

MEETING AGENDA
TOWN OF PHILIPSTOWN PLANNING BOARD
Butterfield Library, Cold Spring, New York 10516
January 12, 2017
7:30 PM

Pledge of Allegiance

Roll Call

Approval of Minutes – November 17, 2016

Public hearing:

- a. Griffin's Landscaping Corporation, 3032 Route 9, Cold Spring, TM# 27.20-1-14**
(return to Planning Board after seeking Zoning Board of Appeals approval (Appeal # 895) from Section 175-65(D)(5)(b) of the Zoning code which limits the percentage of lot area for outside storage from 20% to 36%.
- b. OLSPAN, LLC, 235 East 87th Street Apt. 1L, New York, NY property address is 2700 Route 9, Cold Spring TM#38.-3-24.2**
(Amended Site Plan – Modification of parking area, new highway entry and new driveway culvert and demolition and re-construction of a caretakers residence.)
- c. Paul & Ellen Johnson, 4 Highland Ridge, Cold Spring TM#27.-1-10.13**
(Residential Site Plan for construction of a new single family residence, driveway, septic system and Well)

Old Business:

- b. Kristin Sorenson, 1000 Old Albany Post Road, Garrison TM# 16.20-1-18**
(return to Planning Board after seeking Zoning Board of Appeals approval (Appeal # 897) for a lot line adjustment applicant returning after receiving the two variances (front yard setback and lot coverage) needed to proceed.
- c. Hudson Highland Reserve, Route 9 and Horton Road**
an update on the conservation findings

*****NOTE: All items may not be called. Items may not always be called in order *****

PHILIPSTOWN PLANNING BOARD
Public hearing – January 12, 2017

The Town of Philipstown Planning Board will hold a public hearing on Thursday, January 12, 2017 starting at 7:30 p.m. at the Butterfield Library on Morris Avenue in Cold Spring, New York to consider the following application:

Griffin's Landscaping, Inc. 3032 NYS Route 9, Cold Spring, New York (TM# 27.20-1-14) – The application concerns an existing developed 0.92 acre site, which contains a one-story frame building and includes a kiln, storage container adjacent to Clove Creek, and numerous outdoor wood pile/storage areas. These activities represent a change in use from the original "Site Plan" approval in 1989 that concerned a commercial landscaping enterprise. The applicant is requesting a "Special Permit" from the Town of Philipstown Planning Board to cover the site's present use.

The property is situated in a "HC" (Highway Commercial) Zoning District in the Town of Philipstown.

At said hearing all persons will have the right to be heard. Copies of the application, plat map, and other related materials may be seen in the Office of the Planning Board at the Philipstown Town Hall.

Dated at Philipstown, New York, this 19th day of December, 2016.

Anthony Merante, Chairman

PHILIPSTOWN PLANNING BOARD
Public hearing – January 12, 2017

The Town of Philipstown Planning Board will hold a public hearing on Thursday, January 12, 2017 starting at 7:30 p.m. at the Butterfield Library on Morris Avenue in Cold Spring, New York to consider the following application:

Olspan LLC Warehouse, 2700 NYS Route 9, Cold Spring, New York. (TM# 38.-3-24.1) -
This latest application concerns proposed modifications to the current highway entrance to the site, a new driveway, culvert, provision of a security gate at the entrance to the parking area, modifications to the parking area and the demolition and re-construction of the caretaker's residence (at a location farther back on the property).

The property is situated in a "OC" (Office/Commercial/Industry Mixed use) Zoning District in the Town of Philipstown.

At said hearing all persons will have the right to be heard. Copies of the application, plat map, and other related materials may be seen in the Office of the Planning Board at the Philipstown Town Hall.

Dated at Philipstown, New York, this 19st day of December, 2016.

Anthony Merante, Chairman

PHILIPSTOWN PLANNING BOARD
Public hearing – January 12, 2017

The Town of Philipstown Planning Board will hold a public hearing on Thursday, January 12, 2017 starting at 7:30 p.m. at the Butterfield Library on Morris Avenue in Cold Spring, New York to consider the following application:

Paul and Ellen Johnson, 4 Highland Ridge, Cold Spring, New York. (TM# 27.-1-10.13) -
The Applicants are proposing a 7 bedroom one family single story residential structure with a garage, pool and pool area. The proposal involves a 8.402 acre lot, which is currently vacant.

The property is situated in a “RR” (Rural Residential) Zoning District in the Town of Philipstown.

The property abuts and lies within a town “Ridgeline and Hillside protection area”. There will be significant rock removal and tree clearing in the vicinity of the house/garage/pool areas.

At said hearing all persons will have the right to be heard. Copies of the application, plat map, and other related materials may be seen in the Office of the Planning Board at the Philipstown Town Hall.

Dated at Philipstown, New York, this 19st day of December, 2016.

Anthony Merante, Chairman

PHILIPSTOWN PLANNING BOARD

January meeting rescheduled to January 12, 2017

The Town of Philipstown Planning Board has rescheduled the date for the January monthly meeting. The regular monthly meeting will be held Thursday, January 12, 2017 starting at 7:30 P.M. at the Butterfield Library on Morris Avenue in Cold Spring, New York

**PHILIPSTOWN PLANNING BOARD
MEETING MINUTES
November 17, 2016**

The Philipstown Planning Board held its regularly monthly meeting on Thursday, November 17, 2016 at the Butterfield Library, 10 Morris Avenue, Cold Spring, New York.

Present: Anthony Merante (Chairman)
Kim Conner
David Hardy
Peter Lewis
Neal Tomann
Neal Zuckerman
Stephen Gaba, Counsel

Absent: Mary Ellen Finger

Chairman Merante opened the meeting at 7:32 P. M. with the Pledge of Allegiance.

Roll call was taken by Ms. Valentino

1. Approval of Minutes:

The minutes of October 20, 2016 were reviewed. The following three modifications were requested: Page 3 add word "current" before zoning. Page 6 should read "not" a museum also on page 6 it should read "the" not "he". Ms. Conner moved to adopt the minutes as corrected and Mr. Hardy seconded the motion. The vote was as follows:

Anthony Merante	Abstained
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Abstained

The motion carried unanimously.

2. Old Business:

a. Hudson Highland Reserve, Route 9 and Horton Road. (Discussion on Conservation Findings)

Mr. Watson from Badey and Watson noted the conservation findings were fairly acceptable to his clients. Chairman Merante opened the meeting for Board member comments. Mr. Lewis recommended sensitivity to drainage to the pond and around the existing pond. Mr. Gaba noted that Mr. Gainer, in his absence, recommended that the Conservation Findings be adopted by the Board. Mr. Gaba noted he can memorialize the decision if one is made by the Board. Mr. Zuckerman moved to adopt the Conservation Findings which will be sent to Mr. Gainer for completion and Mr. Tomann seconded the motion. Mr. Zuckerman asked for clarity what the approval of the Conservation Findings mean. Mr. Gaba responded that the conservation findings identify the sections of the property that are environmentally important. The areas of importance would need to be preserved by the applicants

during the subdivision approval process and the Conservation Findings can be changed at any time during the process. The Board will have to treat the subdivision as any other subdivision it reviews. Mr. Zuckerman moved to accept the Conservation findings as presented and Mr. Tomann seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

b. Jared and Carolina Della Valle, for property at 117 Round Hill Road, Garrison TM# 39.-2-21.2

The applicants proposed a single story residential structure with a garage and a pool area. Mr. Watson from Badey and Watson represented the applicants and noted that previously the Planning Board held a public hearing and had a site visit. The proposal was also referred to the Conservation Board which had responded to the Planning Board, but had only just been received. Chairman Merante opened the meeting for comments by the Board. There were no comments. Mr. Hardy moved to adopt a Negative SEQRA Declaration and Ms. Conner seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

Mr. Lewis moved to approve the Resolution for the Site Plan as presented and Mr. Zuckerman seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

c. Griffin's Landscaping Corporation, 3032 Route 9 Cold Spring TM# 27.20-1-14

The Applicant returned back to the Planning Board after received a variance for lot coverage. Mr. Watson Represented the applicant and noted that they did not apply to the Zoning Board of Appeals for the setbacks. It was decided that it was best to conform to the Zoning Code and move the Kiln within the setback. Mr. Watson also noted that the Board members did do a site visit. The following items will be done:

- The wood located close to Clove Creek will be moved back.
- The stock piles will need to be made smaller.
- The wood pile in the flood zone will have to be fenced in.
- Removal of the encroachment on the adjoining property.
- The stockpile of wood where the kiln will be relocated will be moved.
- Screening will be done by the road and to the south east of the property line to act as cover for the stockpiles of wood in the front of the property.

Ms. Conner moved to schedule a public hearing and Mr. Zuckerman seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously. A public hearing was scheduled for January 26, 2017.

d. OLSPAN, LLC for the property located at 2700 Route 9, Cold Spring TM# 38.-3-24.2

The Applicants proposed an amended Site Plan consisting of a modification of the parking area, new highway entry and a new driveway culvert as well as the demolition and reconstruction of a caretakers residence. Mr. Watson represented the applicants. Mr. Watson reviewed the proposal and noted that the applicant has not yet filed for a wetlands permit. Mr. Watson noted the following:

- That the Conservation Board members did a site visit to the property and responded in the form of a letter with their comments to the Planning Board in response to the Planning Board referral.
- Allowing native plants to regrow in the wetlands area.
- Mitigation planting in the wetlands buffer.
- Mr. Watson noted that Mr. Gainer requested better access to the fire system. To allow for emergency vehicles parking will be changed and two or three parking spaces will be removed.
- A letter has been submitted by the Applicant regarding their position on the use of the building. The letter acknowledged a new use which will be for a research center which will include a library and a small space for scholars to do research.
- Chairman Merante reviewed the list of referrals. Mr. Watson noted it was unlikely that all the permits will be received in time for the public hearing.

Mr. Gaba noted the Statement Of Use received by the Planning Board did not indicate the amount of people coming and going and how often people will be coming and going throughout the day. The statement of use does not identify the emergency accesses.

Mr. Watson noted that his previous comment revering to the use of the building to be used as a public gathering space for events got taken out of context. What was meant by that statement was that an organization, as example; Historical Society would seek to hold an event in that building. Mr. Watson believed the owners of the building would be amenable to one or two public gatherings per year. The Board members felt the applicants were still being vague regarding the use of the building. The Planning needs to know the exact use of the building. Currently it is said to be a warehouse now there is discussion about a library and research. Mr. Watson responded by noting the library and research has been recently added. A discussion ensued over the use of the building. A discussion ensued regarding fire safety code. Mr. Watson noted he will submit a letter regarding fire safety concerns. Site lines

coming out of the driveway on route 9 were also discussed. Mr. Watson responded he has the information and will submit it to the Planning Board. The Board members discussed whether or not they were ready to schedule a public hearing. Mr. Watson noted he would be glad to take a condition that would state no fund raisers as discussed above would be allowed. Mr. Watson noted that the side walk will be widened and remove parking spaces to make more room for emergency vehicles.

Mr. Gaba noted that the applicant is not proposing any kind of use of the building for fund raisers. There is no regulations regarding a once or twice a year fund raiser. The use will not have to be changed from a warehouse if a fund raiser is held once or twice a year. The use of students using the building is an allowable use. A Site Plan change may be needed depending on the amount of students who will be using the space. Mr. Watson noted he will submit the numbers requested regarding how often people will be coming and going throughout the day.

Ms. Conner moved to schedule a public hearing and Mr. Tomann seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously. A public hearing was scheduled for January 26, 2017.

3. New Business:

Paul and Ellen Johnson, 4 Highland Ridge, Cold Spring TM# 27.-1-10.13

The Applicant proposed a site plan for construction of a new single family residence, driveway, septic system and well. Mr. Glenn Watson from Badey and Watson represented the applicant.

Mr. Watson noted the parcel is 8.4 acres and a previously approved subdivision. The property is located south off of Lake Surprise Road. This parcel is located on both sides of the road and is located in the Aquifer Area with a wetlands on the property. The property is also located in the Ridge Line Protection Area which is east of the property. A septic system has been approved for a four bedroom house. Mr. Watson reviewed the Ridge Line which is located on the Ridge Line Protection Map. Mr. Steven Marchetti from Studio Marchetti Architecture reviewed the design of the proposed building as being stone and Cedar siding and shingles, a two car garage and a pool. The house will be two story with 7 bedrooms. There will be a partial basement. From the peak of the proposed house the height will be 31 foot high. The entire house will be 42,000 square foot. The location of the proposed driveway cannot be moved due to other locations would be very steep. Mr. Watson will supply a legend of a DEC map which indicates items such as animals or plants which are being protected. The Board along with Mr. Watson reviewed the lots on Highland Ridge that have been subdivided. The spacing of septic systems between adjoining lots is not an issue they can be almost next to each other about 20 feet. The required distance between the septic systems and wells are 100 to 200 feet. Mr. Zuckerman moved to declare this proposal a major project and Mr. Lewis seconded the motion.

The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent

David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

Ms. Conner moved to send the proposal as a referral to the Conservation Board and the North Highlands Fire Department and Mr. Hardy seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

Mr. Zuckerman moved to have the Planning Board declare themselves Lead Agency for the SEQRA Review Process for an "uncoordinated" review Mr. Lewis seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

Mrs. Conner moved to send the proposal to the Putnam County Department of Planning for a 239m referral and Mr. Tomann seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye
Peter Lewis	Aye
Neal Tomann	Aye
Neal Zuckerman	Aye

The motion carried unanimously.

Mr. Hardy moved to schedule a site visit for Sunday, December 4, 2016 at 9:30 A. M. and Mr. Lewis seconded the motion. The vote was as follows:

Anthony Merante	Aye
Kim Conner	Aye
Mary Ellen Finger	Absent
David Hardy	Aye

Peter Lewis Aye
Neal Tomann Aye
Neal Zuckerman Aye

The motion carried unanimously.

Ms. Conner moved to schedule a public hearing for January 26, 2017 and Mr. Tomann seconded the motion. The vote was as follows:

Anthony Merante Aye
Kim Conner Aye
Mary Ellen Finger Absent
David Hardy Aye
Peter Lewis Aye
Neal Tomann Aye
Neal Zuckerman Aye

The motion carried unanimously.

Mr. Zuckerman moved to adjourn the meeting and Mr. Lewis seconded the motion. The vote was as follows:

Anthony Merante Aye
Kim Conner Aye
Mary Ellen Finger Absent
David Hardy Aye
Peter Lewis Aye
Neal Tomann Aye
Neal Zuckerman Aye

The motion passed unanimously and the meeting adjourned at 8:49 P. M.

Date approved _____

Respectfully submitted by
Linda Valentino

Town of Philipstown Putnam County, New York
238 Main Street Cold Spring, NY, 10516

Conservation Board
Mark Galeza (Chair)

Eric Lutz
Andy Galler

M.J. Martin

Bob Repetto

Lew Kingsley

Planning Board Referral Response Regarding:

Griffin Landscaping
3032 Route 9
Cold Spring, NY 10516

December 19th, 2016

To Whom It May Concern:

The Conservation Board (CB) visited 3032 Route 9, Cold Spring, NY on December 13th, 2016 and after hearing from the applicant's agent, Glenn Watson, the CB had the following comments for the Planning Board:

In regards to the installation of the chain link fence surrounding the portions of the property not directly in contact with Route 9, the CB feels that making the fence between 6 to 8 feet in height, instead of the originally proposed 4 foot measurement, would provide better protection from pieces of firewood making their way from the stockpiling areas into Clove Creek accidentally or during large weather events.

Also, the CB felt that maintaining a 15 foot setback on the inside of the proposed chain-link fence across the entire site would allow for an added measure of protection between the activities on the property and Clove Creek. Ultimately, none of the CB Members wanted a situation where the stockpiling areas were retained by the permanent fencing, and thus those activities could have a negative impact on Clove Creek to the East and North of the Property.

The CB would also like to strongly recommend the creation of a habitat restoration plan for the areas where stockpiling has taken place that are not on the applicant's property, specifically the northern portion of the site. Once woodpiles and machinery are removed, we hope to impress upon the Planning Board that requiring the applicant to restore these areas back to healthy riparian habitat would be imperative, as they are the main line of above ground filtration between the applicant's property and Clove Creek. These areas would not only serve as a break from a developed landscape to an important waterway, but would add to critical habitat for a multitude of flora and fauna.

Also, on a similar point, the eastern portion of the property on the exterior of the proposed chain-link fence should be considered a location for additional native plantings.

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BY: *W*

and restoration, as this portion of the property is located directly on the banks of Clove Creek. Creating healthy riparian habitat in this location as well would provide an added level of protection for the stream from the planned uses for the site.

While on the property and after reviewing the plans submitted to the Town and Conservation Board, the CB felt that upgrades needed to be made to the drop inlet located approximately in the center of the parcel since its out flow goes directly into Clove Creek from the property. We suggested the use of a settling type of catch basin or, more preferably, creating a closed system where runoff is captured in a catch basin and piped into a holding tank and pumped, then removed from the site completely, would add to the further protection of Clove Creek in the future.

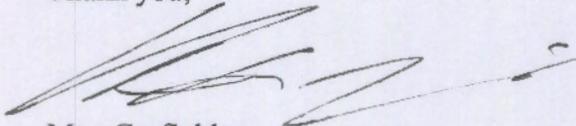
The CB also felt that the materials currently in place on the properties' surface could be better improved to prevent muddy conditions that could potentially effect Clove Creek during periods of rain or snow melt. If the site could be stabilized and graded away from the stream and towards the drop inlet, there would be an added level of protection from sediment and pollutants from directly entering Clove Creek.

We would also like to work with the applicant to select tree species that would be a native alternative to those proposed to screen the property from Route 9, instead of using the species listed on the provided site/ project plan, as they are of a non-native ornamental variety.

Finally, the CB would like the Town to request that the applicant provides further information regarding the presence of a septic system on the property, since the property falls almost entirely within the 100 foot set back from Clove Creek, and would thus result in additional oversight, especially for septic systems which could transmit effluent into water bodies if not properly installed.

In conclusion, if the applicant can meet these requests and suggestions, the CB would feel much more comfortable with the firewood operation remaining at its current location.

Thank you,



Max Garfinkle
Natural Resources Review Officer
Town of Philipstown

Ecc:

Mark Galezo

Eric Lind

Andy Galler

M.J. Martin

Bob Repetto

Lew Kingsley

Mike Leonard

Linda Valentino

December 22, 2016

Anthony Merante, Chairman
Philipstown Planning Board
238 Main Street
Cold Spring, NY 10516



RE: Olspan LLC - Submission of Revised Plans

Dear Mr. Merante and Honorable Board Members:

We submit herewith 13 copies each of:

1. "Amended Major Site Plan" for Olspan, LLC, last revised on December 22, 2016, 5 sheets;
2. "Revised Statement of Use in Support of Application of Olspan...", dated December 22, 2016; and
3. Statement of Architect Quismondo regarding buildings fire protection and egress, dated December 21, 2016.

The plans have been revised to address access to fire protection equipment, parking, wetlands mitigation and highway access. In particular, the parking has been rearranged and now provides a separate parking lot for employees, 2 spaces for busses and a loading space.

The Statement of Use addresses the parking capacity and expected visitors to the site and, hopefully clarifies the matters discussed with the Planning Board at its November meeting. Mr. Quismondo's letter addresses the question of fire protection and emergency egress.

We note that the "shed" has been constructed too close to the property line and will require a variance. We respectfully request that the Planning Board continues its review and condition any approval upon the applicant obtaining the required variance.

We hope that the Board finds the changes to the plans adequately address the issues that were previously discussed. We look forward to presenting them at the Public Hearing on January 12, 2017.

As always, thank you for your continued attention to this application and concern for the Town of Philipstown.

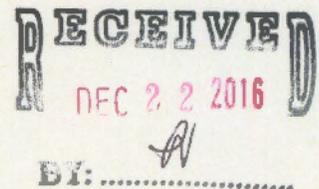
Yours truly,

BADEY & WATSON,
Surveying & Engineering, P.C.

by
Glennon J. Watson, L.S.
845.265.9217 x14
gwatson@badey-watson.com

GJW/bms

cc: File I:\chaos32\GJWLetter 2016
Nancy Olnick
Giorgio Spanu
Miguel Quismondo



December 21, 2016

Planning Board
Town of Philipstown
238 Main Street
Cold Spring, NY 10516

RE: Olspan LLC ("Olspan") - Letter of Compliance

Dear Planning Board Members,

On May 21, 2015 I submitted an application for a building permit to the Town of Philipstown on behalf of Olspan. The project was filed as S-1, as allowed by the applicable zoning district.

The building will be used to store the collection of Art owned by Olspan's principals. Visitors to the building will be limited in number and allowed by appointment only.

The building is designed to be fully sprinklered and noncombustible, have three emergency exits, and provide egress for at least 155 people in case of emergency. Though this design far exceeds the requirements applicable to the use for which the building is intended, it reflects an abundance of caution and Olspan's concern for the safety of people and personal property that may be inside the building.


Miguel Garcia-Quismondo, AIA

MQ Architecture
235 E 87th Street #1L
New York, NY 10128



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BY: 

Statement of Use & in Support

of
Application
of
OLSPAN LLC
for approval of its
AMENDED SITE PLAN & A SPECIAL USE PERMIT
for its property, at
2700 Route 9
Cold Spring, New York

THE ISSUE BEING ADDRESSED

In 2014 the Philipstown Planning Board, by its Resolution No. 3, granted site plan approval to Olspan LLC to reconstruct and add to its building located at 2700 Route 9, Cold Spring. An amended site plan approval was granted by Resolution No. 5 in 2015. This approval permitted the construction of a utility/storage shed. An application for a second amended site plan approval dated October 6, 2016, is now pending. The current application seeks approval to: realign and reconstruct the parking and entry from Route 9, remove and replace the existing residential building and incorporate minor changes into the site plan that have developed during actual construction.

The property is in a Highway Commercial (HC) district. As stated on its plans and application, Olspan intends to use the property as a warehouse for storage of personal property and as a caretaker's residence. According to the Philipstown Zoning Law, single-family residential structures with a footprint less than 3,000 square feet are permitted as of right in the HC district. Warehouses are permitted in the HC district subject to obtaining a Special Use permit from the Planning Board.

As a result of articles in the *New York Times* and *The Putnam County News and Recorder (PCNR)*, and a press release, the Planning Board at its October 2016 meeting, expressed concern that Olspan might intend to use its building as a museum. Additionally, if the building was to be used as a museum, the Board questioned whether the proposed site plan presented provided sufficient parking and whether the building, as designed provided adequate emergency egress.

This document addresses the misconceptions that the articles and press release may have provoked, and detailed why Olspan's intended use of its property falls squarely within the uses allowable in an HC district.

BACKGROUND

Nancy Olnick and Giorgio Spanu, the principals of Olspan LLC, have been seeking a home for their extensive Art collections that would be near their home in Garrison. As the PCNR reported, they originally sought to utilize a portion of their property on Avery Road in Garrison for that purpose, but abandoned that project in deference to their neighbors who felt Olspan's proposed building would be too large for a residential neighborhood. Thereafter, Olspan purchased the property at 2700 Route 9, in Philipstown to store their collection.

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As presented to the Planning Board, Olspan intends to store art in its building in a manner that allows the art to be seen and appreciated by Olspan's principals and others. It has never been Olspan's intention, however, to open its doors to the public or for its building to be a museum. Visitors will be admitted to the building by appointment only and will be limited in number.

In addition, Ms. Olnick and Mr. Spanu saw an opportunity for their project to benefit others within the community by allowing art students, researchers and scholars to view, study and research the art in their collections. For this purpose, they have set aside a portion of the Olspan building to house their extensive art-related library. Students and scholars, as with all other visitors to the building will be permitted access to the Olspan building by appointment only and will be limited in number.

The anticipated activities of such students and scholars will be educational, and are clearly allowed in the HC district.

ISSUES

At its October and November, 2016 meetings, Planning Board Members expressed concern that the parking provided on Olspan's site plan was not adequate for the population that might visit the site. They also questioned whether the building had been designed with sufficient emergency egress for the number of visitors that might occupy the building.

Parking

The number of visitors to the site will be limited by the owners. As stated in Ms. Olnick and Mr. Spanu's October 2016 email to the Planning Board, the building "*is absolutely not (going to be) open to the public but rather will be made accessible by appointment only in order to limit the number of visitors.*"

In addition to limiting the number of visitors, Olspan also will limit use of the parking spaces on its property. Philipstown's Zoning law does not provide a formula for computing the required number of parking spaces. Rather, it provides that the number of parking spaces be adequate for the anticipated demand. The latest plan, the revision of December 22, 2016, shows thirty-five (35) automobile parking spaces, which includes two (2) handicap spaces, two (2) spaces for the residential building and three (3) non-resident employee spaces. Additionally, two spaces to accommodate school buses, have been added to the plan. The following table indicates that up to 155 people could comfortably be accommodated within the available parking.

Visitors	Spaces Available	Visitors per Space	Population
Resident Employees	2	1	2
Non-Resident Employees	3	1	3
Visitors Arriving by Automobile	30	3	90
Visitors Arriving by bus	2	30	60
Total Parking Capacity (Visitors and Employees)			155

Olspan anticipates an employee population of 1-5. Each employee will be assigned a single parking space. It is expected that the maximum number of visitors to the site will be 50 during the course of a single day, but that more often the number of visitors during a single day will be fewer than 50.

Because access to the property will be by appointment only, the number of parking spaces required for the day-to-day function of the building can and will be controlled by the owner. For this reason, the parking provided will be far more than adequate for the intended use.

Emergency Egress

Members of the Planning Board expressed concern that the building may not provide sufficient emergency access for the number of visitors that might occupy it. The attached letter from Project Architect Miguel Quismondo, AIA states that the building will conform with the requirements of the NYS Building Code and will provide emergency egress that is sufficient for a population of at least 155 people.

Hours of Operation

Though the site will be staffed year round with from 1 to 5 employees, Olspan anticipates use of its property for educational and research purposes during the times reflected on the following table.

Period ¹	Hours	Days
Jan. 1 to Jan. 15	11 AM to 4 PM	Thursday through Sunday
Jan. 16 to Feb. 15	CLOSED	
Feb. 16 to Mar. 31	11 AM to 4 PM	Thursday through Sunday
Apr. 1 to Oct. 31	11 AM to 6 PM	Thursday through Sunday
Nov. 1 to Dec. 31	11 AM to 4 PM	Thursday through Sunday

Actual date will be adjusted to nearest weekend.

ZONING

Section 175, Attachment 1 of the Philipstown Zoning Law is its USE TABLE. The table clearly shows that a Warehouse is permissible in the HC zone, subject to site plan approval from the Planning Board, and that educational uses are permitted in an HC zone, subject to site plan approval.

As stated above, the Olspan property (i) will be a warehouse in which extensive collections of art will be stored; and (ii) will also be used for educational and research purposes.

CONCLUSION

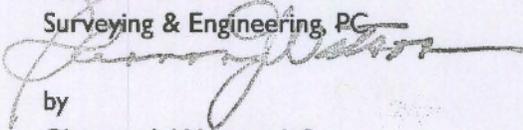
Olspan LLC is committed to using its property in accordance with the approvals and permits it is seeking, and specifically has represented that it will use its property for warehousing, research and educational purposes; that it will limit access to visitors by appointment only; and that its property will not be open to the public and admission will not be charged.

The foregoing discussion focuses on the uses, how they are allowable in and will conform with the requirements of the HC Zone. Questions of the adequacy of the parking and emergency egress from the building have been addressed. Parking will be controlled by self-imposed limitations and restrictions on the use of the facility. The project architect has provided assurances that emergency egress for the building is adequate for the intended use.

Based on the foregoing, we submit that it is reasonable for the Planning Board to conclude that the uses proposed by Olspan LLC for its property will conform with the Philipstown Zoning Law and that it may issue Site Plan Approval and a Special Use permit for them.

Respectfully Submitted

BADEY & WATSON,
Surveying & Engineering, PC



by

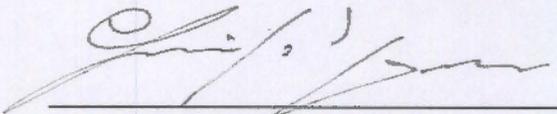
Glennon J. Watson, L.S.

Dated: November 3, 2016

Revised: December 22, 2016

Acknowledged & Approved

OLSPAN LLC



Giorgio Spanu, President

December 20th, 2016



**Department of
Transportation**

ANDREW M. CUOMO
Governor

MATTHEW J. DRISCOLL
Commissioner

TODD WESTHUIS, P.E.
Regional Director

December 5, 2016

Anthony Merante, Chairman
Town of Philipstown Town Hall
238 Main Street
PO Box 155
Cold Spring NY 12516

**Re: NYSDOT SEQR #: 16-235
Olspan Site Plan Improvement
Town of Philipstown; Putnam County**

Dear Mr. Merante:

The Site Plan and Full Environmental Assessment Form for the subject proposal have been received at this office on November 15, 2016. Also received was the request from the Planning Board declaring its intent to act as Lead Agency to conduct all necessary review under SEQRA. The New York State Department of Transportation consents to the Town of Philipstown Planning Board serving as Lead Agency for review of the referenced proposal.

