# SILO RIDGE

## RESORT COMMUNITY

## AMENDED AND RESTATED FINDINGS STATEMENT

January 8, 2009
AMENDED MARCH 20, 2014

Prepared For:

Silo Ridge Ventures, LLC.

5021 US Route 44
Amenia, NY 12501

**AMENDED AND RESTATED FINDINGS STATEMENT**

**For the Silo Ridge Resort Community**

**State Environmental Quality Review Act (SEQRA)**

**6 NYCRR Part 617.11**

**Adopted _____, 2014**

This Amended and Restated Findings Statement ("Amended Findings Statement") is (i) issued pursuant to Article 8 of the New York Environmental Conservation Law - the State Environmental Quality Review Act (SEQRA), and its implementing regulations at 6 N.Y.C.R.R. Part 617, and (ii) amends and restates the January 8, 2009 Findings Statement (the "Original Findings Statement") adopted by the Town of Amenia Planning Board (the Planning Board"), as Lead Agency, in connection with the Silo Ridge Resort Community. The Planning Board makes the following findings:

**Name of Action:** Silo Ridge Resort Community: March 2014 Amended Master Development Plan (for the "Modified Project" described in this Amended Findings Statement)

**Description of Action:** Silo Ridge Ventures, LLC, (the "Applicant") has proposed that the Town of Amenia Planning Board (the "Planning Board") approve the Applicant's March 2014 Amended Master Development Plan (the "MDP") for the development of the Silo Ridge Resort Community on a 676± acre site (681 ± acres including the 4.9 ± acre easement area on the adjoining property owned by Harlem Valley Landfill Corp. [1]). The project site is located west of New York State Route 22, and north and south of U.S. Route 44, in the Town of Amenia, Dutchess County, New York, identified as Parcel Numbers 7066-00-732810, 7066-00-860725, 7066-00-742300, 7066-00-670717, 7067-00-709177, 7066-00-628131, and part of 7066-00-870350, on the Town of Amenia Tax Map. The main project site is currently developed with a 170-acre 18-hole championship golf course and clubhouse. The development area will consist of an approximately 299±-acre portion of the site.

The modified development program addressed in the MDP (the "Modified Project") consists of the following principal components: 224 residences units consisting of 52 condominiums, 13 fee simple town homes, and 159 fee simple single-family homes; a Clubhouse/Lodge (the "Clubhouse"), with a total of 21 hotel-condominium lodging units, a restaurant, bar/lounge, and golf pro shop; a Family Activity Barn and lake pavilion; fitness spa; golf academy; Sales Center and General Store; a Village Green; a "winery-themed" restaurant (the "Winery Restaurant"); an Artisan's Park Overlook located on Delavergne Hill; a water treatment facility; and a wastewater treatment plant. The existing golf course will be upgraded and improved. The existing clubhouse will be demolished and rebuilt in approximately the same location.

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[1] The main project site includes a 5.8 ± acre portion of the adjoining property owned by Harlem Valley Landfill Corp. (identified as Parcel Number 7066-00-870350 on the Town of Amenia Tax Map), which will be made part of the site by lot adjustment, and used for golf holes 13 and 14. An additional 4.9 ± acre portion of the adjoining property will be used for the golf maintenance facility and as a secondary access road pursuant to an easement agreement between Harlem Valley Landfill Corp. and the Applicant. Including the easement area, the site totals 681 ± acres.

Construction is proposed to occur in three phases. The first phase is planned for Years 1-3, and will include construction of the wastewater treatment plant, water treatment facility, most of the Clubhouse, Village Green neighborhood condominiums and town homes, the Golf Villa neighborhood, 10 South Lawn neighborhood single-family homes, 31 Estate neighborhood single-family homes, Sales Center and General Store, the Artisan's Park Overlook, , and related infrastructure. Golf course renovations will also occur during Phase 1. The second phase is planned for Years 4 and 5, and will include construction of the remaining portion of the Clubhouse, 26 Estate neighborhood homes, 22 South Lawn neighborhood homes, and related infrastructure. The third phase is planned for Years 5 to 7, and will include construction of the Vineyard Cottages, a pool and cabana for residents of the Vineyard Cottages, Winery Restaurant, and related infrastructure. A detailed phasing plan is contained in sheet SP-5 of the MDP Plans.

The project site has areas of steeply sloped terrain, portions of which are slated for development. The 557 acre portion of the project site that was delineated for wetlands and waterbodies contains 42.4 +/- acres of ponds, streams, and wetlands (of which 41.4 acres are federally regulated wetlands or waters, 26 acres are State regulated wetlands, and 1 acre is isolated and not regulated by either state or federal jurisdiction). The New York State Department of Environmental Conservation ("NY DEC") and the Army Corps of Engineers ("ACOE") have verified the wetland delineation. The site also contains additional vernal pools and wetlands in the western portion of the project site. The site will have two access points from NYS Route 22 (the existing entrance to the former Silo Ridge Country Club and the existing entrance road from Route 22 located on the adjoining Parcel Number 7066-00-870350) and three access points from US Route 44. The proposed development will be served by on-site wells and a wastewater treatment plant. One of the proposed access points on US Route 44 is limited to the project wastewater treatment plant.

The Applicant's predecessor in interest, Higher Ground Country Club, LLC (the "Original Sponsor") received Special Use Permit/master development plan approval from the Planning Board on June 25, 2009. The Applicant now seeks (i) amended Special Use Permit/master development plan approval for the Modified Project; (ii) site plan approval of the first phase of the Modified Project and (iii) related preliminary subdivision (lot adjustment) approval (the "Applications"), all from the Planning Board. The Applicant also seeks discretionary waivers or approvals for several components of the Project, including: permission to maintain the proposed roads as private streets and to install gates at all four entrances to the Project; permission to disturb approximately 23.7± acres of slopes greater than thirty percent (30%); permission to fill two small wetland areas not regulated by the ACOE or NY DEC; and permission to build a portion of the access road to the Vineyard Cottages within the 100 foot residential open space buffer. The Applicant also seeks permission to satisfy its obligations under the Town's Workforce Housing Law by payment of a fee in lieu of workforce housing. A summary of the approvals that the Applicant requires from other agencies is contained in Section (1)(E) of this Amended Findings Statement.

**Location:** West side of Route 22 and North and South of Route 44, Town of Amenia, Dutchess County, New York.

**Lead Agency:** Town of Amenia Planning Board
Amenia Town Hall

4988 Route 22
Amenia, NY 12501
Contact Person:
Phone: 845.373.8860 x. 105

**Agency Jurisdiction:** The Town of Amenia Planning Board, as Lead Agency, has been authorized to issue Site Plan Approval, Special Use Permit/Master Development Plan Approval, and Subdivision Plat Approval in accordance with: Sections 274-a, 274-b, and 276 of New York State Town Law; Sections 121- 12.1, 121-14, 121-14.1, 121-18, 121-32, 121-33, 121-34, 121-35, 121-36, 121-40, 121-42, and Article IX of the Town of Amenia Zoning Law, contained in Chapter 121 of the Town of Amenia Town Code; and by the Town of Amenia Subdivision Regulations contained in Chapter 102 of the Town of Amenia Town Code.

**SEQR Classification:** Type I

**Date Final EIS Filed:** September 24, 2008

**Date Original Findings Adopted:** January 8, 2009

**Date Amended Findings Adopted : _____ 2014**

# I. INTRODUCTION

## A. THE MODIFIED PROJECT

In accordance with the Planning Board's June 25, 2009 approval, the Original Sponsor submitted to the Board a revised, final master development plan dated October 8, 2009[2]. The Applicant, as successor to the Original Sponsor, has proposed modifications to the development program and approved master development plan. The Modified Project proposed by the Applicant consists of the following principal components: 224 residences consisting of 52 condominiums, 13 fee simple town homes, and 159 fee simple single-family homes; the Clubhouse, with a total of 21 hotel-condominium lodging units, a restaurant, bar/lounge, and golf pro shop; a Family Activity Barn and lake pavilion; fitness spa; golf academy; Sales Center and General Store; a Village Green; a Winery Restaurant; an Artisan's Park Overlook located on Delavergne Hill; a water treatment facility; and a wastewater treatment plant.

## B. PROCEDURAL HISTORY AND SEQRA REVIEW

[2] The October 8, 2009 master development plan was a further refinement of the Traditional Neighborhood Alternative described in Section I.D of this Amended Findings Statement.

On September 1, 2005, the Planning Board was designated SEQRA lead agency for the site-specific environmental review of the master development plan for the Silo Ridge Resort Community. Based upon the criteria for determining significance contained in 6 NYCRR §617.7(c), the Planning Board determined that a Draft Environmental Impact Statement ("DEIS") was required, and issued a Positive Declaration on September 15, 2005. The Planning Board caused the Positive Declaration to be circulated and filed as required by SEQRA; and caused notice of the Positive Declaration to be published as required by SEQRA.

A public scoping session was held on October 6, 2005, at which time the public was given the opportunity to comment on the proposed contents of the DEIS. Written scoping comments were also accepted from the public through October 17, 2005. A Final Scoping Document was adopted by the Planning Board on November 17, 2005 (see Appendix 9.1 of the DEIS) that outlined the potential significant impacts to be analyzed in the DEIS. Upon adoption of the Final Scoping Document, the Original Sponsor embarked on the preparation of the DEIS and commissioned the following plans, reports, and studies, including, but not limited to: Engineering Plan Set, Preliminary Stormwater Pollution Prevention Plan, Cultural Resources Survey, Visual Analysis, Traffic Impact Study, Wetland Delineation Report, Habitat Assessment Report, Wastewater Report, Water Report, and a Fiscal Impact Analysis.

On September 7, 2006, the Original Sponsor submitted a proposed DEIS to the Planning Board, and requested a determination that the proposed DEIS was adequate for public review. On November 2, 2006, the Planning Board determined that the proposed DEIS was inadequate for public review, and directed the Original Sponsor to prepare and submit a revised proposed DEIS.

On December 18, 2006, the Original Sponsor submitted a revised proposed DEIS to the Planning Board, and requested a determination that the revised proposed DEIS was adequate for public review.

On February 22, 2007, the Original Sponsor advised the Planning Board that it would be submitting a substantially revised proposed DEIS to reflect changes that the Original Sponsor was making to the proposed development, and requested that the Planning Board defer its adequacy determination pending submission of the anticipated revised proposed DEIS.

By resolution dated June 7, 2007, the Planning Board amended Sections 3.3, "Vegetation," and 3.4, "Wildlife," of the Final Scoping Document, whereby the requirement for a "biodiversity assessment according to Hudsonia guidelines" was changed to a "biodiversity assessment according to the guidelines established by the Planning Board's consultant, Dr. Michael W. Klemens, PhD."

On June 21, 2007, Original Sponsor submitted a proposed revised DEIS to the Planning Board, and requested a determination that the revised proposed DEIS was adequate for public review. The Planning Board determined that the proposed DEIS was inadequate for public review, and directed the Original Sponsor to prepare and submit a revised proposed DEIS.

On September 19, 2007, the Original Sponsor submitted a proposed revised DEIS to the Planning Board, and requested a determination that the revised proposed DEIS was adequate for public review.

On October 4, 2007, the Planning Board concluded that the DEIS was sufficiently complete for purposes of commencing public review, and formally accepted the DEIS for that purpose. The Planning Board caused the DEIS to be circulated and filed as required by SEQRA; caused the DEIS to be posted to a website linked to the Town's official website; scheduled a public hearing on the DEIS for November 17, 2007, and directed that written comments would continue to be accepted for 20 days following the close of the public hearing; and caused a Notice of Completion and Notice of Public Hearing to be circulated and published as required by SEQRA.

The Planning Board opened the public hearing on November 17, 2007, and heard public comment on the DEIS, and elected to keep the public hearing open pending submission by the project sponsor of a preliminary master development plan for the purposes of SEQRA.

On February 7, 2007, the Planning Board accepted the preliminary master development plan for SEQRA purposes, and caused the preliminary master development plan to be circulated to all involved and interested agencies and to be made available to the public on or about February 13, 2008.

The public hearing was reconvened on March 5, 2008 for public comment on the DEIS and the preliminary master development plan. The Planning Board closed the public hearing that evening, but continued to accept written comments through March 25, 2008. Copies of the transcripts from the two public hearings and the written comments received on the DEIS are provided in the Final Environmental Impact Statement ("FEIS") as Appendices A, B, and C, respectively.

On April 3, 2008, the Original Sponsor submitted a master development plan to the Planning Board in furtherance of the application for Special Use Permit, which is required under the regulations of the Resort Development Overlay District ("RDO District"). This master development plan included revisions that responded to comments and suggestions made by the public during the DEIS review period, as well as by the Planning Board and its consultants, and was a refinement of the Traditional Neighborhood Alternative evaluated in DEIS Section 5.2. The April 3, 2008 master development plan submission consisted of a letter in support of the Special Use Permit application, a narrative describing the master development plan, a document entitled "Silo Ridge Resort Community Architectural and Landscape Character" prepared by Robert A. M. Stern Architects, LLP, and the full master development plan set consisting of 48 sheets. This submission is included for reference in the FEIS as Appendix M.

On May 30, 2008, the Original Sponsor submitted a proposed FEIS for the Planning Board's review and consideration. In response to comments received from the Planning Board and its consultants, the Original Sponsor submitted a revised proposed FEIS on July 22, 2008. In response to additional comments received from the Planning Board and its consultants, the Original Sponsor submitted a second revised proposed FEIS on August 25, 2008.

In response to additional comments received from the Planning Board and its consultants, the Original Sponsor made and filed additional responsive revisions to the August 25, 2008 version of the proposed FEIS. On September 16, 2008, the FEIS was accepted as complete by the Planning Board.

The Planning Board caused the FEIS to be circulated and filed as required by SEQRA; caused the FEIS to be posted to a website linked to the Town's official website; and caused a Notice of Completion to be circulated and published as required by SEQRA. Based on the Planning Board's determination that the minimum ten (10) day period for public consideration of the FEIS provided by Section 617.11 of the SEQRA regulations was not adequate, the Notice of Completion provided involved and interested agencies and members of the public with thirty (30) days to consider the FEIS and to submit written comments to the Planning Board. Written comments on the FEIS were accepted until October 24, 2008.

On January 9, 2009, the Planning Board adopted the Original Findings for the Silo Ridge Resort Community. The Planning Board granted Special Use Permit/master development plan approval to the Original Sponsor on June 25, 2009.

The current Applications were submitted by the Applicant to the Planning Board on October 7 and 17, 2013. On _____, 2014, the Planning Board circulated a full Environmental Assessment Form to all involved agencies. On _____, 2014, the Planning Board designated itself as Lead Agency under SEQRA for review of the Applications and the proposed MDP for the Project. On _____, the Planning Board held public hearings on the Applications. Pursuant to 6 N.Y.C.R.R. §617.11(a), on ____, 2014, the Planning Board adopted this Amended Findings Statement for the Modified Project.

## C. SITE CHARACTERISTICS

The 676 +/- acre project site is located west of NYS Route 22, and north and south of U.S. Route 44, in the Town of Amenia in eastern Dutchess County, NY, approximately 25 miles east of Poughkeepsie, NY and five miles west of Sharon, CT. The site is approximately ½-mile southeast of the hamlet of Amenia and two miles north of the hamlet of Wassaic. It is accessible via US Route 44 from the west, via NYS Route 343 from the east, and via NYS Route 22 from the north and south. The Wassaic Metro-North train station, with Harlem-line service into New York City's Grand Central Station, is located approximately ½-mile south of the site. The project site is designated as Rural Agricultural District and RDO District on the Town of Amenia Zoning Map.

The project site includes a 170± acre golf course (the former Silo Ridge Country Club, which has been closed since 2009), 47± acres of ponds, streams, and wetlands, and 12± acres of roads, buildings, and other paved surfaces. The remaining 440± acres are primarily undeveloped land. The project site has varied topography, with elevations ranging from approximately 480 to 1,100 feet above mean sea level (msl). There are 395± acres of steep slopes on the site consisting of 208± acres in the 15% to 30% category and 187± acres in the 30% and greater category.

The characteristics of the land, moving from east to west, include large wetlands and water courses punctuated by steep, wooded, rocky hills. Continuing west, there is a relatively level but undulating plain interrupted by a few steep and wooded hills, and natural and manmade water

bodies, crossed by water courses, mostly now piped, that emanate from the steep slopes further west. To the west of the golf course is the toe of a very steep continuous slope that rises approximately 420 feet in elevation. The land levels off at the ridgeline of this slope and begins to undulate to the west, where vernal pools are evident in the spring. Standing on the existing golf course and looking north, a tall grassland rises somewhat uniformly towards the hairpin turn on Route 44. The land within the hairpin turn affords a spectacular scenic vantage point affording views of the valley and folding hills to the south; and across the Hamlet of Amenia to the Berkshires in the east.

Vegetation on the project site consists largely of mowed grass associated with the golf course and forested land, particularly in the hillsides on the western portion of the site. Wetland vegetation is also found within and around the several onsite wetlands. The entire upland area of steep slopes and upper level land consists of approximately 230 acres of un-fragmented forest land.

On the extreme northeast portion of the site, just south of West Lake Amenia Road between Route 22 and Route 44, a cultural resource site containing historic/modern artifacts was identified during the Phase I cultural resources investigation for the original project.

Land uses in the vicinity of the project site are a mix of residential, agricultural, and commercial uses, public and community service uses, and undeveloped land. Land uses north of the site consist primarily of single-family residences and vacant land. The Hamlet of Amenia lies approximately one-half mile northeast of the project site. This small, relatively densely developed area is comprised of uses typical of a town or village center, encompassing a mix of residential, community and public service, and recreational lands.

A 100-foot wide easement granted to the New York State Electric & Gas Corporation traverses a small part of the project site and encompasses a total of approximately 4.75 acres. The easement crosses the northeastern-most corner of the site then crosses West Lake Amenia Road and Route 44 and runs across the northern-most section of the parcels north of Route 44. There is also a 66-foot wide abandoned roadway, identified on the site survey as "Former Turnpike Road," that crosses a portion of the project site near the hairpin turn on Route 44.

Pursuant to site plan waivers granted by the Planning Board for work within the Scenic Overlay Protection District of the Town, golf holes 10, 11, 16, 17 and 18 of the former Silo Ridge Country Club have been re-graded and partially renovated and are now considered existing conditions for purposes of the Applications and this Amended Findings Statement.

**D. Evolution of Preferred Alternative**

The Silo Ridge Resort Community project has been before the Town since May, 2003.

In June, 2005, the Original Sponsor submitted a revised proposal with proposed text amendments to the Town of Amenia Zoning Law and a revised site layout, which was more sensitive to the character of the landscape than the first concept plan. This revised site plan positioned buildings and units along existing landforms and vegetation, thereby maximizing the use of the existing landscape and topography as a visual buffer and reducing impacts to viewshed corridors. This June 2005 plan

became the basis for the "Proposed Action" as defined in the Silo Ridge DEIS submitted to the Town.

The Final Scoping Document also required the Original Sponsor to consider alternatives to the Proposed Action, including a Traditional Neighborhood Alternative. These alternatives were described in detail in the Final Scoping Document. As a result, the DEIS reviewed six alternatives:

The "Proposed Action" was a luxury golf-oriented resort described in DEIS Section 2.0 and evaluated in DEIS Section 3.0;

The No-Build Alternative, evaluated in DEIS Section 5.1;

The Traditional Neighborhood Alternative, which was described in DEIS Section 5.2.

The Reduced Scale Alternative, evaluated in DEIS Section 5.3;

The Conforming Zoning Alternative, evaluated in DEIS Section 5.4; and

The Alternative Energy Alternative, evaluated in DEIS Section 5.5.

As stated in DEIS Section 2.0, through the course of the DEIS process, and discussions with the Town Planning Board and its consultants, the Traditional Neighborhood Alternative became the Original Sponsor's preferred alternative based upon the full environmental analysis undertaken and presented in the DEIS.

As demonstrated in Section 5.2 of the DEIS and in the FEIS, the Traditional Neighborhood Alternative has fewer environmental impacts and more benefits than the Proposed Action, and offers a superior design to the Proposed Action. The Traditional Neighborhood Alternative is also more aligned with the Town of Amenia's Comprehensive Plan and Zoning Law, in particular the RDO District requirements of Section 121–18 of the Zoning Law.

A preliminary master development plan for SEQRA purposes was submitted to the Planning Board on or about February 13, 2008, and was made available to involved and interested agencies and the public at that time. Subsequently, on April 3, 2008, the Original Sponsor submitted an application to the Planning Board for Special Use Permit/master development plan approval. The master development plan submitted for approval was a further refinement of the Traditional Neighborhood Alternative evaluated in the DEIS Section 5.2. The procedural history subsequent to submission of the application is set forth in Section I.B, above.

## E. DETAILED DEVELOPMENT DESCRIPTION

The purpose of the Modified Project is to create a resort destination in Amenia that will provide first-rate amenities set in the natural beauty of the Harlem Valley. The 676±-acre project site is currently developed with a 170-acre 18-hole championship golf course and clubhouse. The actual development area will consist of an approximately 229±-acre portion of the site.

The Applicant proposes to build 224 residences consisting of 52 condominiums, 13 fee simple town homes, and 159 fee simple single-family homes; the Clubhouse, with a total of 21 hotel-condominium lodging units, a restaurant, bar/lounge, and golf pro shop; a Family Activity Barn and lake pavilion; fitness spa; golf academy; Sales Center and General Store; a Village Green; a Winery Restaurant; an Artisan's Park Overlook located on Delavergne Hill; a water treatment facility; and a wastewater treatment plant. The existing golf course will be upgraded and improved. A new golf maintenance facility will be located on the adjoining parcel owned by Harlem Valley Landfill Corp. pursuant to an easement in favor of the Silo Ridge Resort Community. The existing clubhouse will be demolished and rebuilt in approximately the same location. The Project also includes a winery restaurant and Artisan's Park Overlook, north of the Route 44 hairpin turn on Delavergne Hill. The square footage of buildings in the Modified Project is approximately1,000,000.

The Modified Project concentrates approximately 60% of the proposed residential units and all lodging units (147 units total – 13 town homes, 52 condominiums, 61 single family homes, and 21 lodging units), within the "Village Green" core area, a ¼ mile radius intended to create a pedestrian-friendly environment and facilitate and encourage comfortable pedestrian travel between the various resort components and amenities. In addition to the residential units and lodging units, this ¼-mile area also includes the fitness spa, dining facilities, General Store, below-ground parking, convenience on-street parking, the Clubhouse, and the Family Activity Barn. The Village Green area also incorporates multi-family buildings and emphasizes the use of greens and gardens to unify the development and foster interaction among people. Project design contributes to a sense of place and vitality, which are key elements of a traditional neighborhood concept.

The Modified Project layout also includes a system of sidewalks and golf cart paths throughout the site to connect all major components of the development. The walks and paths will be separated from the street by planting strips and planting areas, and will follow the street alignment in some places and deviate from the street alignment in other locations to adjust to natural vegetation and topography. Street trees will be provided to create shade and add visual interest to the landscape. The General Store and restaurants will provide for onsite entertainment and convenience.

Management of the site will be governed by a Master Homeowner's Association ("Master HOA"). The Master HOA documents will set forth general standards for the operation and maintenance of the community that must be complied with by all constituent individual homeowners and condominium associations (each a "Component"). The Master HOA will have responsibility for maintaining the common areas and facilities of the Silo Ridge Resort Community (the "Common Areas"), including but not limited to all roads, infrastructure, parking lots, landscaping, irrigation, signage, wetlands, watercourses, trails, open space and other common facilities. The Common Areas will include the areas encumbered by the conservation easement (except the golf course, which will not be owned by the Master HOA) and the buffer and management areas outside the golf course that are subject to the Habitat Management Plan ("HMP") and Natural Resources Management Plan ("NRMP"). The Master HOA will regulate the use of the site in accordance with all government approvals, including compliance with the conditions of this Amended Findings Statement. The individual Component associations will be governed by their own Board of Directors/Managers who will be responsible for governance of the buildings and amenities within each Component. There will be five (5) homeowners association

Components (one for the Estate homes, Golf Villas, Village Green single-family homes, South Lawn homes, and one for the Vineyard Cottages), and up to eleven (11) condominium Components and a Board responsible for managing the golf club and course. Each of these individual Components will be subject to the provisions of the Master HOA. Additional information regarding the Master HOA and condominium structure is located in the MDP text.

1. Residences

The Silo Ridge Resort Community is designed as a series of buildings grouped in neighborhoods around views and open space which tuck into the natural topography. The design utilizes the Traditional Neighborhood Design approach and is a refinement of the Traditional Neighborhood Alternative studied in the DEIS and FEIS, with the result that more than half of the residential units, are concentrated in the immediate vicinity of the Clubhouse and Village Green core area, with additional units in the southeastern and southwestern portions of the site, and additional Vineyard Cottages located north of Route 44. The residential neighborhoods are described as follows:

- *The Village Green* neighborhood will be the organizational and functional center of Silo Ridge, and will provide the primary address for most of the major resort community buildings. It features spaces for passive and active recreation, including meandering tree-lined paths. The Village Green neighborhood will have the following features:
    - Twenty-three (23) detached single-family homes, ranging from three to five bedrooms, at an average size of approximately 3,870 square feet;
    - 52 attached condominiums ranging from two to four bedrooms, at an average size of approximately 2,700 square feet, some with dedicated parking below the structure, some with dedicated parking in an adjacent, shared car barn, as well as on-street parking;
    - Thirteen (13) town homes containing four bedrooms, at an average size of 3,550 square feet; and
    - Twenty-one (21) lodging units (5 in the Clubhouse and 16 in two 8 unit buildings) ranging from one to four bedrooms, conveniently located to amenities
- *The South Lawn* neighborhood will be a park setting with framed views to the golf course and to the mountainside beyond for the Family Activity Barn. It will be defined by primary access to the north and bound by the site's natural features to the east, south, and west including the site's largest pond to the west. The South Lawn neighborhood will have the following features:
    - Thirty-two (32) single-family homes ranging from three to five bedrooms, with an average size of 3,750 square feet.
- *The Golf Villa* neighborhood is located adjacent to the Clubhouse and face out over the eighteenth fairway. These homes will be set around open golf views. The Golf Villas will be tied together via landscaped streets, and are designed to step down with the grade. The Golf Villa neighborhood will have the following features:
    - Twenty-eight (28) single-family homes ranging from three to five bedrooms, with an average size of approximately 3,890 square feet.

- *The Estate Homes* neighborhood is located along the base of the mountainside with views east towards the course, and Amenia beyond. These homes are designed to respect the existing topography and to blend into the rolling hillside. The Estate Homes neighborhood will have the following features:
    - Large lots, from 1/3 to greater than 2 acres, with a forest backdrop and views to Amenia and equestrian farms to the east;
    - Fifty-seven (57) single-family home sites for five to six-bedroom homes, at an average of approximately 5,600 square feet
- *The Vineyard Cottages* neighborhood is located adjacent to the Winery Restaurant, along the hillside north of Route 44, with breathtaking views east and south. The cottages are grouped within small enclaves allowing the vineyard to weave into the neighborhood. They have been sensitively placed in the topography to create privacy for the homes and their outdoor living spaces. The Vineyard Cottages neighborhood will have the following features:
    - Nineteen (19) single-family, three-bedroom homes, at an average of approximately 2,700 square feet;

2. Clubhouse/Lodge, Spa, and Amenities

The existing golf clubhouse will be demolished and a new 32,000 square foot Clubhouse will be constructed in approximately the same approximate location, just slightly south of the existing building's footprint. The Clubhouse is one of the key components of the Village Green core area. Uses proposed for the new Clubhouse are generally the same as those presently in operation in the clubhouse and include a 1,000 square foot golf pro shop, 80 seat restaurant, 40 seat bar/lounge, locker rooms and restroom facilities. The 3,600 square foot spa facility is located adjacent to the Clubhouse on the west side of the Village Green. Access will also be provided to the spa and fitness facilities through the Clubhouse. The Clubhouse building is proposed to be one and a half stories from the front (north side) and two and a half stories from the golf course (south side), with the top floor contained entirely within the roof. The main level of the Clubhouse will contain the lobby, lounge, offices, gallery, dining, kitchen and restrooms. The upper level will contain the lodging units. The lower level of the Clubhouse contains the pro shop, office, spa, locker rooms, mechanical room and terrace. This lower level opens up to the south side of the building with views of the golf course.The Clubhouse and its amenities will be restricted to members and guests.

