



The Welcome House

SUSTAINABLE COMMUNITY

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Sustainable Approach and Features

Millbrook Ventures is committed to making this resort environmentally sensitive utilizing a sustainable approach. The natural beauty of the site, its natural resources and proximity to the rail station enhance this vision. The attributes of the site itself along with methods anticipated to be implemented will help achieve this sustainable goal. Our approach is to offer an active, vibrant, and healthy lifestyle community that will provide high quality, healthy and efficient facilities and residences, while preserving and protecting the natural resources of the community.

The sustainable approach will conserve resources, utilize energy more efficiently, and reduce operation and maintenance costs which in turn will make a positive difference in contributing to a more sustainable world and will provide long term value. The resort staff will be stewards of the resort environment. The healthy lifestyle approach of the resort will not end with the buildings and grounds as the cuisine will also be reflective of the owner's passion for organic and locally sourced offerings.

The Resort has registered for and is pursuing LEED Silver certification for the hotel, spa, and clubhouse and is seeking Energy Star certification for residential units. All of the homes will meet Energy Star requirements and the project is compliant with Audubon International's standards for new development.

LEED certification is a program offered by The U.S. Green Building Council (USGBC). USGBC is a 501(c)(3) nonprofit membership organization with a vision of a sustainable built environment within a generation. Its membership includes corporations, builders, universities, government agencies, and other nonprofit organizations. USGBC is dedicated to expanding green building practices and education, and its LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™.

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a voluntary, consensus-based national rating system for developing high-performance, sustainable buildings. LEED addresses all building types and emphasizes state-of-the-art strategies in five areas: sustainable site development, water savings, energy efficiency, materials and resources selection, and indoor environmental quality.

Silo Ridge Resort offers the following in its goal of sustainability:

- Proximity to rail station
- Shuttle service for customers to and from rail station and hamlet of Amenia
- Proximity to bike path
- Bike availability, bike racks and storage
- Promoting healthy lifestyle including walking, biking running, golfing, swimming, physical fitness in general along with healthy food choices
- Below grade parking
- Roof gardens on two parking structures
- 80% open space
- Restore portion of wetlands LL
- Protection of many habitats utilizing the Natural Resource Management Plan (NRMP) and Habitat Management Plan (HMP)
- Protection of water resources using NRMP, HMP and Stormwater Pollution Prevention Plan (SWPPP)
- Lighting parameters that reduce light pollution
- Pervious surfaces on many sidewalks and patios Using pervious materials at the winery restaurant parking, and draining that through a buffer planting area.
- Southern exposure for many buildings
- Provision of a wastewater treatment plant is an important aspect of the sustainability of the project by enabling the clustering of the development footprint, thereby allowing large portions of the site to remain undeveloped.

As the building and engineering work advances many more opportunities for water efficiency, energy and atmosphere, materials and resources, indoor environmental quality and innovation during design will become evident and be analyzed in furtherance of the resort's sustainable vision.



ERNIE ELS

Golf Course

The Silo Ridge Golf Course will be renovated under the direction of Ernie Els Design team. Ernie Els Design is committed to transporting Ernie's goodwill across cultures and borders, in order to create classic golf courses of distinction. Together, we will create an attractive destination that adheres to the principles of sustainable development and sound environmental practice.

One of the sustainable features of the golf course is that it is registered in the Audubon International Signature Program and will seek Silver certification (See Appendix D). The Audubon Signature Program provides comprehensive environmental planning assistance to new developments. The program helps landowners and developers design for the environment so that both economic and environmental objectives are achieved. Once construction is complete, involvement in an Audubon Signature Program ensures that managers apply sustainable resource management practices in the long term stewardship of the property. In preparation for this program a Natural Resource Management Plan (NRMP) was prepared for Silo Ridge. The NRMP along with the Habitat Management Plan (HMP) will be utilized in oversight of the 80% open space, 537 acres, to be placed in Conservation Easement.

Millbrook Ventures, LLC has agreed to test the soil, per the proscribed protocol in the Findings Statement, on the current golf course land prior to construction to determine the risks of such soil to construction workers and future residents and golf course workers on the site. If the level of any pesticide, herbicide, or fungicide is above the residential and/or commercial/industrial Soil Cleanup Target Level, the applicant will implement a soil remediation plan to reduce the risk.



Open Space

Section 121-18(C)(4) of the Zoning Law requires that a minimum of 80% of the total land area of the Property be preserved by a conservation easement as open space. For purposes of the RDO, 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 Project complies with this 80% protected open space requirement. Sheet SP-5 of the Master Development Plan indicates the Open Space calculations for the +/- 537 acres being preserved.

This open space land will 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. All of the open space land will be placed 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. Deed restrictions shall be added to all deeds for the Property, or any portion thereof, implementing the requirements of the Conservation Easements. Restrictions shall be added to the HOA documents as necessary to implement the requirements of the Conservation Easements.

