Wetland Report

Joey Estates Site
Cedar Hill Road
Town of Wappinger
Dutchess County, NY

February 5, 2024

Prepared by:

Michael Nowicki
Ecological Solutions, LLC
121 Leon Stocker Drive
Stratton, VT 05360
(203) 910-4716

WETLAND REPORT

SUBJECT SITE: *Joey Estates Site*
Cedar Hill Road
Town of Wappinger, Dutchess County

DATE: February 5, 2024

1.0 INTRODUCTION

A Federal and Town of Wappinger wetland delineation was completed for the Joey Estates site consisting of 139 acres located on Cedar Hill Road in the Town of Wappinger, Dutchess County, New York (*Figure 1*).

Project Consultant – The wetlands were delineated by Michael Nowicki on August 10, 2023 for the Applicant. Nowicki's address information is 121 Leon Stocker Drive, Stratton, VT 05360 – Phone Number is 203-910-4716.

Distance to Navigable Waters - Wetland and a tributary is located at the south central part of the site and flows to the southwest toward Smithtown Road and then toward Route 9.

Substrate material – Substrate in the wetland/Tributary is Punsit silt loam. Substrate material in the tributary is best described as silty substrate with gravel. The average annual precipitation is 40.72 inches.

Purpose of Request - The Applicant is proposing a subdivision in the project area of the site. The methodology used for this delineation review consisted of the Routine Onsite Determination Method prescribed in the 1987 USACE Wetlands Delineation Manual[1] and supplement. A baseline, Cedar Hill Road, wasestablished, and 3 transects were traversed (field investigated) throughout the site. Vegetation was sampled along these transects at 100' intervals or observation points where applicable. Dominant vegetation was noted at each point, and hydrophytic (wetland) vegetation was considered to be present when 50% or more of the vegetation throughout the strata of each plant community was classified as either facultative, facultative wet, or obligate wet. Hydrophytic vegetation was also positively identified based on the presence of secondary characteristics including morphological adaptations for occurrence in wetlands. Adaptations noted include: adventitious roots, shallow root systems where surface rock was not apparent, buttressed trunks, and hypertrophied lenticels. Soils were then sampled where facultative or facultative wet vegetation was dominant. Soils were not determined where the dominant vegetation was obligate wet. These points were classified as Federal/Town wetland without further investigation.

Soil samples were taken with a sharp-shooter to a depth of 18" of the soil profile where possible. Hydric soil indicators noted include: presence of seasonal high water table, inundation, presence of hydrogen sulfide, soil chroma of 1(without mottles) or 2 (with mottles) as per the Munsell Soil Color Chart, gleying,

[1] Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," TR y-87-1, US Waterways Experiment Station, Vicksburg, Miss.

iron and manganese concretions, and oxidized rhizospheres. Hydric soils were determined to be present when any one of these indicators was recognized. The soil map was also reviewed (*Figure 2*).

Each observation point was also examined to determine if wetland hydrology was present at some time during the growing season. Indicators of wetland hydrology noted at the site include: soil saturation within the test hole or at the soil surface, inundation, positive drainage patterns, and watermarks on tree trunks or waterstained leaves on the ground.

When an observation point contained all three wetland parameters: hydrophytic vegetation, hydric soils, and evidence of seasonal hydrology, the point was determined to be wetland and corresponded with the flags placed in the field. The area surrounding the observation point was then investigated to determine theupland boundary via the same methodology. The delineation was confirmed in this manner.

A wetland pocket is purportedly located on the Northern part of the site and is denoted on the project plan as 11,791 sf isolated intermittently wet area. As part of the field delineation this area was searched for but not found - No wetland area is located on this part of the project site and it is not known where the note on the plan originated.

2.0 EXISTING CONDITIONS/SITE CHARACTERISTICS

The site consists of 139 (+-) acres including mixed upland forest and wetland/tributary. The results of the site inspection indicate that one wetland area exhibiting wetland hydrology, soils, and vegetation is present on the site originates as a hillside seep.