The project is adjacent to a State Highway. Any proposed work within the NYSDOT Right-of-Way requires a Highway Work Permit (HWP). The HWP applicant should be directed to contact the local NYSDOT-HWP Engineer to initiate a review process. Please contact:

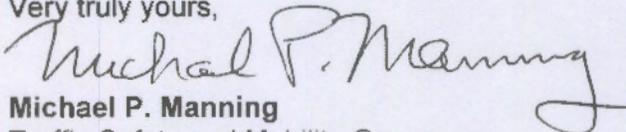
Al DeNigro, Permit Engineer
NYS Department of Transportation
106 Ludingtonville Road
Holmes, NY 12531
Phone # (845) 878-6363

The applicant should also be encouraged to review the permit process and all required HWP forms on the NYSDOT website (<https://www.dot.ny.gov/index>) In particular, please review the PERM33-COM form.

Lead Agency approval under SEQR is required in advance of permitting.

Please submit subsequent plans and documents for this project as well as those for any future development proposals in DIGITAL (.pdf) FORMAT –CD, DVD or Thumb drive.

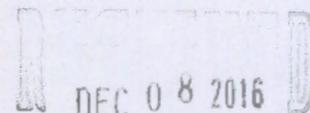
Very truly yours,


Michael P. Manning

Traffic Safety and Mobility Group

Enclosure

cc: Resident Engineer/Permit Engineer, Residency 8-3
Olspan LLC, 235 E. 87th St., Apt. L, NY, NY 10128
Putnam County Planning Dept.



BY: 

PLANNING BOARD
TOWN OF PHILIPSTOWN; PUTNAM COUNTY

In the matter of the application of

Olspan, LLC Amended Site Plan
NYS Route 9

RESPONSE TO REQUEST THAT TOWN OF PHILIPSTOWN PLANNING BOARD SERVE
AS LEAD AGENCY

On behalf of the New York State Department of Transportation - Region 8,

I acknowledge receipt of the Lead Agency notice in this matter, which was mailed on
November 7, 2016.

The above-named involved agency hereby

(Please check one)

- CONSENTS that the Town of Philipstown Planning Board serve as Lead Agency in this application and requests that the undersigned continue to be notified on filings and hearings in this matter.
- DOES NOT CONSENT to the Town of Philipstown Planning Board serving as Lead Agency in this application and wishes that the New York State Department of Transportation - Region 8 serve as Lead Agency. To contest Lead Agency designation, the undersigned intends to follow the procedures outlined in 6 NYCRR 617.6 (b)(5).

DATED: _____

12/5/16

SIGNATURE: _____

Michael P. Manning

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3
21 South Platt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3054 | F: (845) 255-4659
www.dec.ny.gov



Department of
Environmental
Conservation

November 30, 2016

Anthony Merante
Chairman
238 Main St
Cold Spring, NY 10516

SEQR REVIEW: Olspan, LLC Warehouse Amended Plan
Town of Phillipstown, Putnam County
DEC APPL ID# 3-3726-00315/00001

Dear Mr. Merante:

The New York State Department of Environmental Conservation (DEC) has received the Notice of Intent to Serve as SEQR Lead Agency from the Town of Phillipstown Planning Board. According to the information provided, the proposed project includes modification of parking area, new highway entry, new driveway culvert, and demolition and reconstruction of caretaker's residence.

Based upon our review of your inquiry received November 10, 2016, we offer the following comments:

PROTECTION OF WATERS

The following stream(s)/pond(s)/waterbody(ies) is(are) located within or near the site you indicated:

Name	Class	DEC Water Index Number	Status
<input checked="" type="checkbox"/> Pond	B	H-77-P 206d	Protected

A Protection of Waters permit is required to physically disturb the bed or banks (up to 50 feet from stream) of any waterbody identified above as "protected."

FRESHWATER WETLANDS

Your project/site is near or in Freshwater Wetland WP-9, Class 2. Be aware that a Freshwater Wetlands permit is required for any physical disturbance within these boundaries or within the 100 foot adjacent area. To have the boundary delineated, please contact the Bureau of Habitat.

DEC 05 2016
BT: *[Signature]*



STATE-LISTED SPECIES

DEC has reviewed the State's Natural Heritage records. We have determined that...

- the site is located within or near record(s) of the following state-listed species:

Name	Status
<u>Northern Long-eared Bat</u>	<u>Threatened</u>

For more rare-species related information, please contact Lisa Masi of Wildlife at (845) 256-2257.

The absence of data does not necessarily mean that other rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources

CULTURAL RESOURCES

- We have reviewed the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation. These records indicate that the project is not located within an area considered to be sensitive with regard to archaeological resources. For more information, please visit the New York State Office of Historic Preservation website at <http://www.nysparks.com/shpo/>.

MODIFICATION OF EXISTING WETLAND PERMIT

- The original NYSDEC Freshwater Wetland permit, which was approved in 2014 and is valid until December 31, 2017, has a condition identifying the approved plans as being from Badey & Watson dated March 6, 2014. Any changes in plans affecting the wetland or 100 ft adjacent area will require a permit modification. Please contact Mike Grosso at 845-256-3165 for more information.

OTHER

Please note that this letter only addresses the requirements for the following permits from the Department:

- Protection of Waters
- State-listed Species
- Freshwater Wetlands

Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are

RE: Olsan Warehouse

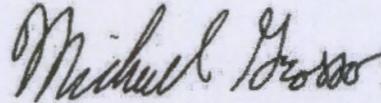
Date: 11/30/16

otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov, click on the top bar icon labeled "Regulatory" then "Permits and Licenses."

In addition to transmitting the above comments, this letter also serves to confirm that we have no objection to your board/agency assuming lead agency status for this project.

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,



Mike Grosso
Division of Environmental Permits
Region 3, Telephone No. (845) 256-3165

Information/Permit Materials/Regulations/Map (_____ Quadrangle) attached.

Cc: Steve Marino
10 North St
Cold Spring, NY 10516

Enc: _____

NOTE: Regarding erosion/sedimentation control requirements:

Stormwater discharges require a State Pollutant Discharge Elimination System (SPDES) Stormwater permit from this Department if they either:

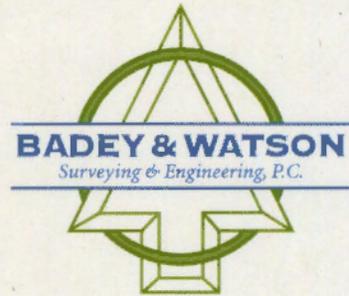
- occur at industrial facilities and contain either toxic contaminants or priority pollutants OR
- result from construction projects involving the disturbance of 5000 square feet or more of land within the NYC Department of Environmental Protection East of Hudson Watershed or for proposed disturbance of 1 acre or more of land outside the NYC-DEP Watershed

Your project may be covered by one of two Statewide General Permits or may require an individual permit. For information on stormwater and the general permits, see the DEC website at <http://www.dec.ny.gov/chemical/8468.html>.

For construction permits, if this site is within an MS4 area (Municipal Separate Storm Sewer System), the stormwater plan must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. If the site is not within an MS4 area and other DEC permits are required, please contact the regional Division of Environmental Permits.

December 22, 2016

Anthony Merante, Chairman
Philipstown Planning Board
238 Main Street
Cold Spring, NY 10516



RE: Johnson - Submission of Revised Plans

Dear Mr. Merante and Honorable Board Members:

We submit herewith 13 copies each of:

1. Existing Conditions for Johnson, Sheet 1 of 5, last revised on December 22, 2016;
2. Site Plan for Johnson, Sheet 2 of 5, last revised December 22, 2016;
3. Erosion Control Plan for Johnson, Sheet 3 of 5, last revised December 22, 2016;
4. Planting Plan for Johnson, Sheet 4 of 5, last revised December 22, 2016;
5. Profiles and Details, Sheet 5 of 5, last revised December 22, 2016.

The plans have been revised to address concerns expressed by the Planning Board during its initial review.

We hope that the Board finds the changes to the plans adequately address the issues that were previously discussed. We look forward to presenting them at the Public Hearing on January 12, 2017.

As always, thank you for your continued attention to this application and concern for the Town of Philipstown.

Yours truly,

BADEY & WATSON,
Surveying & Engineering, P.C.

by

Glennon J. Watson, L.S.

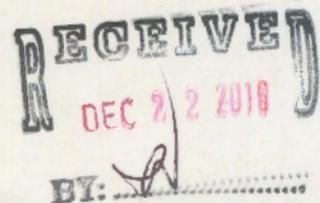
845.265.9217 x14

gwatson@badey-watson.com

GJW/bms

cc: File I:\chaos32\GJWLetter 2016

Paul and Ellen Johnson



Thank you
Town of Philipstown Putnam County, New York
238 Main Street Cold Spring, NY, 10516

Conservation Board
Mark Galezo (Chair)

Eric Lind
Andy Galler

M.J. Martin

Bob Repetto

Lew Kingsley

Planning Board Referral Response Regarding:

4 Highland Ridge
Cold Spring, NY 10516

December 15th, 2016

To Whom It May Concern:

The Conservation Board (CB) visited 4 Highland Ridge, Cold Spring, NY on December 13th, 2016 and after hearing from the applicant's agent, Glenn Watson, the CB had the following comments for the Planning Board:

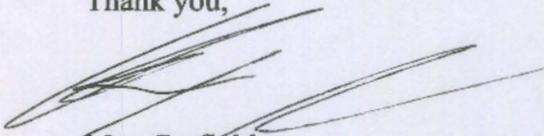
After reviewing the site plans provided to the Conservation Board by Badey-Watson (the applicant's agent) the Conservation Board's initial concern was to prevent excessive tree cutting and site disturbance within the buildable area for two reasons. First, was to preserve the view-shed from Scofield Ridge looking out towards the proposed building lot, and second, to prevent disturbance from reaching the one acre threshold, where a storm-water management plan would need to be created for the project site.

Due to the nature of the parcel falling within the ridgeline protection area, members of the Conservation Board felt that it was important to convey to the applicant the selection of neutral tone exterior paint colors and glass paneling with anti-glare properties be suggested for use on the dwelling, to help preserve the integrity of the character of the ridgeline as observed from onlookers.

Also, after further review of the current condition site plans provided to the Conservation Board, CB members felt that corrections to the labeling of specific tree species surveyed on the plan needed to be changed. For example, sycamore and American beech are listed on the plans, but none were identified during the CB's site visit on Tuesday December 13th, 2016.

Further review of the building plans during the Conservation Board meeting led the members to request that the drawings for the septic system for the plans reflect the appropriate size for a seven bedroom dwelling and not a four bedroom dwelling, which is currently on the plans.

Thank you,

A handwritten signature in black ink, appearing to read 'Max Garfinkle', written over a horizontal line.

Max Garfinkle
NRRO

Ecc:

Mark Galezo

Eric Lind

Andy Galler

M.J. Martin

Bob Repetto

Lew Kingsley

Mike Leonard

Linda Valentino

December 29, 2016

Anthony Merante, Chairman
Philipstown Planning Board
238 Main Street
Cold Spring, NY 10516



RE: Hudson Highlands Reserve - Submission of Master Plan and Full Environmental Assessment Form

Dear Mr. Merante and Honorable Board Members:

We submit herewith 13 copies each of the following documents:

- Master Plan for Hudson Highlands Reserve, dated December 16, 2016;
- Full Environmental Assessment Form, Parts 1, 2 and 3, dated December 27, 2016; and
- Letter from Attorney Richard L. O'Rourke, dated December 22, 2016.

The Master Plan has undergone several recent revisions. Most of them were made in direct response to the conclusions contained in the Conservation Analysis and comments provided by Hudson Highlands Land Trust, Inc. following a site inspection with its staff members on December 1, 2016.

The Full Environmental Assessment Form has been prepared for your consideration. It is based on the Master Plan, the Conservation Analysis, as well as known and anticipated approval requirements and conditions, which have become standard practice of the Board.

Mr. O'Rourke's letter addresses several issues known to be of concern to the Board.

Please place the Hudson Highlands Reserve Conservation Subdivision on the agenda for the January 12, 2017, meeting of the Planning Board. As always, thank you for your continued attention to the Hudson Highlands Reserve application and on-going service to the Town.

Yours truly,

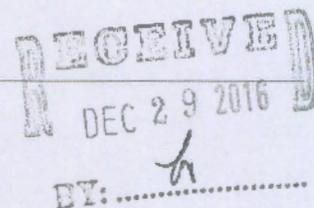
BADEY & WATSON,
Surveying & Engineering, P.C.

by
Glennon J. Watson, L.S.
845.265.9217 x14
gwatson@badey-watson.com

GJW/bms

cc: File U:\86-2288\WVO_21792_Hudson Highlands Reserve\PPB Submission_Hudson Highlands Rserve\AM29DC16BP_Submission_of_Master_Plan_and_EAF.docx

Ulises Liceaga, Hudson Highlands Reserve
Richard L. O'Rourke, Esquire, Keane & Beane
Stephen M. Gross Hudson Highlands Environmental Consulting
Kirby Benjamin, Hudson Highlands Reserve
Jonathan Vega, Hudson Highlands Reserve



■ **Main Office**
445 Hamilton Avenue
White Plains, NY 10601
Phone 914.946.4777
Fax 914.946.6868

■ **Mid-Hudson Office**
200 Westage Business Center
Fishkill, NY 12524
Phone 845.896.0120

December 22, 2016

Chairman Anthony Merante
and Members of the Town of
Philipstown Planning Board Members
238 Main Street
Cold Spring, NY 10516

RICHARD L. O'ROURKE
Principal Member
ro'rourke@kblaw.com

Re: Conservation Subdivision- Revised EAF and Revised Plans
Horton Road, LLC

Dear Chairman Merante and Members of the Planning Board:

Keane & Beane represents Horton Road, LLC (the "Applicant"), located at 315 East 91st Street, New York, New York. The applicant is before the Planning Board for approval of a conservation subdivision proposed in the Town of Philipstown. The Applicant is proposing to subdivide 205.6 acres into the Hudson Highlands Reserve. The property is located on the east side of Route 9 between the northerly line of Horton Road and the southerly line of East Mountain Road North. Of the 205.6 acres, 194.5 acres are located in the Rural Residential (RR) zoning district in which the conservation subdivision is proposed. Portions of site are also located the Industrial/Manufacturing District, the Open Space Conservation District, Clove Creek Aquifer Overlay, the Regional Aquifer subdistrict, and the Scenic Protection Overlay.

On February 18, 2016, the Applicant submitted the required Conservation Analysis to assess whether the parcel has sufficient conservation value. The Planning Board unanimously accepted the Conservation Analysis at the July 21, 2016 meeting. The conservation analysis provides data demonstrating significant cultural and environmental value for conservation, and provides recommendations to help the Applicant and the Planning Board develop a subdivision sensitive to these values.

As part of the continuing application of the Conservation Subdivision referenced in the Conservation Analysis, we are pleased to submit to the Planning Board a revised Environmental Assessment Form and a Master Plan for review and acceptance in the above referenced application. The Applicant seeks approval of a Conservation Subdivision plat to create 29 single family residential lots, each approximately one acre in size on an assemblage of 5 parcels containing a total of 205.6 acres. The subdivision will also include two nonresidential structures as part of the proposed

RECEIVED
DEC 29 2016
BY: *[Signature]*

Chairman Anthony Merante
and Members of the Town of
Philipstown Planning Board Members
December 22, 2016
Page 2

public equestrian center, which will include stables, trails, paddocks, and turnouts. The applicant proposes to develop 39.5 acres and preserve approximately 165.5 acres, or 80.54% of the site. In addition, there are 2 existing structures that have been identified as architecturally and historically significant. The plan anticipates that these buildings will remain and be the subject of adaptive reuse.

The number of residential units is based on the density calculations set forth in the Town of Philipstown Town Code § 175-20(B). The code provides that the maximum number of dwelling units in a conservation subdivision may be based on the density formula provided in the Town Code § 175-20(B)(1). The Applicant proposes to subdivide a total of 205.6 acres, out of which 52.067 acres are not located within the Open Space Overlay District, including the 10.73 acres located in the Industrial/Manufacturing District. Pursuant to the formula, 29.697 acres are unconstrained and 9 dwelling units may be developed. The remaining 153.53 acres are located within the Open Space Overlay District, pursuant to the required calculations 88.286 acres are unconstrained and 16 dwelling units may be developed. The total site may therefore contain 25 dwelling units (9 units + 16 units). In addition, an applicant is allowed to increase the permitted number of dwelling units through the use of a density bonus granted at the discretion of the Planning Board. The applicant may receive an increase in the permitted number of dwelling units of up to 15% if the applicant allows public access to the protected open space on the property and the Planning Board finds that such public access provides a significant recreation benefit to the Town. The Applicant proposes to leave open to the public all land reserved for conservation. The public will also have access to the equestrian center, parks, gardens and trails. As such, the applicant seeks the 15% bonus to allow 4 additional dwelling units to allow the applicant to create 29 single family residential parcels.

In anticipation of discussion on the equestrian center and the issue of whether an equestrian center is an authorized use in the conservation subdivision with a conservation easement in place to preserve open space, we set forth the following. Section 175-19 of the Philipstown Code provides open space development options for the purpose of preserving "large tracts of open space land in order to maintain the rural appearance and environmental resources of the Town of Philipstown." Among the options that the Town offers is one that allows the development of a conservation subdivision. In a conservation subdivision, "units are clustered or sited on those portions of a property most suitable for development, while leaving

Chairman Anthony Merante
and Members of the Town of
Philipstown Planning Board Members
December 22, 2016
Page 3

substantial portions as undeveloped open space. Conservation subdivisions must satisfy the standards in § 175-20." Town Code § 175-19(B). Horton Road, LLC is pursuing a conservation subdivision to preserve open space development. Some of the open space in the conservation subdivision will be permanently preserved by a conservation easement. Town Code § 175-21(A). The applicant believes that the inclusion of an equestrian center is permitted in the conservation subdivision and the conservation easement area of the project site.

The equestrian center will include stables, turnouts, paddocks, and trails. The facility will be open to the public. The equestrian center will promote the skill of riding and jumping horses. Such use of the property will promote recreational activities and a greater appreciation for the surrounding environment. The center will also house and breed approximately 40 horses.

The goal of the conservation easement is to "protect the conservation values identified in the conservation analysis." Town Code § 175-21(A)(3)(b). The completed Conservation Analysis identified cultural resources and environmentally sensitive lands, such as steep slopes, wetlands, and water courses. The Applicant will remain sensitive to the property's cultural and environmental values and promote a greater appreciation for such values through the use, enjoyment, and preservation of the land.

Allowable uses in the conservation easement area include uses that promote agriculture, forestry, recreation, protection of natural resources, or similar conservation purposes. Town Code § 175-21(A)(3)(a). The conservation easement prohibits "residential, industrial, or commercial use of open space land (except in connection with agriculture, forestry and recreation) and shall not be amendable to permit such use. Access roads, driveways, local utility distribution lines, subsurface wastewater disposal systems, temporary structures for outdoor recreation and agricultural structures shall be permitted on preserved open space land, provided that they do not impair the conservation value of the land." Town Code § 175-21(A)(3)(b). As discussed below, the equestrian center constitutes a business, recreation and agricultural use of the open land. Therefore, all trails and agricultural structures are permitted in the conservation easement and conservation subdivision.

The equestrian center may constitute a riding academy as described in the Town Code. Riding academies are defined as "any establishment where more than four horses are kept for riding, driving, horseback riding lessons, or stabling for

Chairman Anthony Merante
and Members of the Town of
Philipstown Planning Board Members
December 22, 2016
Page 4

compensation, or incidental to the operation of any club, association, resort, riding school, ranch, or similar establishment. A riding academy operated in conjunction with a farm operation is an agricultural accessory use.” Town Code § 175-74. Farm operations include “agricultural production, farm buildings, equipment, and farm residential buildings.” Town Code § 175-74. While riding academies are designated as business uses in the Use Table (175 Attachment 1), the additional responsibility of breeding, raising, and boarding horses is considered an agricultural use as provided in the definition of agriculture in section 175-74B(6). The equestrian center and the accompanying stable, paddocks, turnouts and trails are permitted in the conservation subdivision as part of the riding academy and agriculture use. As provided in the Town Code, the accompanying stables and paddocks are permitted in the conservation subdivision and may be built as permanent structures.

Riding academies are permitted by right in rural residential zoning districts and subject to site plan review by the planning board. However, in this case, the riding academy is operated in conjunction with a farm operation and therefore constitutes an agriculture use. The agriculture use is permitted by right in the rural residential zone. Agricultural uses usually require a zoning permit or a building permit and a certificate of occupancy from the Zoning Administrative Officer. The applicant is required to provide an agriculture data statement and issue a disclosure to potential residential developments that abut the agriculture uses. *See* Town Code 175-36(B-C). The conservation subdivision does not restrict the development of an agricultural use on the property. Section 175-20(G) states “residential and nonresidential accessory uses may be combined in a conservation subdivision, provided that the applicant complies with all residential density, impervious surface, and open space requirements.” Therefore, permitted nonresidential uses such as recreational facilities, storage facilities, and common recreation buildings are permitted uses in the conservation district.

The Town Code does not specifically state that agriculture uses, including stables and horse trails, may be included in the conservation subdivision. However, the list provided is only a sample of possible permitted accessory uses. *See* Town Code § 175-19(G)(1-6). Thus the proposed agriculture and recreation use is permitted. Use of the land as an equestrian facility allows the applicant to preserve important natural attributes of the land, while promoting recreation activities and appreciation of the natural surroundings. In addition, agricultural uses are permitted as of right in the rural residential zoning districts in which the proposed conservation subdivision is located.

Chairman Anthony Merante
and Members of the Town of
Philipstown Planning Board Members
December 22, 2016
Page 5

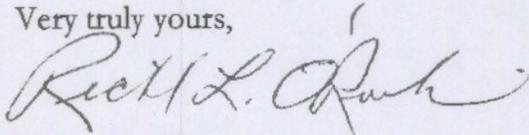
The equestrian center may also constitute a commercial horse boarding operation. The code commercial horse boarding operations as "an agricultural enterprise, consisting of at least seven acres and boarding at least 10 horses, regardless of ownership, that receives \$10,000 or more in gross receipts annually from fees generated either through the boarding of horses or through the production for sale of crops, livestock, and livestock products, or through both such boarding and such production." Town Code § 175-74B. Such a use is also considered agriculture, "commercial horse boarding operations, as defined herein, and the raising or breeding of horses are agricultural uses." Town Code § 175-74. As discussed above, agriculture uses are allowed in the conservation easement area. Town Code § 175-21(A)(3)(a). The equestrian center will raise, breed, and house approximately 40 horses. The facility will be open to the public and will generate over \$10,000 a year boarding horses, but the facility will also teach and train people to ride horses. Whether defined as a riding academy or a commercial horse boarding operation the equestrian center is an agriculture use as defined in the code and is permitted in the conservation subdivision. The equestrian center, located on 205.6 acres of land, will preserve significant contiguous open space and important environmental resources, while allowing the public to enjoy and appreciate their surroundings.

Under the Town Code, the Planning Board may require a subdivision plat to include a park land, suitable for playgrounds or other recreational activities. The maximum area of such a park is 10% of the total area covered by the plat. The maximum recreational space the Planning Board could require for this application is 20.5 acres. The Planning Board may charge recreational fees in lieu of parkland reservation. The fees are used to develop or acquire property to use to develop neighborhood parks, playgrounds, or recreation facilities. The proposed application includes 165.5 undeveloped acres of property. The proposed subdivision preserves 80.54% of the subdivision site. Furthermore, the equestrian center located on this property will be open to the public. The public will have access to the facilities. Therefore, the Planning Board may not collect Recreation fees because the Town has already required the subdivision to include a recreational activity open to the public. There will be plenty of opportunity for the public to enjoy the land

Chairman Anthony Merante
and Members of the Town of
Philipstown Planning Board Members
December 22, 2016
Page 6

We look forward to discussing this application with you further.

Very truly yours,



Richard L. O'Rourke

RLO/

**HUDSON HIGHLANDS RESERVE
a
CONSERVATION SUBDIVISION
FULL
ENVIRONMENTAL ASSESSMENT
FORM**

December 27, 2016

Prepared by
BADEY & WATSON,
Surveying & Engineering, PC
3063 Route 9
Cold Spring, NY 10516
845-265-9217 v
845-265-4428 f
877-3.141593 (NY Toll Free)
www.Badey-Watson.com

RECEIVED
DEC 29 2016
BY: *A*

HUDSON HIGHLANDS RESERVE
a
CONSERVATION SUBDIVISION
FULL
ENVIRONMENTAL ASSESSMENT
FORM
PART ONE
December 27, 2016

**Full Environmental Assessment Form
Part 1 - Project and Setting**

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Conservation Subdivision prepared for Hudson Highlands Reserve		
Project Location (describe, and attach a general location map): Route 9, East Mountain Road North & Horton Road, Town of Philipstown,		
Brief Description of Proposed Action (include purpose or need): Approval of Conservation Subdivision proposing 29.1 acre +/- residential building lots, equestrian center lot and a large conservation easement area on an assemblage of 5 parcels containing a total of 205.6 acres.		
Name of Applicant/Sponsor: Horton Road, LLC	Telephone: 212-722-0170	E-Mail: uliceaga@thefractalgroup.com
Address: 315 East 91st Street Unit 2S		
City/PO: New York	State: NY	Zip Code: 10128
Project Contact (if not same as sponsor; give name and title/role): Badey & Watson, P.C. Glennon J. Watson, L.S.	Telephone: 845-265-9217 x14	E-Mail: gwatson@badey-watson.com
Address: 3063 Route 9		
City/PO: Cold Spring	State: NY	Zip Code: 10516
Property Owner (if not same as sponsor): Horton Road, LLC	Telephone: 212-722-0170	E-Mail: uliceaga@thefractalgroup.com
Address: 315 East 91st Street Unit 2S		
City/PO: New York	State: NY	Zip Code: 10128

B. Government Approvals

B. Government Approvals Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No or Village Board of Trustees	Town Board-Alternate Road Standards	TBD
b. City, Town or Village <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Planning Board or Commission	Subdivision and AQO Special Permit	10/02/14
c. City Council, Town or <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Village Zoning Board of Appeals		
d. Other local agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Conservation Board - Wetland Permit	TBD
e. County agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	PCDH - Water & Sewer, County 239 Referral	239 Referral 12/14/14
f. Regional agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No g. State Agencies	DEC Stream Dist. & SPDES Permits	TBD
g. State agencies continued <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	DOT Highway Work Permit	TBD
h. Federal agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
i. Coastal Resources.		
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes,		
ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program?		<input type="checkbox"/> Yes <input type="checkbox"/> No
iii. Is the project site within a Coastal Erosion Hazard Area?		<input type="checkbox"/> Yes <input type="checkbox"/> No

C. Planning and Zoning

C.1. Planning and zoning actions.	
Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> • If Yes, complete sections C, F and G. • If No, proceed to question C.2 and complete all remaining sections and questions in Part 1 	
C.2. Adopted land use plans.	
a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes, identify the plan(s):	

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes, identify the plan(s):	

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. Yes No
 If Yes, what is the zoning classification(s) including any applicable overlay district?
 RR- Rural Residential, M- Industrial/Manufacturing, OSO- Open Space Conservation
 CCA- Clove Creek Aquifer Overlay, Regional Aquifer, SPO Scenic Protection Overlay (Partial)

b. Is the use permitted or allowed by a special or conditional use permit? Yes No

c. Is a zoning change requested as part of the proposed action? Yes No
 If Yes,
 i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Haldane Central School District

b. What police or other public protection forces serve the project site?
Putnam County Sheriff, New York State Police

c. Which fire protection and emergency medical services serve the project site?
North Highlands Fire District

d. What parks serve the project site?
Hudson Highlands & Fahnstock State Parks, Philipstown Parks

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)?
Residential, Recreational

b. a. Total acreage of the site of the proposed action? 205.6 acres
 b. Total acreage to be physically disturbed? 39.5 acres
 c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 210.1 acres

c. Is the proposed action an expansion of an existing project or use? Yes No
 i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
 If Yes,
 i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential Conservation Subdivision with related commercial recreational component.
 ii. Is a cluster/conservation layout proposed? Yes No
 iii. Number of lots proposed? 31 Residential 29 of which are Residential
 iv. Minimum and maximum proposed lot sizes? Minimum 0.85 Maximum 2.85 Commercial

e. Will proposed action be constructed in multiple phases? Yes No
 i. If No, anticipated period of construction: 24 months
 ii. If Yes:
 • Total number of phases anticipated _____
 • Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
 • Anticipated completion date of final phase _____ month _____ year
 • Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ■ Yes □ No
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	29	0	0	0
At completion of all phases	29	0	0	0

g. Does the proposed action include new non-residential construction (including expansions)? ■ Yes □ No
 If Yes,
 i. Total number of structures 2
 ii. Dimensions (in feet) of largest proposed structure: 30 height; 260 width; and 265 length
 iii. Approximate extent of building space to be heated or cooled: 47,500 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ■ Yes □ No
 If Yes,
 i. Purpose of the impoundment: Stormwater Management
 ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: Stormwater Runoff
 iii. If other than water, identify the type of impounded/contained liquids and their source.
N/A
 iv. Approximate size of the proposed impoundment. Volume: TBD million gallons; surface area: TBD acres
 v. Dimensions of the proposed dam or impounding structure: TBD height; TBD length
 vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
Earth fill

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? Yes No
 (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
 If Yes:
 i. What is the purpose of the excavation or dredging? _____
 ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
 • Volume (specify tons or cubic yards): _____
 • Over what duration of time? _____
 iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

 iv. Will there be onsite dewatering or processing of excavated materials? Yes No
 If yes, describe. _____

 v. What is the total area to be dredged or excavated? _____ acres
 vi. What is the maximum area to be worked at any one time? _____ acres
 vii. What would be the maximum depth of excavation or dredging? _____ feet
 viii. Will the excavation require blasting? Yes No
 ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ■ Yes □ No
 If Yes:
 i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Clove Creek, Ulmar Pond (treated storm water outfall)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres: Road drainage structures including erosion control will be installed. No change in area or location of stream is involved.

iii. Will proposed action cause or result in disturbance to bottom sediments? Yes No
 If Yes, describe: _____

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? Yes No
 If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? Yes No
 If Yes:

i. Total anticipated water usage/demand per day: _____ 22000 _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? Yes No
 If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

iii. Will line extension within an existing district be necessary to supply the project? Yes No
 If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? Yes No
 If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: Individual private drilled wells.

vi. If water supply will be from wells (public or private), maximum pumping capacity: 5 gallons/minute.

d. Will the proposed action generate liquid wastes? Yes No
 If Yes:

i. Total anticipated liquid waste generation per day: _____ 18000 _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): Sanitary wastewater, equine wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? Yes No
 If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

- Do existing sewer lines serve the project site? Yes No
- Will line extension within an existing district be necessary to serve the project? Yes No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? Yes No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):
 Subsurface disposal typical of that for a single family residence, but large enough for 29 homes and
 and equestrian facility.

