%	100.00%
Percentage of watershed area classified as as lithology type: hydric, peat and muck.	0%	100.00%
Percentage of catchment area classified as lithology type: non-carbonate residual material.	0%	100.00%
Percentage of watershed area classified as as lithology type: non-carbonate residual material.	0%	100.00%
Percentage of catchment area classified as lithology type: saline like sediment.	0%	100.00%
Percentage of watershed area classified as as lithology type: saline like sediment.	0%	100.00%

<b>Surficial Lithology</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of catchment area classified as lithology type: silicic residual material.	0%	100.00%
Percentage of watershed area classified as as lithology type: silicic residual material.	0%	100.00%
Percentage of catchment area classified as lithology type: water.	0%	100.00%
Percentage of watershed area classified as as lithology type: water	0%	100.00%

<b>Mine Density Active Mines and Mineral Plants in the US <span style="font-size: 0.8em;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of georeferenced mines and mineral plants within the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced mines and mineral plants within the upstream watershed.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced mines and mineral plants within the riparian mask of the local catchment.	0 sites/km <sup>2</sup>	100.00%
Density of georeferenced mines and mineral plants within the riparian mask of the upstream watershed.	0 sites/km <sup>2</sup>	100.00%

<b>National Anthropenic Barrier Dataset <span style="font-size: 0.8em;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Density of georeferenced dams within the local catchment (dams/square km).	0 dams/km <sup>2</sup>	100.00%
Density of georeferenced dams within the total upstream watershed (dams/square km).	0.01 dams/km <sup>2</sup>	100.00%
Mean NID storage volume of all dam reservoirs (NID_STORA in NID) within the local catchment (cubic meters/square km).	0 m <sup>3</sup> /km <sup>2</sup>	100.00%
Mean NID storage volume of all dam reservoirs (NID_STORA in NID) within the total upstream watershed (cubic meters/square km).	12,408.30 m <sup>3</sup> /km <sup>2</sup>	100.00%
Mean normal storage volume of all dam reservoirs (NORM_STORA in NID) within the local catchment (cubic meters/square km).	0 m <sup>3</sup> /km <sup>2</sup>	100.00%
Mean normal storage volume of all dam reservoirs (NORM_STORA in NID) within the total upstream watershed (cubic meters/square km).	6,103.15 m <sup>3</sup> /km <sup>2</sup>	100.00%

<b>National Atmospheric Deposition Program National Trends Network - Nitrogen Deposition <span style="font-size: 0.8em;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Annual average of precipitation-weighted mean wet deposition for inorganic nitrogen concentration from nitrate and ammonium for year, 2008, within the local catchment.	4.72 kg/ha/yr	100.00%
Annual average of precipitation-weighted mean wet deposition for inorganic nitrogen concentration from nitrate and ammonium for year, 2008, within the upstream watershed.	4.66 m <sup>3</sup> /km <sup>2</sup>	100.00%
Annual average of precipitation-weighted mean deposition for ammonium ion concentration for year, 2008, within the local catchment.	2.61 kg/ha/yr	100.00%
Annual average of precipitation-weighted mean deposition for ammonium ion concentration for year, 2008, within the total upstream watershed.	2.60 kg/ha/yr	100.00%
Annual average of precipitation-weighted mean deposition for nitrate ion concentration for year, 2008, within the local catchment.	11.92 kg/ha/yr	100.00%
Annual average of precipitation-weighted mean deposition for nitrate ion concentration for year, 2008, within the total upstream watershed.	11.72 kg/ha/yr	100.00%
Annual average of precipitation-weighted mean deposition for average sulfur and nitrogen concentration for year, 2008, within the local catchment.	655.92 kg/ha/yr	100.00%
Annual average of precipitation-weighted mean deposition for average sulfur and nitrogen concentration for year, 2008, within the total upstream watershed.	647.85 kg/ha/yr	100.00%

<b>2006 National Land Cover Database <span style="font-size: small;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of the local catchment area classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material.	0%	100.00%
Percentage of the upstream watershed area classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material.	0.07%	100.00%
Percentage of the local catchment classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material within a 100-m wide buffer of the NHD stream lines.	0.03%	100.00%
Percentage of the local catchment area classified as evergreen forest land cover.	3.36%	100.00%
Percentage of the upstream watershed area classified as evergreen forest land cover.	6.29%	100.00%
Percentage of the local catchment classified as evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	3.84%	100.00%
Percentage of the upstream watershed classified as evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	8.83%	100.00%
Percentage of the local catchment area classified as row crop land use.	0.07%	100.00%
Percentage of the upstream watershed area classified as row crop land use.	3.46%	100.00%
Percentage of the local catchment classified as crop land use within a 100-m wide buffer of the NHD stream lines.	0.58%	100.00%
Percentage of the upstream watershed classified as crop land use within a 100-m wide buffer of the NHD stream lines.	6.63%	100.00%
Percentage of the local catchment area classified as deciduous forest land cover.	63.98%	100.00%
Percentage of the upstream watershed area classified as deciduous forest land cover.	54.16%	100.00%
Percentage of the local catchment classified as deciduous forest land cover within a 100-m wide buffer of the NHD stream lines.	35.86%	100.00%
Percentage of the upstream watershed classified as deciduous forest land cover within a 100-m wide buffer of the NHD stream lines.	33.67%	100.00%
Percentage of the local catchment area classified as grassland/herbaceous land cover.	0.11%	100.00%
Percentage of the upstream watershed area classified as grassland/herbaceous land cover.	0.16%	100.00%
Percentage of the local catchment classified as grassland/herbaceous land cover within a 100-m wide buffer of the NHD stream lines.	0.38%	100.00%
Percentage of the upstream watershed classified as grassland/herbaceous land cover within a 100-m wide buffer of the NHD stream lines.	0.17%	100.00%
Percentage of the local catchment area classified as pasture/hay land use.	5.57%	100.00%
Percentage of the upstream watershed area classified as pasture/hay land use.	10.57%	100.00%
Percentage of the local catchment classified as pasture/hay land use within a 100-m wide buffer of the NHD stream lines.	25.60%	100.00%
Percentage of the upstream watershed classified as pasture/hay land use within a 100-m wide buffer of the NHD stream lines.	15.60%	100.00%
Percentage of the local catchment area classified as herbaceous wetland land cover.	0.14%	100.00%
Percentage of the upstream watershed area classified as herbaceous wetland land cover.	0.20%	100.00%