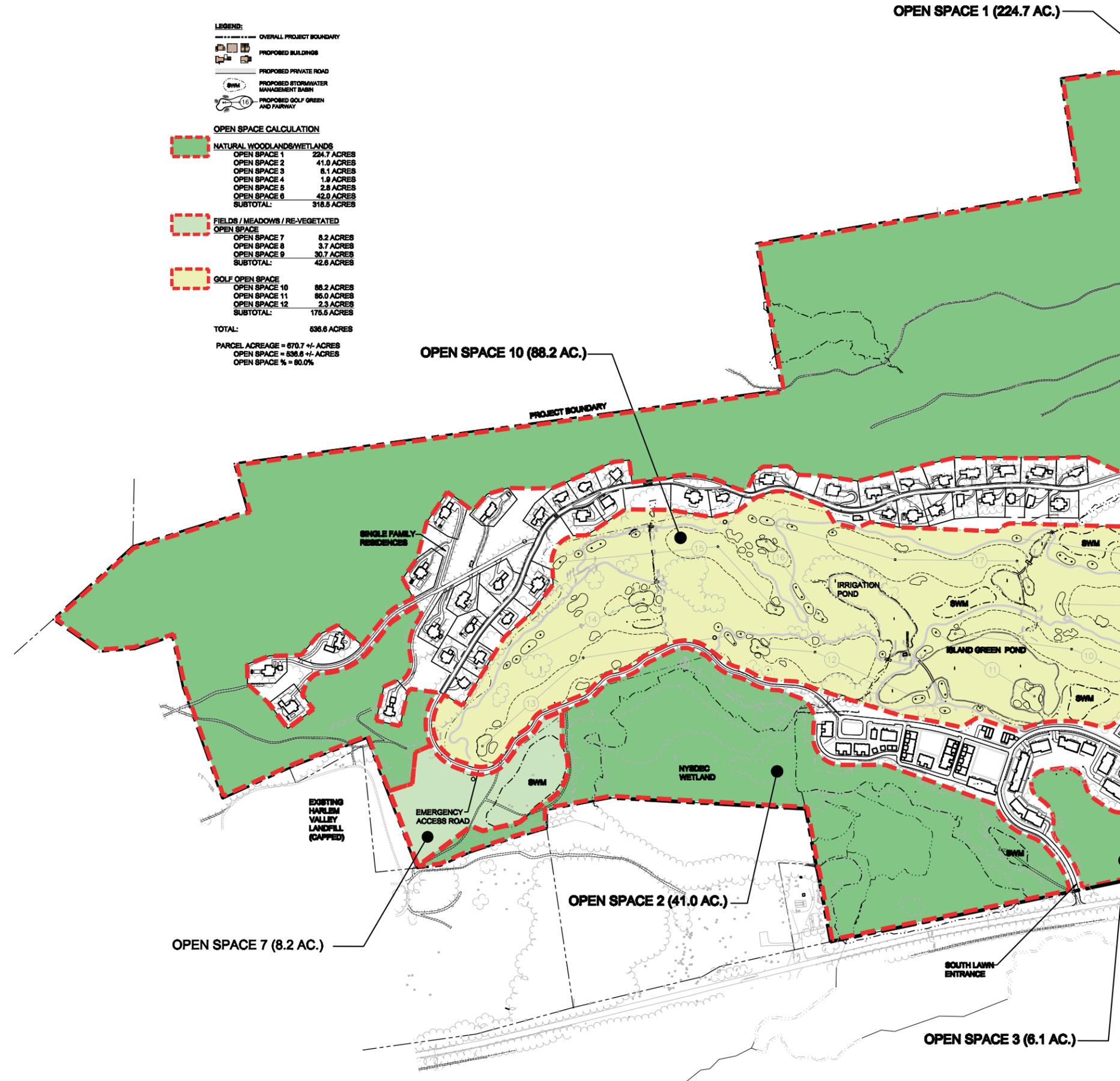
The deed restrictions and HOA documents shall be in a form acceptable to the Planning Board with the advice and assistance of its attorney. The Conservation Easements, and the deed restrictions and HOA documents implementing the Conservation Easements, shall be approved by the Planning Board during Site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

In identifying which land should be designated for this open space protection, the RDO requires that priority be given to land in the Scenic Protection Overlay (SPO) (Appendix J), and Stream Corridor Overlay (SCO) districts (appendix I), especially the view to and from DeLavernge 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 DeLavernge Hill including the area inside the Route 44 hairpin turn, and the Amenia Cascade Brook. The Property also contains land in the iconic DeLavernge 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.

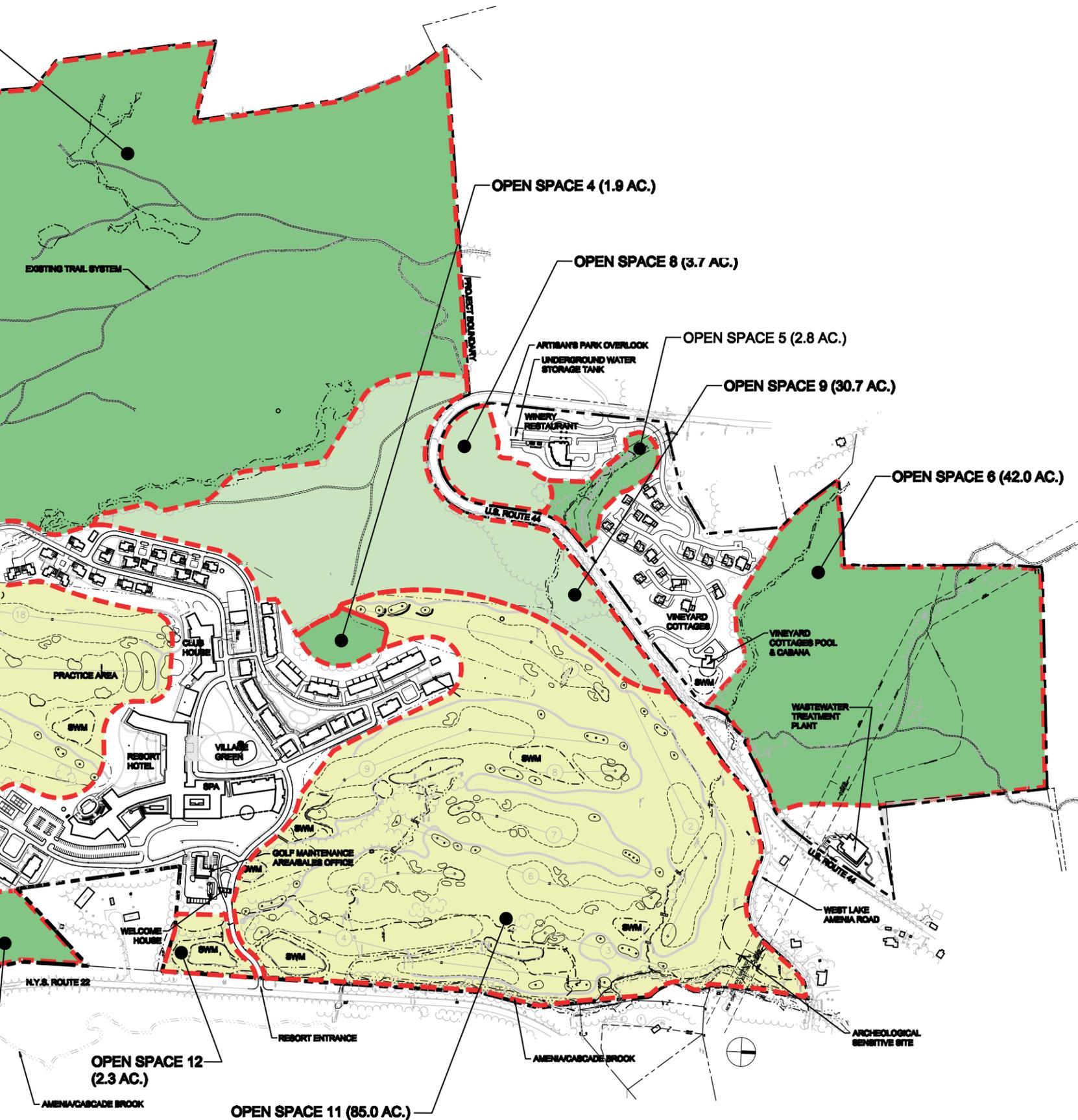
The following +/- 537 acres will be preserved as open space:

