

Bog Turtle Report

Proposed Buildings
1251 Kings Highway
Town of Chester
Orange County, New York

August 8, 2019

Prepared by:

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INTRODUCTION

Ecological Solutions, LLC was retained in April 2019 to complete an evaluation of the wetlands on the 38.89 acres site located at 1251 Kings Highway in the Town of Chester (*Figure 1*) for the presence of bog turtle (*Glyptemys muhlenbergii*) habitat and conduct follow-up site visits to detect bog turtle presence. The Town of Chester Planning Board indicated that there may be potential habitat on the site and the New York State Department of Environmental Conservation (NYSDEC) records indicate that there are known bog turtle occurrences within a mile of the site prompting this evaluation.

The site was previously a farm and an old farm pond, pasture, and structures remain. Aerial mapping from 1994 through 2018 is provided that shows the site and surrounding land uses (*Appendix A*). Habitats on the site include a wetland complex with forested, scrub/shrub and emergent sections as well as upland forest and dry open upland meadow/old pasture. The wetland area is fenced off by old barbed wire fence and posts from the remaining lands.

METHODS

A Phase 1 habitat evaluation was completed on April 8, 2019 and identified approximately 4 acres (Area 1 - A1) of suitable habitat within the delineated wetland complex (*Figure 2*). Suitable bog turtle habitat is defined by the presence of the following habitat criteria consistent with the federal bog turtle survey guidelines contained in the Bog Turtle Recovery Plan (USFWS 2001):

- Substrate of saturated organic and/or mineral soil
- Groundwater derived hydrologic regime
- Herbaceous and scrub/shrub vegetation including sedges and hummock forming vegetation

Additional bog turtle surveys were performed by Michael Nowicki on April 24, May 8, May 16, May 22, May 30, June 6, and July 30, 2019 under partly cloudy and sunny conditions between 9am and 3pm by slowly walking through Area A1 and adjoining wetland habitat and probing with a stick and scanning mucky soil and vegetation for concealed and basking turtles. Area A1 was surveyed at a rate of 6 hours per visit during the April and May field work and only 2 hours during the June field visit since Area A1 which was previously saturated only contained dry surface soils. A July follow up visit was completed to confirm the habitat conditions with the site wetland complex.

FIELD OBSERVATION

On the initial site visit on April 8 Area A1 contained hydrology supported by groundwater seepage from a steep wooded slope and adjacent farm field located on the west side of the site combined with flow from two excavated farm ponds located at the northern tip of the wetland complex. Areas of shallow standing water were present and dominated by sweet flag, purple loosestrife, reed canary grass, jewelweed, and tussock sedge.

Habitat evaluations in June and July 2019 however revealed that suitable conditions for bog turtles no longer existed since the soil in the entire wetland complex dried significantly to the point that there was no

mucky soil component and no evident groundwater flow from seeps to the wetland from associated upland slopes.

The July visit confirmed that groundwater seepage from the steep slope and flow from the man made ponds ceased and the wetland no longer contained a mucky surface component but rather was dry and no longer suitable for bog turtle. A data sheet is provided (*Appendix B*).

SUMMARY

There were no bog turtles or signs of their presence observed over the course of the evaluation in 2019. This evaluation indicated that there is seasonally suitable bog turtle habitat in the site wetland complex which became dry at the end of the survey period in June and which was confirmed to be very dry during the July visit rendering this site as unsuitable for a bog turtle population.

REFERENCES

Ernst, C.H., R.W. Barbour and J.E. Lovich. 1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington DC. 578 p.

USFWS. 2001. Bog turtle (*Clemmys muhlenbergii*), northern population recovery plan. U.S. Fish and Wildlife Service, Hadley, MA. 103 p.

