DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT
Hudson Valley Wine Village in the Blue Point Overlay District

191-200 Blue Point Road
Town of Lloyd
Ulster County, New York 12528

Project Sponsor: Hudson Valley Wine Village, Inc.
17 East 74th Street
New York, New York 10021

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12 Church Street
Highland, New York 12528

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EXECUTIVE SUMMARY

This DGEIS has been prepared pursuant to 6NYCRR Part 617 for the Hudson Valley Wine Village in the Blue Point Overlay District (the Project). The DGEIS has been prepared pursuant to a Scoping Document adopted by the SEQRA Lead Agency, the Lloyd Town Board, on December 14, 2011. A Generic Environmental Impact Statement (GEIS) was selected by the Lead Agency as the best means to analyze the impacts of the Project because of the long time-frame for its development and the likelihood that project details will evolve and change with the passage of time. The DGEIS fully characterizes the site, the proposed action, and all significant environmental impacts, and recommends mitigation measures where appropriate.

The DGEIS has been prepared in accordance with the Final Scope, adopted by the Town of Lloyd on December 14, 2011. The overall project design is described and illustrated in greater detail in Sections 1.0 and 2.0 of the DGEIS. Section 3.0 of the DGEIS reviews the existing conditions, potential adverse impacts, and proposed mitigation for various environmental, social and economic issues. Section 4.0 discusses the Alternatives to the Proposed Project including the no action alternative and various project scales and layouts at a level of detail sufficient to permit a comparative assessment. Section 5.0 of the DGEIS discusses irreversible and irretrievable resource commitments. Section 6.0 discusses unavoidable adverse impacts. Section 7.0 of the DGEIS discusses potential growth inducing impacts. Section 8.0 of the DGEIS discusses effect on the use and conservation of energy and Section 9.0 of the DGEIS discusses cumulative impacts. A variety of technical studies to support the DEIS are attached as appendices.

Description of the Project and Project Site

The Project Sponsor is proposing the development of an integrated development called the Hudson Valley Wine Village (HVWV) in the Blue Point Overlay District. The 429± acre Project site is located on Route 9W in the Town of Lloyd in Ulster County, New York. The 20 year build out plan for the Project includes:

- A maximum of 915 residential housing units including up to 584 apartments, 284 townhouses, and 47 single-family homes
- 51,727 square feet (SF) of renovated commercial and office space and 53,144 SF of new commercial and office space
- 435,262 SF of light industrial, manufacturing, and/or institutional space
- A 34,048 SF conference center with an associated 8,222 SF restaurant to be known as the Tuscan Village Conference Center
- A 103-room suite hotel overlooking the Hudson River

The HVWV Project site contains a number of structures that were built by the Hudson Valley Wine Company. In addition to buildings serving the winery, residential structures were maintained for tenant farmers, who lived and worked on the property. Many of these structures remain; however, not all are within the boundaries of the Hudson Valley Wine Village

property. Three existing single family homes are found on the Project site. One is currently occupied by the caretaker, a second is vacant, and the third is dilapidated and vacant. The winery on the Project site was most recently owned and operated by the Regent Champagne Cellars until the last decade of the 20th century. This business ceased operations in the late 1980's and now the HVWV Project site is a mix of overgrown orchards, vineyards, woodland, and open lawn areas that have been maintained by mowing.

Of the Project site's 429 acres, 162 acres (38 percent of the site) are considered buildable as defined by the Town of Lloyd Zoning Ordinance, and 267 acres (62 percent of the site), are considered unbuildable. This unbuildable acreage includes: wetlands, slopes greater than 15 percent, and an additional 15 percent of land area assumed to be dedicated to roads and drainage areas. As a practical matter, most of the sites unbuildable acreage is associated with steep slopes above the Hudson River and with wetlands, neither of which are proposed to be significantly disturbed by the project.

The Project site is currently zoned R-1 and R-2. A conventional subdivision yield analysis of the HVWV Project site based on existing zoning would allow for a total of 58 minimum one acre residential lots within the R-1 district, and 89 minimum two acre lots within the R-2 district. The unbuildable area on the HVWV Project site would have accounted for an additional 117 units.

In order to achieve an integrated development plan with substantial economic and job creation benefits to the Town and region, the HVWV Project proposes to rezone the property to allow uses and densities that exceed those allowed by existing zoning. In order implement this integrated development plan, an amendment to the Town of Lloyd Zoning Map is required as well as the creation of new zoning districts. The Project Sponsor proposes to create three new zoning districts; one for the conference center, hotel and commercial uses; (Blue Point Commercial District); a second district for light industrial uses along Route 9W (Blue Point Industrial District) and a third district for the multi-family housing portion of the Project (Blue Point Multi-Family District). The Project also proposes that a portion of the property along Route 9W outside of the industrial district be rezoned to General Business. This is consistent with recommendations in the Town's 2013 Comprehensive Plan.

Land use within this area in Lloyd is a mix of residential, agricultural, and commercial (see Section 3.9 of this DGEIS). There are two (2) single-family subdivisions to the north of the Project site and a number of industrial uses south of the Project site. The proposed integrated development plan is consistent with these uses in that it proposes a mix of residential, commercial, and industrial uses on the Project site. The operation of the Tuscan Village Conference Center will take advantage of the site's history as an operational winery.

The HVWV Project will require a water line extension south on Route 9W; the construction of an on-site wastewater treatment plant; timing/phasing, signalization, and lane improvements at area intersections; and construction of a north and south access point on Route 9W.

The HVWV Project may generate potential issues of controversy that include: project density as compared to existing zoning, conflicts or changes to community character, loss of open space, and visual impacts.

List of Involved Agencies and Required Approvals

Below is a listing of all involved agencies, their addresses, and required approvals and permits they are responsible for granting with respect to the Proposed Project.

Involved Agencies, Permits, and Approvals	
Involved Agency	**Type of Approval**
Town of Lloyd Town Board	Rezoning Performance Bond Approval Development Agreements Water District Extension Formation of Sewage Works Transportation Corporation Road Discontinuation Roadway and Infrastructure Dedication Potential Stormwater Drainage District Potential Lighting District
Town of Lloyd Planning Board	Advisory Opinion on Zoning Changes Coastal Zone Consistency Review Site Plan and Subdivision Approvals
Town of Lloyd Highway Department	Road Discontinuation Highway Improvements
Ulster County Health Department	Approval of Water and Wastewater Plans
NYS Department of Environmental Conservation	GP-0-10-001 General SPDES Permit Water District Extension Wastewater Treatment Plant and Sewage Treatment Plant Design Section 401 Water Quality Certificate
NYS Department of Health	Water Distribution System Approval Wastewater Treatment Plant Approval
NYS Office of Parks, Recreation and Historic Preservation	Cultural Resources Consistency Determination
NYS Department of State Office of Communities and Waterfronts	Federal Consistency Coastal Assessment
NYS Department of Transportation	Highway Work Permit (Utility and Non-Utility) Approval of Improvements to Route 9W
U.S. Army Corp of Engineers	Section 404 Clean Water Act Wetlands Permit Nationwide Permit #29
U.S. Fish and Wildlife Service	Endangered, Threatened, and Rare Species Consultation Federal Fish and Wildlife Consultation

List of Interested Agencies

The following agencies have been identified as interested agencies who may review and comment on the proposed Project.

Empire State Development
33 Airport Center Drive #201
New Windsor, NY 12553

Ulster County Planning Department
244 Fair Street
PO Box 1800
Kingston NY, 12402

Ulster County Resource Recovery Agency
999 Flatbush Road
Kingston, NY 12401

Ulster County Development Corporation,
5 Development Court
Kingston, NY 12401

Ulster County Office of Business Services
County Office Building
244 Fair Street
Kingston, NY 12401

Ulster County Tourism Agency
20 Broadway
Kingston, NY 12401

Mid Hudson Regional Economic Development Council
33 Airport Center Drive - #201
New Windsor, NY 12553

CSX – Albany Division
1 Bells Crossing Road
Selkirk, NY 12158

Town of Lloyd Police Department
25 Milton Avenue, Suite 2
Highland, NY 12528

Highland Fire District

25 Milton Avenue
Highland, NY 12528

Mobile Life Support Services
PO Box 471
Newburgh, NY 12551-0471

Highland Central School District
320 Pancake Hollow Road
Highland, NY 12528

Scenic Hudson
One Civic Center Plaza, Suite 200
Poughkeepsie, NY 12601

Advisory Council on Historic Preservation
1100 Pennsylvania Avenue NW, Suite 803
Old Post Office Building
Washington, DC 20004

National Association of Tribal Historic Preservation Officers
1320 18th Street, NW, 2nd Floor
P.O. Box 19189
Washington DC 20036-9189

Potential Impacts and Mitigation Measures

The following table summarizes the potential impacts and mitigation measures of the Proposed Project.

DGEIS Chapter		Potential Impacts	Mitigation Measures
3.1	**Topography and Slope**	The proposed Project will disturb approximately 171 acres of on-site soils.	Impacts to soils and geology will be minimized through erosion and sediment control techniques, as well as implementation of stormwater management practices.
		Approximately 26 acres of slopes between 15-25% and 7 acres of slopes greater than 25% will be disturbed.	Steep slopes will be stabilized by retaining walls and vegetative plantings.
3.2	**Soils and Geology**	A cut and fill analysis determined the Project will result in 555,000 cubic yards of cut and 466,000 cubic yards of fill.	Excess cut may be used to mitigate potential cultural resources impacts. Remaining cut will be stockpiled and ultimately transported to a location where it is needed for construction or other purposes.

DGEIS Chapter		Potential Impacts	Mitigation Measures
			Impacts resulting from site grading can be minimized and/or eliminated through proper erosion and sediment control techniques, as well as implementation of stormwater management practices during and after construction.
		Blasting may be required depending on the results of further geotechnical investigation.	Project specific site design strategies will be identified to reduce the need for blasting. Any blasting operations that are necessary will adhere to New York State ordinances and the US Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives Federal Explosives Law and Regulations governing the use of explosives. Applicable blasting certifications will be obtained and blasting will comply with all safety requirements. Blasting, if required, will be done using controlled blasting techniques consistent with state and federal regulations.
3.3	**Hydrogeology**	The Project is anticipated to result in a total impervious area of 3 million square feet (70 acres). This area includes roadways, proposed structures, sidewalks, and any other hard surfaces.	Increased surface water runoff will be mitigated through the use of stormwater management systems and the use of pervious pavement alternatives.
3.4	**Surface Water Resources and Stormwater Management**	Development of the Project will create additional impervious areas, which will result in increased stormwater runoff, and could have indirect impacts on water resources.	Stormwater runoff from the proposed development will be collected and conveyed to a combination of closed storm sewers and open stormwater conveyance systems. The closed storm sewer network will consist of catch basins, drainage manholes, high density polyethylene piping and/or reinforced concrete piping, and/or corrugated metal piping. The open stormwater conveyance system will consist of roadside ditches, grass lined swales, riprap lined swales, and major culvert crossing. Systems will be consistent with NYSDEC Stormwater Management Design Manual and the Town of Lloyd stormwater management requirements. Potential need for the creation of stormwater management districts will be identified during the approval process for

DGEIS Chapter		Potential Impacts	Mitigation Measures
			site specific development plans.
3.5	**Wetlands**	The HVWV Project will disturb approximately 0.86 acres of onsite wetlands, including 0.45 acres of an unregulated isolated wetland, and 0.41 acres of a jurisdictional wetland.	Approximately 0.55 acres of new wetland habitat will be created through compensatory wetland mitigation in the central portion of the site. Compliance with Federal wetland regulations, through issuance of a permit, will demonstrate that the proposed Project has adequately mitigated impacts to federal wetlands.
		Wetland impacts relating to road crossings were avoided to the extent practicable.	Three sided box culverts will be installed at wetland crossings to minimize impacts to wetlands and flow conditions.
		The Project will preserve three small vernal pools on the site and provide buffers in excess of regulatory requirements. Within the 750 foot vernal pool buffer(consistent with NYSDEC guidelines), the HVWV Project will impact 16.7 percent (8.87 acres) of the 750 foot buffer of vernal pool HA, 0.025 percent (0.16 acres) of the 750 foot buffer of vernal pool Q, and 37.6 percent (22.28 acres) of the 750 foot buffer of vernal pool U. No impacts within the 100 foot vernal pool envelope are anticipated.	Impacts to vernal pool HA and Q are within the thresholds identified within NYSDEC guidelines in *Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States*. Impacts to vernal pool U slightly exceed these guidelines.
3.6	**Flora and Fauna**	The proposed Project will impact approximately 171 acres of the Project site.	Approximately 60 percent of the site will remain in its natural state, including 77 acres along the Hudson River bluff.
		Habitat Assessment activities at the Project site have verified that the site does not support Federally and/or State endangered and threatened species.	Mitigation is not necessary.
3.7	**Air Resources**	Results of the air quality analysis for mobile sources of air pollution found levels of ambient air quality to be well below identified standards. Intersections effected by the HVWV Project will comply with air quality standards.	Mitigation is not necessary.
		The HVWV Project will result in temporary fugitive dust emissions.	Impacts will be mitigated by stormwater control and construction measures.
3.8	**Cultural Resources**	The Project site contains both historic and pre-historic cultural resources. The HVWV Project will have limited impact on these resources.	The HVWV Project has been designed to limit direct disturbance to the identified historic and prehistoric cultural resources. A mitigation strategy for pre-historic cultural resources will be coordinated with NYSHPO and prepared during the site plan

DGEIS Chapter		Potential Impacts	Mitigation Measures
			review stage for the portion of the site along the bluff overlooking the Hudson River where such resources are found. Potential mitigation could incorporate an Archaeological Avoidance Plan, a Phase 3 Data Recovery Program, or a strategy that would use extra fill on site to cover and protect areas known to have archaeological resources.
3.9	**Land Use and Zoning**	The HVWV Project is consistent with the goals and objectives within the Town's 2013 Comprehensive Plan Update.	Design guidelines have been prepared to ensure the Project's consistency with local architectural character and is in line with Town's Comprehensive Plan, Draft Comprehensive Plan and Zoning Code.
		The HVWV Project is consistent with the strategies and recommendations of the Town's Local Waterfront Revitalization Program.	
3.10	**Visual Character**	The HVWV Project will have limited visual impacts from locations along and across the Hudson River.	The proposed Project layout is designed to minimize potentially significant visual impacts through the location and orientation of the buildings and retaining existing vegetation. Views of the Tuscan Village Conference Center will be similar to views of existing winery structures located in a clearing along the bluff. Design guidelines, landscaping, and lighting will further mitigate potential visual impacts.
3.11	**Noise**	Short-term noise impacts will occur from construction equipment and earth-moving activities during construction of the proposed development.	Construction activities would typically occur during the primary daylight hours of 7:00 AM to 8:00 P.M. To the extent practicable, construction contractors will be required to use best management practices as identified in the DEC Noise Policy that reduce noise frequency and impulse noise at the source of generation, reduce noise generation, and reduce noise sound pressure levels.
		The HVWV Project is not expected to cause notable increases in sound levels from present levels and will not have an appreciable effect on noise receptors.	No mitigation is necessary.
3.12	**Traffic**	At build out, the HVWV Project will generate approximately 1,101 trips during the weekday AM peak hour and	Phased traffic mitigation measures include: • Right and left turn lanes at the two Project entrances onto Route 9W

DGEIS Chapter		Potential Impacts	Mitigation Measures
		1,325 trips during the weekday PM peak hour.	• Signalization of the South and North entrance to the Project site • Signal timing/phasing improvements and two addition of two approach lanes on Route 9W at Macks Lane • Signalization of Chapel Hill Road and Vineyard Lane
3.13	**Utilities**	The Project is expected to have a projected average daily water demand of 314,273 gallons per day (gpd). The Water District has sufficient capacity to treat anticipated water demand. However, improvements to the plant's sludge holding and pumping capacity may be required.	Improvements to the plant's sludge holding and pumping capacity may be required in order to meet the additional water demand associated with the proposed HVWV Project. The contemplated improvements may include operational changes and installation of additional tankage and pumps for the storage and handling of sludge.
		The proposed Project will generate approximately 250,000± gpd of wastewater.	A new on-site wastewater collection and treatment system will be designed and constructed to accommodate flows from the proposed development.
		The proposed WWTP will discharge to an unclassified intermittent stream, which is tributary to the Hudson River which is a NYSDEC Class A Stream.	Wastewater effluent quality will be in compliance with NYSDEC standards.
3.14	**Community Services**	The demand for police, fire, and emergency medical services will likely increase due to the increased population.	The proposed Project will provide sufficient net property tax revenue to the Town of Lloyd to pay for increased service demands, including for police, fire and emergency medical services.
		At build out, the HVWV Project is expected to introduce a maximum of approximately 270 students to the Highland Central School District.	The proposed Project will have a significant positive fiscal impact to the Highland Central School District.
		The Town will continue to meet the National Parks and Recreation Association criteria for recreational needs of its citizens with the addition of new residents from the HVWV Project.	No mitigation is necessary.
3.15	**Fiscal Conditions**	The HVWV Project will annually generate 166 construction related jobs, $16.4 million in sales, and $7.7 million in payroll related to construction benefits during the 20 year build out period.	No mitigation is necessary.
		At build out, 1,645 direct and indirect jobs will be created resulting in over	No mitigation is necessary.

DGEIS Chapter		Potential Impacts	Mitigation Measures
		$74 million in annual payroll earnings.	
		The HVWV Project will have a net positive average annual impact of $987,298 in revenue to the Town of Lloyd during the 20 year build out period. Revenue is anticipated to increase by three percent annually following year 20.	The proposed Project will more than offset the increase in public service costs it will generate and therefore be fiscally positive to all local taxing jurisdictions and no adverse impacts would occur. No mitigation is necessary.
		The HVWV Project will have a net positive average annual impact of $2,194,503 to the Highland Central School District during the 20 year build out period. Revenue is anticipated to increase by three percent annually following year 20.	The proposed Project will more than offset the increase in public service costs it will generate and therefore be fiscally positive to all local taxing jurisdictions and no adverse impacts will occur. No mitigation is necessary.
3.16	**Demographics**	The HVWV Project is anticipated to generate 2,121 new residents. The future residents and users of the Project will purchase goods and services and contribute to the economic and social and cultural life of the community.	No mitigation is necessary.
3.17	**Community Character**	The Project will have a positive impact on the character of the community.	The proposed Tuscan Village Conference Center will provide a destination facility in the Town. The manufacturing and commercial components will provide jobs. The residential will provide diverse housing choices. The proposed buildings are designed to blend with the natural environment rather than mimic the character of the existing style of buildings in the surrounding area. To harmonize with the landscape, the existing topography is utilized to minimize the visibility of the proposed Project.
3.18	**Greenhouse Gas Emissions**	The HVWV Project is anticipated to generate greenhouse gas emissions from direct stationary and non-stationary sources, indirect stationary and non-stationary sources, and waste generation.	NYSDEC's Policy on Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements identifies mitigation measures that will take into consideration during the site plan review process.

Description of the DGEIS

This document is a Draft Generic Environmental Impact Statement (DGEIS) for the HVWV Project prepared pursuant to 6NYCRR Part 617. The preparation of this DGEIS was selected by the Lead Agency as the best means to analyze the impacts of the Project because of the long

time-frame for its development and the likelihood that Project details will evolve and change with the passage of time. In comparison, a site specific Environmental Impact Statement (EIS) would have been prepared if all details of the Project were known and significant changes were not anticipated. The DGEIS fully characterizes the site, the proposed action, and all significant environmental impacts, and recommends mitigation measures where appropriate.

As future site-specific privately sponsored projects are proposed, they will be required to comply with the proposed zoning districts outlined within this DGEIS and obtain all necessary approvals under the Town Code as well as comply with any other State or federal laws that may apply. This DGEIS, together with the yet to be completed Final Generic Environmental Impact Statement and SEQRA Findings Statements will set forth specific conditions under which future actions (i.e. site specific projects) associated with the proposed Project can be undertaken, including requirements for any subsequent SEQRA compliance.

No further SEQRA review will be necessary if a future action associated with the HVWV Project is undertaken in conformance with the baseline conditions and thresholds established in this GEIS or the Lead Agency's Findings Statement. In instances where a future action associated with the implementation of the HVWV Project is not in conformance with the conditions and generic thresholds established in this DGEIS, an environmental assessment form (EAF) will be completed to assist the lead agency or other involved agency in the evaluation of conformance with the DGEIS and Findings Statement as well as potential adverse impacts related to such action. As a result, one of the following SEQRA compliance steps will be carried out by the Lead Agency or other involved agency;

- Amended Findings Statement – if the future action was found to be adequately addressed in the GEIS, but was not addressed or inadequately addressed in the Findings Statement, an amended Findings Statement will be adopted.

- Negative Declaration – If the future action was not addressed or was not adequately addressed in the GEIS and the subsequent action will not result in any significant environmental impacts, a negative declaration will be prepared.

- Supplemental EIS – If the future action was not addressed or was not adequately addressed in the GEIS, and such action may have one or more significant adverse environmental impacts, a Supplemental EIS will be prepared.

Section	Subject	SEQR Thresholds
3.1	Topography and Slope	• Disturbance to steep slopes between 15-25% is estimated to total 26 acres, disturbance to steep slopes greater than 25% is estimated to total 7 acres. Disturbance of greater amounts will require supplemental environmental review.
3.2	Soils and Geology	• Cut and fill analysis determined the Project will result in

		555,000 cubic yards of cut and 466,000 cubic yards of fill. Site work resulting in significantly different volumes of cut and fill will require supplemental environmental review.
3.3	Hydrogeology	• No DGEIS thresholds are proposed by the applicant.
3.4	Surface Water Resources and Stormwater Management	• No DGEIS thresholds are proposed by the applicant.
3.5	Wetlands	• The HVWV Project will disturb approximately 0.86 acres of onsite wetlands, including 0.45 acres of an unregulated isolate wetland, and 0.41 acres of a jurisdictional wetland. Disturbance of greater amounts will require supplemental environmental review.
3.6	Flora/Fauna	• The proposed Project will impact approximately 171 acres of the Project site.
3.7	Air Resources	• No DGEIS thresholds are proposed by the applicant.
3.8	Cultural Resources	• No DGEIS thresholds are proposed by the applicant.
3.9	Land Use and Zoning	• No DGEIS thresholds are proposed by the applicant.
3.10	Visual Character	• No DGEIS thresholds are proposed by the applicant.
3.11	Noise	• Increases of 10 dB(A) or more at the perimeter of the proposed HVWV Project will require supplemental environmental review.
3.12	Traffic	• It is anticipated that the Town will require regular traffic monitoring. Traffic generation in excess of counts analyzed in this DGEIS will require supplemental environmental review.
3.13	Utilities	• Water use and wastewater generation in excess of rates assessed in this DGEIS will require supplemental environmental review.
3.14	Community Services	• No DGEIS thresholds are proposed by the applicant.
3.15	Fiscal Conditions	• The HVWV Project would have significant positive fiscal impact to the Town taxing districts as well as to the Highland Central School District, the Town and the County. Annual property tax revenues from the Project will more than offset the increase in costs the HVWV Project may generate through increased demand for public services. The Project will also provide a considerable increase in tax payments to the Town of Lloyd and Ulster County compared to the property's current tax payments. No DGEIS thresholds are proposed by the applicant.
3.16	Demographics	• No DGEIS thresholds are proposed by the applicant.
3.17	Community Character	• No DGEIS thresholds are proposed by the applicant.
3.18	Greenhouse Gas Emissions	• No DGEIS thresholds are proposed by the applicant.

Evaluation of Alternatives

A total of eight (8) alternatives were comparatively evaluated with the proposed Project (see Section 4.0 Alternatives for more detail). These alternatives are briefly described as follows:

No-Action Alternative – The no action alternative would leave the property in its current condition. The three existing single family homes would continue to occupy the site. While impacts such as site disturbance, water demand and wastewater generation, traffic, and other environmental impacts would be eliminated, benefits of the Project such as increased revenue to the municipalities, job generation, and the public hiking trail would also be eliminated.

Alternative Site Plan 1 – As of Right Development Plan (200± units of housing) - This residential alternative would result in impacts below those identified for the HVWV Project. However, the Project does not include commercial or industrial components and therefore has limited economic development benefits. Alternative 1 would provide less of a positive impact as compared to the Project because of the lack of commercial/industrial tax base.

Alternative Site Plan 2 – Conservation Subdivision Plan (200± units of housing) - Similar to Alternative 1, this residential alternative would result in impacts below those identified for the HVWV Project. The Conservation Subdivision Plan results in greater open space preservation and less environmental impacts. However, the Project does not include commercial or industrial components and therefore has limited economic development benefits. Alternative 2 would provide a less positive impact as compared to the proposed Project because of the lack of commercial and light industrial tax base.

Alternative Site Plan 3 – Revolutionary Ridge Development Equestrian and Golf Course Plan - This alternative is based on the Inn and Golf Club at Revolutionary Ridge Development proposed in 2002 as a gated residential community, 18-hole golf course, and equestrian facility. Compared to the proposed HVWV Project, this alternative results in significantly more site disturbance and environmental impacts; a reduced number of residents due to the seasonal nature of the housing; and limited jobs stemming from operation of the golf course and equestrian facility. Alternative 3 would provide a less positive impact as compared to the proposed Project because of fewer jobs created and less property tax revenue.

Alternative Site Plan 4 – 1,194 Dwelling Units, 400,000 SF Alternative Uses Plan - Under this alternative a mix of residential and commercial space would be built. The alternative would result in site disturbance and environmental impacts less than the HVWV Project; more than twice the number of school aged children; and a comparable level of jobs generated. However the Project does not incorporate industrial uses or a conference space/hotel. Therefore, the economic and spin-off benefits from this alternative will be less than those identified from the HVWV Project. Alternative 4 would not have as much commercial/industrial tax base and a larger percent of the Project would be residential, which typically demands more in services (particularly with respect to the School District). Alternative 4 would provide a less positive fiscal impact.