- The open fields south of DeLavernge Hill
- The open field south of the Winery Restaurant
- The open field south of the golf course
- The wooded area north of Route 44
- The wooded slopes and ridges on the western portion of the property
- The wooded knolls north and south of the village core
- The wetlands on the eastern portion of the property
- The golf course

OPEN SPACE PLAN



Wildlife



The following measures, in conjunction with implementation of the Natural Resource Management Plan, Habitat Management Plan and Open Space Plan will play an important part in protecting wildlife on the resort grounds.

- Initially proposed homes have been relocated from areas adjacent to headwaters of Wetland J/JJ to protect the habitat of the dusky salamander.
- Homes and development in the headwater areas of Stream M/P have been pulled away from this area to reduce impacts in this location.
- The project will restore severely eroded stream channels and culverted drainages in three locations; stream bed restoration, stream bank restoration and daylighting currently culverted drainage.
- 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.
- In certain locations, the 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 biodiversity 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 herpetofauna.
- 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 habitat management plan includes two significant aquatic habitat restoration projects. The first project is a streambed restoration/streambed stabilization and erosion control project on a tributary to Cascade/Amenia Brook. The second project includes a 1.5 acre floodplain restoration in the Cascade/Amenia Brook floodplain.
- 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 proposed project will preserve approximately 537 acres of the site as open space, including the preservation of a contiguous 230-acre natural area adjacent to and ecologically connected with the 2,400 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 cart path. These activities may include cart path removal and 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 project will follow the guidance of the Natural Resource Management Plan (NRMP) included in Appendix 9.11, which include minimizing the removal of native vegetation; saving native plants that must be removed for later replanting; and re-vegetating with native plantings wherever possible.
- Mitigating measures to help reduce excess nutrients and pollutants into surface water bodies include Best Management Practices (BMPs), Integrated Pest Management, and Erosion Control Measures.
- The proposed project will utilize onsite stormwater management practices and attain compliance with Phase II stormwater regulations.
- Re-vegetation of the Cascade Amenia Brook floodplain will benefit wood turtles if they are still extant.
- The area designated adjacent to SWM-10 as enhanced turtle and snake nesting area shall be preserved in a natural state.
- Require a 150 foot vegetated buffer along headwater streams R/S and V except specific reductions approved during Site Plan review where 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 Cottage 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.
- 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.
- Implement a solid waste management plan that addresses the accessibility of waste and refuse on the site from subsidized species (raccoons, skunks).

The Natural Resource Management Plan

The Natural Resource Management Plan (NRMP) prepared for the Silo Ridge Resort Community by Audubon Environmental details a science-based and comprehensive management program. The program employs organic and Integrated Pest Management strategies, and incorporates other Best Management Practices (BMP) that protects both aquatic and terrestrial resources. This synergistic approach affords maximum protection for resources. The focus is on prevention, management and monitoring to protect resources:

1. Prevention: Prevent environmental problems before they occur by educating the staff, designing the course and community from an environmental perspective, implementing source prevention practices, and using ecological risk assessment protocols to identify pesticides for use at the golf course and community.
2. Management: Manage potential problems at the source. Implement a construction management program, implement an integrated pest management plan, and incorporate land use best management practices. The program relies on redundancy of resource protection strategies, an example being the use of “Best Management Practices (BMP) trains”. A BMP Train is a protection system in which individual BMPs are linked in sequence like the cars of a train. Therefore, the more BMPs that are incorporated into the system, the better the performance of the treatment train.
3. Monitoring: Conduct an environmental monitoring program that evaluates the effectiveness of the management program. This includes evaluating the golf course and community protocols each year to ensure that prevention and management strategies are ongoing. This management approach has proven effective throughout the US, Asia, Canada, and Europe. Below, are steps that are taken to minimize the potential for environmental degradation.

PREVENTION

As the old adage goes, “an ounce of prevention is worth a pound of cure.” Prevention is the first step in successful resource management.

