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April 15, 2015

Norman Fontaine, Chairperson
& Members of the Amenia Planning Board
4988 Rte. 22, Amenia, NY 12501

Dear Chairman Fontaine and Members of the Amenia Planning Board:

At your request I have examined various documents submitted by the Silo Ridge Field Club. The scope of my review was outlined in an email dated March 5th, 2015 directed to me by Chairman Fontaine, with a copy to Planning Board Attorney David Everett and Larissa DeLango, Planning Board Administrator. I have confined my review to these areas, though I have answered additional questions posed by my colleagues to them directly, especially to David Everett and MaryAnn Johnson. Please note that I assume no responsibility for the accuracy of content and evaluation of documents beyond those that I was specifically requested to review as the Primary Reviewer as follows:

New or substantially revised documents: Volume 1: Addendum to the EAF, sections C.2, D.5, E.3, and P.1 & Volume 5: Responses to Comments: 3.2.

Documents with minor revisions: Volume 1: Addendum to the EAF: D.1, D.2, E.1, P.2, Q.1., Q.3

I also spot checked other sections of the Addendum to the EAF that are being reviewed by other consultants that had environmental overlap, specifically Appendix C.1 (Soils Map) and Appendix D.4 (Floodplain Comparison Plan) and also reviewed the Amended Master Development Plan. I also reviewed other comments in Volume 5 including those directed at other consultants and the public. I did not examine any of the contents of Volumes 3, 4, or 6 including any of the material relative to the conservation easement or the interactions between the Applicant, the Town, and the Dutchess Land Conservancy.

COMMENTS

Vol. 1: C.2: Environmental Constraints Plan: OK except for two minor lot line adjustments in the estate homes that I was not aware of. Apparently these had been agreed to in one of the meetings between certain consultants and Silo Ridge. These don't appear problematic *per se* but raises a policy issue of increasing the size of the site to accommodate two homes that may not have been able to be designed within the constraints of the original site boundary.

Vol. 1: D.5: Buffer Management Comparison Plan: The buffer along the water feature on ENV-5 is missing, although it is supposed to be 48% buffered by a 30 foot planted strip. According to drawing BC-2 it has 709 linear feet of shoreline, of which 340 feet are buffered with a 30 foot wide planting strip. Also on BC-2 the location of the feature is listed as ENV-6, however it is shown on ENV-5. Also SWM 3 and SWM 4 are listed as being on ENV-4, but in fact they are on ENV-5. And SWM 1 is listed as being on ENV-6, but it is on ENV-4. These erroneous tables are duplicated on drawings BC-1, BC-2, and BC-3. I

suggest that the Applicant re-check the locations of all the constructed habitats and make sure they are keyed to the correct map (ENV- 4, 5 or 6).

Vol. 1: E.3: Ecological Assessment: Studies on Parcel 1 have provided important new data on the natural resources of that area. However the Applicant has failed to assess impacts from proposed activities on Parcel 1 on a group of endangered, threatened, or rare wildlife species and their habitats. At the request of Planning Board Attorney David Everett, I am providing in Appendix 1 to this letter the SEQRA Ecological Analysis of Parcel 1 that is required by zoning to ensure that the application is deemed complete. This information should be incorporated into the EAF and the findings statement as appropriate.

Some minor editorial comments on the Ecological Assessment of Parcel 1:

Page 12: Northern redback salamander (*Plethodon cinereus*) is not a species found in shallow emergent marshes. It is a strictly terrestrial species. Possibly the preparer meant to include the red-spotted newt (*Notophthalmus viridescens*) which I documented at this site in 2013.

Page 23: The table for amphibians found in the Parcel 1 wetland needs to be corrected as follows:

wood frog *Rana sylvatica* larval stage
gray treefrog *Hyla versicolor* larval stage

the table should have six species to correspond with the text.