<b>2006 National Land Cover Database</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of the local catchment classified as emergent herbaceous wetland land cover within a 100-m wide buffer of the NHD stream lines.	0.77%	100.00%
Percentage of the upstream watershed classified as emergent herbaceous wetland land cover within a 100-m wide buffer of the NHD stream lines.	1.06%	100.00%
Percentage of the local catchment area classified as ice/snow land cover.	0%	100.00%
Percentage of the upstream watershed area classified as ice/snow land cover.	0%	100.00%
Percentage of the local catchment classified as ice/snow land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as ice/snow land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the local catchment area classified as mixed deciduous/evergreen forest land cover.	14.92%	100.00%
Percentage of the upstream watershed area classified as mixed deciduous/evergreen forest land cover.	19.48%	100.00%
Percentage of the local catchment classified as mixed deciduous/evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	3.36%	100.00%
Percentage of the upstream watershed classified as mixed deciduous/evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	22.59%	100.00%
Percentage of the local catchment area classified as open water land cover.	0%	100.00%
Percentage of the upstream watershed area classified as open water land cover.	0.45%	100.00%
Percentage of the local catchment classified as open water land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as open water land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the local catchment area classified as shrub/scrub land cover.	2.37%	100.00%
Percentage of the upstream watershed area classified as shrub/scrub land cover.	1.22%	100.00%
Percentage of the local catchment classified as shrub/scrub land cover within a 100-m wide buffer of the NHD stream lines.	2.40%	100.00%
Percentage of the upstream watershed classified as shrub/scrub land cover within a 100-m wide buffer of the NHD stream lines.	1.29%	100.00%
Percentage of the local catchment area classified as developed, high intensity land use.	0%	100.00%
Percentage of the upstream watershed area classified as developed, high intensity land use.	0%	100.00%
Percentage of the local catchment classified as developed, high intensity land use within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as developed, high intensity land use within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the local catchment area classified as developed, low intensity land use.	2.79%	100.00%
Percentage of the upstream watershed area classified as developed, low intensity land use.	0.49%	100.00%
Percentage of the local catchment classified as developed, low intensity land use within a 100-m wide buffer of the NHD stream lines.	10.74%	100.00%
Percentage of the upstream watershed classified as developed, low intensity land use within a 100-m wide buffer of the NHD stream lines.	1.63%	100.00%
Percentage of the local catchment area classified as developed, medium intensity land use.	0.29%	100.00%
Percentage of the upstream watershed area classified as developed, medium intensity land use.	0.07%	100.00%

<b>2006 National Land Cover Database</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of the local catchment classified as developed, medium intensity land use within a 100-m wide buffer of the NHD stream lines.	0.67%	100.00%
Percentage of the upstream watershed classified as developed, medium intensity land use within a 100-m wide buffer of the NHD stream lines.	0.12%	100.00%
Percentage of the local catchment area classified as developed, open space land use.	6.40%	100.00%
Percentage of the upstream watershed area classified as developed, open space land use.	3.11%	100.00%
Percentage of the local catchment classified as developed, open space land use within a 100-m wide buffer of the NHD stream lines.	15.82%	100.00%
Percentage of the upstream watershed classified as developed, open space land use within a 100-m wide buffer of the NHD stream lines.	7.57%	100.00%
Percentage of the local catchment area classified as woody wetland land cover.	0%	100.00%
Percentage of the upstream watershed area classified as woody wetland land cover.	0.27%	100.00%
Percentage of the local catchment classified as woody wetland land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as woody wetland land cover within a 100-m wide buffer of the NHD stream lines.	0.80%	100.00%

<b>2011 National Land Cover Database </b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of the local catchment area classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material.	0%	100.00%
Percentage of the upstream watershed area classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material.	0.07%	100.00%
Percentage of the local catchment classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as area of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the local catchment area classified as evergreen forest land cover.	3.35%	100.00%
Percentage of the upstream watershed area classified as evergreen forest land cover.	6.27%	100.00%
Percentage of the local catchment classified as evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	4.03%	100.00%
Percentage of the upstream watershed classified as evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	8.58%	100.00%
Percentage of the local catchment area classified as row crop land use.	0.07%	100.00%
Percentage of the upstream watershed area classified as row crop land use.	3.44%	100.00%
Percentage of the local catchment classified as crop land use within a 100-m wide buffer of the NHD stream lines.	0.58%	100.00%
Percent of the upstream watershed classified as crop land use within a 100-m wide buffer of the NHD stream lines.	6.54%	100.00%
Percentage of the local catchment area classified as deciduous forest land cover.	64.72%	100.00%
Percentage of the upstream watershed area classified as deciduous forest land cover.	53.68%	100.00%

