GEI Consultants

Wetland and Waterbodies Delineation Report

1457 Taughannock Blvd Residential Construction

1457 Taughannock Blvd, Ulysses, New York

Submitted to:
Marathon Engineering
840 Hanshaw Rd, Suite 6
Ithaca, NY 14850

Submitted by:
GEI Consultants, Inc. DBA GEI Consultants Engineering,
Geology, Architecture & Landscape Architecture
950 Danby Road, Suite 201-F
Ithaca, NY 14850
[redacted]

October 2025
Project No. 2505735

Mallory Smith, PWS
Senior Ecologist/Project Manager

Kristin Connell
Senior Ecologist

Table of Contents

List of Tables

Figures

Appendices

MR/MSS:ag
B:\Working\MARATHON ENGINEERING\2505735 1457 Taughannock Blvd\Ecology\Report\1457 Taughannock WDR.docx

Acronyms and Abbreviations

FEMA	Federal Emergency Management Act
FIRM	Flood Insurance Rate Map
GEI	GEI Consultants, Inc.
NHD	National Hydrography Dataset
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
NYSDEC	New York State Department of Environmental Conservation
PEM	Palustrine Emergent
PFO	Palustrine Forested
PSS	Palustrine Scrub-Shrub
USACE	United States Army Corps of Engineers
USACE Manual	1987 United States Army Corps of Engineers Wetlands Delineation Manual
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States
WSS	Web Soil Survey

Executive Summary

The Site at 1457 Taughannock Blvd in Ulysses, New York is being assessed for development of residential structures and the associated septic system. GEI Consultants, Inc. DBA GEI Consultants Engineering, Geology, Architecture & Landscape Architecture (GEI) was contracted to complete a wetland and waterbody delineation for wetlands and waters of the United States (WOTUS). This wetland and waterbody delineation included a database review of U.S. Geologic Survey (USGS) Topographic Map Series and National Hydrography Dataset (NHD), U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper (ERM), U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Soil Survey, and Federal Emergency Management Act (FEMA) Floodplain Data. After database review, onsite field surveys were conducted using the Routine On-Site Determination method as described in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (USACE Manual) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region.

The database review identified one NWI wetland, one NYSDEC Informational wetland, and one NYSDEC Class C(C) stream within the Site boundary. Four soil types were identified, each with a hydric rating of 0.

The field survey revealed one stream within the Site boundary. Based on the database review and field survey, Stream 1, an unnamed tributary to Cayuga Lake, is anticipated to fall under the jurisdiction of USACE.

The Site has also been reviewed in the context of regulatory changes in effect January 1, 2025, and changes that are upcoming in 2028.

1. Introduction

1.1. Purpose

This report presents the results of our desktop review and field reconnaissance to support a siting assessment for the development of residential structures and utilities. GEI Consultants, Inc. DBA GEI Consultants Engineering, Geology, Architecture and Landscape Architecture (GEI) was contracted to complete a wetland and waterbody delineation for existing wetlands and waters of the United States (WOTUS).

1.2. Scope

Our scope consisted of the following:

- Performed a desktop review of available on-line resources.
- Performed one day of on-site wetland delineation and field reconnaissance.
- Prepared this report presenting the results of our desktop review and field reconnaissance and our conclusions and recommendations.

1.3. Authorization

Our work was authorized on September 29, 2025, with work to be conducted under our existing Master Services Agreement.

2. Site and Project Description

2.1. Site Location and Setting

The review area (hereafter referred to as the Site) encompasses an approximately 4.7-acre parcel located at 1457 Taughannock Blvd in the town of Ulysses, Tompkins County, New York (Figure 1). The Site is bound by Taughannock Blvd to the south, residential parcels to the east and west, and Cayuga Lake to the north. The Site is accessible from Taughannock Blvd and there is no fencing or other means to restrict access. Surrounding land use is predominantly residential parcels, forests and open water.

Topography at the Site slopes downward toward Cayuga Lake to the northeast. A steep gorge with a stream at the bottom runs along the eastern boundary. Elevations (El.) ranged from approximately El. 382 to El. 533 feet above mean sea level (United States Geological Survey [USGS] Topographic Map, NAVD88).

GEI staff visited the Site on October 1, 2025. During the site visit, the weather was sunny, and daily high temperatures were in the mid-60s. Over the preceding two weeks, average temperatures were in the mid-60s, with the area receiving no measurable rainfall, based on data provided by the National Oceanic and Atmospheric Administration (NOAA).