Alternative Site Plan 5 – 120 Suite Hotel, 240 Condominiums, and 768 Dwelling Units Plan - This alternative is similar to the proposed HVWV Project in the number of housing units, operation of a hotel. It does not however incorporate commercial and industrial uses on site. This

alternative results in comparable site and environmental impacts as well as population generation. However, it results in less than ten (10) percent of the jobs created in the proposed HVWV Project and therefore will have limited economic impact. Alternative 5 would provide a less positive impact compared to the proposed Project because of the lack of industrial tax base and the increase in school aged children.

Alternative Site Plan 6 – 90 Suite Hotel, Conference Center, 50,000 SF Commercial/Office and 50,000 SF Adaptive Reuse - Under this commercial alternative there is minimal site and environmental disturbance. However, job creation is approximately one-third of that under the proposed HVWV Project. This alternative does not include a residential component and therefore does not generate residents or school aged children. Alternative 6 would provide a less positive impact compared to the proposed Project because of the reduced job creation and the lack of industrial tax base.

Alternative Site Plan 7 – 750 Dwelling Units, 50,000 SF Commercial/Office, 50,000 SF Adaptive Reuse, 600,000 SF Industrial/Manufacturing/Institutional, Conference Center, 90 Suite Hotel - This alternative is similar to the proposed HVWV Project with an increase in industrial space. Compared to the proposed HVWV Project, it results in similar site and environmental impacts, greater traffic, less water/wastewater demand, more jobs, and less residents and school aged children. Alternative 7 would provide a more positive impact compared to the proposed Project because of the increased industrial tax base and the decrease in school aged children.

Alternative Site Plan 8 - Route 9W Commercial Alternative - 847± Dwelling Units, 157,971 SF Commercial/Office (53,144 SF new and 51,727 SF adaptive reuse within the Tuscan Village and 53,100 SF new along Route 9W), 450,000 SF Industrial/Manufacturing/ Institutional, Conference Center, and 103 Suite Hotel - This alternative is similar to the proposed HVWV Project with an increase in commercial and industrial space. Compared to the proposed Project, it results in similar site and environmental impacts, greater traffic, less water/wastewater demand, more jobs, and less residents and school aged children.

1.0 INTRODUCTION

1.1 Purpose and Process of the Draft Generic Environmental Impact Statement

This Draft Generic Environmental Impact Statement (DGEIS) was prepared by a team of specialists in various disciplines to address the environmental and socioeconomic concerns identified by the Lead Agency, the Town of Lloyd Town Board, for the Hudson Valley Wine Village (HVWV) Project. The DGEIS has been prepared in compliance with the New York State Environmental Quality Review Act, Environmental Conservation Law Article 8 and implementing regulations set forth in 6 NYCRR Part 617 (SEQR). The Hudson Valley Wine Village, Inc. (Project Sponsor) proposes the rezoning of a 428.53 acre parcel to a Planned Development District (PDD) to be known as the Blue Point Overlay District a.k.a. the HVWV Project. The development of the property, which is anticipated to occur over a period of twenty (20) years, is based on an integrated plan that includes the construction of a conference center and ancillary hotel, restaurant and related facilities, residential housing, retail, office and light industrial uses, and open space and public recreation facilities. This DGEIS describes the Project and identifies potential impacts and mitigation measures aimed at constructing and operating the Project in an economically feasible and environmentally sound manner.

In the process of completing this DGEIS a number of studies and analysis were completed taking an extensive look at the potential impacts the HVWV Project could have within the Town of Lloyd. These documents are contained within the appendices and referenced throughout the DGEIS. These include: Phase 1 Environmental Site Assessment, Master Stormwater Pollution Prevention Program, Pesticides Residue Investigation, Natural Resources Survey and Assessment, Vernal Pool Study, Woodland Bat Survey, Air Quality Analysis, Phase 1A/1B Archaeological Investigations, Visual Analysis, Traffic Impact Analysis, Water Supply Concept Report, Sewage Collection and Treatment Report, Economic and Fiscal Impact Analysis, and a Greenhouse Gas Assessment.

The SEQRA process for the Hudson Valley Wine Village in the Blue Point Overlay District is summarized below:

- On July 19, 2011, the Project Sponsor submitted Part 1 of the Full Environmental Assessment Form (EAF) to the Town of Lloyd which included a statement of intent to create a zoning overlay district to be created on the site.
- The Lloyd Town Board circulated its intent to be Lead Agency to all involved agencies on July 20, 2011.
- On September 14, 2011 the Town Board established itself as lead agency and issued a positive declaration. A draft scoping document was accepted on the same date.
- The Town held a public hearing on October 12, 2011, and written comments were accepted through October 28, 2011.

- On December 14, 2011 the Final Scoping Document was adopted by the Lead Agency (see Appendix A).
- On August 30, 2013 the Project Sponsor submitted to the Lead Agency the first Completeness Draft of the DGEIS.
- On February 5, 2014 the Project Sponsor submitted to the Lead Agency the second Completeness Draft of the DGEIS.
- On February 19, 2014, 2013 the Lead Agency deemed the DGEIS complete.

The anticipated timeline for the SEQR process is shown in Table 1.1.1.

Table 1.1.1 SEQR Timeline

Activity	Duration	Date of Anticipated Completion
DGEIS Deemed Complete		
Public Comment/Hearing		
FGEIS Preparation		
FGEIS Adopted/SEQR Ends		
Findings Adopted		

1.2 Purpose and Need for the Proposed Project

Because the development site is so large, a mix of uses is appropriate to create a more sustainable project for the Project Sponsor and for the community. The development of the Project is analogized to a three legged stool. The first leg of the stool is the hotel and conference center with commercial uses located in a Tuscan Village. The Tuscan Village is located in and around the existing buildings of the Winery. A new hotel and conference center will be constructed and existing buildings will be adaptively reused to accommodate commercial, office and/or mercantile uses. The second leg of the stool is light industrial use. After discussions with local, county and regional economic development agencies, it was determined that there is a local demand for modern industrial space for high tech and other industries. Proximity to Route 9W and municipal water and sewer makes the Project site attractive for such uses. The final leg of the stool would be various residential uses comprising a mixture of single family homes, townhouses and apartments.

The preservation of the Hudson River Bluff was always an important part of the development of the site. It was decided that if the view of the bluff was to be impacted, this would be kept to the area of the Tuscan Village, being that the existing buildings of the Village are already visible. The intent of any development is to have the new structures blend with the characteristics and materials of the Tuscan Village. Specific design guidelines have been established to keep the visual impact along the bluff to a minimum. As the Project progressed and various research

studies were performed on the site this idea was solidified as a major goal in the creation of the Blue Point Conservation Development District.

From conducting an inventory of the site, it was determined that the residential use of the site was best located in the northern half of the site away from the bluffline. The density of these areas can be more readily adjusted to control the Impact on the natural environment and avoid the jurisdictional wetlands that are concentrated in the northwestern, southwestern and central areas of the site. It was also determined that the area, that is known as Blue Point, would be largely avoided. This area has two of the three vernal pools on the property. It was also found that this area is historically significant and has areas of archaeological importance. The townhouse style dwelling units are mostly located along the northern portion of the site. The changes to the land contours in these areas are fairly gradual and can best accommodate this type of development. Apartment buildings and more dense multi-family structures are located towards the center of the site and closer to Route 9W. These locations have less restrictive natural conditions that accommodate denser development.

The southwestern portion of the site was allocated for the development of the light industrial use. This area is closest to 9W allowing for the ease of access that is required for this type of development. Being that this portion of the site is closer to Route 9W and the waste water treatment plant makes it the logical area of the site to be first developed.

Goals and Objectives of the Project Sponsor

The objective of the Project Sponsor is to create an integrated development offering a variety of amenities to satisfy the growing needs of the community and the region. The Project's unique location has the features to support the integrated development. The Project will take advantage of the site's proximity to major roadways including NYS Interstate 87, NYS Interstate 84, US Route 9W, NYS Route 9, and NYS Route 44. Convenient access to major roadways is important to the success of the Project.

The Project Sponsor intends to create an attractive industrial/manufacturing campus with flexible modern facilities that can support high-tech industry and other key industries. The Project Sponsor has worked closely with Ulster County Industrial Development Agency (UCIDA) to identify the key industries in the region as recognized by *Ulster Tomorrow, A Sustainable Economic Development Plan for Ulster County*. The Project Sponsor has utilized the economic development resources of Ulster County to identify businesses looking to expand in the area. Ulster County has committed to work with the Project Sponsor and prospective businesses to find all available incentives to attract key business to the Project site. Discussions with the UCIDA indicate that there is a potential market for approximately 450,000 square feet of industrial space. The goal of the Project Sponsor is to attract businesses to the commercial and industrial areas of the property that create high value jobs which in turn will create a demand for housing in the Project and in the Town of Lloyd. Commercial development will be

constituted as market forces dictate. The proposed commercial and industrial amenities are based on the Project Sponsor's assessment of market demand.

Ulster Tomorrow has identified tourism as a key industry for Ulster County and the hotel and conference center will capitalize on that key industry. The development of a conference center and hotel with scenic views of the Hudson River will enhance tourism to the Town of Lloyd and Ulster County. Visitors to the hotel will have access to Franny Reese Park, Walkway over the Hudson, the rail trail, the trails proposed for the Project as well as the Tuscan Village with various commercial entities. The Project Sponsor envisions the Tuscan Village to contain shops with an emphasis on local goods and services as well as space for artists and artisans. A restaurant which emphasizes the history of the site as a winery will be a focus. It is hoped that local agricultural produce will be sold and used in the Tuscan Village.

The Project Sponsor seeks to create a walkable community that can also access the mass transit resources available in the area, including Metro North service at Poughkeepsie that is consistent with smart growth principles. As noted in Ewing, Reid. *Pedestrian- and Transit-Friendly Design: A Primer for Smart Growth. Smart Growth Network Manual*, (1999) (Available at http://www.epa.gov/smartgrowth/pdf/ptfd_primer.pdf) walkable communities and mass transit access need medium to high density areas to be successful. The integrated community will allow residents to live near work and reduce commuting time. The commercial and industrial portions of the Project will also create demand for mass transit by employees commuting to work at the locations from the Hamlet of Highland, Poughkeepsie and Kingston. The availability of mass transit to the Project will be a benefit for attracting businesses to the Project. According to Ewing, "50 employees per acre are necessary to support premium transit service" for an area. This can be achieved by the Project.

The Project meets an additional goal and objective of the Project Sponsor, which is to create a project with benefits to the greater community. Some of the benefits from the Project include: a variety of new jobs for local residents, substantial tax revenues for the Town, County, and School District, and additional recreational resources linking the Project site to Franny Reese State Park, the Walkway Over the Hudson, and the extensive rail trail system which has been created.

Socio-Economic Benefits

An Economic and Fiscal Impact Analysis (see Appendix R) was completed by Camoin Associates to identify the potential economic and fiscal impacts resulting from the HVWV Project. This analysis found that the Project will increase economic activity in the Town of Lloyd and have positive socio-economic benefits within the Town.

Approximately 130 full time construction jobs and 36 indirect jobs will be created annually during the 20 year construction period. At completion of the light industrial component of the HVWV Project, approximately 900 permanent jobs will be generated. The commercial/office component of the Project is expected to generate 290 permanent jobs and the Tuscan Village

Conference Center will generate approximately 96 permanent jobs. In total, the Project is anticipated to create 1,286 permanent full time jobs ranging from unskilled labor positions to management level opportunities. An additional 359 indirect jobs are anticipated to be created as a result of the Project. The HVWV Project will have a positive effect on the local economy during both construction and subsequent operation of the facilities. Construction workers and future employees will patronize existing businesses providers in the vicinity of the Project site for food, gas, and other goods and services.

The proposed Project will generate net annual revenue of $1,880,242 to the Town of Lloyd, including special districts, and $3,393,672 to the Highland Central School District, at full build out. A complete discussion of the employment and fiscal impacts from the proposed HVWV Project is provided in Section 3.15 of this DGEIS.

In addition, sales tax revenues will be generated from the operation of the conference center, hotel, restaurant and retail components included within the Project. Further, employment opportunities provided by the Project will contribute to an increase in household spending by employees, which, in addition to the revenue generated by the retail and sales components of the Project, will produce an economic multiplier effect throughout the local and regional economy.

Public Need

The proposed HVWV Project will contribute significant economic, fiscal, and recreational benefits to the Town of Lloyd, Ulster County, and the region as a whole. The 2013 Comprehensive Plan places an increased emphasis on balancing growth, bringing life and commerce back to the Town Center, and encouraging economic development. The Comprehensive Plan further promotes concentrated mixed use development, design guidelines, and development where adequate water and wastewater infrastructure exists. It specifically identifies the conceptual plan for the Winery property and the potential for extending municipal water south on Route 9W to the Marlborough border as a means to encourage commercial and light industrial uses along the Route 9W corridor The Plan also promotes the creation of walkable and bikeable neighborhoods and the extension of the ridge trail southward with the cooperation of property owners. In regards to these goals, the HVWV Project will:

- Increase housing and employment opportunities;
- Improve and provide access to recreational resources;
- Preserve 60 percent of the site, including 77 acres of the bluff;
- Preserve historic and cultural resources;
- Improve US Route 9W adjacent to the Project site; and
- Promote economic development within the community at a considerable scale.

The demographic profile for the Town of Lloyd and Ulster County shows an overall increase in population, age of residents between the ages of 45 and 74, number of households, and

median household income. Many of these impacts are due to the growth that has occurred in the Hamlet of Highland over the past few decades. Section 3.16 of this DGEIS identifies the increasing affordability gap in the Town of Lloyd and Ulster County as identified in *A Three-County Regional Housing Needs Assessment: Dutchess, Orange and Ulster Counties From 2006 to 2020.*

Markets to be Served

The HVWV Project will be marketed as a neighborhood style development that provides a variety of housing styles and sizes built on a historic winery where recreational, commercial, retail, tourism, and light industrial components come together in an unique development. With 104,871 SF of commercial/office space and 435,262 SF of light industrial space it is anticipated that many of the new employees generated as a result of the Project will consider living within the HVWV.

The residential component of the HVWV Project occupies 92.6 acres (21.6 percent) of the Project site and includes apartments, townhouses, and single family homes in a range of unit sizes. One and two bedroom apartments will range in size from 700-1,200 SF. Two and three bedroom townhouses are planned as two story residential units ranging in size from 1,400-1,800 SF. In addition, three bedroom single family homes approximately 2,400 SF in size are also proposed as part of the residential component in the southeastern portion of the site.

The proposed zoning allows for a mix of apartments, townhomes and single family residences that creates a wide range of options for housing prices. Single family residences are proposed for the southeastern portion of the site which will most likely target a higher end market. The remainder of the Project will be a mix of townhomes, condominiums and multifamily apartments that can appeal to various price points based on housing market conditions. While the present real estate market is slow, it is anticipated that future demand for housing in the area will be created after commercial and industrial uses have been established at the Project.

An increased density allows for the construction of multifamily apartment buildings which are needed in the Town of Lloyd and in the Ulster County region as noted in *A Three-County Regional Housing Needs Assessment: Dutchess, Orange and Ulster Counties from 2006 to 2020*. Multifamily apartments are an economical way to provide affordable housing for the region. It is anticipated that the developer or its successor will partner with state and county agencies to seek government or private sector grant funding assistance for the creation of affordable housing for a portion of the Project. Such funding will be helpful for the installation of the needed infrastructure which will service the affordable housing and other portions of the Project. If grants are obtained that can assist in the construction of project infrastructure, affordable housing will be developed early in the Project. Because of the desirable location of the Project, market priced housing will occupy the largest portion of the residential portion of the Project.

In addition to affordable multifamily housing, the developer believes that there will be a market for luxury townhomes or luxury apartments located near the Tuscan Village. Work and live spaces are also proposed for the Tuscan Village. Opportunities for townhomes and apartments for middle income residents will be made available in the balance of the residential area.

The price for the residential units will be determined by market conditions during the build out period which is anticipated to be about 20 years. The market rate housing will be constructed by the private sector and units will not be constructed without a demonstrable market demand. Market forces will control the potential of market saturation. Because of the length of the proposed build out and the changing real estate market, sale prices and housing types will vary as the Project is developed.

Project Ownership and Management

While the single family homes will be privately owned in fee simple, the townhouses will be sold in a condominium form of ownership that would detail provision for maintenance of commonly owned facilities. The apartment buildings will be in single ownership and individual units will be leased to tenants; cooperative apartments are not contemplated.

1.3 Project Location, Description and Environmental Setting

A. Location

The HVWV Project site is located in the Town of Lloyd in Ulster County, New York. The Town of Lloyd lies along the eastern border of Ulster County bounded by the Towns of Esopus to the North, New Paltz to the west, Plattekill and Marlborough to the south, and the Hudson River to the east. (see Figure 1.3.1 Regional Location Map) On the eastern shores of the Hudson River across from the Project site is the City of Poughkeepsie, an urban center providing commercial, cultural, and educational amenities at a regional level.

The Project site is bounded on the west by US Route 9W and has access via Blue Point Road. US Route 9W is the primary north-south travel corridor in the Town of Lloyd. North of the Project site, the Mid-Hudson Bridge is the primary means of crossing the Hudson River between Lloyd and Poughkeepsie. The Kingston-Rhinecliff Bridge is approximately 22 miles north of the Project site, and the Newburgh-Beacon Bridge is approximately 13 miles south of the Project site. The property on which the HVWV development is proposed consists of 429± acres on six (6) contiguous parcels identified as Ulster County tax map parcels 96.3-2-8, 96.3-1-29.1, 96.3-1-28, 96.3-2-21, 96.3-1-18, and 96.3-2-9 (see Figures 1.3.2 Site Location Map and Figure 1.3.3 Aerial Map).

These parcels are currently owned by Hudson Valley Wine Village Inc and are not currently served by public water, wastewater, or stormwater management facilities. However, Central Hudson Gas and Electric has an easement for a gas transmission line (high pressure main) which runs north-south adjacent to the HVWV property through Blue Point Road. Permission from

Central Hudson will be required to cross this easement. There are no other easements or rights-of-way on the property that would restrict development.

The Town Zoning Ordinance and Map indicate the Project site is located within the Single-Family District-1 acre and the Single-Family District-2 acres (see Section 3.9 Land Use and Zoning for more detail). In addition, the area 100 feet west of the bluffline above the Hudson River on the property is located within the Waterfront Bluff Overlay District.

Land use adjoining the Project site is a mix of residential, agricultural, and commercial and is relatively rural in nature (see Figure 1.3.4 Adjacent/Adjoining Landowners Map and Figure 1.3.5 Adjoining Landowners List). The HVWV Project site is located in close proximity to a number of recreational, historic, cultural, and educational resources (see Section 3.9 Land Use and Zoning for more details). Within the Town of Lloyd these resources include: Franny Reese State Park, Hudson Valley Rail Trail, Walkway Over the Hudson, Berean Park, Tony Williams Town Park, Highland Cemetery, and Cluett Schantz Memorial Park.

The HVWV Project site is located within the Esopus-Lloyd Scenic Area of Statewide Significance (SASS), which encompasses a 17 mile stretch of the Hudson River and its shorelands. Views across the Hudson River include parts of the Estates District SASS and the City and Town of Poughkeepsie. Within the City and Town of Poughkeepsie these resources include: Eastman Park, Wheaton Park, Longview Park, Pulaski Park, College Hill Park, Mansion Square Park, Bartlett Park, Spratt Park, Fallkill County Park, Fern Tor Nature Preserve, Poughkeepsie Rural Cemetery, Clinton House, Vassar College, Marist College, Dutchess Community College, and the Culinary Institute of America.

B. <u>Site Description and Environmental Setting</u>

The 429± acre Hudson Valley Wine Village Project site is primarily undeveloped land, a portion of which is located on a bluff overlooking the Hudson River. A total of just more than two (2) acres of the overall Project site is made up of roads, buildings, and other paved surfaces from previous uses. Three existing single family homes are found on the Project site. One is currently occupied by the caretaker, a second is vacant, and the third is dilapidated and vacant. The remaining 427± acres are primarily forest and meadow.

The Project site contains a number of structures that were built by the Hudson Valley Wine Company. The Hudson Valley Wine Company buildings, constructed by Alexander Bolognesi beginning in 1904, were modeled after an Italian manor and designed in the Italian Romanesque style. In addition to the buildings serving the winery, the Bolognesi family maintained residential structures for their many tenant farmers, who lived and worked on the property. Many of these structures remain; however, not all are within the boundaries of the Hudson Valley Wine Village Project site. The Phase 1 Environmental Site Assessment, found in Appendix C, identified a total of 12 buildings that were part of the winery compound. These buildings include a warehouse, lab and shop, mechanical space, office space, clock tower, wine

shop, tank storage, banquet hall, rental house, equipment garage, old wood barn/shed complex, and a spring water pumping station. In addition, several modern residential structures on Blue Point Road are located on outparcels, and are not part of the proposed Project.

The Winery on the Project site was most recently owned and operated by the Regent Champagne Cellars until the last decade of the 20th century. This business ceased operations in the late 1980's and now the HVWV Project site is a mix of overgrown orchards, vineyards, woodland, and open lawn areas that have been maintained by mowing. Blue Point Road currently ends at the Hudson Valley Wine Company buildings, but historically it continued east to the river's edge. Unpaved roads and trails provide access to the former vineyards, orchards and fields.

Site topography is varied, with a topographic highpoint (Blue Point) at the southeastern portion of the site, and bluffs which overlook and descend to the Hudson River along the eastern property boundary. Surface elevations on the site range from greater than 350 feet above mean sea level (msl) at topographic highs at the north and south ends of the property to less than 100 feet above msl along the Hudson River on the eastern portion of the property. Surrounding area topography slopes towards local streams and then downward to the east towards the Hudson River.

There are wetlands scattered across the site as well as several small ponds and an unnamed Class C stream flowing in a northeasterly direction towards the Hudson River. There are also several small unnamed surface Class D streams which also drain east towards the Hudson River. In total, approximately 35.7 acres of the Project site are water, streams or wetlands.

The majority of the soils on the site are identified as well drained to excessively well drained, with slopes ranging from nearly level to 25 percent.[1] There is an area of very poorly drained soils on the northwestern edge of the Project area, and another along the base of the bluff at the southeastern portion of the site. Depth to bedrock in the area of the site ranges from surficial outcrops to greater than 78 inches below grade.

Vegetation includes plants associated with the very early stages of old field succession, including small trees and brush in areas that were formerly part of the vineyard and orchards. The vineyards and fields are now either overgrown or reforested. Areas of the site not previously used for agriculture are characterized by an older forest estimated at 40-60 years of age. The HVWV site lies in the Northern Hardwood Forest Zone, with sugar maple, birch, beech and hemlock the predominant trees.[2]

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[1] United States Department of Agriculture (USDA). 1979. *Soil Survey of Ulster County, New York*. In cooperation with Cornell University Agricultural Experimentation Station. U.S. Government Printing Office. Washington D.C.
[2] Küchler, August W. Potential Natural Vegetation of the Conterminus United States. American Geographical Society, New York. 1982

The HVWV Project site is located within close proximity to a number of natural areas and parklands including: Franny Reese State Park, Hudson Valley Rail Trail, Walkway Over the Hudson, and Home of Franklin D. Roosevelt National Historic Site to the north; the Illinois Mountain and Minnewaska State Park to the west; James Baird State Park to the east; and Hudson Highlands State Park and Storm King State Park to the south.

1.4 Project Sponsor

Hudson Valley Wine Village, Inc., the Project Sponsor, owns the property which was previously operated by the Regent Champagne Cellars. The Project Sponsor has owned the property since the 1960's and has no debt or encumbrance on the property. The Project Sponsor has the resources to undertake all approvals associated with the Project and will seek development partners to construct each phase of the Project. Hudson Valley Wine Village, Inc. was formed for the purpose of developing the Project.

1.5 Required Approvals

All government agencies at the State, County, and local level within New York State must comply with SEQRA. Each agency is independently responsible for ensuring that its own decisions are consistent with the requirements of SEQRA. In addition to the Town Board's role as the Lead Agency under SEQRA, it is anticipated that approvals and permits from the agencies in Table 1.5.1 will be required.

Table 1.5.1 Involved Agencies, Permits, and Approvals

Involved Agency	Type of Approval
Town of Lloyd Town Board	Rezoning Performance Bond Approval Development Agreements Water District Extension Formation of Sewage Works Transportation Corporation Road Discontinuation Roadway and Infrastructure Dedication Potential Stormwater Drainage District Potential Lighting District
Town of Lloyd Planning Board	Advisory Opinion on Zoning Changes Coastal Zone Consistency Review Site Plan and Subdivision Approvals
Town of Lloyd Highway Department	Road Discontinuation Highway Improvements
Ulster County Health Department	Approval of Water and Wastewater Plans
NYS Department of Environmental Conservation	GP-0-10-001 General SPDES Permit Water District Extension

	Wastewater Treatment Plant and Sewage Treatment Plant Design Section 401 Water Quality Certificate
NYS Department of Health	Water Distribution System Approval Wastewater Treatment Plant Approval
NYS Office of Parks, Recreation and Historic Preservation	Cultural Resources Consistency Determination
NYS Department of State Office of Communities and Waterfronts	Federal Consistency Coastal Assessment
NYS Department of Transportation	Highway Work Permit (Utility and Non-Utility) Approval of Improvements to Route 9W
U.S. Army Corp of Engineers	Section 404 Clean Water Act Wetlands Permit Nationwide Permit #29
U.S. Fish and Wildlife Service	Endangered, Threatened, and Rare Species Consultation Federal Fish and Wildlife Consultation

2.0 PROJECT DESCRIPTION

This section of the DEIS describes the proposed Hudson Valley Wine Village ("the Project"). The Project includes construction of a conference center and ancillary hotel, restaurant and related facilities, residential housing, retail, office and light industrial uses, and open space and public recreation facilities.