<b>2011 National Land Cover Database</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of the local catchment classified as deciduous forest land cover within a 100-m wide buffer of the NHD stream lines.	34.61%	100.00%
Percentage of the upstream watershed classified as deciduous forest land cover within a 100-m wide buffer of the NHD stream lines.	30.81%	100.00%
Percentage of the local catchment area classified as grassland/herbaceous land cover.	0.11%	100.00%
Percentage of the upstream watershed area classified as grassland/herbaceous land cover.	0.25%	100.00%
Percentage of the local catchment classified as grassland/herbaceous land cover within a 100-m wide buffer of the NHD stream lines.	0.38%	100.00%
Percent of the upstream watershed classified as grassland/herbaceous land cover within a 100-m wide buffer of the NHD stream lines.	0.20%	100.00%
Percentage of the local catchment area classified as pasture/hay land use.	5.55%	100.00%
Percentage of the upstream watershed area classified as pasture/hay land use.	10.58%	100.00%
Percentage of the local catchment classified as pasture/hay land use within a 100-m wide buffer of the NHD stream lines.	25.50%	100.00%
Percent of the upstream watershed classified as pasture/hay land use within a 100-m wide buffer of the NHD stream lines.	15.23%	100.00%
Percentage of the local catchment area classified as herbaceous wetland land cover.	0.20%	100.00%
Percentage of the upstream watershed area classified as herbaceous wetland land cover.	0.37%	100.00%
Percentage of the local catchment classified as emergent herbaceous wetland land cover within a 100-m wide buffer of the NHD stream lines.	1.25%	100.00%
Percent of the upstream watershed classified as emergent herbaceous wetland land cover within a 100-m wide buffer of the NHD stream lines.	1.55%	100.00%
Percentage of the local catchment area classified as ice/snow land cover.	0%	100.00%
Percentage of the upstream watershed area classified as ice/snow land cover.	0%	100.00%
Percentage of the local catchment classified as ice/snow land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as ice/snow land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the local catchment area classified as mixed deciduous/evergreen forest land cover.	14.08%	100.00%
Percentage of the upstream watershed area classified as mixed deciduous/evergreen forest land cover.	18.86%	100.00%
Percentage of the local catchment classified as mixed deciduous/evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	2.78%	100.00%
Percent of the upstream watershed classified as mixed deciduous/evergreen forest land cover within a 100-m wide buffer of the NHD stream lines.	21.44%	100.00%
Percentage of the upstream watershed area classified as open water land cover.	0%	100.00%
Percentage of the upstream watershed area classified as open water land cover.	0.44%	100.00%
Percentage of the local catchment classified as open water land cover within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as open water land cover within a 100-m wide buffer of the NHD stream lines.	0.08%	100.00%
Percentage of the local catchment area classified as shrub/scrub land cover.	1.97%	100.00%
Percentage of the upstream watershed area classified as shrub/scrub land cover.	1.15%	100.00%

<b>2011 National Land Cover Database</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage of the local catchment classified as shrub/scrub land cover within a 100-m wide buffer of the NHD stream lines.	1.15%	100.00%
Percent of the upstream watershed classified as shrub/scrub land cover within a 100-m wide buffer of the NHD stream lines.	1.14%	100.00%
Percentage of the local catchment area classified as developed, high intensity land use.	0%	100.00%
Percentage of the upstream watershed area classified as developed, high intensity land use.	0%	100.00%
Percentage of the local catchment classified as developed, high intensity land use within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the upstream watershed classified as developed, high intensity land use within a 100-m wide buffer of the NHD stream lines.	0%	100.00%
Percentage of the local catchment area classified as developed, low intensity land use.	2.89%	100.00%
Percentage of the upstream watershed area classified as developed, low intensity land use.	0.47%	100.00%
Percentage of the local catchment classified as developed, low intensity land use within a 100-m wide buffer of the NHD stream lines.	11.51%	100.00%
Percentage of the upstream watershed classified as developed, low intensity land use within a 100-m wide buffer of the NHD stream lines.	1.51%	100.00%
Percentage of the local catchment area classified as developed, medium intensity land use.	0.29%	100.00%
Percentage of the upstream watershed area classified as developed, medium intensity land use.	0.08%	100.00%
Percentage of the local catchment classified as developed, medium intensity land use within a 100-m wide buffer of the NHD stream lines.	0.67%	100.00%
Percentage of the upstream watershed classified as developed, medium intensity land use within a 100-m wide buffer of the NHD stream lines.	0.18%	100.00%
Percentage of the local catchment area classified as developed, open space land use.	6.32%	100.00%
Percentage of the upstream watershed area classified as developed, open space land use.	3.11%	100.00%
Percentage of the local catchment classified as developed, open space land use within a 100-m wide buffer of the NHD stream lines.	15.05%	100.00%
Percentage of the upstream watershed classified as developed, open space land use within a 100-m wide buffer of the NHD stream lines.	7.72%	100.00%
Percentage of the local catchment area classified as woody wetland land cover.	0.46%	100.00%
Percentage of the upstream watershed area classified as woody wetland land cover.	1.24%	100.00%
Percentage of the local catchment classified as woody wetland land cover within a 100-m wide buffer of the NHD stream lines.	2.49%	100.00%
Percent of the upstream watershed classified as woody wetland land cover within a 100-m wide buffer of the NHD stream lines.	5.03%	100.00%

<b>Nonnative LANDFIRE Vegetation <span style="font-size: 0.8em;">i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage nonnative vegetation landcover type reclassified from LANDFIRE Existing Vegetation Type (EVT) within the local catchment.	16.06%	100.00%
Percentage nonnative vegetation landcover type reclassified from LANDFIRE Existing Vegetation Type (EVT) within the total upstream watershed.	19.19%	100.00%
Percentage nonnative vegetation landcover type reclassified from LANDFIRE Existing Vegetation Type (EVT) within the riparian mask of the local catchment.	55.90%	100.00%

<b>Nonnative LANDFIRE Vegetation</b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Percentage nonnative vegetation landcover type reclassified from LANDFIRE Existing Vegetation Type (EVT) within the riparian mask of the total upstream watershed.	33.46%	100.00%

<b>Pesticide <span>i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Total pesticides per square kilometer within the local catchment (kilograms/square kilometer).	5.16 kg/km <sup>2</sup>	100.00%
Total pesticides per square kilometer within the total upstream watershed (kilograms/square kilometer).	6.42 kg/km <sup>2</sup>	100.00%

<b>PRISM Data 2008-09 <span>i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Mean 2008 precipitation (mm) within the local catchment.	1,227.70 mm	100.00%
Mean 2008 precipitation (mm) within the total upstream watershed.	1,228.25 mm	100.00%
Mean 2009 precipitation (mm) within the local catchment.	1,083.59 mm	100.00%
Mean 2009 precipitation (mm) within the total upstream watershed.	1,072.46 mm	100.00%
Mean 2008 air temperature (Celcius) within the local catchment.	7.72 °C	100.00%
Mean 2008 air temperature (Celcius) within the total upstream watershed.	7.62 °C	100.00%
Mean 2009 air temperature (Celcius) within the local catchment.	7.54 °C	100.00%
Mean 2009 air temperature (Celcius) within the total upstream watershed.	7.36 °C	100.00%