1. Educating the golf course superintendent and community maintenance team is an important element of the Audubon International Signature Program. Audubon International staff train the management team in the use of the management programs identified in the NRMP. Training of the staff and review of the golf course and community, and the NRMP occurs in an annual re-certification audit and review.
2. Design the property to include protective measures, including management zones and structural and nonstructural BMPs, and design to minimize the amount of maintained turf at the golf course, the community common space, and for home lawns. Even though some of these practices are not implemented until the community has residents or the golf course is operational, they should be identified during the design phase. By getting the design “right,” the potential for negative environmental incidents is greatly reduced.
3. Implement source prevention practices in the cultural program for the golf course and community. The following are included in the management program for the Silo Ridge Resort Community:
 - Resistant Turf Varieties. Use of plant varieties that are resistant to insects, nematodes, diseases, etc., in order to reduce pesticide use.
 - Cultural Management of Pests. Use cultural practices to partially substitute for pesticides. This is possible by making certain the soil and turf conditions are optimal for resisting damage by pest problems.
 - Irrigation Water Management. Water is the carrier for pesticide movement. Judicious use of irrigation will preclude excessive soil moisture conditions and prevent downward movement of materials.
 - Nutrient Management. Minimize the use of soluble nitrogen sources which could leach into groundwater or run off into surface water.
 - Biological Control of Pests. Use of natural enemies as part of an Integrated Pest Management (IPM) program which can reduce the use of pesticides. Biological controls which provide effective pest management for turf grasses are limited; however, they will be implemented where practical.
 - Restrictions on Spraying. No spray zones are established.
 - Rotation of Pesticides. To prevent pest resistance.
 - Pesticide Selection. A “least toxic” pesticide selection process has been evaluated and is a component of the NRMP, which is updated annually.
 - Correct Application of Pesticides.
 - Correct Pesticide Container Disposal.
 - Pesticide/Fertilizer Storage Mixing/Loading Areas.
 - 4. Develop a list of pesticides that may be used at the course and community if pest problems exceed thresholds by conducting ecological risk assessments of the pesticides. The models and data analysis process of the US Environmental Protection Agency are used to conduct risk assessments of the pesticides that are included in the program. This risk assessment follows US EPA protocols and identifies pesticides that exhibit potential risk from either exposure or toxicity. The risk assessment is based on chemical characteristics (e.g., solubility, persistence, binding capacity), toxicity (human health and aquatic), application data, and site conditions. Pesticides that exhibit a potential risk to humans or aquatic environments, either by surface water flow or groundwater by leaching, are excluded from use at the golf course and community. The models and the assumptions built into the models make this a conservative (i.e., protective) approach to selecting pesticides. Pesticides are evaluated and updated each year during the annual re-certification audit and review.
 - 5. Once pesticides are selected using the risk assessment, the selected pesticides are then ranked for use by the Environmental Impact Quotient methods developed at Cornell University so that the golf course superintendent and community maintenance team have easy access to this information when making management decisions.

MANAGEMENT

The goals of BMPs are as follows: 1) to reduce the off-site transport of sediment, nutrients and pesticides; 2) to control the rate, method and type of chemicals being applied; and 3) to reduce the total chemical load by use of Integrated Pest Management, which is a BMP.

1. A construction management program is implemented. Managing site disturbance during clearing and construction is an important step in minimizing ecological damage to the site. Specific construction management practices are identified (Section 3.0). Site disturbance is minimized, especially along the property boundary and preserve areas.
2. Identify potential pest problems. This was done based on the known incidence of pest pressures at golf courses and community landscapes in the area.
3. Develop a turf cultural program that results in healthy turf. Healthy turf is the most resistant to problems. (See Chapters 5.3 and 6.2 of the NRMP for this program.) In addition to identified course maintenance activities, thresholds are set for pest problems and treatment does not occur unless pest thresholds are exceeded. A scouting program is defined for the course and community to assess conditions and pest concerns.
4. Integrated Pest Management (IPM), a Best Management Practice, is the cornerstone of the day-to-day management of the course and community because management of turf grass pests does not rely on a single control practice. IPM uses information about turf grass pest problems including environmental conditions which may precipitate these problems, and integrates these with turf grass cultural practices and pest control measures not to eradicate pests, but to prevent or control unacceptable levels of pest damage. The IPM program is summarized in Figure 6-1 of the NRMP.
5. Special Management Zones have been established around water resources and natural areas (NRMP, Section 4.1). No spray zones (where no pesticides are used) and limited spray zones (where only spot treatment occurs) are defined.
6. Land use BMPs are designed to remove, filter, detain, or reroute potential contaminants carried in surface water. Land Use Best Management Practices include: subsurface drainage, land absorption areas (vegetated filter strips), regulated runoff impoundment, grassed waterway or outlet, and critical area planting.

ENVIRONMENTAL MONITORING

Environmental monitoring provides a means to measure the success of the design, construction and operations of the golf course and community through an environmental monitoring program that strives to detect environmental problems. The monitoring program also will evaluate the effectiveness of the management program.

1. The monitoring program encompasses sampling groundwater and surface water to determine if any detrimental effects on the environment are detected. The goals of the monitoring program are as follows:
 - 1) To provide data that assesses environmental conditions, thus providing a basis for measuring compliance with environmental regulations; and
 - 2) To ensure that IPM and the BMPs are functioning properly.
2. Pesticides are included in the monitoring program based on the results of the Risk Assessment. If the “risk ratio” for any pesticide exceeds 0.5 and they are used at the golf course or community, then the pesticide has been included in the monitoring program. The “risk ratio” is the quotient of the maximum anticipated concentration of the pesticide divided by its effects criteria (see Pesticide Selection in the NRMP, Section 6.4, for a description of the maximum anticipated concentration and effects criteria). A risk ratio of a given pesticide which is greater than 1.0 indicates that the maximum anticipated concentration exceeds the effects criteria; meaning that the use of that pesticide at the Silo Ridge community and golf course represents more than a negligible risk. A risk ratio of less than 1.0 indicates that the use of that pesticide represents only negligible risk. By including as analytes all pesticides whose risk ratio is greater than one-half the point at which risk is presumed to be more than negligible, the monitoring program design ensures that all potentially risky pesticides are monitored for. And, the continued use of a pesticide at the golf course and community is dependent upon the pesticide not being detected at concentrations which are below any chronic or acute levels in the water.
3. Monitoring results are forwarded to Audubon International to help the community and golf course assess Program effectiveness. As detailed above, this process of protecting resources is based on all of the various strategies working synergistically. Based on over a decade of monitoring results at other Signature Projects, the programs outlined in the NRMP are both effective and successful at managing resources.