2.1 Detailed Description of the Proposed Project

The Hudson Valley Wine Village is a 429± acre integrated development proposed to be built over a 20 year period (see Figure 2.1.1 Overall Master Site Development Plan). The Project would include:

- A maximum of 915 residential housing units including up to 584 apartments, 284 townhouses, and 47 single-family homes
- 51,727 square feet (SF) of renovated commercial and office space and 53,144 SF of new commercial and office space
- 435,262 SF of light industrial, manufacturing, and/or institutional space
- A 34,048 SF conference center with an associated 8,222 SF restaurant to be known as the Tuscan Village Conference Center
- A 103-room suite hotel overlooking the Hudson River

Relationship to Plans, Policies and Regulations

The HVWV Project is consistent with the goals set forth in the Town of Lloyd Comprehensive Plan. The concentrated development plan: promotes a mix of housing types in a neighborhood setting that is accessible to bicycle/pedestrian networks linked to existing recreational resources; protects the bluff and significant environmental resources while promoting light industrial and commercial uses along the Route 9W corridor; incorporates rehabilitation of winery buildings for commercial/office uses and promotes extension of water services southward on Route 9W and the development of a new wastewater treatment plant.

In relationship to local zoning the HVWV Project is located within the Single-Family District-1 acre (R-1) and the Single-Family District-2 acres (R-2) (see Figure 3.9.1 Current Zoning Map). The Town of Lloyd describes unbuildable natural features (non-buildable area) as wetlands and any required one-hundred-foot adjacent areas, water bodies, watercourses, lands within a FEMA-delineated one-hundred-year floodplain, cemeteries, steep slopes (2,000 square feet or more of contiguous sloped area at least 10 feet in width), and acreage subject to a long-term easement that expressly prohibits development. In addition, a 15 percent allowance for roads, drainage features, and lot shape irregularities shall be deducted from the unconstrained acreage. Based on these considerations the 429 acre site has a total unbuildable area of

approximately 267 acres, or 62 percent of the HVWV Project site. The remaining 162 acres of the HVWV Project site are therefore identified as buildable acres. They account for 38 percent of the overall Project site. A conventional subdivision yield analysis determined the HVWV Project site would allow for a total of 58 minimum one acre residential lots could be developed within the R-1 district, and 89 minimum two acre lots could be built within the R-2 district based on existing conditions and zoning districts. The unbuildable area on the HVWV Project site would have accounted for an additional 117 units.

However, in order to achieve an integrated development plan with substantial economic and job creation benefits to the Town and region, the HVWV Project proposes to rezone the property to allow uses and densities that exceed those allowed by existing zoning. The Project Sponsor proposes that the following zoning districts be created for the Project: the Blue Point Commercial District (BPC), the Blue Point Industrial District (BPI) and the Blue Point Multi-Family District (BPMF). A portion of the property along Route 9W is proposed to be rezoned to General Business District (GB). Section 3.9 Land Use and Zoning provides more detail on these districts and their boundaries. This is consistent with recommendations made in the Town's 2013 Comprehensive Plan.

The rezoning of the Project site allows the HVWV property to be developed in such a way as to provide a maximum variety of housing types and densities, encourage job supporting and tax producing development, and increase the range of services and facilities available to serve the Town's present and future populations.

The proposed HVWV Project is also consistent with the Town of Lloyd LWRP and promotes its underlying goals of redeveloping deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational and other compatible uses while promoting access to the waterfront (see Appendix K and Table 3.9.4).

Public Need and Benefits

The purpose of the Project is to develop an integrated Project offering a variety of amenities to satisfy the growing needs of the community and the region. The Project site is unique in its location and has the features to support the planned development. The Project will provide a number of significant public benefits including social and economic considerations. These include:

- The Project provides an integrated plan of development for a key piece of land in the Town that will provide a distinct sense of place. The Tuscan Village Conference Center will be a unique concept in the Town reusing certain of the historic winery buildings, and creating a regional draw, bringing visitors to the Town who will patronize other businesses.
- Property tax levies are typically the most significant source of income to public service jurisdictions. The proposed action will produce long-term economic benefits. The Project site currently has an assessed value of $4,584,600 and generates an annual total

of $140,514 in property taxes to relevant taxing jurisdictions. Upon full build-out, the Project will have an estimated assessed value of $227,473,930 and will generate an annual total of $6,970,235 to the Town of Lloyd, Ulster County, special taxing districts, and the Highland Central School District.

- The Project will generate an average annual net revenue of $987,298 to the Town of Lloyd over the 20 year construction period. The net impact is projected to increase by 3% annually following year 20 beginning at a net annual impact of $1,936,649 in year 21.
- The Project will generate an average annual net revenue of $2,194,503 to the Highland Central School District over the 20 year construction period. The net impact is projected to increase by 3% annually following year 20 beginning at a net annual impact of $3,495,482 in year 21.
- The Project will also generate sales tax revenues through operation of the Tuscan Village Conference Center, hotel, restaurant, office/retail facilities onsite, as well as well as businesses occupying the light industrial component of the Project.
- The Project will create employment opportunities during both construction and the long-term operation of the Project. A total of 166 construction related jobs are expected to be created annually during the 20 year build out period. An additional 1,645 jobs will be created at full build out of the HVWV Project. These jobs will range from unskilled occupations to management and professional level positions. These new employment opportunities will contribute to an increase in household spending in the region, which, in addition to the revenue generated by the retail and sales components of the Project and spending by visitors staying at the conference center, will produce an economic multiplier effect throughout the local and regional economy.
- The Project incorporates phased improvements to US Route 9W including turning lanes and signals, at no cost to the Town.
- The Project will preserve significant open space. Approximately 60 percent of the site will be preserved as protected open space including the site's wetlands and steep slopes. The 77 acre bluff above the Hudson River will be preserved. Views from the bluff and across the Hudson River will be protected, as development in the Waterfront Bluff Overlay District will be confined to areas that are already developed.
- The HVWV Project will provide the Town of Lloyd with additional recreational opportunities through the development of 5.5 miles of trails linking the HVWV Project site to Franny Reese State Park to the north, and the Hudson River to the east. A parking area with interpretive signage will provide public access to the trail system.
- The HVWV Project was designed to avoid direct disturbance to the identified prehistoric cultural resources identified during the Phase 1A and Phase 1B Cultural Resources Review. The Project will not disturb these resources unless an Archeological Site Avoidance Plan or Archeological Mitigation Plan is developed to identify and preserve resources on the site.
- The Project will meet the need for a variety of housing by providing a range of housing type including apartments, townhouses and single family homes that range in size from

one to three bedroom units. Each type of housing will meet a broader need for additional housing within the Town of Lloyd and the region as a whole.

The proposed HVWV Project will contribute significant economic, fiscal, and recreational benefits to the Town Lloyd, Ulster County, and the region as a whole. The 2013 Comprehensive Plan places an increased emphasis on balancing growth, bringing life and commerce back to the Town Center, and encouraging economic development. The Comprehensive Plan further promotes concentrated mixed use development, design guidelines, and development where adequate water and wastewater infrastructure exists. It specifically identifies the conceptual plan for the Winery property and the potential for extending municipal water south on Route 9W to the Marlborough border as a means to encourage commercial and light industrial uses along the Route 9W corridor The Plan also promotes the creation of walkable and bikeable neighborhoods and the extension of the ridge trail southward with the cooperation of property owners. In regards to these goals the HVWV Project will increase housing and employment opportunities as well as access to recreational resources, preserve 60 percent of the site including 77 acres of the bluff, preserve historic and cultural resources, improve US Route 9W adjacent to the Project site, and promote economic development within the community at a considerable scale.

Site Layout – Environmental Constraints

The conceptual design of the proposed HVWV Project took into consideration significant environmental, historic, and open space resources within the 429± acre Project site that ultimately shaped the development. These resources include:

- 161 acres of steep slopes, or slopes greater than 15 percent;
- 36 acres of surface water and wetland resources including several ponds, streams and wetlands including just over an acre of three (3) vernal pools located across the site;
- Existing winery structures on-site providing local and historic context;
- Areas identified to be archaeological sensitive; and
- The scenic bluff above the Hudson River.

The Overall Master Site Development Plan was designed taking these resources into consideration. The HVWV Project successfully meets these objectives by minimizing impacts to areas with steep slopes to 33 acres, or eight percent of the Project site; avoiding all but 0.86 acres of wetland areas; avoiding all vernal pool areas and providing significant buffer areas to preserve their ecological integrity; rehabilitating a number of the existing winery structures on-site; preserving areas identified to have archaeological sensitivity; and preserving 77 acres of the scenic bluff except for the area currently developed as the winery.

The proposed HVWV Project will disturb approximately 170± acres of the site. Figure 2.1.2 illustrates the overall disturbance area. The disturbed area exceeds the amount of buildable

area as defined by the Town of Lloyd Zoning Ordinance due to the impacts identified to steep slopes and because of the 15 percent roadway and drainage area set aside. Impacts to steep slopes were minimized to the extent possible, and impacts to the bluff overlooking the Hudson River were avoided entirely; however the hilly nature of the Project site made it difficult to avoid impacts all together.

At build out, it is estimated that a total of 3,039,666 SF (69.8 acres) of impervious surfaces will be constructed, which is 16.3 percent of the Project site. This includes the total footprint of all buildings, total paved surfaces, and the Central Boulevard. Impacts will be minimized by proper design, installation, and maintenance of stormwater infrastructure and utilities. Efforts to reduce impervious surfaces include minimizing roadway widths and reduction of sidewalks, driveways, building footprints, cul-de-sacs, and parking areas. Additionally, the Project will investigate the use of pervious pavement and other mitigation measures to reduce the amount of impervious area throughout the Project. A more detailed discussion is provided in Section 3.3.

This design of the HVWV Project is conceptual in nature. Final design drawings will be developed consistent with proposed zoning bulk standards during the design detail phase.

Site Layout – Residential Component

Residential properties will be clustered throughout the HVWV Project site and will include apartments, townhouses, and single-family homes in a range of unit sizes (see Figure 2.2.1 Residential Model Site Plan). The residential component includes:

- 584 apartment units ranging in size from 700-1,200 SF. The one (1) and two (2) bedroom apartment units are primarily located on Blue Point Road from the entrance to HVWV to the center of the site in three (3) story buildings. A total of 928 bedrooms are proposed.
- 284 townhouses are planned as two (2) story residential units with a mix of two (2) and three (3) bedroom units ranging in size from approximately 1,400-1,800 SF. Three (3) clusters of townhomes are proposed on the property. A total of 612 bedrooms are proposed.
- 47 single-family dwellings are proposed. These three-bedroom homes are proposed to be approximately 2,400 SF in size and will be primarily located on the southeastern portion of the site. A total of 141 bedrooms are proposed

Site Layout – Tuscan Village Conference Center and Commercial Component

The Tuscan Village Conference Center includes a 34,048 SF conference center, associated 103-room suite hotel overlooking the Hudson River, and an 8,222 SF restaurant (see Figure 2.2.2 Tuscan Village Model Site Plan). In addition to these uses, commercial space will be developed in the form of 51,727 square feet (SF) of renovated commercial and office space and 53,144 SF of new commercial and office space. Other uses that could potentially occupy this space

include: academic/educational, medical, or congregate care. In total, six buildings on the HVWV property will be rehabilitated for commercial purposes. These buildings include:

- Building 'A': The Clock Tower Building is the main building within the Tuscan Village and is the focal point and terminus of the existing/proposed plaza and the current drive leading to the Tuscan Village. The building was constructed of concrete block that was painted. Brick accents around the doors and the windows allow the building to have the 'Tuscan' flare. A two story addition, which was built on the east side of the building, will be removed, keeping the original structure intact. The building is comprised of two floors, with the first floor opening onto the plaza to the west. The basement level is open to grade allowing for access out of the building on the east side. This building has a large, open floor plan that can easily accommodate a variety of commercial or office uses. The existing structural system allows for the flexibility of the floors. The tower itself can be modified to be able to be a scenic lookout and can it can be incorporated into the public space within the building. Due to the size of the tower, HC accessibility cannot be accommodated.
- Building 'B.1': The Champagne Lab is a residential sized building that consists of a large open two story tall space. It is positioned on the north side of the existing plaza immediately adjacent to the Clock Tower. The building is finished with stucco and uses brick accents at a large arched entry door, decorative balcony and windows in a similar manner to the Clock Tower Building. This building currently is one story, but can easily accommodate a second floor. This particular building would be best suited for a small commercial store, artist studio, or private offices. A main entry lobby can be created through the use of the existing large double doors on the southern face of the building.
- Building 'B.2': The Museum Building is positioned on the north side, at the entrance to the plaza. This too is a residential sized building. It was built of brick & concrete block. Brick detailing at the doors, windows as well as columns for a covered porch provide for the 'Tuscan' flare and links it to the other buildings of the Village. This is a two story structure with a wrapping porch on the south western corner of the building. This particular building would be best suited for a small commercial store, private offices or to continue its original use as a small museum focused on wine making of the Hudson Valley and also on the history of the site.
- Building 'C': The Wine Press Processing Building is located on the south side of the plaza across from the Museum Building. It is a concrete block building with two large arched doors on the north and east sides of the building. These doors and the windows are accented with brick, similar to the other buildings. A former door opening on the south side of the building was blocked up, but can be opened to allow for a new door/window at this location. A venting cupola is located on the roof of the building reinforcing the barn appearance of the structure. The building consists of a large two story space this particular building would be best suited for a variety of uses. It can easily accommodate a small commercial store, artist studio, private offices or a café/small restaurant. On the east side of the building are the foundation remains of a previous structure. This can be

modified to become an outdoor seating area that is enclosed on three sides by these rustic stone walls for open air dining for a café/small restaurant use.

- Building 'D': The Wine Tasting Shoppe is the second most prominent building within the Tuscan Village. The building is constructed of stone using brick accents over and around the arched door and window openings. The roof ridge is accented with a venting cupola similar to the Wine Press Processing Building. This building's rustic appearance embraces the use of a restaurant/brew pub. The interior consist of a first floor that is divided by a central stair. High arched windows line the walls of this floor with large arched doors in the gable end walls. This lower level can contain kitchen space as well as that of a bar. The second floor consists of two tall vaulting spaces that contain a single large circular window in the each of the gable end walls. These spaces can accommodate dining rooms.
- Building 'E': The Storage/Warehouse Building is the largest of the existing buildings and is located to the west of the Tuscan Village. This is a large painted concrete block building that is spanned by roof trusses to provide a clear open interior space. This building was envisioned to be divided into smaller tenant spaces. These spaces can be multi-story (maximum of three stories). These spaces would be used as private offices or artist studios. It was also considered that these spaces can be Work/Live studios. Also because of the large space that is contained within the structure, there was a discussion about using the building as an indoor farmers market.

The concept of the Conference Center was based on the historical forms that were used for large barns in the Hudson Valley. The appearance of the building will be developed pending the selection of a developer or brand of hotels/motels which may express interest in the property. The concept can be revised pending the review and approvals from the Town of Lloyd Planning Board. The details of the design will be determined during the Final Design Phase. The exterior building materials will follow the materials that are found on the buildings of the Tuscan Village. The exterior walls will be finished with a stucco material, stone veneers and natural wood siding. Large windows on the building elevations will open to the interior spaces allowing natural light into the building as well as allowing those inside to enjoy the view of the natural surroundings. Sloping standing metal roofs will cover the structure. The sloping roof plane will be divided by a step that allows for the installation of transom/clerestory windows. These windows will allow daylight to enter the interior of the building through the use of light wells.

The Conference Center is two stories in height. The lower level will be entered through the entry form that is to the east of the main building. This entry form also will act as the entrance for the restaurant. The upper story will be accessed through an elevator or grand staircase from the lower level or from an entrance on the west end of the building that is off of the Tuscan Village Plaza. The Conference Center is envisioned to have a tiered high-tech multipurpose auditorium. The upper level will consist of multi-purpose spaces that will have the ability to be divided into smaller spaces through movable partitions. The multi-purpose spaces on the north

side of the building will open up onto a covered porch with a view of Poughkeepsie and the Franklin Delano Roosevelt (Mid-Hudson) Bridge.

The building is designed to be used for both private as well as public functions and events. Catering for the events will be served by the restaurant that is located between the Conference Center and the proposed Hotel. Having the hotel adjacent to the center also allows for weekend events to be held.

The hotel that is proposed as part of the Tuscan Village Complex will also use the rustic forms found within the Tuscan Village but in a more contemporary manner. The materials used on the Conference Center will also be used on this structure as well. The plan of the building is long and narrow running parallel with the Hudson River. The suites are off of a central corridor which is mostly loaded on the east side with views across the Hudson River to the eastern bank and Poughkeepsie. Suites located on the western side will have views onto the site. The suites that are located on the top most floors will be designed with private decks that will provide unobstructed views across the River. The public spaces within the hotel open onto the adjoining landscape with the use of large expanses of glass curtain walls. This provides an area of transparency through the middle of the building.

The Restaurant is linking element between the Conference Center and the Hotel. It is located at the pivot point of the axes that exist between the two adjoining uses. There is a large patio on the north east side of the building to provide outdoor dining during the warmer months. The Restaurant is design with large windows and doors that open onto this patio. This allows for easy use of this outdoor area as well as provides views of the Hudson River, Poughkeepsie and the bridges. This building will also use the same exterior materials and the Conference Center and the Hotel.

Site Layout – Light Industrial Component

Discussions with the UCIDA indicate that there is a potential market for approximately 450,000 square feet of industrial space. A total of 435,262 SF of light industrial, manufacturing, and/or institutional space is proposed as part of the HVWV Project (see Figure 2.2.3 Light Industrial Model Site Plan. A total of eight (8) buildings are proposed along the western edge of the HVWV Project site with primary access to Route 9W coming from a new access boulevard at the south end of the site. The model site plan is shown for illustration purposes. It is anticipated that key businesses may require larger buildings and other businesses may share space or occupy portions of larger buildings. Final building number, sizes and configurations will be determined during site plan review. Subdivision of land may also be required based on need.

Design Guidelines

Design guidelines have been prepared to provide clear and useful architectural standards for the design, construction, review and approval of growth in the Blue Point Overlay District (see Appendix L). These guidelines will help insure that new buildings are compatible with either the

Town of Lloyd's vernacular architecture, the character of the "Tuscan Village" or the rural traditions of American architecture. The design guidelines further address architectural standards for each of the proposed zoning districts and identify site planning, planting areas, and building design requirements. *Site Access and Internal/External Circulation*

The proposed HVWV Project will have two (2) entrances. Primary access to the residential uses and Tuscan Village Conference Center and Hotel will come through Central Boulevard; a north access driveway that will intersect with US Route 9W by reconstructing and realigning a portion of Sam Williams Road to align with Paladino Drive. The second entrance will be a new access boulevard that will primarily serve the light industrial component of the HVWV Project. The new entrances will serve as the emergency access points for the Project site. A series of internal roadways will be constructed to connect all components of the Project and provide safe circulation and traffic flow. Ownership of Central Boulevard will be transferred to the town at the time of its completion. However, the internal roads and parking lots will be privately owned and maintained by a homeowner's association. An additional emergency access location will be considered from the termination of the Blue Point Road cul-de-sac to Central Boulevard. This will be a gate secured location allowing access to the fire and police departments.

All of the roadways that are to be dedicated to the Town of Lloyd will be designed to meet the Town highway standards. The design speed for the main loop road is 30 mph. The minimum design speed for the remaining roadways is 25 mph.

The roadways proposed vary depending upon the intended use. All roadways including the Central Boulevard will provide 12' wide travel lanes with 3' wide gravel shoulders and drainage swales or 12' wide travel lanes with asphalt wing curbs and a closed storm sewer system. The southern entrance to the property at the intersection with NYS Route 9W will include a one (1) lane entrance and two (2) lane exit with a turning lane for both north and south directions. The alignments of all roadways accommodate movement of fire department trucks and tractor trailer trucks.

A network of trails is proposed to be built along the bluff line of the HVWV Project site. One trail link will connect to the White Trail (also known as the Ridgeline Trail) in Franny Reese State Park to the north of the HVWV Project site. A section of the Bluff Trail will descend the bluff to a lookout on the shores of the Hudson River. The property will contain a 'loop trail' that will be a continuation of the Bluff Trail. This trail will circulate along the Central Boulevard through the various residential developments and light industrial components linking the site together. The trails will be built with sufficient width and site distance to foster safe pedestrian activities. Trail design will be evaluated for mountain bicycling use. A total of 5.5 miles of public trails will be built. A 28 space parking lot will also be constructed to provide access to this recreational amenity as well as the neighboring community garden.

Water, Wastewater, Stormwater

The HVWV property is not currently served by public water and lies outside the boundaries of the existing Highland Water District. The existing facilities located at the Project site are supplied with water from on-site wells. It is the intent of the Project Sponsor to connect the proposed development to the nearby Highland Water District by extending the existing Town water mains south on US Route 9W to the Project site. The water district extension will be accomplished at no cost to the existing users in the District. According to the Town, the existing Highland Water District has adequate water supply, treatment and storage capacity to serve to the proposed development. A detailed description of the proposed water district improvements is provided in Section 3.13 Utilities and the Water Supply Concept Report in Appendix P These improvements include an extension of the water main to the Project site, and improvements to the District's pumping facilities. Sources for public funding not originating with the Town are currently being sought for the Route 9W water line extension. Once completed, it will be offered for dedication to the Town Board.

The existing buildings at the HVWV site currently use subsurface disposal fields for treatment of sewage. These disposal systems will be abandoned for the proposed development. The Town of Lloyd wastewater treatment facility (WWTF) is located on River Road, approximately 2.5 miles north of the proposed development. While ongoing upgrades to the WWTF will increase the permitted flow and provide capacity to service the HVWV Project, conveying wastewater generated by the proposed Project to the WWTF would present significant expense and logistical challenges. Therefore, the preferred alternative for the Project is to construct a new collection and treatment system for wastewater at the site. A detailed description of the preferred alternative for wastewater treatment is provided in Section 3.13 Utilities and the Sewage Collection and Treatment Report in Appendix Q. The proposed wastewater treatment facility and conveyance/collection systems will be built, maintained, and initially operated by a Sewage Works Transportation Corporation formed by the Project Sponsor. The wastewater collection and treatment system will be offered for dedication to the Town Board in the future.

There is no public stormwater infrastructure currently on the Project site. Stormwater runoff from the proposed development will be collected and conveyed to the quantity and quality control system(s) described herein through a combination of closed storm sewers and open stormwater conveyance systems consistent with NYSDEC stormwater regulations (see Section 3.4).

The closed storm sewer network, consisting of catch basins, drainage manholes, high density polyethylene piping (HDPE), and/or reinforced concrete piping (RCP), and/or corrugated metal pipe (CMP), will be designed to safely convey peak rates of discharge to the stormwater management facilities required to support each phase of development, as required by the NYSDEC Stormwater Management Design Manual and the Town of Lloyd.

The open stormwater conveyance system, consisting of roadside ditches, grass lined swales, riprap lined swales, and major culvert crossings will be designed to safely convey peak rates of runoff to the stormwater management facilities required to support each phase of

development, as required by the NYSDEC Stormwater Management Design Manual and the Town of Lloyd. The potential need for the creation of stormwater management districts will be identified during site specific development plans.

Utilities and Services

Central Hudson Gas & Electric Corporation currently provides natural gas and electric services in the area of the Project site. Existing buildings on the HVWV property are connected to electric service; however there is currently no natural gas connection. A gas transmission line (high pressure main) currently runs north-south through the western end of the HVWV property. Correspondence with Central Hudson indicates they will be able to serve the HVWV Project (see Appendix B, Correspondence).

Telecommunication service, including phone, internet and cable TV, is provided by Cablevision, as well as other commercial providers which have facilities in the vicinity of the proposed Project. Correspondence with Cablevision indicates they will be able to serve the HVWV Project (see Appendix B, Correspondence).

The Town of Lloyd does not currently provide town-wide pickup for solid waste disposal and recycling. What pickup does exist within the Town is performed by private vendors. The Town Transfer Station is located on Lily Lake Road within Highland. Residents can purchase annual permits, or pay for disposal of individual bags. Recycling is currently provided to residents free of charge. It is anticipated that solid waste disposal and recycling would be completed by private vendors for residents and businesses located within the Project.

Phasing Schedule

The basic framework for construction phasing is provided below. Due to the many variables that can affect construction, including weather, soil and groundwater conditions, equipment availability, etc., the proposed phasing is generalized and is subject to change as the Project moves forward, depending on many factors, including market demand and employment generation resulting from the Tuscan Village Conference Center, commercial/office space, and industrial uses. The HVWV Project may be built out faster or slower than the estimated 20 year built out depending on job creation and housing demand.

Proposed phasing of the physical construction of the HVWV Project consists of the following five (5) categories: master site improvements, residential, light industrial, Tuscan Village Conference Center, and public/special community benefits. An essential element of the Phasing Plan will be to strictly coordinate residential construction with corollary construction of utilities, roads, project amenities, and provision of public benefits. It is anticipated that construction would commence in 2014 and be completed in 2034. A generalized Phasing Plan is presented in Table 2.1.1. Table 2.1.2 details residential site development and Table 2.1.3 details commercial/industrial site development as part of the HVWV Project.

The Master Site Improvements phase includes initial site preparation and infrastructure and site improvements required to serve the overall development. Improvements to be made during this construction phase include: general site grading, roadway grading and paving; demolition of existing structures; installation of a stormwater drainage system; water supply and sanitary sewer installation; wastewater treatment plant construction; and landscaping that includes, to the extent practical, the protection of existing mature vegetation, and the preservation of undeveloped areas along the perimeter and interior of the Project site.

The residential phase of the HVWV Project is anticipated to occur in years two (2) through 20 of the development project. Residential housing will be constructed in such a manner to provide a mix of housing types and affordability across the property over the construction period. The initial construction of the residential phase will begin in the central core of the site, between the Tuscan Village Conference Center to the north and the WWTF to the south. Construction of additional residential structures in the following years will move closer towards US Route 9W as market demand develops through employment generation resulting from the Tuscan Village Conference Center, commercial/office space, and industrial uses. The HVWV Project will offer housing options for persons who are working on the site. An annual average of 48 residential dwelling units are anticipated to be constructed across the 19 year construction period. Required infrastructure will be extended to each unit as it is developed.