Pursuant to section 121-74 of the Zoning Law, hotel-condominium lodging units are limited to transient occupancy and part-time residences. "Transient occupancy" means that the unit cannot be occupied by any occupant for more than 48 days in any calendar year nor more than 15 contiguous days. "Part-time residences" means that the unit cannot be occupied by any occupant for more than 120 days in any calendar year nor more than 30 contiguous days. A separate amenities building (the "cabana") is proposed for the Vineyard Cottage residential units north of Route 44. This building will house restrooms and changing areas and will provide access to a pool.

3. Winery Restaurant

An 80 seat Winery Restaurant (5,000 square feet) will be developed approximately 530' north of the "Hairpin Turn" on Route 44. The Winery Restaurant is also intended to serve as an additional

tourist destination in Amenia and a safe place from which visitors can enjoy the views over the golf course and down through the valley.

4. Site Access and Circulation

The current entrance to the golf course will remain and will serve the Sales Center, General Store, and the Village Green core area, including the Clubhouse, and condominium and town home residences. That entrance will also serve as the main entry point for the single-family units in the Village Green, South Lawn, Golf Villas and Estate Home neighborhoods at the base of the western hillside. The existing entrance from Route 22 on the adjoining parcel owned of record by Harlem Valley Landfill Corp., will serve as an emergency access road for the Silo Ridge Resort Community site and entrance to the golf maintenance facility. This access road and the golf maintenance facility will be permitted by easement in favor of the Silo Ridge Resort Community. The northern portion of the project site, north of Route 44, will have two entry points for access to the Winery Restaurant and to the Vineyard Cottage units. The first entrance heading east on Route 44 will be at the top of Delavergne Hill and will provide access to the Winery Restaurant, the Vineyard Cottages amenities building, and the Vineyard Cottage units. The road continues eastward through the clusters of residential units and meets up again with Route 44, providing a secondary access point to this interior roadway.

The Applicant seeks to install gates at all entrances to the development, except that the proposed gate for the entrance at the top of Delavergne Hill would not interfere with access to the Winery Restaurant and Artisan's Park Overlook. Rather, it would be placed on the access road to the Vineyard Cottage units located to the east of the entrance to the Winery Restaurant parking lot.

5. Parking

The Modified Project includes 622 parking spaces including below grade and surface parking areas. The Village Green core area will include approximately 78 spaces below grade. Residential garages throughout the Modified Project account for 318 spaces and surface parking (including lots and on-street) total 226 spaces.

6. Water and Sewer Systems

The Modified Project includes an onsite community water supply system consisting of six new groundwater wells, a proposed water treatment facility, a water storage tank and a distribution system. The water distribution system for the Modified Project will consist of approximately 20,000 linear feet of eight-inch water mains with approximately 185 individual service connections. The estimated maximum daily water demand is 177 gallons per minute.

The Modified Project includes an onsite wastewater collection and treatment system capable of treating 115,000 gallons per day of wastewater from the Silo Ridge Resort Community. The proposed sanitary system will consist of a gravity collection and conveyance system supplemented by low pressure sewers and the wastewater treatment plant.

7. Landscaping and Lighting

The Modified Project proposes extensive landscaping with native and naturalized species to provide screening, buffering, visual interest, habitat, carbon reduction, erosion control, spatial definition, and shade and cooling to mitigate effects on conservation areas. The proposed landscaping is designed with viewshed effects in mind, to greatly reduce the apparent mass of the project, screen the development from view and transition the edges of the development into the natural landscape. The conceptual landscaping plan contained in Map LA-1 of the MDP offers trees at varying intervals along roads and sidewalks for shade and cadence. New landscaping around structures will focus views and provide pedestrian scale, color and ornamental interest. Shade, flowering and evergreen tree plantings combined with shrub masses and herbaceous layer plantings will help to screen the development.

The design principles for lighting the Modified Project include landscape lighting, reducing the number of fixtures illuminated after business hours through controls, reducing or eliminating use of pole-mounted lighting, and using top-down lighting for buildings and signage. Floodlighting or façade washing will be avoided. Public entrances to building may have small amounts of low-output decorative lighting (750 lumens per fixture maximum). Additional building and all service entrance lighting will be fully shielded. Any non-shielded lighting needed for certain activities, such as deliveries, will be switched on temporarily.

Landscape lighting lamp wattages will be limited to 20W maximum light sources (1200 lumens per fixture maximum) and will be extinguished at curfew. The project will use warm-color sources (3000K) that are close to incandescent in appearance and include ceramic metal halide lamps, pin based compact fluorescent lamps, small numbers of halogen lamps and a few warm color LED products. Blue-white light from metal halide or mercury lamps or orange light from high pressure sodium lamps will not be used.

## F. REQUIRED PERMITS, APPROVALS AND REVIEW BY OTHER AGENCIES

The following agencies are Involved Agencies under SEQRA, and have approval authority over various aspects of this proposal:

Town of Amenia Planning Board: Subdivision Approval, Site Plan Approval, and Special Use Permit/master development plan Approval.

Town of Amenia Town Board: Authorization of sewage-works and water-works transportation corporations.

Dutchess County Department of Health: Wastewater collection and treatment, and water supply, treatment and connections.

Dutchess County Department of Public Works: Highway Work Permit(s).

New York State Department of Environmental Conservation: (1) State Pollution Discharge Elimination System (SPDES) Permits, (2) Freshwater Wetland Disturbance Permit, (3) Stream Disturbance Permit, (4) Water Supply Approval, (5) Wastewater SPDES Permit, and (6) Section 401 Water Quality Certification.

New York State Department of Transportation: Highway Work Permit(s) for road access – NYS Route 22 and NYS Route 44

New York State Health Department: Approval of plans for community water supply improvement and water quality and treatment.

New York Secretary of State: Authorization of sewage-works and water-works transportation corporations.

New York Attorney General: Approval of Master HOA and Component associations.

United States Army Corps of Engineers: Nationwide Wetland Permit

In addition, the Dutchess County Department of Planning and Development has jurisdiction to review and comment on the Applications pursuant to Section 239 of the New York State General Municipal Law.

## II. IMPACTS, MITIGATION MEASURES AND SPECIFIC FINDINGS:

### A. SOILS AND GEOLOGY

Existing Conditions:

The Silo Ridge Resort Community site contains 18 separate soil groups. The following table provides a summary of the specific limitations for each soil unit within the site. The construction limitation designations of "slight", "moderate" and "severe" refer to level of engineering which may be necessary to develop on a particular soil type. Soils with "slight" limitations are generally favorable for development and any limitations are easily overcome. Soils with "moderate" or "severe" limitations (15-30% slopes or greater) require special considerations. The first consideration is avoidance of steep slope restrictions in full compliance with Town Zoning law. If full compliance is not attainable, the amount of steep slope to be impacted should be minimized to the maximum extent practicable and the areas to be disturbed mitigated by special design and engineering to minimize the impacts during and after construction, particularly upon the streams and waterbodies on the site.

| Map Symbol/Description | Construction Limitations | | Permeability | Depth to Water Table (ft.) | Depth to Bedrock (in.) |
|---|---|---|---|---|---|
| | Dwellings without Basements | Local Roads and Streets | | | |
| CuC / Copake gravelly silt loam, rolling | Moderate (slope) | Moderate (slope; frost action) | Moderate-very rapid | > 6.0 | > 60 |
| CuD / Copake gravelly silt loam, hilly | Severe (slope) | Severe (slope) | Moderate-very rapid | > 6.0 | > 60 |
| CwB / Copake channery silt loam, 3 to 8 % slopes | Severe (flooding) | Moderate (flooding; frost action) | Moderate-very rapid | 3.0 to 6.0 | > 60 |
| DwD / Dutchess-Cardigan complex, hilly, rocky | Severe (slope) | Severe (slope) | Moderate | > 6.0 | 20 to 40, > 60 & rock outcropping |
| Ff / Fluvaquents-Udifluvents complex, frequently flooded | Severe (flooding; ponding) | Severe (flooding; ponding, frost action) | Slow-very rapid | +0.5 to 1.5 & 2.0 to 6.0 | > 60 |
| GfD / Galway-Farmington complex, hilly | Severe (slope; depth to rock) | Severe (slope; depth to rock) | Moderate | 1.5 to 3.0 & >60 | 10-20, 20-40, & rock outcropping |
| HoE / Hollis-Chatfield-Rock outcrop complex, steep | Severe (slope; depth to rock) | Severe (slope; depth to rock) | Moderate-moderately rapid | > 6.0 | 10-20, 20-40, & rock outcropping |

| Map Symbol/Description | Construction Limitations | | Permeability | Depth to Water Table (ft.) | Depth to Bedrock (in.) |
|---|---|---|---|---|---|
| | Dwellings without Basements | Local Roads and Streets | | | |
| NwC / Nassau-Cardigan complex, rolling, very rocky | Severe (slope; depth to rock) | Severe to moderate (slope; depth to rock; frost action) | Moderate | > 6.0 | 10-20, 20-40, & rock outcropping |
| NwD / Nassau-Cardigan complex, hilly, very rocky | Severe (slope; depth to rock) | Severe (slope; depth to rock) | Moderate | > 6.0 | 10-20, 20-40, & rock outcropping |
| NxE / Nassau-Rock outcrop complex, steep | Severe (slope; depth to rock) | Severe (slope; depth to rock) | Moderate | > 6.0 | 10-20 & rock outcropping |
| NxF / Nassau-Rock outcrop complex, very steep | Severe (slope; depth to rock) | Severe (slope; depth to rock) | Moderate | > 6.0 | 10-20 & rock outcropping |
| SkC / Stockbridge silt loam, 8 to 15 % slopes | Moderate (slope) | Moderate (slope; frost action) | Slow-moderate | > 6.0 | > 60 |
| SkD / Stockbridge silt loam, 15 to 25 % slopes | Severe (slope) | Severe (slope) | Slow-moderate | > 6.0 | > 60 |
| SkE / Stockbridge silt loam, 25 to 45 % slopes | Severe (slope) | Severe (slope) | Slow-moderate | > 6.0 | > 60 |
| SmD / Stockbridge-Farmington complex, hilly, rocky | Severe (slope; depth to rock) | Severe (slope; depth to rock) | Slow-moderate | > 6.0 | 10-20, > 60 & rock outcropping |
| Ud / Udorthents, smoothed | Slight | Moderate (frost action) | NA | > 3.0 | > 60 |
| Ue / Udorthents, wet substratum | Severe (wetness) | Moderate (slope; frost action) | NA | 1.0-3.0 | > 60 |
| Wy / Wayland silt loam | Severe (ponding; flooding) | Severe (low strength; ponding; flooding) | Slow-moderate | +0.5-1.0 | > 60 |

Source: United States Department of Agriculture (USDA) *Soil Survey of Dutchess County, New York,* 1992.
NA = Not Applicable

Areas of rock outcrop can be found in the western portion of the project site along the hillsides and ridge. Slopes are varied over the project site. Approximately 28% of the site has slopes that range from 0% to 10%; 14% of the site has slopes ranging from 10% to 15%; and 58% has slopes greater than 15%. The majority of the steeply sloped areas are located in the western portion of the site in association with the ridge.

Impacts:

The Modified Project will disturb approximately 273.8± acres of the site including approximately 151.3± acres of disturbance related to golf course improvements and modifications.

The remaining 122.5± acres of disturbed area are related to construction of the resort community development. Overall grading is estimated at 1,058,000 cubic yards of cut and fills to be balanced onsite; however there is the possibility of importing fill to the site for specific areas. There are also potential impacts associated with the disturbance and re-use of existing, potentially contaminated golf course soils. The majority of the soil disturbance associated with construction of the Modified Project will consist of the following:

- Disturbance to soils and geology, primarily due to overall grading, the construction of roads and stormwater control structures, and the excavation of building foundations and parking areas.
- Removal and stockpiling of topsoil.
- Grading associated with modifications to the existing golf course.

Soil disturbance per soil category is summarized in the table below. These areas of impact were identified based on the grading limits for the new development and the grading limits for the golf course. The non-golf development will impact approximately 122.5± acres, and the redevelopment of the golf course will impact 151.3± acres. In total, 273.8± acres will be impacted by both the non-golf and golf development. The table below reviews impacts to Farmland Soils and also to soils as they relate to hydric[3] classification.

| | **Non-Golf Development (Acreage)** | **Golf Development (Acreage)** | **Cumulative (Acreage)** |
|---|---|---|---|
| **FARMLAND SOILS** | | | |
| Prime Farmland | 2.4 | 8.8 | 11.2 |
| Farmland of Statewide Importance | 49.4 | 36.6 | 86.0 |
| Not Prime Farmland | 70.7 | 105.9 | 176.6 |
| **TOTAL** | **122.5** | **151.3** | **273.8** |
| **HYDRIC CLASS** | | | |
| Hydric | 1.39 | 0.49 | 1.88 |
| Non-Hydric (upland) | 114.6 | 146.6 | 261.2 |
| Potential for Hydric Inclusions | 6.4 | 4.0 | 10.4 |
| Water | 0.07 | 0.17 | 0.24 |
| **TOTAL** | **122.5** | **151.3** | **273.8** |

The extent of disturbance to steep slopes (15% or more) under the proposed MDP is 119± acres, out of a total 273.8± acres disturbed.

[3] The Hydric Soil Definition (Federal Register, July 13, 1994) is: "A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Soils with the potential for hydric inclusions are those soils that may have hydric soils within the mapping unit.

Of the 119± acres, 70± acres disturbance results from structural development and the remaining 49± acres from golf course re-development on prior disturbed land. There are approximately 187± acres with slopes greater than 30%. There will be approximately 23.7± acres of disturbance to slopes greater than 30%. There will be approximately 154.8± acres of disturbance on slopes up to 15%, with about 95.3± acres of disturbance on slopes from 15% to 30%. (See also Section II.H of this Amended Findings Statement on Land Use and Zoning for additional information on compliance with the Town's steep slopes regulations).

Construction on slopes greater than 15% could result in soil and geological hazards such as mudslides, houses sliding downhill, rockfalls damaging homes or injuring people, and erosion gullies destroying hillsides or clogging streams.

Blasting is not expected to be necessary over most of the site. Nevertheless, in the event that blasting is necessary, all blasting operations will adhere to New York State ordinances governing the use of explosives.

Mitigation:

Impacts to soils and geology will be minimized through erosion and sediment control measures and the establishment of Best Management Practices ("BMPs"), as outlined in the *New York State Stormwater Management Design Manual* (August 2010) and *New York Standards and Specifications for Erosion and Sediment Control* (August 2005). Construction on steep slopes will be minimized where practical. Employing best design, engineering and construction practices can deal with potential hazards arising from slope construction. The State Building Code, when properly applied, provides additional protection for slope construction.

Erosion control measures are designed to minimize soil loss. Sediment control measures are intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties. Temporary erosion and sediment control measures that will apply during construction generally include:

- Stabilized construction entrance;
- Dust control;
- Temporary soil stockpile;
- Temporary seeding;
- Stone inlet protection barrier;
- Erosion control blanket;
- Stone check dams; and
- Temporary Sediment Basin.

Permanent erosion and sediment control measures to be implemented after completion of construction include the following:

- Establishment of permanent vegetation; and
- Rock outlet protection.

Other mitigation measures include:

- Cutting of existing vegetation will be minimized by field surveying each building site including trees 8" caliper and larger prior to site plan submission and custom designing each building for the site;
- Roadways have been aligned along contours lines to reduce grading impacts and steep road/drive grades;
- The Applicant will establish an escrow account to provide funds for the Town to retain engineering review of all site plans;
- No certificates of occupancy will be granted until all erosion control and drainage measures required have been completed to the Town's satisfaction;
- Impacts from grading activities will be temporary and be fully mitigated by use of low retaining walls, soil stabilization and re-vegetation with native species where appropriate;
- Any blasting operations will adhere to New York State laws governing the use of explosives. Applicable blasting certifications will be obtained and blasting will comply with all safety requirements; Housing units located on steep slopes are designed with terracing and lower level walk-outs where applicable;
- Geo-technical evaluations were performed during summer of 2013 and a report will be submitted in support of final site design. The report shall include data for land disturbing activities on slopes greater than 30%. The report shall be prepared by a licensed professional engineer whose area of expertise includes geotechnical engineering. The report shall include mitigation measures as needed to ensure stability and minimize environmental impact during site preparation and construction phases to ensure that: the slope's ground surface and subsurface are not unstable; development of the slope and associated mitigation measures will not increase the degree of risk of slope instability; and provides a plan that specifies how the mitigation and construction practices (including construction supervision) necessary to assure the stability of buildings and foundations or road to be constructed, will be implemented;
- Use double silt fencing in all areas of special concern, i.e., all wetlands and upslope of the Amenia/Cascade Brook and all other streams;
- The single family homes have been relocated west of the Golf Villas, and select single family homes in the Estate Home neighborhood have been relocated to the southern end as shown in the conceptual plan the project sponsor prepared at the Planning Board's request to minimize disturbances to steep slopes and impacts on water resources;
- The Applicant is encouraged to refine the design so as to further minimize impacts to steep slopes. Construction on steep slopes (15-30% or greater) should be avoided. If the Applicant can demonstrate that construction on steep slopes (15-30% or greater) is unavoidable, a double row of properly installed and maintained silt fencing will be placed around all areas of

disturbance on slopes of 15% or more. A plan for regular silt fence inspections and maintenance should be provided;

- Construction on steep slopes (15-30%) will minimize footprint, minimize area of disturbance, leaving all trees undisturbed except where clearing is required for structures, grading, utilities or roadways;
- Reseed (or otherwise re-vegetate) all disturbed areas on slopes of 15% or more within two weeks of disturbance;
- In accordance with the testing protocol in Attachment A to this Amended Findings Statement, testing is not required since the golf course was closed in 2009 and no pesticides, herbicides, or fungicides have been applied to the golf course within the past 6 months (the half-life of the pesticides applied more than 6 months ago is less than 6 months);
- Limit construction traffic/ heavy equipment to specifically marked travel lanes only, to minimize compaction of soils on steep slopes greater than 15%;
- Place all compatible on-site utilities (electric, phone, cable) in a common trench, subject to utility company approvals; and
- The Applicant will be required to furnish an irrevocable letter of credit, certified check, or other form of security, with the amount determined during site plan review, to guarantee reclamation of areas to be excavated or graded if the Modified Project is abandoned.

## B. WATER RESOURCES

Existing Conditions:

All wetlands and streams (perennial and intermittent) on the site have been evaluated according to their function within the watershed, regardless of jurisdictional status. Compliance with US ACOE and NY DEC regulations with respect to certain of the wetlands and streams onsite does not substitute for evaluating impacts and mitigation for healthy watershed functions and all water resources within the watershed.

The site is comprised of approximately 676± acres with 42.41± acres of ponds, streams, and wetlands (as listed on the "Silo Ridge Map of Wetland Survey Prepared for Higher Ground Country Club Management Co., LLC" dated 1/13/06 Rev. #5 dated 5/30/07), and 46.74± acres including the upland vernal pools. It is located within the drainage basin of Ten Mile River, which flows southeast into the Housatonic River in Connecticut. Most of the water and wetlands delineated within the project site have a hydrologic connection to the Amenia/Cascade Brook, a sub-tributary of the Ten Mile River. All points on the project site ultimately drain to the Amenia/Cascade Brook.

Pre-construction impervious surfaces on site total 14 acres. Runoff from the project site currently flows to one of three places. The northern end of the project site drains to the Amenia/Cascade Brook; the entrance roadway off NYS Route 22 and the immediate surrounding areas drain to existing infiltration ponds located at the site entrance; and the remainder of the project

site (central portion, western-southwestern portion) drains to the large wetland "Wetland L/LL" located in the east-central portion of the project site.

**Streams** - Amenia/Cascade Brook, a perennial stream which enters the project site south of Route 44, traverses along the eastern property boundary, and exits the site near the existing golf course entrance on Route 22. Amenia/Cascade Brook is a NY DEC Class "C (Ts)" stream. In addition to supporting fisheries and being suitable for non-contact activities, the "Ts" classification indicates that the quality of the water can also support trout populations and trout spawning. The stream is 10-12 feet wide, with bank height of 3-6 feet. Portions of the riparian zone are currently in degraded condition, with evidence of bank erosion and insufficient bank vegetation for stabilization. Existing streamflows provided in the text of the DEIS are as follows: 8 cfs median flow (3600 gpm in the text); 4 cfs thirty percent of the time (1500 gpm) and 0.65 cfs once every ten years (291 gpm).

The second perennial stream onsite is "L", a Class "C" stream that flows through Wetland L/LL located in the east-central portion of the site and eventually flows into Amenia/Cascade Brook at a location off of the project site.

All of the intermittent streams onsite are also Class "C" waterbodies. Four of these streams are especially significant as headwaters.

**Headwaters -** Headwater streams including associated wetlands and springs/seeps and riparian uplands, supply food and nutrients to downstream areas, and support a high diversity of plants and animals. They offer refuge from temperature and flow extremes, serve as a source of colonists, provide spawning and rearing areas, and create migration corridors through the landscape. Degradation and loss of headwaters and their connectivity to downstream ecosystems threaten the biological integrity of downstream systems. On the project site, four headwater streams are associated with steep slopes, seeps, wetlands, and surrounding forested land. Intermittent streams are identified as follows:

Stream V: found in the north portion of the site. Surface runoff across much of the area encompassed by Block V on the site plan map currently drains to this stream. The stream is degraded in the area just north/northeast of Route 44 in the vicinity of an unimproved access road; banks are severely eroded and there is evidence of periodic high water flows. South of Route 44, the stream flows through the golf course, dropping through a steep, heavily eroded reach just before it enters the Amenia/Cascade Brook. The quality of stream V improves to excellent several hundred feet upstream of the degraded area north of Route 44, beyond the old retaining wall and well. Stream water here is clear and cold, flowing over rocky substrate with little evidence of siltation. Both banks are well vegetated and stable even where slopes are steep. Stream width is 3-8 feet.

Stream R/S: found in the vicinity of the Miller house, this stream and its associated wetland is in overall very good condition except for a small area where it is crossed by the existing driveway. Its upper reaches do not appear to be susceptible to significant degradation from Rte. 44 runoff. The headwaters here exhibit high hydrologic quality. The only apparent degraded area is in the immediate vicinity of the existing driveway. Just south of this heavily eroded driveway crossing, a previously filled portion of wetland has been planted in turf grass. South of this degraded area, several spring/seeps become rivulets with a steady flow of very cold clear water. Slopes on both sides, while

sometimes very steep, are generally well vegetated and stable. Little evidence of siltation further documents the high quality of this watercourse/wetland, all the way to Rte. 44, where the stream passes under the road and onto the golf course property.

Stream J: flows from Wetland J/JJ to Pond J-2 along the forested edge west of the existing golf course. It includes high quality habitat for a variety of species including the dusky salamander.

Stream M/P flows from forested slopes of the western portion of the property to the large Wetland L/LL. A portion of this stream is culverted belowground.

**Non-headwater intermittent streams** - Stream V (Streams E-1/2 on site map) as it flows south of Rte. 44 and onto the golf course. A portion of the stream currently is culverted belowground. It emerges to flow into Amenia/Cascade Brook; this last reach is severely eroded and transports a very large "flashy" flow during high precipitation events. Width is 1-3 feet.

Stream L: flows from Pond K to wetland L/LL.

Stream G: flows from vicinity of Wetland G-1 on the golf course, to Wetland C-1. The stream is two to four feet wide, with banks from six inches to two feet.

Stream QQ flows roughly parallel to stream L. but is smaller, about one foot in width, with six-inch banks.

**Wetlands** - There are 9 wetlands located throughout the project site, totaling approximately 31.85± acres (with an additional 3 wetlands located in the western central portion of the site identified as vernal pools, totaling approximately 4.33± acres).

Wetland C-1 is an approximately 1.12 acre emergent swamp in the northeastern portion of the site. It is connected by a culvert to a pond to the north. Water moves south through the wetland and discharges into Amenia/Cascade Brook. Dominant species include reed canary grass (*Phalaris arundinacea*), cattail, purple loosestrife, and sedges (*Carex* spp.).

Wetland C-2, approximately 1.31 acres, is located in the northeastern portion of the site and is associated with Amenia/Cascade Brook. Wetland C/CC is a red maple swamp dominated by red maple, multiflora rose, jewelweed (*Impatiens capensis*), tussock sedge (*Carex stricta*), sensitive fern (*Onoclea sensibilis*), and common reed.

Wetland C-3, approximately 0.02 acres in size, is similar in character to Wetlands C-1 and C-2.

Wetland G1 is red maple swamp community associated with Stream G located within the northeastern portion of the property. The wetland is approximately 0.33 acres in size. Dominant vegetation within this wetland includes red maple, ironwood (*Carpinus caroliniana*), spicebush (*Lindera benzoin*), skunk cabbage, sensitive fern, and marsh marigold (*Caltha palustris*).

Wetland I is an isolated wetland located in the north central portion of the property and is approximately 0.06 acres in size; dominants include common reed, purple loosestrife, cattail, soft rush(*Juncus effusus*), and arrowleaf tear-thumb (*Polygonum sagittatum*).

Wetland J/JJ (2.46 acres) is a series of small red maple forested wetlands associated with Stream J located in the west-central portion of the property. Dominant vegetation within these wetlands includes red maple, multiflora rose, spicebush, skunk cabbage, and jewelweed.

Wetland L is a complex wetland system that contains shallow emergent and scrub-shrub communities, areas of common reed, purple loosestrife, and open water, as well as fringing areas of red maple-dominated forested wetland. This wetland is NY DEC Wetland AM-15 and is associated with NY DEC Wetland AM-16 and Amenia/Cascade Brook. The on-site section of this wetland is approximately 26.03-acres and is located in the east-central portion of the site adjacent to State Route 22. Dominant vegetation includes red maple, tartarian honeysuckle, silky dogwood, common reed, sensitive fern, and skunk cabbage. The eastern half (partially off-site and not part of the property) of Wetland L comprises a NY DEC Superfund site. A review of available data indicates water and sediment contamination with PCBs and metals. This area is scheduled for remediation by the Town of Amenia pursuant to a remediation plan approved by the NY DEC.

Wetlands N/O are two wetlands that were originally created on the golf course as water hazards, but through time have become shallow emergent wetland communities. They are approximately 0.15 acres (Wetland N) and 0.03 acres (Wetland O) and are located in the south-central portion of the property. Dominant vegetation within these wetlands includes cattail, purple loosestrife, and duckweed (*Lemna* spp.).

Wetland S is a small red maple forested wetland community associated with Stream S. The wetland is located in the northwest corner of the property and is approximately 0.34 acres in size. Dominant vegetation within the wetland includes red maple, multiflora rose, skunk cabbage, and sensitive fern. In the area north of Route 44, a portion of wetland S has been filled at some time in the past, and replanted in grass.

Wetland U is a highbush blueberry bog thicket community approximately 2.78 acres in size located in the west-central portion of the property approximately three-quarters up the ridge. Wetland U, located up on the ridge in the western portion of the project site, has been identified as a vernal pool. Dominant vegetation includes mountain laurel, highbush blueberry, fringed sedge (*Carex crinita*), cinnamon fern, and sphagnum moss.

Wetland W is a red maple forested wetland that is approximately 1.30 acres in size located near the west-central boundary line on top of the ridge. Dominant vegetation includes red maple, green ash (*Fraxinus pennsylvanica*), highbush blueberry, silky dogwood, royal fern (*Osmunda regalis*), and tussock sedge (*Carex stricta*).

Wetland X is a red maple forested wetland that is approximately 0.25 acres in size located just south of Wetland W.