Habitat Management Plan

The objective of the Habitat Management Plan (HMP) for the Silo Ridge Resort is to address specific concerns regarding the project's potential effects upon on-site habitats and the resident or transient wildlife species that utilize these habitats. The Chazen Companies (TCC) developed the HMP to address potential risks to habitat quality and to describe the measures to be taken to mitigate these potential risks. A concurrent objective of the HMP is to address specific efforts to provide quality habitat for populations and assemblages of animal species that utilize the Site for critical habitat throughout all, or a portion of their annual life cycle.

APPROACH

The development of the HMP utilized information that was gathered during early Site investigations to prepare the DEIS. This information included on-site field investigations, input from federal and state agencies, and local conservation groups. Later efforts included additional site visits and a more expansive investigation of the applicable scientific literature.

Brief summaries of the approaches that TCC took to characterize the existing habitats and resident flora and fauna within the Site are presented below. To characterize/inventory the existing habitats and wildlife resources, TCC completed a Habitat Assessment in 2005. In total, seven field visits and 126 man-hours were dedicated to characterizing the existing Site conditions. It should be noted that many of these studies were focused on a specific task (e.g., delineating wetland boundaries), and not all of the time spent on-Site was concentrated on inventorying existing habitats and wildlife resources. However, these studies were valuable for characterizing the vegetative communities and noteworthy observations of flora and fauna species were recorded during these efforts. TCC completed several intensive data collection efforts to inventory the existing habitats and wildlife resources on the Site during supplementary studies conducted in 2007. A total of 16 days and 244 man-hours were logged on-site during these supplementary studies. These supplementary studies primarily focused on determining the presence/absence of endangered, threatened, and/or rare and special concern (ETR) species at the Site. Focused ecological surveys conducted at the Site included an amphibian and reptile survey (including a timber rattlesnake (*Crotalus horridus*) survey), breeding bird survey, botanical survey, Phase I and II bog turtle (*Clemmys mublenbergii*) surveys, and an Indiana bat (*Myotis sodalis*) survey; Correspondence from the NYSDEC dated May 9, 2005 indicated that Hill's pondweed (*Potamogeton hillii*), a State-listed threatened species, is documented within NYSDEC Wetland DEC (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. TCC completed additional visits to the Site in the spring of 2008 to review current Site conditions and assess habitat quality in support of the management plans proposed.

Investigations to identify management methods and habitat enhancement options (e.g., planting palettes) included reviews of the applicable scientific literature and technical reports focusing on best management techniques for varied habitats and species. The HMP for the Site utilizes the following multi-step approach to address habitat quality for wildlife populations at the Site:

1. Characterize and Inventory Existing Habitats.
2. Identify Critical and Sensitive Habitat and Wildlife Resources.
 - Critical habitats for wildlife populations of special management concern.
 - Sensitive habitats that may be degraded by development at the Site.

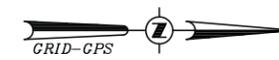
3. Conserve Existing High Quality and Critical Habitat.
4. Restore Damaged Habitats to Restore Ecological Services.
5. Enhance Existing Habitats Affected or Potentially Affected by Development.
6. Mitigate Effects of Site Development (where possible)
 - Conservation Buffer
 - Water Quality Buffer
 - Mitigation Structures
 - Terrestrial Habitat Enhancements
 - Aquatic Habitat Enhancements
7. Protect Sensitive and Productive Habitats During Operations and Activities at the Site.

The HMP will address both habitat/species viability issues (including habitat enhancements) and buffer management issues (buffer creation and maintenance). These objectives are intertwined but not indistinguishable. Good buffers provide protections against, and mitigation of, the potentially damaging effects of sedimentation, thermal inputs, and nutrient and contaminant loadings associated with storm water flow, irrigation runoff, and general habitat disturbances (Fischer and Fischenich 2000). Habitats benefit from energy inputs, in the form of labile carbon in leaf litter, to support more productive aquatic food webs (Kominoski et al. 2007). Cooler waters also contain greater concentrations of oxygen for aquatic organisms. Good buffers also provide, in many instances, good terrestrial and aquatic edge habitat. However, good buffers require a certain degree of attenuation capability to be truly effective for the purposes expected of them. To that end, minimum requirements of width and vegetation type are identified for the two classes of buffers identified in the Buffer Management Plan (BMP).

Good habitat will provide ecological services to wildlife. Habitat-related ecological services are geared toward providing essential nesting, foraging and shelter areas for particular species of animals or assemblages of interrelated species. Good habitat may function as an effective buffer if there is sufficient area and attenuation capability. In certain instances, narrow strips of vegetation (e.g., hedgerows) provide valuable habitat for certain species of wildlife, in the absence of any water quality buffering capabilities. Contrary to performance criteria for buffers, minimal enhancements of existing habitat can result in a measurable increase in ecological services to a few dependent or transient individuals or an isolated subpopulation of animals.

This HMP and its accompanying BMP have been designed to provide sustainable habitat services to resident wildlife species on the Site. Maintenance schedules for mowing will be effective at maintaining grassland functionality. Forest management directives will be effective at preserving the integrity of sensitive riparian, wetland and vernal pool habitats contained within. The establishment of transitional grasslands with tree and shrub plantings in areas adjacent to tall grass will allow for the perpetual maintenance of a heterogeneous, irregular and soft edge between grasslands and forests thereby minimizing the damaging actions of nest predators and maximizing the benefits that a productive edge habitat can provide for both woodland and grassland species (Gillihan 2000). On the golf course, modified turf maintenance activities described in the IPM will protect the sustained productivity of riparian and aquatic edge buffers and habitat enhancement areas.