Vol. 1: P1: Audubon International Letter Dated December 19, 2014: This letter is meaningless as it is unsupported by any evidence in the record other than a commitment to follow certain protocols. I examined P.2 Audubon International Updated Natural Resource Management Plan which are the updated sheets to the Natural Resource Management Plan and have the following comment: Figure 4-1 has zones indicated in red and green, yet there is no legend on Figure 4-1 indicating what these colored areas indicate in terms of management.

Vol. 1: Q.1: Habitat Management Plan: Species narratives beginning on page A-14. The applicant needs to prepare a narrative paragraph for the Northern Long-eared Bat which occurs on site. It may be one of the most important wildlife species on the site as it is a candidate for Federal ESA listing. ENV-5 lacks the buffer around the Water Feature (see earlier comments). The same errors as to location of constructed wetlands and their buffers on ENV-4, 5, and 6 as reported on the Water Quality Buffer tables discussed earlier are repeated again here.

Vol. 5: 10PC: David Schufeldt (*not* Shewfelt)

Vol. 5: 11PC: Elyse Harney (*not* Elise)

Vol. 5: 13PC: Zif Estate (*not phonetic* Vis)

Vol. 5: Response MWK-9: The Planning Board has not received any copies of a formal statement from the ACOE as to the extension of time granted to the jurisdictional determination on this site. Planning Board Member Nathan Roy requested in our most recent public meeting (April 8, 2015) that Silo provide copies of relevant correspondence with the DEC and ACOE concerning various determinations they are

making. I agree with Mr. Roy that it would be very helpful to have the complete correspondence if it exists. While the Planning Board can make their decision absent these documents, it doesn't absolve the Applicant of their duty to obtain relevant permits and determinations, and to provide the Town with copies of same. This also applies to correspondence with the USFWS and other agencies. The discussion of the Rapanos timeline is largely irrelevant; it took several years or more post-Rapanos for the ACOE to come to terms with the implications of that decision and formulate new policies. Rather than expend all this effort telling me in how many different ways I am wrong, put that effort into getting a document from the ACOE, re-affirming that their jurisdictional determination for the site remains current. If, as the Applicant asserts, getting an updated jurisdictional determination is unnecessary, then it should be relatively *pro forma* to actually get one. The amount of time that the Applicant has spent arguing why they don't need to get an updated jurisdictional determination only heightens my concern that an updated jurisdictional determination may not mirror the representations made to the Planning Board by the Applicant.

Vol. 2: MDP: 5: The statement that the resort will attract residents and tourists alike is inaccurate. The gated resort community is open to residents only.

Vol. 2: MDP: 6: The label "Proposed Lot Line Adjustment" needs to be added to the two small areas in the Estate Homes section that incorporate pieces of Parcel 1.

Vol. 2: MDP: 9 1.3 Conservation Analysis Summary needs to include reference to the 0.6 acres of forested slope being incorporated by lot line adjustment from Parcel 1.

Vol. 2: MDP: 58: The label "Proposed Lot Line Adjustment" needs to be added to the two small areas in the Estate Homes section that incorporate pieces of Parcel 1.

Vol. 2: MDP: 59: There is more than one vernal pool that has conservation measures ...these all should be referenced.

Vol. 2: MDP: 61: Indicate that the Indiana Bat Survey also surveyed for Northern Long-eared Bats which were found.

Vol. 2: MDP: 94: Why is the reference made to a draft EIS in 2007 when there was an accepted final EIS 2009?

Vol. 2: MDP: 96: ADA emergency language should track the emergency language in Field Change Protocol. A dead tree is not an emergency as there is ample time as the tree is dying to obtain approvals to remove it.

Vol. 2: MDP: 133: Under 9, the easement is not owned (owner) but held (holder).

This concludes my limited review of the application as per the directive of the Planning Board.

Sincerely,



Michael W. Klemens, PhD

APPENDIX 1

SEQRA Ecological Analysis: Parcel 1.