Wetland - The wetland is best described as forested wetland characterized by saturated soil and a spring supporting the hydrology. Dominant woody vegetation included red maple *(Acer rubrum*), sensitive fern (*Onoclea sensibilis*), sedges (*Carex spp*.) skunk cabbage (*Symplocarpus foetidus*) and red osier dogwood (*Cornus stolonifera*). This wetland is located near Cedar Hill Road and flows to the southwest. Substrate consisted of mineral and organic soils and was very rocky and is Punsit silt loam. Hydrology was derived from surface runoff from surrounding slopes and a spring toward Cedar Hill Road.

3.0 FUNCTIONAL EVALUATION

An assessment of wetland functions and values was conducted on the wetland that was identified and delineated on the site. Using a widely accepted method for wetland functions and values assessment developed by the New England District, U.S. Army Corps of Engineers, 13 distinct wetland functions and values were assessed for the delineated wetland on the site. This method yielded an objective, descriptive quality index of each wetland rather than a subjective quantified rating of each wetland. This assessment had two major objectives:

1. Objectively identify the functions and values provided by the wetland identified on the site.

2. Provide baseline data with which the Applicant could work in planning land uses, and againstwhich the Applicant could assess potential impacts of proposed development of the site

The descriptive quality index of the wetland, based on this methodology, is summarized in this report. Wetlands are legally protected because of the functions they perform and the benefits that society reaps from those functions. Wetland functions are chemical, physical, and biological processes that wetlands naturally perform as a matter of course, such as absorption of nutrients or floodwaters, or provision of habitat for fish and wildlife. Wetland values are the benefits that society derives from wetland functions, such as flood abatement, or water quality maintenance.

The functions and values assessment conducted on the site was based on the method outlined in *The Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach*, by the U.S. Army Corps of Engineers New England District (November 1995). This method was selected over an arbitrary numeric quantifying assessment scheme because it provides an objective, descriptive approach to functions and values assessment based on professional observation and judgment rather than a simple numeric value rating system. Quantified functions and values assessments do not always provide for descriptive information about wetlands and therefore may overlook important aspects of wetland functions and values.

The Highway Method provides for assessment of each wetland for thirteen defined functions and values. Of these, the first eight are considered wetland functions, and the last five are considered to be wetland values. These are:

1. **Groundwater Recharge/Discharge –** the potential for a wetland to serve as a recharge areafor an aquifer or as a surface discharge point for groundwater.

2. **Floodflow Attenuation–** A wetland's ability to store and attenuate floodwaters during prolonged precipitation events, thereby reducing or preventing flood damage.

3. **Fish and Shellfish Habitat –** The ability of permanent or temporary water bodies to providesuitable habitat for fish or shellfish.

4. **Sediment/Toxicant/Pathogen Retention –** The effectiveness of the wetland in trapping sediments, toxicants or pathogens, thereby protecting water quality.

5. **Nutrient Removal/Retention/Transformation –** The effectiveness of the wetland at absorbing, retaining, and transforming or binding excess nutrients, thereby protecting water quality.

6. **Production Export –** The wetland's ability to produce food or usable products for humans or other living organisms.

7. **Sediment/Shoreline Stabilization –** The wetland's ability to prevent erosion and sedimentation by stabilizing soils along stream banks or the shorelines of water bodies.

8. **Wildlife Habitat** – The ability of wetlands to provide food, water, cover, or space for wildlife populations typically associated with wetlands or their adjacent areas, both resident and migratory. *

9. **Recreation –** The value placed on a wetland by society for providing consumptive and non-consumptive as well as active or passive recreational opportunities such as canoeing/boating, fishing, hunting, bird/wildlife watching, hiking, etc.

10. **Education/Scientific Value –** The value placed on a wetland by society for providing subjects for scientific study or research or providing a teaching resource for schools.

11. **Uniqueness/Heritage –** The value placed on a wetland by society for having unique characteristics such as archaeological sites or sites of historical events, unusual aesthetic qualities, or unique plants, animals, or geologic features, etc.

12. **Visual Quality/Aesthetics –** The value placed on a wetland by society for having visual and/orother aesthetic qualities.