(Note: All bibliographic references in the text can be located in the Habitat Management Plan submitted with the Final Environmental Impact Statement dated September, 16 2009)

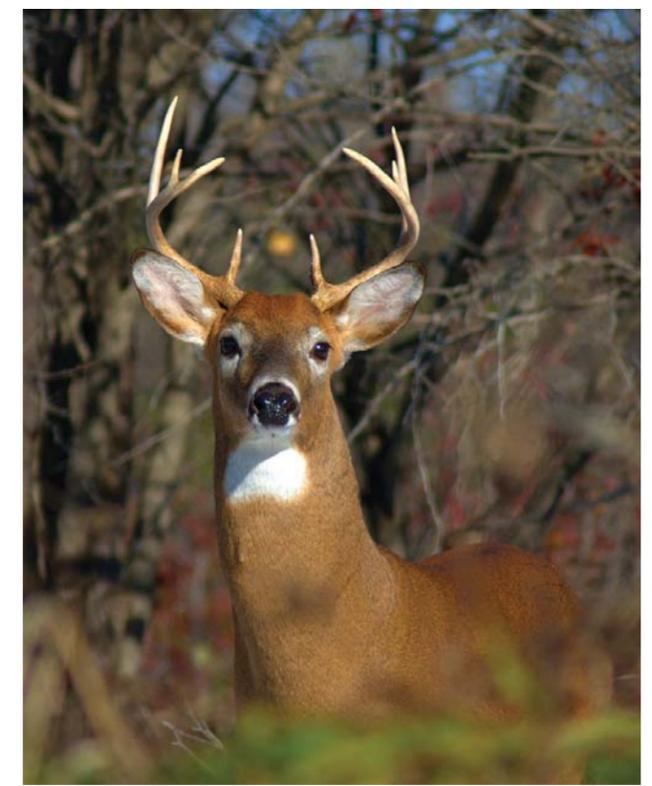
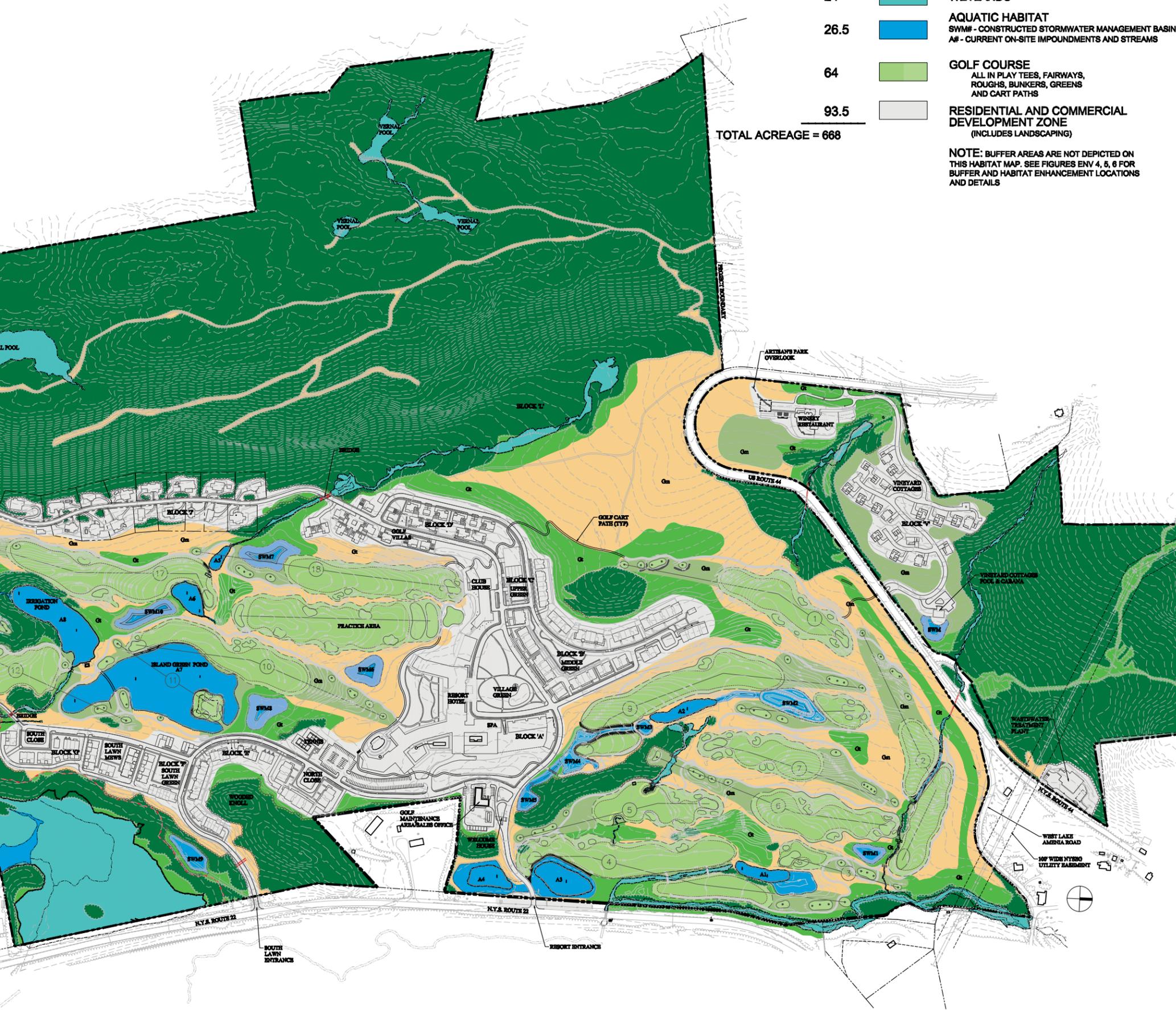


PROPOSED ACREAGE HABITAT CLASSIFICATION LEGEND

314		FOREST HABITAT
146	  	GRASSLAND AND SCRUB/SHRUB Gm - MAINTAINED: MANAGED TO PRESERVE GRASSLAND FUNCTIONALITY Gt - TRANSITIONAL: MANAGED FOR SUCCESSION TO FORESTED HABITAT
24		WETLANDS
26.5		AQUATIC HABITAT SWM# - CONSTRUCTED STORMWATER MANAGEMENT BASINS A# - CURRENT ON-SITE IMPOUNDMENTS AND STREAMS
64		GOLF COURSE ALL IN PLAY TEES, FAIRWAYS, ROUGHS, BUNKERS, GREENS AND CART PATHS
93.5		RESIDENTIAL AND COMMERCIAL DEVELOPMENT ZONE (INCLUDES LANDSCAPING)