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: N/A

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? Yes No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 14.3 acres (impervious surface)

_____ Square feet or 205.6 acres (parcel size)

ii. Describe types of new point sources. Roads, driveways, and rooftops

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?
Storm water management, groundwater, off and on site waters.

• If to surface waters, identify receiving water bodies or wetlands: Clove Creek, Ulmar Pond

• Will stormwater runoff flow to adjacent properties? Yes No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? Yes No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? Yes No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)
Heavy equipment, delivery vehicles

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Yes No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
- _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
- _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
- _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs)
- _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? Yes No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? Yes No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? Yes No

If Yes:

i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend
 Randomly between hours of _____ to _____

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? Yes No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? Yes No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? Yes No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: 100,000 kwh/yr

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
via grid, solar and Local utility.

iii. Will the proposed action require a new, or an upgrade to, an existing substation? Yes No

l. Hours of operation. Answer all items which apply.

<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: <u>8:00 am</u> <u>5:00 pm</u> • Saturday: <u>8:00 am</u> <u>12:00 pm</u> • Sunday: <u>-</u> <u>-</u> • Holidays: <u>-</u> <u>-</u> 	<p>ii. During Operations: (Equestrian Center)</p> <ul style="list-style-type: none"> • Monday - Friday: <u>8:00 am</u> <u>5:00 pm</u> • Saturday: <u>8:00 am</u> <u>5:00 pm</u> • Sunday: <u>8:00 am</u> <u>5:00 pm</u> • Holidays: <u>8:00 am</u> <u>5:00 pm</u>
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m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? Yes No
 If yes:
 i. Provide details including sources, time of day and duration:
Construction activity as permitted by local ordinance (see D21)

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: _____

n.. Will the proposed action have outdoor lighting? Yes No
 If yes:
 i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:
Residential lighting each residential lot. Parking & walkway lighting on Equestrian Center, all dark sky compliant. Security lighting (motioned activated).

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? Yes No
 Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No
 If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: Odors from equine facility- barns to be placed at significant distance from property line. Manure Management Plan to be completed.

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products (185 gallons in above ground storage or any amount in underground storage)? Yes No
 If Yes:
 i. Product(s) to be stored Heating fuel (oil, propane)
 ii. Volume(s) 12000 per unit time year (e.g., month, year)
 iii. Generally describe proposed storage facilities: Individual residential storage tanks on each lot.

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? Yes No
 If Yes:
 i. Describe proposed treatment(s):
Possibly rodent control may require use of rodenticides if otherwise good management practices fail. Algicide has been recommended for the continued health of the pond * See Attachment 1

ii. Will the proposed action use Integrated Pest Management Practices? Yes No

r. Will the proposed action (commercial/or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No
 If Yes:
 i. Describe any solid waste(s) to be generated during construction or operation of the facility:
 • Construction: 1 tons per Month (unit of time)
 • Operation : 1 1/2 tons per Day (unit of time)
 ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:
 • Construction: Use of standard sized materials.
 • Operation: Manure Management Plan to be developed.

iii. Proposed disposal methods/facilities for solid waste generated on-site:
 • Construction: Removal by commercial carters.
 • Operation: Removal by commercial carters.

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:
 Hazardous substances will be retained on site until expended. All such material will be appropriately stored, such as in locked spaces set aside for the purpose. _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

Urban Industrial Commercial Residential (suburban) Rural (non-farm)

Forest Agriculture Aquatic Other (specify): _____

ii. If mix of uses, generally describe: _____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.2	14.5	+14.3
• Forested	153.2	102.0	-51.2
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	7.8	43.2	+35.4
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	6.0	6.0	0
• Wetlands (freshwater or tidal)	36.4	36.4	0
• Non-vegetated (bare rock, earth or fill)	2.0	3.5	+1.5
• Other Describe: _____ Totals	205.6	205.6	0

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? Yes No
If Yes,
i. Identify Facilities: _____

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ 15 _____ feet
• Dam length: _____ 425 _____ feet
• Surface area: _____ 6.0 _____ acres
• Volume impounded: _____ 29 _____ ~~gallons~~ acre-feet
ii. Dam's existing hazard classification: A
iii. Provide date and summarize results of last inspection:
August 5, 2015- Not rated * See Attachment 2

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes - Spills Incidents database Provide DEC ID number(s): _____
 Yes - Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

v. Is the project site subject to an institutional control limiting property uses? Yes No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? Yes No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 0 > 50 ft. feet

b. Are there bedrock outcroppings on the project site? Yes No
 If Yes, what proportion of the site is comprised of bedrock outcroppings? +/- 2 %

c. Predominant soil type(s) present on project site:

Chatfield	49	%	*
Charlton	22	%	See Attachment 3
Riverhead	13	%	
Water surface	2.9	%	

d. What is the average depth to the water table on the project site? Average: > 10 feet

e. Drainage status of project site soils:

<input checked="" type="checkbox"/> Well Drained:	94	% of site
<input checked="" type="checkbox"/> Moderately Well Drained:	0	% of site
<input checked="" type="checkbox"/> Poorly Drained:	6	% of site

* 2.4% WaterSurface

f. Approximate proportion of proposed action site with slopes:

<input checked="" type="checkbox"/> 0-10%:	19.4	% of site
<input checked="" type="checkbox"/> 10-15%:	11.2	% of site
<input checked="" type="checkbox"/> 15% or greater:	66.5	% of site

g. Are there any unique geologic features on the project site? Yes No
 If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? Yes No

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No

If Yes to either i or ii, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? Yes No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information: *See Attachment 4

• Streams:	Name	Clove Creek	Classification	C(TS)
• Lakes or Ponds:	Name	Ulmar Pond	Classification	C(TS)
• Wetlands:	Name	Town Regulated & State Wetlands, adjacent to Clove Creek	Approximate Size	36.4
• Wetland No. (if regulated by DEC)	N/A			

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? (Partial) Yes No

j. Is the project site in the 100 year Floodplain? ((Partial) Yes No

k. Is the project site in the 500 year Floodplain? (Partial) Yes No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No

If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
 see attached list _____ * See Attachment 5 _____

n. Does the project site contain a designated significant natural community? Yes No
 If Yes:
 i. Describe the habitat/community (composition, function, and basis for designation): *See Attachments 6 & 7 _____
 ii. Source(s) of description or evaluation: _____
 iii. Extent of community/habitat:
 • Currently: _____ acres
 • Following completion of project as proposed: _____ acres
 • Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? Yes No
 Project contains habitat suitable for Indian Bats and Northern Long Eared Bats *See Attachment 8

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? Yes No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? Yes No
 If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? Yes No
 If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? Yes No
 i. If Yes: acreage(s) on project site? _____
 ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? Yes No
 If Yes:
 i. Nature of the natural landmark: Biological Community Geological Feature
 ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? Yes No
 If Yes:
 i. CEA name: _____
 ii. Basis for designation: _____
 iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If Yes:	
i. Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input type="checkbox"/> Historic Building or District	
ii. Name: _____	
iii. Brief description of attributes on which listing is based: _____	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes:	
i. Describe possible resource(s): <u>1920 Farm House 1820 Barn, Historic Road</u>	
ii. Basis for identification: <u>As reported in Conservation Analysis</u> * See Attachment 9	
h. Is the project site within 5 miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes:	
i. Identify resource: <u>Fahnestock Memorial State Park and Hudson Highlands State Park</u> *See Attachment 10	
ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): <u>State Parks</u>	
iii. Distance between project and resource: <u>0.7 & 0.4*</u> miles. <u>Hudson Highlands & Fahnestock</u> respectively	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666?	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes:	
i. Identify the name of the river and its designation: _____	
ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

* Measured to nearest point on boundary & not including land to be preserved.

F. Additional Information

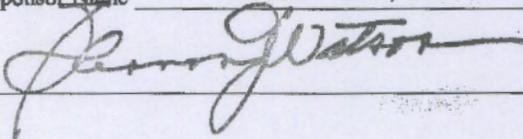
Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Horton Road, LLC Date 12/27/2016

Signature  Title Surveyor for Applicant

HUDSON HIGHLANDS RESERVE
a
CONSERVATION SUBDIVISION
FULL
ENVIRONMENTAL ASSESSMENT FORM
PART TWO
December 27, 2016

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency and the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "Yes" to a numbered question, please complete all the questions that follow in that section.
- If you answer "No" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land			
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
<i>If "Yes", answer questions a - j. If "No", move on to Section 2.</i>			
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g)

NO

YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____	E2g	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	<input type="checkbox"/>	<input type="checkbox"/>
c. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h)

NO

YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	<input type="checkbox"/>	<input checked="" type="checkbox"/>

I. Other impacts: _____ _____	<input type="checkbox"/>	<input type="checkbox"/>
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4. Impact on groundwater
 The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. NO YES
 (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)
 If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Other impacts: _____ _____		<input type="checkbox"/>	<input type="checkbox"/>

5. Impact on Flooding
 The proposed action may result in development on lands subject to flooding. NO YES
 (See Part 1. E.2)
 If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in development within a 100 year floodplain.	E2j	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may result in development within a 500 year floodplain.	E2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. If there is a dam located on the site of the proposed action, is the dam in need of repair or upgrade?	E1e	<input checked="" type="checkbox"/>	<input type="checkbox"/>

g. Other impacts: _____ _____	<input type="checkbox"/>	<input type="checkbox"/>
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6. Impacts on Air			
The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D,2,h, D.2.g) <i>If "Yes", answer questions a - f. If "No", move on to Section 7.</i>		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels: i. More than 1000 tons/year of carbon dioxide (CO ₂) ii. More than 3.5 tons/year of nitrous oxide (N ₂ O) iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs) iv. More than .045 tons/year of sulfur hexafluoride (SF ₆) v. More than 1000 tons/year of carbon dioxide equivalent of hydrochlorofluorocarbons (HFCs) emissions vi. 43 tons/year or more of methane	D2g D2g D2g D2g D2g D2h	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	<input type="checkbox"/>	<input type="checkbox"/>
f. Other impacts: _____ _____		<input type="checkbox"/>	<input type="checkbox"/>

7. Impact on Plants and Animals			
The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) <i>If "Yes", answer questions a - j. If "No", move on to Section 8.</i>		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	<input checked="" type="checkbox"/>	<input type="checkbox"/>

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____	E1b	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

8. Impact on Agricultural Resources			
The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.)		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<i>If "Yes", answer questions a - h. If "No", move on to Section 9.</i>			
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	E1 a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	<input type="checkbox"/>	<input type="checkbox"/>
h. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

9. Impact on Aesthetic Resources			
The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)		<input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES
<i>If "Yes", answer questions a - g. If "No", go to Section 10.</i>			
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur

a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile 1/2 -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Other impacts: _____ _____		<input type="checkbox"/>	<input type="checkbox"/>

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

NO

YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.	E3e	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	<input type="checkbox"/>	<input type="checkbox"/>
d. Other impacts: _____ _____		<input type="checkbox"/>	<input type="checkbox"/>
e. If any of the above (a-d) are answered "Yes", continue with the following questions to help support conclusions in Part 3: i. The proposed action may result in the destruction or alteration of all or part of the site or property. ii. The proposed action may result in the alteration of the property's setting or	E3e, E3g, E3f E3e, E3f, E3g, E1a,	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

integrity.	E1b E3e, E3f, E3g, E3h, C2, C3	<input type="checkbox"/>	<input type="checkbox"/>
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.			

11. Impact on Open Space and Recreation
 The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan. ■ NO □ YES
 (See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	<input type="checkbox"/>	<input type="checkbox"/>
e. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

12. Impact on Critical Environmental Areas
 The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d) ■ NO □ YES
If "Yes", answer questions a - c. If "No", go to Section 13.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	<input type="checkbox"/>	<input type="checkbox"/>
c. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

13. Impact on Transportation
 The proposed action may result in a change to existing transportation systems. ■ NO □ YES
 (See Part 1. D.2.j)
If "Yes", answer questions a - g. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	<input type="checkbox"/>	<input type="checkbox"/>

b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action will degrade existing transit access.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	<input type="checkbox"/>	<input type="checkbox"/>
f. Other impacts: _____ _____		<input type="checkbox"/>	<input type="checkbox"/>

14. Impact on Energy
 The proposed action may cause an increase in the use of any form of energy. NO YES
 (See Part 1. D.2.k)
 If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Other Impacts: _____ _____			

15. Impact on Noise, Odor, and Light
 The proposed action may result in an increase in noise, odors, or outdoor lighting. NO YES
 (See Part 1. D.2.m, n., and o.)
 If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may result in routine odors for more than one hour per day.	D2o	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may result in light shining onto adjoining properties.	D2n	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	<input type="checkbox"/>	<input type="checkbox"/>
f. Other impacts: _____ _____		<input type="checkbox"/>	<input type="checkbox"/>

16. Impact on Human Health
 The proposed action may have an impact on human health from exposure NO YES

to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.)

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	<input type="checkbox"/>	<input type="checkbox"/>
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	<input type="checkbox"/>	<input type="checkbox"/>
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	<input type="checkbox"/>	<input type="checkbox"/>
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	<input type="checkbox"/>	<input type="checkbox"/>
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	<input type="checkbox"/>	<input type="checkbox"/>
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	<input type="checkbox"/>	<input type="checkbox"/>
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	<input type="checkbox"/>	<input type="checkbox"/>
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	<input type="checkbox"/>	<input type="checkbox"/>
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	<input type="checkbox"/>	<input type="checkbox"/>
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	<input type="checkbox"/>	<input type="checkbox"/>
m. Other impacts: _____ _____			

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans.
(See Part 1. C.1, C.2. and C.3.)

NO

YES

If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action may cause a change in the density of development that is not	C3, D1c,	<input type="checkbox"/>	<input type="checkbox"/>

supported by existing infrastructure or is distant from existing infrastructure.	D1d, D1f, D1d, E1b		
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	<input type="checkbox"/>	<input type="checkbox"/>
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	<input type="checkbox"/>	<input type="checkbox"/>
h. Other: _____		<input type="checkbox"/>	<input type="checkbox"/>

18. Consistency with Community Character			
The proposed project is inconsistent with the existing community character. (See Part 1. C.2, C.3, D.2, E.3)		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
<i>If "Yes", answer questions a - g. If "No", proceed to Part 3.</i>			
	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	<input type="checkbox"/>	<input type="checkbox"/>
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	<input type="checkbox"/>	<input type="checkbox"/>
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	<input type="checkbox"/>	<input type="checkbox"/>
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	<input type="checkbox"/>	<input type="checkbox"/>
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	<input type="checkbox"/>	<input type="checkbox"/>
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	<input type="checkbox"/>	<input type="checkbox"/>
g. Other impacts: _____		<input type="checkbox"/>	<input type="checkbox"/>

HUDSON HIGHLANDS RESERVE
a
CONSERVATION SUBDIVISION
FULL
ENVIRONMENTAL ASSESSMENT FORM
PART THREE
December 27, 2016

Hudson Highlands Reserve Full EAF Part 3 Potentially Large Impacts Discussed

INTRODUCTION

The Hudson Highlands Reserve is a 29 Lot Conservation Subdivision located on 205 acres on the easterly side of US Route 9 in the North Highlands section of the Town of Philipstown between Horton Road, on the south, and East Mountain Road North, on the north.

Enactment of the current Zoning Law in 2011 introduced Conservation Zoning to the Town. The Hudson Highlands Reserve is the first Conservation Subdivision in Philipstown. Because it is the first, both the Planning Board and its consultants, and the sponsor and its consultants have approached the process in a very careful and conservative manner.

The project began as an assemblage of 4 parcels with a combined area of 155 acres. During early discussions with the Planning Board, interested parties expressed concern that the project would fragment the Matrix Forest that includes much of the sponsor's property. As a direct result, the applicant acquired additional land with the intention of protecting it and limiting the forest fragmentation. The project now contains 5 parcels and a total of 205.6 acres.

The Philipstown Zoning Law requires that an applicant for approval of a Conservation Subdivision demonstrate that its land is suitable for such approval (Sections 175-19A(2) and 175-20A(1)). The demonstration must take the form of a Conservation Analysis, which identifies, inventories and evaluates the features that might contribute to the conservation value of the applicant's property. The sponsors of the Hudson Highlands Reserve prepared and submitted a Conservation Analysis, which was reviewed by the Planning Board and its consultants. As a result of multiple reviews and edits, the Conservation Analysis for the project was accepted by the Planning Board on July 21, 2016. At its November 17, 2016, meeting, the Planning Board adopted Findings that the Conservation Analysis demonstrates that the property "... contains sufficient conservation value requiring protection..." to justify its consideration of approval of a conservation subdivision. Attachment II is a copy of the Findings.

The Conservation Analysis studied the property from several perspectives including; archaeological, biological, cultural, ecological, historical, and limnological. It included studies of the flora and fauna present and not present on the site. The results and conclusions of the Conservation Analysis were highly influenced by the steep slopes and wetlands on the site, which were professionally delineated, mapped and quantified. In addition to the detailed studies prepared for the conservation analysis, studies and reports from the Environmental Assessment Form (EAF) prepared for the previous owner's mining project, ca. 2010, were included in the Conservation Analysis. All of the reports contributed to the development of the Master Plan for the project.

The maps that are part of the Conservation Analysis clearly show the areas of high conservation value where development should be avoided, as well as those areas of medium conservation value and those areas most appropriate for development. The Conservation Analysis has guided the preparation of the Master Plan and thus assisted the planners in avoiding potential impacts.

Part 1 of this EAF provides the factual data regarding the property, and answers objective and quantitative questions such as project area, zoning, soils classifications, wetland areas, etc. Part 2 compares the potential negative impacts that may result from the project to threshold negative impacts, and guides reviewers to those potential negative impacts that are potentially large and require further discussion in Part 3.

The remainder of this part of the Full EAF provides discussion of each of those potentially large negative impacts, including whether: they are likely to occur; they can be avoided; and those impacts that cannot be avoided have, or can be minimized. The form of this Part 3 repeats those sections of Part 2 in which potentially large impacts have been identified and follows each with discussion.

DISCUSSION

I – Impacts on Land

b. – The proposed action may involve construction on slopes 15% or greater

Potential Impacts Generally – Construction on slopes that are greater than 15% increases the possibility of erosion and downstream sedimentation. This is because water flows faster on steeper slopes and, consequently has more power to scour land and carry the eroded material away.

Constructing roads and other improvements across slopes greater than 15% also requires a greater disturbance to provide enough room for the excavated slopes to meet the original grade.

Likely Occurrence – Construction on land with slopes of 15% or greater will occur and cannot be avoided. It is necessary to avoid overburdening Horton Road and East Mountain Road North, not only with the residential traffic, but with the commercial traffic generated by the equine facility. Both East Mountain Road South and Horton Road are relatively narrow residential roads that are not designed to accommodate the trucks and trailers that will service the equine facility. Neighbors have already expressed concern that the additional traffic would negatively impact their quality of life.

There are areas where the new roads will cross or be built along slopes that are greater than 15%. This is necessary access and provides necessary circulation through the developable portion of the site while preserving the abandoned portion of Horton Road that runs through it. The abandoned portion of “Horton Road is significant to the history of Philipstown ...,” and is an “... excellent example of an early 19th century road” (Attachment 9, p. 057).

Mitigations/Conclusions – The Hudson Highlands Reserve has worked to minimize disturbance on grades with slopes greater than 15% in the following ways:

- The secondary access to East Mountain Road has been eliminated.
- The plan for grading the steeper routes to and from Route 9 will utilize retaining walls to minimize the width of the swath necessary for construction.
- The plan restricts development of the core of the project to the more developable areas of the sites.

- The steeper slopes down from East Mountain Road South, those down toward East Mountain Road North, and those along almost all of Clove Creek will not be developed.

Even so, the potential impact has not and cannot be eliminated, but it can be controlled. Because of the size of the Hudson Highlands Reserve a full Storm Water Pollution Prevention Plan (SWPPP) must be prepared and approved before a shovel can be put into the ground. This plan will employ proven stormwater pollution prevention techniques before, during and after construction is complete, such as:

- Limiting disturbance to a maximum of 5 acres at any one time;
- Temporarily and permanently stabilizing disturbed areas as soon as possible after particular tasks have been accomplished;
- Use of erosion control fencing and haybales;
- Use of Temporary and Permanent sediment traps;
- Infiltrating stormwater; and
- Regularly and professionally inspecting the site for adherence to the SWPPP.

Because a SWPPP is required and because the Town of Philipstown will cause the ongoing construction to be regularly inspected, not only by the developer's professional, but by an inspector employed by the Town, the threat of unavoidable impact associated with construction on slopes will be minimized to the greatest practical extent.

c. – The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground Construction on Exposed Bedrock

Potential Impacts Generally – When bedrock is encountered during construction there are potential impacts. First, there is a greater likelihood that, when encountered during road construction, the constructed road will fail because the surface of the rock will not hold the constructed road. A similar failure could occur during construction of homes and other buildings.

If bedrock is encountered during construction, it may have to be removed. The preferred method of removing rock is excavation by chipping or hammering, although removal may require blasting. Noise and the dangers associated with blasting are impacts clearly associated with the removal of bedrock.

If septic systems are installed without sufficient cover over bedrock, they may fail and cause untreated effluent to enter the groundwater.

Likely Occurrence – Considering the depth of the cut required for the access road and the route of the northerly portion of the loop road on the Master Plan, it is possible that rock will be encountered and that it will have to be removed.

Septic systems may not be located unless there is at least 5 feet of cover over bedrock. This condition must be proven to the Putnam County Department of Health before a particular location for a system is approved. The applicant's engineers have examined the two areas where the common septic system is to be installed. Test results indicate that there is sufficient

soil cover and percolation rates to indicate that the soils in these areas are acceptable. The locations of the actual testing and the results thereof form Attachments 12 and 13 of this document, respectively. Ultimately, the Putnam County Department of Health must approve and permit the installation of any septic system on the property. Consequently, there is little likelihood that septic system failures will result from being installed too close to bedrock.

Mitigations/Conclusions – If rock is encountered, every effort should be made to avoid blasting. The Planning Board will make that effort a requirement of its approval. If blasting is unavoidable, it should be conducted in the safest manner possible and at times when it impacts the fewest people. Toward that end, the Planning Board will require that, prior to any and all blasting, the applicant will:

- Consult with the Town's Inspector to determine if blasting can be reasonably avoided, and if not;
- Submit a blasting plan to and obtain approval from the Town's Inspector; and
- Obtain any and all required permits necessary to conduct the blasting.

At a minimum, the blasting plan will specify that blasting be conducted:

- Only by duly licensed, insured and experienced personnel;
- Only during weekdays;
- Only during hours when the surrounding population is generally at work or school;
- Using safety mats and other industry approved protective devices and measures; and
- Using the minimum size charges necessary to safely accomplish the task.

Standard engineering practices will minimize failure of improvements constructed on exposed rock. These practices include over-cutting the rock to provide an additional layer of road base from the over shot rock and pinning footings to keep foundations from moving.

It is unlikely that exposed or shallow bedrock can be avoided. If it is encountered, its removal by blasting may be required. The imposition of the requirements outlined above will minimize the need for blasting and, if it is required, minimize the negative impacts associated with such removal.

e. – The proposed action may involve construction that continues for more than one year or in multiple phases.

Potential Impacts Generally – The full build out of a project often requires more than one year of construction activity. The impacts associated with the longer duration include: a greater likelihood that erosion will occur during the winter shutdown; and greater likelihood that quality of life issues will affect the neighbors. Quality of life impacts include noise, dust, and the unsightly environment often associated with a construction site.

Likely Occurrence – There is no doubt that the Hudson Highlands Reserve project will last more than one year.

As discussed above, the greatest likelihood of damage from erosion will be threatened along that part of the road system from Route 9 to the developable area of the site. This is because it is the area where most of the disturbance on slopes that exceed 15% will occur. This first section of the road is also the section that has the greatest visibility to passersby and neighboring properties. Construction in this area will be visible from Route 9 and neighboring properties along and west of Route 9.

Fortunately, construction activities on the largest portion of the site will be limited to those areas where the threat of erosion is less of a problem and construction activities are relatively far from neighboring properties. As a result, the negative impacts associated with construction lasting more than one year are less likely to result.

Mitigations/Conclusions – Several measures will be required by the Planning Board and other agencies to assure that the negative impacts associated with construction that will last more than one year will be effectively minimized. Perhaps chief among them is the SWPPP discussed above. The SWPPP requires that:

- No more than 5 acres be disturbed at any one time, thus minimizing both the threat of erosion and the extent of disturbance that is presented to neighbors and passersby;
- Any winter shutdown be preceded by and section that all erosion control devices are properly installed and functioning; and
- Inspections be continued throughout both construction and any shutdown periods.

Moreover, in addition to the 5-acre disturbance limitation in the SWPPP, the Planning Board will impose restrictions on construction that will:

- Limit hours of the day and days of the week when construction activities can be conducted
- Require the applicant to implement an effective dust control program
- Installation of landscaping features as construction progresses.

With these plan requirements, including regular professional inspections in place, the negative impacts associated with the project's construction requiring more than 1 year will be mitigated to the greatest practical extent.

f. – The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).

Potential Impacts Generally – As discussed in other sections of this document, increased erosion damages the land from which the material is eroded, and often damages the land or water that eventually receives the eroded material. Erosion not only causes unsightly rills; eroding waters can carry away topsoil and rob the eroded area of the nutrients it needs to support plant life. If the eroded material is deposited into water, its nutrients can cause eutrophication and otherwise damage aquatic life. Siltation can change the course of a stream or drainage patterns. Although generally temporary, siltation can also block roadways and make unsafe conditions for human movement.

Likely Occurrence — Without the implementation of a SWPPP and/or the stormwater treatment and erosion control measurements that it will specify, the likelihood of the impact

occurring would be high. However, because a fully approved and implemented SWPPP, including regular inspections of the site will be required, the likelihood is small.

Mitigations/Conclusions – The implementation of Best Management Practices, including the careful execution of an approved SWPPP will mitigate this potential impact to the greatest practical extent.

2 – Impacts on Geological Features – NO DISCUSSION

3 – Impacts on Surface Water

e. – The proposed action may create turbidity in a waterbody, whether from upland erosion, runoff or by disturbing bottom sediments.

Potential Impacts Generally – Turbid water and sedimentation of eroded material into a waterbody, regardless of its source, can damage fish and other aquatic life and contribute to the eutrophication of lakes and ponds. It can make water supplies unusable and result in a loss of recreational activities.

Likely Occurrence – This is unlikely to occur during the construction and development of the Hudson Highlands Reserve project because the master plan has avoided almost all activity in the immediate vicinity of Ulmar Pond and along Clove Creek. The Master Plan has imposed an additional setback of 40 feet beyond the 100-foot regulated buffer surrounding Ulmar Pond. The only discharge to the waters of either Clove Creek or Ulmar pond is stormwater that will have been treated in accordance with an approved SWPPP and cannot be infiltrated on site.