13. **Threatened or Endangered Species Habitat –** The value placed on a wetland by society for effectively harboring or providing habitat for threatened or endangered species.

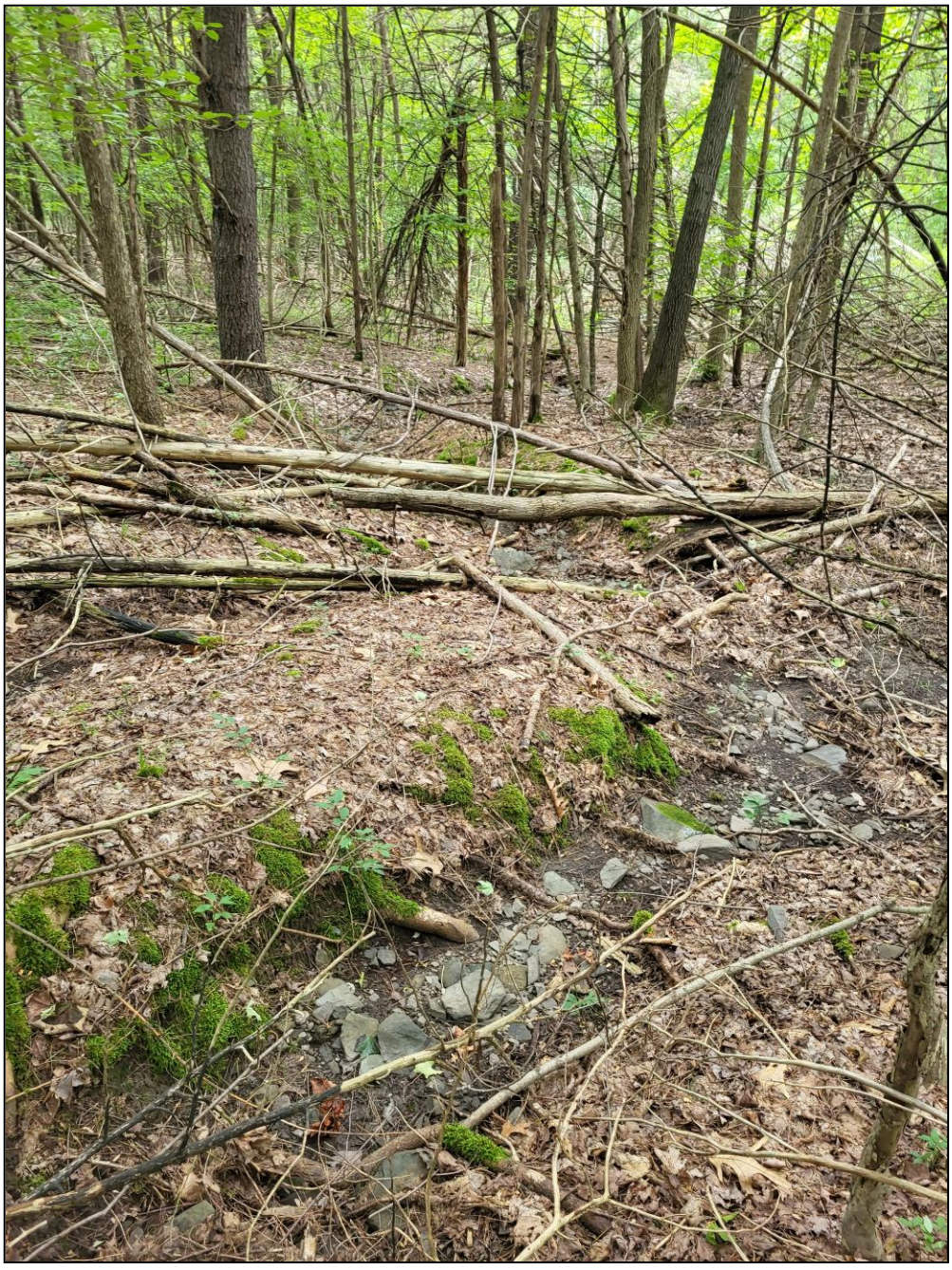
Each function or value in the list has a set list of qualifiers for identifying which functions and values are performed or provided by the wetland. The qualifiers are referenced by number on a standard evaluation form to document the functions and values assessment. In addition to outlining qualifying rationale for each function and value, the data forms also document information on each wetland's size, distance to nearest road or other development, adjacent land uses, position in the watershed, impacts from human activity, tributaries, cover types, connectivity to other wetlands, and general condition. All of these elements factor into the functions and values assessment. An assessment was performed on the wetland on the site. Findings of the assessment are outlined below.