According to the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) (http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm), there are four soils mapped on the Site each with a hydric rating of 0. The Site is in Land Resource Region L 101 and within the Willow Creek – Cayuga Lake Subwatershed.

Per the Federal Emergency Management Agency's (FEMA's) National Flood Hazard Layer (NFHL) Viewer (https://msc.fema.gov/portal/home), the northern boundary of the Site is located within Zone AE. This is defined as an area determined to be within the 100-year flood. The remainder of the Site is considered Zone X, which is an area determined to be outside of the 500-year flood.

3. Methodology

Before a site visit was conducted, GEI reviewed several resource reference maps covering the Site. These included: the USGS Ludlowville Quadrangle Topographic Map; the USDA NRCS Soils Map, the NYSDEC Environmental Resource Mapper; and the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map. These maps identify potential drainageways, soil units, wetlands, and streams within the Site.

GEI visited the Site on October 1, 2025, to observe the extent and regulatory status of the wetlands and streams present within the Site boundary. Wetland areas (if present) were identified and delineated in general accordance with the US Army Corps of Engineers (USACE) Manual (Environmental Laboratory, 1987) and the Northcentral and Northeast Regional Supplement (USACE, 2012).

Soils, vegetation, and hydrology were observed and recorded to evaluate the potential presence of wetland habitats. A soil test pit was dug at representative wetland areas to observe soils for evidence of hydric soil indicators. The soil profile was described, and key characteristics including color and presence of redoximorphic concentrations were recorded. Soil colors were described using Munsell Soil Color Charts (Munsell Color, 2019), and vegetation was observed at each test pit location to evaluate the presence of hydrophytic plant communities.

Wetland indicator status was obtained for each species referring to the USACE Northcentral and Northeast 2022 Regional Wetland Plant List (USACE, 2022). Wetland hydrology indicators were also assessed at each soil pit location, including the presence of standing water, soil saturation within 12 inches of the surface, and/or evidence suggesting episodes of past inundation. Direct observations and indicators of wetland hydrology were evaluated and recorded. A Cowardin classification identification code was assigned to each wetland area based upon the representative wetland features and the Cowardin classification system definitions (Cowardin et al. 1979).

The wetland boundary and data points were mapped with ESRI Field Maps in conjunction with a Trimble DA2 GNSS receiver to facilitate sub-meter accuracy. Representative photographs of documented resources (if present) and the project area were taken and are included in this report (Appendix A).

If no wetlands were present, GEI staff identified and recorded site conditions including dominant plant species, habitat types, and surrounding land use.

4. Findings

4.1. Database Review

During the database review, various sources were consulted to identify potential drainageways, soil units, wetlands, streams, and floodplains within the Site. One NWI wetland, one NYSDEC Informational wetland, and one NYSDEC Class C(C) stream were mapped within the Site boundary. The NRCS soil survey maps indicated four soil types, each with a hydric rating of 0. Per the FEMA Flood Insurance Rate Map (FIRM) 36109C0093D (effective date June 18, 2025) the northern boundary of the Site is located in an area within the 100-year flood (Zone AE) while the remainder of the Site is outside the 500-year flood (Zone X).

USDA NRCS Web Soil Survey soil survey maps were reviewed to assess the presence of hydric soils on Site. The findings of this review are summarized in Table 4-1, below.

Table 4-1. Soil Survey Results

Symbol	Soil Unit Name	Drainage Class	Hydric Rating (%)	Hydric Description	Percentage of Site
HsB	Hudson silty clay loam, 2 to 6 percent slopes	Moderately well drained	0	Nonhydric	5.5%
HsD3	Hudson silty clay loam, 12 to 20 percent slopes, eroded	Moderately well drained	0	Nonhydric	0.2%
Ro	Rock outcrop	N/A	0	Nonhydric	93.1%
W	Water	N/A	0	Nonhydric	1.2%

Hydric Description Key (based on hydric rating %)
Hydric: 100%
Predominately hydric: 66-99%
Partially hydric: 33-66%
Predominantly nonhydric: 1-33%
Nonhydric: 0%

4.2. Site Resources and Observations

GEI staff conducted a wetland delineation on October 1, 2025, and observed no wetlands within the Site boundary (Fig. 1 and App. A, Photos 1–8). The Site is currently used as a residential property and contains a house, detached carport, and boathouse situated in the northern portion along Cayuga Lake. The immediate area surrounding the residence consists of maintained lawn, landscaped plantings, and hardscaped surfaces. The remainder of the Site is characterized by steep topography, including gravel driveways traversing forested slopes to the west and a steep shale gorge to the east, which occupies approximately one-third of the Site.