Figure 1

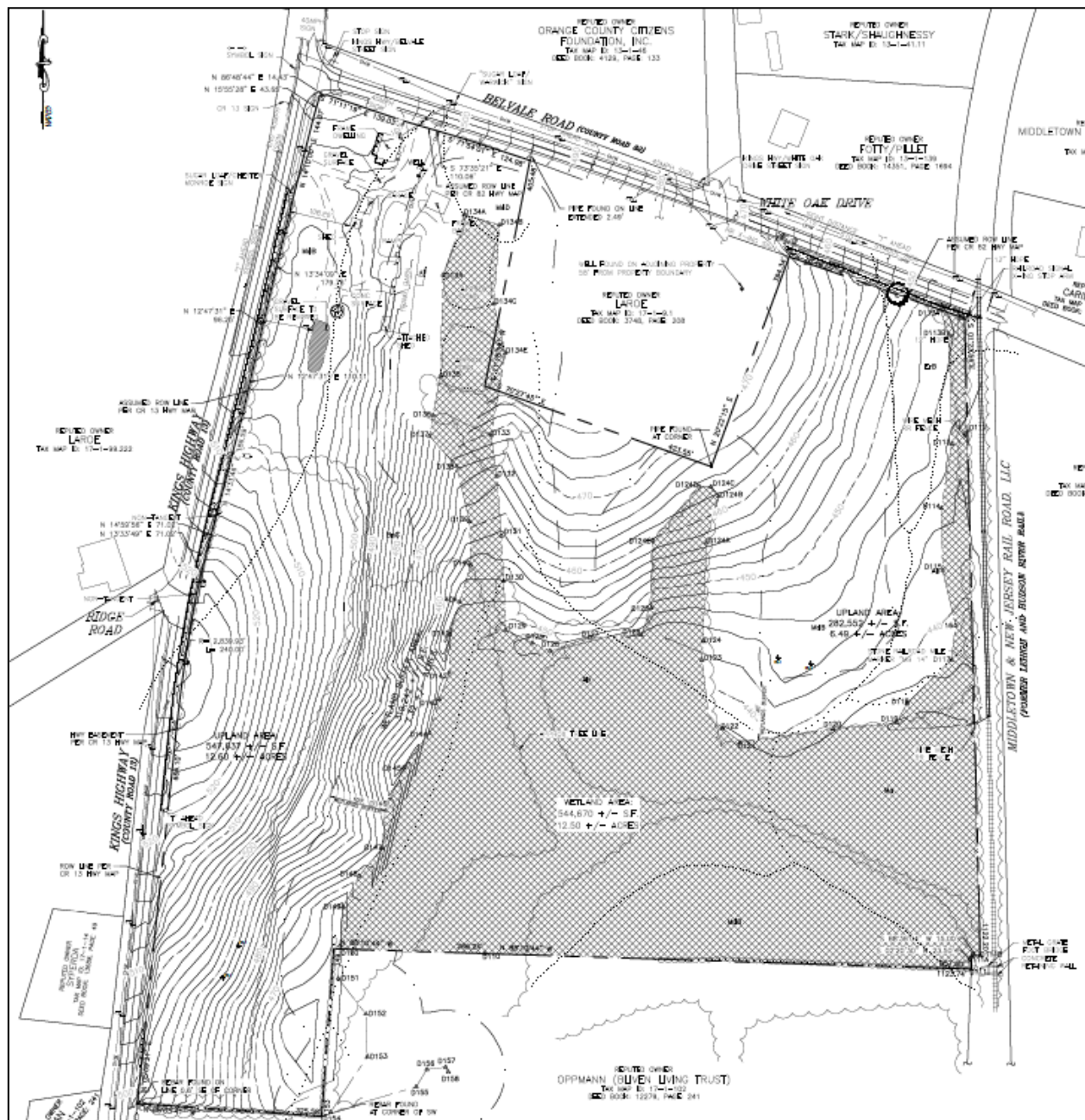


Figure 2



PHOTOGRAPHS

Wetland complex - Area A1 April 8, 2019 - View is wetland from center of A1



Wetland complex - Area A1 April 8, 2019 - View is northwest from center of A1



Wetland Area A1 center looking southwest - April 8, 2019



Wetland Area A1 center looking west - July 30, 2019



Wetland Area A1 center looking west - July 30, 2019



Wetland Area A1 center looking northwest - July 30, 2019



Wetland Area A1 center looking northwest - July 30, 2019



Appendix A – Aerial Maps













Appendix B – Data Sheet

**USFWS Hudson-Housatonic Recovery Unit Bog Turtle
Habitat Evaluation Field Form¹** (Revised 12/2013)*

Project/Property Name: 1251 Kings Highway - Chester, NY
 Project Name/Type: 1251 Kings Highway - Commercial Development
 Applicant/Landowner Name: Simon Obkrecher
 County: Orange Quad: _____ Township/Municipality: Chester
 NYNHP Species Hit ☐ Y ☒ N Map attached ☒ Y ☐ N Aerial attached ☒ Y ☐ N
not on site

ACTION AREA²

Action area size: 38 acres Does the Phase 1 survey include all wetlands in the action area? ☒ Y ☐ N³
 If no, give wetland ID #s and reasons for no survey: _____
 If yes, give wetland ID #s for each: 1 Submit one survey form per wetland.

WETLAND ID: 1 PHOTOS TAKEN: ☒ Yes ☐ No WETLAND SIZE: 12+ acres
 Wetland size estimation – If actual acreage is not known at time of investigation, check one:
☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ > 0.5 to < 1 acre ☐ 1-2 acres ☐ 2-4 acres ☒ 5+ acres ☐ 12+ acres

WETLAND LOCATION: Lat. 41° 18' 21.57" N Long. 74° 17' 13.94" W
 (approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ☒ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: April 8 + June 6, 2019 Time In: 0:00 Time Out: 15:00
 Last precipitation: ☐ < 24 hours ☒ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ☐ N
☐ Unknown

How much of this wetland is located off-site (i.e., outside the project boundaries or right-of-way)?
☐ none of it – the entire wetland is within the project boundaries (skip next 2 questions)
☒ some of it – _____ acres or 50 % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the off-site portion was surveyed (on foot)?⁴
☒ none of it ☐ all of it ☐ part of it (_____ % or _____ acres of the off-site portion)