The light industrial development phase is anticipated to occur in years two (2) through four (4), if permitted by market demand. It is anticipated that the five (5) northern light industrial buildings will be constructed in the first year, with the three (3) larger light industrial buildings located on the southern portion of the site to be constructed in years four (4) and five (5).

The Tuscan Village Conference Center phase is anticipated to be built in years three (3) and four (4), if permitted by market demand. The construction of the conference center, 103-suite hotel, and renovation of existing structures for commercial/office space will be completed in year three (3). Construction of the 8,222 SF restaurant and new commercial/office space will be completed in year four (4).

A recreational trail will be built along the bluff line of the HVWV Project site using existing trails where possible. The proposed trail will link Franny Reese State Park to the north, to the shore of the Hudson River at the eastern edge of the property site. The Project Sponsor will retain ownership of the trail system unless it is determined that the trail would be better suited to be owned by the Town or another agency.

Table 2.1.1 Generalized Phasing Plan																					
	Development Year																				
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**Total**
Residential (units)																					
Unit Type 1	--	--	--	--	--	33	--	33	--	33	--	33	--	33	--	33	--	33	--	33	**264**
Unit Type 2	--	32	32	--	32	--	32	--	32	--	32	--	32	--	32	--	32	--	32	--	**320**
Unit Type 3	--	--	--	24	--	--	20	--	24	--	20	--	20	--	20	--	20	--	--	--	**148**
Unit Type 4	--	--	--	14	--	12	--	12	--	12	--	12	--	12	--	12	--	--	--	--	**86**
Unit Type 5	--	--	--	--	16	--	--	16	--	--	16	--	--	--	--	--	--	--	--	--	**48**
Unit Type 6	--	--	--	10	--	--	10	--	--	10	--	--	10	--	--	7	--	--	--	--	**47**
Tuscan Village Conference Center (square feet)																					
Conference Center	--	--	34,048	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**34,048**
Hotel	--	--	89,906	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**89,906**
Restaurant	--	--	--	8,222	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**8,222**
Commercial/Office (Existing)	--	--	51,727	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**51,727**
Commercial/Office (New)	--	--	--	53,144	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**53,144**
Industrial/Manufacturing Park (square feet)																					
Light Industrial (North)	--	210,375	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**210,375**
Light Industrial (South)	--	--	112,443	112,443	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**224,887**

Table 2.1.2 - Summary of Residential Site Development

Units:	**Unit Type 1** (apartment)	**Unit Type 2** (apartment)	**Unit Type 3** (apartment)	**Unit Type 4** (townhouse)	**Unit Type 5** (townhouse)	**Unit Type 6** (single family)
Building Footprint (SF)	13,273	11,875	4,388	2,763	5,674	1,460
Total Area of all Buildings Footprint (SF)	106,187	118,753	162,326	121,572	68,088	68,620
Total Square Footage per Building (SF)	39,822	35,625	6,768	4,095	8,538	2,656
Number of Units per Building	33	32	4	2	4	1
Number of Buildings	8	10	37	44	12	n/a
Number of Total Units	264	320	148	88	48	47
Number of Bedrooms:						
One Bedroom Units	80	160	0	0	0	0
Two Bedroom Units	184	160	148	88	0	0
Three Bedroom Units	0	0	0	0	48	47
Number of Bathrooms per Unit	1	1	1.5	2	2	2
Stories (FT)	3	3	2	2	2	2
Size of Units:						
Single Floor Unit (SF)	ND	720	n/a	n/a	n/a	n/a
1st Floor of Unit (SF)	ND	720	845	1,034	1,084	1,196
2nd Floor of Unit (SF)	ND	480	596	667	716	1,196
Garages (SF)	n/a	n/a	253	348	335	264

ND - Not Determined, n/a – not applicable

Table 2.1.3 - Summary of Commercial/Industrial Site Development

Units:	**Conference Center**	**Hotel**	**Restaurant**	**Com./Office Existing**	**Com./Office New**	**Light Industrial - North**	**Light Industrial - South**
Building Footprint (SF)	18,466	21,038	6,062	n/a	n/a	n/a	n/a
Total Area of all Buildings Footprint (SF)	18,466	21,038	6,062	27,475	17,716	210,375	224,887
Total Square Footage per Building (SF)	34,048	89,906	8,222	51,727	53,144	210,375	224,887
Number of Buildings	1	1	1	6	1	5	3
Number of Total Units		103 suites					
Number of Bathrooms per Unit	ND	Min. 1 per suite	ND	ND	ND	ND	ND
Stories (FT)	2	4	2	1 to 2	3	1 to 2	1 to 2

Supplemental Reports and Analyses

For each site specific development plan site plans will have to be prepared consistent with the requirements of the Town of Lloyd. These requirements include survey, grading, stormwater management, landscaping, lighting, and water and sewer plans. Subsequent to site plan approval, building permit applicants with detailed building plans will be filed.

Additional supplemental reports and analyses that may need to be prepared include: a Phase II ESA, soil mitigation plan, slope stability analysis, geotechnical investigations, blasting monitoring program, cultural resources design mitigation strategy, and additional traffic impact analysis. Many of these supplemental reports and analyses are dependent upon the size and scope of proposed site specific development plans. Should these developments exceed thresholds identified within this DGEIS and the approved Findings Statements, additional studies may be required.

2.2 Construction Activities

This description of the construction activities proposed for the HVWV Project includes a discussion of the construction process, site ingress and egress, construction traffic, and emergency response. In addition, the discussion includes the extent of site disturbance, demolition of existing structures, noise generated during construction, construction related dust and odors, on-site stockpiling and grading, and rock blasting.

The proposed HVWV Project will have two (2) entrances. Primary access to the residential uses and Tuscan Village Conference Center and Hotel will come from a north access driveway that will intersect with US Route 9W by reconstructing and realigning a portion of Sam Williams Road to align with Paladino Drive. The second entrance will be a new access boulevard that will primarily serve the light industrial component of the HVWV Project. The new entrances will serve as the emergency access points for the Project site. An additional emergency access location will be considered from the termination of the Blue Point Road cul-de-sac to Central Boulevard.

Truck traffic generated by the construction of the Project is expected to originate from State roads in the area. Trucks arriving from points along US Route 9W will be directed to the new access roads to the site, therefore eliminating impacts to local residents living along Blue Point Road.

During the construction phase, work will be conducted six days a week, Monday through Saturday. Work hours will be from 7 am to 7 pm, weather permitting. Once material is being supplied to the site, fencing will be established to secure stockpile and work areas. Once equipment is on-site, it will remain on site and utilize site roads to access various active construction locations thus reducing the impact of equipment movement on local roads.

The proposed HVWV Project will disturb approximately 170± acres, or 40 percent of the site. The entirety of the 77 acre forested bluff above the Hudson River will be preserved as part of the 60 percent of the site which will remain as open space and forest. To the extent practical, the HVWV Project will protect existing mature vegetation, and preserve undeveloped areas along the perimeter and interior of the Project site. This includes the 100 foot Waterfront Bluff Overlay District where the only disturbance identified is at the location of existing winery facilities at the northern end of the site.

A total of 12 existing structures will be demolished on-site to make way for site improvements, infrastructure, and new facilities. The remaining five (5) structures, which are located within the Tuscan Village, will be rehabbed and incorporated into the Tuscan Village Conference Center.

Construction Schedule

It is anticipated that the Project will be constructed in several phases over the 20 year period as market demand allows. The Master Site Improvements phase includes initial site preparation and infrastructure and site improvements required to serve the overall development. Improvements to be made during this construction phase include: general site grading, roadway grading and paving; demolition of existing structures; installation of a stormwater drainage system; water supply and sanitary sewer installation; and wastewater treatment plant construction. These improvements are anticipated to occur in construction year one (1). The apartment buildings located at the center of the site have been identified as the first phase of residential development because of their location along the main loop road and close proximity to the wastewater treatment facility. This is anticipated to occur in construction year two (2). In addition, over 200,000 square feet of industrial space is also proposed to be built in construction year two (2). Future phases of development will be driven by market demand and employment generation on-site. The Phasing Schedule provided in Section 2.1 Detailed Project Description provides a more detailed estimate of how the HVWV Project will be phased.

As this integrated development Project is to be built over a 20-year period, every effort will be made to phase construction in such a way that no more than five (5) acres will be disturbed at any one time. However, it is likely that some areas of construction will require authorization from NYSDEC to allow disturbance of more than five (5) acres at any one time. If and when required, authorization will be requested during the regulatory review and permitting process for each specific area. The contractor will prepare and submit to the Owner's/Operator's Engineer a sequencing plan that identifies the progression of construction through the site. This sequencing plan must be retained as part of the Site Log Book.

Noise

Temporary noise impacts in the immediate vicinity of the site will occur during construction of roads, utilities and buildings. The extent and duration of the construction noise will depend on the type of equipment and the schedule of work consistent with the Town of Lloyd Noise Ordinance. It is not possible to predict the exact magnitude of this impact on ambient noise

levels in the areas that border the Project site due to the variability of many of the factors needed to make such an assessment, including equipment type, duration of use, location of use, number of pieces of equipment operating at any given time, etc. Construction noise is generally intermittent and will be limited to daytime hours. According to the NYSDEC Program Policy, construction equipment generates noise levels (when measured 50 ft from the source) that range from 67 to 98 dB(A) (see Appendix N, Noise Assessment). Construction contractors will be required to use effective noise mitigation techniques as recommended by the Federal Highway Administration.

Blasting

Since blasting, if required, is anticipated to be performed on a local scale, ground vibrations are not anticipated to be significant. A vibration monitoring program will be established prior to blasting or demolition activities to assure adjacent properties/structures are not adversely affected by these activities.

All blasting operations will adhere to New York State regulations governing the use of explosives, contained in 12 NYCRR 39. Blasting will also adhere to the US Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives Federal Explosives Law and Regulations. Proper program guidelines will be established between the developer, blasting contractor, and appropriate regulatory agencies, prior to the undertaking of any blasting activity. In addition to obtaining applicable blasting certifications and complying with all blast safety requirements, a blasting plan including a vibration monitoring program and sampling protocol will be implemented where necessary consistent with Town of Lloyd, Ulster County Department of Health, and other appropriate regulatory agencies. (see Section 3.2 Soils and Geology for a complete discussion). *Construction Activities*

The construction of the HVWV Project will involve construction activities that include the stripping and stockpiling of topsoil, excavation for irrigation and stormwater management as well as building foundations, buried utilities and roadbeds, and filling to create level construction surfaces. A preliminary cut and fill analysis has been performed for the proposed construction activities (see Figure 3.1.3 Conceptual Grading Plan and Section 3.1 Topography/Slope for more detail). Including the topsoil to be stripped, stockpiled and reclaimed, the proposed cut and fill activities are as follows:

Cut: 555,000 cubic yards
Fill: 466,000 cubic yards

Excess cut will be stockpiled and ultimately transported to a location where it is needed for construction or other purposes, or it may be used to cover and preserve areas with pre-historic cultural resources. As required on-site, buffers will be established around areas with pre-historic cultural resources and wetlands and vernal pools to protect on-site water resources.

Extension of off-site infrastructure, including water service to the site along US Route 9W, will be coordinated with the Town and County departments of Public Works to minimize disruptions to the traveling public and to ensure restoration of public roads and rights-of-ways in accordance with local standards. Sedimentation and erosion during construction as well as fugitive dust emissions will be mitigated by the storm water control and construction measures described in Section 3.2 and Section 3.4.

In accordance with the Master Stormwater Pollution Prevention Plan (SWPPP) prepared for the proposed Project (Appendix D), erosion and sediment control practices, pollution control techniques, construction housekeeping practices, and stormwater management techniques will be implemented throughout construction of the Project (see Section 3.2 and Section 3.4). Proper implementation of these techniques will reduce construction related dust and odors, on-site stockpiling and grading, and rock blasting

3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

3.1 Topography and Slope

This section describes the existing topography of the Project site and how the proposed development may impact site slope and topography.

A. Environmental Setting

Site topography is varied, with a topographic highpoint (Blue Point) at the southeastern portion of the site, and bluffs which overlook and descend to the Hudson River along the eastern property boundary. A review of the United States Geologic Survey Topographic Map (Poughkeepsie, New York Quadrangle) indicates that the surface elevations on the site range from greater than 350 feet above mean sea level (msl) on topographic highs at the north and south ends of the property to less than 100 feet above msl along the Hudson River on the eastern portion of the property. The site is separated by a high ridge. Wetlands and streams on the western side of the ridge drain to local streams whereas wetlands and streams on the eastern side of the ridge drain to the Hudson River.

Figure 3.1.1 Steep Slopes Map illustrates the site's topography and provides slopes in two major categories ranging from 15 to 25 percent slope, and greater than 25 percent slope. Table 3.1.1 identifies acreage and percentage of the Project area within the three slope categories of 0-15 percent, 15-25 percent, and greater than 25 percent.

Table 3.1.1 Slope Distribution

Slope Category	Acres	Percent of Site
0-15 %	268	62%
15-25 %	90	21%
> 25 %	71	17%
TOTAL	429±	100%

B. Potential Impacts

The determination of an area's suitability for development is partially dependent on the slope of the land. Generally, steep slopes are prone to erosion, flooding, and drainage problems. Construction on steep slopes can be damaging, particularly when vegetation is removed, which increases the potential for erosion. Steep slopes, in particular those with significant up-gradient contributing areas and/or with long slope lengths, require special design and construction techniques to prevent significant adverse impacts to the surrounding environment.

The proposed HVWV Project will disturb approximately 170± acres of the site. Table 3.1.2 summarizes the anticipated amount of disturbance by slope category. Eighty one percent of the disturbance occurring on site will be located within areas having slopes less than 15 percent. The remaining 19 percent of site disturbance will occur on slopes greater than 15 percent (see Figure 3.1.2 Steep Slope Disturbance Map).

Table 3.1.2 Amount of Slope Disturbance

Slope Category	Acres Disturbed	Percent of Disturbed Slopes
0-15 %	138±	81%
15-25 %	26±	15%
> 25 %	7±	4%
TOTAL	171±	**100 %**

Due to the topographic features of the site, the Project will require both cuts and fills. The earthwork volumes associated with the development of the site outside of the dredged area will result in approximately 555,000 cubic yards of cut and 466,000 cubic yards of fill (see Figure 3.1.3 Conceptual Grading Plan).

Conceptual grading at the site was typically held to one unit vertical to three units horizontal (1V: 3H). Per the soil survey maps, the on-site soils primarily consist of Bath-Nassau-Rock outcrop complex, hilly, which generally yields stable slopes when graded at 1V:3H. All proposed buildings have a setback from the rock escarpment (bluff line) of at least 100 feet and therefore will not result in any slope stability impacts. The Tuscan Village Conference Center is proposed to be built on the site of existing winery structures along the bluff line. Site specific geotechnical investigations and slope stability analyses may be required during the site plan review process for site specific development projects. Upon completion of site specific subsurface explorations and geotechnical investigations, slopes will be revisited if unfavorable soils exist.

Until site plans are finalized for each individual phase of development and all geotechnical investigations are complete, it is not possible to know the extent of blasting that will be required in any phase of development. Should blasting be required, mitigation measures will be implemented (see Section 3.2 Soils and Geology).

Construction of the Project will consist of site grading, roadway grading and paving; installation of a stormwater drainage system; water supply and sanitary sewer installation; wastewater treatment plant construction; and landscaping. If other suitable mitigation measures are not identified during site specific detailed design phases of individual development projects, localized blasting may be necessary due to the shallow depth to bedrock on the site. Development of the Project will also create additional impervious areas, which will alter the hydrologic characteristics of the watershed and could have indirect impacts on water resources.

All of these activities can result in impacts to the sites drainage patterns. However, the post-development Project site will continue to have large areas of meadow, woods, wetlands and streams, with an overall increase in impervious surfaces associated with this development. The site plan for the Project was heavily influenced by the drainage patterns of the site. Every effort has been made by the Project Sponsor to maintain existing drainage patterns (see Figure 3.4.2 Pre-Development Drainage Map, Figure 3.4.3 Post Development Drainage Map and Section 3.4 Surface Water Resources and Stormwater Management).

C. Mitigation Measures

Potential impacts resulting from site grading can be minimized and/or eliminated through proper erosion and sediment control techniques, as well as implementation of stormwater management practices during and after construction. In areas where development is proposed, erosion and sedimentation controls will be employed in accordance with the NYSDEC regulations to effectively treat stormwater runoff consistent with that specified in Section 3.4, Surface Water Resources and Stormwater Management, and the Master SWPPP (Appendix D).

Site specific development proposals will be examined during site plan review for the need for site specific geotechnical and slope stability analyses at the time of site plan review. Prior to site plan submission for each development project, any building and/or structures located on or adjacent to a slope that is steeper than 1V:3H will be assessed on an individual basis and designed/located to meet the requirements set forth in Section 1805.3 of the New York State Building Code.

Disturbance to steep slopes between 15-25% is estimated to total 26 acres, disturbance to steep slopes greater than 25% is estimated to total 7 acres. Disturbance of greater amounts will require supplemental environmental review.

3.2 Soils and Geology

This section describes existing soil conditions and geologic resources on the Project site and their capabilities to support the proposed HVWV Project.

A. Environmental Setting

According to the United States Department of Agriculture (USDA) *Ulster County Soil Survey*[3] six (6) soil types are identified on the Project site, as illustrated on Figure 3.2.1 Soils Map. The following provides the location and a detailed description of the soil types identified for the site.

Bath-Nassau-Rock outcrop complex, hilly (BOD)

This unit consists of a deep, well drained Bath soil; a shallow, somewhat excessively drained Nassau soil; and small areas of exposed bedrock. The soils formed in glacial till. Slopes are short and generally complex. Permeability is moderate in the surface layer and in the upper part of the subsoil and moderate in the Nassau soil. Depth to bedrock is less than four (4) feet and the seasonal high water table is at a depth of less than six (6) feet. This soil type has poor potential for farming. Vineyards are poorly suited to these soils because of the hazard of erosion, variable depth to bedrock, and rock outcrops. This soil type comprises 230±-acre, or more than half the Project site.

Bath-Nassau complex, 8-25 percent slopes (BnC)

This map unit consists of a deep, well drained Bath soil and a shallow, somewhat excessively drained Nassau soil. These sloping to moderately steep soils formed in glacial till. Permeability is moderate in the surface layer and in the upper part of the subsoil and moderate in the Nassau soil. Depth to bedrock is less than four (4) feet and the seasonal high water table is at a depth of less than six (6) feet. Soils can be cropped, but the cropping system needs to include a high proportion of sod-forming crops and pasture. Orchards maintained in permanent sod cover are suited to these soils. Because vineyards are clean cultivated, they are poorly suited to these soils because of the hazard of erosion. This soil type comprises 91±-acre and are scattered throughout the Project site.

Lyons-Atherton complex, very stony (LY)

This complex consists of deep, nearly level soils that formed in glacial till in depressions and along drainageways. Considerable runoff from adjacent drier soils accumulate within these areas causing ponding. Slope ranges from zero (0) to three (3) percent but is mainly zero (0) to one (1) percent. Permeability in the Lyons soil is moderately slow in the subsoil and is slow or

[3] USDA Natural Resource Conservation Service. Soil map for Ulster County, New York.

very slow in the substratum. Permeability in the Atherton soil is moderate in the surface layer and subsoil and is moderate or moderately slow in the substratum. Run-off is very slow. Depth to bedrock is less than six (ft) and seasonal high water table is at a depth of less than one (1) foot. In the natural state, these soils are too wet and stony for cultivated crops. If they are adequately drained and the stones are removed, they are suitable for crops. A total of two (2) acres of the site have this soil type, and it is substantially located to the west of US Route 9W.

Mardin-Nassau complex, 3 to 8 percent slopes (MgB)

This unit consists of a deep, moderately well drained Mardin soil and a shallow, somewhat excessively drained Nassau soil. These gently sloping soils formed in glacial till. Run-off is medium. Depth to bedrock is more than 40 inches and permeability is moderate above the fragipan and is slow in the fragipan and substratum in the Mardin soil. Within the Nassau soil, depth to bedrock is shallow, and permeability is moderate. These soils have fair potential for farming. This soil type accounts for 21 acres of the site, and is scattered throughout the site.

Nassau-Bath-Rock outcrop complex, very steep (NBF)

This unit consists of shallow, somewhat excessively drained Nassau soils; deep well drained Bath soils; and rock outcrop, or bedrock exposures that are intermingled mainly with the Nassau soils. These soils are formed in glacial till. Slope ranges from 35 to 65 percent. In the Nassau soils, depth to bedrock is shallow and permeability is moderate. The Bath soils have a depth to bedrock greater than 40 inches, and permeability is moderate in the surface layer and in the upper part of the subsoil. Runoff is very rapid. The soils have poor potential for farming and for urban developments. This soil type is located along the eastern edge of the property along the Hudson River.

Volusio very stony soils, gently sloping (VSB)

These deep, very stony, somewhat poorly drained soils formed in glacial till. Slopes range from three (3) to eight (8) percent. These soils have a temporary water table within a few inches of the surface in spring and during wet periods. Depth to bedrock ranges from 20-40 inches. Runoff ranges from slow to rapid depending on the slope. Most of the acreage of these soils is used for woodland and for wildlife habitat, they have poor potential for farming. Five (5) acres of the site have this soil type, and they are located along the western edge of the property line along US Route 9W.

Table 3.2.1 provides a summary of the specific limitations for each soil unit within the Project area. 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 may require special design, planning, or maintenance to address or minimize the limitation.

Table 3.2.1 Onsite Soil Limitations					
Map Symbol/Description	**Construction Limitations**		**Permeability**	**Depth to Water Table (ft.)**	**Depth to Bedrock (in.)**
	Dwellings without Basements	**Local Roads and Streets**			
BOD/Bath-Nassau-Rock outcrop complex, hilly	Severe (slope, depth to bedrock)	Severe (slope, depth to bedrock)	Moderate	2.0-4.0 and >6.0	40 and 10-20
BnC/Bath-Nassau complex, 8-25% slopes	Severe (slope, depth to bedrock)	Severe (slope, depth to bedrock)	Moderate	2.0-4.0 and >6.0	40 and 10-20
LY/Lyons-Atherton complex, very stony	Severe (wetness, frost action)	Severe (wetness, frost action)	Moderate - Rapid	0.0-0.5	>60
MgB/Mardin-Nassau complex, 3-8% slopes	Severe (wetness, depth to bedrock)	Severe (frost action, depth to bedrock)	Moderate	1.5-2.0 and >6.0	40 and 10-20
NBF/Nassau-Bath Rock outcrop complex, very steep	Severe (slope, depth to bedrock)	Severe (slope, depth to bedrock)	Moderate	>6.0 and 2.0-4.0	10-20 and >40
VSB/Volusio very stony soils, gently sloping	Severe (wetness, frost action)	Severe (frost action)	Moderate	0.5-1.5	>60
Source: United States Department of Agriculture (USDA) Soil Survey of Ulster County, New York, 1992.					

The site falls within the Western Taconic mountain region and the western Hudson Highlands. The bedrock on site consists of Snakehill schist and Balmville limestone, underlain or folded with Normanskill chert, dolomite, quartzite, Austin Glen graywacke and shale. The folding of the underlying bedrock causes the land within the Project area to be extremely undulating, with small areas of flat to gently sloping terrain. Additionally, this geological profile generally produces exposed bedrock outcrops within the terrains. Bedrock in the area of the site ranges from surficial outcrops to greater than 78 inches below grade according to the Ulster County Soil Survey and Surficial Geologic Map of New York (see Figure 3.2.2 Depth to Bedrock Map).

Phase 1 Environmental Site Assessment

A Phase 1 Environmental Site Assessment (ESA) was completed by The Chazen Companies in May-July 2012 (see Appendix C). The purpose of the Phase I ESA was to reasonably identify potential or known recognized environmental conditions (RECs) as defined by the American Society of Testing Materials (ASTM). The identified findings include known and potential recognized environmental conditions, historic recognized environmental conditions, and de minimis conditions. The following were identified as recognized environmental conditions:

Evidence of potential /known site contamination as identified by the Phase I ESA site visit only identified some staining on underlying soil underneath a single steel drum and a bucket full of

liquid waste oil abandoned in the woods on the parcel between Route 9W and Sam Williams Drive. The drum, bucket and six 5-gallon buckets of stained soil were excavated and removed to the winery warehouse secure and staged for appropriate future disposal. This site is considered a Historic Recognized Environmental Condition. The extent of soil staining remaining in place was de minimus and suggestive of spillage less than 5 gallons, so the remaining stained soil is not judged to be a Recognized Environmental Condition.

A number of areas of outdoor dumping (trash and glass piles) and demolition debris (collapse/crushed former outbuildings) were found on the site along with a tire dump with approximately 30 – 50 tires and waste electrical conduit. No evidence of hazardous substance or petroleum release were found at these sites. Other on-site findings include a possible underground storage tank in the winery courtyard area, floor drains in several structures with no identified outlet, cut off fuel lines next to foundation of dining hall, and a drive-on truck scale in the courtyard of the winery. No other evidence of soil or surface contamination was observed during the site investigation.