<b>PRISM Normals Data <span>i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
30-year average annual normal precipitation (mm) within the local catchment.	1,121.88 mm	100.00%
30-year average annual normal precipitation (mm) within the upstream watershed.	1,151.18 mm	100.00%
30-year average annual normal maximum air temperature (Celcius) within the local catchment.	13.52 °C	100.00%
30-year average annual normal maximum air temperature (Celcius) within the upstream watershed.	12.92 °C	100.00%
30-year average annual normal mean air temperature (Celcius) within the local catchment.	7.73 °C	100.00%
30-year average annual normal mean air temperature (Celcius) within the upstream watershed.	7.67 °C	100.00%
30-year average annual normal minimum air temperature (Celcius) within the local catchment.	1.94 °C	100.00%
30-year average annual normal minimum air temperature (Celcius) within the upstream watershed.	2.40 °C	100.00%

<b>Reference Stream Temperature Predictions <span>i</span></b>	<b>Value</b>	<b>AOI Percent Covered*</b>
Predicted annual stream temperature (Celcius) for year 2008.	10.82 °C	Not Available
Predicted annual stream temperature (Celcius) for year 2009.	10.78 °C	Not Available
Predicted annual stream temperature (Celcius) for year 2013.	10.78 °C	Not Available
Predicted annual stream temperature (Celcius) for year 2014.	10.68 °C	Not Available
Predicted summer stream temperature (Celcius) for year 2008.	19.75 °C	Not Available
Predicted summer stream temperature (Celcius) for year 2009.	20.04 °C	Not Available
Predicted summer stream temperature (Celcius) for year 2013.	20.42 °C	Not Available
Predicted summer stream temperature (Celcius) for year 2014.	19.60 °C	Not Available
Predicted winter stream temperature (Celcius) for year 2008.	2.56 °C	Not Available

Reference Stream Temperature Predictions	Value	AOI Percent Covered*
Predicted winter stream temperature (Celcius) for year 2009.	2.53 °C	Not Available
Predicted winter stream temperature (Celcius) for year 2013.	2.54 °C	Not Available
Predicted winter stream temperature (Celcius) for year 2014.	2.48 °C	Not Available

2010 US Census Road Density ⓘ	Value	AOI Percent Covered*
Average density of roads per square kilometer within the local catchment (kilometer of road/square kilometer).	3.65 km/km <sup>2</sup>	100.00%
Average density of roads per square kilometer within the total upstream watershed (kilometer of road/square kilometer).	1.64 km/km <sup>2</sup>	100.00%
Average density of roads per square kilometer within the riparian mask of the local catchment (kilometer of road/square kilometer).	6.61 km/km <sup>2</sup>	100.00%
Average density of roads per square kilometer within the riparian mask of the total upstream watershed (kilometer of road/square kilometer).	2.13 km/km <sup>2</sup>	99.12%

Road and Stream Intersections ⓘ	Value	AOI Percent Covered*
Mean of rdstrcrs values (crossings / square kilometer) within the local catchment.	0.39 crossings/km <sup>2</sup>	100.00%
Mean of rdstrcrs values (crossings / square kilometer) within the total upstream watershed.	0.57 crossings/km <sup>2</sup>	100.00%
Rdstrcrs values multiplied by NHD slope value from elevslope.dbf (crossings * slope / square kilometer) within the local catchment.	0.00 crossings * slope/km <sup>2</sup>	100.00%
Rdstrcrs values multiplied by NHD slope value from elevslope.dbf (crossings * slope / square kilometer) within the total upstream watershed.	0.02 crossings * slope/km <sup>2</sup>	100.00%

Runoff ⓘ	Value	AOI Percent Covered*
Mean of all runoff values within the local catchment.	496.00 mm	100.00%
Mean of all runoff values within the upstream watershed.	499.46 mm	100.00%

State Soil Geographic Database ⓘ	Value	AOI Percent Covered*
Mean of all clay values within the local catchment.	15.08%	100.00%
Mean of all clay values within the upstream watershed.	16.06%	100.00%
Mean of all sand values within the local catchment.	30.66%	100.00%
Mean of all sand values within the upstream watershed.	27.96%	100.00%
Mean of all organic matter values within the local catchment.	0.98%	100.00%
Mean of all organic matter values within the upstream watershed.	1.16%	100.00%
Mean of all permeability of soils values within the local catchment.	6.03 cm/hour	100.00%
Mean of all permeability of soils values within the upstream watershed.	3.40 cm/hour	100.00%
Mean of all depth to bedrock of soils values within the local catchment.	122.58 cm	100.00%
Mean of all depth to bedrock of soils values within the upstream watershed.	121.63 cm	100.00%
Mean of all seasonal water table depth of soils values within the local catchment.	130.93 cm	100.00%
Mean of all seasonal water table depth of soils values within the upstream watershed.	119.23 cm	100.00%

<b>2010 US Census Housing Unit and Population Density</b> <sup>i</sup>	<b>Value</b>	<b>AOI Percent Covered*</b>
Mean of all housing units per square kilometer values within the local catchment.	11.72 housing units/km <sup>2</sup>	100.00%
Mean of all housing units per square kilometer values within the upstream watershed.	7.30 housing units/km <sup>2</sup>	100.00%
Mean of all housing units per square kilometer within the local catchment within a 100-m wide buffer of the NHD stream lines.	11.30 housing units/km <sup>2</sup>	100.00%
Mean of all housing units per square kilometer within the upstream watershed within a 100-m wide buffer of the NHD stream lines.	7.34 housing units/km <sup>2</sup>	100.00%
Mean of all 2010 population per square kilometer values within the local catchment.	19.34 people/km <sup>2</sup>	100.00%
Mean of all 2010 population per square kilometer values within the upstream watershed.	10.41 people/km <sup>2</sup>	100.00%
Mean of all 2010 population per square kilometer values within the local catchment within a 100-m wide buffer of the NHD stream lines.	18.43 people/km <sup>2</sup>	100.00%
Mean of all 2010 population per square kilometer values within the upstream watershed within a 100-m wide buffer of the NHD stream lines.	10.48 people/km <sup>2</sup>	100.00%

<b>Wetness Index</b> <sup>i</sup>	<b>Value</b>	<b>AOI Percent Covered*</b>
Mean Composite Topographic Index (CTI) [Wetness Index] within the local catchment.	371.91	100.00%
Mean Composite Topographic Index (CTI) [Wetness Index] within the upstream watershed.	383.79	100.00%

\*Percent of Area of Interest (AOI) covered by the landscape layer.