**Floodplains** - An 11.6 acre area in the northeast portion of the project site along Route 22, south of Route 44 and adjacent to Amenia/Cascade Brook is located the 100-year floodplain. All other areas of the project site appear to be outside of the 100-year flood plain.

**Ponds** - The eight ponds or open water areas total approximately 10.5 acres and are scattered throughout the site. Two of the ponds are located on either side of the entrance driveway off of Route 22 and two are located in the northern portion of the site. The two largest ponds are located within the golf course and are used as water features and for irrigation storage. The remaining two ponds are associated with Wetland J, just west of the largest onsite pond.

**Groundwater** - The entire project site is included within the Town of Amenia Aquifer Overlay District, which contains different zones and levels of protection. A majority of the developed portion of the site lies within the Primary Valley Bottom Aquifer (PVBA) district. The balance of the site is within the Upland Aquifer (UA) district. Precipitation is the source of groundwater recharge in bedrock and sediment aquifer formations on the site. Recharge infiltrates first through soil horizons and passes into or through surficial glacial deposits to enter the bedrock fractures. Some groundwater discharges from these glacial till and bedrock aquifers to onsite streams, hillside seeps/springs, and wetlands.

**Wells** - There are two existing onsite groundwater wells supplying water to the existing golf course facility. The primary well is located near the clubhouse and is used to supply water to the clubhouse. This well is able to supply approximately 80 gpm. An additional well is located adjacent to the maintenance building. This well only supplies water to the maintenance building and has a much smaller supply capacity of approximately 3 gpm. Both of the onsite wells are sufficient for existing water demand. From Four (4) to six (6) new wells will be placed in service, as the existing wells do not meet requirements for separation from structures under current regulation.

In 2007, during a simultaneous 72-hour pump test of five (5) new groundwater wells and one (1) existing well used to supply the clubhouse, the six (6) tested wells were able to produce 383 gallons per minute (gpm). The best well (Well PW-2) provided 100 gpm of the total yield, making 283 gpm available with the best well off line. In addition, there was no drawdown extending beyond the protect site's perimeter in any direction during the test.

Water quality from the groundwater wells was tested for conformance with NYS Department of Health ("NYSDOH") drinking water standards. The results indicate that water from four of the six test wells (PW-1, PW-2, PW-4, and PW-5) contains levels of iron, lead, and turbidity that are greater than drinking water standards (thresholds). In addition, elevated levels of manganese exceeding NYSDOH standards were identified in water from wells PW-4 and PW-5.

**Aquifer recharge** - Aquifer recharge rates are measured in inches per year (annual) or gallons per acre (average daily recharge). Recharge rates vary among soil hydrologic groups, and drop by about 30% during normal drought years. In many areas of NY State, evaporation and plant transpiration take up about half of annual precipitation. The other half becomes overland runoff or groundwater recharge.

The aquifer underlying the project site is currently used to support irrigation withdrawals for the golf course from existing irrigation ponds. Although not currently metered, water usage for

irrigation is estimated at 300,000 gallons per day during peak summer periods, which is used to irrigate 135± acres. During dry periods this is estimated to require as much as 200 gallons per minute or more of irrigation water, currently drawn from the existing groundwater ponds.

Impacts:

Impacts to water resources often involve both direct and indirect impacts. Direct impacts include filling, dredging, or draining a wetland; building in a floodplain; changing the hydrologic characteristics of a watershed; or channelizing a stream. Indirect impacts include the degradation of water quality; changes in stream flow or wetland hydroperiod; changes in wetland ponding depth; flow constrictions; an increase in runoff volume and/or a reduction in aquifer recharge due to increased impervious surface area; sediment deposition; nutrient enrichment of and pollutant accumulation in wetlands; discharge of pollutants to streams or a reduction in stream flow (with a concomitant increase in pollutant concentrations) due to increased groundwater withdrawal. The following discussion includes both direct and indirect impacts to water resources. Generally, these impacts affect water quality, water supply, wetland and stream functioning, and drainage patterns.

**Impervious cover** - Impervious surfaces including roads, parking areas, buildings, cart paths would increase onsite from the existing 14 acres to 35 acres.

Construction-phase pollutant sources anticipated at the site include sediment, disturbed existing golf course soils, vehicle fuels and lubricants, chemicals associated with building construction, and building materials. Without adequate control there is the potential for each type of pollutant to be transported into receiving waters, affecting water quality. Land development effects site hydrology. Grading, retaining walls and post construction site conditions alter stormwater runoff. Impervious areas such as rooftops, roads, driveways, and parking lots carry additional contaminants including pesticides and herbicides, road salt, bacteria, phosphorus and nitrogen. Uncontrolled increases in runoff cause flashiness resulting in stream bank erosion and floodplain siltation.

Development of the Modified Project will create additional impervious areas, which will alter the hydrologic characteristics of the watershed and could have indirect impacts on water resources. Impervious areas cause rainfall to rapidly convert into stormwater runoff and also result in the introduction of a variety of contaminants including nutrients and bacteria into surface water resources. Calculations provided in the FEIS indicate that the percent impervious cover within the contributing drainage area for the large NY DEC Wetland L/LL is anticipated to be 5.1%, which would fall below the 10% threshold of concern for impervious surface cover.

**Pollutant loading** - Pollutants and sediment carried by stormwater degrade the water quality of receiving waters. For example, fertilizers from new lawn areas and material from roadways can affect light levels, dissolved oxygen, and nutrient concentrations in the receiving waters, which over time may decrease water quality.

A Preliminary Master Stormwater Pollution Prevention Plan ("SWPPP") has been prepared. Design concepts are provided for stormwater collection and conveyance systems, and water quality and quantity control facilities. This SWPPP was not intended to be a final engineering design, as certain detailed aspects of the Modified Project may change during the Site Plan review process.

Portions of the design were advanced to substantiate regulatory compliance determinations and to provide input pertinent to the environmental assessment of potential impacts of the proposed Modified Project. Compliance with the Phase II stormwater regulations on this site will be documented in the final SWPPP for the Modified Project prepared as part of Site Plan review. This discussion of impacts takes into consideration the pollutant load that is not addressed by these regulations and any water quality and supply impacts to water resources that might result from the use of certain stormwater management practices.

The stormwater analysis, as presented follows the *New York State Stormwater Management Design Manual* (August 2010) and *New York Standards and Specifications for Erosion and Sediment Control* (August 2005), and US Department of Agriculture Technical Release No. 55.

The SWPPP allows for the maintenance of existing drainage patterns while continuing the conveyance of upland watershed areas. The overall watershed and drainage patterns have remained relatively unchanged between pre- and post-development conditions. The proposed stormwater management system has been designed to attenuate runoff generated during the 1-, 2-, 10-, 25-, 50- and 100-year storm events such that the peak rates realized at the designated design points will not exceed the rates that existed prior to development of the Modified Project. It should be noted that all the design points evaluated as part of the SWPPP are tributary to the Amenia/Cascade Brook, a NYSDEC Class "C (Ts)" stream.

The proposed water quality volume controls have been sized based on the Enhanced Phosphorus Removal Standards (Chapter 10)of the *New York State Stormwater Management Design Manual* (August 2010). Each of the stormwater management basins has been sized accordingly to provide as a minimum, the required water quality volume ($WQ_v$) for its contributing drainage area.

According to the NY DEC, extended detention ponds generally remove 60 to 80% of total phosphorus, 40 to 60% of total nitrogen, 80 to 100% of total suspended solids, 40 to 60% of biological oxygen demand, and 40 to 60% of chemical oxygen demand. Stormwater filters were assumed to have the same removal efficiencies as extended detention ponds. Therefore, as stormwater is collected and concentrated within stormwater management facilities, an increase in the concentration of some pollutants will occur. The table below documents the post-development annual stormwater pollutant exports based on the implementation of the "best management practices" identified in the SWPPP for this project. "Low", "Middle", and "High" removal values estimate a range of pollutant load export. Some pollutants (e.g. road salt) in stormwater runoff cannot be removed by stormwater management facilities.

**Summary of Pre- & Post-Development Annual Stormwater Pollutant Load Exports**

| **Constituent** | **Concentration (lbs/year)** | | | | |
|---|---|---|---|---|---|
| | **Existing Site** | **Developed Pollutant Export w/out Stormwater Treatment** | **Developed Pollutant Export with Stormwater Treatment** | | |
| | | | **Low** | **Middle** | **High** |
| **Total Phosphorus** | 132.1 | 199.2 | 115.4 | 101.5 | 87.5 |
| **Total Nitrogen** | 1,016.2 | 1,532.4 | 1,102.8 | 995.4 | 888.0 |

| | | | | | |
|---|---|---|---|---|---|
| **Total Suspended Solids (TSS)** | 27,691.3 | 41,757.0 | 18,344.7 | 15,418.2 | 12,491.7 |
| **Biological Oxygen Demand (BOD)** | 5,843.1 | 8,811.1 | 6,341.0 | 5,723.5 | 5,106.0 |
| **Chemical Oxygen Demand (COD)** | 22,712.0 | 34,248.4 | 24,647.2 | 22,246.9 | 19,846.7 |

As described in the table, there will be a total Phosphorus reduction of 16.7 to 44.6 lbs/year, a total Nitrogen reduction of 128.2 lbs/year to a gain of 86.6 lbs/year and a Total Suspended Soils reduction of 9,346.6 lbs/year to 15,199.6 lbs/year.

Biological Oxygen Demand ("BOD")) indicates the amount of putrescible organic matter present in water. Therefore, a low BOD is an indicator of good quality water, while a high BOD indicates polluted water. Typically, most pristine rivers have a BOD of less than one milligram per liter (1 mg/l); moderately polluted waters have a BOD of 2-8 mg/l; and untreated sewage is about 200mg/l. The national median concentration of BOD in stormwater is recognized as being 11.5 mg/l. The stormwater management practices that will be constructed, in accordance with the *New York State Stormwater Management Design Manual*, will remove 40% to 60% of the BOD in the stormwater runoff. This will result in a net gain of 497.9 pounds to a reduction of 737.2 pounds of BOD annually, and the BOD of the treated stormwater will range from 3.7 mg/l to 7.9 mg/l.

Chemical Oxygen Demand ("COD") is a measure of the oxygen demand required to oxidize all compounds, both organic and inorganic, in water. The national median concentration of COD in stormwater is recognized as being 44.7 mg/l. The stormwater management practices that will be constructed, in accordance with the *New York State Stormwater Management Design Manual*, will remove 40% to 60% of the COD in the stormwater runoff. This will result in a net gain of 1,935.3 to a reduction of 2,865.3 pounds of COD annually, and the COD of the treated stormwater will range from 14.4 mg/l to 30.7 mg/l.

**Erosion** - The current driveway access to the Miller house crosses wetland/stream R/S; severe erosion is evident along portions of the driveway. An adjacent hillside that slopes down to the same wetland/stream shows signs of erosion. Stream V (channel and banks) just north of Route 44 and also just above its confluence with Amenia/Cascade Brook exhibits severe erosion.

**Encroachment in buffer zones, or insufficient buffers** – For basic water quality and habitat protection, a minimum vegetated 100 feet buffer is recommended. An increase in buffer width may be required depending on value of the resource, topography, intensity of adjacent land use and the purpose of the buffer (e.g. pollutant/sediment removal, temperature regulation, wildlife habitat) is recommended for all water resources. The Modified Project is redevelopment of an existing golf course, and it is recognized that the 100 foot buffer may not be achievable in all areas of the course. Throughout the golf course area, there are places where the vegetated buffer around wetlands, ponds and streams is less than thirty feet.

Specific impacts include grading within 50 feet of Amenia/Cascade Brook. This brook will have less than 100 feet of vegetated riparian buffer in portions of its run through the project site. Six

acres (261,360 sf) of grading is proposed within 150 feet of the brook. Any mitigation, revegetation or enhancements along Amenia/Cascade Brook will also need to be reviewed by DEC. Amenia/ Cascade Brook is in the Town's Stream Corridor Overlay District ("SCO District"). Please also see Section II.H on Land Use and Zoning regarding compliance with the SCO District regulations.

In the Vineyard Cottage and Winery Restaurant areas, where there are steep slopes and headwater streams, development (parking for the Winery Restaurant, access road to the Vineyard Cottages and two residential units), is proposed within 100 feet of the streams R/S and V.

Throughout the golf course area, there are places where the vegetated buffer around wetlands, ponds and streams is less than thirty feet, which is considered for purposes of this report to be the minimum for basic water quality protection on a level, vegetated buffer surface.

**Changes in drainage patterns** - The Modified Project increases impervious surfaces on the site from 14 acres to 35 acres, and will alter the rate and path of stormwater runoff. Much of the water collected in the stormwater management system will be managed via extended detention basins and underground stormwater filters. Water that is collected where it falls (ie on impervious surfaces) and does not sink into the ground is distributed to other portions of the site. Treated wastewater will be cycled back onsite and be used to irrigate the golf course.

**Groundwater quality and recharge** - The Modified Project has the potential to create changes in groundwater quality due to the addition of impervious surfaces, manicured lawns, and water and wastewater systems. Stormwater contaminants in surface waters may infiltrate into groundwater depending on site specific soil conditions. A reduction in groundwater recharge is expected during times of drought. As is documented in the DEIS, during times of drought, water consumption of up to 230 gpm can still be supported by the site:

> *Average aquifer recharge on the site is estimated at approximately 330 gpm. Aquifer recharge may drop during drought years by up to 30%, to approximately 230 gpm. Therefore, based on these findings, the tested wells appear capable of supporting continuous yields of up to 288 gpm with the best well off line. All of this yield can be supported by onsite recharge during normal years and up to 230 gpm can be supported during drought years.* (DEIS Appendix 9.12 - Aquifer Pumping Test Report)

**Changes in water supply to streams/ wetlands** - Although it is not expected that the proposed project would terminate flow in the Amenia/Cascade Brook, periodic reduction in stream flow may affect water temperature and stream biota, and serve to further concentrate the pollutant load entering the stream. Decreases in base flow to Amenia/Cascade Brook may be expected during times of drought, as documented in the DEIS, even though increases in total runoff to the stream may be apparent during times of normal precipitation and storm events.

The potential exists for the dewatering of streams V and R/S due to increased impervious surfaces in the Vineyard Cottage area, and stormwater collection/relocation of runoff to downstream areas.

**Wetland and stream disturbance** – The Applicant proposes the following wetland and stream disturbances:

- Wetlands A and B: are proposed to connect, resulting in disturbance of a total of 0.52± acres of A and 0.87± acres of B.
- Wetland D: filling 0.08± acres and expanding the wetland to a total of 0.67± acres for golf hole 8.
- Wetland G-1: filling 0.02± acres for golf hole 5 with a 187± linear feet of stream extension.
- Wetland H: a stone wall is proposed along the western edge to allow grading for golf hole 2.
- Wetlands K and Z: are proposed to connect, resulting in disturbance of a total of 0.133± acres while expanding a total 0.72±
- Wetland N: filling 0.026± acres and expanding the wetland to a total of 0.59 acres± for stormwater management.
- Wetland O: filling 1306± square feet (.03 acre) for golf hole 10
- Wetland J: filling 6,055± square feet (.03 acre) and reconfiguring the pond to 0.48 acres for golf hole 18, resulting in a net increase of 0.03 acres.
- Wetland I: filling entire wetland area of 2562 square feet (0.06 acre) for golf hole 1.
- Wetland V (stream): Utility installation requiring temporary open trench disturbance of 140 square feet.
- Wetland /stream QQ (stream): Minor direct impacts to 220± linear feet of intermittent stream QQ are proposed for building fill and grading.
- Stream E-1: filling 225 linear feet for golf holes 2 and 3.
- Stream E-2: filling 200 linear feet for golf holes 4 and 6.
- Stream M/P: filling and regrading of 90± linear feet for stormwater management.
- Temporary impacts to Wetland S for utility trench installation, and there may be additional impacts to Wetland S associated with the grading for the improvement of the existing driveway.
- Nine stream and wetland crossings are proposed for roads and cart paths but these will either be spanned or have footings located outside of the limits of wetlands and watercourses.
- Grading within 50 feet of Amenia/Cascade brook for golf course redevelopment.
- Wetland L/LL for enhancement and wetland mitigation within about 2.75 acres, an area that contains existing golf course fairway and 925 linear feet of an old, unpaved maintenance trail.
- Wetland/stream J/JJ for construction of residences and road within 100 feet of the water resources and on steep slopes.

Mitigation:

**Impervious cover/Pollutant Loading** - Impacts will in part be mitigated by the following:

- Erosion control measures will be installed before construction of the Modified Project begins. Stabilized construction entrances, silt fences, sediment traps and water quality basins will be constructed to prevent soil erosion, sedimentation in surface water bodies, and tracking of soil onto adjacent roads. All erosion and sediment control structures will be designed in accordance with the *New York State Standards and Specifications for Erosion and Sediment Control.*
- Construction-phase pollutant sources anticipated at the site include sediment, vehicle fuels and lubricants, chemicals associated with building construction, and building materials. These pollutants can be transported by stormwater without adequate preventative measures. Stormwater pollutant controls utilized during construction will include, but are not limited to, the following:
    - Stabilization of construction entrances to reduce the tracking of sediment onto public roadways and permanent traffic corridors to avoid "routes of convenience" that are potentially more detrimental.
    - Employment of dust control measures including the use of water trucks to reduce dust generated on site.
    - Temporary stockpiling of materials, such as topsoil, in areas away from storm drainage, water bodies and/or courses, and encircled by silt fence barriers to prevent sedimentation.
    - Placement of silt fencing, a geotextile filter fabric, along the perimeter of areas to be disturbed to reduce sediment loss.
    - Temporary seeding and mulching on all disturbed areas, including topsoil stockpiles, where there will not be any further disturbance for longer than 21 days to minimize erosion and sediment loss.
    - Placement of stone inlet protection barriers consisting of concrete blocks surrounded by wire mesh and crushed stone around catch basins to keep sediment from entering the catch basins and storm sewer system.
    - Installation of erosion control blankets, or other approved erosion control practice, on all slopes exceeding 3:1 to provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses associated with high runoff flow velocities associated with steep slopes.
    - Installation of stone check dams within drainage ditches to reduce the velocity of stormwater runoff, to promote settling of sediment, and to reduce sediment transport offsite.
    - Construction of temporary sediment basins to intercept sediment laden runoff and reduce the amount of sediment leaving the disturbed areas and to protect drainage ways, properties, and rights-of-way.
- Soil disturbances will be limited to 5 acres or less at any one time. If more than 5 acres will be disturbed at any one time, permission form the NYSDEC will be required.
- Construction housekeeping practices will be implemented to help maintain stormwater quality. These measures include:

- Material resulting from the clearing and grubbing operation will be stockpiled up-slope from adequate sedimentation controls.
- Areas designated for equipment cleaning, maintenance, and repair will be protected by a temporary perimeter berm.
- Detergents will not be used for large scale washing (i.e., vehicles, buildings, pavement surfaces, etc.).
- A Spill Prevention and Response Plan will be developed for the site detailing the steps that need to be followed in the event of an accidental spill.
- Construction materials shall be stored in a dedicated staging area designed to minimize the impacts of the construction materials on stormwater quality.
- Weekly inspection of all erosion and control measures by a NY DEC qualified inspector.

- Compliance with NY DEC Phase II Stormwater Management regulations.
- Placing substantial parking (for the condominiums) underground. Overall parking needs have been reduced due to reduced program. There are no underground structures solely devoted to parking.
- Using pervious materials on many sidewalks and patios.
- Using pervious materials at the Winery Restaurant parking and draining through a buffer planting area.
- Implementation of the NRMP which includes stormwater controls, Integrated Pest Management, and specific monitoring requirements for surface water and groundwater. The NRMP will include a management plan for alternative road de-icing compounds where practicable.
- The HMP will be implemented as a mitigation measure. The HMP describes a system of vegetated buffers throughout the project site, ranging from very narrow aquatic habitat buffers to larger buffers of 100 feet or more to effectively protect certain water resources, habitats and water quality.
- Biomonitoring will be used to inform mitigation for impacts to stream flow, in-stream biota and water quality. When the data is collected and evaluated, effective mitigation will be developed and achieved during Site Plan review. The following protocol shall be followed:

  Each bioassessment sample will result in a completed field data summaryand report explaining the data. At minimum, all of the information contained in the Sample Report Field Data Summary attached to this Amended Findings Statement as Attachment B shall be provided.

  Samples will be collected at three sites in Amenia/Cascade Brook; these are three out of the four that are described in the FEIS: a. one upstream of the site; b. one below the salt yard; c. one downstream of where the stream exits the site. The fourth site described in the FEIS is not needed.

Reference sampling shall be completed 1) at each of the above described locations as soon as possible so that results can be used to inform the development of the SWPPP; three samples of macroinvertebrates shall be taken from each of the three instream locations (this allows for verification of results); and
2) at each of the above locations during the N.Y. State approved biomonitoring sampling season, between July 1 and September 30. Three samples of macroinvertebrates shall be taken from each of the three instream locations (this allows for verification of results).

Screening sampling shall be completed within two weeks of the date of the in-season (July-Sept.) annually during construction and a minimum of two years post-construction. Sampling will include three macroinvertebrate samples at each of the three instream locations described above. This is the only time of year when the screening sampling will be necessary, aside from the initial reference sampling described above.

Water chemistry sampling alone shall be completed at each of the three sample locations within two weeks of the date of the reference sample described above and during spring runoff. Water chemistry sampling shall be completed annually during construction and a minimum of two years post construction.

The bio-monitoring baseline work was completed in 2009. The golf course was subsequently closed in 2009. Bio-monitoring is no longer necessary due to the closure of the golf course.

- Where possible, stormwater coming from the golf course in certain areas will be directed away from water resources through grading.

**Erosion**

- Impacts to soils and geology will be minimized through erosion and sediment control measures and the establishment of BMPs, as outlined in the *New York State Stormwater Management Design Manual* (2010) and *New York Standards and Specifications for Erosion and Sediment Control* (August 2005). Please see discussion of Mitigation for Water Resources, above, for specific erosion and sediment control measures.
- Restoration and erosion control planting for stream V as described in Figure 3.2-2 of the FEIS.

**Floodplain**

- Floodplain restoration planting as described in Figures 3.2-2 and 3.2-3 in the FEIS.

**Encroachment in buffer zones, or insufficient buffers**

-
- The HMP describes a system of vegetated buffers throughout the project site, ranging from very narrow aquatic habitat buffers to larger buffers of 100 feet or more to effectively protect certain water resources, habitats and water quality.

- Riparian and bank stabilization improvements to Amenia/Cascade Brook are included in the Modified Project plan, along with significant floodplain re-vegetation in this area. The NY DEC will review mitigation activities in close proximity to the stream. This area has not been managed since the Original Findings were adopted, and so the following mitigation measures are no longer required: [TBD].
- Most of the existing golf course provides for no buffers along wetlands or streams; as mitigation, the HMP for the new golf course improves upon the existing condition in terms of water feature improvements, at least some vegetated buffers around most water resources, and the riparian enhancements listed above.

**Changes in Drainage patterns:**

- Compliance with NY DEC Phase II Stormwater Management regulations.
- Treated wastewater will be cycled back onsite and be used to irrigate the golf course.

**Groundwater quality and recharge/water supply to streams/wetlands:**

- The wastewater treatment plant ("WWTP") will be designed to meet NY DEC intermittent stream standards and supplemental bathing beach standards,[4] which adds additional constituents to be reviewed and monitored by the NY DEC and the WWTP operator. Treated wastewater will be cycled back onsite and be used to irrigate the golf course.

**Wetland and stream disturbance:**

- Runoff will be captured and released at discharge rates that are less than under pre-development conditions. The proposed project will comply with applicable wetland permitted regulations required by the NY DEC and the ACOE.
- A joint permit application will be prepared to both the ACOE (for Section 404 permits) and the NY DEC (for Article 24 Freshwater Wetland Permits, and Section 401 Water Quality Certification). Both the ACOE and the NY DEC will review the permit application to ensure that the Modified Project complies with their respective permitting requirements, including the need to avoid and minimize impact to wetlands to the maximum extent practical, and, for the ACOE, to compensate for unavoidable wetland impacts.
- Enhancement of portions of the NY DEC Adjacent Area for Wetland L/LL (AM-15), stream restoration, and pond enhancement. These activities are illustrated on DEIS Figure 5-12, "Stream, Pond & Wetland Enhancement Plan," as modified by FEIS plan 3.2-2.
- The Modified Project will not have any direct impacts to the State-regulated Wetland L/LL (AM-15). Enhancement and wetland mitigation are proposed within the 100 foot regulated adjacent area, approximately 2.75 acres, a majority of which contains existing golf course

[4] See NYSDOH Regulations, Section 6-2.19, "Bathing Beach Design Standards," Item 4.11-1, "Bacteriological Quality," for the purposes of the WWTP design, and Section 6-2.15, "Water Quality Monitoring," Item (c), "Bacteriological Quality," for the purposes of WWTP operation.

fairway and 925 linear feet of an old, unpaved maintenance trail. These activities may include planting of shrub or tree vegetation to enhance the buffer's habitat values.

- Additional stormwater quality control measures will be implemented to reduce potential indirect impacts, including erosion and sediment control measures such as the establishment of permanent vegetation for all areas at final grade. These areas will be seeded and mulched within 14 days after completion of the major construction activity. With the construction and maintenance of the proposed stormwater management facilities, no adverse impacts to adjacent or downstream properties are expected.
- Day-lighting of 100 linear feet of stream M/P through golf course. This day-lighting plan includes vegetated buffers along the new stream channel.
- Nine stream and wetland crossings are proposed for roads and cart paths but these will either be spanned or have footings located outside of the limits of wetlands and watercourses, and will avoid any environmentally sensitive areas. Certain bridges may have wooden piles driven into watercourses.
- NY DEC review and approval of grading plans for all grading within 50 feet of Amenia/Cascade Brook for golf course redevelopment.
- The project site currently has no formal NY DEC Phase 2 Stormwater Management facilities, but it is likely that some of the existing onsite ponds are currently functioning to provide stormwater quality and quantity control. The ponds have limited fringe vegetation and are maintained through mowing and fertilization to the water's edge. The Modified Project proposes to enlarge six man-made ponds (of which, Pond A is identified as isolated and thus is not regulated by the ACOE), in order to develop enhanced edges of these ponds. The enlargement would involve excavation of mowed lawn upland areas around the ponds to create aquatic benches that could then be planted with aquatic vegetation. The Applicant will be coordinating with the ACOE and the NY DEC to determine whether these modified ponds could then be used for either stormwater volume or quality control for the Modified Project.

**Impervious Cover/Pollutant Loading/Drainage Patterns:**

The Modified Project' potential pollutant loading impact on downstream properties will be partially mitigated by compliance with NY DEC Phase II Stormwater Management regulations. The pollutant load that remains after this treatment is still an impact on receiving waters and will require additional mitigation including:

- Provide rain gardens and/or drywells for drainage from the roofs of all single family homes and Vineyard Cottages as practicable, with a technical explanation provided during Site Plan review, if these practices are not used.
- Treat all stormwater generated from the Modified Project and the roadways serving the Modified Project to the East of Hudson standards as shown in Chapter 10 of the *New York State Stormwater Management Design Manual (August 2010).* These are the treatment standards required within the New York City watershed, a phosphorous restricted watershed and

because of the sensitivities of the Amenia/Cascade Brook and the NY DEC Wetland L/LL (AM-15) these standards are deemed appropriate mitigation for the intensity of this development. It is the preference of the Town to utilize a "treatment train" which includes a series of vegetated stepped biofiltration wetlands for the stormwater outflow to pass through prior to entering the receiving waters of Amenia/Cascade Brook and Wetland L/LL (AM-15). These stepped biofiltration wetlands will further reduce the pollutant loads and will reduce the flashiness of stormwater entering the receiving waters. If, at the time of Site Plan review, the Applicant wishes to use an alternative management practice, the Applicant must demonstrate the alternative will achieve a pollutant removal and detention of water that is equal to or greater than the stepped biofiltration wetlands.

