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December 10, 2010

Mr. Stephan A. Ryba, Project Manager
Western Permits Section
Room 1937
Department of the Army
New York District Corps of Engineers
26 Federal Plaza
New York, New York 10278-0090

Via E-mail & US Post Office

Dear Mr. Ryba;

We have reviewed your November 24, 2010 comment letter which details the USFWS's concerns in regards to the potential usage of the Summit Woods site (hereafter "Site") by bog turtles (*Glyptemys muhlenbergii*). We have prepared comments for various issues and concerns raised within the letter. Specific pages, paragraphs, and sentences from the report completed by The Chazen Companies (TCC) entitled, "Endangered and Threatened Species Report Summit Woods dated April 10, 2006 are referenced for ease in following. In addition, you should also have the Phase 2 Bog Turtle Survey report completed in 2006 that details the reviews conducted in the potential habitat on the Site resulting in no captures.

Comment #1 "Introduction of contaminated surface water runoff; yard waste and increased use of wetlands by people, pets, and recreational vehicles"

This office has agreed to provide stormwater basins which exceed the design requirements of the EPA stormwater regulations currently in effect for stormwater treatment. We have agreed to work with the NYSDEC to develop a stormwater system that they feel will provide a higher level of stormwater treatment than that which is currently required. The use of stormwater polishing methods such as vegetative biofilters, among others, will help eliminate the introduction of contamination into the surface water runoff which would be generated by the development of the Summit Woods project.

It should be noted that the majority of the stormwater runoff that currently enters the site from the northeast (from Interstate-84 corridor) is un-mitigated. The project area is currently surrounded by heavily traveled roadways which spread invasive species and contamination into the onsite wetlands via existing drainage swales.

The Applicant has agreed to provide physical barriers on each lot between the useable area of each lot and the adjacent wetland buffers. The homeowners will be notified, through the Homeowners Association, the limitations of activities that can be conducted

in the wetlands and adjacent areas. Violations of these limitations will be reported to the local NYSDEC office for investigation as the current Environmental Conservation Laws require. It should be noted that in its current condition, the site is unpatrolled with the exception of sporadic visits by the Applicant and/or his representative. It is difficult to prevent people from dumping, hunting or riding recreational vehicles on the site since there site has access on many sides. It is our belief that homeowners will prevent or detour people from dumping, hiking or riding recreational vehicles on private property.

It is stated in the TCC report section 6.1 page 14 that eggs and young bog turtles are vulnerable to predators (raccoons, skunk, snapping turtle, etc.), which have increased populations in areas of high human activity (i.e., developments). Edge habitat surrounding developments is thought to provide travel lanes for many mammalian predators, which leads to increased populations. We do not agree that predators are at higher levels in edge habitat; however, we believe due to the prevalence of edge habitat at the site, these numbers may be high due to the past land use activities. In fact, since this area has been farmed for the past 100 years, the dynamic of predator and prey at this site has been in balance for decades.

A concern has been raised that with an increase in human development there will be an increase in the predators at the site due to the increase in edge habitat and subsidized predators. As previously mentioned, high populations of these predators are likely present at the site already as a large area of edge habitat is already present as the site has a large degree of field/forest edge. Household refuse collection has progressed significantly in this area so that scavengers (i.e., subsidized predators) do not represent a significant threat. The majority of homes in the Mid-Hudson region utilize refuse collection containers that are supplied by the local waste management companies that are scavenger resistant. The nearest refuse collection Contractor is a company located on NYS Route 52 in the Town of East Fishkill called "Royal Carting". This company utilizes the scavenger resistant refuse collection containers.

A significant increase in the number of predators at the Site as a result of the proposed development is not anticipated. During the August 9, 2007 site visit, Ms. Niver mentioned the "Subsidized Species" which forage near humans. These species occur naturally in this ecosystem and with proper waste management practices, these concerns may not be an issue. Current waste management activities using large-wheeled containers, and mechanized collection systems, have significantly decreased the nuisance type predators Ms. Niver related to us. As such, we disagree that this issue is a concern.

There is a concern that there will be an increased risk to bog turtles due to lawn mowers and motorized vehicles. Again, no turtles have been found at the site, so this scenario is unlikely.

Comment #2 "Potential for death/injury of Bog Turtles which wander onto lawns and roadways"

Straight line movements of bog turtles in New York range from 125 meters (0.08 miles) to 800 meters (0.5 miles). Movements of 2.7 km (1.68 miles) have been reported; however, most net movements were less than 100 meters. In a bog turtle study conducted in Virginia (Carter et al. 2000), "75 percent of all net movements were <20 meters, whereas only 2% were >100 meters."1[4] "Large-scale movements between wetlands were also observed infrequently."2[5] As previously mentioned, the Site boundary is approximately 0.45 miles away from the off-site bog turtle habitat. This distance is very close to the upper limit of documented straight line movements of bog turtles in New York. Furthermore, the approximate distance to the onsite suitable bog turtle habitat is 0.67 miles, which exceeds the distance of bog turtle movements (0.5 miles) documented in New York. As most bog turtle movements are less than 20 meters and the suitable habitat located onsite is at a distance greater than bog turtle travel distances documented in New York research studies, it is likely that bog turtles do not travel to the wetlands located onsite and in fact may be beyond the migratory limit of this species. Movement data for the offsite bog turtle population was requested by TCC for assessment. This information has been requested from the NYSDEC in August 2007 and the NYSDEC has been unable to provide it.