[Download StreamCat Data \(.csv\)](#)    [Download Full Report \(.json\)](#)

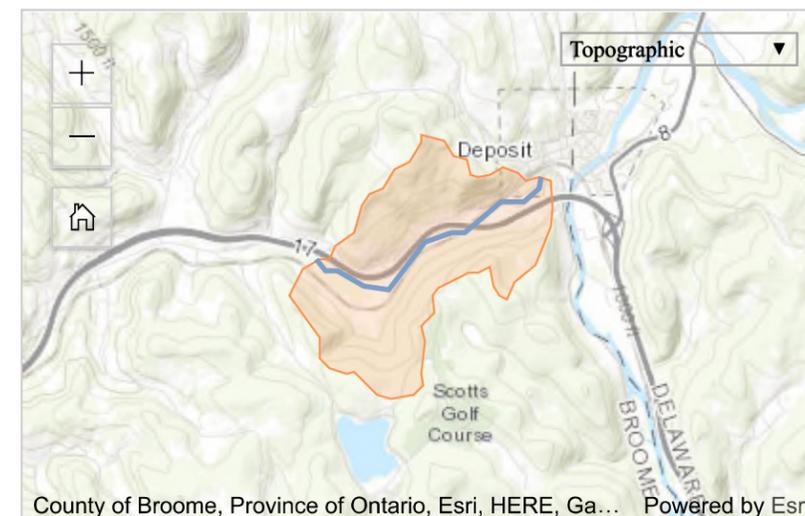
StreamCat data extracted as of March 2017.  
More information on the [StreamCat dataset](#).

LAST UPDATED ON FEBRUARY 15, 2017



## Watershed Report

The Watershed Report provides a variety of stream, catchment and watershed related information from the [National Hydrography Dataset Plus](#) (NHDPlus Version 2) and other sources including the extensive collection of [StreamCat](#) landscape layers. A catchment is the local area draining directly to the selected stream segment. A watershed is the drainage area extending from the downstream end of the stream segment (outlet) upstream to the headwaters. The map displays the stream segment and catchment.



For the stream segment	Value
Stream Name	Oquaga Creek
Stream Order	3
Stream Level	2
Mean annual flow volume (estimate)	114.43 cfs
Mean annual flow velocity (estimate)	1.32 fps
Stream Length	4.26 km
Stream Time of Travel (estimate)	0.12 days

View catchment and watershed data from either the NHDPlus or StreamCat datasets by clicking on the appropriate tab below:

[NHDPlus Catchment and Watershed Data](#)

[StreamCat Catchment and Watershed Data](#)

### For the catchment (local area draining directly to the selected stream segment)

Metrics	Catchment Total
Catchment area measurement	7.64 km <sup>2</sup>
Mean annual temperature	7.52 °C

Metrics	Catchment Total
Mean annual precipitation	1,122.76 mm

2011 National Land Cover Dataset	Catchment Total
Open Water (11)	0%
Low Intensity Residential (21)	6.32%
Commercial (23)	0.29%
Deciduous Forest (41)	64.72%
Evergreen Forest (42)	3.35%
Mixed Forest (43)	14.08%
Other	11.24%

**For the watershed (drainage area extending from the outlet upstream to the headwaters)**

Metrics	Watershed Total
Drainage area measurement	170.98 km <sup>2</sup>
Mean annual temperature	7.47 °C
Mean annual precipitation	1,124.01 mm

2011 National Land Cover Dataset	Watershed Total
Open Water (11)	0.44%
Low Intensity Residential (21)	3.11%
Commercial (23)	0.08%
Deciduous Forest (41)	53.68%
Evergreen Forest (42)	6.27%
Mixed Forest (43)	18.86%
Other	17.56%

[Download Full Report \(.json\)](#)

NHDPlus data extracted as of March 2015.  
More information on the [NHDPlus dataset](#).

LAST UPDATED ON FEBRUARY 15, 2017



**KEY TO MAP**

500-Year Flood Boundary	ZONE B
100-Year Flood Boundary	ZONE A1
Zone Designations* With Date of Identification e.g., 12/2/74	DATE
100-Year Flood Boundary	ZONE A5
500-Year Flood Boundary	DATE
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation In Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7 x
River Mile	M1.5

\*\*Referenced to the National Geodetic Vertical Datum of 1929

**\*EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AD	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
AB9	Areas of 100-year flood to be protected by flood protection systems under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

**NOTES TO USER**

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

**INITIAL IDENTIFICATION:**  
JULY 26, 1974

**FLOOD HAZARD BOUNDARY MAP REVISIONS:**  
JANUARY 2, 1975

**FLOOD INSURANCE RATE MAP EFFECTIVE:**  
JUNE 4, 1980

**FLOOD INSURANCE RATE MAP REVISIONS:**

**ELEVATION REFERENCE MARKS**

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM28	1175.68	Chiseled "X" in top of gulchpost on east side of State Highway 41 near cross section "AH". Established by Hawk Consulting Engineers.
RM29	1166.98	Orange painted spot on southwest corner of east end of bridge curb on the downstream side of bridge over Onaga Creek at Sanford, New York. Established by Hawk Consulting Engineers.
RM30	1265.37	U.S. Geological Survey standard tablet, stamped "PRIM TRAV STA NO 17 F. 1923 NY" which is in a ledge of rock approximately 0.4 mile east of Sanford at a southwest angle of the North Sanford-Shaver Hill crossroads.
RM31	1246.47	Nail in disc on power pole no. NYSEG 441-1-12 which is on the west side of North Sanford Road 2,600 feet south of Page Pond Road. Established by Hawk Consulting Engineers.
RM32	1245.28	Nail in disc on power pole no. 19-19 which is on the west side of North Sanford Road approximately 250 feet south of Page Pond Road. Established by Hawk Consulting Engineers.
RM37	1261.86	Chiseled square on top of the northeast corner of an "H" beam on the east side of the Clark Road bridge over Onaga Creek. Established by Hawk Consulting Engineers.