- Locating stormwater ponds at least 100 feet from the Amenia/Cascade Brook and Wetland L/LL (AM-15).
- The design will avoid point discharges and will use level spreaders for stormwater outflows into vegetative buffers in stream buffer and wetland buffer areas unless during Site Plan review the Applicant can demonstrate that a level spreader is inappropriate and will result in a greater impact to the environment than a point discharge.
- Do not divert the stormwater from the Vineyard Cottages area to the south of Route 44. Retain the stormwater on the north side of Route 44 to hydrate the streams R/S and V. Use level spreaders to reinfiltrate the water at various locations along the streams.
- Easements to all stormwater treatment facilities shall be granted giving the Town of Amenia a perpetual right of free access to the facilities that runs with the land. These easements, or such other legal instruments granting the Town this same level of perpetual access to the facilities deemed acceptable by the Planning Board during Site Plan review (collectively, the "easements") shall provide this right of access to the Town of Amenia and any authorized representatives it may designate, including but not limited to the Highway Superintendent, the Building Inspector, the Code Enforcement Officer and the Town Engineer. The right of access provided in these easements shall include the right to inspect the facilities, and the right to take any steps deemed necessary by the Town to manage, maintain, or repair the facilities. These easements shall also provide the Town with the right to recover the costs of inspection, maintenance, management and repair as a lien against the property, including adding any unpaid amounts to the tax bill for the property for the following year. These easements shall also require the Town to provide the grantor or its designee with notice of the Town's intent to exercise its right of access, and the opportunity to be present during the Town's exercise of this right of access to the facilities. However, nothing in this notice provision shall be construed as limiting or restricting the Town's right of free access to the facilities. Specifically, this notice provision does not render the Town's right of free access subject to the grantor's availability to be present during the noticed entry on the site for the purposes identified in the easements, nor does this notice provision render the Town's ability to exercise this right of free entry subject to the grantor's consent upon receipt of such notice.
- The SWPPP is written to ensure the long-term viability of the stormwater treatment facilities through a structured maintenance program. Post-construction reporting similar to the current NY DEC standards for MS-4 communities which include forwarding copies of all

inspections and maintenance reports required by the SWPPP during the post-construction phase to the Town of Amenia Engineer for review and concurrence. An escrow fee would be established to for this review work. The Master HOA will be responsible for payment of the escrow fee.

- Limit the use of road salt for deicing, where practicable. Alternatives to be considered include calcium magnesium acetate, potassium acetate, and low-phosphorus liquid deicers. Snow should not be deposited in stormwater ponds, wetlands, or other ponds onsite, as it carries a pollutant load that will accumulate and affect water quality over time. A snow storage plan will be developed during Site Plan review to ensure that snow is not deposited in these water bodies.
- The golf course fairways adjacent to stream V will be graded such that, to the maximum extent practicable, runoff does not directly discharge into the stream. In addition, the regrading of the stream will enlarge the stream corridor area to allow it to convey and hold additional flow. This area is also identified in the NRMP as a "Special Management Zone" as shown in figure 4-1 of the NRMP, which provides for additional protection.

**Erosion**:

- Vineyard Cottages Area. The improvements to the existing driveway, which will become an access road, will be designed to address the current bank erosion. This will need to be designed for protection of the adjacent wetland/ stream system, especially during storm events and will be reviewed by the Town's environmental consultant during Site Plan review.
- Revegetate the adjacent hillside south of the Miller house which slopes down to stream R/S with plants that will stabilize the slope and prevent erosion.
- Stream V (channel and banks) just north of Route 44 exhibits severe erosion. Bank stabilization and revegetation, along with removal of the existing brush and other debris from the banks of the stream is recommended in this area.
- Stream V (south of Route 44). This stream channel is severely eroded just before it enters the Amenia Cascade Brook. While an erosion control plan has been presented in the HMP, this plan will be refined during Site Plan review and preparation of the final SWPPP and which will subject to review and approval by the Planning Board during Site Plan review. The use of check dams is recommended, and details will require review before they are finalized.

**Encroachment in buffer zones, or insufficient buffers**

- In order to minimize disturbance to steep slopes, and to reduce the Modified Project's impacts on water resources and visual resources, the Applicant shall relocate all six (6) single family homes west of the Golf Villas, plus three (3) additional homes located in the Estate Home neighborhood, to the area southwest of golf hole #13, and eliminate the connector road proposed to service the area west of the Golf Villas. . This eliminates any development west of the Golf Villas in its entirety, including the connector road that was proposed to be constructed adjacent to Stream J.
- Require a 150 foot vegetated buffer along headwater streams R/S and V unless the Applicant can demonstrate during Site Plan review that a buffer of less than 150 feet in limited areas is

needed. This 150 foot buffer does not apply to the proposed improvement of the existing Miller driveway, which will become an access road into the Winery Restaurant and Vineyard Cottages area. Permeable surfaces will used as practicable in this area. It is noted that several units in the current plan are inside the 150' buffer.

**Groundwater quality and recharge**:

- Require implementation of low flow standards and other water conservation measures where practicable during Site Plan review as mitigation for potential reduction in groundwater recharge during times of drought.

**Changes in water supply to streams/ wetlands:**

- Mitigate dewatering of streams V and R/S by 150 foot buffers
- Provide rain gardens and/or drywells for drainage from the roofs of all single family homes and the Vineyard Cottages, with a site-specific technical explanations provided during Site Plan review if these practices cannot be used at certain locations
- Continue to explore further opportunities to reduce impervious surfaces and to use pervious surfaces during Site Plan review.
- The master SWPPP provides a summary of pre- and post-development discharge rates in cubic feet per second (cfs), and demonstrates that the overall peak rate of runoff from the developed site will be less than or equal to that of existing conditions. As a result, the Modified Project will not adversely affect adjacent or downstream properties or receiving watercourses in terms of increased flows. However, according to the SWPPP, the Modified Project may cause decreased flows to some surface water resources. During the Site Plan review, the final SWPPP will be evaluated to ensure decreased flows will not occur.

**Wetlands:**

- Wetland S: The Modified Project will cause temporary impacts to Wetland S for utility trench installation, and there may be additional impacts to Wetland S associated with the grading for the improvement of the existing driveway. Restoration of this wetland should include removing the fill from the existing wetland just south of the existing driveway and restoring it to natural function. Fill removal is subject to utility company approval as it may relate to active utility poles located in this area.
- Wetland U (vernal pool) – Establish and maintain a naturally vegetated area of 750 feet surrounding the pool, with disturbance in no more than 25% of the zone 100-750 feet from the vernal pool.

## C. VEGETATION

Existing Conditions:

Based on the results of field investigations, there are ten vegetative communities on the 681±-acre site. These include:

- **Successional southern hardwood forest/oak hickory forest** - This community is established in the northern and central portions of the site and occupies approximately 15% of the overall site area. Several large trees (primarily oaks) with dbh as great as 50 inches were observed in the south-central portion of the site, north of Wetland L/LL. A cluster of shagbark hickories (*Carya ovata*), a common roost tree for various bat species, were noted on the eastern edge of the golf course above the southwest bank sloping to Wetland L/LL.
- **Beech-maple mesic forest** - This community is a hardwood forest with sugar maple and beech codominant, which occurs on the western hillside of project site, occupies approximately 30% of the total area of the site. This forest community dominates the western portion of the property along the east facing slopes, with a small patch located to the north of the existing clubhouse.
- **Chestnut oak forest** - This community is a hardwood forest that is located on the top of the ridge in the western portion of the project site. It occupies approximately 10% of the site.
- **Shallow emergent marsh** - This community is located in several small areas within the golf course in the south-central portion of the property and within parts of Wetland L/LL on the eastern portion of the site. This community type occupies less than 5% of the project site.
- **Red maple swamp** - This community is located in several areas within the property including along Amenia/Cascade Brook, and in the northern and central portions of the property associated with several intermittent streams. It occupies less than 5% of the site.
- **Shrub swamp** - It is located along the western edge of Wetland L on the eastern portion of the site and occupies less than 5% of the site.
- **Highbush blueberry bog thicket** - The community is located near the top of the ridge in the west-central portion of the property. It occupies less than 5% of the project site.
- **Common reed/purple loosestrife marsh** - This community occupies much of Wetland L/LL as well as a wetland swale located in the northeastern portion of the property. It occupies less than 5% of the project site.
- **Successional old field** - It is located in the north and northwestern sections of the property and in the very southern portion of the site. This community occupies approximately 10% of the project site.
- **Mowed lawn** - The mowed community is the golf course lawn located in the central and northeastern portions of the property, which occupies approximately 40% of the project site.

A botanical survey focused on 38 $\pm$ acres at the base of the western hillside in areas proposed for development identified 127 plants. Most of the plants identified were species commonly found within the northeastern US. No endangered, threatened or rare species were identified during this survey. Two species identified in the Southern Successional Hardwood Forest, bloodroot (*Sanguinaria canadensis*) and red trillium (*Trillium erectum*), are listed on the NY DEC Protected Plant List as species of exploitably vulnerable native plants. This means that these species are frequently collected from the wild by persons seeking nursery stock for wild flower gardens.

The east-facing slope of the ridge is forested and contains a number of calcareous rock outcrops. Calcareous species have been identified growing on the toe of the forested slope. One of the plants observed in this area of Southern Successional Hardwood Forest include walking fern (*Asplenium rhizophyllum*). Walking fern is sparse within this region of New York State and is listed, like most of the ferns of New York, as exploitably vulnerable.

Correspondence from the NY DEC dated May 9, 2005 indicated that Hill's pondweed (*Potamogeton hillii*), a State-listed threatened species, is documented within NY DEC Wetland AM-15), a portion of which is located within the project site and it is assumed that conditions within the wetland have not changed and that the plant still exists in this area. NY DEC also reports the known presence of small populations of the plant located in the pools surrounding roadside culverts on either side of a roadway bordering the project site. Onsite field work did not coincide with the timing of Hill's pondweed flowering and fruit-bearing periods, however based on the NY DEC letter it is assumed that this station for Hill's pondweed is still extant. Hill's pondweed is found in the clear, cold water of small, slow flowing streams, beaver ponds, marshes, road culverts and man-made ponds. Activities such as drainage, pollution, water diversions and increased water temperature are the main factors affecting Hill's pondweed (Haynes 1974). Hill's pondweed may rely on maintenance of high water quality, cool water temperatures and a natural habitat, although it has been known to persist in the vicinity of developments (Crispin and Penskar, 1990).

A forested area near the southeastern end of Wetland L/LL containing significant grove of mature shag bark hickories exhibits physical features (e.g., exfoliating bark and/or broken limbs) that could provide the federally endangered Indiana bat with summer roosting habitat.

There is a vernal pool (Wetland U) on top of the ridge in the western portion of the project site.

Impacts:

Impacts to vegetation include the clearing and/or disturbance of approximately 253.8± acres of the project site, including approximately 151.3± acres associated with the proposed golf course improvements (all but 0.25 acres of which has been previously graded and disturbed). In total, approximately 38 acres of previously undisturbed land will be affected for construction of the Modified Project, including 22 acres at the base of the forested hillside in the western portion of the project site. Most of the disturbance will be associated with the construction of roads, stormwater control structures, grading, and the excavation of foundations.

Development is not proposed on the forested ridge though there are some impacts associated with forest clearing for proposed single family home sites on the steep slopes below the ridge. While calcareous species have been identified growing on the toe of the forested slope, the limited nature of the intensive botanical survey (38 acres) focused on the portion of the slope slated for development make it impossible to assess whether these calcareous species will be impacted. It is reasonable to assume however that these species are more widespread on the site than the Applicant's data indicate.

Although the Modified Project will result in disturbance and loss of vegetation, the large contiguous open space areas preserved on the western ridgeline of the site will preserve vegetative communities residing in those areas.

Mitigation:

- The preservation of 80% of the site as open space including the 230 acre hillside on the west side of the golf course.
- The Modified Project will also utilize clearing and grading limits to ensure the vegetation is only removed in areas where it is necessary.
- Native plant species will be used in the planting palettes for vegetative buffers, habitat restoration areas, and out-of-play areas within the golf course in accordance with the HMP. Planting and early maintenance schedules will be followed so as to minimize the colonization of disturbed areas by invasive species. All mitigation plantings in buffer areas and stormwater retention structures will be overseen by the Town's environmental consultant.
- Vegetation removal will be mitigated to some extent with landscaping including around the proposed Clubhouse, homes, roadways, parking areas and site amenities. Native plant species will be used as much as possible in accordance with the NRMP.
- The implementation of the comprehensive HMP for the site.
- The implementation of the NRMP, which provides for the management of golf course and community lawns of the site.
- The implementation of erosion and sediment controls until disturbed areas have been developed or soils have been stabilized through vegetative plantings.
- The preservation of the cluster of shagbark hickories located along the edge of the golf course above the southwest bank of Wetland L/L.
- Maintain the island forest habitats on the south end of the site to allow some (particularly for birds) habitat connectivity between Wetland L/LL and the western slopes.
- In areas of steep slopes, cutting of existing vegetation will be minimized by field surveying each building site including trees 8" caliper and larger prior to site plan submission and custom designing each building for the site.
- Maintain a minimum 500-foot buffer from Wetland U, a vernal pool, and the proposed development.

Where slopes are cut to 2:1 or greater, erosion sediment control blankets or other approved erosion control practices will be used to stabilize the slope and the areas will be further seeded and planted with vegetation to match the existing conditions.Hill's pondweed – Utilize East of Hudson stormwater design for water quality.

- Use of native plantings –
    - Native plants of local stock (Harlem Valley, southern New England origin) will be used for all natural plantings associated with the HMP. If the Applicant is unable to

achieve this habitat goal, the Applicant must demonstrate during Site Plan review why the use of only native plants is not possible.

- Single family homesites that abut natural areas at the toe of the forested slope on the west side of the golf course will have the limits of the yards demarcated. The means and methods of this demarcation will be reviewed and approved by the Planning Board during Site Plan review. In the yards, both native and non-native plants will be permitted. However ***all*** homeowners are restricted from using plants or groups of plants considered to be invasive or potentially invasive. The list of invasive or potentially invasive plants will be finalized by the Town's environmental consultant during Site Plan review.
- There will be clear language excluding any expansion into or use of the areas beyond the demarcated yards for any structures, play sets, gardens, shed, wood piles, vehicles etc. and that these areas will not be used for the disposal of yard or other waste. No firewood etc. can be removed from the protected area and deadfall shall be left *in situ*. Homeowners will be made aware of these restrictions and the reasons for their imposition at time of purchase and at closing.
- For vegetative screening related to visual resources (See also Section II.F. Visual Resources, of this Amended Findings Statement), a landscape planting plan will be evaluated during Site Plan review. This plan will give preference to trees indigenous to the Harlem Valley. For example, the Eastern Red Cedar is indigenous to old fields in the Harlem Valley and therefore may be very appropriate for the site.

- Steep Slopes – relocate the single family homes west of the Golf Villas, and reconfigure select single family homes in the Estate Homes neighborhood, to the southern end as shown in the conceptual plan prepared at the Planning Board's request. Continue to explore further opportunities to further minimize intrusion into forested steep slopes to the maximum extent practicable during Site Plan review.
- Wetland U (vernal pool) – Establish and maintain a naturally vegetated area of 750 feet surrounding the pool needs to be considered, with disturbance in no more than 25% of the zone 100-750 feet from the vernal pool.
- To verify if the golf course and community lawns are managed as described in the NRMP, at least yearly the Town of Amenia must receive an annual report on use of pesticides, fertilizers, irrigation, water quality monitoring and other management methods agreed to in the NRMP.
- The Applicant will use an organic approach (i.e.-use of only non-synthetic, naturally occurring products and practices) to non-golf turf areas. The Applicant will be allowed to use pesticides identified in the NRMP only when necessary. The annual report noted above will detail specific pesticide/herbicide/fungicide use, frequency and location when applied to non-golf turf areas.
- If NRMP needs to be modified, the Town of Amenia will retain the right to approve any recommended changes from the Applicant.

- Obtain and maintain Audubon International Signature Program (or equivalent) status for the golf course to protect the environment on and off the site.

## D. WILDLIFE

Existing Conditions:

The Silo Ridge site contains a rich diversity of habitats and a corresponding diversity of wildlife. Given the rural nature of the overall landscape, the Silo Ridge site is part of a larger habitat block that extends north and south along the ridge and downstream to the wetlands that lie between Route 22 and the Hamlet of Wassaic. Wildlife moves throughout this landscape, including the adjacent 2,400 acre Tamarack Preserve.

Correspondence from the US Fish and Wildlife Service ("USFWS") dated May 17, 2005 indicates that the Indiana bat (*Myotis sodalis*), a federally endangered species, has a reported roosting location approximately 15 miles from the project site and a hibernaculum approximately 30 miles from the project site. The USFWS also indicated that the bog turtle (*Clemmys muhlenbergii*), a federally threatened species, is known to occur within five miles of the project site. In their response letter dated May 9, 2005, the NY DEC indicated that there are records of known occurrences of the bog turtle, a State endangered species, within one mile of the project site and the timber rattle snake (*Crotalus horridus*), a State threatened species, within 1.5 miles of the project site.

*Amphibian and reptiles*

Detailed amphibian and reptile surveys conducted in 2007 augmented incidental data previously collected as part of the wetland delineation and site planning process in 2005 and 2006. A bog turtle survey was conducted by a surveyor recognized by the NY DEC. Both Phase I and II surveys for the Federally-threatened and State-endangered bog turtle were conducted in accordance with the USFWS Recovery Plan. The study area consisted of approximately 15 acres of the north/northwestern portions of Wetland L/LL (NY DEC wetland AM-15). A variety of widespread amphibians and reptile were documented on the site. The results of the Phase I Survey indicated that an approximately 3-acre crescent-shaped area of suitable bog turtle habitat was located along the northern and western edges of Wetland L/LL. This area consisted of areas of mucky soils, spring-fed rivulets, and open emergent/scrub shrub vegetation. Several calcareous wetlands species such as shrubby cinquefoil (*Potentilla fruiticosa*) and stonewort (*Chara spp.*) were observed within this area; however, there were no other strong calciphites present.

Mr. Alvin Breisch of the NY DEC Endangered Species Unit and Dr. Michael Klemens, consultant for the Town of Amenia, were consulted to verify the results of the Phase I Survey and it was determined that a Phase II Survey would be necessary. The vegetation outside of the 3-acre crescent-shaped area consists mostly of common reed and purple loosestrife. In addition, the water levels outside of the designated survey area increase significantly. Therefore, these areas were not considered to be suitable bog turtle habitat and they were not searched during the Phase II survey. No bog turtles were observed within the designated survey area during the Phase II survey. There are no records of bog turtles on the site or in the immediate surrounding area. The dominance of

invasive species and highly degraded conditions in the surrounding area makes it highly unlikely that bog turtles are present at the site.

Searches along the top of the ridge on the western side of the site concluded that the ridge line contains very little basking habitat for rattlesnakes, and that rattlesnakes most likely do not exist on the ridge.

Spotted turtles (*Clemmys guttata*), another NY DEC species of special concern, could occupy wetlands found on top of the ridge, particularly within Wetland U, which is a blueberry bog thicket and a vernal pool.

The following regionally rare and/or State listed species were documented to have occurred or were presently occurring on site: Northern Dusky Salamander (*Desmognathus fuscus*) in the headwaters of stream J, Wood Turtle (C*lemmys insculpta*) in Amenia/Cascade Brook and Black Racer egg shells (*Coluber constrictor*) were found along an old earthen berm near the southwestern edge of Wetland L/LL.

*Mammals*

A total of 20 species of mammals were either observed or recognized by their sign (e.g. scat, carcass, tracks) on or within the immediate vicinity of the site. Some of these species include white tailed deer (*Odocoileus virginiana*), black bear (*Ursus americanus*), and eastern cottontail (*Sylvilagus floridanus*). No endangered, threatened, or special concern mammalian species were observed within the project site. Investigation of potential critical habitat for endangered species revealed that there is a cluster of shagbark hickories in the southeastern portion of the site near Wetland L/LL, which could provide suitable summer roosting habitat for the Indiana bat. Forested areas on top of the ridge may also support suitable Indiana bat habitat. Mines or caves that could serve as hibernacula were not located within the project site.

*Birds*

A breeding bird inventory was conducted on the main portion of the project site over a period of four days in June 2007. The purpose of the inventory was to detect and identify breeding or potentially breeding bird species on the existing golf course and areas of the site that are proposed to be impacted by construction and to determine if any endangered, threatened, and/or special concern species or National Audubon Society Watchlist 2002 species were using the site. This inventory augmented the incidental bird observations previously documented between April 2005 and May 2007.

Suitable habitat for the state listed Peregrine Falcon (*Falco peregrinus*) was found on-site.

During the survey, 79 species of birds were detected and identified at the site (29 during initial site visits). These species were detected within several different habitats, including mowed lawns, open water, wetlands, secondary forest, shrublands, riparian corridors, old fields, and transition zones between these habitats. Most of the species are common; however, six species listed on the Audubon Watch List 2002 (National Audubon Society 2007) were recorded at the site. These Watch List species include:

- American Woodcock (*Scolopax minor*)
- Blue-winged Warbler (*Vermivora pinus*)
- Prairie Warbler (*Dendroica discolor*)
- Willow Flycatcher (*Empidonax traillii*)
- Wood Thrush (*Hylocichla mustelina*)
- Worm-eating Warbler (*Helmitheros vermivorus*)

Cooper's Hawk (*Accipiter cooperii*) and Red-shouldered Hawk (*Buteo lineatus*) were observed onsite during the preliminary ecological assessments conducted in 2005/2006. These are listed as special concern species in New York. As these species were not detected during this breeding bird survey, they were most likely transient or foraging.

The additional following species of conservation concern were documented in the 2007 breeding bird survey:

- Wood Thrush (*Hylocichla mustelina*)
- Virginia Rail (*Rallus limicola*)
- American Woodcock (*Scolopax minor*)
- Purple finch (*Carpodacus purpureus*)
- Chimney swift (*Chaetura pelagica*)
- Eastern wood-peewee (*Contopus virens*)
- Baltimore oriole (*Icterus galbula*)
- Yellow-bellied sapsucker (*Sphyrapicus varius*)
- Scarlet tanager (*Piranga olivacea*)
- Brown thrasher (*Toxostoma rufum*)

Impacts:

The Modified Project will result in permanent changes to onsite habitats that may affect the wildlife community. Certain changes to the project site, however, may be temporary in nature. Disturbance associated with the construction of roads, driveways, utilities, residences, Clubhouse facilities and golf course improvements will result in habitat loss and alteration. This will result in the death or emigration of individual animals. While certain species may be mobile and adaptable enough to re-colonize the site certain species may disappear from portions of the site.

The developed areas of the project site will favor subsidized species, i.e. those species sufficiently adaptable to inhabit human dominated landscapes. These species are generally not considered to be of conservation concern and in fact may have detrimental effects on more sensitive species by predation or displacement.

Impacts to wildlife species on the property are expected to include a reduction of the existing open agricultural fields, open grassland, shrub-scrub communities, forested slopes and alteration of existing wildlife corridors.

Turtle/snake nesting areas to the north of Wetland L/LL will be affected by development. Proposed disturbances including earth moving and construction will impact terrestrial reptile and amphibian species. However, based upon the survey findings, the species that would be lost are common species throughout New York and the loss of these species would not pose any significant impact to the overall species population in the area.

Mitigation:

- Vegetation removal in the proposed development area will be partially mitigated by replacement plantings using native species where possible.
- The Modified Project will implement the recommendations of the HMP and the NRMP.
- Buildings and the development have been removed from areas within 100 feet of Wetland J/JJ to protect the habitat of the dusky salamander. Limited development including road, bridge, utility crossings and associated grading is proposed within 50 feet of the remainder of Wetland J/JJ.
- Buildings and development in the headwater areas of stream M/P have been pulled away from this area to reduce impacts in this location.
- The Modified Project will restore severely eroded stream channels and culverted drainages in three locations; stream bed restoration, stream bank restoration and daylighting currently culverted drainages, except that the stream in old golf fairway 2 will remain piped.
- Habitats will be enhanced with six different planting palettes for different locations throughout the site. Five palettes of native species are being used in aquatic and upland habitat enhancement. A sixth palette is to be used to establish vegetative cover in stormwater management basin wet pools and attenuation basins.
- The Modified Project implements conservation buffers 100 feet wide, water quality buffers 50 feet wide (of terrestrial vegetation) around critical habitat and riparian buffers, respectively.
- Mitigation structures are being employed, including bottomless box culverts, golf course foot bridges, and wildlife tunnels to ensure habitat connectivity. In some instances, the Applicant may seek Planning Board approval to use an oversized bottomless arched culvert based on engineering and cost considerations. The Planning Board may approve such a request if the Planning Board's environmental consultant determines that the use of the oversized bottomless arched culvert is appropriate under the circumstances.
- Terrestrial habitat enhancements are proposed to provide plant communities with additional refuge, forage and, in some cases, breeding habitat for resident birds, mammals and herpeto-fauna.
- Aquatic habitat enhancements are proposed to provide additional functional value for aquatic and semi-aquatic wildlife species.

- Sensitive and productive habitats will be protected during construction and operation activities at the site.
- The HMP includes two significant aquatic habitat restoration projects. The first project is a streambed restoration/streambed stabilization and erosion control project on a tributary to Amenia/Cascade Brook. The second project includes a 1.5 acre floodplain restoration in the Amenia/Cascade Brook floodplain. It is noted however that, that the previously proposed golf fairway directly adjacent to the Amenia/Cascade Brook has been eliminated.
- Preserve the gravelly/sandy bank along the southwest edge of Wetland L/LL, as this area serves as a nesting area for turtle and snake species.
- To facilitate wetland and wildlife habitat preservation, open space including buffer areas surrounding wetlands will be maintained to the extent practical.
- The Modified Project will preserve approximately 540.5 acres of the site as open space, including the preservation of a contiguous 230-acre natural area adjacent to and ecologically connected with the 800 acre Tamarack Preserve.
- The layout provides for a variety of interconnected spaces throughout the site will allow some wildlife movement.
- Enhancement and wetland mitigation around Wetland L/LL is proposed consisting of approximately 2.75 acres, a majority of which contains existing golf course fairway and 925 LF of an old, unpaved maintenance trail. These activities may include planting of shrub or tree vegetation to enhance the buffer's habitat values.
- Additional habitat protection measures, including provision of a 500-foot minimum buffer to the vernal pool (Wetland U).
- The Modified Project will follow the NRMP, which includes minimizing the removal of native vegetation; saving native plants that must be removed for later replanting; and revegetating with native plantings wherever possible.
- Mitigating measures to help reduce excess nutrients and pollutants into surface water bodies include BMPs, Integrated Pest Management, and erosion control measures.
- The Modified Project will utilize onsite stormwater management practices in compliance with NY DEC Phase II Stormwater Management regulations.
- Revegetation of the Amenia/Cascade Brook floodplain will benefit wood turtles if they are still extant. This area has not been managed since 2009 and has gone natural.
- The area designated adjacent to Wetland AM-15 as enhanced turtle and snake nesting area has minimal value as mitigation but should be preserved in a natural state.
- Require a 150 foot vegetated buffer along headwater streams R/S and V unless the Applicant can demonstrate during Site Plan review that a buffer of less than 150 feet in limited areas is needed. This 150 foot buffer does not apply to the proposed improvement of the existing Miller driveway, which will become an access road into the Winery Restaurant and Vineyard Cottages area. Permeable surfaces will be used as practicable in this area. It is noted that several units in the current plan are inside the 150' buffer.