The Applicant has conducted various wetland and wildlife studies on Parcel 1. Parcel 1 consists of a mixture of habitat types, which is illustrated in the submission. The Applicant proposes to construct a road way, following in part an existing unimproved dirt road. They propose to construct a wastewater treatment plant and a golf maintenance building on small area of disturbed habitat and field paralleling Rt. 22. There is a large wetland at the base of the landfill, just to the south of the proposed entrance road. Impacted habitats are primarily old field and disturbed areas, though the proposed roadway and development lies within various upland conservation zones for wildlife species, i.e., bog turtles and vernal pool amphibians. A small area of forested steep slope (0.6 acres) is being incorporated into two of the proposed estate lots.

The ecological assessment provided by the Applicant states that Parcel 1 contains potential habitat for Indiana Bat, Northern Long-eared Bat, New England Cottontail, and Timber Rattlesnake. They also have provided data on vernal pool amphibians on Parcel 1 and Parcel 2. They also cited the Phase One Bog Turtle Habitat Assessment that I conducted in the large Parcel 1 wetland as concluding that the site was not suitable for bog turtles. Indiana Bat and Northern Long-eared Bat would occur on the forested portions of Parcel 1. These are the 0.6 acres of forest that were incorporated into two of the estate lots and are largely outside of the ADA (allowable disturbance area) of those two lots. Therefore, the proposed use of Parcel 1 would not have impacts to either of these species. Likewise, the Timber Rattlesnake would be expected in the forested portions of the site, though it may on occasion cross open habitats in search of water and prey. Given the lack of any authoritative reports of Timber Rattlesnakes on Parcel 1, and the concentration of construction activity parallel to Rte. 22 (i.e., far away from the ridge and adjacent to a heavily travelled highway) I would consider the potential impacts to Timber Rattlesnake non-existent, or at best *de minimus*.

The New England Cottontail favors dense shrubbery such as is found in some limited portions of Parcel 1 and more on Parcel 2. This species relies on large blocks of intact habitat, and is very difficult to discern from the widespread Cottontail without DNA and skull morphology. While the Harlem Valley region in the vicinity of the development has a landscape sufficiently large to support New England Cottontails, if they do occur here they could be expected to be minimally impacted by the activities proposed on Parcel 1. Areas on the eastern side of Rte. 22—opposite the subject property, appear far more promising for this species because of the large areas of extensive shrub habitat. For example, areas surrounding the Wassaic Train Station appear to be prime habitat for this species.

VHB field work in 2014 identified two vernal pools based on the presence of breeding obligate amphibian species using the presence of larvae and egg masses. One area of vernal pool activity was found imbedded in the large wetland on Parcel 1. It is termed a cryptic vernal pool because it is a subset of a much larger wetland system (i.e., where vernal pool obligate amphibians were breeding). It is referred to as Pool 1 in my analysis. The other vernal pool (Pool 2) is a classic depression vernal pool located on Parcel 2. In the case of a classic depression vernal pool, the entire wetland corresponds to the vernal pool. Vernal pools function together as a meta-population, if their 750 foot habitat zones intersect these pools are analyzed in tandem. This is illustrated in Figure 1.

Wood frogs were confirmed breeding in Vernal Pool 1, however there was no estimate of the population size based upon egg mass counts. Vernal Pool 2 was a highly productive pool. On April 18, 2014 VHB