Mitigations/Conclusions – When it becomes necessary to discharge treated stormwater into either Ulmar Pond or Clove Creek, its flow and the energy of the flow will be dissipated through the use of erosion control devices such as level spreaders and rock outlet protection. Proper implementation of such devices overseen and inspected by professionals, including the Town's inspector engaged for the purpose, will assure that the threat of turbidity in Ulmar Pond and/or Clove Creek is not likely to occur. Thus, concern for the potential impact will have been minimized.

h. – The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.

i. – The proposed action may affect the water quality of any water bodies within or around any downstream of the site of the proposed action.

Potential Impacts Generally – Construction on slopes that exceed 15% raise greater concern for damage from erosion such that it is important enough to merit a separate entry in this discussion. Similarly, activities that create the possibility that eroded material will reach a waterbody merits a separate entry. Such activities include construction of roads, houses and other buildings and excavation that disturbs the earth's surface regardless of the steepness of the ground. Stormwater flowing across disturbed land will catch and carry loosened soil, etc. and, unchecked, carry it down to the stream or waterbody that drains the area. The eroded material can be carried downstream causing turbidity or it can be deposited into the bottom of a waterbody causing the negative impacts discussed in Section 3e, above.

Likely Occurrence – As stated in Section If, above, without the implementation of a SWPPP and/or the stormwater treatment and erosion control measurements it will specify, the likelihood of the impact occurring would be high. However, because a fully approved, implemented and regularly inspected SWPPP will be required, the likelihood is small.

Mitigations/Conclusions – Again from Section If, the implementation of Best Management Practices, including the careful execution of an approved SWPPP will mitigate this potential impact to the greatest practical extent.

j. – The proposed action may involve the application of pesticides or herbicides in or around any water body.

Potential Impacts Generally – Improperly or carelessly applied pesticides or herbicides can damage a waterbody by raising the level of toxicity of the water to unsafe levels. This can poison fish and other aquatic life, animals that drink from the pond, and humans that use the pond for fishing or swimming.

Likely Occurrence – The limnological report in the Conservation Analysis (Attachment I, p. 160), recommends the use of algaecide to support the continued/improved health of Ulmar Pond. Accordingly, it is likely that herbicides will be introduced into a waterbody when the proposed subdivision is approved.

Mitigations/Conclusions – The proper application of herbicides will improve the condition of Ulmar Pond, but it must be done carefully by individuals that are fully insured, fully licensed and fully knowledgeable in their application. The applicant will be required to contract with such a person when the lake is to be treated. The use of such a qualified person and the regulations and licensing by the NYSDEC required to apply the herbicides, provides the assurances necessary for the Planning Board to be confident that the threat of this potential impact has been minimized to the greatest practical extent.

k. – The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.

Potential Impacts Generally – The construction of new wastewater treatment facilities opens the possibility that they will not be properly designed and constructed. Improperly designed and/or constructed wastewater treatment systems increase the likelihood that the effluent will not be properly treated before it reaches groundwater. If insufficiently treated effluent reaches groundwater it will be fouled. If groundwater is fouled, nearby wells may be contaminated as will nearby ponds that are groundwater fed. If the effluent seeps to the surface, residents will be exposed to offensive odors and, more importantly, the possibility of direct contact with the untreated wastewater.

Likely Occurrence – The project requires the installation of new wastewater treatment systems. Therefore, the potential for the negative impact exists. However, there are rules, regulations, testing requirements, guidelines, specifications, and permitting requirements administered by the Putnam County Department of Health that must be followed before a permit is issued for construction of new septic systems. Among the more important rules is the one that specifies that there be a minimum of 5 feet of vertical separation between the bottom of the septic system and the groundwater in the system area. (See discussion in Section Ic above and

Attachments 12 & 13). Before any system is allowed to operate, its proper construction must be inspected by the Putnam County Department of Health and professionally certified.

In the instant situation, the applicant is proposing a common septic system. Doing so requires additional levels of scrutiny in that a SPDES permit must be obtained from the NYS Department of Environmental Conservation. The operation of the system must be undertaken by a separate entity created for the purpose.

Mitigations/Conclusions – Considering the level of scrutiny in the process and the soil test results so far submitted, the Planning Board can reasonably take assurance that the threat to the groundwater created by the construction of the septic system necessary to service the project will be adequately mitigated.

4 – Impacts on Ground Water

a. – The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.

Potential Impacts Generally – The introduction of new wells creates the possibility that the groundwater will be overtaxed. That is that new wells will require more water than the groundwater can supply. Were this the case, the new wells would be inadequate for the project. Moreover, existing wells in the area might produce an inadequate amount of water.

Likely Occurrence – Part I of this EAF estimates daily water demand of 22,000 gallons per day, including demand for both the residential and commercial (equine) components of the project. Attachment 14 is a document entitled *Town of Philipstown Groundwater Report and Planning Resource* by The Chazen Companies, dated June 2007. It was commissioned by and completed for the Town of Philipstown. Section 3.3 provides the data necessary to estimate the amount of water that will be recharged into the surface of the Hudson Highlands Reserve. Attachment 15 is the soils inventory for Hudson Highlands Reserve, grouped by Hydrologic Soils Group. Finally, Attachment 16 contains calculations comparing estimated groundwater recharge for the project to estimated water demand. This calculation shows that the recharge rate is approximately 800% of the expected demand, from which one must conclude that the impact associated with drilling new wells will not occur.

Mitigations/Conclusions – The impacts associated with developing new water supply wells is very unlikely to occur. Consequently, mitigations of the perceived impact are unnecessary.

c. – The proposed action may allow or result in residential uses in areas without water and sewer services.

Potential Impacts Generally – Residential uses in areas without water and sewer services require the installation of private wells and private sewage treatment systems. As discussed in Section 4a installation of wells where there is insufficient groundwater recharge can result in inadequate wells and might cause existing wells to go dry. Please refer to Section 4a.

As discussed in Section 1k, septic systems, if not installed properly, can foul groundwater and seep to the surface. Each can cause health problems. The first by introducing pollutants into

wells. The second, by producing foul odors and exposing residences directly to sewage effluent. Please refer to Section 1k.

Likely Occurrence – As discussed in Sections 1k and 4a, the Putnam County Department of Health regulates and permits the construction of septic systems and the installation of wells. The regulations provide minimum standards to assure that such construction and installations will be safe and will protect the environment. The Hudson Highlands Reserve will be required to follow these regulations and prove to the Putnam County Department of Health that, from a public health perspective, the subdivision is properly designed and can be safely built. With these regulatory safeguards in place, the impacts associated with introducing residential uses into areas without water and sewer services is not likely to occur.

Mitigations/Conclusions – The Planning Board will subject any approval to a condition that Putnam County Health Department approve the conservation subdivision. The requirements of the Putnam County Department of Health at both the subdivision and construction stages of the project provide sufficient assurances that the potential impacts will not occur and have been adequately mitigated.

d. – The proposed action may include or require wastewater discharge to groundwater.

Potential Impacts Generally – As discussed in Sections 1k and 4c, poorly designed and/or constructed septic systems can cause untreated wastewater to be discharged into and pollute groundwater.

Likely Occurrence – Properly designed and installed septic systems treat the septic effluent and return treated water to the groundwater. The testing and permitting requirements of the Putnam County Department of Health discussed in Section 1K make the potential impact far less likely to occur. Moreover, the requirement that the septic system be professionally operated and maintained further reduces the risk that untreated wastewater will be discharged into the groundwater.

Mitigations/Conclusions – As stated in Section 4c, Putnam County Department of Health approval will be a requirement of any subdivision approval granted by the Philipstown Planning Board. This approval and all that precedes it, will provide sufficient assurances that impact associated with the discharge of wastewater into the groundwater will not occur and need not be an impediment to approval of the project.

5 – Impacts on Flooding

d. – The proposed action may result in, or require, modification of existing drainage patterns.

Potential Impacts Generally – If drainage patterns are changed without being properly designed and controlled, negative impacts might occur. For instance, areas dependent on the flow of stormwater might be deprived of it, and areas where there are little or no stormwater problems might be made subject to flooding and erosion and sedimentation.

Likely Occurrence – The impact is not likely to occur. First, stormwater flowing across the site will be collected and directed toward Ulmar Pond and Clove Creek, the areas that presently receive stormwater flows. Approval of the project will require approval of a SWPPP. The

SWPPP and the engineering designs for handling stormwater will be required to mitigate peak flows from the site and provide for both temporary and permanent erosion control.

Mitigations/Conclusions – Approval of the subdivision will only occur subject to approval of SWPPP and a detailed review by the Town's engineering consultant. With both in place, the Planning Board will be assured that concern for any change in drainage patterns flows will be adequately addressed and need not be an impediment to approval of the Hudson Highlands Reserve Conservation Subdivision.

6 – Impacts on Air – NO DISCUSSION

7 – Impacts on Plants and Animals

h. – The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat

Potential Impacts Generally – Removal of habitat can endanger species that rely on it for their survival. It can cause the concentration of flora and fauna in areas that do not provide needed habitat. Loss of habitat can result in the loss of native flora and fauna and it can give invasive species an undue advantage. All of this can lead to undesirable changes in the local environment.

Likely Occurrence – The project will require the conversion of more than 10 acres of matrix forest. It will be replaced with the residential subdivision. Attachment 8, Section 7 of the Conservation Analysis identified the presence of summer habitat suitable for the Indian bat and the Northern Long Eared bat and recommended that measures be taken to avoid negative impacts on these species.

Mitigations/Conclusions – Attachment 8 recommended that removal of trees be prohibited during periods between mid-May and mid-August to avoid impacts on either species. This recommendation will be a condition of any resolution of the Planning Board to approve this project.

Among the goals of a conservation subdivision is one to preserve the natural environment by concentrating construction in those areas of the site that are most appropriate for development. It went on to identify and map those areas that should and will be preserved. Of particular note is the additional 50 acres of matrix forest acquired by the applicant and will be fully preserved.

With a condition that removal of trees will be restricted as recommended in the Conservation Analysis and that almost $\frac{3}{4}$ of the land will be permanently preserved, the Planning Board is assured that removal of habitat will be minimized to the greatest practical extent and that the goals of a conservation subdivision will be met.

8 – Impacts on Agricultural Resources – NO DISCUSSION

9 – Impacts on Aesthetic Resources –

c. – The proposed action may be visible from publicly accessible vantage points:

- i. Seasonally (e.g., screened by summer foliage, but visible during other seasons)*
- ii. Year round*

d. – *The situation or activities in which viewers are engaged in while viewing the proposed action*

- i. *Routine travel by residents, including travel to and from work*
- ii. *Recreational or tourism based activities*

Potential Impacts Generally – Much of the Hudson Highlands presents scenic views to residents and visitors alike, whether they are boaters, hikers, bikers, motorists or passengers on the Hudson River line of the railroad. Scenic views are an important part of life providing recreational and artistic opportunities to the public. Hikers and passersby simply like to look at a beautiful view. Painters and photographers may spend days searching for just the right subject artwork, which when completed can be enjoyed and shared by many. Loss of these scenic views deprives the general public of an intangible, but none the less important aesthetic resource. Construction within a scenic vista can cause such a loss.

Likely Occurrence – There will be a change in the view of the property to passersby on Route 9, but it is seen as minimal for two reasons. First, Route 9 is the major thoroughfare through Philipstown and, as such, is largely traveled by commuters and others simply wanting to get from one place to another without serious concern for the scenery. Second, access to the property is adjacent to a landscape that is already populated with, for Philipstown, significant commercial development. It is therefore unlikely that the project will have a serious negative impact on those traveling on Route 9. These views are and will be seen year-round.

Scofield Ridge is a mountain ridge that runs north east from Cold Spring to Fishkill. It is located between Route 9, on its east, and the Hudson River, on its west. It is, for the most part, public lands with trails that offer views to the east, including views of the area on which the Hudson Highlands will be built. These are distant views and although visible year-round are seasonally available to all but the hardiest of hikers who might visit the ridge during the winter.

Hudson Highlands Reserve is a conservation subdivision that will permanently preserve almost $\frac{3}{4}$ of its 205 acres. The actual development will be concentrated on a plateau above Route 9. The steep grade from Route 9 up to the plateau will be crossed by a road that will be visible from both Route 9 and Scofield Ridge. Once the road reaches the plateau and the core of the subdivision, the change in grade and the preservation of many of the trees will make the core area largely invisible from Route 9. The Core Area will be visible from Scofield Ridge, but the views will be distant and relatively small when compared to the entirety of the preserve and even smaller when compared to the nearly 180-degree panorama that can be viewed from the ridge.

Mitigations/Conclusions – To mitigate the impact of construction of the entry road the applicant will be installing retaining walls to minimize disturbance. The view of the road will be partially blocked by the existing development along Route 9. The core area will be virtually invisible from Route 9. The applicant has expressed its intention to minimize tree cutting in the core area and has included a tree survey in the Conservation Analysis. As plans for the project fully develop, the applicant will be required to identify those trees that will be preserved. By preserving as many trees as possible and avoiding clearcutting the core area, views from Scofield Ridge will be screened to the greatest practical extent and the impact on aesthetic resources will be minimized.

While there are no anticipated impacts on Historic and Archaeological Resources, it is important to note that the Master Plan for the project has been driven by a concerted effort to preserve the two buildings and the old road noted in the Cultural Resource Assessment of the Conservation Analysis (Attachment 9).

11 – Impacts on Open Space and Recreation –

It is important to note that the applicant has committed to preserving almost $\frac{3}{4}$ of its property. It has also committed to providing public access to the preserved land, a positive impact on the recreational resources available to the citizens of Philipstown.

12 – Impacts on Critical Environmental Areas – NO DISCUSSION

13 – Impacts on Transportation – NO DISCUSSION

14 – Impacts on Energy – NO DISCUSSION

15 – Impacts on Noise, Odor, and Light – NO DISCUSSION

16 – Impacts on Human Health – NO DISCUSSION

17 – Consistency with Community Plans – NO DISCUSSION

18 – Consistency with Community Character – NO DISCUSSION

Conclusion – The Hudson Highlands Reserve will be the first Conservation Subdivision in Philipstown. As such, it has been approached with an abundance of caution. The Conservation Analysis prepared to demonstrate the conservation value of the Hudson Highlands Reserve land took a serious look at many of the impacts associated with residential development. As a result of the Conservation Analysis, areas more appropriate for development and areas where development should be avoided were identified and mapped. The Master Plan that was developed respected those boundaries and avoided many impacts that would normally be identified in an Environmental Assessment such as this. Accordingly, this document made many references to the Conservation Analysis. The inter-relationship between this Environmental Assessment Form and the Conservation Analysis cannot be ignored. Together they provide significant insight into the project and how it has avoided and/or minimized negative environmental impacts to the greatest practical extent.

HUDSON HIGHLANDS RESERVE
a
CONSERVATION SUBDIVISION
FULL
ENVIRONMENTAL ASSESSMENT FORM
ATTACHMENTS
December 27, 2016

Attachment	Title/Identification	Source	Section Reference
Part 1			
1	Limnological Recommendation	Conservation Analysis, p. 160	Dq2
2	Data on Ulmar Dam	DEC Website	E1eiii
3	Soils Map	USDA Soils Maps	E2c
4	Wetlands & Streams	NYS DEC Environmental Mapper	E2hiv
5	Vegetation & Wildlife Inventory	Conservation Analysis, Section 7	E2m
6	Significant Natural Communities	NYS DEC Environmental Mapper	E2ni
7	Rare Plants & Animals	NYS DEC Environmental Mapper	E2ni
8	Endangered Species	Cultural Analysis, p.245	E2o
9	Cultural Resources	Conservation Analysis, Section 3	E3gj & ii
10	State Parks	NYS DEC Environmental Mapper	E3hi
Part 3			
11	Conservation Analysis Findings	Philipstown Planning Board	
12	Location of Septic System Soil Tests	Badey & Watson files	
13	Results of Septic System Soil Tests	Badey & Watson files	
14	Town of Philipstown Groundwater Report and Planning Resource	Town of Philipstown	
15	Soils Inventory/Hydrologic Soil Group	USDA Soils Survey	
16	Recharge Rate v. Demand Calculation	Badey & Watson	

Attachment 1
Limnology
Recommendation

Ulmar Pond is approximately six surface acres with an average depth of 6.5 feet and a maximum depth of 10.5 feet. The pond is located in the town of Phillipstown, Putnam County, New York. At the request of the client, Allied Biological conducted Biological Monitoring at the pond to establish baseline water quality and biological conditions prior to development of the surrounding land. This biological monitoring includes baseline water quality monitoring (one June date), a baseline phytoplankton survey (one date), a baseline zooplankton survey (one date), a fish population survey in the pond, and a GPS-referenced aquatic plant survey. In addition, we conducted biological monitoring (benthic macro-invertebrate) of the nearby stream, Clove Creek, which is located on the property.

Although only one sampling date was conducted in 2015, several of the water chemistry parameters measured were impaired. These include water clarity, pH (elevated), Chlorophyll a, and total phosphorus. In addition, we observed near anoxic conditions at water depth 6 feet and below. Many of these parameters were impaired due to the ongoing phytoplankton bloom occurring at the time of the survey. These include the water clarity, the pH, and the Chlorophyll a. This is somewhat puzzling due to the undeveloped state of the land surrounding the pond, but could indicate internal nutrient loading. If the surrounding land around the pond is developed, several water quality improvements are recommended, in addition to a more intensive water quality monitoring program that includes several sampling dates throughout the season, and possible nutrient analysis at a near bottom lake station site. If ongoing management of the pond will be a priority, the client should consider establishing a suitable boat launch site for use to get equipment on the water.

If internal nutrient loading is a factor, the pond would benefit from a submersed air diffuser system. The goal of this system would be to oxygenate the entire water column, which could limit nutrients bound in the sediments from leaching back into the water column under anoxic conditions. Due to the size and depth of the pond, it's likely polymictic (in other words it mixes several times throughout the season), so aeration could have benefits. It's likely a simple 3 or 4 diffuser system would be required, but a power source near the shoreline would be required. Solar-powered systems are certainly an option and a suitable "green" approach, but tend to be significantly more expensive. If the client is interested in installing such a system, it is recommended that a qualified vendor be contacted and supplied with required data so an appropriate system can be custom designed for Ulmar Pond.

Controlling the phytoplankton in the water column (see below) would likely alleviate some of the pH fluctuations, and the Chlorophyll a concentrations of the water column. It would also increase the water clarity and reduce the total suspended solids. If septic systems are to be installed on any new dwellings, they should be installed according to industry standards, and have proper setbacks. They should also be routinely inspected and maintained on a regular basis. The installation of vegetative buffers along the margin of the lake could intercept nutrient movement and help assist shoreline stabilization. For more information, we suggest consulting the Massachusetts Vegetated Buffer Manual (2003) for additional information about vegetated buffer design around lakes based on wildlife habitat, shoreline stabilization and nutrient reduction.

On arrival on site, a visual inspection of the water column revealed a heavy unicellular phytoplankton bloom. This was confirmed when a sample was collected for microscopic analysis. Overall phytoplankton density was considered high, with the assemblage dominated by nuisance blue-green algae accounting for nearly 90% of the total phytoplankton observed in the water column. These elevated counts were likely the cause for the elevated pH, TSS, and Chlorophyll a measurements. In addition, it reduced the water clarity to 1.5 feet, which is considered poor.

While integrating several of these improvements to the pond ecosystem, it might be useful to chemically treat the nuisance phytoplankton blooms with approved aquatic algaecides. These would require NYSDEC Aquatic Use Permits, and certified applicators to apply. Although copper sulfate could be used, we believe chelated copper products are easier to apply, have a longer contact time and are more environmentally safe (due to lower metallic copper content). A routine water quality monitoring program would be recommended to facilitate the timing and dosing of such applications. However, it must be understood that the use of algaecides merely treats the symptoms of phytoplankton blooms, not the cause. The goal of any treatment program should be limited, responsible use, with a long term goal of not needing to rely on chemicals to recreationally utilize the resource.

Many Best Management Practices (BMPs) could be employed at this site in an attempt to reduce nuisance phytoplankton. A submersed aeration system would benefit the water column and possibly reduce phytoplankton

Attachment 2
Dam Status

Attachment 3
Soils Map

Attachment 4
Wetlands
Water Courses

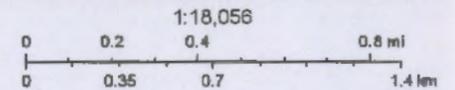
Hudson Highlands Reserve - Wetlands & Streams



December 12, 2016

LEGEND

- | | |
|--|--|
|  WATERBODY CLASSIFICATIONS FOR PONDS |  SIGNIFICANT NATURAL COMMUNITIES |
|  WATERBODY CLASSIFICATIONS FOR LAKES |  NATURAL COMMUNITIES NEAR THIS LOCATION |
|  STATE REGULATED FRESH WATER WETLANDS |  RARE PLANTS AND RARE ANIMALS |
|  STATE REGULATED WETLAND CHECK ZONE |  PARKS |



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 CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW -2016-12-12
 Not a legal document

Attachment 5
Vegetation & Wildlife
Inventory
6 Pages

TABLE 1
VEGETATION INVENTORY – HUDSON HIGHLANDS RESERVE

SCIENTIFIC NAME	COMMON NAME	HABIT	HABITAT TYPE
Trees			
<i>Acer pennsylvanicum</i>	Striped Maple	T	F
<i>Acer saccharum</i>	Sugar Maple	T	F
<i>Acer rubrum</i>	Red Maple	T	F
<i>Betula lenta</i>	Black Birch	T	F
<i>Betula populifolia</i>	Gray Birch	T	F
<i>Carpinus caroliniana</i>	American Hornbeam	T	F
<i>Carya ovata</i>	Shagbark Hickory	T	F
<i>Castanea mollissima</i>	Chinese Chestnut	T	F
<i>Elaeagnus angustifolia</i>	Russian Olive (Invasive species)	T	F
<i>Fagus grandifolia</i>	American Beech	T	F
<i>Fraxinus americana</i>	White Ash	T	F
<i>Juniperus virginiana</i>	Red Cedar	T	F
<i>Liriodendron tulipifera</i>	Tulip Tree	T	F
<i>Pinus strobus</i>	White Pine	T	F
<i>Populus alba</i>	White Poplar	T	F
<i>Prunus serotina</i>	Black Cherry	T	F
<i>Quercus alba</i>	White Oak	T	F
<i>Quercus rubra</i>	Red Oak	T	F
<i>Quercus palustris</i>	Pin Oak	T	FW
<i>Quercus prinus</i>	Chestnut Oak	T	F
<i>Robinia pseudoacacia</i>	Black Locust (Invasive species)	T	F
<i>Sassafras albidum</i>	Sassafras	T	F
<i>Tsuga canadensis</i>	Eastern Hemlock	T	F
<i>Ulmus americana</i>	American Elm	T	FW

Habit: Tree (T) Shrub (SH) Woody Vine (WV) Herbaceous (H) Grass (G) Sedge (S) Rush (R)

Habitat Type:

Upland Forest (F) Forest Shrub Layer (FS) Forest Herbaceous Layer (FH) Forest-Wet Soils (FW)
Roadside/Disturbed Edge Herbaceous (RH)

SCIENTIFIC NAME	COMMON NAME	HABIT	HABITAT TYPE
Shrubs & Woody Vines			
<i>Berberis thunbergii</i>	Japanese barberry (Invasive species)	S	FS
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet (Invasive species)	WV	FS
<i>Cornus amomum</i>	Silky Dogwood	S	FW
<i>Hamamelis virginiana</i>	Witch Hazel	S	FS
<i>Ilex verticillata</i>	Winterberry	S	FW
<i>Lindera benzoin</i>	Spicebush	S	FW
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	WV	FS
<i>Rosa multiflora</i>	Multiflora Rose (Invasive species)	S	FS
<i>Rubus allegheniensis</i>	Blackberry	S	FS
<i>Rubus hispidus</i>	Dewberry	S	FS
<i>Rubus occidentalis</i>	Black Raspberry	S	FS
<i>Rubus phoenicolasius</i>	Wineberry (Invasive species)	S	FS
<i>Spiraea corymbosa</i>	Dwarf Spiraea	S	RH
<i>Spiraea tomentosa</i>	Steeplebush	S	RH
<i>Toxicodendron radicans</i>	Poison Ivy	WV	FS
<i>Vaccinium angustifolium</i>	Low-bush Blueberry	S	FS
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum	S	FS
<i>Vitis aestivalis</i>	Summer Grape	WV	FS
<i>Vitis labrusca</i>	Fox Grape	WV	FS
Herbaceous Plants			
<i>Actaea pachypoda</i>	White Baneberry	H	FH
<i>Actaea racemosa</i>	Black Cohosh/Bugbane	H	FH
<i>Alliaria petiolata</i>	Garlic Mustard (Invasive species)	H	RH, FH
<i>Allium cernuum</i>	Wild Onion	H	FH
<i>Allium tricoccum</i>	Wild Leek/Ramps	H	FH
<i>Allium canadense</i>	Field Garlic	H	FH
<i>Ambrosia vulgaris</i>	Mugwort	H	RH
<i>Apocynum cannabinum</i>	Indian Hemp	H	RH

Habit: Tree (T) Shrub (SH) Woody Vine (WV) Herbaceous (H) Grass (G) Sedge (S) Rush (R)

Habitat Type:

Upland Forest (F) Forest Shrub Layer (FS) Forest Herbaceous Layer (FH) Forest-Wet Soils (FW)
Roadside/Disturbed Edge Herbaceous (RH)

Wetlands Delineation and Environmental Assessment-
Supplementary Report

SCIENTIFIC NAME	COMMON NAME	HABIT	HABITAT TYPE
<i>Arctium minus</i>	Burdock	H	RH
<i>Arisaema triphyllum</i>	Jack-in the-Pulpit	H	FH
<i>Aster sp.</i>	Aster	H	RH
<i>Cardamine parviflora</i>	Small-flowered Bittercress	H	RH
<i>Caulophyllum thalictroides</i>	Blue Cohosh	H	FH
<i>Chimaphila umbellata</i>	Striped Wintergreen	H	FH
<i>Cirsium arvense</i>	Canada Thistle (Invasive species)	H	RH
<i>Commelina communis</i>	Asiatic Dayflower	H	RH
<i>Convolvulus pandurata</i>	Wild Potato Vine	H Vine	RH
<i>Cynanchum louiseae</i>	Black Swallowwort (Invasive species)	H Vine	RH
<i>Desmodium canadense</i>	Tick trefoil	H	RH
<i>Equisetum arvense</i>	Field Horsetail	H	FH
<i>Erigeron annuus</i>	Daisy Fleabane	H	RH
<i>Erythronium americanum</i>	Trout Lily	H	FH
<i>Eupatorium rugosum</i>	White Snakeroot	H	FH
<i>Euthamia graminifolia</i>	Slender-leaved Goldenrod	H	RH
<i>Galium triflorum</i>	Bedstraw	H	FH
<i>Geranium maculatum</i>	Wild Geranium	H	FH
<i>Geum arvense</i>	Water Avens	H	RH
<i>Glechoma hederacea</i>	Ground Ivy	H	RH
<i>Hesperis matronalis</i>	Dame's Rocket (Invasive species)	H	RH
<i>Impatiens capensis</i>	Jewelweed	H	FH
<i>Lactuca canadensis</i>	Wild Lettuce	H	FH
<i>Lamium galeobdolon</i>	Yellow lamium	H	
<i>Lamium purpureum</i>	Purple Dead Nettle	H	RH
<i>Linaria vulgaris</i>	Butter & Eggs	H	RH
<i>Maianthemum canadense</i>	Canada Mayflower	H	FH
<i>Monotropa uniflora</i>	Indian Pipe	H	FH
<i>Myriophyllum spicatum</i>	Eurasian Milfoil (Invasive species)	H	Pond
<i>Oxalis europaea</i>	Yellow Wood Sorrel	H	FH, RH
<i>Plantago lanceolata</i>	English Plantain	H	RH
<i>Potentilla recta</i>	Rough-fruited Cinquefoil	H	RH
<i>Rubia peregrina</i>	wild madder	H	RH
<i>Rumex acetosella</i>	Field Sorrel	H	RH

Habit: Tree (T) Shrub (SH) Woody Vine (WV) Herbaceous (H) Grass (G) Sedge (S) Rush (R)

Habitat Type:

Upland Forest (F) Forest Shrub Layer (FS) Forest Herbaceous Layer (FH) Forest-Wet Soils (FW)
Roadside/Disturbed Edge Herbaceous (RH)