Within the forested portion, the overstory is composed primarily of mature hickory (*Carya* spp.), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), eastern hemlock (*Tsuga canadensis*),

and American hophornbeam (*Ostrya virginiana*). The herbaceous understory was sparse and included Pennsylvania sedge (*Carex pensylvanica*), partridgeberry (*Mitchella repens*), English ivy (*Hedera helix*), and pale swallowwort (*Vincetoxicum rossicum*). Within the gorge, plant species observed included crested wood fern (*Dryopteris cristata*), maidenhair fern (*Adiantum pedatum*), maidenhair spleenwort (*Asplenium trichomanes*), and herb-robert (*Geranium robertianum*). The Site is unfenced and ungated, with access provided via a gravel driveway from Taughannock Blvd along the southern boundary.

No wetlands were identified during the Site investigation. Within the area corresponding to the mapped NYSDEC Informational Wetland, a steep gorge containing an unnamed tributary to Cayuga Lake was observed (Fig. 1 and App. A, Photos 9–23). Stream 1 was classified as an intermittent riverine feature with a bedrock substrate (R4SB1C). Flow was present at the time of the investigation. Approximately 0.37 acres of stream channel were delineated within the Site. The stream enters the Site from the southwest through a culvert beneath Taughannock Blvd, flows northeast along the eastern parcel boundary, and discharges into Cayuga Lake at the northern parcel boundary. Given its intermittent flow and hydrologic connections to off-Site resources, Stream 1 is anticipated to fall under the jurisdiction of USACE. As a Class C(C) stream, it is not subject to NYSDEC regulation.

5. Conclusions

Based on the field survey and database review, Stream 1 is anticipated to fall under the jurisdiction of the USACE. If development is pursued, a Jurisdictional Determination, permit, or Letter of No Permit Required from the USACE may be appropriate dependent on proposed development.

Although NYSDEC indicates the potential presence of a jurisdictional wetland at the property, no wetlands or other NYSDEC-regulated resources were observed. A Project Jurisdictional Determination request would be appropriate.

A professional opinion of anticipated permitting requirements for impacts can be provided upon review of preliminary site plans.

6. Limitations

The Site investigation described in this report was conducted and prepared on behalf of and for the exclusive use of Marathon Engineering. No other entity may rely upon the results of the assessment or contents of this report for any reasons or purpose, whatsoever.

GEI performed this investigation in accordance with generally accepted practices of engineers, scientists, and/or consultants providing similar services at the same time, in the same locale, and under like circumstances. No other warranty, expressed or implied, is made as to the professional opinions included by GEI in this report.

7. References

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. United States Fish and Wildlife Service. FWS/OBS-79/31. Washington, DC.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Munsell Color (Firm), Munsell Soil Color Charts: with Genuine Munsell Color Chips. Grand Rapids, MI: Munsell Color, 2019.

US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, September 29, 2025. https://www.weather.gov/wrh/climate.