scientists counted 79 wood frog egg masses and 21 spotted salamander egg masses. Pool 2 has a much higher conservation value than Vernal Pool 1 because it has two species of amphibians breeding in it and significant egg production of both species. The ecological integrity of Vernal Pool 2 is greatly enhanced by the presence of a significant amount of forest within the 750-foot vernal pool life zone. This forested area is critical habitat, especially for spotted salamanders. Wood frogs are better able to exploit grassy open habitats, which is the bulk of the habitat that lies within the 750-foot vernal pool life zone of Pool 1. It is not surprising therefore that the significant vernal pool resource is Pool 2, with a satellite population of wood frogs in Pool 1 which is sub-optimal habitat. The proposed development of Parcel 1 is illustrated in Table 1. The current level of development in the vernal pool envelope (0-100 feet from the pool) is 7% and that is proposed to be increased by 24% to a total of 32%. This is by numerical standards a significant adverse impact. However, that development is occurring already in portions of the envelope that could be considered not very desirable from a wood frog's ecological perspective. The most ecologically valuable portion of the envelope, that which backs up to the west of the pool remains intact. The critical upland habitat 100-750 feet is currently at 27% developed, largely because a portion of that habitat is cut off from the pool by Rte. 22 and is considered lost to amphibians using that pool. That will increase by 10% to 36% post development. By numerical standards, this is a minor increase as the 25% threshold for development has already been exceeded by the existing site conditions.

In conclusion, I consider the proposed development on Parcel 1 to have a *de minimus* impact to the overall vernal pool resources on the site for the following reasons. A large cluster of vernal pools is protected on the open space forest on the Silo Ridge development. As significant vernal pool occurs on Parcel 2 and future development of Parcel 2 should be mindful of the need to protect the forested areas within the 750-foot vernal pool life zone. Compared to the high quality of the ridge top pools and Vernal Pool 2, and with my own examination of Vernal Pool 1 in 2013, I consider this to be a minor satellite population of wood frogs originating (most likely) by emigration from Pool 2. While arguably the development around Pool 1 is undesirable from a vernal pool conservation perspective, examining the quality of that habitat and its productivity, with the other vernal pools to be conserved on the site as a whole, it's my professional opinion that on balance, the Silo Ridge project has fully protected the important (in terms of biological productivity and landscape integrity) vernal pools on the development site (which includes a small portion of Parcel 1).

The final part of the wildlife impact analysis concerns avifauna, especially the presence of grassland birds. I have examined the report prepared at my request by VHB and concur with their conclusions that no grassland bird species are breeding on Parcel 1, and that the proposed activities on Parcel 1 will not adversely impact the assemblage of birds that occur there. In conclusion, the Applicant has presented adequate data to allow an analysis of impacts to listed, protected, endangered, threatened and rare wildlife species and their habitats. As discussed previously, it is my conclusion that those impacts are either non-existent or very minimal, and the Applicant has met their obligation under SEQRA as it pertains to wildlife and natural resource impacts on Parcel 1 in the context of the very limited area of development they are proposing on Parcel 1.