SCIENTIFIC NAME	COMMON NAME	HABIT	HABITAT TYPE
<i>Solidago canadensis</i>	Canada Goldenrod	H	FH, RH
<i>Solanum dulcamara</i>	Bittersweet Nightshade	H	RH
<i>Symplocarpus foetidus</i>	Skunk Cabbage	H	FH Wet Soils
<i>Tovara virginiana</i>	Virginia knotweed	H	FH, RH
<i>Trifolium aureum</i>	Hop Clover	H	RH
<i>Trifolium pratense</i>	Red Clover	H	RH
<i>Trifolium repens</i>	White Clover	RH	RH
<i>Tussilago farfara</i>	Colt's Foot	H	RH
<i>Uvularia sessilifolia</i>	Sessile-leaved Bellwort	H	RH
<i>Verbascum thapsus</i>	Common Mullein	H	RH
<i>Verbena urticifolia</i>	White Vervain	H	RH
<i>Viola labradorica</i>	American Dog Violet	H	FH Wet soils
<i>Viola spp.</i>	Violet spp.	H	FH
Ferns & Mosses			
<i>Dennstaedtia punctilobula</i>	Hayscented Fern	H	FH
<i>Dryopteris spinulosa</i>	Spinulose Shield Fern	H	FH
<i>Onoclea sensibilis</i>	Sensitive Fern	H	FH
<i>Osmunda cinnamomea</i>	Cinnamon Fern	H	
<i>Polystichum acrostichoides</i>	Christmas Fern	H	FH
<i>Sphagnum sp</i>	Sphagnum Moss	Moss	FH Wet soils
<i>Thelypteris noveboracensis</i>	New York Fern	H	FH
Grasses, Sedges, and Rushes			
<i>Carex crinita</i>	Sedge	S	RH Wet soils
<i>Carex lurida</i>	Sedge	S	RH Wet soils
<i>Carex intumescens</i>	Sedge	S	RH
<i>Carex scoparia</i>	Sedge	S	RH Wet soils
<i>Carex spicata</i>	Sedge	S	RH Wet soils
<i>Carex vulpinoidia</i>	Sedge	S	RH Wet soils
<i>Festuca rubra</i>	Red Fescue	G	RH
<i>Hordeum pussillum</i>	Little Barley Grass	G	RH
<i>Juncus effusus</i>	Soft Rush	R	RH Wet soils
<i>Microstigium vimineum</i>	Japanese Stiltgrass (Invasive species)	G	RH, FH
<i>Panicum clandestinum</i>	Deer-tongue Grass	G	RH
<i>Phalaris arundenacea</i>	Reed Canary Grass (Invasive species)	G	RH

Habit: Tree (T) Shrub (SH) Woody Vine (WV) Herbaceous (H) Grass (G) Sedge (S) Rush (R)

Habitat Type:

Upland Forest (F) Forest Shrub Layer (FS) Forest Herbaceous Layer (FH) Forest-Wet Soils (FW)
Roadside/Disturbed Edge Herbaceous (RH)

TABLE 2
WILDLIFE INVENTORY – HUDSON HIGHLANDS RESERVE

Observation Dates: May 6, 22, 26, 31; July 9; August 1, 2015 Location: Hudson Highlands Reserve		
SCIENTIFIC NAME	COMMON NAME	DATES OBSERVED
MAMMALS		
<i>Odocoileus virginianus</i>	Whitetail Deer	Each site visit
<i>Ondatra zibethica</i>	Muskrat	5/6
<i>Sylvilagus floridanus</i>	Cottontail Rabbit	5/31
<i>Tamias striatus</i>	Chipmunk	5/26, 8/1
AMPHIBIANS		
<i>Bufo americanus</i>	American Toad	5/22
<i>Rana catesbeiana</i>	Bull Frog	5/6, 7/9, 8/1
<i>Rana clamitans</i>	Green Frog	5/22
<i>Rana palustris</i>	Pickereel Frog	5/26, 7/9
<i>Rana sylvatica</i>	Wood Frog	5/22
REPTILES		
<i>Chrysemys picta</i>	Eastern Painted Turtle	5/6
<i>Diadophis punctatus</i>	Ring-necked Snake	5/22
<i>Terrapene carolina</i>	Eastern Box Turtle	
<i>Thamnophis sirtalis</i>	Eastern Garter Snake	5/22
BIRDS		
WATERFOWL SPECIES		
<i>Branta canadensis</i>	Canada Goose	5/6
RAPTORS		
<i>Buteo jamaicensis</i>	Red-tailed Hawk	5/6, 7/9
<i>Buteo lineatus</i>	Red-shouldered Hawk	5/26, 7/9, 8/1
WADING BIRDS		
<i>Ardea herodias</i>	Great Blue Heron	8/1

SCIENTIFIC NAME	COMMON NAME	DATES OBSERVED
PASSERINE SPECIES		
<i>Cardinalis cardinalis</i>	Northern Cardinal	5/31, 5/26
<i>Catharus fuscescens</i>	Veery	7/9
<i>Catharus guttatus</i>	Hermit Thrush	5/6
<i>Colaptes auratus</i>	Northern Flicker	5/6, 5/26, 7/9
<i>Contopus virens</i>	Eastern Wood-PeWee	8/1
<i>Corvus brachyrhynchos</i>	American Crow	5/6
<i>Cyanocitta cristata</i>	Blue Jay	5/6
<i>Dryocopus pileatus</i>	Pileated Woodpecker	5/6
<i>Dumetella carolinensis</i>	Gray Catbird	5/26, 5/31
<i>Hylocichla mustelina</i>	Wood Thrush	5/26
<i>Icterus galbula</i>	Northern Oriole	5/26
<i>Megaceryle alcyon</i>	Belted Kingfisher	8/1
<i>Meleagris gallopavo</i>	Wild Turkey	5/6, 5/26
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	5/6, 5/26
<i>Molothrus ater</i>	Brown-headed Cowbird	5/6
<i>Parus atricapillus</i>	Black-capped Chickadee	5/6
<i>Parus bicolor</i>	Tufted Titmouse	5/26, 7/9
<i>Picoides pubescens</i>	Downy Woodpecker	5/6, 5/26, 7/9
<i>Pipilo erythrophthalmus</i>	Northern Towhee	5/6
<i>Turdus migratorius</i>	American Robin	7/9
<i>Troglodytes aedon</i>	House Wren	5/26
<i>Vireo olivaceus</i>	Red-eyed Vireo	5/26
<i>Zenaida macroura</i>	Mourning Dove	5/6

Attachment 6
Communities

Hudson Highlands Reserve - Significant Natural Communities

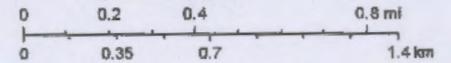


December 12, 2016

LEGEND

- | | |
|--|--|
|  WATERBODY CLASSIFICATIONS FOR PONDS |  SIGNIFICANT NATURAL COMMUNITIES |
|  WATERBODY CLASSIFICATIONS FOR LAKES |  NATURAL COMMUNITIES NEAR THIS LOCATION |
|  STATE REGULATED FRESH WATER WETLANDS |  RARE PLANTS AND RARE ANIMALS |
|  STATE REGULATED WETLAND CHECK ZONE |  PARKS |

1:18,056



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 CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW-2016-12-12
 Not a legal document

Attachment 7
Rare Plants & Animals

Hudson Highlands Reserve - Rare Plants & Animals

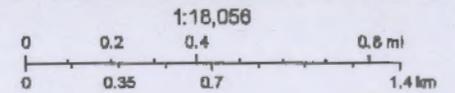


December 12, 2016

LEGEND

-  WATERBODY CLASSIFICATIONS FOR PONDS
-  WATERBODY CLASSIFICATIONS FOR LAKES
-  STATE REGULATED FRESH WATER WETLANDS
-  STATE REGULATED WETLAND CHECK ZONE

-  SIGNIFICANT NATURAL COMMUNITIES
-  NATURAL COMMUNITIES NEAR THIS LOCATION
-  RARE PLANTS AND RARE ANIMALS
-  PARKS



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 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW -2016-12-12

Not a legal document

Attachment 8
Endangered Species
2 Pages

WETLANDS DELINEATION AND ENVIRONMENTAL ASSESSMENT - SUPPLEMENTAL REPORT

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nesters were documented including downy woodpecker (*Picoides pubescens*), red-bellied woodpecker (*Melanerpes carolinus*), pileated woodpecker (*Dryocopus pileatus*), northern flicker (*Colaptes auratus*) and black-capped chickadee (*Parus atricapillus*). At the pond, in addition to great blue heron (*Ardea herodias*) and belted kingfisher (*Megaceryle alcyon*), there were eastern painted turtles (*Chrysemys picta*) and signs of muskrat (*Ondatra zibethica*). In the habitat around the pond, gray catbird (*Dumetella carolinensis*), northern oriole (*Icterus galbula*), and northern cardinal (*Cardinalis cardinalis*) were seen and/or heard. American robin (*Turdus migratorius*) and mourning dove (*Zenaidura macroura*) were seen in open areas adjacent to dirt roads. Common at the forest edge and upland deciduous forest were tufted titmouse (*Parus bicolor*) and eastern wood-pewee (*Contopus virens*). Also in the upland forest, two common woodland species; wood thrush (*Hylocichla mustelina*) and veery (*Catharus fuscescens*) were heard calling.

Bat Habitat

Two bat species, Indiana bat (*Myotis sodalists*; IB) and the northern long-eared bat (*Myotis septentrionalis*; NLEB), have been designated in New York as endangered. Both utilize caves and cave-like structures for winter hibernacula, and both have experienced severe population declines as a result of a fungus commonly referred to as the "white nose disease" due to the white residue left on an affected bat's face from the fungus, which grows in the caves used for the winter hibernacula.

In spring, both species move outward from the caves (in the case of IB, most found in the Hudson River region hibernate in a single cave in Rosendale, NY). Both species will roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags. Suitable roosts are trees (live, dying, dead, or snag) with exfoliating bark, crevices, cavities, or cracks. Typically, IB prefers a roost tree with a diameter at breast height (DBH) of five inches or greater, while the NLEB utilize trees with a DBH as small as three inches. The bats emerge from their roosts at dusk to forage in upland and lowland woodlots, and tree-lined corridors, feeding on insects, which they catch while in flight using echolocation.

Suitable summer habitat can consist of a wide variety of forested/wooded habitats for roosting, forage, and travel. The wooded areas may be dense, like what is found on the Reserve project site, or loose aggregates of trees with variable amounts of canopy closure. The habitat may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. Both species typically occupy their summer habitat from mid-May through mid-August each year.

Suitable summer habitat for both species exists within the Reserve property, and the Reserve property is within the known range of both species. While a presence/absence survey was not performed, it is believed that such a survey would have found the presence of one or both of these bat species on the property. It is therefore recommended that their presence be assumed, and proper protocol followed for construction activities within areas known to be occupied by IB and /or NLEB. In essence, this protocol would prohibit the removal of potentially suitable roost trees during the mid-May through mid-August summer habitat period. This would not preclude construction during this period; it would only preclude tree removal. It is therefore recommended that any proposed tree removal occur prior to mid-May in order to allow construction to continue unfettered during the subsequent months. Both bat species are opportunistic and will simply choose to roost in whatever suitable trees are available. The removal of any one particular tree (or trees), even if it had been utilized by a colony the previous year, will therefore have no significant impact on the population of either of these species.

Herpetofaunal Survey

7.07



Figure 2: Pond on Hudson Highlands Reserve Property

Habitat and topographic features for amphibians and reptiles on and immediately adjacent to the 155.4 acre primary holdings vary from a pond and drainage at 360' to a steep west-facing rocky slope and talus that rises 800' on the east edge of the property.

Attachment 9
Cultural Resources
7 Pages

CULTURAL RESOURCES ASSESSMENT

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3.05 Cultural Resource Map of Study Area.....	062

Cultural Resource Assessment

Carla Cielo - Building Preservation & Designs

3.01

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July 24, 2015

New York State Office of Parks, Recreation and Historic Preservation

Hudson Highlands Reserve

Project #15PR00167

On July 10, 2015, Carla Cielo, Historic Preservation Consultant, and Steve Gross, Environmental Consultant visited the site. The weather was clear. All structures that are 50 years or older within the property were examined from the exterior and interior and photographed. The exterior examination included all facades. The interior examination extended from the basement to attic. The collapsed house on the property was not accessed. All structures that are 50 years or older and are adjacent to the property were viewed and photographed from the facade. An approximate construction date that was based on style and old maps was assigned to each structure. The following maps were consulted:

- Map of Putnam County New York, Surveyed and Published by R. F. O'Connor 1854
- Map of New York and its Vicinity, by W. Beers, A. D. Ellis & G. C. Soule, 1867
- U. S. Geological Survey West Point, NY Quadrangle Northwest 1892
- U. S. Geological Survey West Point, NY Quadrangle Northwest 1941
- U. S. Geological Survey West Point, NY 1947
- U. S. Geological Survey West Point, NY 1957

Carla Cielo meets and exceeds the National Park Service criteria for an Architectural Conservator and an Architectural Historian. She holds a Masters of Science degree from Columbia University in Historic Preservation with a concentration in masonry conservation. She has been a consultant in the field of historic preservation since 1997 and has over 20 years experience.

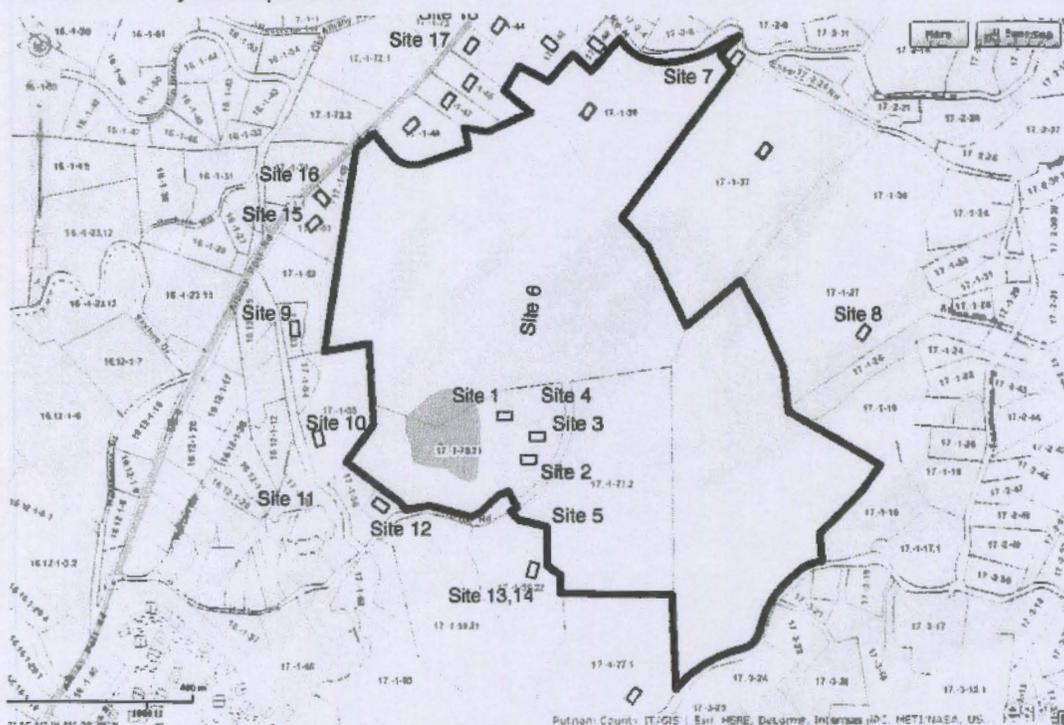


Figure 1: Map of Study Area

Cultural Resource Assessment

Buildings and Features Within The Property

3.02

Summary

The property under examination includes two early 20th residential houses, an early 19th century barn with converted wing, an early 20th century chicken coop, a collapsed dwelling on a stone foundation and a stone lined dirt road which formerly connected the current Horton Road with East Mountain Road North.

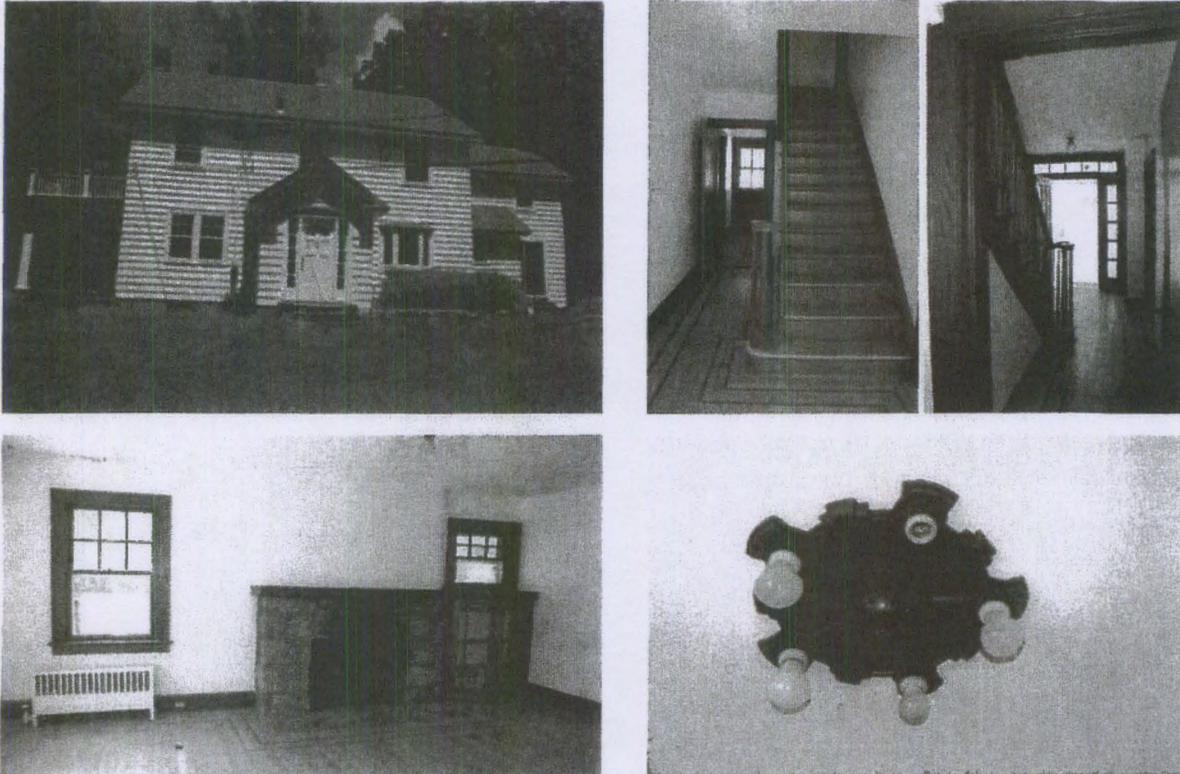


Figure 2: Site 1 - Horton Road - 1920's frame house

Site 1: Horton Road: 1920s frame house

Description: 1920s Colonial Revival house with craftsman style details. The house is designed to look like a two section farmhouse with a three-bay, two-story main section with front and rear central entries and a smaller two-bay, kitchen wing set back from the plane of the main facade. The exterior has clapboard siding, exposed brick chimneys on the east and west gable ends, a front entrance vestibule and a two-story porch on the east gable end. The chimneys have undressed stones randomly set within the brickwork.

The main section has a four room plan with formal living and dining rooms flanking a center hall. Small rooms are behind the living and dining room. The center hall has a formal chestnut staircase and front and rear entries. The living room has a rustic rock-faced fireplace and a built-in cabinet. The dining room has a bay window. The kitchen wing has its own entries and a separate interior staircase. Unaltered chestnut doors with crystal knobs and chestnut woodwork remain throughout the interior. Original Deco and Craftsman style lighting fixtures remain throughout. Several bathrooms retain their original tile and fixtures. Hot water radiators are cast with a 1921 patent date.

The 1920s date is based on style and is supported by the radiator patent date. This house appears on the 1941 USGS topographic map but is not on the 1892 topo. This suggests that an earlier house, labeled as being owned by W. J. Horton on the 1854 Map of Putnam County, was gone long before this house was constructed. The original owner has not been identified and it is not known if the older house site was re-used. This house was likely constructed along with the stuccoed cottage (site 2) and by the same builder. The c. 1810-25 barn (site 3) was likely used to house recreational horses at that time.

Cultural Resource Assessment

Condition: The house is in good condition. The unpainted interior chestnut woodwork is in excellent condition as are the original lighting fixtures and bathrooms.

Significance: This house is an excellent example of a fairly common building type but maintains a high degree of integrity (interior and exterior). Although likely not individually eligible without Criterion B, this house has local significance and would be a contributing feature to a local historic district.

Potential Effect of the Project: Significant loss of a potentially historic resource.

Recommendations: Maintain as a residence, subdivide and sell for private ownership with deed restrictions. As an alternative, retain as the clubhouse for the development.

If saving the house in situ is not possible, photo document and salvage the interior chestnut woodwork, doors, door knobs and the bathroom fixtures.

Recommendations: Maintain as a residence, subdivide and sell for private ownership with deed restrictions. As an alternative, retain as the clubhouse for the development.

If saving the house in situ is not possible, photo document and salvage the interior chestnut woodwork, doors, door knobs and the bathroom fixtures.



Figure 3: Horton Road-Site 3- 1920s stuccoed cottage

Site 2: Horton Road: 1920s stuccoed cottage

Description: 1½-story, stuccoed, vernacular cottage with a 1½-story rear ell and a one-story side wing with roof top terrace and banked basement. Exposed brick chimney with undressed stones randomly set within the brickwork. Poured concrete foundation and asphalt roof. Painted interior woodwork. The minimal character defining features include painted chestnut interior doors with crystal knobs and a rustic rock faced fireplace. The similarities between site 1 and site 2 suggest concurrent construction dates.

Condition: The house is in fair condition. The stucco is soiled and vegetation has encroached upon the dwelling.

Significance: Limited local significance

Potential Effect of the Project: No adverse effect

Recommendations: Photo document. Salvage all crystal door knobs and the 1920s sink prior to demolition

Cultural Resource Assessment



Figure 4: Site 3 - Horton Road- 1810-1825 timber frame barn

Site 3: Horton Road: 1810-1825 timber frame barn

Description: Ground-level, three-bay, "swing beam" barn (24' x 32') with attached three-bay wing. It is shown as an outbuilding owned by W. J. Horton on the 1854 Map of Putnam County and also owned by W. J. Horton on the 1867 Beers map. The main three bay section retains early 20th century horse stalls in both end bays. It is currently used for storage. The wing has been sympathetically re-purposed as a residence but much of the original fabric has been preserved. The associated house of W. J. Horton does not remain.

Both sections are built with a heavy timber frame with hand hewn major components, hand hewn and pegged rafters and vertically sawn braces. The main barn also has both hand hewn and vertically sawn studs. The species of wood used includes oak, poplar and possibly chestnut and walnut. In the main section, the four bents are each framed with two cambered tie beams. In the two center bents, the lower tie beams function as "swing beams." (A "swing beam" is an oversized tie beam with a clear span). This framing methodology was widely used throughout New York, New Jersey and Ontario, Canada and is a common building type, but this barn also shows regional characteristics (i.e. the upper tie beam is dropped 2'-9" below the tops of the posts in all four bents).

The construction date has been derived from the presence of hewn rafters (which suggests construction before 1825) and its construction techniques: this is a combination square rule/scribe rule barn with two-foot scribe marks, marriage marks and squared shoulders. This indicates that the barn was built during the 1810 to 1825 period where framers were transitioning from the scribe rule to the square rule of framing. The builder apparently had knowledge of both framing systems but did not entirely rely on the newer square rule system. The wing has similar characteristics and is likely either contemporary with the main barn or built slightly after. The foundation and siding are early 20th century but the original stone foundation remains on the west side.

Condition: Both sections remain in good condition. The wing is currently occupied. The roof of the main section appears to be sound but some rot is visible in the southeast corner.

Significance: This barn is an excellent example of a fairly common building type but shows regional characteristics. Barns with hewn rafters are becoming rare. The barn has local significance and would contribute to a thematic agricultural district and/or a Horton Road Mill district.

Potential Effect of the Project: Significant loss of a historic resource.

Recommendations: Maintain barn as a residence, subdivide and sell for private ownership with deed restrictions stipulating retention of the original barn form.

If this is not possible, save both timber frames by dismantling and relocation. Market the barn to qualified timber framers who pledge to reconstruct both sections in their entirety without selling individual components. Advertise with the Timber Framers Guild, the Dutch Barn Preservation Society and Hudson River Valley Vernacular Architecture. Provide adequate time to find a suitable new purpose.

Cultural Resource Assessment



Figure 5: Site 4 - Horton Road- 20th Century Chicken Coop

Site 4: Horton Road 20th century chicken coop

Description: Single story framed chicken coop with shed roof and vertical board siding.

Condition: The chicken coop is in poor condition. The roof has out lived its lifespan.

Significance: Limited local significance

Potential Effect of the Project: No adverse effect

Recommendations: Photo document. Consider reuse as a tool shed.

Site 5: Horton Road - collapsed frame house on stone foundation

Description: Collapsed 20th century frame house on a stone foundation. The foundation may predate the framed section. The site was examined from the road and was not entered due to its condition.

Condition: Mostly collapsed. The roof has caved in leaving one wall standing.

Significance: Limited local significance.

Potential Effect of the Project: No adverse effect

Recommendations: Photo document. Retain stone foundation as a ruin.



Figure 6: Site 5 - Horton Road- Collapsed frame house on stone foundation



Figure 7: Abandoned Section of Horton Road

Site 6: Abandoned section of Horton Road

Description: The 1854 map of Putnam County shows Horton Road extending east from what is today Route 9/ Albany Post Road and continuing north to East Mountain Road North and south to East Mountain Road South. The 1854 map shows a burial ground near Route 9 and a saw mill at Clove Creek. There also was a grist mill north of the saw mill on what is today Mill Road. According to the USGS topographical maps, the southern link was abandoned in the 19th century. The northern link remained as an unimproved road on the 1947 USGS but it is not shown past the houses on the 1957 USGS.

Cultural Resource Assessment

The abandoned section of road between the current Horton Road and East Mountain Road North lies within the property. As shown on the 1957 USGS, it is currently used to access sites 1-4 (mentioned above) but has been abandoned as a road north of site 1. Today, most of the abandoned section remains accessible with a four wheel drive vehicle. The road has never been paved and it is lined with old stone walls for most of its length. Semi-coursed, stone walls are on both sides of the road in the southern third. The section which is still in use to access sites 1-4 is also lined with mature trees.

Condition: Although overgrown with trees and vegetation the abandoned section of the road retains its integrity throughout 95% of its length. The northern 300 feet (approximate) has been removed with the construction of a modern house, lawns and its driveway.

Significance: Horton Road is significant to the history of Philipstown, New York. The abandoned section of road is potentially eligible for listing on the National Register of historic places under criterion A in association with the former village which once included a grist and saw mill and under criterion C as an excellent example of an early 19th century road.

Potential Effect of the Project: Significant loss of a significant resource.

Recommendations: Retain the abandoned section of Horton Road with all of the stone walls which line the road as a walking path through the development and connect with the remaining section of Horton Road.

Conclusion The 1920s frame house and early 19th century barn within the project area are well built and maintain a high degree of integrity. Both would contribute to a local historic district centered on the former Horton Road mill ruin. The other structures within the project area - chicken coop, the 1920s stuccoed cottage, and the stone foundation of the collapsed frame house - have less historic value. None of the structures are individually eligible for listing on the national register of historic places. The abandoned section of Horton Road is significant to the history of Philipstown, New York and may be individually eligible for listing on the national register of historic places in association with the former village which once included a grist and saw mill.

Summary of the Recommendations The 1920s frame house and the early 19th century ground-level, swing beam barn should be retained as private dwellings or reused for other purposes within the proposed project area. The abandoned section of Horton Road should be retained as a walking path through the proposed project area. The chicken coop, the 1920s stuccoed cottage, and the stone foundation of the collapsed frame house should be retained at the developer's discretion.

Buildings and Features Adjacent to the Property

3.03



Figure 8: Site 7 - 50 East Mountain Road North

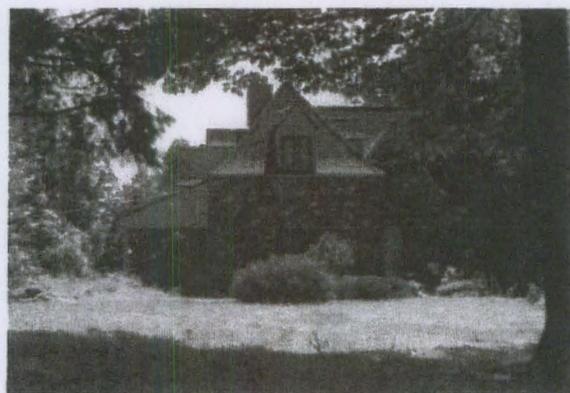


Figure 9: Site 8 - Stone Hill Road

Site 7: 50 East Mountain Road North

Description: One-story, mid 20th century, frame ranch in good condition

Potential Effect of the Project: No adverse effect

Attachment 10
State Parks

Hudson Highlands Reserve - State Parks

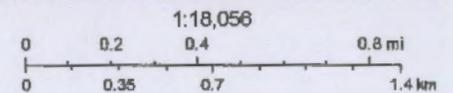


December 12, 2016

LEGEND

-  WATERBODY CLASSIFICATIONS FOR PONDS
-  WATERBODY CLASSIFICATIONS FOR LAKES
-  STATE REGULATED FRESH WATER WETLANDS
-  STATE REGULATED WETLAND CHECK ZONE

-  SIGNIFICANT NATURAL COMMUNITIES
-  NATURAL COMMUNITIES NEAR THIS LOCATION
-  RARE PLANTS AND RARE ANIMALS
-  PARKS



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 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,
 CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW-2016-12-12
 Not a legal document

Attachment 11
Conservation Analysis
Findings
9 pages

TOWN OF PHILIPSTOWN PLANNING BOARD
Conservation Findings
for the
Hudson Highlands Reserve Conservation Subdivision

Section 1 - Purpose

The Hudson Highlands Reserve Conservation Subdivision represents the first "conservation subdivision" application presented to the Philipstown Planning Board for its review and approval since the Town's current zoning law was adopted in 2011.