**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM FLOOD INSURANCE RATE MAP**

**TOWN OF SANFORD, NEW YORK**  
BROOME COUNTY

**PANEL 8 OF 16**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER**  
360054 0008 B

**EFFECTIVE DATE:**  
JUNE 4, 1980

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
FEDERAL INSURANCE ADMINISTRATION



**KEY TO MAP**

500-Year Flood Boundary  
 100-Year Flood Boundary  
 Zone Designations\* With Date of Identification  
 e.g., 12/7/74  
 100-Year Flood Boundary  
 500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet\*\*

Base Flood Elevation In Feet Where Uniform Within Zone\*\*

Elevation Reference Mark

River Mile

\*\*Referenced to the National Geodetic Vertical Datum of 1929

**ZONE B**

**ZONE A1 DATE**

**ZONE A6 DATE**

**ZONE B**

513

(EL 987)

RM7 X

• M1.5

**\*EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AM	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

**NOTES TO USER**

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

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For adjoining map panels, see separately printed Index To Map Panels.

**INITIAL IDENTIFICATION:**  
 JULY 26, 1974

**FLOOD HAZARD BOUNDARY MAP REVISIONS:**  
 JANUARY 2, 1976

**FLOOD INSURANCE RATE MAP EFFECTIVE:**  
 JUNE 4, 1989

**FLOOD INSURANCE RATE MAP REVISIONS:**

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620, or (800) 424-8872.



**ELEVATION REFERENCE MARKS**

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM13*	983.47	U.S. Geological Survey standard disc, stamped "B 128 1941" set in the top of a concrete post approximately 6 inches above the ground and approximately 7 feet lower and 43 feet west of the southbound Conrail Railroad track approximately 500 feet south of milepost 175.
RM14*	1001.15	Nail in disc in power pole at the 90-degree turn in Borden Street. Established by Hawk Consulting Engineers.
RM15	1026.67	U.S. Geological Survey standard disc, stamped "1026 Albany 1900", set in the east end of the northeast abutment of Iron Conrail Railroad bridge 176.88 over Otsego Creek.
RM16	1041.88	Circle "X" marked with paint on the top of a guidpost on State Highway 17 near cross section "G", approximately midway between 2 exit ramps off State Highway 17. Established by Hawk Consulting Engineers.
RM17	1075.68	Circle "X" marked with paint on the top of a guidpost to State Highway 17 near cross section "I" approximately 3,200 feet southwest of RM16. Established by Hawk Consulting Engineers.

\*OUTSIDE CORPORATE LIMITS

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM FLOOD INSURANCE RATE MAP**

**TOWN OF SANFORD, NEW YORK BROOME COUNTY**

**PANEL 12 OF 16**  
 (SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER 360054 0012 B**

**EFFECTIVE DATE: JUNE 4, 1989**

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT FEDERAL INSURANCE ADMINISTRATION**



**ELEVATION REFERENCE MARKS**

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM33	1287.80	Nail in disc on power pole no. DTGO 214, which is on the west side of North Sanford Road approximately 2,100 feet north of Page Pond Road. Established by Hawk Consulting Engineers.
RM34	1230.42	Nail in disc of power pole no. NYSEG 248-30, which is north of the intersection of Clark and North Sanford Roads. Established by Hawk Consulting Engineers.
RM35	1347.21	Railroad spike in base of a 24-inch maple tree on the west side of North Sanford Road at the north end of a powerline easement. Established by Hawk Consulting Engineers.

**KEY TO MAP**

500-Year Flood Boundary ———

100-Year Flood Boundary ———

Zone Designations\* With Date of Identification e.g., 12/2/74

Base Flood Elevation Line With Elevation In Feet\*\* ——— 513

Base Flood Elevation in Feet Where Uniform Within Zone\*\* (EL. 987)

Elevation Reference Mark RM7 x

River Mile • M1.5

\*\*Referenced to the National Geodetic Vertical Datum of 1929

**\*EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AD	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection systems under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

**NOTES TO USER**

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For adjoining map panels, see separately printed Index To Map Panels.

**INITIAL IDENTIFICATION:**  
JULY 26, 1974

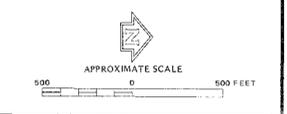
**FLOOD HAZARD BOUNDARY MAP REVISIONS:**  
JANUARY 2, 1976

**FLOOD INSURANCE RATE MAP EFFECTIVE:**  
JUNE 4, 1980

**FLOOD INSURANCE RATE MAP REVISIONS:**

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

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**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
FLOOD INSURANCE RATE MAP