Soil Testing

A Preliminary Pesticide Residue Investigation was completed by The Chazen Companies on the proposed HVWV Project site to examine the distribution of any pesticide residues in former agricultural portions of this site (see Appendix E). This investigation took into consideration the New York State Department of Health (NYSDOH) and Ulster County Department of Health (UCDOH) protocols for realty subdivisions proposed on former agricultural lands. Figure 3.2.3, Pesticide Sampling Location Map, identifies the locations where soil samples were taken to test for the presence of pesticide. The locations were primarily within present or former agricultural areas. The results of the investigation found:

- The pesticide DDT and its breakdown by-products DDD and DDE were detected in trace concentrations in 28 of 39 shallow soil samples and in one sediment sample. The detected concentrations were well below risk-based Soil Cleanup Objectives (SCO) for Residential Use as well as Ulster County Common Background concentrations although many exceeded Part 375 Unrestricted Use SCOs.
- Arsenic was detected in six surface soil samples (SS-01, SS-02, SS-05, SS-08, SS-09, and SS-13) exceeded the Ulster County Common Background value of 20 pm. These six samples, plus SS-22 and SS-28, also exceeded the Residential Use and Unrestricted SCOs. These eight samples all also exceeded the site background arsenic concentration of 13.2 ppm. In general arsenic concentrations persisted to a depth of 6-8 inches in these same areas.
- Lead was found in just two samples (SS-01 and SS-13) exceeding both the Ulster County Common Background of 300 ppm and the Residential SCO of 400 ppm. However, six samples (including SS-1 and SS-13) did have lead concentrations greater than the site background sample, and a total of nine surface soil samples exceeded the Unrestricted

SCO of 63 ppm for lead. In general lead concentrations tended to decrease at the 6-8 inch depth except in the location of SS-08.

- Mercury was not detected in any of the 39 shallow surface soil samples or six (6) sediment samples.

B. Potential Impacts

Soil Disturbance

The proposed action will disturb approximately 170± acres of the site. Impacts primarily relate to the potential for erosion and sedimentation and the potential for blasting if required. Should blasting be required, a blasting plan together with mitigation measures will be prepared and provided to the town and appropriate regulatory agencies.

The construction of the HVWV Project will involve construction activities that include the stripping and stockpiling of topsoil, excavation for irrigation and stormwater management as well as building foundations, buried utilities and roadbeds, and filling to create level construction surfaces. A preliminary cut and fill analysis has been performed for the proposed construction activities (see Figure 3.1.3 Conceptual Grading Plan). Including the topsoil to be stripped, stockpiled and reclaimed, the proposed cut and fill activities are as follows:

Cut: 555,000 cubic yards
Fill: 466,000 cubic yards

Excess cut will be stockpiled and ultimately transported to a location where it is needed for construction or other purposes, or it may be used to cover and preserve areas with pre-historic cultural resources. The majority of the soil disturbance associated with construction of the 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; and
- Removal and stockpiling of topsoil.

During excavation, when the upper layers of soil are removed, erosion may occur. The most vulnerable time for soil erosion is when the soils have been removed from root structures and are no longer protected by existing growth. The greatest threat to soil erosion will occur during heavy rain events and to soils located on steep slopes. Erosion and sediment control practices are summarized in Section 3.2.C below. Erosion control devices will be used to minimize soil erosion during the construction phase of the proposed Project.

Blasting

The need and extent for blasting is unknown at this point. During site specific design phases additional geotechnical investigations will be completed to determine if blasting is required. The presence of rock and the need for removal techniques such as localized blasting can be minimized through structure-specific subsurface explorations during the full design phase of the Project. Should excessive rock requiring forceful removal techniques be encountered, design measures can be implemented such as resizing of foundations or relocation of structures. If resizing foundations or relocating structures are not possible, rock core sampling will aid in characterizing the quality of bedrock to ensure that the least invasive measures for removal are employed.

Any blasting that is required is anticipated to be performed on a local scale and in consideration of the degree and hazards in the immediate area of the blast. Any blasting on site will require the preparation of a blasting plan including vibration monitoring and sampling protocols consistent with appropriate regulatory agencies and provided to the Town of Lloyd, Ulster County Department of Health, and potentially impacted property owners.

Phase 1 ESA

The Phase 1 ESA found no evidence of recognized environmental conditions in connection with the property. Multiple Significant Data Gaps that were encountered during the course of this Phase I ESA which may require further investigation to determine whether or not a recognized environmental condition exists include the following:

- The four areas of outdoor dumping on the largest parcel contain mixed bottles, solid waste, glass, oil containers, and at least one crushed drum. The source and depth of trash is not known. At the largest site (Dump Site 1, see Phase 1 ESA Figure 4), there are signs of recent excavation and removal of surface trash, but some buried trash remains. There is the potential for comingling of petroleum products and hazardous substances with these waste materials. There are several areas with piles of debris, including from the demolition of former wooden outbuildings, from collapse of barns or outbuildings that held accumulations of domestic trash, and from accumulations of tires and electrical conduits at the Sam Williams Drive house. While these piles appear to be mostly nonhazardous, there is potential for small volumes of oil, paints or other hazardous chemicals to be mixed with the debris.
- There is a possible underground storage tank location in the Winery courtyard area, on the east side of Building 9 (see Phase 1 ESA Figure 5), based on possible tank fill and vent pipes in soil which do not seem related to fuel tanks in the adjacent building. There is evidence of a second potential underground storage tank by Building 6.

- The nature and condition of the drive-on truck scale at the former winery courtyard is not known and may include an underground hydraulic lift with some potential threat of a release.
- The owner questionnaire reported a former fuel pump for agricultural equipment was in use at the site. There is no information on years of use for this pump, or if it was associated with an underground or above ground tank, and when or if it was removed and closed.
- Cut off fuel lines next to the foundation of Dining Hall (Building 6, see Phase 1 ESA Figure 5) may lead to a former basement fuel oil AST, or possibly to a former UST for fuel oil. Access to the basement of Building 6 was not obtained. This is a Significant Data Gap.
- Floor drains with staining were identified in several former winery buildings. The discharge of these drains is not known, but is not to a municipal treatment system. Since the identity of the staining fluid is not known and may not be a petroleum product or hazardous substance, the condition of these floor drains represent Significant Data Gaps.

Soil Testing

The concentrations of arsenic and lead in surface soils in the identified areas represent the potential for health concerns that will need to be addressed prior to site development. The presence of arsenic and lead in former vineyards and orchards within the Hudson Valley is a common occurrence as they were regularly used in pesticides. Areas proposed for residential use with arsenic and lead concentrations in excess of regulatory standards will be mitigated according to terms negotiated with UCDOH.

C. Mitigation Measures

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 (2003) 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 address potential hazards arising from slope construction. The complete erosion and sediment control plan is located in Appendix D.

Construction-Period Erosion and Sediment Control Measures

The following information is summarized from the Preliminary Master SWPPP located in Appendix D. Erosion control measures are designed to minimize soil loss, and sediment control measures are intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties. The temporary erosion and sediment control measures described in the

following sections provide information for measures that may be appropriate for use in the design of future phases. The specific measures to be implemented for each phase of development shall be clearly identified in the future SWPPP and construction documents. Temporary erosion and sediment control measures may include:

Stabilized Construction Entrance - Prior to construction, stabilized construction entrances will be installed to reduce the tracking of sediment onto public roadways. Construction traffic must enter and exit the site at the stabilized construction entrance. The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic. The entrance will be maintained in a condition which will control tracking of sediment onto public rights-of-way or streets. When necessary, the placement of additional aggregate atop the filter fabric will be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or washed onto the public rights-of-way must be removed immediately. To ensure the stability and effectiveness of all protective measures and practices during construction, all erosion and sediment control measures employed will be inspected at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater.

Dust Control - Water trucks will be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general contractor to a degree that is acceptable to the owner, and in compliance with the applicable local and state dust control requirements.

Temporary Soil Stockpile - Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles will be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier.

Silt Fencing - Prior to the initiation of and during construction activities, a geotextile filter fabric (or silt fence) will be established along the perimeter of areas to be disturbed as a result of the construction which lie up-gradient of water courses or adjacent properties. These barriers may extend into non-impact areas to ensure adequate protection of adjacent lands. Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To ensure effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by site personnel. Maintenance of the fence will be performed as needed.

Temporary Seeding - Within 14 days after construction activity ceases on any particular area of the site, all disturbed areas where there will not be construction for longer than 21 days will be temporarily seeded and mulched to minimize erosion and sediment loss.

Stone Inlet Protection Barrier - Concrete blocks surrounded by wire mesh and crushed stone will be placed around any existing catch basins and proposed catch basins once they have been installed. During construction, crushed stone will be replaced as necessary to ensure proper function of the structure.

Erosion Control Blanket - Erosion control blankets will be installed on all slopes exceeding 3:1. Erosion control blankets 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.

Stone Check Dams - Stone check dams will be installed within drainage ditches to reduce the velocity of stormwater runoff, to promote settling of sediment, and to reduce sediment transport offsite. The stone check dams will be inspected at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater. Damage will be repaired upon discovery. If significant erosion has occurred between structures, a liner of stone or other suitable material will be installed in that portion of the channel. Sediment accumulated behind the stone check dam will be removed as needed to allow the channel to drain through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones will be replaced as needed to maintain the design cross section of the structures.

Temporary Sediment Traps - Temporary sediment traps will be constructed 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. Temporary sediment basins will be inspected at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater. All damages caused by soil erosion and construction equipment will be repaired upon discovery. Accumulated sediment will be removed from the basin when it reaches 50 percent of the design capacity and will not exceed 50 percent. Sediment will not be placed downstream from the embankment, adjacent to a stream, or floodplain.

Temporary Diversion Swales - Temporary diversion swales will be used to divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff from disturbed areas into sediment traps.

Dewatering Operations - Dewatering will be used to intercept sediment-laden stormwater or pumped groundwater and allow it to settle out of the pumped discharge prior to being discharged from the site. Water from dewatering operations will be treated to eliminate the discharge of sediment and other pollutants. Water resulting from dewatering operations will be directed to temporary sediment traps, or dewatering devices. Temporary sediment traps and dewatering bags will be provided, installed and maintained at down-gradient locations to control sediment deposits.

Permanent Erosion Control Devices

The permanent erosion and sediment control measures described provide information for measures that may be appropriate for use in the design of future phases. The specific measures to be implemented for each phase of development shall be clearly identified in the future SWPPP and construction documents. Permanent erosion and sediment control measures include the following:

Establishment of Permanent Vegetation - Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents will also be followed. All areas at final grade must be seeded and mulched within 14 days after completion of the major construction activity. All seeded areas should be protected with mulch. Final site stabilization is achieved when all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

Rock Outlet Protection - Rock outlet protection will be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving water course or water body.

Permanent Turf Reinforcement - Permanent turf reinforcement mats (TRMs) provide long-term erosion protection and vegetation establishment assistance while permanently reinforcing vegetation. TRMs will be installed where specified on the contract documents and as required.

Blasting

Until the site plan is finalized and all geotechnical investigations are complete, it is not possible to know the extent of blasting that will be required. Since blasting, if required, is anticipated to be performed on a local scale, ground vibrations are not anticipated to be significant. A vibration monitoring program will be established prior to blasting or demolition activities to assure adjacent properties/structures are not adversely affected by these activities.

All blasting operations will adhere to New York State regulations governing the use of explosives, contained in 12 NYCRR 39. Blasting will also adhere to the US Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives Federal Explosives Law and Regulations Proper program guidelines will be established between the developer, blasting contractor, and appropriate regulatory agencies, prior to the undertaking of any blasting activity. In addition to obtaining applicable blasting certifications and complying with all blast safety requirements, a blasting plan including a vibration monitoring program and sampling protocol will be implemented where necessary consistent with Town of Lloyd, Ulster County Department of Health, and other appropriate regulatory agencies. Common elements of such a program include, but are not limited to, the following:

- Precise engineering determination of the depth and location of on-site blasting.
- Evaluation of the location of property lines and the structural nature of nearby buildings for determination of the maximum blast velocity for charges to be used.
- Use of a seismograph to monitor each blast attempt and evaluate the blast velocity of the charges used.

- Use of blast matting to minimize lifting of rock and debris during blasting.
- Notification of surrounding residents and landowners.
- All pertinent safety regulations and standards will be applied as required for safety, security and other related details for any blasting deemed necessary. Applicable safety regulations include: U.S. Army Corps of Engineers Safety Manual EM 385-1-1, Code of Federal Regulations A.T.F. Title 27, and Institute of Makers of Explosives Safety Library Publications No. 22.
- Water sampling for increased levels of nitrate and sulfate.

Storage of all explosive materials will be located on the site at a location approved by the blasting engineer. Caps or other detonating devices will not be stored with Class A explosives. Design of the powder magazine will be in accordance with the references above. The security for explosives and blasting materials stored on-site will be in accordance with engineer-approved requirements.

Delivery and transportation of explosives from the powder magazines to the blast area will be by vehicles specifically designed for this use by the criteria outlined in the safety requirements. Only authorized persons will transport and handle the explosives as designated by the authority of those licensed for this purpose. At all times federal, state, and local ordinances will be followed concerning the transportation and storage of explosives.

The designated storage site, explosive transporting vehicles, and areas where explosives are being used will be clearly marked and will display the required warning signs. A daily tally of all explosives delivered, used and stored will be maintained.

Prior to blasting, necessary precautions for the protection of persons, adjoining property, and completed work will be established, including:

- Appropriate signs will be erected in the area of blasting activities.
- All adjoining property owners will be mailed notification of the anticipated blasting schedule.
- Notification of blasting at the site will be published in newspapers prior to the blasting schedule.
- A storm alert monitoring device will be used by the blasting Contractor to detect any electrical build-up in the atmosphere at the blast area while using electrical caps.
- Special care will be taken with detonating cords and connectors to protect from the impact of falling rocks or other impeding objects.

Environmental Remediation

A Phase II ESA, addressing the significant data gaps identified in the Phase I ESA for the former Winery Complex, would be completed prior to site plan approval. The Phase II would evaluate

the environmental conditions that may warrant remedial action as part of the proposed project development. To the extent possible, the basic approach would be to combine investigation efforts with planned demolition or waste removal. A basic scope for the Phase II ESA has been provided at the end of Appendix C.

If the Phase II ESA identifies the need for remediation, then a Remedial Action Plan would be developed. This step is anticipated to occur during the site plan approval process as it is not yet known what type of development would be planned or built on the site. A general outline for a Remedial Action Plan has been provided as an example at the end of Appendix E.

Mitigation for soils with elevated levels of arsenic and lead will include further testing to define the extent of the contaminated areas. This supplemental analysis will refine understandings of the horizontal and vertical extent of the residual arsenic and lead, allowing evaluation of remedial alternatives to manage these soils. At the conclusion of this testing it will be determined if the contaminated soils will either be removed and treated or capped on-site in a non-residential area.

Cut and fill analysis determined the Project will result in 555,000 cubic yards of cut and 466,000 cubic yards of fill. Site work resulting in significantly different volumes of cut and fill will require supplemental environmental review.

3.3 Hydrogeology

A. Environmental Setting

Based on a review of available information, including area topography, regional groundwater flow is expected to be east towards the Hudson River. On-site groundwater flow would be influenced by site-specific geologic conditions. Shallow groundwater flow under the western portion of the property likely migrates westward to an unnamed stream flowing south behind Mackey Road and west of Route 9W.

The Project site is not located over a USEPA designated Sole Source aquifer, nor is it located over a Primary or Principal aquifer listed in the NYSDEC Technical and Operational Guidance Series (TOGS) 2.1.3 (1980). According to the USDA Soil Conservation Service Soil Survey for Ulster County the seasonal high water table varies across the HVWV Project site from 0.5 feet to greater than six (6) feet. However, much of the site is Bath Nassau Rock outcrop complex hilly which has a seasonal high water table of less than six (6) feet.

Water tables within the Ulster County Soil Survey identify whether or not perched water tables are typical with different soil types. This information is expressed within the water tables by the presence of wetlands with an underlying confining soil layer. The Ulster County Soil Survey gives no indication that any portion of the HVWV Project site is located over a perched water table.

There are no significant sand and gravel or similar sedimentary aquifers on the site. Groundwater in unconsolidated sediments consist solely of water residing in shallow soils and at the soil/bedrock interface prior to infiltration into relatively low-permeability bedrock fracture systems. There is also no high-capacity bedrock aquifer in the area; bedrock consists only of shales and similar formations hosting limited groundwater in intermittent fractures. Typical well installations in the area consist of generally low-yield bedrock wells except where bedrock wells happen to penetrate multiple intersecting fractures. Recharge into these geologic formations occurs slowly, estimated at approximately 5 to 8 inches per year, relieved as spring discharges to a local swale/stream immediately west of the site or directly to the Hudson. Recharge areas for particular wells or streams consist of land areas uphill (upgradient) from those features.

There is a private water well near the winery building complex. During the process of completing the Phase 1 Environmental Site Assessment, (see Appendix C), private wells were also found at the houses on Blue Point Road and Sam Williams Drive. The property owner has provided well drilling invoices from 1981 and 1986 indicating there are water supply wells with total depths of 223 feet, 500 feet and 300 feet completed at the site.

The location, type, and average daily demand of ground water supply wells within a 0.5 mile radius of the HVWV Project is not readily available. NYSDEC has identified a total of five (5)

private wells within this radius, however their data only provides information for wells drilled since 2000. The wells range in depth from 264 feet to 425 feet. The average discharge rates range from two (2) gallons/minute to six (6) gallons/minute. While detailed historical data is not available, it is reasonable to consider that most of the properties within this 0.5 mile radius use groundwater wells for their water supply due to the lack of municipal water connection at this location. Residential properties along NYS Route 9W and Macks Lane are properties closest to the HVWV that are likely to have private water wells (See Figure 3.3.1).

B. Potential Impacts

As with any new development construction of the proposed HVWV has the potential to create minor changes in groundwater quality due the addition of impervious surfaces and maintained lawns. At build out, it is estimated that a total of 3,039,666 SF (69.8 acres) of impervious surfaces will be constructed, a total of 16.3 percent of the Project site. This includes the total footprint of all buildings (1,195,941 SF), roads and parking lots (1,450,478 SF), driveways (109,941 SF), sidewalks and walks (240,964 SF), and plaza (42,342 SF). Such impacts will be minimized by proper design, installation, and maintenance of stormwater infrastructure and utilities. Additionally, the Project will investigate the use of pervious pavement and other mitigation measures to reduce the amount of impervious area throughout the Project.

Development of the site will convert approximately 70 acres, or 16 percent, of the site to impervious surfaces. Precipitation on linear features such as roads, driveways, and sidewalks typically flow laterally and onto adjacent soils, where preserving existing recharge rates except when rain events exceed approximately one (1) inch/day. Such smaller rain events constitute some 80 percent of all rain events so typically linear features result in little to no loss of site recharge. The remaining proposed impervious site surface, constituting parking areas and program roofs, could result in meaningful reductions in aquifer recharge in the absence of mitigation measures. However, the stormwater management program for the site includes significant stormwater retention/infiltration functions designed to maximize program. These stormwater measures are described in Section 3.4. However, recharge losses are accordingly expected to be minimal.

The site plan for the Project was heavily influenced by the drainage patterns of the site and resultant wetlands. Every effort has been made by the Project Sponsor to maintain existing drainage patterns. During detailed design and site plan review/approval processes field investigations will be performed to document actual depth to groundwater and potential for perched water.

Until site specific development plans are finalized and all geotechnical investigations are complete, it is not possible to know the extent or location of blasting that will be required. Blasting can impact water quality as nitrate and sulfate can increase temporarily due to the release of chemicals in typical explosives. However, these effects are generally seen around massive quarries where charges and frequency of blasting are for more than around nominal

roadbed and pad-site blasting. Blasting is anticipated to be performed on a local scale and in consideration of the degree and hazards in the immediate area of the blast. Due to the localized nature of blasting, impacts to water quality for on-site and nearby water supply wells are not anticipated. In addition, impacts to groundwater flow and water quality are not anticipated as a result of localized blasting. The potential location of private water wells at residential properties along NYS Route 9W to the west and Macks Lane to the north are at a distance from potential blasting locations such that there will not be any anticipated impacts. However, due to the uncertainty of the extent and location blasting that may be required, a blast sampling protocol may be required as part of the site plan review process to mitigation any potential water quality impacts resulting from blasting. The use of private water supply from the water line extension down NYS Route 9W will not result in any impacts to water quality or quantity.

C. Mitigation Measures

Reduction in groundwater recharge, impacts to groundwater quality, and increased surface water runoff that would result from the placement of impervious surfaces (i.e. roads and buildings) will be mitigated through the use of storm water quality basins. Loss of groundwater recharge from construction of impervious structures will not be significant with the properly designed stormwater systems that are proposed and the amount of preserved open space planned for the Project. Surface water and stormwater management features are discussed in Section 3.4. During detailed design and site plan review/approval processes field investigations will be performed to document actual depth to groundwater and potential for perched water.

Because there are no unique overburden or bedrock aquifers on the site, all site surfaces contribute to the low-capacity recharge rates dictated by the generally clayey soils. Where some soils may contain clay seams, temporary drainage delays can occur as recharge penetrates toward the soil/bedrock interface, but otherwise recharge proceeds uninterrupted through the soil horizon to the underlying limited-fracture bedrock structure under the site.

Depending on the extent and location of blasting required based on site specific geotechnical investigations a blast sampling protocol may need to be developed to ensure water quality of nearby water wells. This protocol will be included within a blasting plan prepared consistent with and provided to the Town of Lloyd, Ulster County Department of Health, and other appropriate regulatory agencies.

A review of the approximate locations of water wells near the HVWV Project site found recharge areas range from 100 feet to 400 feet from private wells. A blast sampling protocol would be required for any blasting proposed within recharge areas for private wells. This blast sampling protocol will provide the homeowner well sampling for nitrate and sulfate twice before blasting to set a baseline of existing water quality. Two (2) months after blasting sampling will occur twice. The post-sampling delay accounts for nitrate and sulfate travel time from the blast location to the well. If a nitrate level increase of more than 20 percent (e.g. statistically discernible) is detected, and confirmed by retesting, the following would occur: 1)

quarterly sampling would be provided if nitrate remains below 5 mg/l (half the drinking water standard) until pre-blast levels are re-established. 2) if nitrate exceeds 5 mg/l, a point of entry treatment unit would be provided and maintained by the Applicant until levels drop to pre-blast levels.

No other well monitoring is proposed because blasting proposed for this project is for landscape modification purposes and so uses small, localized charges, rather than deep quarry-style blasting.

No DGEIS thresholds are proposed by the applicant.

Additional mitigation measures associated with the potential need for blasting are discussed in Section 3.2 Soils and Geology.

3.4 Surface Water Resources and Stormwater Management

This section evaluates the existing and proposed development conditions of surface water, floodplains, wetlands, and groundwater resources located within or in close proximity to the Project site. These conditions are evaluated based on mapping provided by the Federal Emergency Management Agency (FEMA), National Wetlands Inventory (NWI), the New York State Department of Environmental Conservation (NYSDEC), and onsite field delineations.

A. Environmental Setting

Surface Water Resources

The HVWV Project site is located within the Hudson-Wappinger Watershed which covers land in Dutchess, Ulster, Orange, Putnam and Rockland Counties. The watershed occupies 604,602 acres and ranges in elevation from -7 to 1,663 feet above sea level. Approximately 11 percent of the watershed area is within Ulster County.[4]

The HVWV Project site is directly west of the Hudson River which is classified by the NYSDEC as a Class A water course and is not included in the Section 303(d) list of impaired waters. There is an unnamed Class C stream on site flowing in a northeasterly direction towards the Hudson River. The NYSDEC Water Index Number for this Tributary is H-112. This stream originates from a three-quarter acre pond north of Blue Point Road (P438h) to a 2.3 acre pond north of the Project site. The Class C stream drains into the Hudson River and is also not included in the Section 303(d) list of impaired waters. All other streams on the property are unregulated Class D streams. In total, approximately 35.7 acres of the HVWV Project site is covered by several ponds, streams and wetlands (see Figure 3.4.1 Surface Water Resource Map).*Floodplains*

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), for Ulster County, New York, Community Panel Number 780 and 790, a total of 426 acres of the HVWV Project site is outside the 100-year and 500-year flood plain. This area accounts for 99.4 percent of the overall Project site. Approximately 2.7 acres of the Project site are located within the 100-year flood plain. This part of the property is located along the southeastern boundary of the Project site next to the Hudson River between the bluff and the railroad line.

Stormwater

The HVWV Project site is located along the western bank of the Hudson River. The majority of the Project site is currently undeveloped, and therefore no stormwater management facilities exist on site. Runoff from the Project site currently drains east to the Hudson River. A portion of the site drains to the west to drainage facilities in the US Route 9W right-of-way. The Master

[4] USDA NRCS New York Rapid Watershed Profile Hudson-Wappinger Watershed, Updated June 2009.

SWPPP, contained in Appendix D, provides a map and description of all contributing drainage areas that pass through the Project site and follows those flows to the next hydraulic structure.

The overall watershed was broken down into smaller watersheds, or subcatchments, to allow for analysis of runoff conditions at several locations throughout the study area. Each of these locations was defined as a Design Point (DP) in order to establish the pre-development rates of discharge that future phases of development must not exceed (see Table 3.4.1).

Table 3.4.1 Pre-Development Discharge Rate (cfs)			
	1 Year	**10 Year**	**100 Year**
Design Point (DP)	**24-hour storm event**	**24-hour storm event**	**24-hour storm event**
1	94.85	305.73	525.66
101	35.7	73.29	95.88
102	80.01	250.03	422.60
103	2.49	10.76	20.25
104	0.62	2.63	4.93
2	30.27	131.87	249.22
201	27.98	123.09	233.52
3	20.23	77.03	139.93
4	4.28	19.64	37.85
5	5.55	24.30	45.84
6	2.12	9.07	17.04
7	5.54	24.04	45.43
8	2.15	9.40	17.73
9	8.56	36.83	69.73
10	6.15	28.08	53.70

A description of the entire modeling process is found within Appendix D, Master SWPPP.