- The Applicant has provided a conceptual site plan for the Vineyard Cottages area which appears to show a 100-150 foot buffer along streams R/S and V. Design details of this submission will be examined during Site Plan review. For aquatic species, the maintenance of a 150 foot buffer for water volume/quality purposes in these areas of steep slopes will help to ensure species viability.
- In addition, the protection of water quality which in turn impacts suitable for wildlife in Wetland L/LL and the Amenia/Cascade Brook is dependent upon stormwater entering these wetlands and watercourses being treated to the East of Hudson standards.
- Maintenance of a naturally vegetated area of 750 feet surrounding the pool (Wetland U). No more than 25% of the zone 100-750 feet from the vernal pool should be disturbed if the vernal is to remain a viable habitat (Calhoun and Klemens 2002).
- Implement a solid waste management plan that addresses the accessibility of waste and refuse on the site from subsidized species (raccoons, skunks).

## E. CULTURAL RESOURCES

Existing Conditions:

A Phase IA and IB Archaeological Survey of the site were conducted to identify any significant historical or archaeological sites within the Area of Potential Effect ("APE"). The Phase 1A survey identified a total of eight recorded archaeological sites within a two-mile radius of the project site. The review also identified the presence of four buildings on the National Register of Historic Places in the project vicinity and that the property was home to two iron mines in the mid- to late nineteenth Century: the "Squabble Hole," operated by the Peekskill Iron Company, and Wheelers Ore Bed.

A Phase IB subsurface investigation was performed and identified eight historic charcoal production features and 149 historic/modern artifacts were uncovered in two separate locations. Temporary Site 3662-01 consists of eight historic cultural features, which are interpreted as historic-era charcoal manufacturing areas referred to as charcoal pits, hearths, circles, or kilns. Temporary Site 3662-02 revealed a concentration of historic/modern artifacts, including creamware, pearlware, and oriental porcelain, as well as broad/crown glass, machine-cut nail, redware, and brick.

Based on the conclusions of the Phase 1 studies and a recommendation from the New York State Office of Parks, Recreation and Historic Preservation ("OPRHP"), a Phase II survey was conducted on Temporary Site 3662-01. The test units produced no artifacts and it was concluded that 3662-10 is not eligible for listing on the National Register of Historic Places and no further work is warranted. For Temporary Site 3662-02, the project was redesigned relocate the wastewater treatment plant to avoid all impacts to this area and as such, a Phase II investigation was not necessary of this location.

Impacts:

The location of wastewater treatment plant to north of Route 44, lies within portions of the site which were not evaluated during the initial Phase I study and additional archaeological surveys were conducted. This work consisted of the excavation of 24 shovel tests which failed to produce any prehistoric or historic artifacts. Additionally, in May of 2007, three additional shovel tests were performed in the area of the maintenance building. No cultural deposits were encountered.

The Applicant reviewed an aerial photograph from 1955 to determine whether the existing ponds on the site existed prior to the construction of the golf course (see Figure 3.5-1). It appears from the photo that the irrigation pond and the "Island Green" pond were both present then and could conceivably be former iron ore pits. The Applicant is proposing some disturbance to the Island Green pond and the irrigation pond. The Island Green pond was modified from its original shape over the years and is fairly shallow. OPRHP has since confirmed the Island Green pond and irrigation pond are not of concern.

Mitigation:

OPRHP also recommends expanding the site boundary of the West Lake Amenia historic site 82 to include all positive shovel test pits and to prepare an avoidance plan for the site. The site boundary will be revised as requested and the avoidance plan will be developed and coordinated with the Planning Board and OPRHP during Site Plan review. The boundaries will be included on all construction drawings to ensure that the site is avoided during construction.

## F. VISUAL RESOURCES

Existing Conditions:

The project site is characterized by steeply sloping, wooded hillsides to the north, south, and west which surround an open valley floor with rolling hills. There are significant elevation differences on the site; the northern hillside rises 300± feet above the valley and the western hillsides rise more than 700 feet above the valley floor. The northern rise is known as Delavergne Hill, which Route 44 winds down dividing the most northern part of the site from the larger southern portion.

The central portion of the site consists of a currently closed golf course. The land here at the bottom of the valley is generally the lowest and flattest portions of the site. The golf course includes several buildings including a 25,000 square foot clubhouse which has been closed since 2009.

Adjacent land uses include wooded areas of Tamarack Preserve to the west; open fields and wooded areas to the south; agricultural fields, horse paddocks, and sand and gravel pits to the east. Single-family homes dot the landscape, which increase in density as they reach the Hamlet of Amenia to the northeast.

The wooded hills to the east and west define the backdrop of views to and from project site. Views from Route 44 as it winds down Delavergne Hill are expansive due to its elevation over the valley and the relative lack of trees and other obstructions. Views to and from Delavergne Hill are a notable resource of local concern, and have been so identified in the Town's Comprehensive Plan and Zoning Law, particularly in the RDO District regulations. The fields that characterize views

from the Hill are defined by hedgerows which break up larger fields and help to create a landscape that is varied in color, which enhances its visual interest.

Impacts:

The Traditional Neighborhood Alternative in the DEIS plan introduced a composition of mostly low architectural elements onto various areas of the project site. High density mixed-use development was proposed for the lowest areas of the site on the valley floor, near the existing clubhouse. Lower density single-family homes were proposed for hillsides to the west of the valley. A restaurant was proposed at the top of Delavergne Hill with medium density residential on the down-slope from Delavergne Hill, north of Route 44.

The Traditional Neighborhood Alternative plan introduced significant visual impacts to many of the visual resources analyzed. The Winery Restaurant occupies a prominent location at the top of Delavergne Hill largely unscreened by vegetation. Two-family medium density homes on Delavergne Hill to the east of the Winery Restaurant were, in part, located in the 100 foot buffer from Route 44 required by SPO District regulations, and were largely unscreened. Views to and from Delavergne Hill are notable not only for their expansiveness but also due to their quality in capturing the pastoral, working landscapes that characterize much of the land use in the town.

The houses proposed for the western hillsides in the Traditional Neighborhood Alternative plan also introduced a significant visual impact. Visual simulations from viewpoints to the east showed these houses as a ring of development cut into the hillsides over the high density development on the valley floor.

The central portion of the development was proposed around a new Village Green, and included the tallest buildings and the highest density development. Generally, this portion of the development had the least visual impact on visual resources analyzed. The lack of impact, despite its height and density is largely due its location on the valley floor and sensitive siting of the tallest buildings behind vegetated ridges, which meant that views to the development were partial, transitory, or screened altogether. Further, the design of this area also follows traditional neighborhood design principles, which are similar to the higher density development patterns that exist in the region's existing hamlets, especially Amenia just to the northeast of the site. Even here, however, lack of appropriate screening and camouflage mitigation measures created significant visual impacts from Delavergne Hill (DEIS Viewpoint 2), which transformed the view into an urban landscape significantly impairing its quality.

Mitigation:

Mitigation measures have been incorporated into the proposed MDP. These mitigation measures generally fall into the following categories: relocation, camouflage, and screening, which are mitigation measures defined in the NY DEC publication *Assessing and Mitigating Visual Impacts (2000),* lighting, and other plan modifications. The impacts of the Modified Project on Delavergne Hill are offset by the creation of a new scenic Artisan's Park Overlook at the Winery Restaurant, which will be open to the public.

**Relocation** - The portion of the Modified Project proposed for Delavergne Hill was redesigned specifically to reduce its visual impacts. First, the Winery Restaurant building was relocated 145 feet further north from the location proposed in the DEIS, bringing the building approximately 530 feet back from the Route 44 Hairpin Turn. The DEIS location of the Winery Restaurant building was prominent in viewpoints both to and from Delavergne Hill as it was located within the Hairpin Turn. By relocating it to the north, it is in a less prominent location and does not materially obstruct views from Delavergne Hill overlooking the Harlem Valley. However, the relocation of the Winery Restaurant does not fully mitigate the visual impact either from or to Delavergne Hill.

The plan for medium density homes proposed just east of the Winery Restaurant was changed so that they were pulled back 100 feet from Route 44, thereby bringing them into compliance with the 100 foot buffer required by SPO District regulations. The program for these units was also changed so that they are no longer proposed as two-family units stacked townhomes over flats, but as single-family detached units (now known as Vineyard Cottages), reducing the unit count in the area by 19. This change also reduced the building massing of this area.

Four (4) single family homes in what was known as "Block H" were moved to the south end of the site. These homes are now less visible than shown in Viewpoint 2 in the DEIS. All buildings west of Stream J have been eliminated, and the residences have been relocated to the Estate Homes neighborhood.

**Camouflage** – Most of the visual simulations produced for the FEIS demonstrate exceptional camouflaging of visible portions of buildings. A relatively uniform tan was used to represent the weathered cedar shingle identified as the cladding for roofs and siding. This color blends into the hillsides and screening vegetation proposed and is shown in the visual simulations to provide excellent camouflage. More varied colors--including white, cream and tans along with dusty shades of blue, green and orange—are proposed in the higher density portion of the Modified Project the Village Green and South Lawn neighborhoods). The visual simulations, however, limited building colors in this area to shades of tan and gray. Nevertheless, this area is so well screened that only a small portion of this portion of the development will be seen (see **Screening**, below). Confirmatory Visual Simulations for the Modified Project will be submitted to the Planning Board as part of Site Plan review and will include the anticipated building coloring.

**Screening** - According to the NY DEC policy document *Assessing and Mitigating Visual Impacts*, which appears in Section 6 of Appendix G of the FEIS, and for the purposes of this Amended Findings Statement, screens are:

> "objects that conceal other objects from view. They may be constructed of soil, rocks, bricks or almost anything opaque. Vegetation can, despite its visual porosity, function as a screen when a sufficient mass is employed. Screens may be natural, e.g. vegetation or artificial, e.g. fences or walls. . . . In natural settings it is generally better to employ natural materials . . . "

When a screen obstructs the view of an object, it is said to be screening that object. The rolling topography of the site and a design which develops lowest areas of the site, allows some of the development to be screened from some viewpoints by natural rises, for instance. .

Beyond the sensitive use of natural topography to screen buildings, the Applicant is committed to exceptional vegetative screening as a mitigation measure. From several viewpoints buildings that are clearly visible in unmitigated visual simulations are completely or nearly completely screened by interceding vegetation. There also appears to be an interaction between effective camouflage and exceptional screening, which in combination make these two mitigation measures more effective than if they were undertaken independently.

Under the proposed MDP, only portions of the Clubhouse (Viewpoint 2), the Winery Restaurant (Viewpoint 4), and the Vineyard Cottages (Viewpoint 5, 6 and 7) are materially visible. In the other viewpoints analyzed exceptional screening, camouflage or their effects in combination show that buildings will either be completely screened or only small portions of buildings will be visible, which compares favorably to the DEIS visual simulations which showed many buildings visible in most viewpoints analyzed. The Planning Board also notes that the hotel building has been eliminated, and the heights of the condominium buildings have been reduced.

Regardless of building visibility, it is possible that a project can create adverse impacts on visual resources if the mitigation measures themselves create impacts by closing what was once an expansive view. The visual simulations provided in the FEIS do not identify the loss or closing off of any existing expansive views. At the Planning Board meeting on November 7, 2013, the Planning Board agreed that an equestrian fence with a low adjacent hedge could be utilized as screening without having an impact on views from the Hairpin Turn. The Applicant has included this approach in the landscape plan of the proposed MDP. As part of the Confirmatory Visual Simulations to be submitted during Site Plan review (see below), the Applicant must confirm that the screening vegetation does not materially alter the area's expansive views any more than is required to screen the development.

The Planning Board approved an equestrian fence and hedge like vegetation on the property line at the Hairpin Turn which in effect will provide an ideal screen that is aesthetically pleasing and will not over time impede the long term distant ridge and valley viewshed.

**Lighting** – A detailed lighting plan that specifies lighting location, intensity and trespass will be prepared during Site Plan review. The Applicant commits to the following nighttime lighting limits that will minimize light pollution (skyglow, light trespass, and glare):

<u>Up-light</u>

- No more than 2% of the light (measured in lumens) emitted from the street lighting, area lighting (parking lots, storage areas, utilitarian building-mounted lighting, etc.) and path lighting will be directed upward. All of these fixtures will have "cutoff" optical systems that direct almost all light downward.
- Any externally-lighted signs will be lighted from fixtures above the sign.

<u>High Brightness and Glare</u>

- No more than 300 lumens shall be emitted from any fixture between 80 degrees and 90 degrees. (0 degrees is straight downward from the fixture; 180 degrees is straight overhead.)

- Street, path, and area lighting poles will not exceed 20' in height.

- Where bright arc tubes from metal halide lamps (bulbs) or LED products would be glaring for pedestrians beneath the fixtures, prismatic lenses or diffusers will be used to reduce the direct glare of the light source.

- No lighting will be used on the practice range for extending the hours of operation. Nighttime lighting used will be for staff use only, and will cease within one hour of dusk.

- No street or area lighting fixtures will be tilted upward to project light farther, since this can turn a good-quality fixture into one that produces glare or skyglow.

Energy Use

- The outdoor lighting system will use 75% or less of the power allowed by the ASHRAE/IESNA 90.1 2004 energy standard.

- Continuous lighting, (i.e. street lighting on regular pole spacings, located continuously along a street or roadway) will be used in areas of high vehicle/pedestrian conflict only. It will be limited to the resort core/Village Green areas in the town. All other areas will use street lighting at intersections, cross-walks, or other areas of potential safety concern.

- Pedestrian pathway lighting will be used at steps, ramps, turns, important meeting points, or points of safety concern only. Lighting will not be continuous.

- No lighting fixtures used for street lighting, area lighting, or path lighting will use a higher wattage lamp or lighting system than 150W.

Decorative Lighting

- Wall sconces, post-top lighting, pedestal lighting, or hanging lanterns used outdoors for decorative purposes will be limited to 400 lumens per bulb unless they emit their light downward only. (400 lumens is the approximate light output of a 40W incandescent bulb.)

Façade lighting

- Any façade lighting will direct 90% or more of its lumens toward the façade, allowing no more than 10% of the lumens to escape to the sky. Façade lighting will be minimal, using no more than 50% of the power allowed by the ASHRAE/IESNA 90.1 2004 Energy Standard.

- Façade lighting will be shut off within ½ hour after curfew.

Landscape Lighting

- Landscape lighting, if used, will use lamps emitting less than 1000 lumens (equivalent to a 50W MR16 halogen lamp.)

- All landscape lighting will be switched off within ½ hour after curfew.

Curfew

- In order to preserve the quiet and darkness of night, the Silo Ridge Resort Community will establish a curfew, after which decorative or unneeded lighting will be extinguished. As an example, curfew from Sunday through Thursday may be set at 11 pm; Friday and Saturday curfew may be set at 1 am in order to allow residents and guests later hours for dinner, activities, and entertainment. It may be possible to reduce street, area, and path lighting within a set time after curfew.

The Planning Board has reviewed the photosimulations and renderings submitted with the FEIS and finds that, once the required conditions detailed below are implemented, visual impacts will be mitigated or avoided to the maximum extent practicable, considering the capabilities and objectives of the Applicant. The Board also finds that the conditions established herein, in conjunction with the detailed review required of subsequent site plan submissions, will ensure that potential visual impacts are mitigated to the maximum extent practicable.

The Planning Board finds the design intent for lighting will mitigate nighttime lighting impacts to the maximum extent practicable.

The Planning Board imposes the following conditions:

Plan Modifications: To further mitigate impacts on visual resources and other environmental impacts, all buildings west of stream J have been eliminated, and the residences have been relocated to the Estate Homes neighborhood. This relocation is similar to that shown in Figure 3.1.2 of the FEIS, a plan prepared at the Planning Board's request.

The Planning Board notes that the plan for the Vineyard Cottages was modified subsequent to the FEIS to better mitigate water, stormwater and open space impacts, by reconfiguring the Vineyard Cottages in the following manner: (1) moving the amenity building and related parking from the upper portion of the Vineyard Cottage development area to the lower portion; (2) reconfiguring the Vineyard Cottage development so that no buildings are located within the 100 foot open space buffer required for adjacent residential uses; (3) maintaining the vegetative green buffer required in the SPO District, consistent with the Figure ES-3a of the FEIS; (4) maintaining a 150' buffer around headwater streams R/S and V to the maximum extent practicable; and (5) developing and implementing a landscaping plan reflective of the area's natural landscape similar to the plan studied in the DEIS.

The other screening mitigation program evaluated in the DEIS was to plant a landscape of field grasses, which was not an effective screening mitigation program, but which was more in character with the surrounding fields. Combined with the other plan modifications being imposed as a condition of this Amended Findings Statement, the Planning Board finds that a natural landscaping plan similar to the one studied in the DEIS will mitigate the visual impacts of the Modified Project to the maximum extent practicable. Consequently, in the Vineyard Cottages area only, the Applicant will abandon the screening mitigation program presented in the FEIS and focus on a landscaping plan that reflects the area's natural landscape character, similar to that studied in the DEIS. Similar landscaping would include not only the field grasses originally proposed, but also working landscape elements like cultivated grasses (i.e., grains), vines, and smaller flowering fruit trees that do not have the same potential to negatively impact views to and from Delavergne Hill.

Site Plan Review: The Applicant will submit detailed site plans for each phase of development for review and approval. During Site Plan review for each phase of development, the site plan and supporting materials must be reviewed to ensure that the basis for these findings is not exceeded, and to ensure that consistency with the commitments made by the Applicant is being maintained. If material deviations are made to the following elements of the plan, a supplemental EIS may be required in accordance with 6 N.Y.C.R.R. Section 617.9 (a)(7). These elements include:

1. Changes in building height (e.g. using taller buildings or moving any buildings to another location);

2. Building materials or colors varying from those described;

3. Expanding or moving the footprint of the developed area;

4. Any reduction in the amount of open space and/or public accessibility to open space and on-site visual resources;

5. A modification to use, if such use either changes the form of the development (e.g. adds a larger, more visible building), or involves highly visible uses or lighting conditions; or

6. Material deviations from the assumptions used in the photosimulations, regarding landscaping and screening, grading and lighting.

The materiality of any changes shall be based upon change in impacts on visual resources and not on absolute measures. For instance, during Site Plan review buildings may shift due to engineering considerations, but the repositioning of one or more buildings may not have a material impact on visual resources. Instead, the materiality of any change will be judged solely by the Planning Board using Confirmatory Visual Simulations (see below) as evidence of the impacts of those changes on visual resources.

Requirement for Confirmatory Visual Simulations during Site Plan Review: The Applicant is committed to a highly effective screening and camouflage program that mitigates most of the Modified Project's impact on visual resources. Narrow vegetative screens or the strategic placement of small stands of trees will not achieve results shown in the FEIS photosimulations. To demonstrate the effectiveness of the actual landscaping and camouflage program, confirmatory

visual simulations must be produced during Site Plan review after the landscaping plan is finalized, the building facades and colors are determined, and the engineering detail commensurate with Site Plan review has been developed. If the Confirmatory Visual Simulations conducted during Site Plan review do not produce the level of screening depicted in the FEIS photosimulations and described in the text, then the Applicant must present a landscaping plan capable of achieving the results shown in the FEIS, or the Planning Board may require an SEIS in accordance with 6 N.Y.C.R.R. Section 617.9 (a)(7).

The Confirmatory Visual Simulations will be produced during Site Plan review for each phase of the development. Confirmatory Visual Simulations are visual simulations that are designed to confirm that final site plan achieves a level of mitigation that is at least as effective as the mitigation program shown in the FEIS. Views analyzed by the confirmatory visual simulations will, at minimum, include the viewpoints analyzed in the FEIS. If certain viewpoints do not have any visibility to the phase of the Modified Project being reviewed, then there is no need to produce them. Additional viewpoints may be added at the discretion of the Planning Board or the Applicant that demonstrate the effectiveness of the visual mitigation program.

The Confirmatory Visual Simulations will be produced as verifiable digital photomontages, which are also more commonly known as photosimulations. Verifiable digital photomontage is a technique that merges an existing conditions photograph with an elevated, 3D computer model of a proposed action. It is "verifiable" since the computer model of the action can be measured and its placement in the terrain checked for accuracy. Because the process is largely mechanical, two technicians working independently using the same input data should produce photosimulations that appear materially identical. The only material differences would be in the treatment of existing vegetation, which requires an element of artistry even in a verifiable digital photomontage.

**References**

An important part of making a photosimulation verifiable is the use of references that exist in both the existing conditions photograph and in the 3D model. References ensure that the computer camera used with the 3D computer model matches the camera used to take the photograph, adjusting to proper location, pitch, roll, and yaw.

Because of the rural nature of the area of the proposed action it is likely that at least some of the viewpoints will have to be taken with references that are introduced into the photograph (and the underlying computer model) to ensure that the simulation produced is verifiable. The actual references to be used are left to the discretion of the professional who produces the simulations and will most likely vary according to the viewpoint analyzed, but the applicant should ensure that at least three hard references are used in each simulation if high accuracy GPS systems are used (e.g. accuracy within 1 foot or less), or at least five references if using more widely available consumer grade GPS technology, and camera match software like 3D Studio Max.

**Representation of the action**

The photosimulations should represent the action using photorealistic textures that accurately portray the actual facades and building colors proposed. These facades should include at minimum elements like windows, doors and porches. Actual proposed trim colors should be used.

Where individual owners are able to select actual building / trim colors from a palate of colors, the representation of the colors should represent a reasonable worst-case selection of those colors. The terrain should reflect proposed grading and the ground should reflect actual proposed recovery of the ground after grading. Streets, sidewalks, paved patios and other hard surfaces that interrupt the ground texture should be represented in the photosimulations. Landscaping needs to be shown as it is planned. When mowed sod lawns are planned, they should be shown in the visual simulations as such. Wherever trees and bushes are planned, they should be shown as they are proposed.

All elements that are a part of the action, need to be a part of the 3D model that represents the action. No elements of the action can be added after the simulation is produced using image processing software like Photoshop. For example, the screening tree band that screens the winery restaurant in Viewpoint 1 from the FEIS, but which is not shown in Viewpoint 4 even though it should be clearly visible, is the result of this unacceptable method of adding elements of the action in image processing software.

Trees that are shown in the landscaping plan need to be simulated individually, either as 3D trees or cruciform bill-boarded trees with alpha channel transparency. In either case all vegetative screening to be added must be a part of the 3D model of the action. Representative tree bands which may indicate intent are not an acceptable form of simulation as they will not confirm the actual effectiveness of the mitigation measures. Simulated trees should represent the actual species proposed and a conservative size of the planting after 5 years of growth.

**Lighting**

Natural light used in the photosimulation should be set to the time of day and year of when the photographs were taken so that shading and shadow are represented accurately. If materials used in the action are specular (e.g. they reflect light) they should be represented as such. If the proposal is to be artificially lit at night in a manner that is materially different that that proposed in the FEIS, the Planning Board may consider requiring nighttime simulations.

**Photographs**

Ideal conditions for the existing condition photographs are leaf-off, no snow conditions when atmospheric conditions are clear. Sunny days are preferable to cloudy days. If additional viewpoints or photographs taken at other times of year add to the understanding of impacts on visual resources, they may be added at the Planning Board or Applicant's option. The Applicant is advised to use either 35mm film or a full-frame digital camera to take the photographs used for existing conditions. Photographs should be taken in landscape orientation and most, if not all, should use a normal lens (see below). If there have been no significant changes to existing conditions, the photos in the FEIS may be used.

**Lenses**

Most photographs used for photosimulation should be taken using a normal, or 50mm lens. There may be viewpoints where a wide angle or telephoto lens is preferable to a normal lens, however. Wide-angle lenses (less than 50mm) are often preferable when evaluating urban development or close-up views, as they afford a wider field of view without having to resort to

panoramic lenses or panoramic stitching. A limited number of telephoto photographs (greater than 50mm) can be used to simulate the acuity of the human eye and its ability to focus on objects in the distance. This discussion should be seen as providing guidelines for the lenses to be used in confirmatory visual simulations with the final judgment to be made when evaluating the viewpoints to be analyzed.

**Presentation of results**

The existing conditions photographs and the photosimulations should be printed on photo quality paper using the highest appropriate resolution. They should be accompanied by a key map showing from where all the viewpoints have been taken and a discussion of how the photosimulations have been performed. The action's impact on visual resources should be analyzed using generally accepted criteria used to evaluate impacts on visual resources (e.g. displacement, form, line, color, texture, scale, spatial dominance.) Two sets of photosimulations should be performed for each viewpoint. The first would be the project without the screening vegetation. The second would be the project with the screening vegetation, so that the effectiveness of the screening vegetation as a mitigation measure can be evaluated.

**Availability to audit**

Because the confirmatory visual simulations are performed as verifiable digital photomontages, they are auditable and can, at the Planning Board's discretion, be independently audited to ensure that the proper methods have been used, and that they accurately reflect the details of the site plan. Reasonable access to the data used to produce the visual simulations, and to the personnel who produced the visual simulations, must be granted to third parties identified by the Planning Board, should the Planning Board believe that an audit is required.

**Further Screening Requirements**

Vegetation used for screening must follow the program for vegetative screening described in Section II.C., Vegetation. The Applicant must also submit a landscape plan during Site Plan review that demonstrates that the vegetative screening proposed will remain effective over time (e.g., that the canopy for the species selected will not rise to a level where the initial screening benefits are lost, and that the distance between planting and mix of species planted are compatible with the long-term health of the proposed plantings). During Site Plan review, materials must also be submitted that demonstrate that the Master HOA will dedicate sufficient resources to the ongoing care, maintenance, life-cycle and eventual replacement of the vegetative screening. The Applicant must also demonstrate that the screening vegetation does not materially alter the area's expansive views any more than what is required to screen the development.

## G. TRANSPORTATION

Existing Conditions:

A description of the area roadways is as follows:

NYS Route 22 - NYS Route 22 is owned and maintained by the New York State Department of Transportation ("NYSDOT"). This roadway traverse the Town of Amenia in a north/south direction, and serves as a major regional corridor along New York's eastern border with Connecticut, Massachusetts, and Vermont. In the immediate vicinity of the project site, NYS Route 22 is a two-lane road that is 24± feet in width with 3 foot shoulders on each side. The portion of NYS Route 22 adjacent to the project site is in good condition and has a posted 55 mph speed limit. The posted speed limit decreases to 35 mph as NYS Route 22 enters the Hamlet of Amenia to the north of the project site.

US Route 44 - US Route 44 is maintained by the NYSDOT. This roadway traverses the Town of Amenia in a southwest/northeast direction, and serves as a major east/west corridor through Dutchess County. US Route 44 is a two-lane road that is 24± feet in width with 1 to 3 foot shoulders in the vicinity of the project site. The portion of US Route 44 adjacent to the project site is in good condition and has a posted 55 mph speed limit. The posted speed limit decreases to 35 mph as US Route 44 approaches the Hamlet of Amenia to the north of the project site.

NYS Route 343 - NYS Route 343 is owned and maintained by the NYSDOT. This roadway traverses easterly from US Route 44 into Connecticut. It is a two-lane highway that is 20 to 24 feet in width and has shoulders that vary in width from 2 to 8 feet. The portion of NYS Route 343 in proximity to the project site is in good condition and has a posted 35 mph speed limit.

DC Route 81 - DC Route 81 (Amenia – Wassaic Road) is owned and maintained by Dutchess County. In the vicinity of the project site, the roadway has two lanes that are 20 to 24 feet in width with 2 to 4 foot shoulders. The road is in good condition and has a posted speed limit of 35 mph.

Lake Amenia Road - Lake Amenia Road is a Town owned and maintained roadway, which connects Route 22 with Route 44 in the vicinity of the site. The one-lane undivided roadway splits as it approaches Route 44 into two separate roadways with the westerly section known as West Lake Amenia Road and the easterly section known as Lake Amenia Road, both forming intersections with Route 44. The speed limit is not posted (55 mph statutory). There are no lane markings, but the pavement is in fair condition.

Dunn Road - Dunn Road is a Town owned and maintained roadway, which connects Route 22 (opposite Lake Amenia Road) with CR 81 in the vicinity of the site. At its intersection with Route 22, the Harlem Valley Rail Trail crosses with appropriate signing and pavement markings (crosswalk). There is a single lane in each direction. The speed limit is not posted (55 mph statutory). There are no markings, but the pavement is in fair condition.