**TOWN OF SANFORD, NEW YORK**  
BROOME COUNTY

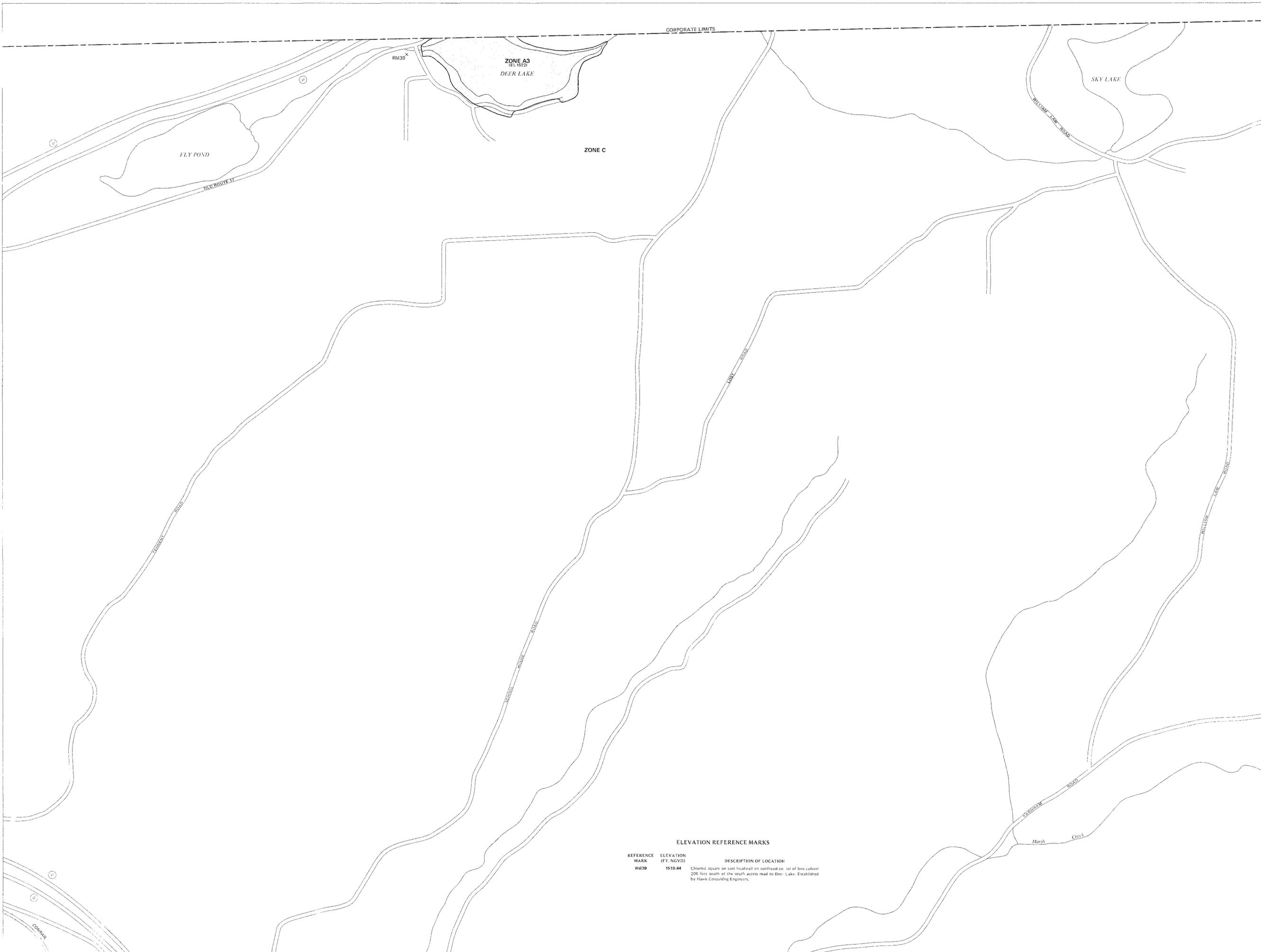
**PANEL 13 OF 16**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER**  
360054 0013 B

**EFFECTIVE DATE:**  
JUNE 4, 1980

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
FEDERAL INSURANCE ADMINISTRATION

BROOME COUNTY  
DELAWARE COUNTY



**KEY TO MAP**

500-Year Flood Boundary	-----	ZONE B
100-Year Flood Boundary	-----	ZONE A1
Zone Designations* With Date of Identification e.g., 12/2/74	-----	ZONE A5
100-Year Flood Boundary	-----	ZONE B
500-Year Flood Boundary	-----	ZONE B
Base Flood Elevation Line With Elevation In Feet**	-----	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)	
Elevation Reference Mark	RM7x	
River Mile	• M1.5	

\*\*Referenced to the National Geodetic Vertical Datum of 1929

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A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
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A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

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**INITIAL IDENTIFICATION:**  
JULY 26, 1974

**FLOOD HAZARD BOUNDARY MAP REVISIONS:**  
JANUARY 2, 1976

**FLOOD INSURANCE RATE MAP EFFECTIVE:**  
JUNE 4, 1980

**FLOOD INSURANCE RATE MAP REVISIONS:**

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actual rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6629, or (800) 424-8872.



**ELEVATION REFERENCE MARKS**

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM39	1510.44	Checked square on east headwall on northeast corner of box culvert 200 feet south of the south access road to Deer Lake. Established by Hawk Consulting Engineers.