United States Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

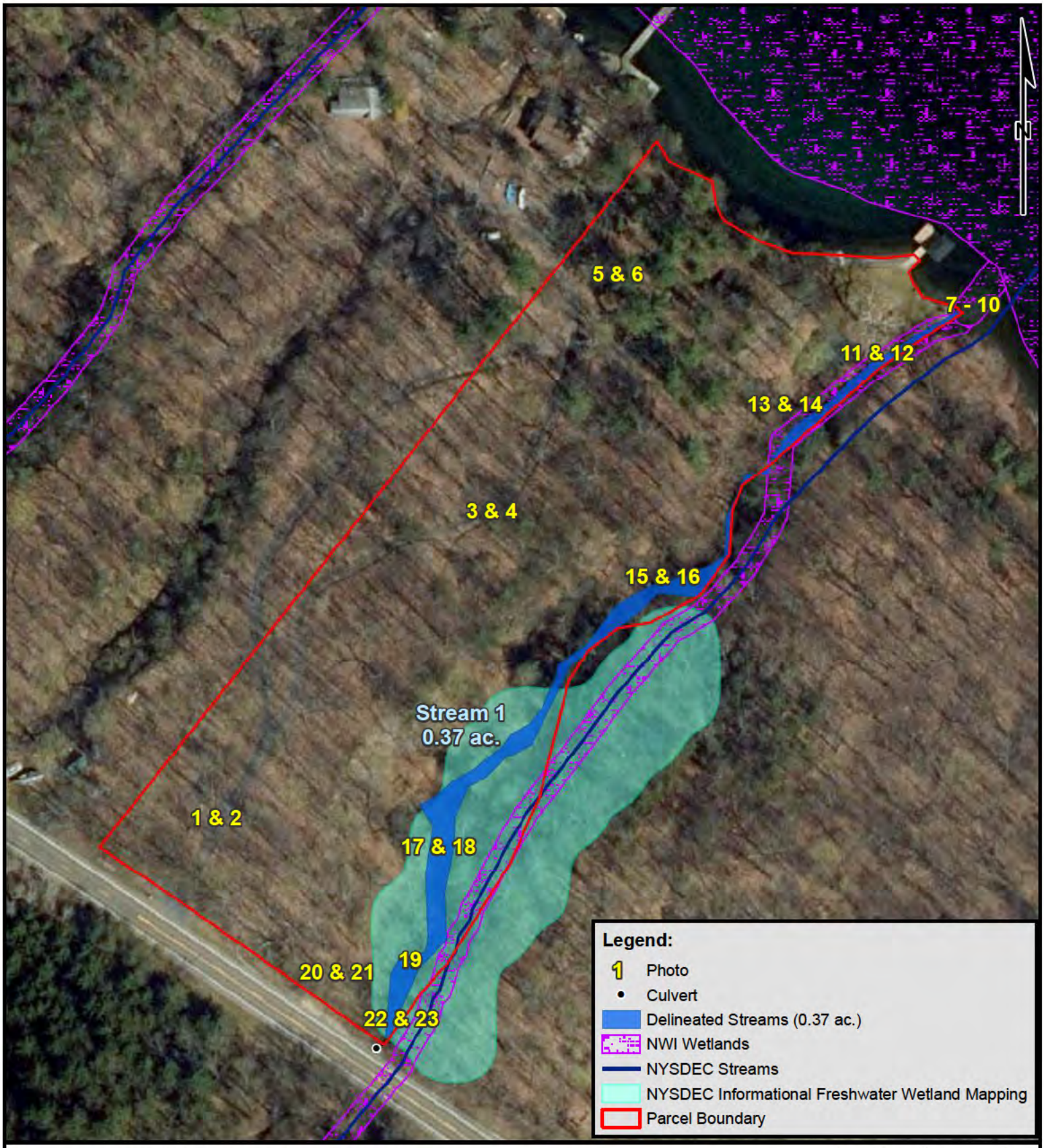
U.S. Army Corps of Engineers 2022 National Wetland Plant List, version 3.6 https://wetland-plants.sec.usace.army.mil/

United States Geological Survey Topographic Map, Ludlowville, New York Quadrangle, 7.5-Minute Series, dated 2025.

United States Department of Agriculture and Natural Resources Conservation Service, Natural Resources Conservation Service (NRCS), Web Soil Survey, September 29, 2025. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

United States Environmental Protection Agency, My Waterway, September 29, 2025. https://mywaterway.epa.gov/

Figure



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

0 50 100 200
1 inch = 150 feet

Proposed Residential Construction Site
1457 Taughannock Blvd
Ulysses, Tompkins County, NY

Marathon Engineering

GEI Consultants

WETLAND DELINEATION

Project #: 2505735

October 2025

Fig. 1

B:\Working\MARATHON ENGINEERING\2505735 1457 Taughannock Blvd\05_GIS\1457 Taughannock Blvd Fig.mxd

Appendix A Photographs

Photo 1. Access driveway from Taughannock Blvd, facing southwest

Photo 2. Access driveway from Taughannock Blvd, facing northeast

Photo 3. Approximately halfway down the gravel driveway, facing northeast. A small carport structure is visible in the background

Photo 4. Approximately halfway down the gravel driveway, facing southwest

Photo 5. Northern corner of the parcel, facing northeast

Photo 6. Northern corner of the parcel, facing east toward the residential structure

Photo 7. Eastern corner of the parcel, facing northwest along the lakeshore

Photo 8. Eastern corner of the parcel, facing southwest toward residential structure

Photo 9. Eastern corner of the parcel, facing east where Stream 1 discharges into Cayuga Lake

Photo 10. Eastern corner of the parcel at Stream 1, facing south (upstream)

Photo 11. Stream 1 nearest Cayuga Lake, facing downstream northeast. The discharge into Cayuga Lake can be seen in the background