TOTAL ACREAGE = 668

NOTE: BUFFER AREAS ARE NOT DEPICTED ON THIS HABITAT MAP. SEE FIGURES ENV 4, 5, 6 FOR BUFFER AND HABITAT ENHANCEMENT LOCATIONS AND DETAILS



The Buffer Management Plan

The BMP's primary objective is to mitigate the effects of Site development. Activities leading to the degradation of aquatic and wetland resources can be mitigated to a large extent through efforts which intercept and redirect the environmental fate and transport processes that carry excess nutrients, mobile contaminants and eroding soil particles to sediment sinks in these natural features (Lowrance et al. 1984; Peterjohn and Correll 1984). Thermal pollution can be mitigated in some instances by simply replacing tree and shrub canopy coverage along stream banks to increase shading of affected streams (PADEP 2005). Damaging thermal hydrologic shocks to aquatic systems that originate as heated storm water runoff from impervious surfaces in a developed plot of land require considerably greater efforts to ameliorate the harmful effects to receiving waters. The SWPPP for the Site is the mitigation tool for addressing storm-related events where channeled overland runoff can be captured and attenuated prior to its introduction to surface waters. SWPPP design is not addressed in the buffer management plan except to identify the proposed locations of SWPPP storm water management basins (SWM), and to identify the extent of a 30 foot buffer area surrounding the draft design wet pool, attenuation basins, and adjacent terrestrial habitat. A standard planting list for SWM wet pools/attenuation basins is also provide in Appendix G. The BMP will focus on reducing sediment, nutrient, and contaminant transport and loading associated with overland sheet flow and ephemeral drainage swales that are not captured by the SWPPP.

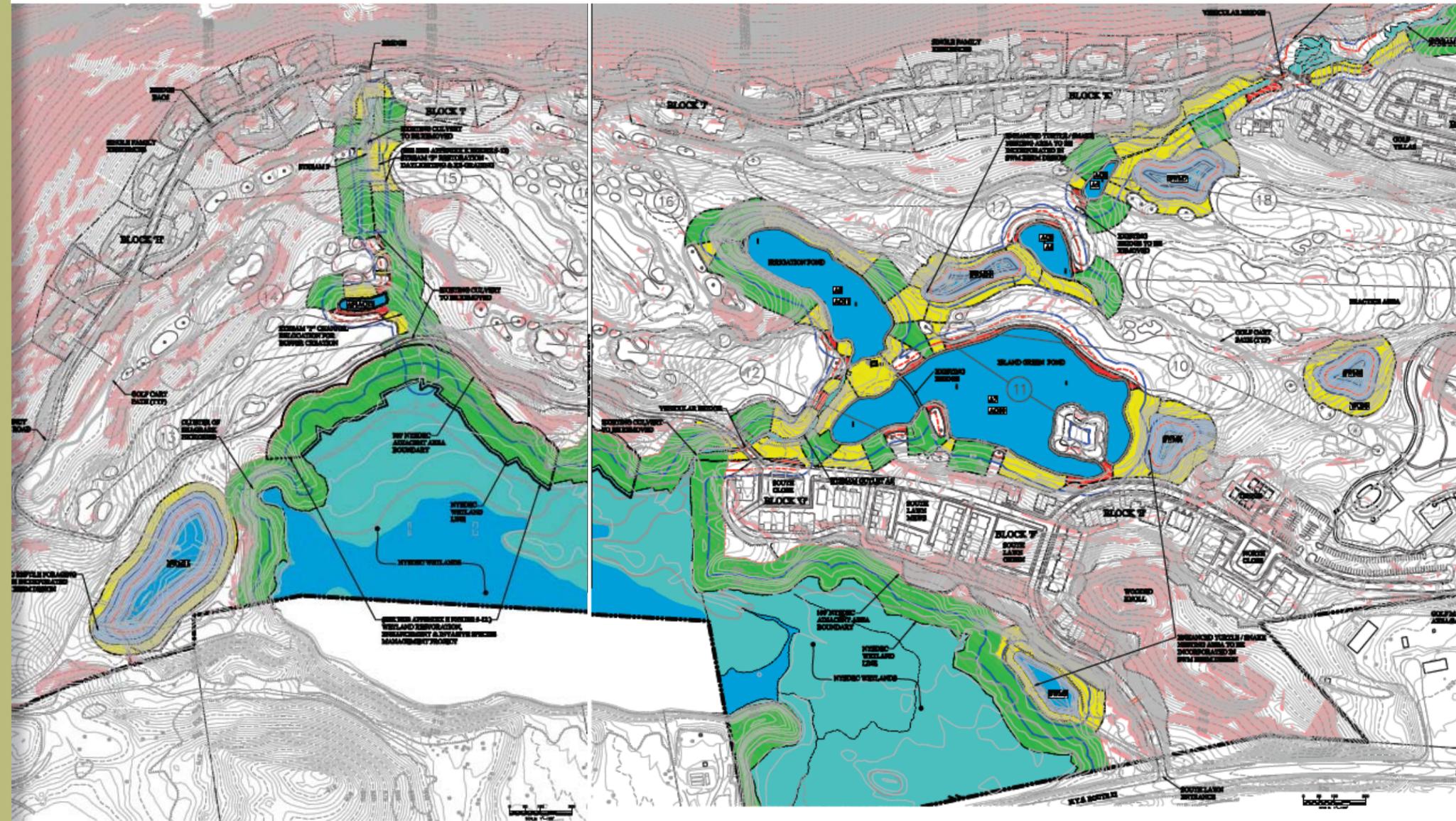
Development activities leading to habitat loss are more difficult to mitigate against, and in absolute terms lost habitat is difficult to recover. Wherever possible, existing high quality habitat will be targeted for conservation and insulated from all degrading effects of development (e.g., the approach used for NYSDEC administered Adjacent Areas for wetlands). However, ecological services can be conserved, or alternatively replaced, to varying extents by enhancing habitats that have suffered injury or damage in the past. In this manner the BMP will focus on reestablishing canopy cover for on-site streams and on enhancing aquatic edge and shoreline habitats with a variety of terrestrial and aquatic planting groups.