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
FLOOD INSURANCE RATE MAP

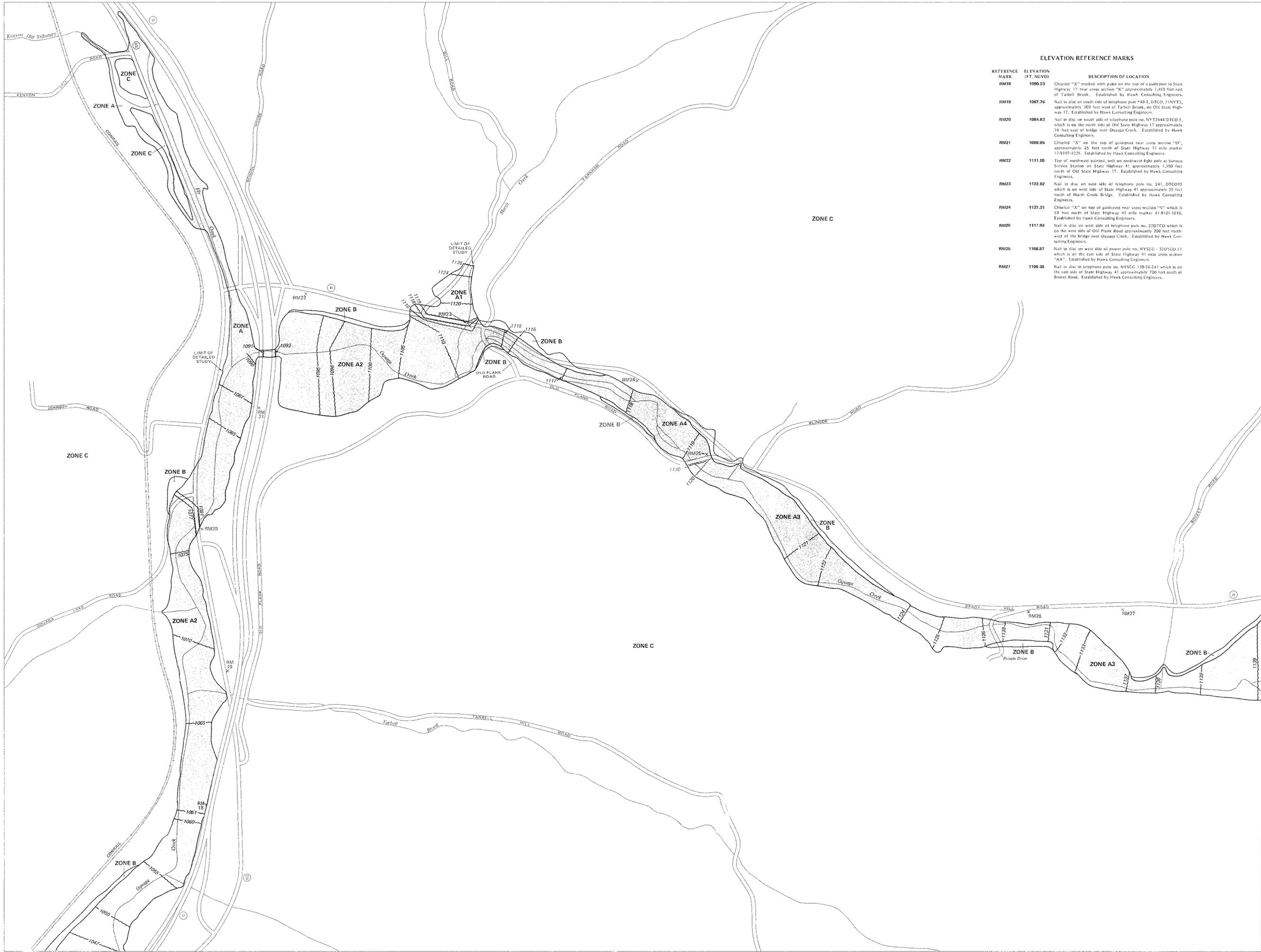
**TOWN OF SANFORD, NEW YORK**  
BROOME COUNTY

**PANEL 2 OF 16**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER**  
360054 0002 B

**EFFECTIVE DATE:**  
JUNE 4, 1980

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
FEDERAL INSURANCE ADMINISTRATION



**ELEVATION REFERENCE MARKS**

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM18	1090.23	Chisled "X" marked with paint on the top of a sidewalk to State Highway 17 near cross section "K" approximately 1,450 feet east of Tarbell Brook. Established by Hawk Consulting Engineers.
RM19	1067.76	Nail in disc on south side of telephone pole #49-2, DTGCO, 71NYE3, approximately 300 feet west of Tarbell Brook, on Old State Highway 17. Established by Hawk Consulting Engineers.
RM20	1084.83	Nail in disc on south side of telephone pole no. NY72644 DTGCO 5, which is on the north side of Old State Highway 17 approximately 70 feet east of bridge over Quaker Creek. Established by Hawk Consulting Engineers.
RM21	1099.86	Chisled "X" on the top of guidpost near cross section "O", approximately 25 feet north of State Highway 17 mile marker 17-9107-3225. Established by Hawk Consulting Engineers.
RM22	1111.05	Top of northwest pinto, both on northwest light pole at Sunoco Service Station on State Highway 41 approximately 1,100 feet north of Old State Highway 17. Established by Hawk Consulting Engineers.
RM23	1122.62	Nail in disc on west side of telephone pole no. 241, DTGCO15 which is on west side of State Highway 41 approximately 25 feet north of Marsh Creek Bridge. Established by Hawk Consulting Engineers.
RM24	1137.31	Chisled "X" on top of guidpost near cross section "V" which is 50 feet north of State Highway 41 mile marker 41-9101-1010. Established by Hawk Consulting Engineers.
RM25	1117.94	Nail in disc on west side of telephone pole no. 27DTCO which is on the west side of Old Plank Road approximately 200 feet northwest of the bridge over Quaker Creek. Established by Hawk Consulting Engineers.
RM26	1188.87	Nail in disc on west side of power pole no. NYSEG - 3201CO 51 which is on the east side of State Highway 41 near cross section "AA". Established by Hawk Consulting Engineers.
RM27	1190.38	Nail in disc in telephone pole no. NYSEG 139-36-241 which is on the east side of State Highway 41 approximately 700 feet south of Boxet Road. Established by Hawk Consulting Engineers.

**KEY TO MAP**

500-Year Flood Boundary ———

100-Year Flood Boundary ———

Zone Designations\* With Date of Identification  
e.g., 12/2/74

100-Year Flood Boundary ———

500-Year Flood Boundary ———

Base Flood Elevation Line With Elevation In Feet\*\*

Base Flood Elevation In Feet (EL 987)

Elevation Reference Mark RM7 X

River Mile • M1.5

\*\*Referenced to the National Geodetic Vertical Datum of 1929

**\*EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection systems under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile, or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

**NOTES TO USER**

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

**INITIAL IDENTIFICATION:** JULY 26, 1974

**FLOOD HAZARD BOUNDARY MAP REVISIONS:** JANUARY 2, 1976

**FLOOD INSURANCE RATE MAP EFFECTIVE:** JUNE 4, 1980

**FLOOD INSURANCE RATE MAP REVISIONS:**

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine which actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6626, or (800) 424-8872.

**APPROXIMATE SCALE**  
500 0 1000 FEET

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM FLOOD INSURANCE RATE MAP**

**TOWN OF SANFORD, NEW YORK**  
BROOME COUNTY

**PANEL 7 OF 16**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

**COMMUNITY-PANEL NUMBER**  
360054 0007 B

**EFFECTIVE DATE:**  
JUNE 4, 1980

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
FEDERAL INSURANCE ADMINISTRATION



Figure 1. Karst and potential karst areas in soluble rocks in the contiguous United States.