In pursuing a Conservation Subdivision, the applicant is required to submit a conservation analysis as outlined in Section 175-20 A of the Town's Zoning Ordinance. The conservation analysis shall consist of inventory maps, description of the land, and an analysis of the conservation value of various site features to describe the importance and the current and potential conservation value of all land on the site. The conservation analysis shall follow applicable criteria and recommendations in the Philipstown Natural Resources and Open Space Plan. The Planning Board has the final determination as to which land has the most conservation value and should be protected from development by conservation easement.

Since one of the major purposes of a Conservation Subdivision is to preserve open space, the Code mandates that conservation subdivisions shall preserve at least 60% of the land as open space. Within the OSO district, the minimum shall be 80%.

The purpose of this statement of conservation findings is to provide documentation of the rationale for the Planning Board's acceptance of the Conservation Analysis Report, as accepted by the Board's meeting of July 21, 2016, and conditions to be attached to the Planning Board's review of the Hudson Highlands Reserve Conservation Subdivision application. This statement of findings shall provide a record to help explain the Planning Board's evaluation of the Conservation analysis and issues which shall be considered important in the upcoming review of this application.

Section 2 - Description of Property

The property analyzed in the Hudson Highland Reserve's report is a total of 205.6 acres.

The property is located on the east side of Route 9 between Horton Road and East Mountain Road North. The eastern edge of the property has frontage on East Mountain Road South. The following Tax Parcels are included in the overall Hudson Highlands Reserve tract:

- | | |
|----------------|-------------|
| ○ 17.-1-39 | 19.99 acres |
| ○ 17.-1-76.111 | 50.03 acres |
| ○ 17.-1-76.112 | 86.89 acres |
| ○ 17.-1-76.21 | 20.82 acres |
| ○ 17.-1-77.2 | 27.71 acres |

The largest part of the property, 194.5 acres, is located in the "Rural Residential" (RR) zoning district. Of these 194.5 acres, 153.5 acres are also in the "Open Space Overlay" (OSO) district. The remaining 11.1 acres, the most westerly part of the project property with frontage along Route 9, lies in the "Industrial/Manufacturing" (M) zone.

The Hudson Highlands Reserve is located in an area of the State and County known to be rich in both cultural resources and environmentally sensitive lands that provides habitat for a variety of flora and fauna. Most of the property is included in the Town of Philipstown's Open Space Index dated January 8, 2009. The entire tract is part of the Matrix Forest identified on the map entitled "Priority Biodiversity Resource Area, Philipstown, NY" that forms part of the Philipstown Natural Resource and Open Space Plan.

Section 3 - Supporting Findings

The Applicant submitted a Conservation Analysis in accordance with Section 175-20A of the Ordinance. The Board's detailed evaluation of the technical information contained therein, and their determination as to the property's conservation value, is summarized below. The Conservation Value Map and the Tax Map (Maps 2 & 9, respectively from the Conservation Analysis) included in the appendix to this Statement of Conservation Findings. As depicted on the Conservation Value Map, the areas of the tract that have been categorized as having a high or medium conservation value contain most of the steep slopes and significant water ecology.

A. Town Conservation "Goals"

In accordance with the goals and strategies of the Philipstown Comprehensive Plan and the provisions of the Town Code:

- a. The Planning Board is desirous of protecting steep slopes (>20%), and significant portions of the property contain such steep slopes.
- b. The Planning Board is desirous of protecting wetlands, water bodies and water courses. Significant portions of the property contain wetlands, water bodies and water courses.
- c. The Planning Board is desirous of enhancing recreational opportunities in Philipstown. The Hudson Highlands Reserve Property contains a lake that provides a significant opportunity for water related recreation, and the sponsors of the Hudson Highlands Reserve project have indicated a willingness to provide public access to its anticipated trail system.
- d. The Planning Board is desirous of protecting Open Space.
- e. The Planning Board is committed to the protection of flora and fauna.
- f. The Planning Board is committed to protecting the historic nature of the Town.

The Planning Board has reviewed the Conservation Analysis Report for the Hudson Highland Reserve ('Conservation Analysis Report') which consists of inventory maps, descriptions of the land and analysis of conservation value of various site features, as required by the Town Code, Section 175-20. Pursuant to the guidelines contained within the "Conservation Subdivision" section of the Zoning Ordinance, the Planning Board has determined that:

- a. In preparation of the Conservation Analysis Report the criteria and recommendations in the Philipstown Natural Resources and Open Space Protection Plan ("NROSP") were applied.
- b. In preparation of the Conservation Analysis Report the Town's Natural Resources Review Officer, the Philipstown Conservation Board and the Hudson Highlands Land Trust were consulted.
- c. The Conservation Analysis Report describes the importance and the current and potential conservation value of all land on the site and has identified land on the site that has been disturbed, developed and altered in the past.

Concerning issues of cultural and archaeological resources, the conservation analysis determined that:

- a. Based upon topographic characteristics, the property was assessed as having a higher than average potential for encountering prehistoric sites;
- b. Based upon topographic characteristics and proximity to the historic sites, map documented structures, including the road, the property was assessed as having a higher than average potential for encountering European- American historic sites;
- c. During the course of the archaeological field survey no prehistoric artifacts or features were encountered. One possible nineteenth century artifact was encountered within an apparent early twentieth century surface scatter of mostly metal artifacts. An undated field cistern feature was encountered.
- d. A 1920s farm house and an early 19th century barn found on the property are well built and maintain a high degree of integrity. Both would contribute to a local historic district centered on the former Horton Road mill ruin but are not individually eligible for listing on the national register of historic places.
- e. The abandoned section of Horton Road is significant to the history of Philipstown, New York and may be individually eligible for listing on the natural register of historic places in association with the former village which once included grist and saw mill.

The following items address issues under the broad category of 'natural resources':

- a. The conservation analysis identified the following issues regarding connections to off-site natural resources to be maintained and preserved.
 - i. The property is contiguous to forested lands offsite to the east and south including the 14,337 acre Fahnestock State Park. This large contiguous tract of forest is particular ecological and conservation value to the Hudson Highlands region.

- ii. The NROSP identify the property, including a portion of the area designated more suitable for development as an area that is "Visible from a Significant Viewpoint" (see Priority Community Character Resource Areas map).
 - iii. A large part of the property is included on the NROSP's Open Space Index Map which reflects the community's goals for resource conservation.
 - iv. The onsite wetlands and Ulmar pond form part of the headwaters of Clove Creek, which overlies one of four aquifers in the Hudson River basin designated as a Primary-Water Supply Aquifer by the NYSDEC. A Primary-Water Supply Aquifer is a highly productive aquifer presently being utilized as a source of water supply by major municipal water supply systems. Clove Creek the Fishkill Creek/ Sprout Brook Aquifer. These Town-designated resources Aquifers and Clove Creek require protection.
 - v. The lower elevations of the project site are mapped as the Clove Creek Aquifer (CCA) by the Town's Aquifer Overlay District, and therefore must conform to the zoning requirements of this designation.
- b. Issues identified in local and regional open space plans applicable to the property include:
- i. The NROSP encourages conservation subdivisions to preserve the rural character of the landscape.
 - ii. The 2014 Draft New York State Open Space Plan ("NYSOSP") identifies the Highlands, including public parkland and privately owned preserves as a 'Priority Conservation Project'. The Clarence Fahnestock Memorial State Park/Hudson Highlands State Park Preserve/Fishkill Ridge/Scofield Ridge area which contains large blocks of nearly contiguous upland forests is identified as one of the 'most important representative areas' of the Highlands. The NYSOSP states: *"There are significant undeveloped, upland forest tracts adjacent to and in-holdings within both parks that would enhance and expand the natural resource protection objectives of these areas, and establish linkages with other upland parcels..."*
 - iii. The 2010 Master Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve includes protection of open space 'adjacent to parks through acquisition, conservation easements, designation, and coordination with public and private partners' as one of its 'Resource Goals'.
- c. The conservation analysis identified the following characteristics and locations of Steep Slopes found on the property:
- i. Over 105 acres of land with slopes in excess of 20% exist on the property and are considered too steep for development.
 - ii. The easternmost portion of the site is of higher elevation and predominated by steep slopes and therefore identified as a primary area for conservation.

- d. The conservation analysis identified the following vegetation and plant communities currently existing on the project site to be protected:
- i. A significant well preserved forest canopy with minimal invasive species, considered medium value, is found on the project site.
 - ii. Upper elevations and steep talus slopes are dominated by native species, and represent higher value natural plant communities.
 - iii. A plateau, with Appalachian Oak-Pine communities
 - iv. Understory invasive species such as Japanese stilt grass and Japanese barberry should be removed from undeveloped areas and should be absent from any landscape plan.
- e. The conservation analysis identified the following wetlands and watercourses to be protected and managed:
- i. Ulmar Pond: The Conservation Analysis Report indicates that a phytoplankton bloom of Ulmar Pond occurred at the time of sampling affecting parameters such as Chlorophyll a, pH, and clarity. Despite this, fish sampling showed fish condition/health and species assemblage was high value for angling and aquatic plant sampling showed good condition, with only trace density of filamentous algae and invasive curly-leaf pond weed.
 - ii. Clove Creek: macroinvertebrate sampling showed an even mix of species indicative of a generally healthy system. These results speak to the need to protect these aquatic resources when developing the site plan with such measures as wide buffers, limits on clearing/lawn areas, proper stormwater treatment measures, and a clustered lot configuration to achieve a limited footprint.
 - iii. Wetland onsite have been delineated and contribute to the water quality of receiving waters, including Clove Creek. In total 11 acres of wetlands (including the on-site pond) are delineated onsite and have been largely retained in the land proposed to be placed under conservation easement.
 - iv. Onsite seeps contribute to wetland functions and values and must be protected within the conservation easement
 - v. Protecting the wetlands and providing large undisturbed buffers adjacent to seeps, watercourses and surface water will benefit water quality and preserve plant/animal diversity. As recommended in the *Biodiversity Assessment of the North Highlands, Philipstown, Putnam County*, vegetated buffers shall be maximized and required to be wider than 100 feet to preserve the water quality of Clove Creek and Ulmar Pond.
- f. The conservation analysis identified the following issues regarding wildlife habitat and habitat critical to support protected animal species found on the property:
- i. Based on habitat assessments, the property is used, or likely used, by several NYS and Federally protected animal species, including Indiana bat (*Myotis*

- sodalist), northern long-eared bat (*Myotis septentrionalis*), eastern box turtle (*Terrapene carolina carolina*), hognose snake (*Heterodon platirhinos*) and eastern worm snake (*Carphophis amoenus amoenus*) and potentially summer foraging by Timber rattlesnake (*Crotalus horridus*).
- ii. Valuable wildlife habitat is concentrated on areas with higher elevation, steep slopes, and near surface water, wetlands or seeps. These areas must be protected.
 - iii. Habitat corridors must be maintained between the site's water and wetland resources and upland habitats to facilitate movement of wildlife through the property and to ensure the long-term protection of valuable plant/animal assemblages.
 - iv. Tree removal must be limited to the greatest extent practicable and any such removal be seasonally limited to allow for possible summer roosting of long-eared and Indiana bats. Additional consideration should be given to the preservation of desirable roosting trees, such as dead snags, shagbark hickory and white oak.

B. Determination of Conservation Value

The Planning Board has determined that the Hudson Highland Reserve property contains significant conservation value requiring protection based on the supporting findings outlined above.

The Planning Board has determined that, as established by the analysis documented in the Conservation Analysis Report for the Hudson Highland Reserve, and illustrated by the attached Conservation Value Map:

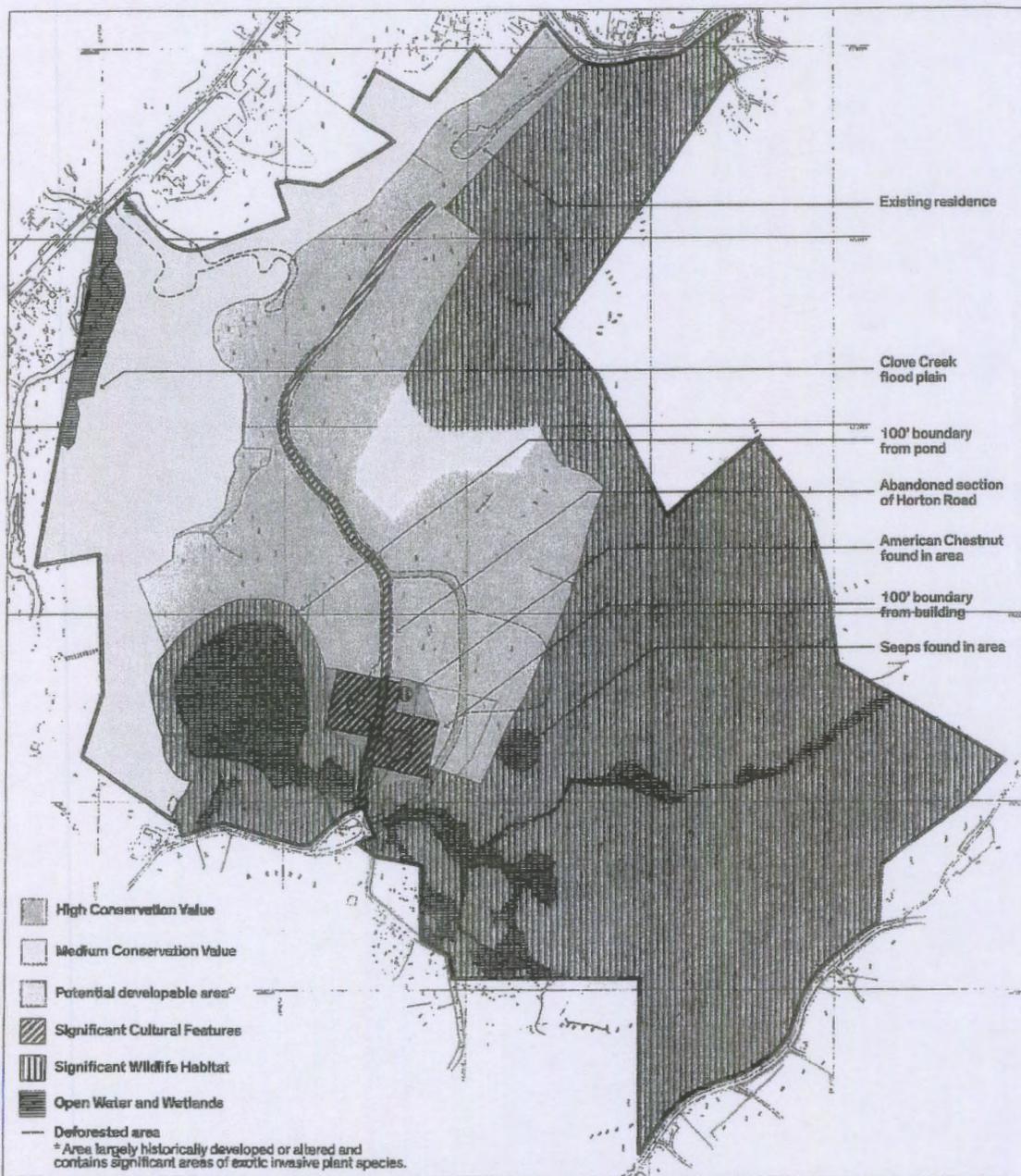
- o 121.9 acres of the Hudson Highland Reserve property have been determined to be *'high conservation value'*.
- o 31.8 acres Hudson Highland Reserve property have been determined to be *'medium conservation value'*.
- o 51.9 acres of the Hudson Highland Reserve property have been determined to be *'more suitable for development'*.

Based on the provisions of the Town of Philipstown Code and the Goals and Strategies of the Comprehensive Plan, it has been determined that 154.1 acres of the 205.6 acre project property shall be permanently protected by conservation easement. This is based on the Minimum Protection Percentage applying to the property, and calculated in accordance with §175-20.H, as follows:

Zoning Designation	Parcel Acreage in Zone	Minimum Protection Percentage	Minimum Acreage Required
"OSO" District lands	153.5	80%	122.8
Non "OSO" District lands	52.1	60%	31.3
Parcel Totals	205.6		154.1

The area protected by conservation easement shall include the 153.7 acres determined to be "high" or "medium" conservation value.

Map 2



Conservation Impact Map

Fractal Group, LLC

Fig 1
Hudson Highlands Reserve
NTS
09 September, 2015

TABLE 2
WILDLIFE INVENTORY – HUDSON HIGHLANDS RESERVE

Observation Dates: May 6, 22, 26, 31; July 9; August 1, 2015 Location: Hudson Highlands Reserve		
SCIENTIFIC NAME	COMMON NAME	DATES OBSERVED
MAMMALS		
<i>Odocoileus virginianus</i>	Whitetail Deer	Each site visit
<i>Ondatra zibethica</i>	Muskrat	5/6
<i>Sylvilagus floridanus</i>	Cottontail Rabbit	5/31
<i>Tamias striatus</i>	Chipmunk	5/26, 8/1
AMPHIBIANS		
<i>Bufo americanus</i>	American Toad	5/22
<i>Rana catesbeiana</i>	Bull Frog	5/6, 7/9, 8/1
<i>Rana clamitans</i>	Green Frog	5/22
<i>Rana palustris</i>	Pickerel Frog	5/26, 7/9
<i>Rana sylvatica</i>	Wood Frog	5/22
REPTILES		
<i>Chrysemys picta</i>	Eastern Painted Turtle	5/6
<i>Diadophis punctatus</i>	Ring-necked Snake	5/22
<i>Terrapene carolina</i>	Eastern Box Turtle	
<i>Thamnophis sirtalis</i>	Eastern Garter Snake	5/22
BIRDS		
WATERFOWL SPECIES		
<i>Branta canadensis</i>	Canada Goose	5/6
RAPTORS		
<i>Buteo jamaicensis</i>	Red-tailed Hawk	5/6, 7/9
<i>Buteo lineatus</i>	Red-shouldered Hawk	5/26, 7/9, 8/1
WADING BIRDS		
<i>Ardea herodias</i>	Great Blue Heron	8/1

SCIENTIFIC NAME	COMMON NAME	DATES OBSERVED
PASSERINE SPECIES		
<i>Cardinalis cardinalis</i>	Northern Cardinal	5/31, 5/26
<i>Catharus fuscescens</i>	Veery	7/9
<i>Catharus guttatus</i>	Hermit Thrush	5/6
<i>Colaptes auratus</i>	Northern Flicker	5/6, 5/26, 7/9
<i>Contopus virens</i>	Eastern Wood-PeWee	8/1
<i>Corvus brachyrhynchos</i>	American Crow	5/6
<i>Cyanocitta cristata</i>	Blue Jay	5/6
<i>Dryocopus pileatus</i>	Pileated Woodpecker	5/6
<i>Dumetella carolinensis</i>	Gray Catbird	5/26, 5/31
<i>Hylocichla mustelina</i>	Wood Thrush	5/26
<i>Icterus galbula</i>	Northern Oriole	5/26
<i>Megasceryle alcyon</i>	Belted Kingfisher	8/1
<i>Meleagris gallopavo</i>	Wild Turkey	5/6, 5/26
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	5/6, 5/26
<i>Molothrus ater</i>	Brown-headed Cowbird	5/6
<i>Parus atricapillus</i>	Black-capped Chickadee	5/6
<i>Parus bicolor</i>	Tufted Titmouse	5/26, 7/9
<i>Picoides pubescens</i>	Downy Woodpecker	5/6, 5/26, 7/9
<i>Pipilo erythrophthalmus</i>	Northern Towhee	5/6
<i>Turdus migratorius</i>	American Robin	7/9
<i>Troglodytes aedon</i>	House Wren	5/26
<i>Vireo olivaceus</i>	Red-eyed Vireo	5/26
<i>Zenaidura macroura</i>	Mourning Dove	5/6

Attachment 6
Communities

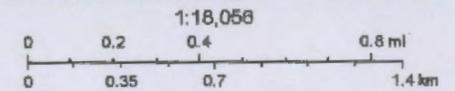
Hudson Highlands Reserve - Significant Natural Communities



December 12, 2016

LEGEND

- | | |
|--|--|
|  WATERBODY CLASSIFICATIONS FOR PONDS |  SIGNIFICANT NATURAL COMMUNITIES |
|  WATERBODY CLASSIFICATIONS FOR LAKES |  NATURAL COMMUNITIES NEAR THIS LOCATION |
|  STATE REGULATED FRESH WATER WETLANDS |  RARE PLANTS AND RARE ANIMALS |
|  STATE REGULATED WETLAND CHECK ZONE |  PARKS |



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 CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW-2016-12-12
 Not a legal document

Attachment 7
Rare Plants & Animals

Hudson Highlands Reserve - Rare Plants & Animals

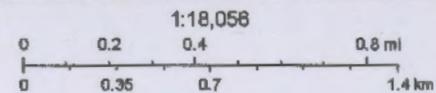


December 12, 2016

LEGEND

- WATERBODY CLASSIFICATIONS FOR PONDS
- WATERBODY CLASSIFICATIONS FOR LAKES
- STATE REGULATED FRESH WATER WETLANDS
- STATE REGULATED WETLAND CHECK ZONE

- SIGNIFICANT NATURAL COMMUNITIES
- NATURAL COMMUNITIES NEAR THIS LOCATION
- RARE PLANTS AND RARE ANIMALS
- PARKS



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 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW -2016-12-12
 Not a legal document

Attachment 8
Endangered Species
2 Pages

WETLANDS DELINEATION AND ENVIRONMENTAL ASSESSMENT - SUPPLEMENTAL REPORT

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nesters were documented including downy woodpecker (*Picoides pubescens*), red-bellied woodpecker (*Melanerpes carolinus*), pileated woodpecker (*Dryocopus pileatus*), northern flicker (*Colaptes auratus*) and black-capped chickadee (*Parus atricapillus*). At the pond, in addition to great blue heron (*Ardea herodias*) and belted kingfisher (*Megaceryle alcyon*), there were eastern painted turtles (*Chrysemys picta*) and signs of muskrat (*Ondatra zibet-hica*). In the habitat around the pond, gray catbird (*Dumetella carolinensis*), northern oriole (*Icterus galbula*), and northern cardinal (*Cardinalis cardinalis*) were seen and/or heard. American robin (*Turdus migratorius*) and mourning dove (*Zenaidura macroura*) were seen in open areas adjacent to dirt roads. Common at the forest edge and upland deciduous forest were tufted titmouse (*Parus bicolor*) and eastern wood-pewee (*Contopus virens*). Also in the upland forest, two common woodland species; wood thrush (*Hylocichla mustelina*) and veery (*Catharus fuscescens*) were heard calling.

Bat Habitat

Two bat species, Indiana bat (*Myotis sodalistic*; IB) and the northern long-eared bat (*Myotis septentrionalis*; NLEB), have been designated in New York as endangered. Both utilize caves and cave-like structures for winter hibernacula, and both have experienced severe population declines as a result of a fungus commonly referred to as the "white nose disease" due to the white residue left on an affected bat's face from the fungus, which grows in the caves used for the winter hibernacula.

In spring, both species move outward from the caves (in the case of IB, most found in the Hudson River region hibernate in a single cave in Rosendale, NY). Both species will roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags. Suitable roosts are trees (live, dying, dead, or snag) with exfoliating bark, crevices, cavities, or cracks. Typically, IB prefers a roost tree with a diameter at breast height (DBH) of five inches or greater, while the NLEB utilize trees with a DBH as small as three inches. The bats emerge from their roosts at dusk to forage in upland and lowland woodlots, and tree-lined corridors, feeding on insects, which they catch while in flight using echolocation.

Suitable summer habitat can consist of a wide variety of forested/wooded habitats for roosting, forage, and travel. The wooded areas may be dense, like what is found on the Reserve project site, or loose aggregates of trees with variable amounts of canopy closure. The habitat may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. Both species typically occupy their summer habitat from mid-May through mid-August each year.

Suitable summer habitat for both species exists within the Reserve property, and the Reserve property is within the known range of both species. While a presence/absence survey was not performed, it is believed that such a survey would have found the presence of one or both of these bat species on the property. It is therefore recommended that their presence be assumed, and proper protocol followed for construction activities within areas known to be occupied by IB and /or NLEB. In essence, this protocol would prohibit the removal of potentially suitable roost trees during the mid-May through mid-August summer habitat period. This would not preclude construction during this period; it would only preclude tree removal. It is therefore recommended that any proposed tree removal occur prior to mid-May in order to allow construction to continue unfettered during the subsequent months. Both bat species are opportunistic and will simply choose to roost in whatever suitable trees are available. The removal of any one particular tree (or trees), even if it had been utilized by a colony the previous year, will therefore have no significant impact on the population of either of these species.

Herpetofaunal Survey

7.07



Figure 2: Pond on Hudson Highlands Reserve Property

Habitat and topographic features for amphibians and reptiles on and immediately adjacent to the 155.4 acre primary holdings vary from a pond and drainage at 360' to a steep west-facing rocky slope and talus that rises 800' on the east edge of the property.

Attachment 9
Cultural Resources
7 Pages

CULTURAL RESOURCES ASSESSMENT

3.01 Carla Ceilo- Building Preservation & Designs.....	052
3.02 Buildings and Features Within the Property.....	053
3.03 Buildings and Features Adjacent to the Property.....	057
3.04 DEC 05/17/2016 Letter.....	061
3.05 Cultural Resource Map of Study Area.....	062

Cultural Resource Assessment

Carla Cielo - Building Preservation & Designs

3.01

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- 548 Easton Trenton Turnpike, Rt. 579 Ringoes, New Jersey 08551

July 24, 2015

New York State Office of Parks, Recreation and Historic Preservation

Hudson Highlands Reserve

Project #15PR00167

On July 10, 2015, Carla Cielo, Historic Preservation Consultant, and Steve Gross, Environmental Consultant visited the site. The weather was clear. All structures that are 50 years or older within the property were examined from the exterior and interior and photographed. The exterior examination included all facades. The interior examination extended from the basement to attic. The collapsed house on the property was not accessed. All structures that are 50 years or older and are adjacent to the property were viewed and photographed from the facade. An approximate construction date that was based on style and old maps was assigned to each structure. The following maps were consulted:

- Map of Putnam County New York, Surveyed and Published by R. F. O'Connor 1854
- Map of New York and its Vicinity, by W. Beers, A. D. Ellis & G. C. Soule, 1867
- U. S. Geological Survey West Point, NY Quadrangle Northwest 1892
- U. S. Geological Survey West Point, NY Quadrangle Northwest 1941
- U. S. Geological Survey West Point, NY 1947
- U. S. Geological Survey West Point, NY 1957

Carla Cielo meets and exceeds the National Park Service criteria for an Architectural Conservator and an Architectural Historian. She holds a Masters of Science degree from Columbia University in Historic Preservation with a concentration in masonry conservation. She has been a consultant in the field of historic preservation since 1997 and has over 20 years experience.

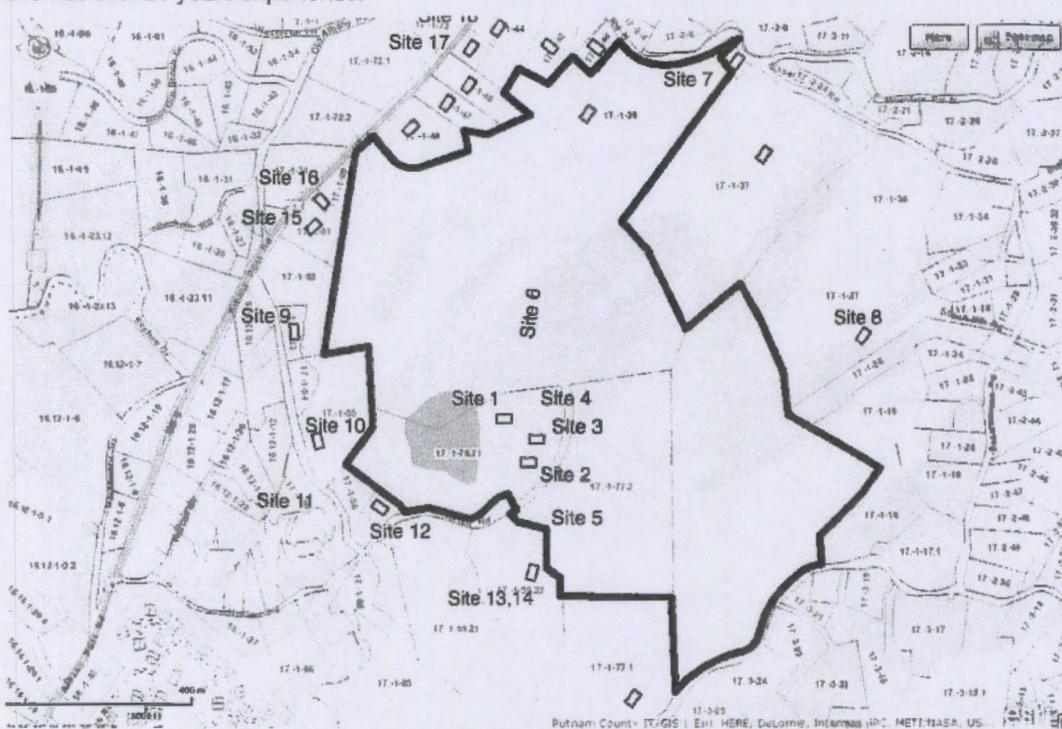


Figure 1: Map of Study Area

Cultural Resource Assessment

Buildings and Features Within The Property

3.02

Summary

The property under examination includes two early 20th residential houses, an early 19th century barn with converted wing, an early 20th century chicken coop, a collapsed dwelling on a stone foundation and a stone lined dirt road which formerly connected the current Horton Road with East Mountain Road North.