A concern over the potential for bog turtles to be crushed during construction activities was raised within the letter. First, based on the Phase I and II Bog Turtle Surveys (as well as the multitude of other hours spent at the project site) no bog turtles are present, so this impact is not likely to occur. As a precautionary measure, trenched-in silt fencing will be installed around the 100-foot Adjacent Area prior to turtle emergence in the spring of the year. This will restrict the movement of turtles (of any species) into the construction zone and limit the potential for direct impacts. In addition, the natural tendency for bog turtles to remain in wetlands further limits this risk that an encounter will occur. It should also be noted that the area where bog turtles are currently known to exist is beyond the typical movement distance for this species.

Comment #3 "Multiple stormwater retention basins proposed within the boundaries and buffers of wetlands. Specifically, the recommendation to relocate these stormwater retention basins to locations outside of wetland areas and associated buffers"

The plans were modified after a project meeting was held with the NYSDEC in early 2008. The revised plans, which we have been supplied to you during our site meeting of October 22, 2010, indicate that the all of the stormwater basins have been relocated outside the wetlands and the associated adjacent areas. As mentioned earlier herein, this office has agreed to prepare a stormwater basin design which exceeds the current EPA water quality standards using stormwater polishing methods such as biofilters or other

1[4] Carter, S.L., Haas, C.A., and J.C. Mitchell. 2000. Movements and Activity of Bog Turtles (*Clemmys muhlenbergii*) in Southwestern Virginia. *Journal of Herpetology* 34(1): 75-80.

2[5] Ibid

methods agreed to by the NYSDEC that will prevent further contamination of the wetlands.

The watercourse located near the offsite bog turtle habitat flows northward, away from the habitat. A detailed site inspection was done by M.A. Day Engineering which outlined the path of travel of the Van Anden Kill to the west and then to the north. It is my understanding that your office was provided a copy of the map that was prepared by M.A. Day Engineering which outlined the flow path. Therefore, any stormwater discharge into the onsite watercourse would be directed away from the offsite bog turtle habitat, eliminating any potential effect. Another point should be made that the major source of hydrology into the wetland system is runoff from Hosner and Stormville Mountains. Several watercourses flow off the mountain and towards Wetland HJ-49. Any potential hydrology changes as a result of the proposed development would be minimal. The discharge of water from the proposed project would be negligible in comparison to the amount of water flowing off these mountains. As discussed below, more significant would be sediment, salt, and petroleum products from the surrounding state highways.

Comment #4 "Potential for Exotic Species Introduction to known Bog Turtle habitat areas within project vicinity due to development"

Soil disturbance and roads often provide avenues for the spread of native and exotic species. Since the project area is surrounded by heavily traveled roadways, avenues currently exist for the spread of invasive species onto the Site and the surrounding parcels. A large source of overland hydrology for the onsite wetland is introduced by the runoff from Interstate Route 84 (I-84) to the northeast of the site.

Maintenance of these roadways during the winter likely leads to an increase of road salt entering the wetland, thus, leading to an environment conducive to invasive species growth. Invasive species have already been documented in the onsite wetlands and they are continuing to spread. Vegetation die-off due to high concentrations of salt has also been observed along the I-84 corridor. The spread of invasive species within the wetland will lead to further habitat degradation. Unless active controls are put in place to control the invasive species, the further spread of these species is undoubtedly going to occur.

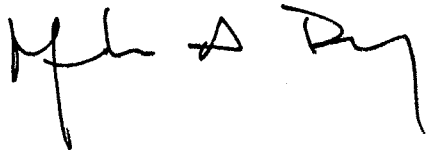
As previously mentioned, invasive species have already begun to grow in the onsite wetlands. These species pose an immediate risk to the wetlands and these species will continue to rapidly spread throughout the wetlands. "Multiflora rose and red maple are two invasive species that commonly invade bog turtle habitat, shading grasses and sedges and absorbing water, and altering the natural vegetation community."³[7] Without some type of control program, invasive species are likely to further expand in these wetlands, regardless of whether development occurs.

³[7] USFWS. Chesapeake Bay Field Office, Bog Turtles. [Online].
< <http://www.fws.gov/chesapeakebay/Newsletter/Spring05/Bogturtles.htm>>. Accessed: October 12, 2007.

In closing, this response letter should address the four comments that were raised in your letter dated November 24, 2010.

Please feel free to contact me if you require any further information.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Mark A. Day'.

Mark A. Day, PE

cc: Applicant
Michael Nowicki – Ecological Solutions

4[1] NYSDEC Bog Turtle Fact Sheet. [Online]. <<http://www.dec.ny.gov/animals/7164.html>>, Accessed: October 12, 2007.

5[2] National Resources Conservation Service. 2006. Bog Turtle (*Clemmys muhlenbergii*). Fish and Wildlife Management Leaflet, Number 44.

6[3] USFWS. 2001. Bog Turtle (*Clemmys muhlenbergii*), Northern Population Recovery Plan. Hadley, Massachusetts. 103 pp.

7[6] Ecology and Management Invasive Species Control Program. Phragmites: Common Reed. [Online]. <<http://www.invasiveplants.net/phragmites/>>. Accessed: August 29, 2007.