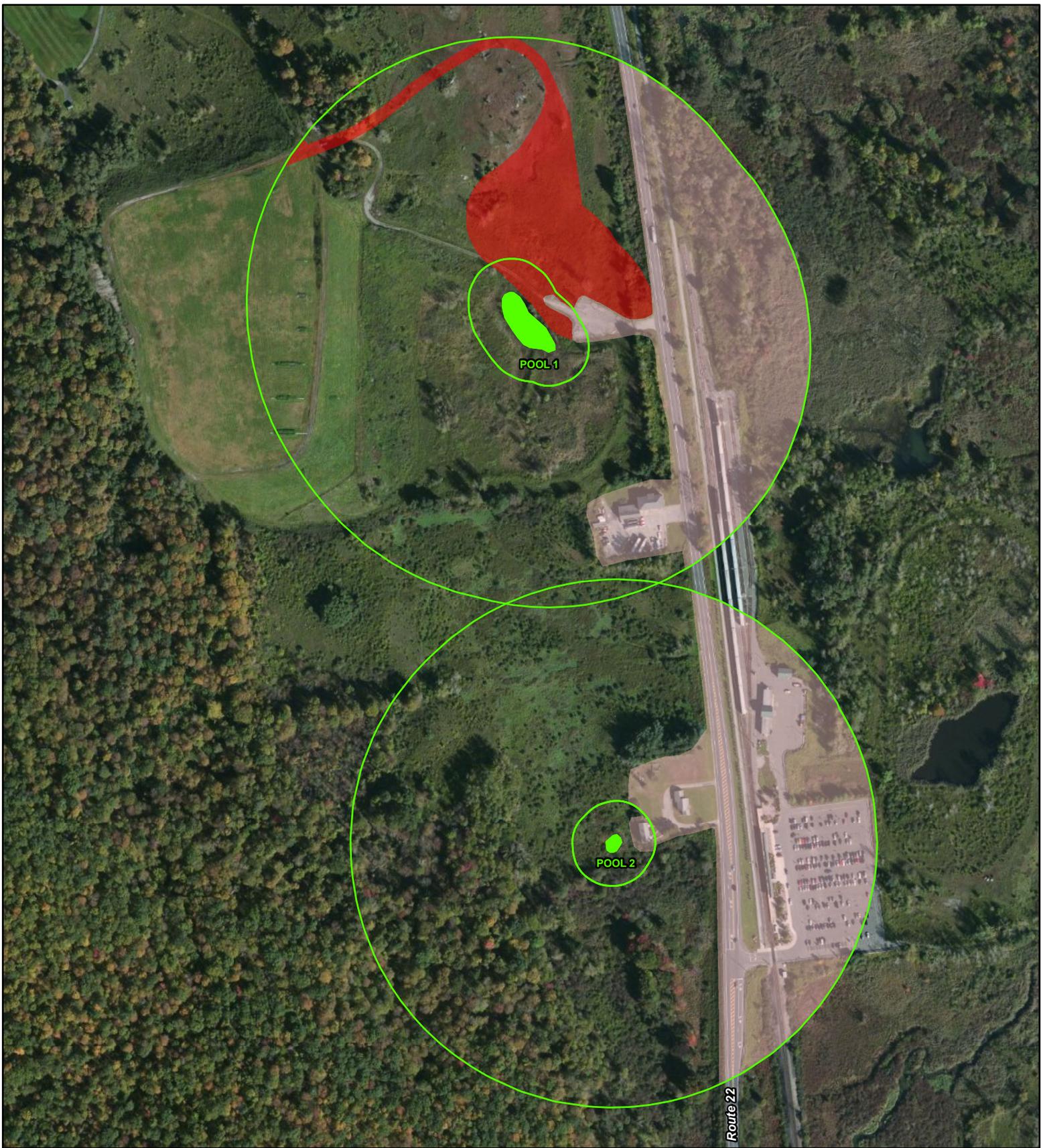


FIGURE 1
Vernal Pool Conservation Analysis
Silo Ridge
Amenia, New York

Legend

- Vernal Pools
- Vernal Pool Conservation Zones (0-100ft & 100-750ft)
- Existing Developed or Unavailable Habitat
- Proposed Development



0 100 200 400 Feet

Table 1: Best Development Practices Manual Vernal Pool Analysis, Silo Ridge, Amenia

			LEVEL OF EXISTING DEVELOPMENT (square feet)						INCREASE FROM PROPOSED DEVELOPMENT (square feet)			TOTAL POST-DEVELOPMENT	
HABITAT ZONE AREA CALCULATIONS (s.f.)			0 - 100 feet VPE			100 - 750 feet CTH			New Development	% Increase VPE	% Increase CTH	Total VPE	Total CTH
Pool	VPE (0-100ft)	CTH (100-750ft)	Developed	Undeveloped	% Developed	Developed	Undeveloped	% Developed					
1	81,012	2,066,610	6,000	75,012	7	552,731	1,513,879	27	219,289	24	10	32	36
2	45,791	1,827,354	6,566	39,225	14	556,783	1,270,571	30	0	0	0	14	30

KEY

VPE - Vernal pool envelope

CTH - Critical terrestrial habitat