How much of the off-site portion of this wetland is visible (e.g., from the subject property or from a public road)? ☐ all of it ☐ part of it (at least _____ acres) ☒ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ☒ N
☒ Unknown If yes, could they be potential bog turtle habitat? ☒ Y ☐ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):
old farm with existing farmhouse, barn, farm ponds, forest, pastures, and cornfield

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ☒ PEM 15 ☒ PSS 30 ☒ PFO 50 ☒ POW 5
 NYSDEC Mapped Wetland ☒ Y ☐ N Name WR-36 NWI Mapped Wetland ☐ Y ☐ N
 Edinger et. al. (2002)⁵ Community Types: Red maple swamp, successional wet meadow
Rich mesophytic forest

Project Name 1251 Kings Highway Wetland ID 1

☒ Y ☐ N Are there any signs of disturbance to hydrology (ditching, filling, ponds, roads, etc.)? If yes, describe cattle ponds, ditch through wetland
☒ Y ☐ N Are there any signs of disturbance to vegetation (mowing, pasturing, burning, etc.)? If yes, describe pasture

Hydrology

☒ Y ☐ N Springs or seeps ☐ visible or ☒ likely? Muskgrass (*Chorizanthe* spp.) present? ☒ Yes ☐ No
☒ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ☒ Unlikely ☐ Unknown
☐ Y ☒ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ☒ N Evidence of flooding? If yes, describe indicators

Hydrological Regime (Cowardin 1979): ☐ Semi-permanently flooded ☒ Seasonally flooded ☐ other

Notes: wet in spring - very dry in June and summer, no muck could support walking through without sinking into soil substrate.

Soils Mapping Unit (optional): Alden silt loam

Field observations confirm mapped type? ☒ YES ☐ NO ☐ Unknown

Soils – PEM Portions of Wetland

Mucky? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <u>April June</u>	How much of it (PEM) is mucky? <input checked="" type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: <u>2 to 3</u> "	Most of the mucky part(s) of the wetland can be probed: <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"
Non-mucky? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	How much of it (PEM) is non-mucky? <input type="checkbox"/> <10% <input type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input checked="" type="checkbox"/> 50-70% <input type="checkbox"/> >70%		

Soils – PSS and PFO Portions of Wetland

Mucky? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <u>April May June</u>	How much of it is mucky? <input type="checkbox"/> <10% <input checked="" type="checkbox"/> 10-29% <input type="checkbox"/> 30-49% <input type="checkbox"/> 50-70% <input type="checkbox"/> >70%	Mucky soils range in depth from: <u>2 to 3</u> "	Most of the mucky part(s) of the wetland can be probed: <input checked="" type="checkbox"/> 3-5" <input type="checkbox"/> 6-8" <input type="checkbox"/> 9-11" <input type="checkbox"/> ≥12"
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Notes: _____

Wetland Vegetation (characterize the wetland as a whole)

Dominant Vegetation: purple loosestrife, seed canary grass, sweet flag, juncus, tussock sedge, red maple, American elm

Calciphiles** (See list for examples) ☒ tussock sedge ☐ grass-of-Parnassus ☐ poison sumac ☐ shrubby cinquefoil ☐ other: _____

Project Name 1251 Kings Highway

Wetland ID 1

Reptiles and Amphibians

Were any bog turtles observed? ☐ YES ☒ NO¹⁰ If yes, how many? _____

If you are permitted to handle bog turtles, please fill out a data form (Appendix A) and submit to state contacts¹⁰.

If you are not permitted, please take a photo(s) of bog turtle (without handling) and submit to state contacts¹⁰.

Other reptiles or amphibians ☒ observed ☐ previously observed: _____

Cow frog, tree frog, milk snake

Additional Comments/Observations: (use additional sheets if necessary)

INVESTIGATOR'S OPINION

☐ YES ☐ NO ☒ UNSURE The hydrology criterion¹¹ for bog turtle habitat is met.

Notes: Seasonally saturated, very dry beginning of June - seeps were dry and flow from stream ponds ceased.

☐ YES ☐ NO ☒ UNSURE The soils criterion¹¹ for bog turtle habitat is met.

Notes: seasonally mocky soil - again by early June soil was very dry and could support walking through even without much doubt

☒ YES ☐ NO ☐ UNSURE The vegetation criterion¹¹ for bog turtle habitat is met.

Notes: Some pretty generic open areas

☐ YES ☒ NO ☐ UNSURE This wetland is potential bog turtle habitat.

Notes: Given that the substrate was very dry the hydrology is seasonal and unlikely to support bog turtles. Aerial mapping indicates that a ditch exists in wetland probably installed by farmer decades or even years ago

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Michael Nowicki [Signature] 8/9/15
Investigator's Name (print) Investigator's Signature Date

Contact info: ecolsolead.com 203 910-4716

Project Name 1251 Kings Highway Wetland ID 1