In order to establish the existing traffic volumes for the roadways and the critical intersections identified, all available traffic count information was obtained from the NYSDOT, Dutchess County Department of Public Works, and the Town of Amenia. Detailed turning movement traffic counts were also taken at the critical intersections noted below:

- Route 44 at Route 22,
- Lake Amenia Road/Dunn Road (CR 81) and Route 22,

- Existing site access at Route 22,
- West Lake Amenia Road and Route 24, and
- Lake Amenia Road and Route 44

To supplement the counts performed at the intersections listed above, Automatic Traffic Recorder (ATR) counts were conducted on Route 22 adjacent to the main site driveway for a one-week period from June 15 to June 22, 2013.

Pedestrian/Biking Infrastructure - The roadway infrastructure surrounding the site does not provide dedicated paths for biking and walking; however, there is sufficient road width along Route 22, Route 44, and Lake Amenia Road to support recreational biking and walking. The system of sidewalks in the area begins in the Hamlet of Amenia to the north of the project site. The Harlem Valley Rail Trail travels adjacent to eastern sections of the site, and offers opportunities for walking, rollerblading, and biking. The Harlem Valley Rail Trail runs in a northeasterly direction and from the Wassaic train station through the Hamlet of Amenia, and into Columbia County to the north.

Truck Routes / Construction Routes - The majority of construction vehicles in the vicinity of the project site travel along US Route 44 or NYS Route 22.

Impacts:

A Traffic Impact Study ("TIS") was conducted to determine existing and future operating conditions at relevant area intersections. The capacity analyses were performed in accordance with the procedures described in the *Highway Capacity Manual* (2000) published by the Transportation Research Board. At the time that the TIS was completed, it was anticipated that the hotel could have as many as 393 "keys", which means that at full occupancy there could be a maximum of 393 guest rooms being rented.

At the time the TIS was performed, full occupancy of the hotel was assumed, to present a conservative, worst-case traffic analysis. Subsequently, the Original Sponsor reduced the maximum potential number of guest rooms to 367 keys.

Under the proposed MDP, the Modified Project has the following land use components:

- Residential (224 dwelling units)
  - Single-family homes (159 units)
  - Condominium/Townhouse units (65 units)
- Commercial
  - Winery Restaurant (80 seats)
  - 21 lodging units
- Amenities
  - Existing 18-hole golf course to be renovated and clubhouse to be demolished and rebuilt.

The Modified Project differs from the currently approved project in that it will be a private, gated community, will have fewer residential units and almost no commercial space (just the Winery Restaurant, which will be accessed via its own driveway, and 21 lodging units, which will be available by reservation only and will require pre-announced access). The Modified Project will also contain recreational facilities for the residents of the community. The golf course clubhouse will be rebuilt and expanded to meet the residents' needs but the golf course will no longer be open to the public (except for use by occupants of the 21 lodging units). Access to the Modified Project will differ from the approved project in that the proposed southern driveway on Route 22 will be for emergency access only. It is anticipated that a significant portion of the peak hour trips to the golf course will be by community residents and lodging occupants, and the updated trip generations for the Modified Project take into account this expected synergy between these components as well as the fact that the development is proposed as a private, gated facility. It is anticipated that 43 percent of the trips for the golf course would be by residents (internal trips) and would not involve travel on the external roadways. The remainder of the trips would consist of golf course staff and guests coming from outside of the community.

The anticipated trip generation of the Modified Project is as follows:

- During the weekday AM peak hour, 176 trips will be generated on the area's roadways.
- During the weekday PM peak hour, 242 trips will be generated on the area's roadways.
- During the Saturday Mid-day peak hour, 249 trips will be generated on the area's roadways.
- During the Sunday PM peak hour, 242 trips will be generated on the area's roadways.

A capacity analysis for each intersection was undertaken for the Modified Project and the results are summarized as follows:

Route 44 at Route 22 (Hamlet of Amenia) - The analysis of this four-way signalized intersection indicates a slight deterioration in capacity, particularly during the Saturday Mid-Day peak hour period and the Sunday PM peak hour period.

Route 22 at Lake Amenia Drive and Dunn Road (CR 81) - The results of the analysis of this unsignalized four-way intersection, indicates deterioration in level of service (LOS) for the side roads – Lake Amenia Road and Dunn Road (CR 81) to an unacceptable LOS F for both the Weekday PM peak hour and the Sunday PM peak hour, west bound only. However, the computed 95$^{th}$ percentile queue lengths are of the order of one to two vehicles during peak periods. Route 22 at Existing Main Site Access - The results of the capacity analysis show deterioration is observed during the weekend peak periods analyzed.

Route 44 at Lake Amenia Drive/West Lake Amenia Drive - The results of the capacity analysis reveal that these intersections will maintain a LOS A in both peak hours for Lake Amenia Road and LOS B for West Lake Amenia Road. These two intersections carry very low volumes, which will not change significantly with the proposed development.

Route 44 at Vineyard Cottages - The analysis of this proposed access indicates an acceptable LOS under all future traffic conditions: LOS A (ingress left-turns) and LOS B for traffic leaving the driveway.

Route 44 at Winery Restaurant - The analysis of this proposed access location on the north side of Route 44 west of the hairpin curve indicated an acceptable LOS for all future traffic conditions. The driveway access has been carefully located to maximize sight lines both to and from the drive. This segment of Route 44 is critically affected by alignment and grade; therefore, the degree of new activity at this location is minimized. The operation of this access will be acceptable and will not have any significant impact on traffic flow on Route 44.

The south entrance to the site was relocated to the existing entrance road from Route 22 located on adjoining Parcel Number 7066-00-870350, and will serve as an emergency access road for the site and entrance to the golf maintenance facility. This access road and the golf maintenance facility will be permitted by easement in favor of the Silo Ridge Resort Community. The relocation of the south entrance reduces the grading and clearing adjacent to the wetland buffer.

The Modified Project includes 622 parking spaces including below grade and surface parking areas. The Village Green core area will include approximately 78 spaces below grade at condominium and lodge buildings. Residential garages throughout the Modified Project account for 318 spaces and surface parking (including lots and on-street) total 226 spaces. The parking ratio and parking allocation tables for the Modified Project are located on sheets P-1 and P-2 of the MDP.

The MTA was identified as an interested agency during the SEQRA process, and representatives of Metro North were interviewed by the Original Sponsor. A Metro North representative indicated that Metro North monitors ridership on a nearly daily basis, and that Metro North had the capacity to add cars to existing trains, or to add additional trains, in response to any ridership increases that might be caused by the Project. A Metro North representative also indicated that Metro North plans to expand the existing parking lot at the Wassaic train station by as many as 400 parking spaces, although the exact size and timing of that expansion has not yet been determined.

Mitigation:

Route 44 at Route 22 (Hamlet of Amenia) - The Route 44 and Route 22 intersection should be monitored with NYSDOT oversight after project completion and signal timing changes implemented, if required, based upon the NYSDOT input.

Route 22 at Lake Amenia Drive and Dunn Road (CR 81) - Re-assessment of this location is recommended upon project completion in conjunction with input from NYSDOT.

Route 22 at Existing Main Site Access - The updated traffic analyses for the Modified Project conclude that signalization is not warranted. The analyses also indicate that a southbound right turn lane is not warranted. It is recommended that this intersection be reevaluated for signalization after each phase of development in consultation with NYSDOT.

Route 44 at Vineyard Cottages - For purposes of operational efficiency, it is recommended that a left-turn lane be created on Route 44 in the eastbound direction for traffic entering the driveway.

This action, in conjunction with placement of the access at the point of greatest sight lines, will provide safety and efficiency.

Shuttle service shall be provided between the project site and the hamlet of Amenia and the Wassaic Metro North train station.

## H. LAND USE AND ZONING

Existing Conditions:

The Town of Amenia adopted a new Zoning Law on July 19, 2007. Under the prior zoning law, the site was predominantly located in the RA (Rural Agricultural) zoning district, while a much smaller portion of the site was located in the M (Industrial) zoning district.

Under the current Zoning Law, the site is wholly located in the RA (Rural Agricultural) zoning district. The site was also mapped as RDO District in recognition of the project, which was already pending before the Planning Board, and which could not have been approved under the prior zoning law absent a zoning amendment.

Resort Development Overlay District:

Pursuant to Section 121-7 of the Zoning Law, overlay districts are intended to provide additional protection of important environmental resources and/or to permit certain types of economically productive uses that would not otherwise be allowed in a particular land use district. Pursuant to Section 121-18(A) of the Zoning Law, the purpose of the RDO District is to provide use and design flexibility to encourage resort development on appropriate large properties exceeding 200 acres, where such development fits into the rural character of the Town and protects its scenic, historic, and environmental resources. In exchange for this use flexibility and increased development density, the RDO District seeks to achieve significant protection of open space resources, especially scenic viewsheds, ridgelines, water resources, and ecosystems.

The use and design flexibility provided by the RDO District provides the Applicant with the opportunity to develop the Modified Project in a number of ways that would not be authorized by the underlying RA district zoning. Specifically, the hotel-condominium lodging units, the spa, restaurant, and bar/lounge located in the Clubhouse, and the Winery Restaurant north of the Hairpin Turn on Delavergne Hill, are all permitted in the RDO District. Absent the use and design flexibility provided by the RDO District, the Applicant would not be able to pursue approvals for any of these uses.

Pursuant to Section 121-18(C) of the Zoning Law, the density and dimensional standards normally applicable in the underlying RA district do not apply in the RDO District. Instead the dimensional and density requirements contained in Section 121-18 supersede those underlying standards (e.g., minimum lot size, minimum setbacks, maximum lot coverage, minimum road frontage, maximum impervious surfaces, maximum height and footprint, as well as the normally applicable parking and loading requirements). The proposed bulk and area table for the Modified Project is located on page 36 of the amended MDP. The parking ratio tables are located on sheet P-1 of the MDP Plans.

The primary dimensional and density standards identified in the RDO District regulations focus on open space protection, minimizing impervious surfaces, and limiting the footprint of retail establishments that sell goods and supplies. Section 121-18(C)(5) of the Zoning Law states that the dimensional and density standards for a project in the RDO District shall be as approved by the Planning Board in the master development plan for the project, based upon the physical characteristics of the site, the character of the proposed development, the relevant environmental performance standards contained in Section 121-40 of the Zoning Law, and the requirements of the SEQRA process (subject to the open space, impervious surface, and retail shop percentage-based restrictions discussed below). Absent the flexibility and increased development density provided by the RDO District, the Applicant would not be able to develop the project site in the manner that is currently proposed.

Section 121-18(C)(4) of the Zoning Law requires that a minimum of 80% of the total land area of the site be preserved by a conservation easement as open space. For purposes of the RDO District, open space may include farmland and farm structures, ponds and streams, and recreational land such as golf courses, cross-country ski trails, equestrian trails, and hiking trails. The Modified Project complies with this 80% protected open space requirement.

Section 121-18(C)(4) of the Zoning Law requires this open space land to be preserved by a conservation easement consistent with the provisions of Section 121-20(K) of the Zoning Law regulating the preservation of open space in conservation subdivisions through the use of conservation easements. As a condition of this Amended Findings Statement, the Applicant will be required to place all of the open space land in one or more perpetual conservation easements that fully comply with the provisions of Section 121-20(K) of the Zoning Law, and that is deemed acceptable by the Planning Board with the advice and assistance of its attorney. The grantee of any conservation easement shall be a municipal or not-for-profit organization that is acceptable to the Planning Board and that is qualified to hold conservation easements under applicable law. The Applicant has advised the Planning Board that it intends the Dutchess Land Conservancy to be the grantee of the conservation easements.

As a further condition of this Amended Findings Statement, deed restrictions shall be added to all deeds for the site, or any portion thereof, implementing the conservation easements. As a further condition of this Amended Findings Statement, restrictions shall be added to the Master HOA documents as necessary to implement the requirements of the conservation easements.

The deed restrictions and Master HOA documents shall be in a form acceptable to the Planning Board with the advice and assistance of its attorney. The conservation easements, and the deed restrictions and Master HOA documents implementing the conservation easements, shall be approved by the Planning Board during Site Plan review.

In identifying which land should be designated for this open space protection, the RDO District requires that priority be given to land in the SPO District and Stream Corridor Overlay district ("SCO District"), especially the view to and from Delavergne Hill, ridgelines, historic resources, unique ecosystems, prime agricultural land, and water resources. Portions of the Property are located in the SPO and SCO Districts, most notably the land on Delavergne Hill including the area inside the Route 44 Hairpin Turn, and the Amenia/ Cascade Brook. The site also contains land in the iconic Delavergne Hill viewshed, some of which is also visible from Route 22 and Depot Hill Road, as well as additional State and federal wetlands, local wetlands and watercourse, vernal pools, steep slopes, and historic resources.

Section 121-18(C)(5) of the Zoning Law also requires that the maximum impervious surface coverage be no more than 15% of the total site area, including protected open space. The Modified Project satisfies this maximum impervious surface requirement.

Section 121-18(C)(5) of the Zoning Law also states that no more than 5% of the total footprint area may be used for retail shops selling goods and supplies. The Modified Project satisfies this requirement.

Scenic Protection Overlay District:

The SPO District includes land lying within 800 feet of the Route 22 and Route 44 right-of-ways, and within 500 feet of the Harlem Valley Rail Trail. Pursuant to Section 121-14.1 of the Zoning Law, the purpose of the SPO District is to regulate land uses within designated scenic corridors and ridgeline areas to protect the Town's scenic beauty and rural character. Accordingly, development in the SPO District is only permitted if it will not significantly impair scenic character and will be aesthetically compatible with its surroundings. Such development must also locate and cluster buildings in a manner that minimizes their visibility from public places, and that minimizes the removal of native vegetation.

The SPO District requires a continuous green buffer at least 100 feet deep along Route 44 and Route 22, and at least 50 feet deep along the Harlem Valley Rail Trail. This buffer may consist of native trees and shrubs, fields, meadows, and lawn areas. Existing trees, lawns and shrubs are required to be preserved to the maximum extent possible, unless they are proposed to be replaced by native trees or native vegetation approved by the Planning Board. The Planning Board may also require the planting of additional trees as it deems necessary to reduce the visibility of new structures from public roads or trails.

Stream Corridor Overlay District:

The SCO District includes all land lying within 150 feet of the top of the bank on each side of the Amenia/Cascade Brook. No principal structure can be located within 100 feet of the Amenia/Cascade Brook, and no accessory structure 200 square feet or larger can be located within 50 feet of the Amenia/Cascade Brook. Development in the SCO District is only permitted if it will not result in degradation of the scenic character or the stream, and will not result in erosion or stream pollution from surface or subsurface runoff.

In making a determination as to whether development in the SCO District will result in erosion or stream pollution from surface or subsurface runoff, the Planning Board shall consider slopes, drainage patterns, water entry points, soil erosivity, depth to bedrock and high water table, and other relevant factors.

Pursuant to Section 121-18(C)(10)(a) of the RDO District regulations, the Planning Board may waive specific requirements of the SCO District, where streams and water features are integrated into the master development plan, provided that the plan provides for water quality protection and mitigation of water quality impacts consistent with the purposes of the SCO District.

Steep Slopes:

Section 121-36 of the Zoning Law requires the implementation of certain erosion and sediment control mechanisms and practices on steep slopes greater than 15% to avoid soil erosion and sedimentation.

Section 121-36 also prohibits any disturbance on slopes of 30% or greater, including cutting of vegetation or construction of driveways unless: (1) the applicant can demonstrate that there is no feasible alternative and that the impacts of land disturbance will be fully mitigated by the best available engineering, erosion control, and visual impact mitigation practices; or (2) the applicant can demonstrate that the impacts of disturbing these steep slopes do not negatively impact visual resources, that the areas impacted are part of a broader plan for a site that weighs and balances the full range of environmental issues, and that such disturbance is fully mitigated by engineering and soil erosion control practices.

The Modified Project will disturb approximately 23.7± acres of slopes greater than 30%. The project will also disturb approximately 95.3± acres of slopes between 15% and 30%.

Mitigation:

The Applicant shall furnish an irrevocable letter of credit, certified check, or other form of security, in an amount to be determined by the Planning Board in consultation with its consulting engineer and the Applicant during Site Plan review, to secure the cost of reclaiming areas to be excavated or graded if the Modified Project is abandoned. [Source of authority Section 121-34(C) of the Zoning Law].

Wetlands and Watercourses:

Section 121-35 of the Zoning Law regulates wetlands and watercourses. The requirements of this section are in addition to any requirements that may apply to a watercourse located in the SCO District. This regulation is based upon the Town's determination that the protection of its wetlands and watercourses helps to maintain water quality and the health of natural ecosystems, reduces flooding, erosion and sedimentation, and protects important wildlife habitat areas.

Pursuant to Section 121-35(C), the Planning Board may impose conditions on development in addition to NY DEC and ACOE requirements where those additional conditions are necessary to minimize damage to wetlands and watercourses. Such conditions may include modifications in the size and scope of the project, as well as changes in the location of structures or other improvements on the parcel. The Planning Board is not limited by the regulations of the NY DEC and ACOE, and may impose protections on wetlands and related upland habitat areas that are more stringent than required by these agencies provided that such conditions are reasonable and based upon the advice of a qualified expert.

Building Height:

Section 121-18(C)(5) of the Zoning Law also states that the maximum height of a building located in the RDO District shall be 35 feet, unless the Planning Board grants a waiver pursuant to section 121-18(C)(10)(b). In order to grant such a height waiver, the Planning Board must cause a visual impact analysis to be performed to ensure that no significant views are adversely impacted, that any impacts on views are mitigated to the maximum extent practical, and that the building is sited to minimize visual impact by taking advantage of natural topography. Consultation is also required with the fire department before a waiver can be granted.

Section 121-18(C)(10)(b) also states that no building shall be more than five stories in height, counting the stories from the average grade at the front of the building, and excluding any story contained within roof. No building on the Site will exceed five stories in height.

Open Space Buffers:

Section 121-18(C)(6) of the Zoning Law states that open space buffers of at least 100 feet must be provided from any existing residential uses that are not located within the RDO District. No buildings or recreational structures may be constructed in these buffers. However, Section 121-18(C)(10)(d) states that this buffer may be reduced where the siting of access roads, streets or utilities within the standard 100 foot buffer area can be accomplished without impact on adjacent residential uses. This 100 foot buffer is measured from the boundary line of an existing residential property outside the RDO District.

Mitigation:

The Modified Project does not propose any building or recreational structure within the standard 100 foot buffer area from any existing residential uses that are not located within the RDO District.

Traditional Neighborhood Development:

Section 121-12.1 of the Zoning Law states that the goal of Traditional Neighborhood Development ("TND') is the development of compact complete communities that include single-family homes, apartments, townhouses, workplaces, shops, restaurants, inns, hotel, and recreational facilities. The goal of TND is to create a pedestrian-oriented environment in which residents and those who work in the area can walk comfortably between different land uses and minimizes the use of automobiles.

Section 121-18(C)(7) states that the layout of streets, blocks, public spaces, and buildings in the RDO District shall follow the principles of TND described in Section 121-12.1, to the extent practical, unless the Planning Board determines that this requirement does not apply as provided in Section 121-12.1(H)(2).

Section 121-12.1(H)(2) states that the requirement of a complete mixed use community shall not apply if it would not be economically viable in the location of the resort development, or if it would have an adverse impact on the economic viability of the Hamlet of Amenia.

Section 121-12.1(H)(2) also states that the Planning Board may apply the requirements of subsections (B), (D), (E), (F) and (G) of the TND law[5] if those requirements are consistent with the proposed resort use.

Section 121-12.1(D) also states that the project sponsor may substitute proposed architectural covenants or a form-based code with design standards in lieu of the Hamlet Design

[5] Subsection (B) relates to multi-family dwellings. Subsection (D) relates to design guidelines. Subsection (E) relates to setbacks and build-to-lines. Subsection (F) relates to street and block layout. Subsection (G) relates to consultants.

Guidelines and Greenway Compact. Section 121-12.1(D) states that the project sponsor may also substitute proposed architectural covenants or a form-based code with design standards in lieu of the setbacks and build-to-line, and street and block layout, requirements of the TND law.

The Village Green core area is consistent with the principles of TND. The single family homes located along the western boundary of the golf course and the bottom of the wooded hillside are within comfortable walking distance of the Village Green core area, but do not fully comply with the design guidelines, and street and block guidelines, contained in the TND law. The Vineyard Cottages are physically separate and distinct from the Village Green core area, and maintain a recreational area separate and distinct from the recreational facilities located in the Village Green core area. As such, the Vineyard Cottages are not consistent with TND principles.

Section 121-12.1(H)(2) of the Zoning Law also states that all streets shall be offered for dedication to the Town, and that no street shall be gated in a TND. However, the Modified Project streets will not be offered for dedication to the Town, and will instead be privately owned and maintained by the Master HOA. The Applicant also seeks permission to install gates at all four entrances to the Modified Project (i.e., the main entrance to the resort on Route 22, a second emergency-only entrance to the site located further south on Route 22, the access road to the Vineyard Cottages that is accessible from the Winery Restaurant driveway at the top of Delavergne Hill, and the entrance to the Vineyard Cottages from a point on Route 44 below the Hairpin Turn on Route 44).

The primary purpose of the gatehouse at the main entrance will be for personnel to greet owners and their guests, provide directions or instructions to guests, and identify persons entering the site and their intended destination(s). It will be necessary to be an owner or owner's guest, or a guest of the Lodge or of the golf course, to enter the site. Resort community personnel will have the authority to grant or deny access to the site. Moreover, resort community personnel will have the authority to deny access and to remove persons who are disruptive to other people visiting the resort community and to the operation of the resort community, and who have misrepresented their stated intent or purpose for visiting the resort community.

The Applicant has acknowledged that the Modified Project does not fully comply with the above-described TND principles as applied to the single family homes, Vineyard Cottages, private streets, and gated entrances. The Planning Board has determined during the Special Use Permit process that, while discreet portions of the Modified Project may not fully comply with TND principles, taken as a whole the Modified Project is consistent with the goals of the RDO District.

Workforce Housing Law:

Pursuant to the Workforce Housing Law (Section 121-42 of the Zoning Law), at least 10% of the units in a development of 10 or more dwelling units must be constructed as workforce housing units. As applied to the Modified Project, the Workforce Housing Law requires the construction of 22 workforce housing units, in addition to the 224 market-rate residences that are currently proposed.

Section 121-42(P) also provides a project sponsor with alternative measures for satisfying its obligations to construct workforce housing. The Applicant proposes to satisfy its workforce housing obligation by payment to the Town of a fee in lieu.

## I. LOCAL AND REGIONAL PLAN CONSISTENCY

Existing Conditions:

The goals and objectives of the *Town of Amenia Comprehensive Plan Update* (2007), *Directions: The Plan for Dutchess County* (1987) and *Greenway Connections* (2000) were evaluated to determine the Modified Project's consistency with the aforementioned plans. The project site is in the RDO District, which is recommended in the *Town of Amenia Comprehensive Plan Update*, to give added flexibility for businesses that contribute to the second-home and tourist economy while protecting significant scenic, agricultural and environmental resources and provide specific public benefits including sewers for the hamlet and public access to open land and recreation resources.

Impacts:

In general, both the Town and County plans call for economic development which support tourism and tourism related industries, significant protection of natural, cultural and scenic resources, improvements in infrastructure for water, sewer and transportation, preservation of agriculture, and providing housing options for all residents.

The Modified Project will provide a variety of jobs throughout the resort and is designed and will be marketed as a community of second homes for part-time residency. Silo Ridge residents and lodge guests are projected to spend approximately $1.5 million on meals and food, $700,000 on transportation and gas, and $1.1 million on retail goods annually, much of which is expected to occur locally and within the region.

The Modified Project will preserve 80% of the site as open space and the site plan also takes advantage of the site's topography and existing natural features to screen many buildings from view and reduce the project's visual impact. The Modified Project will implement erosion control measures and an approved SWPPP.

The *Comprehensive Plan Update* and the implementing regulations for the RDO District specifically identify the need to be sensitive of the scenic resources associated with the Town's most important viewshed, Delavergne Hill. The *Comprehensive Plan Update* purposely discusses the site in the context of a large-scale resort development and recommends the use of TND as a way to achieve a compact pedestrian oriented layout that preserves open space and reduces driving. The RDO District identifies priority open space protection is to be afforded to land within the SPO District and the SCO District, especially the views to and from Delavergne Hill. While the Modified Project incorprorates some elements of TND in the Village Green core area, it also includes the Winery Restaurant and town homes (the Vineyard Cottages) on the north side of Route 44 separate and apart from the majority of the development.

In response to concerns received during the public review of the DEIS, the Aapplicant has shifted the location of the Winery Restaurant building 145 feet to the north, proposed landscaping

to shield the building from view along Route 44 and has reduced the number of Vineyard Cottages to nineteen.

*Greenway Connections* provides a set of planning and design principles. In general, the Modified Project complies with many of the design guides on topics such as lighting, parking, landscaping and street trees. In terms of planning, the Modified Project is designed so that a majority of the proposed development fits into the existing landscape. The central area of the site remains, logically, devoted to the golf course. In the Village Green core area, the buildings are designed to complement the topography. The Modified Project includes some development in areas of steep slopes including the single-family homes on the western side of the golf course, the Winery Restaurant, and the Vineyard Cottages. In terms of resource protection, the Modified Project includes the implementation of the NRMP and HMP.*Greenway Connections* promotes the creation of walkable communities and for the most of the site, this is achieved through a series of connected pathways and sidewalks. However, for the area north of Route 44 (the Vineyard Cottages), there are no sidewalks proposed or any pedestrian connection to the main part of the resort or the Winery Restaurant.

Mitigation:

The Silo Ridge Resort Community will use new energy-saving features and will incorporate designs to maximize energy efficiency and reduce energy usage, where possible. Some of the features that may be included in the project design include:

- Use of solar energy to heat water in south-facing walls;
- Use of low-albedo roofing materials to reduce heat gain on roofs; and
- Optimization of building siting to take advantage of natural ventilation and maximize sunlight on southern exposures, where possible.

The Applicant also intends to pursue the use of ENERGY STAR-rated Home Building Contractors and Hospitality Partners.

## J. POLICE, FIRE AND EMERGENCY MEDICAL SERVICES

Existing Conditions:

Police emergencies in the Town of Amenia are handled by the Dutchess County Sheriff's Department and the New York State Police. For the Sheriff's Department, the response time to the project site will vary depending on whether the officer responding is traveling from the sub-station or some more distant location within patrol Zone 6. Overall, the average response time should be between five and 10 minutes.

The Amenia Fire Company provides fire, basic life support and ambulance service to the Town. In addition, the services of paramedics, such as Northern Dutchess Paramedics ("NDP"), are utilized to assist with calls for advanced life support. The Fire Company's average response time within the Town is five to seven minutes. In the event that the department receives an emergency call that requires a larger response, the Dover, Sharon and Wassaic fire departments will provide

mutual aid. NDP provides service to Amenia from a station in Millerton. The services provided include basic life support, advance life support, inter-facility transportation, and ambulette transportation.

Impacts:

Demand for emergency services will likely increase due to the increased population. An increase in calls is anticipated by the Dutchess County Sheriff's Department. However, the Sheriff's Office does not foresee any negative impacts to their operations as a result of the proposed development. While the Sheriff's Office will respond to all 911 emergency calls, an agreement with the Town will be required to allow the Sheriff's Office to enforce local community laws, such as traffic, parking and pedestrian safety laws. The New York State Police did not express concern regarding the ability of the existing staff and equipment to address increased demand from the project. Northern Dutchess Paramedics does not foresee any issues providing service to the proposed development and will adjust their staffing according to the anticipated demands.

A revised fiscal impact analysis was conducted for the Modified Project. In this analysis is estimated that the project will generate approximately $236,997 in revenues and $153,040 in costs related to the Amenia Fire District, producing a projected $83,957 surplus for the Fire District.