Photo 12. Stream 1 nearest Cayuga Lake, facing upstream southwest

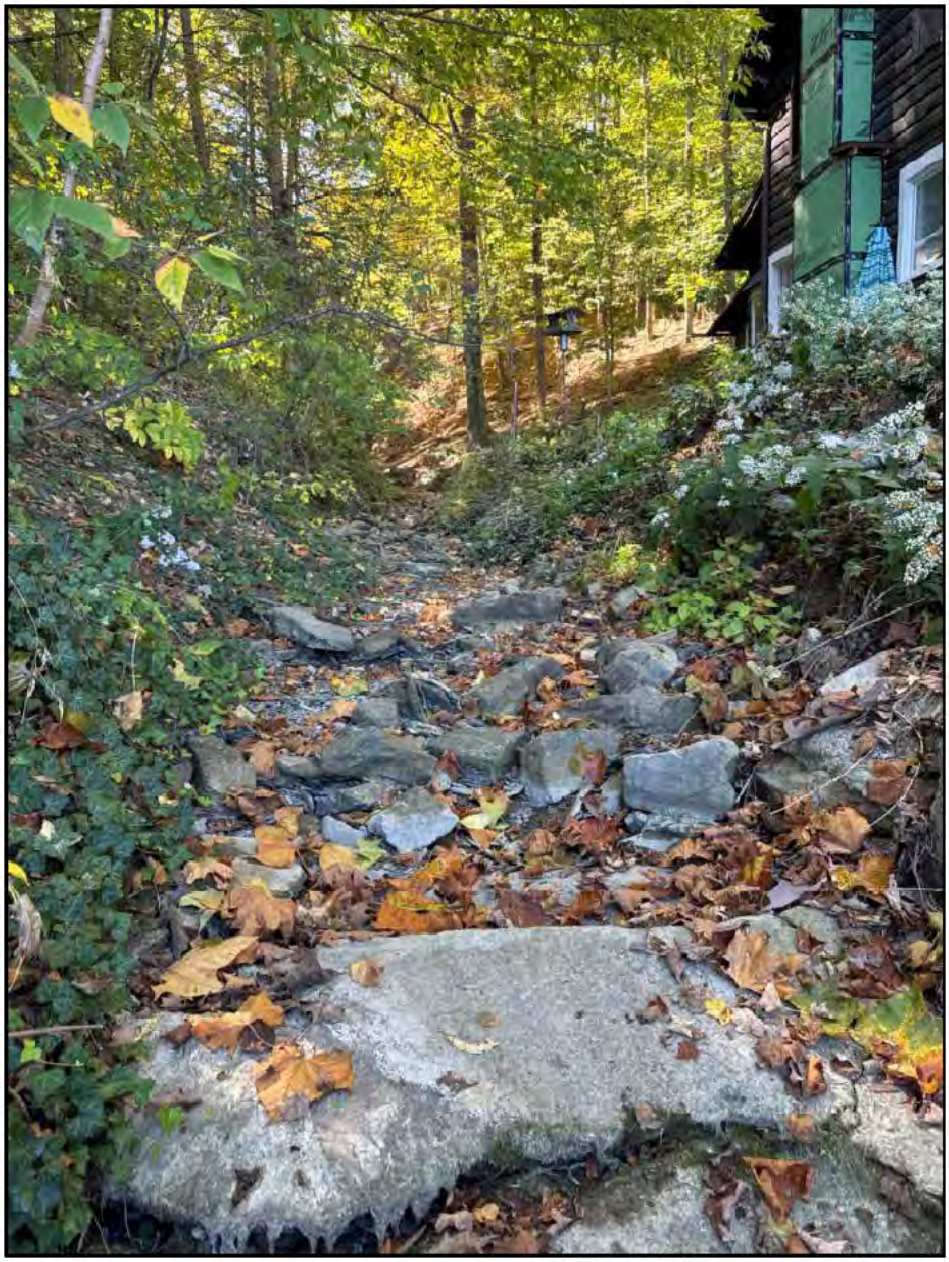


Photo 13. Between the residential structure and Stream 1, facing northeast downstream

Photo 14. Between the residential structure and Stream 1, facing southwest upstream

Photo 15. Approximately the middle of Stream 1, facing southwest upstream

Photo 16. Approximately the middle of Stream 1, facing northwest downstream

Photo 17. Nearing the southern portion of Stream 1 where the gorge becomes wider and steeper, facing north

Photo 18. Nearing the southern portion of Stream 1 where the gorge becomes wider and steeper, facing south

Photo 19. Southern portion of Stream 1, facing south at rock overhang

Photo 20. From the western bank of Stream 1, facing northeast

Photo 21. From the western bank of Stream 1, facing southeast at rock overhang

Photo 22. From the top of the rock overhang, facing northeast downstream

Photo 23. Culvert with extended wingwalls passing under Taughannock Blvd