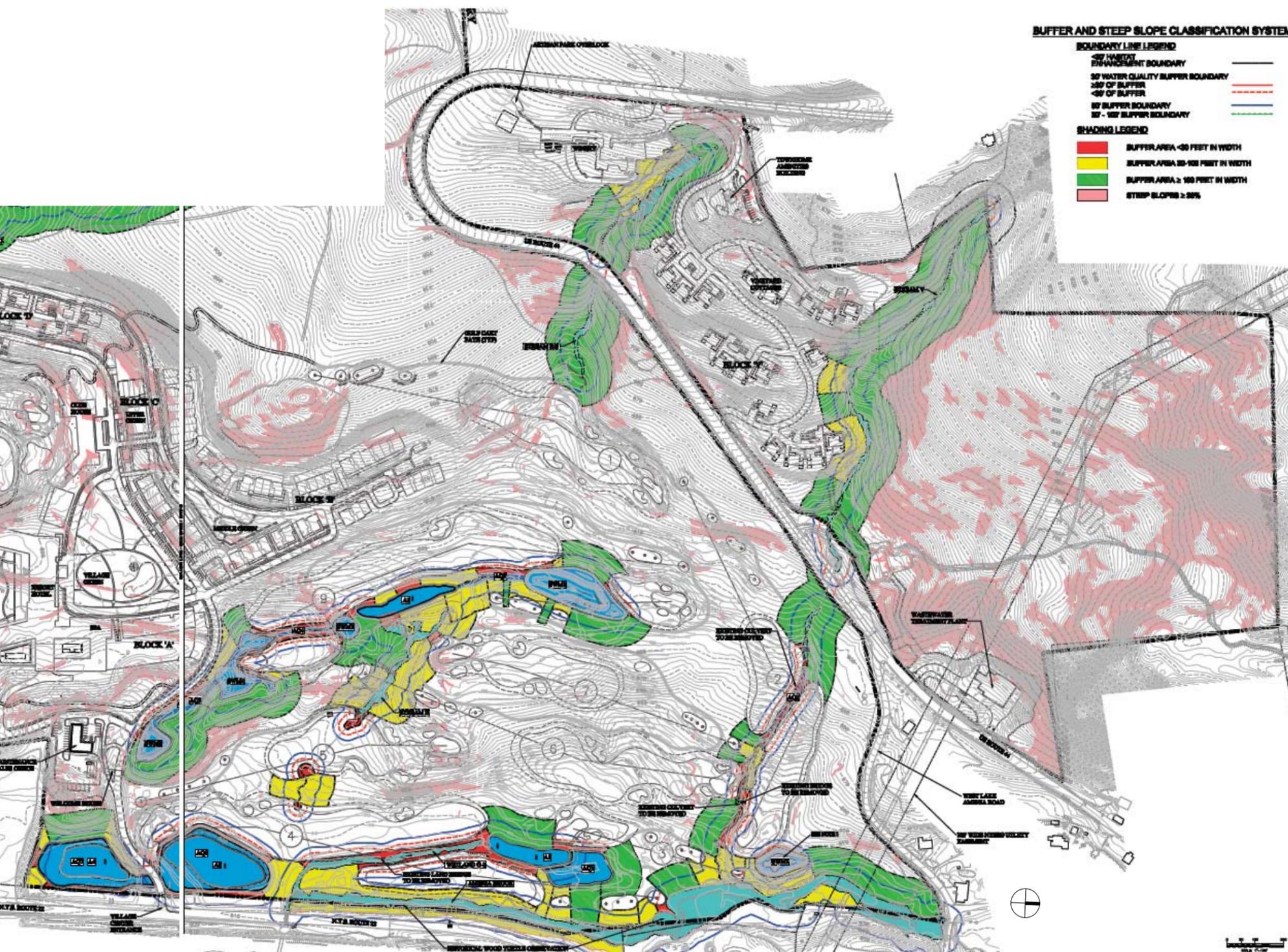
Drainage, Stormwater Management and Erosion Control

Stormwater Pollution Prevention Plan (SWPPP): A Master SWPPP has been prepared for the layout in Master Development Plan in accordance with applicable NYSDEC regulations. The Town of Amenia has found that the preparation of a Master SWPPP was adequate under SEQRA to demonstrate the review of soil erosion control and stormwater management issues. As part of the site plan review process, a detailed final SWPPP will be prepared. This final SWPPP will be reviewed by the Town Engineer, other Town Consultants and the NYSDEC. The SWPPP will also include a detailed erosion and sediment control (E&SC) plan designed in accordance with and approved by the NYSDEC. This plan will identify specific E&SC measures that will be implemented to protect adjacent aquatic resources. This will include a Phasing Plan for soil disturbance. 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
- Temporary Sediment Basin

(Note: All bibliographical references in the text can be located in the Buffer Management Plan submitted with the Final Environmental Impact Statement dated September, 16 2009)





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

- Establishment of Permanent Vegetation
 - 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 contour lines to reduce grading impacts and steep road/drive grades; and
 - 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.
 - Housing units located on steep slopes are designed with terracing. The floor grades will be split from front to back or back to front adjacent to topographic slopes.
 - A more detailed geotechnical evaluation will be performed in support of final site design during Site Plan Review.
 - Use double silt fencing in all areas of special concern, i.e., all wetlands and upslope of the Cascade/Amenia Brook and all other streams.
 - Limit construction traffic/ heavy equipment to specifically marked travel lanes only, to minimize compaction of soils on steep slopes greater than 15%
 - Erosion control measures will be installed before construction of the proposed 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.

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, 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 7 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 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.