Mitigation:

Based on discussions with local police, fire, and EMS officials serving the Modified Project, the following safety designs and features were incorporated into the site design and layout and meet with the approval of the local emergency response officials:

- Water for the fire suppression system will be provided by the onsite water supply system. The primary water source for fire fighting purposes will be provided by fire hydrants located at each street intersection and at intermediate points along each roadway within the proposed development. Fire hydrants will generally be spaced every 300 feet, depending on the area being served.
- The proposed water distribution and storage facilities for the project will provide adequate fire flows.
- During the design phase of the Modified Project, a complete hydraulic model of the distribution system will be developed and will provide reviewing agencies with calculations that predict flow at each hydrant. After the system is placed in operation, flow tests will be performed on selected hydrants to establish the rated capacity of hydrants in various areas of the distribution system. Tested hydrants will be color coded as to their flow capacity in accordance with the National Fire Protection Agency (NFPA) color coding requirements.
- In accordance with the Uniform Fire Prevention and Building Code of New York State, all buildings requiring fire protection and suppression systems will include all related elements in conformance with Chapter 9 *Fire Protection Systems* and related provisions of the Uniform Code.
-

- In order to facilitate movement of emergency vehicles, all roads within the site will be constructed according to design standards in the Amenia Town Code and will be able to accommodate two 8.5-foot wide fire trucks side-by-side and, while the number of cul-de-sacs will be minimized to the maximum extent practical, any necessary cul-de-sacs will be designed to allow for adequate fire truck circulation.
- The Modified Project will utilize a private security firm for on-site security on a daily basis. Security will be supplemented by additional special event management teams as needed, and/or by hiring local off-duty security personnel, including local Dutchess County Sheriff's Department officers.
- Adequate fire flows shall be provided to all areas of the Modified Project.
- Flow tests shall be performed on all hydrants at the completion of the construction of each phase.
- All hydrants shall receive the proper color code, based on the measured flow.

## K. SCHOOL DISTRICT SERVICES

Existing Conditions:

The site is located in the Webutuck Central School District ("WCSD"), which is comprised of three elementary schools, one middle school, and one high school. With a current enrollment of 901 students and a full capacity of 1,771 students, the WCSD has an excess capacity for 870 students. However, with an anticipated decline in enrollment, the WCSD is expected to have a student population of 757 students by the 2012 / 2013 school year, resulting in an even greater projected excess capacity of 1,014 students excluding consideration of the Modified Project.

The WCSD currently operates and maintains 21 buses, with a total capacity of 1,387 students. There are currently 1,022 children that utilize the School District's transportation resources, including public, private, special needs, and BOCES students, leaving an excess capacity for approximately 365 students. Existing WCSD bus routes service the residential areas adjacent to the project site, including those along US Route 44, NYS Route 22, and Lake Amenia Road.

Impacts:

To be conservative, the revised fiscal analysis for the Modified Project estimates that the residential component of this resort community development would generate 175 school age children, all of whom it is assumed would attend public school. The cost to the WCSD to educate these children is estimated to be $3,647,875. However, in the Applicant's opinion, this scenario is not reasonably likely to occur, because the Modified Project is designed, and will be marketed, as a second home community for part-time residency. Based on the extensive experience of Discovery Land Company at its other resort communities, the Applicant does not expect any school children be generated by the Modified Project. Less than 1 percent of the residences of the Modified Project

will be primary residences. Therefore, the actual number of school children that would reside at the Modified Project year-round and be educated in the local school district is anticipated to be zero.

Mitigation:

Employing these conservative assumptions, and accounting for potential impacts to State Aid associated with the Modified Project, the Modified Project still generates a positive fiscal impact. The estimated net surplus to the WCSD is $120,457. No additional mitigation is necessary.

## L. RECREATION, OPEN SPACE RESOURCES AND TOURISM

Existing Conditions:

The Town of Amenia operates two recreational facilities for public use: Beekman Park, and Borden Park. The Amenia Elementary School also provides recreational facilities to town residents. In addition, there are also regionally and privately operated facilities in the Town, including two privately owned golf courses. The existing municipal/regional resources are summarized below.

**Existing Municipal Parks and Recreational Facilities**

| Facility | NRPA Type* | Description | Approximate Acreage |
|---|---|---|---|
| Beekman Park | Local Park | A baseball field, two softball fields, a concession stand, and bleachers, | 47.8 |
| Borden Park | Local Park | A ballfield and playground. | 2.0 |
| Amenia Elementary School | Local Park | Two tennis courts and a basketball court. | 0.5 |
| Thomas Young Park | Local Park | Grass and wildflower fields and wooded knoll with walking paths overlooking DEC Wetland LL, located on Route 22 | 29.8 |
| | | **Subtotal of Local Parkland** | **80.1** |
| Wassaic State Multiple Use Area | Regional Park | Operated and maintained by the NYSDEC Bureau of Public Land, and provides camping facilities, cross-country skiing, fishing, hunting, and hiking, horseback riding, and nature trails that traverse a vast area of undeveloped forested land and open fields. | 488 |
| Harlem Valley Rail Trail | Regional Park | A 43-mile trail that extends from Wassaic in Southern Dutchess County to Chatham in Columbia County, offering an opportunity to enjoy walking, jogging, rollerblading, and biking. | 64.78 |

| | |
|---|---|
| **Subtotal of Regional Parkland** | **552.78** |
| **TOTAL** | **632.88** |
| *National Recreation and Parks Association. | |

The existing Silo Ridge Golf Course has been closed since 2009.

The Town's Recreation Master Plan, which was adopted in 2006, includes a list of recreational goals and objectives for Amenia, an inventory of existing recreation facilities and programs, and a plan for upgrades to recreation facilities. Proposed improvements to Beekman Park include new playground equipment, additional parking spaces, a sand play area, new basketball court, pavilion, and canopy at the concession counter. Proposed improvements to Borden Park include new playground equipment, a basketball court, picnic tables, and expanded parking and landscaping.

Amenia's existing tourist attractions include the public and private recreation facilities as discussed above. Fall foliage tours and wineries in Amenia and the surrounding area also supplement the area's tourism economy.

Impacts:

The Modified Project will generate a maximum of 809 new residents. The Town's 2006 Recreation Master Plan concludes that "the Town of Amenia's recreation and open spaces are few in quantity and lacking in variety". Additionally, the Recreation Master Plan notes recreation is geared towards youth activity and lacks opportunity for middle age and senior groups; a target market for this project.

On-site recreational facilities will not be available to the general public. An early version of the development proposed public hiking trails on the property connecting to existing public trails on adjacent lands. However, public trails are no longer proposed.

Silo Ridge lodge guests are projected to spend approximately $1.5 million on meals and food, $700,000 on transportation and gas, and $1.1 million on retail goods annually, much of which is expected to occur locally and within the region. Additionally, the lodge restaurants, General Store and the Winery Restaurant are all open to the public, and which will draw further tourism to the Town.

The Modified Project provides for 80% open space in compliance with the RDO District regulations. The protected open space of 540 acres is described as "natural" (approximately 328 acres), "fields/meadow/re-vegetated" (25 acres), and "golf course" (approximately 187 acres). It is the Applicant's intent that the 80% open space will be preserved by conservation easement held by Dutchess land Trust, and will be finalized during the Site Plan review process.

Mitigation:

There will be a public "Artisan's Park Overlook" created on Delavergne Hill which provides expansive views of the Harlem Valley. This will provide residents of the Town of Amenia with an enhanced ability to enjoy the Town's most iconic viewshed.

It is also anticipated that this overlook and the various resort amenities will draw tourists into the Town.

The Modified Project will create a need for recreational land and facilities due to the generation of approximately 809 new residents of the Town including 175 new school age children. When considering the additional demands that the Modified Project will have on Town recreational facilities, there may be a need to expand such facilities in the near future as a result of the Modified Project and other subdivisions or residential projects. If the Planning Board determines during Site Plan review that a fee in lieu is appropriate, the Planning Board will impose that fee according to applicable local and state regulations.

## M. UTILITIES – WATER

Existing Conditions:

The existing clubhouse is currently served by a water supply system consisting of two onsite groundwater supply wells, water treatment equipment and finished water storage. The main well is located approximately 50 feet north of the clubhouse. The existing maintenance building near the main entrance off Route 22 is served by a separate groundwater supply well. This well is located 46± feet from the northwest corner of the maintenance building.

The existing golf course irrigation system is a separate and independent system used to irrigate the tees, greens, and fairways. In total, approximately 135 acres are irrigated with an estimated 300,000 gallons per day (gpd) during the peak summer irrigation period. Irrigation water is drawn from a natural spring pond onsite and distributed via a network of underground piping to irrigation sprinklers. The irrigation pond is fed by a natural spring source, a small onsite stream and by stormwater runoff from the site.

Impacts:

The projected average day water demand of the Modified Project is approximately 127,612 gallons per day (gpd) or 88.6 gallons per minute (gpm). The anticipated maximum daily flow is approximately 255,224 gpd (177.2 gpm), with a maximum hourly flow of 531 gpm.

To meet the water demand of the Modified Project, groundwater sources must be capable of providing 177 gpm with the largest producing well out of service, and the proposed water treatment facilities must be capable of treating this amount. The conveyance systems of the water treatment facilities will be designed to meet the anticipated maximum daily water demand. With the combined capacity of the site's present groundwater wells totaling 283 gpm with the largest well out of service, the anticipated groundwater yield will be sufficient to meet the anticipated maximum day demand for the Modified Project.

The onsite community water supply system will consist of four (4) to six (6) new groundwater wells, a proposed water treatment facility, a water storage tank and a distribution

system. The water distribution system will consist of approximately 20,000 linear feet of eight-inch water mains with approximately 185 individual service connections. The proposed water treatment process will consist of particulate filtration, micro-filtration, iron and manganese reduction, lead reduction and disinfection.

The proposed residential and mixed uses will require approximately 88.6 gpm of water to meet average demand. This water will also be withdrawn from the site aquifer to support potable uses. However, to minimize withdrawal impacts generated by both uses (potable and irrigation), the Modified Project will return approximately 80% of the potable withdrawals in the form of treated wastewater that would be released into the Amenia/Cascade Brook to supplement the brook. The Modified Project thus leaves the overall site water budget largely unchanged during dry periods, aside from consumptive losses from the residential and mixed uses, which is normally judged to be no more than approximately 20% of the potable water delivery, or approximately 18 gpm for the Modified Project. During dry periods, the Modified Project is therefore expected to result in new direct impacts or unspecified indirect impacts of 18 gpm on local groundwater or surface water environments. More than 325 gpm recharges the project site aquifers each day during typical years on average (see Appendix 9.12), of which 18 gpm new consumption would amount to less than 6%. As such, the onsite aquifer impacts as a result of the Modified Project are largely only shifted from withdrawals primarily from irrigation ponds to withdrawals from supply wells.

The significance of this new water use on the local environment may be considered by reviewing the watershed stream flow at the nearest downstream stream gauging site along the Amenia/Cascade Brook in Wassaic. According to Ayer & Pauszek (1968) *Streams in Dutchess County*, the Amenia/Cascade Brook through Wassaic has a median flow of 3,600 gallons per minute, falling to 1,500 gpm less than 30% of the time, falling to 673 gpm less than 10% of the time, and falling to 291 gpm once every 10 years on average. The off-site, downstream impact of the estimated 18 gpm average water consumption is less than 1% of median stream flow, 2% of 30% flows, 4.2% of 10% flows, and approximately 10% of flows experienced during the 10 year statistical drought. The Modified Project would not terminate flow in this stream.

Existing Town of Amenia water supply wells are sufficiently distant from the project site that the 1,500-foot recharge radii typically identified for deep bedrock wells do not overlap. The absence of offsite aquifer drawdown noted during the aquifer pumping tests on the project site indicates that these withdrawals will have no impact on the present productivity of the existing Town of Amenia water wells.

To meet standards established in Title 10, Subpart 5-1 of the New York State Code, Rules and Regulations, which establishes drinking water maximum contaminant levels and treatment requirements, the water treatment facilities will likely include particulate filtration, micro-filtration, iron and manganese reduction, lead reduction, and disinfection. The treatment system will be maintained and monitored by a New York State licensed water operator with required reporting to Dutchess County Department of Health. The specific water treatment facilities and methods will be determined as part of Site Plan review, after the new wells have been drilled and tested.

The water treatment and control building will house the control and instrumentation panels for the well pumps, transfer pumps, disinfection equipment, other treatment as necessary, all the

piping, gauges and valves, flow meters, sample taps and other equipment that may be required by the Dutchess County Department of Health. The water treatment and control facility will also meet latest New York State Building Code requirements.

Water Storage Tank - Water from the groundwater production wells will be treated and transmitted into the distribution system where it will be stored in an atmospheric storage tank. Water from this tank will be delivered to the system through over 21,800 linear feet of eight-inch diameter water mains.

Ten State Standards[6] requires a distribution storage volume equal to one average day of use. Therefore, the atmospheric finished water storage tank will be designed to store a minimum usable volume equivalent to the average day water demand of 127,612 gpd.

The optimal location for the finished water storage tank is an open area on the hillside south of the NYS Route 44 Hairpin Turn. The tank structure will be partially or fully buried and built into the hillside.

Mitigation:

The finished water will meet all regulatory requirements for water quality and quantity. No further mitigation is required.

Require implementation of low flow standards and other water conservation measures where practicable during Site Plan review as mitigation for potential reduction in groundwater recharge during times of drought.

## N. UTILITIES – WASTEWATER

Existing Conditions:

The 676±-acre project site currently consists of the 170±-acre former Silo Ridge Country Club, which has been closed since 2009. The remaining area of the site is undeveloped except for a 2.2-acre residential parcel. The existing sanitary system on the project site is a septic system with subsurface disposal via leach field. The system operates under New York State Pollution Discharge Elimination System (SPDES) permit number NY0234966, with a permitted flow rate of 12,600 gallons per day (gpd) and a permit expiration date of 2025.

Impacts:

The projected wastewater flow for the Modified Project is an average volume of approximately 115,000 gallons per day (gpd). The proposed sanitary system will consist of a gravity collection and conveyance system supplemented by low pressure sewers with final discharge at the wastewater treatment plant ("WWTP"). The WWTP design will be provided during Site Plan Phase 1 Review.Gravity sewers have been selected in areas of the site where practical. Low pressure sewers

[6] Ten State Standards, Recommended Standards for Water Works, 2003 Edition, Great Lakes Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers.

have been selected in areas where widely varying topography makes gravity sewers impractical. All low pressure sections of the system will ultimately empty into a gravity section or into a pump station. Each served building or house in the low pressure sewer areas of the collection network will be equipped with a grinder pump station that will convey wastewater to a low pressure collection trunk. There will be two pump stations that discharge to the same force main, which itself discharges to that portion of the gravity system flowing directly to the WWTP.

The WWTP will consist of advanced biological treatment, gravity settling of solids, advanced filtration to remove residual solids, and disinfection prior to a surface water discharge. The wastewater will be treated to intermittent stream standards, the highest level of treatment available, without treating to drinking water standards. This treated water from the onsite WWTP will be discharged through a force main, which is routed in a southerly direction to a point of outfall at the Amenia/Cascade Brook with an alternate outfall discharge on site that will ultimately flow to the irrigation pond.

The WWTP would be a privately-owned facility. The Town of Amenia would consent to the formation of a private sewage works transportation corporation to own and operate the WWTP. The Planning Board would also waive the prohibition against non-municipal water systems contained in the Town's subdivision regulations. The sewage works transportation corporation would then own and operate the WWTP and wastewater infrastructure, and would generate operating revenue by collecting sewer fees from the residents of the community, from and the commercial components of the Modified Project, such as the Clubhouse. .

Mitigation:

Surface Water Quality - The wastewater treatment technology for the Modified Project will be selected to meet all effluent quality requirements as required by NY DEC. The anticipated effluent quality values can be readily achieved. When met, these stringent standards will help preserve the water quality of the downstream Class C irrigation ponds, Amenia/Cascade Brook (Class Ct), and downstream water bodies.

## Preliminary Discharge Standards

| Parameter | Raw Influent | NYSDEC SPDES Limit | NYSDOH Reuse Limit | Design Target | Standards Met by Recommendation |
|---|---|---|---|---|---|
| Biochemical Oxygen Demand ($BOD_5$) – mg/L | 220 | 5 | N/A | 5 | Intermittent Stream Standards |
| Total Suspended Solids (TSS) – mg/L | 220 | 10 | N/A | 10 | Intermittent Stream Standards |
| Settleable Solids – ml/L | 10 | 0.1 | N/A | 0.1 | Intermittent Stream Standards |
| Dissolved Oxygen – mg/L | 0 | 7.0 | N/A | 7.0 | Intermittent Stream Standards or Class $C_t/C_{ts}$ standards |
| pH | 6-9 | 6.5-8.5 | N/A | 6.5-8.5 | Intermittent Stream Standards |
| Ammonia (winter/summer) – mg/L | 25 | 2.2/1.5 | N/A | 2.2/1.5 | Intermittent Stream Standards |
| Phosphorus (total) – mg/L | 8 | 0.5 | N/A | 0.5 | Lake/Pond Discharge (limits range from 0.5-1.0 mg/L for flows >50,000 gpd) |
| Fecal Coliform count (30-day geometric mean) | $10^8$ | N/A | 200 | 200 | DOH recommendation. DEC Class A discharge (200) |
| Fecal Coliform count (7-day geometric mean) | $10^8$ | N/A | 200 | 200 | DOH recommendation. DEC Class A discharge (200) |

Groundwater Quality- There will be no direct discharge of treated wastewater effluent to groundwater, and it is anticipated that the wastewater system for the Modified Project will not have a significant adverse impact on groundwater. Existing wells (which will not be used for potable water) may be used to recharge the irrigation pond. Since the Modified Project will utilize onsite wells for potable water, this will further reduce impact on the underlying aquifer. It should be noted that the Irrigation Pond is already a spring-fed water body, and some groundwater is therefore used for irrigation in that manner. This usage has a negligible impact on groundwater, however, since unused spring water would continue to flow off-site to the Amenia/Cascade Brook. The sanitary sewer collection system will be leak-tight, and will not have a significant adverse impact on groundwater quality. No mitigation is necessary.

Air Quality - Implementation of the proposed wastewater strategy will not result in the discharge of any priority air pollutants, and will have no significant negative impact on air quality. The only potential source of air pollutants will be the WWTP emergency backup generator. However, this generator will operate infrequently and will not have a significant adverse impact on air quality.

Visual Aesthetics and Land Use - The proposed location of the WWTP is on the north side of Route 44. It is proposed that the tanks be placed outdoors, with low-profile engineered covers for odor control. A building next to the tanks would contain the tertiary treatment processes (filtration and UV disinfection) and support facilities (office, chemical room, blower room, solids dewatering room, storage, etc.). The WWTP is anticipated to be steel-frame, with roof and siding materials selected by the project architect to blend with the surrounding buildings and landscape. The low pressure sewer pump stations will be entirely subsurface, with only an at-grade access hatch for each. The community pump stations will be either entirely below-grade with an access hatch, or will consist of a small above-grade structure containing pumps and controls. Each of the community pump stations also will be equipped with an enclosed emergency generator with appropriate muffling, and will have sufficient landscaping, fencing, or architectural features to allow them to have a negligible visual impact. Pavement has been kept to a minimum, with enough paved area

only to provide truck access and maneuvering for deliveries and solids hauling, and a small number of parking spaces for WWTP operators.

Odor - Odor issues will be mitigated by proper operation of aerated processes and by enclosing the treatment process inside a building or under covered tanks. The main treatment process tanks will be aerated and mixed to maintain oxygen levels and prevent septic conditions that lead to the generation of most offensive odors. Odor control technology options, if needed, include activated carbon or a scrubber. All other portions of the WWTP process are expected to yield negligible odors and will be subjected simply to standard ventilation and climate control in the building.

All ventilation will conform to the Ten States Standards, NFPA, and any other applicable standards.

All pump stations within the site-wide collection system will utilize standard odor control measures, including proper ventilation, and timed pump-down of large pump stations so their contents do not reside in them for extended periods during times of low sewer flow and turn septic. During detailed sewer design, the option of odor control chemicals will be evaluated in addition to the above measures. Additional measures are not necessary.

Noise - All excessively noisy equipment such as large pumps, blowers, compressors, and generators, will be housed inside buildings, vaults, or noise-reducing enclosures to mitigate impacts at neighboring residences and properties. The aeration blowers for the treatment tanks will be the loudest equipment, and will be located either in a dedicated sound-proofed room within the WWTP building, or within individual noise enclosures within the building. All pumps associated with the treatment process will be submersible pumps, and therefore will be submerged in water and relatively quiet when operating. Piping will be designed to minimize noise associated with high velocity pipe flow in the building. The emergency generator for the WWTP will operate only sporadically and will not create a significant noise impact. The collection system pump stations will be subsurface and produce no discernible noise.

Current Section121-40C.2 of the Zoning law restricts noise that is audible beyond property boundaries to either 50dBA or 60dBA at the property line, depending on the time of day. The WWTP will be designed so that when it starts operation, it will meet all governing noise ordinances.

Separation Distances to Nearby Properties – NY DEC guidelines recommend a 500-foot separation distance between wastewater aeration tanks and public roadways, places of significant public use, or residential structures. This recommended distance is intended primarily to minimize the WWTP impacts of noise and odor on surrounding properties. The current proposal has portions of the process within the WWTP, and a portion of the tanks outside with low profile engineered covers with a separation distance from other structures of less than 500 feet.

## O. UTILITIES – SOLID WASTE

Existing Conditions:

The Silo Ridge Country Club has been closed since 2009.

Impacts:

The amount of solid waste that is expected to be generated by the Modified Project is shown in the following table:

**Estimated Solid Waste Generation**

| Number of Units | Maximum Estimated Number of Persons | Anticipated Daily Solid Waste Generation* | Anticipated Weekly Solid Waste Generation |
|---|---|---|---|
| **Residential** | **809 Residents** | **1,942 lbs/day** | **13,592 lbs/week** |
| **Commercial** | **200 employees** | **240 lbs/day** | **1,680 lbs/week** |
| **Total** | | **2,182 lbs/day** | **15,272 lbs/week** |

* Per NYSDEC estimate of 2.4 lbs of solid waste production per person per day for a residential use and 1.2 lbs of solid waste production per employee per day for a commercial use.

The Silo Ridge Country Club contracts with Welsh Sanitation Services ("WSS") for solid waste removal. Solid waste from the project site is hauled to the Harlem Valley transfer station in Wingdale, NY which is owned and operated by WSS. The Harlem Valley transfer station currently accepts approximately 300 tons of solid waste per week. The transfer station has the capacity to accept a total of approximately 540 tons of solid waste per week. Accordingly, since the transfer station has the capacity to accept an additional 240 tons of solid waste per week, there is adequate capacity at the transfer station to handle the solid waste that will be generated by the Modified Project.

The Silo Ridge Country Club also contracts with WSS for removal of recyclable materials, including cardboard, glass and plastic bottles and containers, and metal cans. These recyclables are hauled to the Dutchess County Resource Recovery Agency ("DCRRA") in Poughkeepsie. IN 2005, DCRRA accepted 6,500 tons of glass, metals and plastic recyclables, and over 15,000 tons of paper and cardboard recyclables. These recyclables were sold for reuse in the private market. DCRRA has adequate capacity to handle the additional recyclables that will be generated by the Modified Project.

Mitigation:

- Implement a solid waste management plan that addresses the accessibility of waste and refuse on the site from subsidized species.

- The Master HOA shall continue to contract with a private hauler to remove all solid waste and recyclables from the Modified Project in compliance with all applicable federal, state and local rules and regulations.

## P. NOISE

Existing Conditions:

A noise evaluation was conducted. The noise evaluation analyzed existing noise sources in the area surrounding the project site, and examined the potential impacts these existing noise resources may have on the resort community.

Measurements were obtained from each of 10 locations to record existing noise levels generated near the project site and by existing activities within close proximity to the site. Noise levels were recorded at ten-minute intervals during both the AM and PM peak hours. During the morning readings, the overall sound levels (Leq) ranged from 41.8 dBA to 57.6 dBA. The PM readings measured overall noise levels (Leq) that ranged from 40.5 dBA to 56.2 dBA.

Impacts:

Short-term noise impacts will occur from construction equipment and earth-moving activities during construction of the Modified Project. It is not possible to predict the exact magnitude of this impact on ambient noise levels in adjacent residential areas due to the variability in many of the factors needed to make such an assessment. These factors include the number and types of construction equipment, construction methods, and scheduling of construction work.

Typically, construction equipment generates noise levels (when measured at 50 feet from the source) that range from 70 to over 95 dBA. These levels can be compared to a shouting voice at six feet (70 dBA) or to a lawn mower at three feet (95 dBA). Since noise from stationary sources attenuates at a rate of 6 dB per doubling of distance, a 90-dB noise level at 50 feet from the source would be reduced to 84 dB at 100 feet, 78 dB at 200 feet, 72 dB at 400 feet, and 68 dB at 800 feet. Thus, the actual noise level at receptors within the surrounding developments will vary depending on the specific areas within the project site in which construction is taking place.

Based on guidelines accepted by US Environmental Protection Agency and the NY DEC, which set a goal that exterior noise levels do not exceed 65 decibels in mixed land use areas, noise levels resulting from existing land uses and activities adjacent to the project site are not expected to adversely impact the proposed resort community.

There will be no significant change in noise levels from traffic flow. Further, it is reasonable to assume that cars driven by new residents and patrons to the hotel, golf course, and spa will be similar in make and variety to those found presently on the road system, thus producing similar levels of sound. Also, the activities of new residents are expected to be comparable to existing activities in the area of the proposed project, with no notable differences in sound levels.

In analyzing cumulative noise levels of additional activities, it is expected that the difference between present and anticipated future sound levels will not exceed 3 dBA. According to the NY DEC, increases ranging from 0 dB to 3 dBA are not generally perceptible.

Mitigation:

The Modified Project will leave 80% of the site as open space and wooded areas, which will help to attenuate noise from construction and shield adjacent areas from potential impacts.

Construction activities would typically occur during the primary daylight hours of 7:00 AM to 6:00 P.M. Section121-40C of the Zoning Law exempts from noise level regulations construction- and maintenance-related noise occurring between 8:00 AM and sunset, Monday through Friday. The Applicant and its contractors would comply with the noise level requirement for activities weekdays

from 7:00 A.M. to 8:00 A.M., and between sunset and 6:00 P.M., and from 7:00 A.M. to 6:00 P.M. on weekends, which prohibits a sound level at any property line in excess of 60 dBA.

The new land uses and activities will not adversely impact the future residents of the Modified Project and no noise mitigation measures are necessary.

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## Q. FISCAL RESOURCES

Existing Conditions:

The 676±-acre project site is currently developed with the former Silo Ridge Country Club, a 170±-acre 18-hole golf course with a clubhouse and pavilion. In 2007, the site generated a total of approximately $185,102 in annual tax revenue, which includes approximately $53,890 to municipal entities and $131,212 to the Webutuck Central School District. Taxes reduced in 2010-2011.

The project site is privately owned and maintained and therefore has not required municipal services aside from the potential for emergency police, fire, or medical services. The Silo Ridge Country Club maintains all on-site roads, stormwater management facilities, and drainage facilities, and no residents or school children reside on the site. The project site is not currently served by public water or sewer.

Impacts:

The Modified Project was evaluated under a worst case scenario where all homes were considered to be primary units, despite the design of the Modified Project and the Applicant's intended marketing as a luxury community for second home buyers. This conservative fiscal analysis examines two different scenarios for non-residential assessment: in the first scenario, it is assumed that all 21 lodging units will be assessed as for sale residential condominium units;in the second scenario, it is assumed that all 21 are assessed as transient occupancy "hotel" rental units. The analysis reveals that under the first scenario, the estimated total assessed value of the Modified Project will be $494,802,700 resulting in projected revenues of $1,156,182 to the Town, $236,997 to the Amenia Fire District and $1,708,623 to Dutchess County. For the second scenario, the estimated total assessed value of the Modified Project will be $505,648,256 resulting in projected revenues of $1,181,524 to the Town, $242,192 to the Amenia Fire District and $1,746,074 to Dutchess County.