B. Potential Impacts

Stormwater

Construction of the Project will disturb approximately 170 acres of the site and consist of site grading, roadway grading and paving; installation of a stormwater drainage system; water supply and sanitary sewer installation; wastewater treatment plant construction; and landscaping. Development of the Project will create additional impervious areas, which will

alter the hydrologic characteristics of the watershed and could have indirect impacts on water resources. The total area of impervious surfaces (e.g. roads, driveways, sidewalks, rooftops) associated with these improvements is approximately 70 acres, or 16 percent of the Project site. Impervious areas can cause rainfall to rapidly convert into stormwater runoff and can also result in the introduction of additional nutrients and pollutants into surface water resources. These pollutants can be transported by stormwater if adequate preventative measures are not put in place.

Land development can also have an effect on on-site hydrology; for example, it can cause rainfall to rapidly convert into stormwater runoff that adversely impacts aquatic ecosystems. Increases in runoff that are not controlled can cause stream bank erosion and floodplain expansion. The management of stormwater runoff from the site after the construction phase is vital to controlling the impacts of the proposed development on water quality.

The post-development Project site will continue to have large areas of meadow, woods, wetlands and streams, with an overall increase in impervious surfaces associated with this development. The stormwater quality and quantity controls that have been presented in the Master SWPPP are preliminary in nature and intended to demonstrate their location, approximate size, and design concept. The proposed stormwater collection system consisting of pipes, open drainage ways and on-site stormwater management facilities, including the use of isolated, unregulated, non-vernal pool wetlands, will adequately collect, treat, and convey the stormwater. Grading and reshaping of these isolated, unregulated, non-vernal pools will occur to the extent necessary to conform with stormwater management design criteria. Stormwater quality will be enhanced through the implementation of the proposed stormwater management facilities, erosion and sediment control measures and maintenance practices outlined herein. The site plan for the Project was heavily influenced by the drainage patterns of the site. Every effort has been made by the Project Sponsor to maintain existing drainage patterns (see Figure 3.4.2 Pre-Development Drainage Map and Figure 3.4.3 Post Development Drainage Map).

A pre-development watershed conditions analysis was performed for all design points and storm events evaluated within the Master SWPPP to establish the thresholds that shall be maintained under future development conditions at these points. For all design points and design storms, the existing peak rates of runoff will not be exceeded under post-development conditions at these points (see Table 3.4.1). As such, the project will not have a significant adverse impact on the adjacent or downstream properties or receiving watercourses. Final post-development stormwater facility hydrologic and hydraulic models will be developed as part of the future permitting processes for each individual phase of development. During this process, additional green infrastructure practices and RRV practices will likely be employed to further reduce the runoff from the site. If determined during the detailed site plan design and review processes that additional detention storage is needed, the stormwater management facilities can be supplemented with underground detention systems.

Figure 3.4.3 Post Development Drainage Area Map illustrates how drainage patterns will be affected as a result of the development. The proposed development will not adversely impact adjacent or downstream properties if the stormwater management facilities are properly constructed and maintained in accordance with the requirements outlined within the Master SWPPP and identified during the approval and permitting process for each site specific development.

Stormwater management facilities proposed within the HVWV Project have been designed consistent with stormwater regulations in effect at this time. Should these regulations change in the future to address increasing rainfall depths from climate change, stormwater management facilities will be designed and constructed consistent with these regulations.

A SPDES General Permit for Stormwater Discharges (GP-0-10-001) from construction activity has been prepared and included within the SWPPP, found in Appendix D. Commercial and industrial sites will need to obtain coverage under the SPDES Multi-Sector General permit or under and Individual SPDES Permit.

Rising Waters: Helping Hudson River Communities Adapt to Climate Change Scenario predicts a water elevation increase of 2.8" on the Hudson River by 2030 as a result of climate change. The HVWV Project will not be impacted by rising water elevations on the Hudson River as no development is proposed near the river. Stormwater management facilities proposed within the HVWV Project have been designed consistent with stormwater regulations in effect at this time. Should these regulations change in the future to address increasing rainfall depths from climate change, stormwater management facilities will be designed and constructed consistent with these regulations.

C. Mitigation Measures

Stormwater

A Master SWPPP has been prepared to support the SEQRA review of the proposed Hudson Valley Wine Village (HVWV) Project. The intent of this Master SWPPP is to provide sufficient documentation for an overall SEQR determination, and to serve as the baseline for final SWPPPs that will be prepared for the various phases of the proposed development, as approved during the future site plan and subdivision permitting processes. As such, this document is intended to provide peak discharge rates to be maintained in the post-development state and provide an overview of green infrastructure practices that may or may not be included in the final designs of the development. This report is not intended to be a final engineering document as certain detailed aspects of the Project are likely to change during site plan review processes. Portions of the design were advanced to substantiate regulatory compliance determinations and to provide input pertinent to the environmental assessment of impacts of the proposed Project. Final stormwater facility designs will be advanced in support of and during future site plan and subdivision permitting processes. The analyses in the Master

SWPPP follow the *NYS Standards and Specifications for Erosion and Sediment Control, the NYS Stormwater Management Design Manual and the USDA Technical Release No. 20*. This Master SWPPP and analysis are an integral part of the Project's natural resource management plan which takes into consideration existing parameters of site topography, soils, erosion potential, surface waters, their connectivity and water quality of receiving water bodies.

Stormwater runoff from the proposed development will be collected and conveyed to the quantity and quality control system(s) described herein through a combination of closed storm sewers and open stormwater conveyance systems.

The closed storm sewer network, consisting of catch basins, drainage manholes, high density polyethylene piping (HDPE), and/or reinforced concrete piping (RCP), and/or corrugated metal pipe (CMP), will be designed to safely convey peak rates of discharge to the stormwater management facilities required to support each phase of development, as required by the NYSDEC Stormwater Management Design Manual and the Town of Lloyd.

The open stormwater conveyance system, consisting of roadside ditches, grass lined swales, riprap lined swales, and major culvert crossings will be designed to safely convey peak rates of runoff to the stormwater management facilities required to support each phase of development, as required by the NYSDEC Stormwater Management Design Manual and the Town of Lloyd. The potential need for the creation of stormwater management districts will be identified during site specific development plans.

The stormwater quantity and quality control systems described in the Master SWPPP may be incorporated into the stormwater management plan for each future phase of development. Design calculations for the specific measures will be included in the future SWPPPs prepared in support of the site plan or subdivision permitting process. Stormwater control practices designed in accordance with the NYS Stormwater Management Design Manual and further described in the Master SWPPP include: micropool extended detention pond, wet pond, wet extension detention pond, multiple pond system, pocket pond, infiltration trench, infiltration basin, dry wells, surface sand filter, underground sand filter, perimeter sand filter, organic filter, bioretention, dry swale, wet swale, underground stormwater detention system, hydrodynamic separators, infiltration chambers, sedimentation chambers, plunge pools, rain gardens, green roofs, and stormwater planters.

No DGEIS thresholds are proposed by the applicant.

3.5 Wetlands

This section of the DEIS describes the wetland resources found on the site, their functions and benefits, regulation, the potential impacts to those wetlands, and proposed mitigation.

A. Environmental Setting

Wetlands

Under the federal wetland program, which is administered by the U.S. Army Corps of Engineers (ACOE), wetlands are defined as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."[5] The ACOE does not have a minimum size for wetland regulation nor do they regulate a buffer area surrounding the wetland.

Under the NYSDEC regulations, wetlands are those lands and waters of New York State, which meet the definition provided in Subdivision 24-0107.1 of the Freshwater Wetlands Act.[6] They have a minimum area of 12.4 acres or, if smaller, have unusual local importance as determined by the Commissioner.[7]

A wetland delineation was conducted in April 2009 by Crawford and Associates Engineering, PC. Ecological Solutions, LLC field checked the delineated wetlands on the property and obtained a Jurisdictional Determination (JD) for the property from the ACOE (see Appendix F, Natural Resources Survey/Assessment). The JD is dated May 3, 2010 and is valid until May 3, 2015. The delineation was completed in accordance with the Routine Delineation Method outlined in the ACOE Wetlands Delineation Manual, Technical Report Y-87-11. The NYSDEC also field checked the wetlands on the property and verified that there are no State jurisdictional wetlands on the property. Therefore there is no regulated 100 foot Adjacent Area.

There are nine (9) principal wetland areas that cover 35 acres of the HVWV property (see Figure 3.5.1 Regulated Wetland/Waterbodies). These areas include wetlands D, E, GM, HA, N, K L, W and VAA. Isolated wetlands identified on the property include wetlands A, B, C, F, G, O, P, Q, R, U, and X. All of the wetland areas observed on the property exhibited one or more of the following: pooled water; flowing water; and ground water seepage. On average, water depths within the wetlands ranged from 0-8 inches. Water table elevations within wetlands are presumed to occur within a fairly wide range of elevations (up to one foot). Forested wetlands

[5] Environmental Laboratory. 1987. Wetlands Delineation Manual, Technical Report Y-87-1. U.S Army Engineer Waterways Experiment Station, Vicksburg, MS.
[6] Article 24 and Title 23 of Article 71 of the Environmental Conservation Law
[7] Environmental Conservation Law §24-0301.1 and §24-0107.1 and 6 NYCRR Part 664

on the property exhibit a distinct hummock-hollow topography, which varies with the degree of water table fluctuation.

Wetlands associated with either an ephemeral, intermittent, or perennial stream channel include Wetlands D, E, GM, HA, N, K, L, W and VAA (see Figure 3.5.1 Wetlands and Waterbodies Map). They receive water primarily through ground water seepage and overland sheet flow, and are connected to the Hudson River by ephemeral or intermittent streams. Hydrological indicators identified within the wetlands included soil saturation, watermarks, drift lines, drainage patterns, and water stained leaves. These wetlands are typically broad-leafed deciduous forested wetland. These are red maple-spicebush dominated swamps with dense understory of skunk cabbage (*Syplocarpus foetidus*) that is seasonally inundated. These systems are surrounded by undeveloped upland mature second-growth forest. Functions and values provided by these wetlands include groundwater recharge, floodflow attenuation, sediment trapping, nutrient removal, production export, shoreline stabilization, wildlife habitat, recreation, educational/scientific resources, and visual quality. Of these, the most significant functions based on extent of rationale in identifying functions and values, are floodflow attenuation, sediment trapping, and wildlife habitat.

There are also several small isolated wetlands identified on the property that receive water primarily through surface sheet flow that are not regulated by the ACOE. These include wetlands A, B, C, F, G, O, P, Q, R, U, and X (see Figure 3.5.1 Wetlands and Waterbodies Map). Pooled water was identified in some of these wetlands. Hydrologic indicators identified included inundation, watermarks and water stained leaves. Functions and values include floodflow attenuation, sediment trapping, nutrient removal, and wildlife habitat.

Vernal Pool Study

Ecological Solutions, LLC completed a Vernal Pool Study at three (3) vernal pools identified and mapped in 2010 during the wetland delineation and natural resource assessment phase of the Project (see Appendix G). Figure 3.5.2 Vernal Pools identifies the location of the vernal pools on the site, including the acreage, the 100 foot envelope to each pool, and the 750 foot critical terrestrial habitat surrounding each pool. Table 3.5.1 below identifies each of the vernal pools within wetlands on-site as well as their size and buffer areas. Vernal pools are located within Wetland HA as well as in isolated Wetlands U and Q.

Table 3.5.1 Vernal Pool Areas			
	HA	**Q**	**U**
Area of Vernal Pool	0.21acres	0.59 acres	0.48 acres
Area of Vernal Pool including 100' Buffer	1.91 acres	2.24 acres	1.98 acres
Area of Terrestrial Habitat on Site	27.99	49.96 acres	56.68 acres
Area of Disturbance	8.87 acres	0.16 acres	22.28 acres
Source: Source: Vernal Pool Survey, Ecological Solutions, LLC			

Vernal pools are small, shallow (<2m) ephemeral bodies of standing fresh water that are inundated in the spring, but typically dry up by mid-summer and remain dry depressions for some period of the year. During wetter years, the pools may not dry out completely, but annual drying in most years is critical as it prevents the pools from supporting predatory fish populations. Vernal pools occur in a confined basin that may or may not have defined inlets or outlets, lacks fish populations and supports the complete life cycle of characteristic invertebrate and vertebrate species that rely on vernal pools for successful breeding.

The Vernal Pool Study was undertaken from March 15 to June 15, 2012 and included extensive field work to gather data from each site. The study identified spring breeding herpetiles at the three (3) vernal pool breeding sites and evaluated migration corridors to the pools from critical terrestrial habitat or upland areas within 750 feet of each pool. The Vernal Pool Study was completed consistent with the guidelines in "*Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States*", as recommended by NYSDEC. This document suggests that an encroachment into the critical upland habitat (750 feet from the edge of the vernal pool) will not significantly impact the amphibian populations occupying this area as long as the impact does not exceed 25 to 30 percent of the 750 foot zone surrounding the vernal pool. The publication also suggests that no impacts should occur within the 100-foot envelope surrounding the vernal pool. However, vernal pools are not a regulated environmental resource.

The Vernal Pool Study found that there were no special concern salamanders (Jefferson, blue-spot, or marbled salamander) observed within the three (3) vernal pools or in the surrounding critical terrestrial habitat. The most common species observed in association with the vernal pools was the obligate spotted salamander of which all specimens located on the property were discovered within 60 meters of each vernal pool (HA, U, and Q). Spotted salamanders associated with vernal pool HA were located on a wooded rise east of the pool approximately 200 feet directly east. Spotted salamanders associated with vernal Pool Q were located mainly west and north of the vernal pool approximately 200 feet away on wooded ridges. Spotted salamanders associated with vernal pool U were all located north of the pool also on a wooded

ridge within 200 feet of the pool. The locations of these specimens in uplands were treated as potential migration points and small valleys and low points or drainages associated with the observation were considered the most likely travel corridors. Wood frogs were seldom observed outside the three (3) vernal pools.

B. Potential Impacts

Wetlands

The HVWV Project will disturb approximately 0.86 acres of onsite wetlands, including 0.45 acres of an unregulated isolated wetland, and 0.41 acres of a jurisdictional wetland (see Figure 3.5.3 Wetland Impact Areas Map).

A number of isolated, unregulated, non-vernal pool wetlands on the HVWV Project site are anticipated to be used as stormwater management (SWM) facilities. These wetlands are not regulated by NYSDEC or ACOE. Vernal pools and regulated wetlands are not proposed for use as stormwater management systems.

The jurisdictional wetlands on the property will continue to provide the same functional benefits after completion of the proposed development of the property including: maintenance of flood, erosion and storm control; control of pollution and sedimentation; provision of area for wildlife habitat; and provision of areas for passive and active recreational use. Short-term physical impacts to regulated wetlands on the property will be avoided by the use of erosion controls throughout the property especially in critical areas adjacent to regulated wetlands (see Section 3.2).

It is anticipated that the HVWV Project will disturb one unnamed Class C stream and two unnamed Class D Streams within the Project site. All stream impacts are associated with road crossings. These crossings are necessary in order to develop non-wetlands areas. Culverts within these crossings are proposed as three sided box culverts in order to minimize impacts to wetlands and flow conditions. The box culverts will be designed in accordance with the existing channel geometry and will pass all storm events up to and including the 100 year storm event.

An Article 15 Protection of Waters Permit will not be required for disturbance to the unnamed Class C stream non-protected stream on-site. However, care shall be taken to stabilize any disturbed areas promptly after construction and all precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the Project.

The proposed development of the property will require a Federal Section 404 Nationwide Permit #29 for development activities associated with the placement of fill in jurisdictional wetlands on the property and impacts to streams on-site. In addition, a Section 401 Water Quality Certification will be required since there is an area of Federal jurisdictional wetland fill

associated with the wetland crossing. No NYSDEC Article 24 Freshwater Wetland Permit is required since there are no state jurisdictional wetlands on the property.

Vernal Pools

As identified in Figure 3.5.4 Vernal Pool Impacts Map, there are no impacts to any of the three (3) vernal pools or to any of the associated 100 foot vernal pool envelopes. Within the 750 foot buffer, the proposed Project will impact 16.7 percent (8.87 acres) of vernal pool HA, 0.025 percent (0.16 acres) of vernal pool Q, and 37.6 percent (22.28 acres) of vernal pool U. These impacts are consistent with the guidelines in "*Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States*", as recommended by NYSDEC, except that the impact to vernal pool H slightly exceeds the 30 percent disturbance guidelines.

C. Mitigation Measures

Wetlands

Wetland and stream impacts relating to road crossings were avoided as much as practicable by reducing grading and utilizing the site's topography to site the roads. The use of three sided box culverts will minimize impacts to wetlands, streams, and flow conditions.

Wetlands on-site are regulated by ACOE, not by NYSDEC. They will be evaluated as part of the ACOE permit application as it is their jurisdiction. The permit will demonstrate that the impoundment of water is of a frequency and duration that there will not be a significant change in the hydroperiod of these wetlands compared to existing conditions.

Wetland establishment will occur on the property so that there is no net loss of wetland area. The final design of the wetland establishment area must be submitted to the USACOE for approval but may include the planting of wetland species which are common to this area. Location of new wetland areas to be established will be identified during the site plan review stage.

The HVWV Project will disturb approximately 0.86 acres of onsite wetlands, including 0.45 acres of an unregulated isolate wetland, and 0.41 acres of a jurisdictional wetland. Disturbance of greater amounts will require supplemental environmental review.

Vernal Pools

Vernal pools are not a regulated resource, and no direct impacts to the vernal pools are identified. The proposed Project incorporates the recommendations outlined in *Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States* and based on the field data utilizes directional buffers to each vernal pool rather than circular buffers.

Three amphibian tunnels or crossings will be utilized under the internal road located north and northwest of vernal pool U to allow salamander dispersal and migration. The crossings will utilize natural low points/drainage corridors which are the most likely dispersal route to vernal pool U and back. The crossings will be provided even though the road is more than 200 feet from vernal pool U to allow for potential travel. The use of permanent barriers in the areas on both sides of the road crossings and the use of curbs on the road could potentially funnel amphibians to the crossing locations and minimize travel impacts over the new road. These features coupled with the remaining tracts of forested critical terrestrial habitat will maintain the vernal pool ecology on the property.

Mitigation is not required for vernal pool HA or Q since impacts to surrounding critical terrestrial habitat is below thresholds discussed in the literature and since there will be no obstructions placed in potential travel corridors.

3.6 Flora and Fauna

A. Environmental Setting

Vegetative Communities

There are several distinct dominant cover types identified on the property as classified by Edinger 2002 and edited for the Wetlands and Natural Resources Survey/Assessment completed by Ecological Solutions, LLC (see Appendix F and Figure 3.6.1 Ecological Communities/Cover Types). These cover types are summarized in Table 3.6.1 below.

Table 3.6.1 Ecological Communities/CoverTypes

Edinger 2002	Acres Identified	Percent of Site
Appalachian Oak – Hickory Forest	225.46	53%
Rich Mesophytic Forest	99.00	23%
Successional Old Field	39.92	9%
Red Maple Hardwood Swamp	33.75	8%
Intermittent Woodland Pool	1.15	<1 %
Pond	1.26	<1 %
Developed Area	27.99	7%
Total	**428.53**	**100%**

Source: Wetlands and Natural Resources Survey/Assessment, Ecological Solutions, LLC

The terrestrial system on the property consists of upland habitats and developed areas. These upland habitats have well-drained soils that are dry to mesic (never hydric), and vegetative cover that is never predominantly hydrophytic, even if the soil surface is occasionally or seasonally flooded or saturated. The following habitat types were found on site.

Successional Old Field - The successional old-field areas on the property are dominated by forbs and grasses. Characteristic herbs observed include goldenrods (*Solidago altissima, S. rugosa, canadensis, and Euthamia graminifolia*), bluegrasses (*Poa pratensis, P. compressa*), timothy (*Phleum pratense*), smooth brome (*Bromus inermis*), orchard grass (*Dactylis glomerata*), common chickweed (*Cerastium arvense*), common evening primrose (*Oenothera biennis*), cinquefoil (*Potentilla simplex*), New England aster (*Aster novae-angliae*), wild strawberry (*Fragaria virginiana*), Queen-Anne's lace (*Daucus carota*), ragweed (*Ambrosia artemisiifolia*), hawkweeds (Hieracium spp.), dandelion (*Taraxacum officinale*), and ox-eye daisy (*Chrysanthemum leucanthemum*). Shrubs are present, but collectively they have less than 50 percent cover in this community. Characteristic shrubs observed include gray dogwood (*Cornus foemina ssp. racemosa*), silky dogwood (*Cornus amomum*), arrowwood (*Viburnum recognitum*), raspberries (*Rubus spp*.), sumac (*Rhus typhina, R. glabra*), and eastern red cedar (*Juniperus virginiana*). This is a relatively short-lived community that will succeed to a shrubland,

woodland, or forest community if not maintained. Wildlife observed in this habitat included deer mouse, eastern mole, raccoon, striped skunk, white tailed deer, coyote, red fox, big brown bat, snapping turtle, American goldfinch, barn swallow, yellow warbler, ruby throated hummingbird, American robin, eastern bluebird, northern cardinal, field sparrow, garter snake, and brown snake.

Appalachian Oak-Hickory Forest Community - This mesophytic hardwood forest occurs on areas of well-drained portions of the property generally on the upper slopes. The soils are loams or sandy loams. The dominant trees observed include the following oaks: red oak (*Quercus rubra*), white oak (*Quercus alba*), and black oak (*Quercus velutina*). Mixed with the oaks, at lower densities, are the following pignut hickory (*Carya glabra*), shagbark hickory (*Carya ovata*), white ash (*Fraxinus Americana*), red maple (*Acer rubrum*), and Eastern hop hornbeam (*Ostrya virginiana*). The trees are generally in same age class within sections of the property with a large section of containing trees in the 24+ inch dbh range. The subcanopy stratum contains small trees and tall shrubs including flowering dogwood (*Cornus florida*), witch hazel (*Hamamelis virginiana*), shadbush (*Amelanchier arborea*), and choke cherry (*Prunus virginiana*). Common low shrubs include maple-leaf viburnum (*Viburnum acerifolium*), blueberries (*Vaccinium angustifolium*), red raspberry (*Rubus idaeus*), and gray dogwood (*Cornus racemosa*). Wildlife observed in this habitat included deer mouse, raccoon, white tailed deer, coyote, red fox, red eft, slimy salamander, spotted salamander, gray tree frog, wood frog, indigo bunting, ovenbird, ruby throated hummingbird, wood thrush, chestnut sided warbler, summer tanager, eastern phoebe, eastern towhee, brown thrasher, hermit thrush, American robin, American toad, northern cardinal, eastern chipmunk, gray squirrel, garter snake, red-backed salamander, and northern ringneck snake.

Rich Mesophytic Forest - This forest type also occurs on moist, well-drained areas of the property and is differentiated by the species observed. The dominant trees include a mixture of tulip tree (*Liriodendron tulipifera*), sugar maple (*Acer saccharum*), red oak (*Quercus rubra*), black birch (Betula lenta), beech (Fagus grandifolia), sassafras (Sassafras albidum), American basswood (*Tilia cordata*), red maple (*Acer rubrum*), and white oak (*Quercus alba*). The shrub layer includes flowering dogwood (*Cornus florida*) spicebush (*Lindera benzoin*), witchhazel (*Hamamelis virginiana*), black cherry (*Prunus serotina*), maple leafed viburnum (*Viburnum acerifolium*) and blueberries (*Vaccinium spp*). Wildlife observed in this habitat also included deer mouse, raccoon, white tailed deer, coyote, red fox, red eft, gray tree frog, red-backed salamander, wood frog, indigo bunting, ovenbird, wood thrush, chestnut sided warbler, summer tanager, eastern phoebe, eastern towhee, brown thrasher, hermit thrush, American robin, gray catbird, and northern cardinal.

The palustrine system consists of non-tidal, perennial wetlands characterized by hydrophytic vegetation. The system includes wetlands permanently saturated by seepage, permanently flooded wetlands, and wetlands that are seasonally or intermittently flooded (these may be seasonally dry) with vegetative cover that is predominantly hydrophytic with hydric soils.

Wetland communities on the property are distinguished by their plant composition (hydrophytes), substrate (hydric soils), and hydrologic regime (frequency of flooding).

Red Maple Hardwood Swamp - In general on the property this ecological community is a hardwood swamp that occurs in poorly drained depressions on inorganic soils. Herbaceous species identified generally within the property wetlands included skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), tussock sedge (*Carex stricta*), and violet (*Viola sp*.). Shrub species observed included red maple (*Acer rubrum*), and spicebush (*Lindera benzoin*), winterberry (*Ilex verticillata*), and silky dogwood (*Cornus amomum*). Tree species included red maple (*Acer rubrum*), eastern hophornbeam (*Ostrya virginiana*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus Americana*), swamp white oak (*Quercus bicolor*), and American sycamore (*Platanus occidentalis*). This ecological community occurs in the protected wetlands occupying the low areas between the north south running ridges. This ecological community will remain almost completely undisturbed by the proposed development. Wildlife observed in this habitat also included white tailed deer, coyote, eastern chipmunk, red fox, red eft, gray tree frog, wood frog, spring peeper, green frog, slimy salamander, red-backed salamander, indigo bunting, scarlet tanager, kingbird, eastern phoebe, eastern towhee, brown thrasher, veery, American robin, gray catbird, and northern cardinal.

Intermittent Woodland/Vernal Pool - Three (3) Intermittent or vernal pools were identified on the property through the course of the field work completed from March 15 to June 15, 2012 as part of the Vernal Pool Study (see Section 3.5). The study identified spring breeding herpetiles at the three (3) vernal pool breeding sites and evaluated migration corridors to the pools from critical terrestrial habitat or upland areas within 750 feet of each pool. The Vernal Pool Study found that there were no special concern salamanders (Jefferson, blue-spot, or marbled salamander) observed within the three (3) vernal pools or in the surrounding critical terrestrial habitat. The most common species observed in association with the vernal pools was the obligate spotted salamander of which all specimens located on the property were discovered within 60 meters of each vernal pool (HA, U, and Q). Spotted salamanders associated with vernal pool HA were located on a wooded rise east of the pool approximately 200 feet directly east. Spotted salamanders associated with vernal Pool Q were located mainly west and north of the vernal pool approximately 200 feet away on wooded ridges. Spotted salamanders associated with vernal pool U were all located north of the pool also on a wooded ridge within 200 feet of the pool. The locations of these specimens in uplands were treated as potential migration points and small valleys and low points or drainages associated with the observation were considered the most likely travel corridors. Wood frogs were seldom observed outside the three (3) vernal pools.