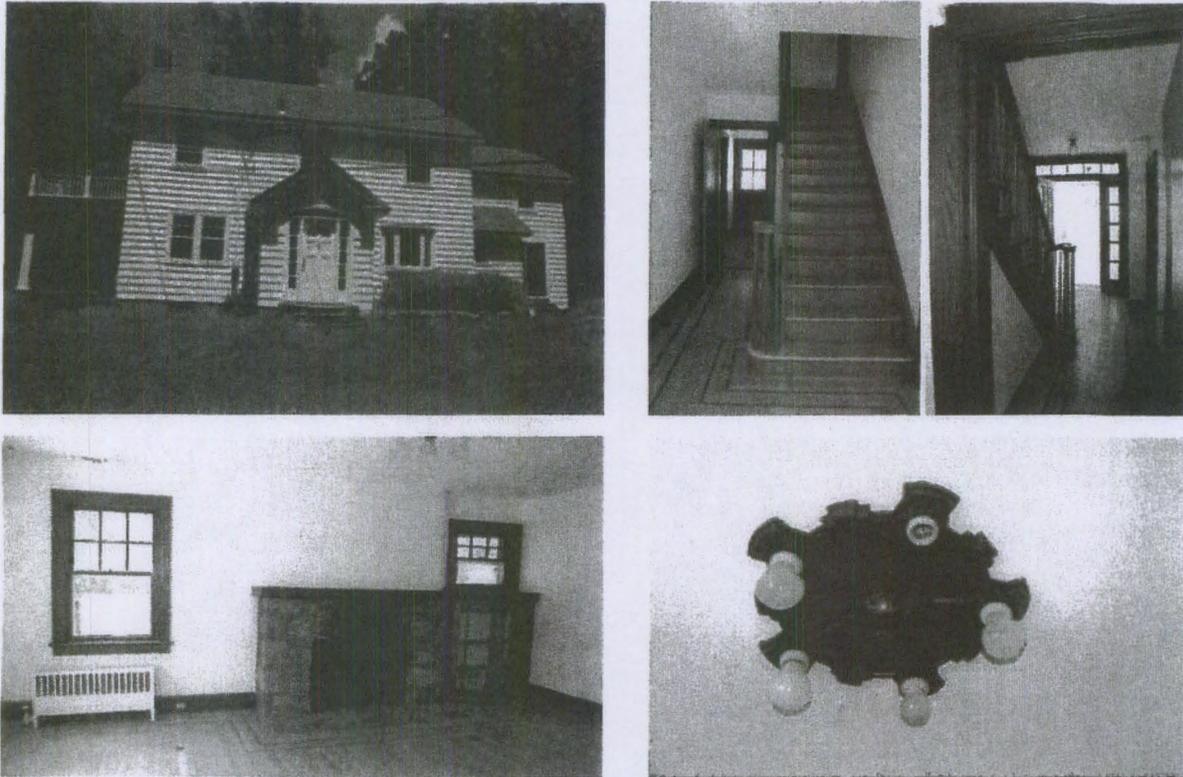


Figure 2: Site 1 - Horton Road - 1920's frame house

Site 1: Horton Road: 1920s frame house

Description: 1920s Colonial Revival house with craftsman style details. The house is designed to look like a two section farmhouse with a three-bay, two-story main section with front and rear central entries and a smaller two-bay, kitchen wing set back from the plane of the main facade. The exterior has clapboard siding, exposed brick chimneys on the east and west gable ends, a front entrance vestibule and a two-story porch on the east gable end. The chimneys have undressed stones randomly set within the brickwork.

The main section has a four room plan with formal living and dining rooms flanking a center hall. Small rooms are behind the living and dining room. The center hall has a formal chestnut staircase and front and rear entries. The living room has a rustic rock-faced fireplace and a built-in cabinet. The dining room has a bay window. The kitchen wing has its own entries and a separate interior staircase. Unaltered chestnut doors with crystal knobs and chestnut woodwork remain throughout the interior. Original Deco and Craftsman style lighting fixtures remain throughout. Several bathrooms retain their original tile and fixtures. Hot water radiators are cast with a 1921 patent date.

The 1920s date is based on style and is supported by the radiator patent date. This house appears on the 1941 USGS topographic map but is not on the 1892 topo. This suggests that an earlier house, labeled as being owned by W. J. Horton on the 1854 Map of Putnam County, was gone long before this house was constructed. The original owner has not been identified and it is not known if the older house site was re-used. This house was likely constructed along with the stuccoed cottage (site 2) and by the same builder. The c. 1810-25 barn (site 3) was likely used to house recreational horses at that time.

Cultural Resource Assessment

Condition: The house is in good condition. The unpainted interior chestnut woodwork is in excellent condition as are the original lighting fixtures and bathrooms.

Significance: This house is an excellent example of a fairly common building type but maintains a high degree of integrity (interior and exterior). Although likely not individually eligible without Criterion B, this house has local significance and would be a contributing feature to a local historic district.

Potential Effect of the Project: Significant loss of a potentially historic resource.

Recommendations: Maintain as a residence, subdivide and sell for private ownership with deed restrictions. As an alternative, retain as the clubhouse for the development.

If saving the house in situ is not possible, photo document and salvage the interior chestnut woodwork, doors, door knobs and the bathroom fixtures.

Recommendations: Maintain as a residence, subdivide and sell for private ownership with deed restrictions. As an alternative, retain as the clubhouse for the development.

If saving the house in situ is not possible, photo document and salvage the interior chestnut woodwork, doors, door knobs and the bathroom fixtures.



Figure 3: Horton Road-Site 8- 1920s stuccoed cottage

Site 2: Horton Road: 1920s stuccoed cottage

Description: 1½-story, stuccoed, vernacular cottage with a 1½-story rear ell and a one-story side wing with roof top terrace and banked basement. Exposed brick chimney with undressed stones randomly set within the brickwork. Poured concrete foundation and asphalt roof. Painted interior woodwork. The minimal character defining features include painted chestnut interior doors with crystal knobs and a rustic rock faced fireplace. The similarities between site 1 and site 2 suggest concurrent construction dates.

Condition: The house is in fair condition. The stucco is soiled and vegetation has encroached upon the dwelling.

Significance: Limited local significance

Potential Effect of the Project: No adverse effect

Recommendations: Photo document. Salvage all crystal door knobs and the 1920s sink prior to demolition

Cultural Resource Assessment

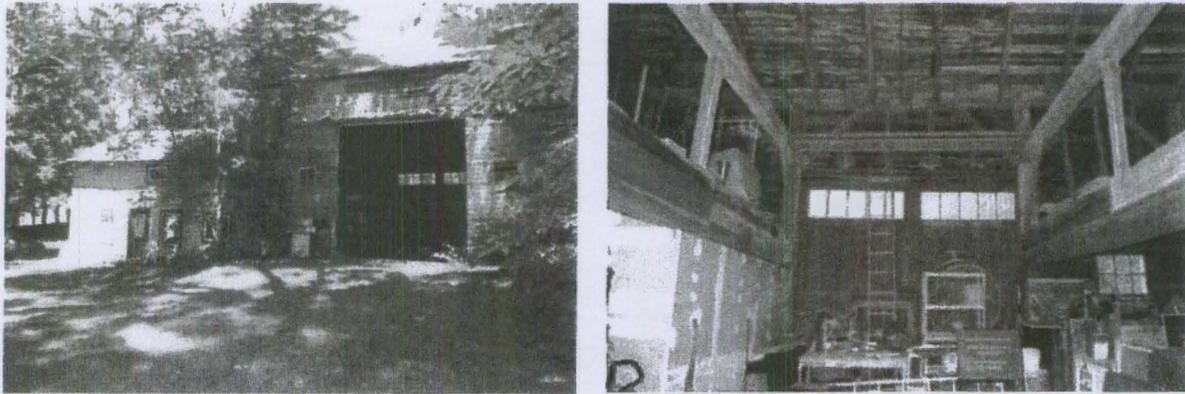


Figure 4: Site 3 - Horton Road - 1810-1825 timber frame barn

Site 3: Horton Road: 1810-1825 timber frame barn

Description: Ground-level, three-bay, "swing beam" barn (24' x 32') with attached three-bay wing. It is shown as an outbuilding owned by W. J. Horton on the 1854 Map of Putnam County and also owned by W. J. Horton on the 1867 Beers map. The main three bay section retains early 20th century horse stalls in both end bays. It is currently used for storage. The wing has been sympathetically re-purposed as a residence but much of the original fabric has been preserved. The associated house of W. J. Horton does not remain.

Both sections are built with a heavy timber frame with hand hewn major components, hand hewn and pegged rafters and vertically sawn braces. The main barn also has both hand hewn and vertically sawn studs. The species of wood used includes oak, poplar and possibly chestnut and walnut. In the main section, the four bents are each framed with two cambered tie beams. In the two center bents, the lower tie beams function as "swing beams." (A "swing beam" is an oversized tie beam with a clear span). This framing methodology was widely used throughout New York, New Jersey and Ontario, Canada and is a common building type, but this barn also shows regional characteristics (i.e. the upper tie beam is dropped 2'-9" below the tops of the posts in all four bents).

The construction date has been derived from the presence of hewn rafters (which suggests construction before 1825) and its construction techniques: this is a combination square rule/scribe rule barn with two-foot scribe marks, marriage marks and squared shoulders. This indicates that the barn was built during the 1810 to 1825 period where framers were transitioning from the scribe rule to the square rule of framing. The builder apparently had knowledge of both framing systems but did not entirely rely on the newer square rule system. The wing has similar characteristics and is likely either contemporary with the main barn or built slightly after. The foundation and siding are early 20th century but the original stone foundation remains on the west side.

Condition: Both sections remain in good condition. The wing is currently occupied. The roof of the main section appears to be sound but some rot is visible in the southeast corner.

Significance: This barn is an excellent example of a fairly common building type but shows regional characteristics. Barns with hewn rafters are becoming rare. The barn has local significance and would contribute to a thematic agricultural district and/or a Horton Road Mill district.

Potential Effect of the Project: Significant loss of a historic resource.

Recommendations: Maintain barn as a residence, subdivide and sell for private ownership with deed restrictions stipulating retention of the original barn form.

If this is not possible, save both timber frames by dismantling and relocation. Market the barn to qualified timber framers who pledge to reconstruct both sections in their entirety without selling individual components. Advertise with the Timber Framers Guild, the Dutch Barn Preservation Society and Hudson River Valley Vernacular Architecture. Provide adequate time to find a suitable new purpose.

Cultural Resource Assessment



Figure 5: Site 4 - Horton Road - 20th Century Chicken Coop

Site 4: Horton Road 20th century chicken coop

Description: Single story framed chicken coop with shed roof and vertical board siding.

Condition: The chicken coop is in poor condition. The roof has out lived its lifespan.

Significance: Limited local significance

Potential Effect of the Project: No adverse effect

Recommendations: Photo document. Consider reuse as a tool shed.

Site 5: Horton Road - collapsed frame house on stone foundation

Description: Collapsed 20th century frame house on a stone foundation. The foundation may predate the framed section. The site was examined from the road and was not entered due to its condition.

Condition: Mostly collapsed. The roof has caved in leaving one wall standing.

Significance: Limited local significance.

Potential Effect of the Project: No adverse effect

Recommendations: Photo document. Retain stone foundation as a ruin.



Figure 6: Site 5 - Horton Road - Collapsed frame house on stone foundation



Figure 7: Abandoned Section of Horton Road

Site 6: Abandoned section of Horton Road

Description: The 1854 map of Putnam County shows Horton Road extending east from what is today Route 9/ Albany Post Road and continuing north to East Mountain Road North and south to East Mountain Road South. The 1854 map shows a burial ground near Route 9 and a saw mill at Clove Creek. There also was a grist mill north of the saw mill on what is today Mill Road. According to the USGS topographical maps, the southern link was abandoned in the 19th century. The northern link remained as an unimproved road on the 1947 USGS but it is not shown past the houses on the 1957 USGS.

Cultural Resource Assessment

The abandoned section of road between the current Horton Road and East Mountain Road North lies within the property. As shown on the 1957 USGS, it is currently used to access sites 1-4 (mentioned above) but has been abandoned as a road north of site 1. Today, most of the abandoned section remains accessible with a four wheel drive vehicle. The road has never been paved and it is lined with old stone walls for most of its length. Semi-coursed, stone walls are on both sides of the road in the southern third. The section which is still in use to access sites 1-4 is also lined with mature trees.

Condition: Although overgrown with trees and vegetation the abandoned section of the road retains its integrity throughout 95% of its length. The northern 300 feet (approximate) has been removed with the construction of a modern house, lawns and its driveway.

Significance: Horton Road is significant to the history of Philipstown, New York. The abandoned section of road is potentially eligible for listing on the National Register of historic places under criterion A in association with the former village which once included a grist and saw mill and under criterion C as an excellent example of an early 19th century road.

Potential Effect of the Project: Significant loss of a significant resource.

Recommendations: Retain the abandoned section of Horton Road with all of the stone walls which line the road as a walking path through the development and connect with the remaining section of Horton Road.

Conclusion The 1920s frame house and early 19th century barn within the project area are well built and maintain a high degree of integrity. Both would contribute to a local historic district centered on the former Horton Road mill ruin. The other structures within the project area - chicken coop, the 1920s stuccoed cottage, and the stone foundation of the collapsed frame house - have less historic value. None of the structures are individually eligible for listing on the national register of historic places. The abandoned section of Horton Road is significant to the history of Philipstown, New York and may be individually eligible for listing on the natural register of historic places in association with the former village which once included a grist and saw mill.

Summary of the Recommendations The 1920s frame house and the early 19th century ground-level, swing beam barn should be retained as private dwellings or reused for other purposes within the proposed project area. The abandoned section of Horton Road should be retained as a walking path through the proposed project area. The chicken coop, the 1920s stuccoed cottage, and the stone foundation of the collapsed frame house should be retained at the developer's discretion.

Buildings and Features Adjacent to the Property

3.03



Figure 8: Site 7 - 50 East Mountain Road North

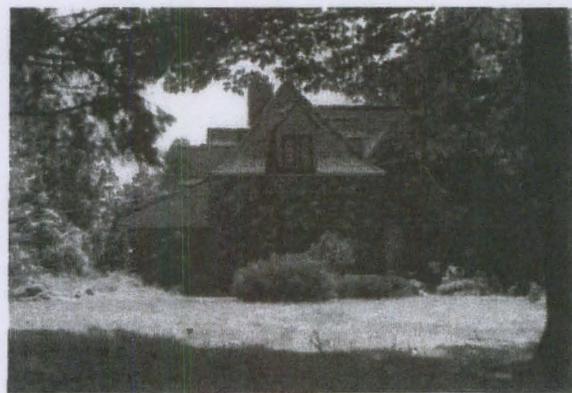


Figure 9: Site 8 - Stone Hill Road

Site 7: 50 East Mountain Road North

Description: One-story, mid 20th century, frame ranch in good condition

Potential Effect of the Project: No adverse effect

Attachment 10
State Parks

Hudson Highlands Reserve - State Parks

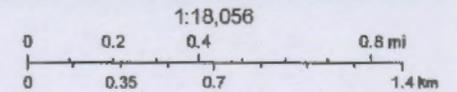


December 12, 2016

LEGEND

-  WATERBODY CLASSIFICATIONS FOR PONDS
-  WATERBODY CLASSIFICATIONS FOR LAKES
-  STATE REGULATED FRESH WATER WETLANDS
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 Community

SOURCE NYSDEC ENVIRONMENTAL MAPPER

Author: GJW -2016-12-12
 Not a legal document

Attachment 11
Conservation Analysis
Findings
9 pages

TOWN OF PHILIPSTOWN PLANNING BOARD
Conservation Findings
for the
Hudson Highlands Reserve Conservation Subdivision

Section 1 - Purpose

The Hudson Highlands Reserve Conservation Subdivision represents the first "conservation subdivision" application presented to the Philipstown Planning Board for its review and approval since the Town's current zoning law was adopted in 2011.

In pursuing a Conservation Subdivision, the applicant is required to submit a conservation analysis as outlined in Section 175-20 A of the Town's Zoning Ordinance. The conservation analysis shall consist of inventory maps, description of the land, and an analysis of the conservation value of various site features to describe the importance and the current and potential conservation value of all land on the site. The conservation analysis shall follow applicable criteria and recommendations in the Philipstown Natural Resources and Open Space Plan. The Planning Board has the final determination as to which land has the most conservation value and should be protected from development by conservation easement.

Since one of the major purposes of a Conservation Subdivision is to preserve open space, the Code mandates that conservation subdivisions shall preserve at least 60% of the land as open space. Within the OSO district, the minimum shall be 80%.

The purpose of this statement of conservation findings is to provide documentation of the rationale for the Planning Board's acceptance of the Conservation Analysis Report, as accepted by the Board's meeting of July 21, 2016, and conditions to be attached to the Planning Board's review of the Hudson Highlands Reserve Conservation Subdivision application. This statement of findings shall provide a record to help explain the Planning Board's evaluation of the Conservation analysis and issues which shall be considered important in the upcoming review of this application.

Section 2 - Description of Property

The property analyzed in the Hudson Highland Reserve's report is a total of 205.6 acres.

The property is located on the east side of Route 9 between Horton Road and East Mountain Road North. The eastern edge of the property has frontage on East Mountain Road South. The following Tax Parcels are included in the overall Hudson Highlands Reserve tract:

- | | |
|----------------|-------------|
| ○ 17.-1-39 | 19.99 acres |
| ○ 17.-1-76.111 | 50.03 acres |
| ○ 17.-1-76.112 | 86.89 acres |
| ○ 17.-1-76.21 | 20.82 acres |
| ○ 17.-1-77.2 | 27.71 acres |

The largest part of the property, 194.5 acres, is located in the "Rural Residential" (RR) zoning district. Of these 194.5 acres, 153.5 acres are also in the "Open Space Overlay" (OSO) district. The remaining 11.1 acres, the most westerly part of the project property with frontage along Route 9, lies in the "Industrial/Manufacturing" (M) zone.

The Hudson Highlands Reserve is located in an area of the State and County known to be rich in both cultural resources and environmentally sensitive lands that provides habitat for a variety of flora and fauna. Most of the property is included in the Town of Philipstown's Open Space Index dated January 8, 2009. The entire tract is part of the Matrix Forest identified on the map entitled "Priority Biodiversity Resource Area, Philipstown, NY" that forms part of the Philipstown Natural Resource and Open Space Plan.

Section 3 - Supporting Findings

The Applicant submitted a Conservation Analysis in accordance with Section 175-20A of the Ordinance. The Board's detailed evaluation of the technical information contained therein, and their determination as to the property's conservation value, is summarized below. The Conservation Value Map and the Tax Map (Maps 2 & 9, respectively from the Conservation Analysis) included in the appendix to this Statement of Conservation Findings. As depicted on the Conservation Value Map, the areas of the tract that have been categorized as having a high or medium conservation value contain most of the steep slopes and significant water ecology.

A. Town Conservation "Goals"

In accordance with the goals and strategies of the Philipstown Comprehensive Plan and the provisions of the Town Code:

- a. The Planning Board is desirous of protecting steep slopes (>20%), and significant portions of the property contain such steep slopes.
- b. The Planning Board is desirous of protecting wetlands, water bodies and water courses. Significant portions of the property contain wetlands, water bodies and water courses.
- c. The Planning Board is desirous of enhancing recreational opportunities in Philipstown. The Hudson Highlands Reserve Property contains a lake that provides a significant opportunity for water related recreation, and the sponsors of the Hudson Highlands Reserve project have indicated a willingness to provide public access to its anticipated trail system.
- d. The Planning Board is desirous of protecting Open Space.
- e. The Planning Board is committed to the protection of flora and fauna.
- f. The Planning Board is committed to protecting the historic nature of the Town.

The Planning Board has reviewed the Conservation Analysis Report for the Hudson Highland Reserve ("Conservation Analysis Report") which consists of inventory maps, descriptions of the land and analysis of conservation value of various site features, as required by the Town Code, Section 175-20. Pursuant to the guidelines contained within the "Conservation Subdivision" section of the Zoning Ordinance, the Planning Board has determined that:

- a. In preparation of the Conservation Analysis Report the criteria and recommendations in the Philipstown Natural Resources and Open Space Protection Plan ("NROSP") were applied.
- b. In preparation of the Conservation Analysis Report the Town's Natural Resources Review Officer, the Philipstown Conservation Board and the Hudson Highlands Land Trust were consulted.
- c. The Conservation Analysis Report describes the importance and the current and potential conservation value of all land on the site and has identified land on the site that has been disturbed, developed and altered in the past.

Concerning issues of cultural and archaeological resources, the conservation analysis determined that:

- a. Based upon topographic characteristics, the property was assessed as having a higher than average potential for encountering prehistoric sites;
- b. Based upon topographic characteristics and proximity to the historic sites, map documented structures, including the road, the property was assessed as having a higher than average potential for encountering European- American historic sites;
- c. During the course of the archaeological field survey no prehistoric artifacts or features were encountered. One possible nineteenth century artifact was encountered within an apparent early twentieth century surface scatter of mostly metal artifacts. An undated field cistern feature was encountered.
- d. A 1920s farm house and an early 19th century barn found on the property are well built and maintain a high degree of integrity. Both would contribute to a local historic district centered on the former Horton Road mill ruin but are not individually eligible for listing on the national register of historic places.
- e. The abandoned section of Horton Road is significant to the history of Philipstown, New York and may be individually eligible for listing on the natural register of historic places in association with the former village which once included grist and saw mill.

The following items address issues under the broad category of 'natural resources':

- a. The conservation analysis identified the following issues regarding connections to off-site natural resources to be maintained and preserved.
 - i. The property is contiguous to forested lands offsite to the east and south including the 14,337 acre Fahnestock State Park. This large contiguous tract of forest is particular ecological and conservation value to the Hudson Highlands region.

- ii. The NROSP identify the property, including a portion of the area designated more suitable for development as an area that is "Visible from a Significant Viewpoint" (see Priority Community Character Resource Areas map).
 - iii. A large part of the property is included on the NROSP's Open Space Index Map which reflects the community's goals for resource conservation.
 - iv. The onsite wetlands and Ulmar pond form part of the headwaters of Clove Creek, which overlies one of four aquifers in the Hudson River basin designated as a Primary-Water Supply Aquifer by the NYSDEC. A Primary-Water Supply Aquifer is a highly productive aquifer presently being utilized as a source of water supply by major municipal water supply systems. Clove Creek the Fishkill Creek/ Sprout Brook Aquifer. These Town-designated resources Aquifers and Clove Creek require protection.
 - v. The lower elevations of the project site are mapped as the Clove Creek Aquifer (CCA) by the Town's Aquifer Overlay District, and therefore must conform to the zoning requirements of this designation.
- b. Issues identified in local and regional open space plans applicable to the property include:
- i. The NROSP encourages conservation subdivisions to preserve the rural character of the landscape.
 - ii. The 2014 Draft New York State Open Space Plan ("NYSOSP") identifies the Highlands, including public parkland and privately owned preserves as a 'Priority Conservation Project'. The Clarence Fahnestock Memorial State Park/Hudson Highlands State Park Preserve/Fishkill Ridge/Scofield Ridge area which contains large blocks of nearly contiguous upland forests is identified as one of the 'most important representative areas' of the Highlands. The NYSOSP states: *"There are significant undeveloped, upland forest tracts adjacent to and in-holdings within both parks that would enhance and expand the natural resource protection objectives of these areas, and establish linkages with other upland parcels..."*
 - iii. The 2010 Master Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve includes protection of open space 'adjacent to parks through acquisition, conservation easements, designation, and coordination with public and private partners' as one of its 'Resource Goals'.
- c. The conservation analysis identified the following characteristics and locations of Steep Slopes found on the property:
- i. Over 105 acres of land with slopes in excess of 20% exist on the property and are considered too steep for development.
 - ii. The easternmost portion of the site is of higher elevation and predominated by steep slopes and therefore identified as a primary area for conservation.

- d. The conservation analysis identified the following vegetation and plant communities currently existing on the project site to be protected:
- i. A significant well preserved forest canopy with minimal invasive species, considered medium value, is found on the project site.
 - ii. Upper elevations and steep talus slopes are dominated by native species, and represent higher value natural plant communities.
 - iii. A plateau, with Appalachian Oak-Pine communities
 - iv. Understory invasive species such as Japanese stilt grass and Japanese barberry should be removed from undeveloped areas and should be absent from any landscape plan.
- e. The conservation analysis identified the following wetlands and watercourses to be protected and managed:
- i. Ulmar Pond: The Conservation Analysis Report indicates that a phytoplankton bloom of Ulmar Pond occurred at the time of sampling affecting parameters such as Chlorophyll a, pH, and clarity. Despite this, fish sampling showed fish condition/health and species assemblage was high value for angling and aquatic plant sampling showed good condition, with only trace density of filamentous algae and invasive curly-leaf pond weed.
 - ii. Clove Creek: macroinvertebrate sampling showed an even mix of species indicative of a generally healthy system. These results speak to the need to protect these aquatic resources when developing the site plan with such measures as wide buffers, limits on clearing/lawn areas, proper stormwater treatment measures, and a clustered lot configuration to achieve a limited footprint.
 - iii. Wetland onsite have been delineated and contribute to the water quality of receiving waters, including Clove Creek. In total 11 acres of wetlands (including the on-site pond) are delineated onsite and have been largely retained in the land proposed to be placed under conservation easement.
 - iv. Onsite seeps contribute to wetland functions and values and must be protected within the conservation easement
 - v. Protecting the wetlands and providing large undisturbed buffers adjacent to seeps, watercourses and surface water will benefit water quality and preserve plant/animal diversity. As recommended in the *Biodiversity Assessment of the North Highlands, Philipstown, Putnam County*, vegetated buffers shall be maximized and required to be wider than 100 feet to preserve the water quality of Clove Creek and Ulmar Pond.
- f. The conservation analysis identified the following issues regarding wildlife habitat and habitat critical to support protected animal species found on the property:
- i. Based on habitat assessments, the property is used, or likely used, by several NYS and Federally protected animal species, including Indiana bat (*Myotis*

- sodalist), northern long-eared bat (*Myotis septentrionalis*), eastern box turtle (*Terrapene carolina carolina*), hognose snake (*Heterodon platirhinos*) and eastern worm snake (*Carphophis amoenus amoenus*) and potentially summer foraging by Timber rattlesnake (*Crotalus horridus*).
- ii. Valuable wildlife habitat is concentrated on areas with higher elevation, steep slopes, and near surface water, wetlands or seeps. These areas must be protected.
 - iii. Habitat corridors must be maintained between the site's water and wetland resources and upland habitats to facilitate movement of wildlife through the property and to ensure the long-term protection of valuable plant/animal assemblages.
 - iv. Tree removal must be limited to the greatest extent practicable and any such removal be seasonally limited to allow for possible summer roosting of long-eared and Indiana bats. Additional consideration should be given to the preservation of desirable roosting trees, such as dead snags, shagbark hickory and white oak.

B. Determination of Conservation Value

The Planning Board has determined that the Hudson Highland Reserve property contains significant conservation value requiring protection based on the supporting findings outlined above.