To evaluate costs of services associated with the Modified Project, the Applicant applied the same methodology used in the DEIS fiscal analysis for the Original Project. It is estimated that the Modified Project would result in a $200,529 increase in Town General Fund expenses, a $49,955 increase to the Town Highway Fund expenses, and a $153,040 increase to Amenia Fire District expenses, for a total estimated cost of services of $403,524.

For fiscal impacts on the Webutuck Central School District, please refer to Section II.K of this Amended Findings Statement.

Mitigation:

The Modified Project generates a positive fiscal impact of at least $980,000 to the Town and the Amenia Fire District under either scenario described above. During the DEIS public comment period, concern was expressed about variation in the potential market values of the various types of residences to be offered. To address this concern, the Applicant conducted the same sensitivity analysis for the Modified Project that was conducted for the Original Project, in which the residential market values and the associated assessed values are reduced by 25% and 50%. Both of these reduced value scenarios will produce a net surplus to the Town's revenues. Under a worst case 50% reduction in the market values of the residences, the Modified Project would generate an estimated surplus to the Town of $365,000.

## R. DEMOGRAPHICS

Existing Conditions:

According to the 2000 US Census, the population of Amenia is 4,048. The median age is 40.2, which is slightly higher than the median age for Dutchess County. The average household size is 2.46 persons and remains unchanged from 1990. The total number of households in 2000 is 1,804 and represents an 18% increase from 1990.

The percentage of the housing stock built after 1980 in Amenia and Dutchess County is 19% and 24%, respectively. The single family detached average home sales price in Amenia for 2005 (January to December) was $310,745, according to the Mid-Hudson Multiple Listing Service. Between 2003 and 2005, there was an increase of $96,595 in average home sales prices.

According to 1990 US Census data, the median household income for the Town of Amenia was $31,136. By 2000, the median household income had risen to $39,231, representing a 26% increase. There was a decrease in the number of households in all categories earning below $50,000 and an increase in the number of households in each category earning $50,000 or more. The most significant increases were seen in households earning between $100,000 and $149,999 and those earning $150,000 or more.

Impacts:

The Modified Project is estimated to increase the population of the Town by a maximum of 809people. Although the Modified Project is designed and will be marketed as a second-home resort-style community, for the purposes of analysis it was assumed that the entire population will consist of permanent year-round residents. While owners of the lodging units may stay for extended periods (not to exceed more than 120 days in any calendar year, nor more than 30 consecutive days, pursuant to Section 121-74 of the Zoning Law), they are not considered permanent residents and are not included in the population projections.

The proposed number of households on the project site is 224 (i.e., the number of residential units excluding the lodging units). This would represent a 19% increase over the 2000 Census figure of 1,804. The average household income of these new residents is estimated to be $413,014, which is significantly higher than the reported 2000 US Census median income of 39,231.

## S. COMMUNITY CHARACTER

Existing Conditions:

The project site is located within the Town of Amenia, a rural community with open farm fields and horse, sheep and bull farms. The natural environment of the Town is characterized by open fields with pockets of forested areas, often on hillsides. Topography is varied, with rolling hills and expansive valleys.

The Hamlet of Amenia is the more densely settled area within the Town and is the downtown activity center of Amenia. There is a mix of businesses that front directly along the sidewalks and roadways. Most of the buildings are one to three stories in height and constructed of a combination of brick and wood in historic styles. There are a few businesses set back from the roadway by parking lot areas. There are also a number of residences located within the hamlet, including two- to three-story Victorian-style and Colonial-style homes that are further setback from the roadway. The Hamlet of Wassaic is also approximately two miles south of the project site.

Along Route 22 north and south of the Hamlet of Amenia, there are commercial enterprises located along the roadside commercial strip pattern. Very low density residential development is scattered across the landscape outside of the more densely developed hamlet area.

Impacts:

The Modified Project will introduce a dense TND type land use pattern consisting of clubhouse/lodging uses, detached single-family homes, condominiums and townhomes onto the site. Residential development in the Town generally consists of single-family homes; townhomes are not a common residential form in Amenia. The single-family houses will be located along the toe of the slope along the western and southern edges of the golf course. The houses will be up to 2½ stories in height with square footage ranging from approximately 3,000 square feet to 6,000 square feet. The townhouse units will be located throughout the project site in clusters. Units will range in size from 1,700 square feet to 2,700 square feet, and the buildings will be 2 to 3 stories high.

The Clubhouse building will be up to 2½ stories in height, but due to the placement within the topography of the site, only 1½ stories will be visible from the front entrance.

The architecture complements existing styles in the Hamlet of Amenia and proposes colors which blend with the natural landscape setting. Outside the central portion of the site, low profile residential buildings are proposed. Section II.F of this Amended Findings Statement describes the visual impacts and mitigation of the Modified Project.

The Modified Project introduces a design element, the use of controlled access points, i.e. manned and unmanned gates, which is not typical of existing residential development in Amenia.

The Modified Project provides existing businesses in the Hamlet of Amenia with a large potential market. The amount of retail space within the RDO District is limited to only 5% of total building footprint area. The limited retail uses of the Modified Project are those that directly support the resort community. It is anticipated that residents and visitors of the Modified Project will shop in the greater community for many goods and services. The Modified Project will preserve 540± acres (80%) of the site as open space. This open space consists mainly of the steep forested hillside (230 acres) on the western side of the project site and 163± acres consisting of the redevelopment of

the golf course. The Modified Project will impact 1.88± acres of wetlands and 23.7± acres of steep slopes greater than 30%.

Mitigation:

Buildings have been placed to utilize the existing topography of the hillsides surrounding the valley as well as the rolling hills within the valley to minimize the visibility and perceived scale of the buildings.

Architectural style, building facades, articulated building masses, facades, roof lines and fenestration are contextual and in scale; and the color and materials palette are detailed in the MDP.The primary purpose of the gatehouse at the main entrance will be for personnel to greet owners and their guests, provide directions or instructions to guests, and identify persons entering the site and their intended destination(s). It will be necessary to be an owner or owner's guest, or a guest of the Lodge or of the golf course, to enter the site. Resort community personnel will have the authority to grant or deny access to the site. Moreover, resort community personnel will have the authority to deny access and to remove persons who are disruptive to other people visiting the resort community and to the operation of the resort community, and who have misrepresented their stated intent or purpose for visiting the resort community.

## III. ALTERNATIVES

The Modified Project is a modification to the Proposed Action studied in the EIS, addressed in the Original Findings, and for which the Planning Board granted Special Use Permit/master development plan approval in June, 2009. Five alternatives to the Origibal Sponsor's initial proposal were studied in the EIS:

- Alternative 1 – No Build Alternative
- Alternative 2 – Traditional Neighborhood Alternative
- Alternative 3 – Reduced Scale Alternative
- Alternative 4 – Conforming Zoning Alternative
- Alternative 5 – Alternative Energy Option

### A. ALTERNATIVE 1 - NO BUILD ALTERNATIVE

The No Build alternative is represented by the existing conditions on the project site. Under this alternative, the site would remain as a golf course for the time being, although there is no guarantee that the site would not otherwise be developed at some point in the future. The No Build Alternative would avoid those adverse impacts that could result from the project. However, it would forgo economic benefits of the project as well as the desired land use policy to develop a tourism based, mixed use development in the RDO District as per the Town of Amenia Comprehensive Plan. Moreover, this alternative is not consistent with the capabilities and objectives of the Applicant.

### B. ALTERNATIVE 2 – TRADITIONAL NEIGHBORHOOD ALTERNATIVE

As the SEQRA process evolved, it became apparent to the Original Sponsor and the Planning Board that the Traditional Neighborhood Alternative would reduce potential environmental impacts. Thus, with the agreement of the Original Sponsor, the Traditional Neighborhood Alternative, with modifications, became the preferred alternativeunder SEQRA, and an extensive analysis of its potential impacts was evaluated in Section 5.0 of the DEIS and the subsequent FEIS.

## C. ALTERNATIVE 3 – REDUCED SCALE ALTERNATIVE

The Reduced Scale Alternative includes 179 residential units and a 300-room hotel configured with a central village green and underground parking. The loop road and units around the southern portion of the golf course have been eliminated; however, amenities such as the golf course, restaurant, winery, clubhouse, spa and fitness center and small scale retail uses have been retained. In comparison to the Traditional Neighborhood Alternative, the Reduced Scale Alternative has fewer residential units, but has the same number of hotel rooms. Both Alternatives make an effort to move buildings away from steeply sloped areas and sensitive environmental and visual features, such as wetlands and Delavergne Hill, and locate the wastewater treatment plant north of Route 44 to avoid cultural resources impacts. The Reduced Scale Alternative removed townhouses on Delavergne Hill which were replaced with a small winery and public observation area.

The Reduced Scale Alternative reduces impacts to slopes greater than 15% by approximately 17 acres over the Traditional Neighborhood Alternative, provides more open space (84% vs 80%), and creates less impervious surfaces (4% vs. 6%).

With fewer units, a number of impacts are reduced. The Reduced Scale Alternative would generate fewer total residents and fewer school children than the Traditional Neighborhood Alternative, however the project is designed and marketed as a second-home resort community. It is anticipated few of the residential units would be expected to be occupied on a year-round, permanent basis. There would likely be slightly less demand for police, fire, and emergency medical services. The reduced population also results in approximately 36% less water demand and wastewater generation (less solid waste generation than the Traditional Neighborhood Alternative). With respect to traffic, the Reduced Scale Alternative would generate less peak hour trips.

The Reduced Scale Alternative reduces the total number of residential units by approximately 47% from the Traditional Neighborhood Alternative. This is a significant impact for the project sponsor, as it does not maximize use of the property as permitted under RDO District regulations, nor does it provide the mix of housing types needed to fully support the resort community concept. The reduced unit count would warrant a smaller wastewater treatment plant, however, the cost of building the plant is not expected to be reduced by the same percentage. With fewer units the homeowner's association and condominium association fees per unit to cover the cost of providing an upscale, outstanding resort would have to be increased significantly. High fees may affect the ability to sell units.

The Reduced Scale Alternative does not meet the objectives of the Applicant in a variety of ways, because it would not include the desired mix of housing types to create a lively resort community, and would not be financially feasible.

## D. ALTERNATIVE 4 – CONFORMING ZONING ALTERNATIVE

This Alternative consists of a conventional development of 41 detached single-family dwellings on minimum lots of five acres and 648 townhomes, consistent with the existing RA Zoning District. The existing 18-hole golf course would not be retained under this alternative.

This Alternative would generate a total of 1,984 residents and without a golf-oriented resort, it is more likely that residents would be year-round occupants of the site. Therefore, this Alternative would generate more traffic, solid waste, and wastewater due to the larger permanent population that would be expected. It would also generate demand for more water and create a greater demand for public services such as police, fire, and emergency medical services. Without retention of the golf course, this Alternative preserves significantly less open space than the Traditional Neighborhood Alternative. It should also be noted that the Conforming Zoning Alternative does not meet the Applicant's objectives and capabilities.

## E. ALTERNATIVE 5 – ALTERNATIVE ENERGY OPTION

The potential and feasibility for the use of alternative energy resources including wind power, solar energy, groundwater heat pump sources, and methane from the Harlem Valley Landfill, was evaluated. The use of geothermal energy to supplement conventional heating methods for the Modified Project does not appear to be feasible on the project site, as it would be cost-prohibitive for a project of this size. Wind power is not practical on this site, as it requires large amounts of land for windmills. In addition, there would be significant visual impacts from the number of windmills that would be necessary to provide a source of energy for a project of this size. Use of methane from the Harlem Valley Landfill is not feasible as a source of energy for the Modified Project because the quantity available would be insufficient to meet the demands of the Modified Project. The use of solar energy as an alternate energy source may be possible in some areas of the site and will be considered as the Modified Project moves forward in the design phase.

# IV. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

A number of resources will be expended during the construction and operation of the Modified Project. These resources include fossil fuels, electricity, and construction materials, and are committed for the life of the Modified Project. Non-renewable fossil fuels will be irretrievably lost through the use of gasoline and diesel powered construction equipment during construction. The need for construction jobs will be an irretrievable commitment of labor resources.

The land use changes associated with the Modified Project can also be considered a resource loss. Areas of existing undeveloped land will be committed to the development of, among other resort community facilities, single-family homes, townhouses, a Clubhouse and associated amenities, roads, parking areas, and landscaped areas. Existing soils will be altered and replaced with paving, and some wildlife habitat will be lost. However, 80% of the site will be permanently preserved as open space.

Commitments will also be made for the use of renewable and/or recyclable resources such as construction and building materials including timber, copper, ductile iron, concrete, and glass.

## V. GROWTH INDUCEMENT

As a resort community development, the Modified Project is anticipated to attract residents with substantial household income. While there will be some limited retail on the project site, it is anticipated that residents will seek goods and services in the nearby community and region. In addition to generating more sales for local businesses and service providers, it is anticipated that the Modified Project would generate demand for limited amounts of new commercial space in response to the increased purchasing power in the community. The amount and location of such space would be controlled by the availability of developable land that is zoned for such uses.

Throughout the course of the construction period, which is anticipated to extend for five to ten years, the Modified Project is expected to generate 121 full-time-equivalent, 79 part-time and approximately 1,800 construction jobs. These workers are expected to have a positive impact on existing local businesses by purchasing food, gasoline, and other goods and services while working at the project site.

A community water supply system, to be privately owned, will be constructed to serve the Modified Project. The water infrastructure will serve the Modified Project only and will not extend off the project site. Therefore, it is not considered to have the potential to create growth-inducing impacts.

Wastewater generated by the development will be collected and conveyed to a wastewater treatment plant to be located on the project site. The wastewater treatment plant will serve the Modified Project only and will not extend off the project site. Therefore, it is not considered to have the potential to create growth-inducing impacts.

## VI. EFFECTS ON USE AND CONSERVATION OF ENERGY RESOURCES

The construction of the Modified Project will result in the consumption of energy resources in the form of diesel fuel, gasoline, and electricity. Operation of the resort facilities and residential units will require the consumption of energy for cooling, heating, cooking, lighting, operation of maintenance equipment, and operation of golf carts. Energy will also be consumed by vehicles used by residents to access the resort community.

The consumption of energy at the golf course is not expected to be significant. It is anticipated that the primary source of energy for the Modified Project will be electricity form NYSEG. Secondary energy will be propane on an option basis in buried individual tanks for single-family units and/or townhomes and common buried tanks for condominium units. It is not expected that all units will have a propane option.

The design and plans for all energy conservation systems within the development will take into account the New York State Energy Code. The Applicant has registered for and is pursuing LEED Silver certification for the Clubhouse and is seeking Energy Star certification. All of the homes will be Energy Star compliant.

The Planning Board finds that anticipated consumption will have no adverse effect on energy supplies in the area, and therefore no additional mitigation is necessary.

## VII. CONSISTENCY WITH DRAFT AND FINAL ENVIRONMENTAL IMPACT STATEMENTS

The Planning Board has determined that the Draft EIS and Final EIS documents, and the full Environmental Assessment Form with addendum submitted with respect to the Applications of approval of the Modified Project, and the public hearings on the Draft EIS and on the Applications are sufficient to inform the public of all environmental aspects of the Modified Project's effects. The Planning Board has also determined that the detailed mitigation measures specified in the Draft and Final EISs as well in this Amended Findings Statement are adequate to avoid or minimize environmental impacts of the Modified Project. All such measures specified in the Draft and Final EISs are incorporated by reference in this Amended Findings Statement as if they were enunciated herein; provided that in the event of any conflict or inconsistency, then this Amended Findings Statement shall control.

## VIII. CERTIFICATION OF FINDINGS TO APPROVE

Having considered the Draft and Final EIS, and having considered the preceding written facts and conclusions and specific findings relied upon to meet the requirements of 6 N.Y.C.R.R. Part 617, this Amended Findings Statement certifies that:

1. The requirements of 6 N.Y.C.R.R. Part 617 have been met;

2. All mitigation measures identified herein are adopted as conditions of this Amended Findings Statement

3. Consistent with the social, economic and other essential considerations, from among the reasonable alternatives thereto, the action approved is one which minimizes or avoids adverse environmental effects to the maximum extent practicable; including the effects disclosed in the environmental impact statement; and

4. Consistent with social, economic and other essential considerations, adverse environmental effects revealed in the environmental impact statement process will be minimized or avoided to the maximum extent practicable by implementing the mitigation measures identified herein, all of which have been adopted as conditions of this Amended Findings Statement.

For Town of Amenia Planning Board:

Signature of Responsible Official

Name of responsible Official

| Planning Board Chairperson | |
|---|---|
| Title of Responsible Official | Date |

Town of Amenia Planning Board
Amenia Town Hall
4988 Route 22
Amenia, New York 12501

**Findings Statement Filed With:**

Town of Amenia Planning Board
4988 Route 22
Amenia, New York 12501

Town Board of the Town of Amenia
4988 Route 22
Amenia, New York 12501

Town of Amenia Zoning Board of Appeals
4988 Route 22
Amenia, New York 12501

Town of Amenia Water District
Washington Court
Amenia, New York 12501

NY State Department of Environmental Conservation
Division of Regulatory Services
625 Broadway
Albany, NY 12233

NY State Department of Environmental Conservation
Region 3 Office
21 South Putt Corners Rd.
New Paltz, NY 12561

NY State Department of Health
Bureau of Water Supply
Flanigan Square, Room 400
457 River Street
Troy, NY 12180

NY State Department of Transportation
Region 8 Office
Flanigan Square, Room 400
4 Burnett Blvd.
Poughkeepsie, NY 12603

Dutchess County Department of Public Works
38 Dutchess Turnpike
Poughkeepsie, NY 12603

Dutchess County Department of Health
387 Main Street
Poughkeepsie, NY 12601

New York Secretary of State
New York State Department of State
41 State Street
Albany, New York 12207

United States Army Corps of Engineers
New York District – Regulatory Branch
26 Federal Plaza, Room 1937
New York, NY 10278-0090

**Interested Agencies:**

Town of Amenia Town Clerk
4988 Route 22
Amenia, New York 12501

Town of Amenia Conservation Advisory Commission
4988 Route 22
Amenia, New York 12501

Amenia Fire Company
Mechanic Street, P.O. Box 166
Amenia, New York 12501

Webutuck Central School District
194 Haight Avenue
Amenia, New York 12501

Dutchess County Planning Department
27 High Street
Poughkeepsie, New York 12601

NYS Office of Parks, Recreation and Historic Preservation
Field Service Bureau
Peebles Island, P.O. Box 189
Waterford, NY 12188-0189

Metropolitan Transportation Authority
Metro North Customer Service
420 Lexington Avenue, 9th Floor

New York, NY 10017

Mr. John Fenton
Town of Amenia Building Inspector/Fire Inspector
4988 Route 22
Amenia, NY 12501

Hudson River Valley Greenway Communities Council
Capitol Building
Capitol Station, Room 254
Albany, NY 12224

Dutchess County Water and Wastewater Authority
27 High Street, 2nd Floor
Poughkeepsie, NY 12601

**Attachment A – Silo Ridge Resort Community Findings Statement**

**Soil Sampling Protocol**

According to the NRCS digital soil survey for Dutchess County, soils on the site range from shallow to very deep and moderately-well to excessively-well drained, with slopes ranging from 0-45%. non-wetland soil types present include the Copake, Dutchess, Cardigan, Udorthents, Galway, Farmington, Nassau and Stockbridge series.

The following procedures should be followed to insure that soil from the areas to be disturbed have been properly sampled. Note that these procedures are intended for sampling the upper portion of the soil profile only. They do not provide a method for sampling the lower portions of the soil profile (located below the solum) or the groundwater:

1. Prior to sampling, the processing lab should be contacted to determine what volume of soil core is required to test for the designated parameters, as well as the proper vessel for collection and transport of the cores.

2. Assuming that herbicides and pesticides where applied uniformly to all site turfgrass, sampling can be conducted in a uniform grid pattern over the area in question. Sampling locations can be separated by 200-600ft, being sure that soils along the topo-sequence, from the top of the slope to the toe of the slope, are adequately represented.

3. Soil cores should be collected within the topsoil (a.k.a "A" horizon) and subsoil (a.k.a. "B" horizons) which ranges from 0-30 inches from the soil surface depending on the soil type.

4. At each sampling location, two soil cores should be collected, one within 6 inches of the soil surface and the second between 6-17 inches from the soil surface.

Soil cores should be collected from the soil profile in-situ to avoid mixing of soil horizons. Standard soil sampling equipment should be used to collect the soil cores, such as a dutch or bucket auger. Soil samples collected will immediately be place is an ice filled cooler and shipped overnight to a USEPA certified laboratory for testing. The soil sampling must be done no sooner than thirty days before any land clearing construction is undertaken. Pre-construction pesticide soil sampling is limited to any pesticide applied within the soil half life of the pesticide or within the past 6 month, which ever is greater. If there is any detectable level of pesticides observed in any sample, the applicant must calculate both a residential and a commercial/industrial Soil Cleanup Target Level (SCTL) specific to the pesticide(s) detected.

According to information provided by the applicant, the following pesticides were applied to the current Soil Ridge golf course in 2008:

Insecticides:

- Deltamethrin (Delta Guard)
- Chlorpyrifos (Dursban)
- Cyfluthrin (Tempo)
- Imadacloprid (Merit)

Fungicides:

- Chlorothalinol (Daconil)
- Ipriodione (26 Gt)
- Propiconazole (Banner Max)
- Mefenoxam (Subdue) DEIS
- Thiophanate (T.M. 4.5)
- PCNB (PennStar Flo

Herbicide:

- Carfentrazone (Speed Zone)
- Dithiopyr (Dimension)
- Trinexapac (Primo Maxx)
- Ethephon (Proxy)

**Acceptable Risk-Based Concentration of Pesticides in Soil**

This section describes how to calculate a residential and a commercial/industrial Soil Cleanup Target Level (SCTL) specific to a pesticide, consistent with USEPA risk assessment methods. The scientific basis for the method is described in detail by Saranko *et al.*, 1999. The SCTL values consider human exposure to a pesticide in soil *via* incidental ingestion of soil, dermal absorption of pesticide-soil adhering to skin, and inhalation of windblown soil particles. Inhalation of a volatilized pesticide from soil is considered when volatility of pesticide is high. This risk method considers long term exposure, more than just during construction. It does not consider impacts from pesticides in the soil on macro/micro flora and fauna during or after construction. This method was used to evaluate the risk of a pesticide (MSMA) in the soils of Florida golf courses to both workers on the golf course and residence living at the golf course.

The calculation will determine a residential SCTL and a commercial/industrial SCTL in units of mg/kg. This indicates that a given concentration of a pesticide in soil is less than the residential SCTL, there would not be a human health concern for residents in daily contact with that soil at their homes. If the concentration of a pesticide in soil was below the commercial/industrial SCTL, there would not be a human health concern for workers at this site. If concentration of the pesticide was above either the residential or commercial/industrial SCTL, then the Pesticide-Soil Remediation Plan would need to be followed to protect workers and future residents of Soil Ridge.

**SCTL Equation and Parameters:** The SCTL equation for non-cancer effects is:

$$SCTL = \frac{THI \times BW \times AT}{EF \times ED \times FC \times [(1/RfD_0 \times IR_0 \times 10^{-6}\ kg/mg) + (1/RfD_d \times SA \times AF \times DA \times 10^{-6}\ kg/mg) + (1/RfD_i \times IR_i \times (1/VF = 1/PEF))]}$$

The following default values for the SCTL parameters

Target Hazard Index: *THI* = 1.00 (unitless)

Body Weight: *BW* = 15 kg for resident; 70 kg for worker

Averaging Time: *AT* = 2,190 days for resident; 9,125 days for worker

Exposure Frequency: *EF* = 350 days/year for resident; 250 days/year for worker

Exposure Duration *ED* = 6 years for resident; 25 years for worker

Fraction from Contaminated Source: *FC* = 1 (unitless)

Ingestion Rate, Oral : *IRo* = 200 mg/d for resident; 50 mg/d for worker

Surface Area of Skin Exposed: *SA* = 1,800 cm2/day for resident; 2,000 cm2/day for worker

Adherence Factor: *AF* = 0.2 mg/cm2 for resident; 0.6 mg/cm2 for worker

Inhalation Rate: *IRi* = 10 m3/day for resident; 20 m3/day for worker

Volatilization Factor: *VF* = negligible, omitted

Particulate Emission Factor: *PEF* = 1.24 · 109 m3/kg

The following are specific values for the SCTL parameters that will be used in a calculation for a given pesticide:

***Oral Reference Dose, RfDo***
The chronic dietary reference dose (*RfDo*) is based on the results of achronic toxicity studies.

***Dermal Reference Dose, RfDd***
The chronic dermal reference dose (*RfDd*) is based on USEPA adoption of the chronic dietary RfD as a dermal RfD (USEPA, 2000).

***Inhalation Reference Dose, RfDi***
The chronic inhalation reference dose (*RfDi*) is based on the results of a 90- day inhalation toxicity studies.

***Dermal Absorption***
The dermal absorption value is based on a dermal absorption studies. with cacodylic acid. The cacodylic acid dermal absorption data were

***Volatilization Factor***

The above information and description is from: The Environmental Fate of Monosodium Methanearsonate (MSMA): A Review of Important Processes. Prepared by: Gradient Corporation, 20 University Road, Cambridge, MA 02138. MAATF/050228, February 28, 2005.

**Reference**

Saranko, CJ; Halmes NC; Tolson, JK; Roberts, SM. 1999. "Technical Report: Development of Soil Cleanup Target Levels (SCTLs) for Chapter 62-777, F.A.C." Prepared for the Division of Waste Management Florida Department of Environmental Protection by Center for Environmental & Human Toxicology University of Florida Gainesville. Final Report. Downloaded from http://www.dep.state.fl.us/ waste/quick_topics/publications/documents/sctl/techrpt.pdf. May 26.

**Pesticide-Soil Remediation Plan**

The following are a range of remedial actions for reducing or eliminating human exposure to pesticide contaminated soil based upon land use. The selection of remedial options should include considerations such as site layout and construction plans. It is necessary to implement more than one remedial option at the Silo Ridge site. If a pesticide or pesticides are found to exceed either the residential or commercial/industrial SCTL, then the Pesticide-Soil Remediation Plan would need to be developed by the Applicant and approved by the Town prior to implementation.

**Remedial Option 1** - Contaminated soil can be consolidated and covered on-site under buildings, roads, or other impervious areas approved by the Town. Contaminated topsoil may not have the appropriate physical properties to be used under some structures making engineering review of this option required.

**Remedial Option 2 -** Contaminated soil can be capped with clean topsoil. Topsoil caps will be one foot or more thick. The term "clean" soil means that the soil does not contain any detectable pesticide.

**Remedial Option 3 -** Contaminated soil can be blended with clean soil within the pesticide contaminated. Blending may be done with clean soil from within or outside the area of concern to achieve concentrations at or below residential and a commercial/industrial Soil Cleanup Target Level (SCTL) for all contaminants.

**Remedial Option 4 –** Contaminated soil may be blended with clean soil outside the area of concern, but within the site. Blending outside the area of concern must achieve concentrations at or below the residential and a commercial/industrial Soil Cleanup Target Level (SCTL).

**Remedial Option 5 –** Contaminated soil can be removed from the site and disposed of as a waste.

**Remedial Option 6 –** The bioremediation treatment of the pesticide contaminated soil. Bioremediation methods that combine chemical and microbiological processes, called in situ chemical reduction (ISCR), should be used. One new ISCR approach to bioremediation to consider involves the combination of a metallic reducing agent, such as powdered zero valent iron (ZVI), with a fermentable organic carbon substrate (e.g., processed plant material). The combined approach yields both chemical reducing power, generated as the ZVI corrodes, and biological reducing power, generated as native bacteria grow on the carbon substrate. This approach has proven to be effective to treat surface soils contaminated with pesticides, with achievement of the residential and the commercial/industrial Soil Cleanup Target Level standards.

(From: Findings & Recommendations for the Remediation of Historic Pesticide Contamination - Final Report March 1999, NJ DEP)