The wetland on the site receives water primarily from a spring located near Cedar Hill Road and is also supported by overland sheet flow/surface runoff from steep slopes surrounding the wetland corridor. Hydrological indicators identified within the wetland included soil saturation, watermarks, drainage patterns, and water stained leaves. The wetland is forested and is saturated and maybe seasonally inundated. This complex is surrounded by undeveloped upland mature second-growth forest. Functions and values provided by the wetland includes groundwater discharge, nutrient removal, wildlife habitat, and some sediment detention. Of these, the most significant functions based on extent of rationale in identifying functions and values, are sediment detention and wildlife habitat.

Wildlife useage noted in the wetland is consistent with tracks observed in the substrate. Bird species would also be prevalent with many old nests observed in the vegetation in the wetland.

4.0 PHOTOGRAPHS

Tributary toward Southwestern property line.



Wetland formed by spring near Cedar Hill Road.

Upland buffer area to wetland - tributary.

Figure 1 Location Map

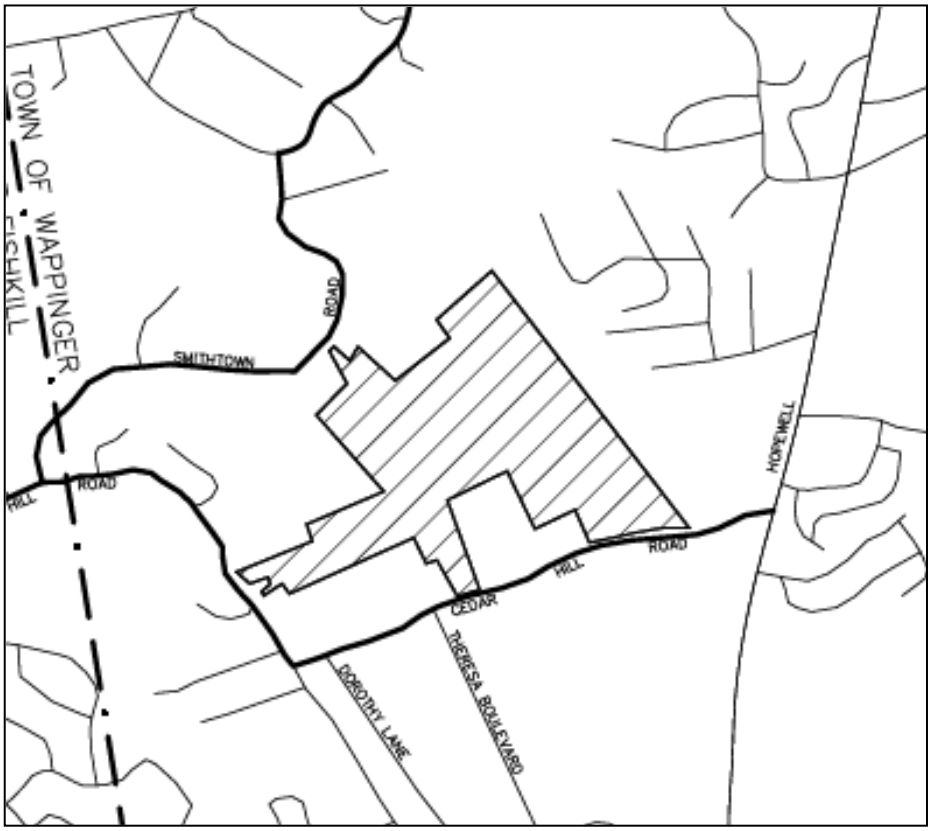


Figure 2 NYSDEC Map