Wetland “U” and a portion of Wetland “HA” and “Q” serve as vernal pools since obligate vernal pool species were observed utilizing these areas. Wetland “U” and “Q” are considered isolated and are not directly regulated under Section 404 by the USACE or by the NYSDEC. These pools were observed to range from dry to wet with approximately 30-36 inches of water depth.

Wildlife observed in this habitat included red eft, gray tree frog, wood frog, spring peeper, green frog, spotted salamander, spring peeper, and eastern box turtle.

Ponds - Several small ponds are located within the boundaries of the Project area. The ponds support two species of turtle (painted and snapping turtles) great blue heron, mallards, green frogs and bullfrogs.

Esopus/Lloyd Wetlands and Ridges Significant Area

The NYSDEC and Hudson River Estuary Program in the *Wildlife and Habitat Conservation Framework: An Approach for Conserving Biodiversity in the Hudson River Estuary Corridor (2006)* identifies key plant and animal habitats within New York State, including the Esopus /Lloyd Wetlands and Ridges Significant Area. This significant biodiversity area is 32,391 acres in size and contains wetland and upland habitat that is of particular importance to amphibian species and breeding waterfowl.

The Wildlife and Habitat Conservation Framework further identifies conservation guidelines and recommendations including: biological inventories, ecological research, land management for public land, invasive species control, reduction of habitat loss and fragmentation, and pollution control. No regulatory programs are identified in the report, but rather support for partnership and outreach to landowners, local governments, and public land managers is recommended.

The Esopus/Lloyd Wetlands and Ridges significant area is bounded by the Thruway on the west, route 9W on the east, Hardenburg, Union Center, and Esopus Avenue on the north and Route 44 to the south. The HVWV site lies southeast of the southern boundary of this area.

Northern Wallkill Biodiversity Plan

The Wildlife Conservation Society's Metropolitan Conservation Alliance (WCS/MCA) initiated the Northern Wallkill Biodiversity Plan (NWBP) project with the goal of establishing a regional approach to land use planning to promote conservation of wildlife and wildlife habitat. The portion of the Northern Wallkill region included in this biodiversity plan includes the Town of Lloyd, the Town of New Paltz, and the Village of New Paltz in Ulster County. The Wallkill River is the largest of several water bodies that run through these two towns. From east to west are the Kleine Kill, Wallkill River, Swarte Kill, Black Creek, and Twaalfskill Creek. These waterbodies provide habitat in the form of streams, rivers, ponds, lakes, vernal pools and freshwater wetlands. The region's diverse topography further contributes to the array of habitat types which also include mixed secondary forest, shrubland, rocky outcrops, rocky ridgelines, and surrogate grasslands in the form of agricultural fields.

The HVWV Project site is located within the Blue Point Biodiversity Area. The NWBP designated this particular biodiversity area due to the large number of woodland warbler species found in it, especially considering the small size of this area. Field surveys were completed and no

development-associated bird species were observed. While some development-associated species likely do live in this area, such a low observance rate suggests that this habitat is of very high quality. The southern part of this area contains several observations of a state-listed bird species, the yellow breasted chat (*Icteria virens*), that is at the northern limit of its range here, an indication of high quality successional habitat. Other state listed bird species observed in the area include: alder flycatcher (*Empidonax alnorum*), black-billed cuckoo, black-throated blue warbler, magnolia warbler, scarlet tanager, willow flycatcher, and worm-eating warbler. Sixteen medium density bird species were also observed, including the brown thrasher and blue-winged warbler, among others. One medium density species reptile, the northern black racer, was also observed in the area.

NYS 2nd Breeding Bird Atlas

A review of the 2nd New York State Breeding Bird Atlas was conducted and the following is a list of breeding birds identified on the property in 2010. Most of the species were found in multiple habitats although some were observed in specific habitats as described previously. The list of observed species includes: Canada goose (*Branta canadensis*), wood duck (*Aix sponsa*), mallard (*Anas platyrhynchos*), turkey (*Meleagris gallopavo*), turkey vulture (*Cathartes aura*), broad-winged hawk (*Buteo platypterus*), redtailed Hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), Chimney Swift (*Chaetura pelagica*), Ruby throated hummingbird (*Archilochus colubris*), yellow-bellied sapsucker (*Sphyrapicus varius*), downy woodpecker (*Picoides pubescens*), northern flicker (*Colaptes auratus*), pileated woodpecker (*Dryocopus pileatus*), Eastern wood-pewee (*Contopus virens*), eastern phoebe (*Sayornis phoebe*), eastern kingbird (*Tyrannus tyrannus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), barn swallow (*Hirundo rustica*), black throated blue warbler *Setophaga caerulescens*), black-capped chickadee (*Poecile atricapillus*), tufted titmouse (*Baeolophus bicolor*), whitebreasted nuthatch (*Sitta carolinensis*), house wren (*Troglodytes aedon*), eastern bluebird (*Sialia sialis*), veery (*Catharus fuscescens*), wood thrush (*Hylocichla mustelina*), American robin (*Turdus migratorius*), gray catbird (*Dumetella carolinensis*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), yellow warbler (*Dendroica petechia*), chestnut-sided warbler (*Dendroica pensylvanica*), American redstart (*Setophaga ruticilla*), Ovenbird (*Seiurus aurocapilla*), Scarlet Tanager (*Piranga olivacea*), Common Yellowthroat (*Geothlypis trichas*), eastern towhee (*Pipilo erythrophthalmus*), chipping sparrow (*Spizella passerina*), field sparrow (*Spizella pusilla*), northern cardinal (*Cardinalis cardinalis*), red-winged blackbird (*Agelaius phoeniceus*), indigo bunting (*Passerina cyanea*), common grackle (*Quiscalus quiscula*), brown-headed cowbird (*Molothrus ater*), Baltimore oriole (*Icterus galbula*), house finch (*Carpodacus mexicanus*), American goldfinch (*Carduelis tristis*), great blue heron (*Ardea herodias*), and brown thrasher (*Toxostoma rufum*).

Potential Endangered, Threatened, and Rare Species

The NYSDEC was contacted to obtain information concerning known occurances of State Endangered, Threatened, or Rare (ETR) species located on, or within vicinity of the HVWV Property. The correspondence indicates that shortnose sturgeon (*Acipenser brevirostrum*) is located along the tidal portion of the Hudson River. A historical record from 1960 references Virginia snakeroot (*Endodeca serpentaria*) as possibly located on or near the property. However, this species was not found during field investigation.

To determine the occurrence of federally listed (under the Endangered Species Act) endangered, threatened, or candidate species on-site, a review of the USFWS website was conducted. This website contains lists of species protected under the Endangered Species Act that occur in each county. A review of this information found that the bog turtle (*Glyptemys muhlenbeghii*), Indiana bats (*Myotis sodalis*), northern wild monkshood (*Aconitum noveboracense*) and peregrine falcon (*Falco peregrinus*) are threatened or endangered species in Ulster County. However, none of these species were found during site investigations, including the bat survey described below.

In addition, the wetlands on the property were thoroughly investigated to determine if marbled salamander (*Ambystoma opacum*), Jefferson salamander (*Ambystoma jeffersonianum*), and blue spotted salamander (*Ambystoma laterale*), all NYSDEC designated "species of special concern", utilized the wetlands for breeding habitat. Other species of special concern including spotted turtle (*Clemmys guttata*), eastern box turtle (*Terrapene Carolina*) and wood turtle (*Clemmys insculpta*) were also searched for during the surveys. However, none of these species were found during site investigations.

Summer Woodland Bat Survey

A summer woodland bat survey was completed by Bat Conservation and Management, Inc., from July 25 through July 28th, 2011 (see Appendix H). The survey was completed to provide an inventory of summer bat species occurring in the vicinity of the HVWV Project site. A summer mist net survey meeting the protocols set forth in the USFWS Indiana Bat Revised Recovery Plan was completed.

Based on the acreage of the Project area containing suitable bat roost habitat, four (4) sites were selected for summer mist net surveys. The four net sites were chosen based on the presence of flight corridors such as roads and atv trails as bats are known to utilize these features to move between foraging and roosting resources. Site 1 was located on an atv trail leading to a small (<1 acre) pond. Site 2 was located on an abandoned paved road surrounded by deciduous forest and old vine fields on either side. Site 3 was located on old jeep trails leading towards an abandoned barn. Site 4 was located on a jeep trail in deciduous forest located on a high bluff overlooking the Hudson River.

A total of 36 bats of three (3) species were captured including: 33 big brown bats (*Eptesicus fuscus*), two (2) eastern red bats (*Lasiurus borealis*), and one (1) little brown myotis (*Myotis lucifugus*). Of the bat species captured, none are listed as endangered, threatened, or of special concern by the USFWS or the NYSDEC.

Other Potential Plants/Wildlife

Scenic Hudson provided the Project Sponsor with a list of rare plants that could potentially exist on the property. The list includes large twayblade, yellow giant hyssop, puttyroot, rattlebox, stiff tick trefoil, and southern bluet. These species were searched for on the property but no specimens were observed. This is consistent with the property's historic use as a vineyard and Winery where most of the acreage was in production for grapes.

B. Potential Impacts

The HVWV Project would result in the disturbance or alteration of approximately 170± acres of existing vegetation. This represents about 40 percent of the site. Approximately 258 acres of the site will remain in a natural state. A breakdown of the impact acreage by vegetation cover type is presented in Table 3.6.1, while the proposed disturbance by cover type is illustrated in Figure 3.6.2 Ecological Community/Cover Type Impact Areas Map. Forty four percent of the anticipated disturbance will take place in Appalachian Oak – Hickory Forest Community, and an additional 26 percent will occur in Rich Mesophytic Forest.

Table 3.6.1 Impacts to Ecological Communities/CoverTypes

Edinger 2002	Acres Identified	Proposed Impacts (acres)
Appalachian Oak – Hickory Forest	225.46	75.44
Rich Mesophytic Forest	99.00	44.11
Successional Old Field	39.92	28.60
Red Maple Hardwood Swamp	33.75	0.45*
Intermittent Woodland Pool	1.15	0
Pond	1.26	0.41
Developed Area	27.99	20.16
Total	**428.53**	**169.17**

*Impacts are to non-jurisdictional or isolated wetlands and jurisdictional wetlands.
Source: Wetlands and Natural Resources Survey/Assessment, Ecological Solutions, LLC

There are no impacts to any of the 3 intermittent woodland "vernal" pools or to any of the associated 100 foot vernal pool envelopes. Vernal pool HA has a total of 53.18 acres of critical terrestrial habitat or wooded upland area within 750 feet of its boundary. Approximately 8.87 acres or 16.7 percent of this habitat will be impacted by the Project. Vernal pool Q has a total of 62.82 acres of critical terrestrial habitat within 750 feet of its boundary. Approximately 0.16 acres or 0.25 percent of this habitat will be impacted by the Project. Vernal pool U has a total

of 59.14 acres of critical terrestrial habitat within 750 feet of its boundary. Approximately 22.28 acres or 37.6 percent of this habitat will be impacted by the Project.

The closed canopy in the forested area will be partially cleared to allow for development. The majority of the forest, however, will be preserved leaving protection for forest interior species from invasion of and competition with edge species. Potential fragmentation of the Oak Hickory and Rich Mesophytic Forest habitats on this property is not anticipated to significantly alter property biodiversity because approximately 205 acres of these habitats will remain intact and will remain connected through the remaining forest areas.

Habitat fragmentation differs from forest fragmentation in that forest fragmentation is the practice of opening up closed forest canopy, allowing edge-oriented species to penetrate into areas of the forest that they probably would not reach before. While this adversely impacts forest interior species, it potentially benefits edge species.

Habitat fragmentation is the separation and isolation of habitats and wildlife populations by placing impenetrable barriers between habitats that prevent mixing formerly connected or adjacent wildlife populations creating “habitat islands”.

Development barriers can be as minor as a 6-inch curb on a road that prevents movement of amphibians, reptiles, or any small sized wildlife. Private fences around homes or lots if proposed can prevent wildlife movement to and from breeding, nesting, or feeding areas such as the watercourse.

Extensive concentrated clearing of overhead vegetation can also hinder summer movement of some wildlife, most notably amphibians, because of possible exposure to direct sunlight at midday in cleared areas, making it difficult for some species to travel without the risk of becoming desiccated.

Esopus/Lloyd Wetlands and Ridges Significant Area

The Hudson Valley Wine Village property lies several miles south of the southern boundary of this area, and therefore, no impacts are anticipated to this Significant Area.

Blue Point Biodiversity Area

According to the Northern Wallkill Biodiversity Plan “Blue Point was designated a biodiversity area due to the large number of woodland warbler species found here, especially considering the small size of this area. Surprisingly, in the northern part of this area we observed no development-associated bird species. While some development-associated species likely do live in this area, such a low observance rate suggests that this habitat is of very high quality. The southern part of this area contains several observations of a state-listed, high density bird species, the yellow breasted chat (*Icteria virens*), that is at the northern limit of its range here, an indication of high quality successional habitat. Other high density bird species observed here

include: alder flycatcher (*Empidonax alnorum*), black-billed cuckoo, black-throated blue warbler, magnolia warbler, scarlet tanager, willow flycatcher, and worm-eating warbler. Sixteen medium density bird species were also observed, including the brown thrasher and blue-winged warbler, among others. One medium density species reptile, the northern black racer, was also observed here. The fact that this region is adjacent to the Hudson River is another strong reason for its designation as a Biodiversity Area, as quality riverside habitat is important for many species yet increasingly rare due to development."

The northern section of the HVWV property includes most of the existing development with the remaining property reverted to second growth forest after serving as a vineyard for decades. Several of the bird species observed on the property are specified in the Northern Wallkill Biodiversity Assessment and included black-throated blue warbler, magnolia warbler, and scarlet tanager. All of the species observed on the property are expected to remain or return once development is completed because of the retention of forested acreage, wooded bluff areas, and wetlands and corridors connecting these habitats.

Wildlife

Direct impacts to wildlife biodiversity from the proposed development will primarily be displacement and direct loss of individuals that spend a large percentage of their life cycle underground. Species found on the property likely have already adapted to proximal human habitation. These species will remain on the undeveloped portion of the property since availability of basic habitat features (food, cover, and space) will remain and connective corridors will remain.

Impacts to the habitats on a local level will not significantly affect large mammal, or migratory bird species movement since these species are highly mobile and not typically confined to small corridors within a property. Regulated wetlands on the property will be minimally impacted and are considered likely migratory corridors for wildlife species on the property. The prime migratory corridors and wildlife destinations for breeding found in the regulated wetlands will remain.

Field surveys completed on survey and a review of habitat criteria found no ETR species from the USFWS list or identified by the NYSDEC on site. Therefore, there will be no associated impacts with ETR species. There were no marbled, blue spotted, or Jefferson salamanders or evidence of breeding by these species on the property. Also no spotted or wood turtles were observed. The eastern box turtle was encountered between vernal pool "U" and wetland VAA. Sufficient habitat will be available on the property for this species. No impacts to submerged vegetation in the Hudson River from increased run-off turbidity are anticipated as stormwater will be managed in accordance with NYSDEC guidelines. These guidelines are specifically designed to settle and minimize turbidity in stormwater prior to discharge.

C. Mitigation Measures

The proposed Project will impact approximately 171 acres of the Project site. Disturbance of greater amounts will require supplemental environmental review.

Vegetation and Cover Types

The Project will minimize impacts by leaving undisturbed, naturally vegetated zones demarcated in the field by orange construction fencing and by clearing only necessary areas within the Limit of Disturbance area or within building envelopes.

The upland forest areas impacted by the development will not be fully replaced but will be enhanced by revegetating some areas within the development after construction with native plant material. Contiguous forested wetland areas and upland forest areas will continue to provide natural habitat and migratory corridors for many species. Native plantings may provide wildlife with some habitat and food source.

Wildlife

The property provides year-round habitat for most of the species located there. The property will continue to be connected to adjacent undeveloped properties so that potential wildlife movement corridors remain. In addition, the entire 77 acre forested bluff above the Hudson River will be preserved to ensure connectivity between properties to the north and south.

Development guidelines and precautions outlined in the publication "Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States" coupled with the field data gathered during 2012 was used to incorporate directional buffers to each vernal pool rather than circular buffers. The publication states, "We identify pools with 25 percent or less developed area in the critical terrestrial habitat as having high priority. The few studies that have been conducted on this topic suggest that development pressures (buildings, impermeable surfaces, roads, lawns) higher than 25-30 percent cause declines in breeding populations". The proposed Project incorporated the recommendations outlined by in this publication except for a slightly larger critical terrestrial impact area associated with vernal pool U. There is no impact to the 100-foot vernal pool envelope and potential encroachment into the critical upland habitat is limited to 16.7 percent, 0.25 percent and 37.6 percent in each of the 3 pools. The encroachments in the critical upland habitats are beyond the 200 foot area where obligate species were observed so that the most productive portions of the 750 foot critical upland habitat are preserved.

Mitigation is not required for vernal pool HA or Q since impacts to surrounding critical terrestrial habitat is below thresholds discussed in the literature and since there will be no obstructions placed in supposed travel corridors. Three amphibian tunnels or crossings will be utilized under the internal road located north of vernal pool U to allow directional salamander dispersal and migration based on the data gathered at the site in 2012. The critical terrestrial

habitat impact is slightly larger than the recommended 25-30 percent. The crossings will utilize natural low points/drainage corridors which are the most likely dispersal route to vernal pool U and back. The crossings will be provided even though the road is more than 200 feet from vernal pool U to allow for potential travel. The use of permanent barriers in the areas on both sides of the road crossings and the use of curbs on the road could potentially funnel amphibians to the crossing locations and minimize travel impacts over the new road. These features coupled with the remaining tracts of forested critical terrestrial habitat will maintain the vernal pool ecology on the property.

Other habitat aspects of the property should be preserved to the extent practicable including existing stone walls and standing dead trees (snags). Old stone walls provide microhabitats for small mammals, herptiles, and invertebrates. Snags provide perching, nesting, and feeding areas for a wide variety of wildlife. These elements or parts thereof should be protected where possible.

Temporary wildlife displacement during construction is a short-term impact that will occur. In as much as possible earth moving and tree clearing activities should occur in phases to allow species to migrate and return unhindered. The stormwater basins proposed for the property, once developed, may also be utilized by some amphibians if hydrology is persistent. In addition, curbs should be used on internal roads and amphibian crossings should be installed in select locations to allow herpetiles to migrate through the property without obstruction.

Eastern box turtles use wooded upland habitats as well as shallow aquatic habitats. As stated above these habitats will remain on the property intact and will continue to support this species. No mitigation or habitat enhancement is proposed for this species. Although not mitigation for impacts, general amphibian microhabitats that will remain intact on the property include:

- Breeding locations that hold water at least into June;
- Woody debris in adjacent forested areas;
- Canopy cover over breeding and foraging areas; and
- Deciduous leaf litter for moisture retention and feeding.

General reptile microhabitats that will remain intact on the property include:

- Woody debris (standing and down);
- Small open patches for basking, mixed with well shaded areas during drought periods;
- Undisturbed areas in and around wetlands for feeding and breeding; and
- Access to safe den areas.

The habitat requirements listed above will remain intact with this proposed development plan and large contiguous portions of the property, particularly adjacent to wetlands, will remain in a naturalized state.

3.7 Air Resources

A. Environmental Setting

Existing air quality is considered relatively good for the Town of Lloyd as is the area north of New York City. Particulate matter ($PM_{2.5}$) as measured in Newburgh, New York (the closest monitoring station) has been below the 15 micrograms per cubic meter (ug/m3) annual mean standard since 2000 and has ranged between 7.9 and 8.6 ug/m^3 for 2009 to 2011. The three (3) year average for the 98th Percentile ug/m^3 was well below the 35 ug/m^3 limit at 23 ug/m^3. Lead levels contained in these particulates have been measured in Wallkill with an annual mean of 0.027 ug/m^3 in 2011 versus a standard of 0.15 ug/m^3.

The closest sulfur dioxide (SO_2) monitoring station is at Mt. Ninham in southeast Putnam County. In 2011, three (3) hour averages have peaked at 12.1 and 11.7 ppb versus a standard of 500 ppb and 24 hour averages have peaked at 5.9 ppb versus a standard of 140 ppb.

Ozone is measured at Valley Central. It is the only pollutant which could exceed its standard in NYSDEC Region 3 (and State-wide). It is formed from the long-term transport of hydrocarbon emissions in the mid-western United States and as such, is not a "local" enforcement of emissions issue. The arithmetic annual mean for this pollutant has ranged from 0.026 to 0.031 parts per million (ppm) for the years 2001 to 2011. The fourth highest maximum daily eight hour average was 0.075 ppm in 2010 and so reached the 0.075 ppm standard. In 2011, the fourth highest maximum daily eight hour average was 0.067 ppm and so did not exceed the 0.075 ppm standard.

Particulate matter (PM_{10}), nitrogen oxide (NO_2), and carbon monoxide (CO) are not measured in NYSDEC Region 3. The closest monitoring station for each of these measures of air quality showed levels well below their respective standard.

B. Potential Impacts

B. Laing Associates, Inc prepared an air quality analysis for mobile sources of air pollution (i.e. motor vehicles) associated with the HVWV Project (see Appendix I). The analysis was based on the traffic analysis conducted by John Collins Engineers, P.C. (see Appendix O). This analysis was completed consistent with NYSDOT's Highway Capacity Manual (HCM). According to NYSDOT's Environmental Procedures Manual (EPM), predictions of CO concentrations for projects requiring a microscale air quality analysis are necessary. $PM_{2.5}$ fine particles are also a result of automobiles and were therefore calculated in this analysis. The EPM guidance indicate that intersections with an overall Level of Service (LOS) of A, B, or C require no further analysis. However, intersections with an LOS of D, E, or F may have significant vehicle queuing and will require further analysis.

The intersection of U.S. Route 9W and Chapel Hill Road/Macks Lane was selected for analysis as it is signalized and runs at a LOS of E and F. The intersection also represents conditions "typical" of the Town of Lloyd and will handle the majority of the Project's traffic. This intersection therefore represents the worst case scenario for traffic and ambient air quality resulting from the HVWV Project.

The analysis used CAL3QHC dispersion modeling with MOBILE6.2 factors which have been modified by NYSDOT to provide emission factor data specific to NYSDOT Region 8. These programs were used to determine potential air quality impacts on CO and PM2.5 levels due to the proposed Project at the subject intersection. The CAL3QHC model was run for Peak PM conditions for the 2011 existing condition, 2021 no build and the 2021 build for the Hudson Valley Wine Village Project. Peak PM traffic scenarios were analyzed at the subject intersections using worst case meteorology for each condition. Traffic volumes associated with the build scenarios anticipated the full build of the Project as provided in the traffic analysis.

The maximum CO results (with the Project constructed) were 3.83 ppm in the one hour scenario and 2.71 ppm in the eight hour scenario in 2021 PM BUILD at a receptor 36. At the same intersection, the CO results (without the Project constructed) were 3.83 ppm in the one hour scenario and 2.71 ppm in the eight hour scenario in 2021 PM NO BUILD at receptor 36. At the same intersection, the CO results (without the Project constructed) were 4.30 ppm in the one hour scenario and 3.04 ppm in the eight hour scenario in 2011 PM EXISTING CONDITION at receptor 36. The results of the BUILD and NO BUILD scenarios are less than the EXISTING CONDITION results because the CO emissions rates for vehicles decreases in each future year. This yearly decrease in emissions outweighs the Projected vehicle increase and so, the future CO results are less than the EXISTING CONDITION. All results are well below their respective one hour standard of 35 ppm and eight hour standard of 9 ppm.

The peak $PM_{2.5}$ results for the 24 hour scenario using the 20.80 ug/m3 ambient with the Project constructed was 21.60 $\mu g/m^3$ in the 2021 PM BUILD scenario at receptor 45. The peak $PM_{2.5}$ results for the 1 year scenario using the 8.60 ug/m3 ambient with the Project constructed was 8.76 $\mu g/m^3$ in the 2021 PM BUILD scenario at receptor 45. The results were well below the standard of 35 $\mu g/m^3$ (98th percentile-24 hour, not to exceed) and 15 $\mu g/m^3$ (annual) for $PM_{2.5}$.

The $PM_{2.5}$ results were also calculated for and compared to their respective 24-hour and annual "thresholds" for significant impact. For $PM_{2.5}$, these thresholds are 5 $\mu g/m^3$ on a 24-hour basis and 0.30 $\mu g/m^3$ on an annual basis. The peak $PM_{2.5}$ 2021 PM BUILD 24-hour threshold result was 0.80 $\mu g/m^3$ and the peak $PM_{2.5}$ 2021 PM BUILD annual threshold result were 0.16 $\mu g/m^3$. These values were below their respective thresholds.

The intersection of U.S. Route 9W and Chapel Hill Road/Macks Lane complies with ambient air quality standards and is not expected to significantly affect air quality with regard to inhalable particulate matter. As this intersection represents the worst case scenario, other intersections effected by the HVWV Project will also comply with these standards, according to the NYSDOT

EPM. Therefore, the HVWV Project will not significantly affect air quality with regard to inhalable particulate matter.