The Planning Board has determined that, as established by the analysis documented in the Conservation Analysis Report for the Hudson Highland Reserve, and illustrated by the attached Conservation Value Map:

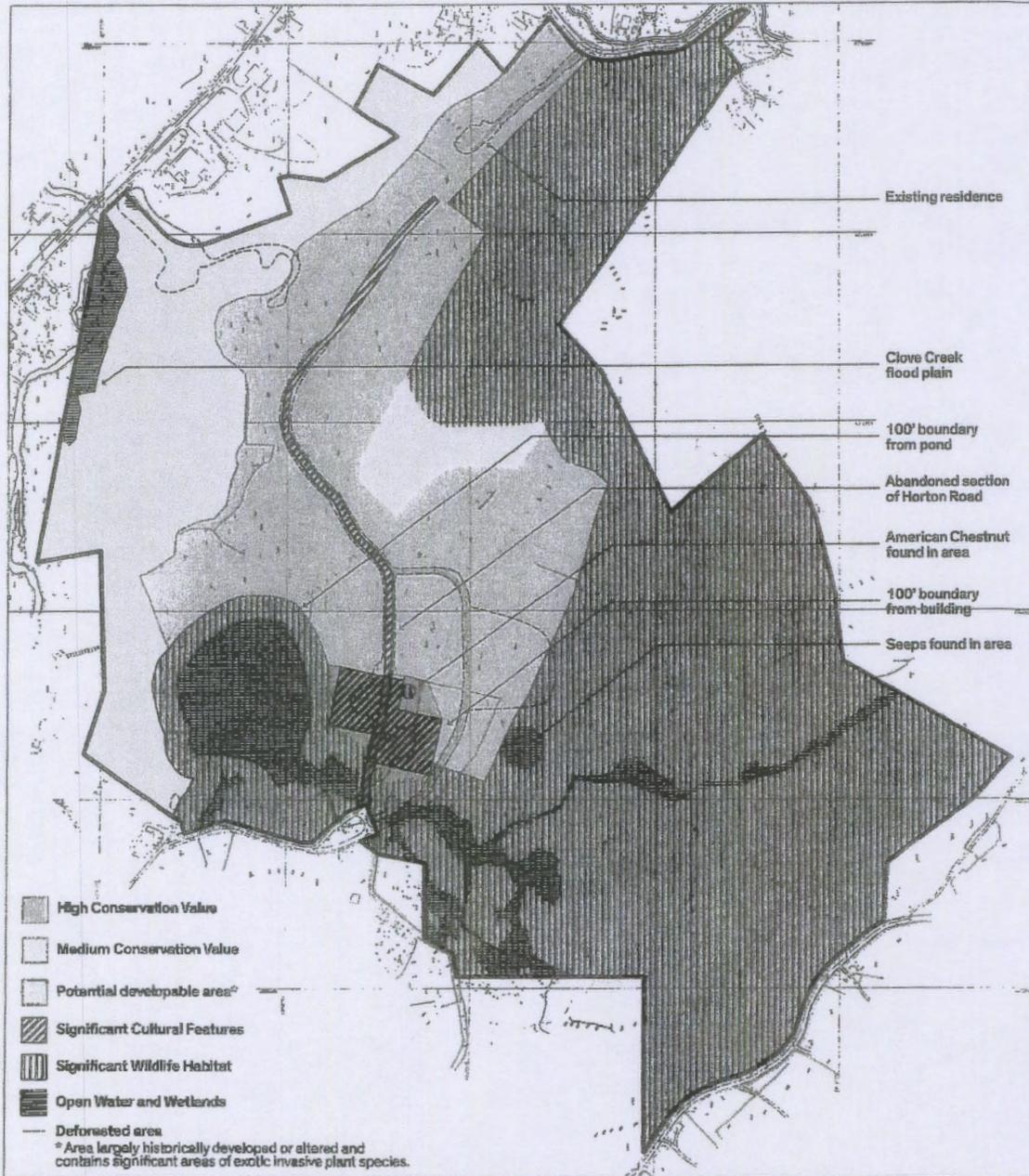
- o 121.9 acres of the Hudson Highland Reserve property have been determined to be '*high conservation value*'.
- o 31.8 acres Hudson Highland Reserve property have been determined to be '*medium conservation value*'.
- o 51.9 acres of the Hudson Highland Reserve property have been determined to be '*more suitable for development*'.

Based on the provisions of the Town of Philipstown Code and the Goals and Strategies of the Comprehensive Plan, it has been determined that 154.1 acres of the 205.6 acre project property shall be permanently protected by conservation easement. This is based on the Minimum Protection Percentage applying to the property, and calculated in accordance with §175-20.H, as follows:

Zoning Designation	Parcel Acreage in Zone	Minimum Protection Percentage	Minimum Acreage Required
"OSO" District lands	153.5	80%	122.8
Non "OSO" District lands	52.1	60%	31.3
Parcel Totals	205.6		154.1

The area protected by conservation easement shall include the 153.7 acres determined to be "high" or "medium" conservation value.

Map 2



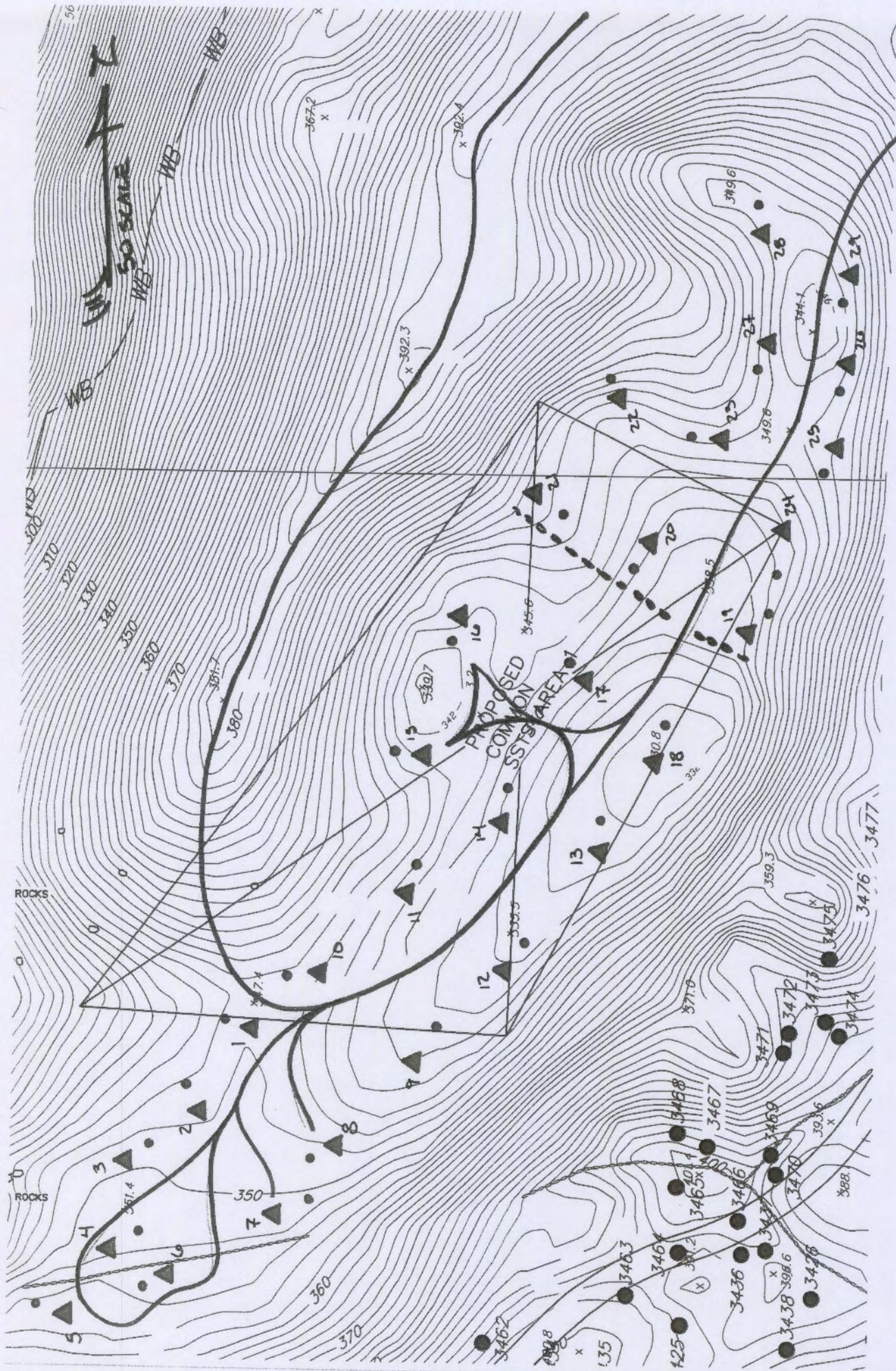
Conservation Impact Map

Fractal Group, LLC

Fig 1
Hudson Highlands Reserve
NTS

09 September, 2015

Attachment 12
Soil Test Locations
3 Pages



Attachment 13
Soil Test Results
28 Pages

**TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES**

DEPTH	HOLE # <u>1</u>	HOLE # <u>2</u>	HOLE # <u>3</u>	HOLE # <u>4</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>	_____
1.0'	<u>Brown Sandy</u>	<u>Light Brown</u>	<u>Light Brown</u>	<u>Light Brown</u>	_____
1.5'	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	_____
2.0'		<u>V</u>			_____
2.5'		<u>Dark Brown</u>			_____
3.0'		<u>Loam</u>		<u>V</u>	_____
3.5'			<u>V</u>	<u>Dark Brown</u>	_____
4.0'			<u>Dark Brown</u>	<u>Loam</u>	_____
4.5'			<u>Loam</u>		_____
5.0'					_____
5.5'					_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'	<u>V</u>			<u>V</u>	_____
8.0'		<u>V</u>			_____
8.5'			<u>V</u>		_____
9.0'					_____
9.5'					_____
10.0'					_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
3063 Route 9 Cold Spring, NY 10516

Signature: *John P. Delano*



Design Professional = Seal

**TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES**

DEPTH	HOLE # <u>5</u>	HOLE # <u>6</u>	HOLE # <u>7</u>	HOLE # <u>8</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>	_____
1.0'	<u>Light Brown</u>	<u>Sandy Loam</u>	<u>Sandy Loam</u>	<u>Sandy Loam</u>	_____
1.5'	<u>Loam</u>	<u>w/ Gravel</u>	<u>w/ Gravel</u>	<u>w/ Gravel</u>	_____
2.0'					_____
2.5'			<u>V</u>		_____
3.0'			<u>Compact</u>		_____
3.5'			<u>Brown Loam</u>		_____
4.0'	<u>V</u>	<u>V</u>		<u>V</u>	_____
4.5'	<u>Sandy Loam</u>	<u>Compact</u>		<u>Compact</u>	_____
5.0'	<u>w/ Gravel</u>	<u>Brown Loam</u>	<u>V</u>	<u>Brown Loam</u>	_____
5.5'					_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'					_____
8.0'	<u>V</u>			<u>V</u>	_____
8.5'		<u>V</u>	<u>V</u>		_____
9.0'					_____
9.5'					_____
10.0'					_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
3063 Route 9 Cold Spring, NY 10516

Signature: *John P. Delano*



Design Professional = Seal



**PUTNAM COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH SERVICES**

DESIGN DATA SHEET - SUBSURFACE SEWAGE TREATMENT SYSTEM

Owner: Horton Road, LLC Address: 516 E 89th St, NYC
 Located at (street): Route 9 & Horton Road TM # Section: 76.21 Block 1 Lot 17 Sub
 Municipality: Town of Philipstown Watershed: Hudson River

SOIL PERCOLATION TEST DATA

Date of Pre-soaking: _____ Witnessed by: _____
 Date of Percolation Test: _____

Hole No.	Run No.	Time Start - Stop		Elapse Time (min.)	Depth to water from ground surface (inches) Start - Stop		Water level drop in inches	Percolation Rate min/inch
9 (25") (6/11/15)	1	1:33	1:36	3	19	22	3	1
	2	1:37	1:41	4	19	22	3	1
	3	1:42	1:46	4	19	22	3	1
	4							
	5							
10 (25") (6/11/15)	1	1:20	1:50	30	20	23	3	10
	2	1:52	2:22	30	20	22.25	2.25	13
	3	2:24	2:54	30	20	22.25	2.25	13
	4							
	5							
11 (24") (6/11/15)	1	2:10	2:37	27	18	21	3	9
	2	2:38	3:08	30	18	21	3	10
	3	3:11	3:41	30	18	20.75	2.75	11
	4							
	5							
12 (24") (6/12/15)	1	8:29	8:42	13	18	21	3	4
	2	8:43	8:59	16	18	21	3	5
	3	9:00	9:19	19	18	21	3	6
	4							
	5							

Notes:

- Tests to be repeated at same depth until approximately equal percolation rates are obtained at each percolation test hole. (i.e., ≤ 1 min for 1-30 min/inch, ≤ 2 min for 31-60 min/inch). All data to be submitted for review.
- Depth measurements to be made from top of hole.

TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES

DEPTH	HOLE # <u>9</u>	HOLE # <u>10</u>	HOLE # <u>11</u>	HOLE # <u>12</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>	_____
1.0'	<u>Sandy Loam</u>	<u>Compact</u>	<u>Brown Sandy</u>	<u>Brown Sandy</u>	_____
1.5'	<u>w/ Gravel</u>	<u>Brown Loam</u>	<u>Loam</u>	<u>Loam</u>	_____
2.0'					_____
2.5'					_____
3.0'					_____
3.5'			<u>V</u>		_____
4.0'			<u>Compact</u>		_____
4.5'	<u>V</u>		<u>Brown Loam</u>	<u>V</u>	_____
5.0'	<u>Compact</u>			<u>Gravelly</u>	_____
5.5'	<u>Brown Loam</u>			<u>Sandy Loam</u>	_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'					_____
8.0'		<u>V</u>			_____
8.5'	<u>V</u>	_____	<u>V</u>	<u>V</u>	_____
9.0'	_____	_____	_____	_____	_____
9.5'	_____	_____	_____	_____	_____
10.0'	_____	_____	_____	_____	_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
3063 Route 9 Cold Spring, NY 10516

Signature: *John P. Delano*



Design Professional = Seal



**PUTNAM COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH SERVICES**

DESIGN DATA SHEET - SUBSURFACE SEWAGE TREATMENT SYSTEM

Owner: Horton Road, LLC Address: 516 E 89th St, NYC
 Located at (street): Route 9 & Horton Road TM # Section: 76.21 Block 1 Lot 17 Sub _____
 Municipality: Town of Philipstown Watershed: Hudson River

SOIL PERCOLATION TEST DATA

Date of Pre-soaking: _____ Witnessed by: _____
 Date of Percolation Test: _____

Hole No.	Run No.	Time Start - Stop	Elapse Time (min.)	Depth to water from ground surface (inches)		Water level drop in inches	Percolation Rate min/inch
				Start	Stop		
13 (26") (6/12/15)	1	11:49 12:04	15	20	23	3	5
	2	12:07 12:28	21	20	23	3	7
	3	12:30 12:55	25	20	23	3	8
	4						
	5						
14 (26") (6/12/15)	1	8:50 9:15	25	20	23	3	8
	2	9:19 9:47	28	20	23	3	9
	3	9:48 10:18	30	20	22.75	2.75	11
	4						
	5						
15 (29") (6/12/15)	1	9:58 10:16	18	24	27	3	6
	2	10:21 10:39	18	24	27	3	6
	3	10:42 10:01	19	24	27	3	6
	4						
	5						
16 (24") (6/12/15)	1	10:45 10:55	10	18	21	3	3
	2	10:57 11:13	16	18	21	3	5
	3	11:16 11:00	19	18	21	3	6
	4						
	5						

Notes:

1. Tests to be repeated at same depth until approximately equal percolation rates are obtained at each percolation test hole. (i.e., ≤ 1 min for 1-30 min/inch, ≤ 2 min for 31-60 min/inch). All data to be submitted for review.
2. Depth measurements to be made from top of hole.

**TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES**

DEPTH	HOLE # <u>13</u>	HOLE # <u>14</u>	HOLE # <u>15</u>	HOLE # <u>16</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>	_____
1.0'	<u>Brown Sandy</u>	<u>Brown Sandy</u>	<u>Brown Sandy</u>	<u>Brown Sandy</u>	_____
1.5'	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	_____
2.0'					_____
2.5'					_____
3.0'					_____
3.5'				<u>V</u>	_____
4.0'		<u>V</u>		<u>Brown Sandy</u>	_____
4.5'	<u>V</u>	<u>Fine Sand</u>		<u>Loam w/ Gravel</u>	_____
5.0'	<u>Brown Sandy</u>				_____
5.5'	<u>Loam w/ Gravel</u>				_____
6.0'					_____
6.5'			<u>V</u>		_____
7.0'			<u>Coarse Sand</u>		_____
7.5'			<u>& Gravel</u>		_____
8.0'		<u>V</u>			_____
8.5'	<u>V</u>		<u>V</u>	<u>V</u>	_____
9.0'	_____	_____	_____	_____	_____
9.5'	_____	_____	_____	_____	_____
10.0'	_____	_____	_____	_____	_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

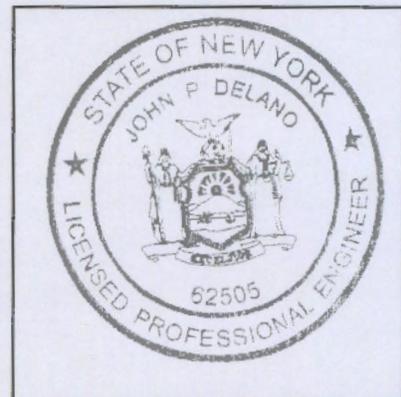
Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
3063 Route 9 Cold Spring, NY 10516

Signature: *John P. Delano*



Design Professional = Seal



**PUTNAM COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH SERVICES**

DESIGN DATA SHEET - SUBSURFACE SEWAGE TREATMENT SYSTEM

Owner: Horton Road, LLC Address: 516 E 89th St, NYC
 Located at (street): Route 9 & Horton Road TM # Section: 76.21 Block 1 Lot 17 Sub
 Municipality: Town of Philipstown Watershed: Hudson River

SOIL PERCOLATION TEST DATA

Date of Pre-soaking: _____ Witnessed by: _____
 Date of Percolation Test: _____

Hole No.	Run No.	Time Start - Stop		Elapse Time (min.)	Depth to water from ground surface (inches) Start - Stop		Water level drop in inches	Percolation Rate min/inch
17 (28") (6/12/15)	1	2:06	2:20	14	22	25	3	5
	2	2:21	2:37	16	22	25	3	5
	3	2:38	2:56	18	22	25	3	6
	4							
	5							
18 (26") (6/12/15)	1	2:00	2:01	1	20	23	3	.3
	2	2:01	2:02	1	20	23	3	.3
	3	2:03	2:04	1	20	23	3	.3
	4							
	5							
19 (24") (6/16/15)	1	8:01	8:19	18	17	20	3	6
	2	8:22	8:46	24	17	20	3	8
	3	8:48	9:15	27	17	20	3	9
	4							
	5							
20 (27") (6/16/15)	1	8:14	8:25	11	20	23	3	4
	2	8:26	8:42	16	20	23	3	5
	3	8:43	9:03	20	20	23	3	7
	4							
	5							

Notes:

- Tests to be repeated at same depth until approximately equal percolation rates are obtained at each percolation test hole. (i.e., ≤ 1 min for 1-30 min/inch, ≤ 2 min for 31-60 min/inch). All data to be submitted for review.
- Depth measurements to be made from top of hole.

TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES

DEPTH	HOLE # <u>17</u>	HOLE # <u>18</u>	HOLE # <u>19</u>	HOLE # <u>20</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'	<u>V</u>		<u>V</u>	<u>V</u>	_____
1.0'	<u>Brown Sandy</u>	<u>V</u>	<u>Brown Sandy</u>	<u>Brown Sandy</u>	_____
1.5'	<u>Loam</u>	<u>Brown Loam</u>	<u>Loam</u>	<u>Loam</u>	_____
2.0'		<u>w/ Course Sand</u>			_____
2.5'					_____
3.0'			<u>V</u>	<u>V</u>	_____
3.5'			<u>Brown Sandy</u>	<u>Coarse Sand</u>	_____
4.0'			<u>Loam w/ Gravel</u>	<u>w/ Gravel</u>	_____
4.5'	<u>V</u>				_____
5.0'	<u>Brown Loam</u>				_____
5.5'	<u>w/ Course Sand</u>				_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'					_____
8.0'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>	_____
8.5'	_____	_____	_____	_____	_____
9.0'	_____	_____	_____	_____	_____
9.5'	_____	_____	_____	_____	_____
10.0'	_____	_____	_____	_____	_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

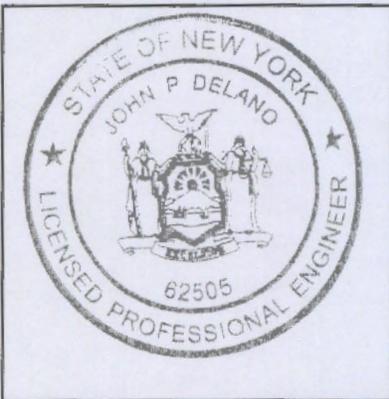
Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
3063 Route 9 Cold Spring, NY 10516

Signature: *John P. Delano*



Design Professional = Seal

TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES

DEPTH	HOLE # <u>21</u>	HOLE # <u>22</u>	HOLE # <u>23</u>	HOLE # <u>24</u>	HOLE # _____
G.I.		Topsoil	Topsoil	Topsoil	
0.5'		V	V	V	
1.0'		Brown Sandy	Brown Sandy	Brown Sandy	
1.5'		Loam	Loam	Loam	
2.0'				V	
2.5'	Did		V	Brown Sandy	
3.0'	not	V	Run-of-Bank	Loam w/ Gravel	
3.5'	log.	Coarse Sand	Gravel		
4.0'		w/ Gravel			
4.5'					
5.0'					
5.5'					
6.0'					
6.5'					
7.0'					
7.5'					
8.0'				V	
8.5'			V		
9.0'		V			
9.5'					
10.0'					

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

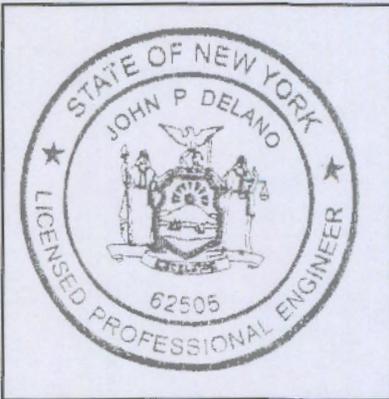
Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

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**PUTNAM COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH SERVICES**

DESIGN DATA SHEET - SUBSURFACE SEWAGE TREATMENT SYSTEM

Owner: Horton Road, LLC Address: 516 E 89th St, NYC
 Located at (street): Route 9 & Horton Road TM # Section: 76.21 Block 1 Lot 17 Sub
 Municipality: Town of Philipstown Watershed: Hudson River

SOIL PERCOLATION TEST DATA

Witnessed by: _____
 Date of Pre-soaking: _____ Date of Percolation Test: _____

Hole No.	Run No.	Time Start - Stop		Elapse Time (min.)	Depth to water from ground surface (inches) Start - Stop		Water level drop in inches	Percolation Rate min/inch
25	1	1:02	1:04	2	18	21	3	1
(24")	2	1:05	1:10	5	18	21	3	2
(6/9/15)	3	1:11	1:18	7	18	21	3	2
	4							
	5							
26	1	8:04	8:22	18	19	22	3	6
(24")	2	8:24	8:44	20	19	22	3	7
(6/9/15)	3	8:45	9:05	20	19	22	3	7
	4							
	5							
27	1	12:29	12:03	3	19	22	3	1
(25")	2	12:43	12:50	7	19	22	3	2
(6/9/15)	3	12:51	12:59	8	19	22	3	3
	4							
	5							
28	1	11:53	11:55	2	19	22	3	.6
(24")	2	11:56	11:59	3	19	22	3	1
(6/9/15)	3	12:00	12:04	4	19	22	3	1
	4							
	5							

Notes:

1. Tests to be repeated at same depth until approximately equal percolation rates are obtained at each percolation test hole. (i.e., ≤ 1 min for 1-30 min/inch, ≤ 2 min for 31-60 min/inch). All data to be submitted for review.
2. Depth measurements to be made from top of hole.

**TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES**

DEPTH	HOLE # <u>25</u>	HOLE # <u>26</u>	HOLE # <u>27</u>	HOLE # <u>28</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'	<u>V</u>		<u>V</u>	<u>V</u>	_____
1.0'	<u>Red-brown</u>	<u>V</u>	<u>Brown Sandy</u>	<u>Compact</u>	_____
1.5'	<u>Sandy Loam</u>	<u>Red-brown</u>	<u>Loam</u>	<u>Brown Loam</u>	_____
2.0'		<u>Sandy Loam</u>	<u>V</u>		_____
2.5'	<u>V</u>		<u>Brown Sandy</u>		_____
3.0'	<u>Medium Sand</u>		<u>Loam w/ Gravel</u>		_____
3.5'	<u>w/ Gravel</u>	<u>V</u>		<u>V</u>	_____
4.0'		<u>Medium Sand</u>		<u>Brown Sandy</u>	_____
4.5'		<u>w/ Gravel</u>		<u>Loam w/ Gravel</u>	_____
5.0'					_____
5.5'					_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'			<u>V</u>		_____
8.0'	<u>V</u>	<u>V</u>		<u>V</u>	_____
8.5'	_____	_____	_____	_____	_____
9.0'	_____	_____	_____	_____	_____
9.5'	_____	_____	_____	_____	_____
10.0'	_____	_____	_____	_____	_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

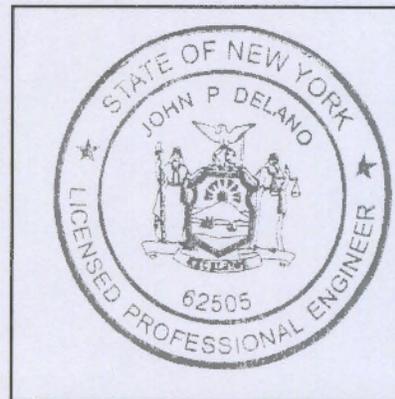
Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
3063 Route 9 Cold Spring, NY 10516

Signature: *John P. Delano*



Design Professional = Seal

**TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES**

DEPTH	HOLE # <u>29</u>	HOLE # <u>30</u>	HOLE # <u>31</u>	HOLE # <u>32</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'					_____
1.0'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V</u>	_____
1.5'	<u>Dark Brown</u>	<u>Light Brown</u>	<u>Light Brown</u>	<u>Light Brown</u>	_____
2.0'	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	_____
2.5'			<u>w/ Cobble</u>	<u>w/ Cobble</u>	_____
3.0'					_____
3.5'		<u>V</u>		<u>V</u>	_____
4.0'	<u>V</u>	<u>Medium Sand</u>	<u>V</u>	<u>Run-of-Bank</u>	_____
4.5'	<u>Brown Sandy</u>		<u>Medium Sand</u>	<u>Gravel</u>	_____
5.0'	<u>Loam w/ Gravel</u>			<u>V</u>	_____
5.5'				<u>Medium Sand</u>	_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'		<u>V</u>		<u>V</u>	_____
8.0'	<u>V</u>		<u>V</u>		_____
8.5'					_____
9.0'					_____
9.5'					_____
10.0'					_____

Indicate level at which groundwater is encountered _____ **Not encountered.**

Indicate level at which mottling is observed _____ **None observed.**

Indicate level to which water level rises after being encountered _____ **n/a**

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

Design Professional Name: John P. Delano, P.E.

Address: Badey & Watson, Surveying and Engineering, P.C.
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**TEST PIT DATA
DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES**

DEPTH	HOLE # <u>33</u>	HOLE # <u>34</u>	HOLE # <u>35</u>	HOLE # <u>36</u>	HOLE # _____
G.I.	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	<u>Topsoil</u>	_____
0.5'					_____
1.0'	<u>V</u>	<u>V</u>	<u>V</u>	<u>V (10")</u>	_____
1.5'	<u>Light Brown</u>	<u>Light Brown</u>	<u>Light Brown</u>	<u>Light Brown</u>	_____
2.0'	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	<u>Loam</u>	_____
2.5'	<u>w/ Cobble</u>	<u>w/ Cobble</u>		<u>V</u>	_____
3.0'				<u>Run-of-Bank</u>	_____
3.5'	<u>V</u>			<u>Gravel</u>	_____
4.0'	<u>Medium Sand</u>	<u>V</u>			_____
4.5'		<u>Medium Sand</u>			_____
5.0'			<u>V</u>		_____
5.5'			<u>Fine Sand</u>		_____
6.0'					_____
6.5'					_____
7.0'					_____
7.5'	<u>V</u>	<u>V</u>			_____
8.0'					_____
8.5'			<u>V</u>	<u>V</u>	_____
9.0'					_____
9.5'					_____
10.0'					_____

Indicate level at which groundwater is encountered Not encountered.

Indicate level at which mottling is observed None observed.

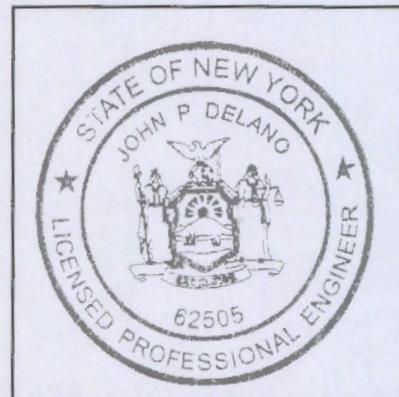
Indicate level to which water level rises after being encountered n/a

Deep hole observations made by: M. Budzinski-PCDH, JRS-B&W Date 7/30/2015

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