Construction and Operation Related Impacts

The short-term use of heavy equipment operations at the site will result in a temporary, minor increase in pollutant emissions from the various equipment used in the construction process for a several year phased duration. The vehicle emissions will be controlled by proper maintenance of construction vehicles. However, the major concern during the construction operation will be the control of fugitive dust during site clearing, excavation, demolition and grading operations. Fugitive dust is essentially airborne soil particles caused by heavy equipment operations entraining the soil into the air. To a lesser extent, some fugitive dust emissions will arise from wind erosion of the exposed soil after the groundcover is removed. All construction related air quality impacts will be of relatively short duration and generally not in proximity to public receptors. Construction contracts will require dust control through watering of disturbed surface areas. Disturbed areas will be required to be seeded or stabilized with stone as quickly as possible in accordance with an approved Erosion and Sedimentation Control Plan and SPDES permit. The phasing of the Project will reduce the intensity of any impacts over the 20 year construction period. The operation of light industrial uses within the HVWV Project has the potential to impact air quality. However, the specific uses for this project component have not yet been identified. Further investigation into these impacts will be addressed during the site plan review stage. The HVWV Project will be compliant with NYSDEC and USEPA regulatory programs.

C. Mitigation Measures

The results of the air quality analysis for mobile sources of air pollution associated with the HVWV Project found that each of the measures of ambient air quality, CO and $PM_{2.5,}$ were below their respective standards for each period of measurement. It was also previously noted that CO emissions rates for vehicles decreases in each future year therefore reducing CO results to below existing rates. No mitigation measures are necessary.

Under NYSDEC regulations, particular activities require air permits. Facilities established in the proposed commercial/light industrial section of this Project site would be responsible for securing any appropriate permits. Most common typical light manufacturing facilities located in the Hudson Valley are either exempt from permitting because emissions are all Trivial/Exempt, some need air Registrations, and a very limited number need State facility (Minor) or Title V (Major) permits. As an example, manufacturing facilities that construct small furnaces or kitchen/cafeteria vents or a manual welding operation would qualify for simple air registrations that may require evaporators, small strip tanks or small paint booths. Facilities emitting more than 50 tons per year of compounds like Nitrous Oxides, general VOCs or Carbon Monoxide, or five (5) tons per year of any single Hazardous Air Pollutant (HAP) or 12.5 tons per year for combinations of HAPs would require either State Facility permits or Title V facility permits. It is

unlikely any such larger facilities would locate in this business park, but even if this were to occur, permitting would be under strict control of NYSDEC.

Fugitive dust emissions resulting from construction will be mitigated in accordance with an approved Erosion and Sedimentation Control Plan and SPDES permit and by the storm water control and construction measures described in Section 3.2 and Section 3.4. Some of these measures will include a stabilized construction entrance to limit dust generation from construction vehicles entering and leaving the site and the use of water trucks to spray down disturbed surface areas,

No DGEIS thresholds are proposed by the applicant.

3.8 Cultural Resources

A. Environmental Setting

A Phase 1A Literature Review and Sensitivity Analysis and Phase 1B Archaeological Field Reconnaissance Survey was completed by CITY/SCAPE: Cultural Resource Consultants in June 2012 (see Appendix J).

Phase 1A Survey Documentation

The archaeological site files of the New York State Museum (NYSM) and the Office of Parks, Recreation, and Historic Preservation (OPRHP) were reviewed to identify whether archaeological resources were previously reported within or adjacent to the Project site. Nine archaeological sites were identified within a one-mile radius of the Project site. One of these sites, Tompkins Landing, is located on the Hudson Valley Wine Village property, while the remaining eight are of no importance to the discussion of the historic archaeological potential of the site.

Eight maps dating from 1779 to 1943 were consulted to identify the Project area and possible historic sites. All of the maps dating to the mid 19th century and later indicate the Hudson Valley Wine Village property was occupied by several families and that least one of the houses on the site may date to the early 19th or late 18th century. Blue Point Road appears on the 1854 map, but, like the houses along it, may date to a much earlier period. Tompkins Landing is not shown on any map, but the presence of the roadway, which crosses the bluff and descends to the river, supports the suggestion that the river's edge was once a landing place.

Little documentation of the 18th century use at the property has been located, but research suggests that the Project area may have been used as a lookout during the American Revolutionary War. Map research suggests that there are mid-19th century structures on the property. One of these, a house owned by several families over the years, appears to date, on the basis of architectural style, to the early 19th or perhaps 18th century. There are historic archaeological sites as well, some of which may date to before the mid 19th century. More recently, there are the many buildings associated with the Hudson Valley Wine Company operations. These buildings, which date to the years after 1904, may be considered historically important.

The Phase 1A background research and site walkover identified a stone memorial headstone located at the intersection of Old Blue Point Road and the stream that drains the central portion of the site into the Hudson River. At this location, a stone marked "Jonathan Tompkins Pvt. NY State Trps. Revolutionary War 1752-1840" was erected in 1976.

The Phase 1A survey found that the Project area contained a high probability to contain both prehistoric and historic cultural material.

Phase 1B

A Phase 1B Archaeological Field Reconnaissance Survey was performed by CITY/SCAPE: Cultural Resource Consultants to determine whether archaeological deposits and/or historic or Native American artifacts are present on the Project site. Archaeological field surveys were conducted December 2011 through February 2012 (see Appendix J).

Excluding areas of high slope, standing water, mapped wetlands, apparent disturbance, or other surface obstructions, linear transects of shovel test pits (STPs) were placed across the Project site. A total of 2,446 STPs were excavated at the Site. Details regarding the testing strategy, field methodology and field results for the STPS are provided in the archeological reports included in Appendix J. A total of five (5) historic loci and twelve (12) pre-historic loci were identified during the Phase 1B testing. (see Figure 3.8.1 Archaeological Sensitive Areas Map) A summary of the historic and prehistoric loci is provided below.

Historic Loci

Tompkins site (Tompkins and Tompkins 2) – The artifact assemblage at the Tompkins site suggests that the house was built at the end of the 18th century, and that it was continuously occupied for over 100 years. Looking at the majority of the material recovered from the Tompkins House site, 62.5 percent is classified as architectural (nails, window glass, brick and assorted hardware), 27.2 percent is associated with Food Service vessels and vessels used in Food Preparation and Food Storage, 4 percent is faunal (bone and shell) material, 5 percent is furnishing, and 1 percent is personal items.

While the amount of material recovered on the Tompkins 2 site is less than recovered on the Tompkins site, much of the material is similar in type and date.

Winery Complex – Artifacts recovered from the Winery Complex were sparse, due to the limited testing pattern. The assemblage included bottle and container glass generally not available until the late 19th century, along with whiteware, which had a date range from 1830 to the present. A small concrete square built against a small outbuilding may be a privy.

The Dubois House, southeast of the main Winery Complex, appears on the historic maps from the mid-19th century, but, based on the architecture of the house, it likely dates to the late 18th or 19th century. There have been significant additions and renovations to the Dubois House, however the original part of the house lacks integrity. Testing around the foundation yielded a sparse amount of early material, including redware and Jackfield ware (1750-1830), creamware (1780-1820) and porcelain as well as ironstone (1850-2012).

Area I – Along Blue Point Road, a white two and a half story dwelling, built between 1903 and 1943, was occupied until 2005. The material recovered around the house foundation and in the yard area consisted of 20th century tile, nails and window glass.

Area J (Lovet House) – The Lovet house, identified on the 1854 map, has been significantly remodeled. Testing of the structures yielded only modern debris.

Area L (J Young House) – A cistern likely associated with the previously demolished J. Young house was yielded several fragments of a strap sided whiskey flask.

Pre-Historic Loci

The archaeological excavations of the HVWV confirmed that Blue Point has been a magnet for human activity for far longer than the past 500 years. The most significant data recovered from the Phase 1B testing found that Blue Point was inhabited by prehistoric peoples for as long as 9,000 years and possibly as long as 10,000 years.

The Blue Point Archaeology Site was identified based on the compact nature of the prehistoric loci with specific focus around three wetlands located at the southeastern extreme of the property, bounded by the steep bluff that meets the Hudson River to the east. Contained within the larger Blue Point Archaeology Site are the following loci: the Tompkins Locus, the Tompkins 2 locus, the LeCroy 1 locus, the LeCroy 2 locus and the Area K locus including the possible quartz quarry.

Tompkins, Tompkins 2 and Area D – The Tompkins, Tompkins 2 and Area D loci are the northernmost loci on the HVWV site. Of all the loci identified on the HVWV site and within the Blue Point Archaeological site, these three loci are the furthest from the Hudson River. Three hundred and thirty eight (388) artifacts were recovered, a majority of which were debitage suggesting significant tool making on site. The range of artifacts and the long term use of the site make it one of the most significant loci at the Blue Point Archeological site.

The memorial headstone dedicated to Jonathan Tompkins (1752-1840) is located in the front yard area of the Tompkins house. It is not clear that the headstone identifies a burial. Ground Penetrating Radar (GPR) was used at the location of the Jonathon Tompkins marker to determine if there was a grave at this location as historical documents suggest. The results of the GPR found no evidence of a grave at this site. It was determined to be a cenotaph, or a monument erected in honor of Jonathon Tompkins whose remains are elsewhere.

Four Stone Knoll, LeCroy 1, and LeCroy 2 – The Four Stone Knoll, LeCroy 1 locus and LeCroy 2 locus are probably a contiguous site with sterile areas due to the exposed bedrock and moss covered terrain that was less appealing to early peoples. At the crest of a pair of knolls along the bluff overlooking the Hudson River four very large boulders were found that may have been part of a much larger stone. Nestled deep in a crack in one of the boulders a well-used hammerstone was found. Although no temporally diagnostic artifacts were recovered, a total of 278 artifacts were recovered at Four Stone Knoll.

The LeCroy 1 locus yielded a LeCroy bifurcate base point, debitage, and a hammerstone. Located 225’ south of the LeCroy 1 locus, a total of 135 artifacts were found, 27 of which are

lithic artifacts within the LeCroy 2 locus. A unique assemblage of artifacts were recovered at this loci due to their relative density and their great antiquity with date ranges from 10,000 BP to 9,000 BP and 8,300 BP. In addition, a hearth feature was found offering the potential to add to existing record of dates for the Early Archaic period.

Area K – Artifacts were discovered on the surface of this knoll with date ranges from the Early Archaic, at 9,000 BP, through the Late Archaic at 4,740 BP to Middle Woodland, at 800 AD. A total of 360 artifacts were recovered. The Area K Locus is almost certainly a continuation of the LeCroy 1 and LeCroy 2 loci.

Area C: Wetland/knoll – No diagnostic material was found, but a concentration of debitage was recovered suggesting this was the location of a prehistoric subsistence activity such as hunting.

Area C: Knoll – The small artifact assemblage found here is likely associated with the Area K loci, and may represent the western boundary of the site.

Area H – Radial confirmation tests excavating around a recovered chert biface tip proved to be sterile.

Area L - Radial confirmation tests excavating around a cluster of fire-cracked rock proved to be sterile.

Quartz Quarry – A steep ridge containing a quartz vein was found with compelling evidence of prehistoric quarrying. Three (3) crystals that were almost certainly quarried from this feature were recovered in sites to the north along the Blue Point Bluff.

B. Potential Impacts

Of the historic loci found on-site, two (Tompkins, Tompkins 2) are recommended for further testing. The HVWV Project will include the demolition of some of the existing winery structures on-site. However, these structures are not listed on the National Register of Historic Places. The Phase 1B recommended that demolition of the Dubois House/Banquet Hall be monitored and that testing be undertaken in the interior of the house foundation to gather any additional information that may be present. Eight of the eleven pre-historic loci are recommended for future testing at the level of a Supplemental Phase 1B to determine the boundaries of each locus, to determine whether additional diagnostic material may be recovered, and to determine whether the sites represent a single site or a series of discrete loci.

The HVWV Project will directly avoid impacting the pre-historic loci on site during construction and operation. During the design development stage the Project was modified to limit direct disturbance to the historic and prehistoric cultural resources as identified in the Phase 1B Reconnaissance Survey. The Project Sponsor's intent prior to the identification of these cultural resources was to construct additional single family homes along the southeastern portion of the property near the bluff. The presence of these cultural resources altered the design plan.

No residential, commercial, or industrial development is proposed in identified archaeologically sensitive areas. However, the Bluff Trail is proposed to be constructed in place of the existing trails on site which are located within archaeologically sensitive areas along the bluff line (see Figure 3.8.2 Archaeological Sensitive Areas Impacts Map). Mitigation of this impact will be accomplished through preserving these resources in their current condition. By protecting these cultural and pre-historic resources the proposed Project enables future investigations to occur.

C. Mitigation Measures

The Tuscan Village Conference Center will take into consideration the architectural themes and historic elements of the property during design and construction phases. Design guidelines for the HVWV Project have been developed that incorporate these elements (see Section 3.9).

During the design development stage the Project was modified to limit direct disturbance to the identified historic and prehistoric cultural resources. No residential, commercial, or industrial development is proposed in identified archaeologically sensitive areas. However, the construction of the Bluff Trail is proposed at the site of the existing trail which is located within archaeologically sensitive areas. Impacts to these areas are proposed to be mitigated by using extra fill on site to cover and protect areas known to have archaeological resources.

Should impacts to archaeological sensitive areas be further identified, a design mitigation strategy will be coordinated with NYSHPO and prepared during the site plan review stage for the portion of the Project with potential impacts.

No DGEIS thresholds are proposed by the applicant.

3.9 Land Use and Zoning

A. Environmental Setting

The Project site is located in the southeastern portion of the Town of Lloyd, south of Highland Hamlet at the intersection of US Route 9W and Blue Point Road. The property on which the HVWV is proposed consists of 429± acres on six (6) contiguous parcels identified as Ulster County tax map parcels 96.3-2-8, 96.3-1-29.1, 96.3-1-28, 96.3-2-21, 96.3-1-18, and 96.3-2-9.

Local Zoning

There are currently 21 zoning districts in the Town of Lloyd including:

- Eight (8) residential districts (Single Family Residence ¼ acre, Single Family Residence ½ acre, Single Family Residence one acre, Single Family Residence two acres, Trailer one acre, Trailer ½ acre, Planned Residential Development, and Traditional Neighborhood Development);
- Three (3) business districts (Central Business, Designed Business, and General Business)
- Two (2) industrial districts (Heavy Industrial and Light Industrial);
- An Agricultural District, Planned Unit Development District, Mixed Use Development District, and a Tourism/Recreation Resort Floating District); and
- Four (4) overlay districts (Agricultural Business, Adult Use, Stream Corridor, and Waterfront Bluff).

The Project site is located within the Single-Family District-1 acre (R-1, 102.3 acres) and the Single-Family District-2 acres (R-2, 326.4 acres) (see Figure 3.9.1 Existing Zoning Map). Permitted uses within these districts include Single Family Dwelling, Agriculture, Animal Husbandry, Funeral Home, Greenhouse and Nursery, Home Occupation – Class I, Conservation Area, Wildlife Refuge, Church or Place of Worship, Essential Services, and School – Public. As identified in Table 3.9.1 and Table 3.9.2, additional uses are allowed by special permit, some requiring site plan approval.

Table 3.9.1, Schedule of Permitted Uses in R-1 District	
Permitted Use	**Special Permitted Use**
Single Family Dwelling	Two Family Dwelling*
Agriculture	Accessory Apartment, existing structure
Animal Husbandry	Accessory Apartment, new accessory structure*
Funeral Home	Continuing care retirement community*
Greenhouse and Nursery*	Nursing home*
Home Occupation – Class I	Bed-and-Breakfast
Conservation Area	Day care, adult*
Golf Course or country club*	Day care center*
Park, playground or other public recreation facility	Family home day care*
Wildlife Refuge	Home Occupation – Class II*
Church or Place of Worship*	Special uses for historic structures*
Essential Services*	Commercial timber harvesting
School, Public*	Recreational business*
	Cemetery*
	Civic youth center*
	Club*
	Hospital*
	Library or Museum*
	School, private*
** Site Plan approval required* *Source: Town of Lloyd Zoning Code, Use Table*	

Table 3.9.2, Schedule of Permitted Uses in R-2 District	
Permitted Use	**Special Permitted Use**
Single Family Dwelling	Two Family Dwelling*
Agriculture	Accessory Apartment, existing structure
Animal Husbandry	Accessory Apartment, new accessory structure*
Funeral Home	Continuing care retirement community*
Greenhouse and Nursery*	Nursing home*
Home Occupation – Class I	Bed-and-Breakfast
Conservation Area	Day care, adult*
Golf Course or country club*	Day care center*
Park, playground or other public recreation facility	Family home day care*
Wildlife Refuge	Home Occupation – Class II*
Church or Place of Worship*	Special uses for historic structures*
Essential Services*	Commercial timber harvesting
School, Public*	Recreational business*
	Civic youth center*
	Club*
	Hospital*
	Library or Museum*
	School, private*
** Site Plan approval required* *Source: Town of Lloyd Zoning Code, Use Table*	

Area and bulk requirements for the R-1 and R-2 Zoning Districts are defined by the Lloyd Zoning Code as shown in Table 3.9.3 below. The minimum lot area for the R-2 district is two (2) acres, and in the R-1 district it is one (1) acre. Within both of these zoning districts the maximum lot coverage is 10 percent, the maximum building coverage is eight (8) percent, and the maximum building height is 35 feet.

Table 3.9.3 Dimensional Table for R-1 and R-2 Districts

	R-1 Zoning District	**R-2 Zoning District**
Minimum lot area	1 acre/du	2 acres/du
Minimum lot width	150 feet	150 feet
Minimum lot depth	--	--
Minimum required yard setbacks: Front	30 feet	30 feet
Side (One/Both)	15/50 feet	35/100 feet
Rear	30 feet	30 feet
Maximum building height	35 feet	35 feet
Maximum building coverage	8%	8%
Maximum lot coverage	10%	10%

Source: Town of Lloyd Zoning Code, Dimensional Table

The Waterfront Bluff Overlay District (WBOD) was established to afford priority to waterfront-compatible, well-designed uses and to control development in ways that protect and enhance the Hudson River waterfront's natural, scenic and cultural resources. The boundary of this district is established at the Town's easternmost boundary located within the Hudson River to a distance of 100 west of the bluff line which is defined as the line at the top bluff, cliff, or steep slope rising from the Hudson River shoreline, or at the upper elevational limit of a slope of 20 percent or more above the Hudson River. The zone requires that development proposals be examined during site plan review for vegetative cover, building height and setback of buildings, the location of other structures, site clearance, building materials and color, the visual impact of rooflines, and construction of drainage, erosion/siltation control structures.

A conventional subdivision yield analysis determined a total of 264 dwelling units could be developed on the HVWV Project site under existing zoning without giving consideration to unbuildable area. Based on the Town's description of unbuildable area within the Town Code, a total of 58 minimum one acre residential lots could be developed within the R-1 district, and 89 minimum two acre lots could be built within the R-2 district based on existing conditions. Therefore, unbuildable acreage accounts for a total of 117 dwelling units.

Local Land Use

Figure 3.9.2 Existing Land Use Map illustrates land uses in the vicinity of the Project site, according to Real Property Class Code data obtained from Ulster County Real Property Tax Service Agency. As shown, land uses surrounding the Project site are varied and primarily include a mix of residential, agricultural, and vacant land. Most of the residential uses within the area are one or two story single-family residences of various styles. There are two (2) single-family subdivisions to the north of the Project site, a 30 lot subdivision along Macks Lane and a 150 lot subdivision along Mayer Drive. A number of industrial uses can be found south of the Project site including Sono-Tek Corporation and Brooklyn Bottling.

The Town of Lloyd's commercial center is located approximately one (1) mile north of the Project Site. Bridgeview Plaza on South Roberts Road has approximately 140,000 SF of commercial uses including: Hannaford, Tractor Supply Company, the Academy of Performing Arts, Compass Group Northeast LLC, as well as numerous other retail and service oriented businesses. Other commercial uses in the area and along US Route 9W are smaller in nature. Businesses along US Route 9W near the Project site include: auto sales, car repair, convenience stores, shed sales, antique furniture store, and a pizza place.

The Hamlet of Highland is located approximately two (2) miles to the north of the site and is comprised of uses typical of a village center, including higher density residential uses, commercial uses, and community and public services uses. New York State Route 9W runs north-south through the hamlet. The Lloyd Town Hall and Highland Elementary and Middle Schools are located within the Hamlet, as are several small businesses, churches, and local establishments. In 2011 Camoin Associates and Barton & Loguidice completed the Highland Hamlet Development Analysis and Action Plan for the Town of Lloyd. The plan describes the downtown business district as having experienced a period of disinvestment which has created vacant storefronts, reduced property values, and reduced retail opportunities for residents.

The City of Poughkeepsie is due east from the Project site across the Hudson River. Uses visible from the Project site include: Vassar Brothers Medical Center, Health Quests Systems, Central Hudson Employee Federal Credit Union, the Poughkeepsie Rural Cemetery, as well as a number of industrial uses along the shores of the Hudson River.

Town of Lloyd 2013 Comprehensive Plan

The Town of Lloyd has updated the 2005 Comprehensive Plan. The Town's vision statement has been updated to promote encouraging commercial development that enhances the tax base without detracting from the historic settlement patterns and desired quality of life. The nine (9) goals identified in the plan were also updated, and they include:

1. Preserve Rural Character and Enhance Quality of Life

2. Balance Lloyd's Growth with its Rural Character, While Enhancing the Quality of Life for Residents
3. Bring Life and Commerce back to the Town Center
4. Maintain Agriculture as an Important Economic Activity that Contributes to the Community Character
5. Enhance the Efficiency and Safety of the Town's Transportation Network and Preserve the Scenic Quality of Rural Roads
6. Protect and Enhance the Quality of the Town's Natural, Cultural, and Historical Resources
7. Encourage Economic Development to Provide Products and Services, Enhance Cultural Opportunity, Grow the Tax Base, Promote Employment, and Foster Entrepreneurial and Business Opportunities Consistent with Lloyd's Sense of Balance and Desired Quality of Life
8. Develop a Comprehensive Expansion Plan for the Town's Municipal Water, Sewer, and Drainage Systems
9. Encourage Implementation of the Recreation Commission's Five Year Strategic Planning Document that Addresses the Growing Demand for Services and Facilities

While many of these goals are similar to those in the 2005 Comprehensive Plan, there is an increased emphasis on balancing growth, bringing life and commerce back to the Town Center, and encouraging economic development. The Comprehensive Plan further promotes concentrated mixed use development, design guidelines, and development where adequate water and wastewater infrastructure exists. It specifically identifies the conceptual plan for the Winery property and the potential for extending municipal water south on Route 9W to the Marlborough border as a means to encourage commercial and light industrial uses along the Route 9W corridor The Plan also promotes the creation of walkable and bikeable neighborhoods and the extension of the ridge trail southward with the cooperation of property owners.

Town of Lloyd Local Waterfront Revitalization Program

The entire Project site is within the boundaries of the New York State Coastal Area and the Town of Lloyd Local Waterfront Revitalization Area (LWRA) which are established in accordance with Article 42 of the NYS Executive Law. The Local Waterfront Revitalization Plan (LWRP), adopted in 1994, promotes economic development and revitalization of the Town's local waterfront revitalization area while assuring the protection and beneficial use of coastal resources therein. The LWRP further provides policy guidelines for the Lloyd riverfront to guide future land use decisions along the Lloyd waterfront and to identify environmental, aesthetic, and other factors that need special attention when any significant changes along the town's waterfront are proposed. The LWRP was developed as a part of the New York State Coastal

Management Program (CMP), which the New York Department of State's Division of Coastal Resources oversees and which itself was developed to further the goals of the Federal Coastal Zone Management Act. The LWRP contains:

- An overall inventory and analysis;
- Forty four policies from the state program which are tailored to the particular circumstances of the Town;
- Proposed land and water uses and proposed Projects;
- Identification of techniques for implementation of the LWRP; and
- Consistency review procedures for state and federal actions, among other elements.

The following is a summary of the LWRP's elements as they relate to the proposed Project:

Inventory and Analysis Element

Existing Land Use and Water Uses - The Town's LWRP states that orchards and vineyards in the Waterfront Area and area to the west were part of an active agriculture industry in the Town of Lloyd. However, few lands are under active cultivation in the Waterfront Area and those that are lie within the designated Agricultural Districts. Various factors have contributed to the fluctuating market conditions which are reducing the economic viability of agriculture and resulting in the abandonment of cultivated lands or their conversion to other uses. Many orchards west of the Waterfront Area are inactive or planned for residential development.

U.S. Route 9W is the primary north-south transportation corridor through the Town, providing access to the City of Kingston to the north and the City of Newburgh and Route I-84 to the south. Since Route 9W is the main artery through Lloyd, it is important that the town strongly pursue the improvement of vehicular and pedestrian access to the waterfront from Route 9W whenever possible.

Most of the land area within the town's Waterfront Area is R-2, 2 acre single-family residential. This zoning pattern is consistent with the area's lack of potential for water-dependent development due to the railroad tracks and steep slopes which preclude public access; it permits residential development which may take advantage of scenic views and limits commercial development on the bluffs.

Significant Habitats and Wetlands - The wooded bluffs of the Hudson River, according to the LWRP, are known to be roosting sites for the "endangered" bald eagle, "threatened" osprey, and the "endangered" peregrine falcon that formerly nested on the rocky bluffs. The bluffs also provide habitat and den sites for several snake species, including Copperheads (poisonous), and black racers (non-poisonous). A reptile survey completed in 1987 identified many snake species and den sites on the bluffs south of the Mid-Hudson Bridge to Blue Point.

Cultural and Historic Resources - The Town of Lloyd, particularly in the shoreline cove areas, is rich in archaeological resources, despite minimal exploration in the waterfront area. A State inventory of known archaeological sites compiled by the NYS Office of Parks, Recreation, and Historic Preservation indicates one site in the waterfront area in the vicinity of Blue Point. The exact location of known sites is kept confidential to protect them from vandalism.

The Town's LWRP mentions the settlement of Blue Point where Tompkins, Conklin and a few others built homes. It also notes the Bologenesi Winery at Blue Point appeared years later well up on top of the bluff from the first homes. A solitary marker may be seen along with an old cellar hole here, evidence of the original settlement.

Scenic Resources - The Town's LWRP mentions the exceptional views of the Mid-Hudson Bridge and the Town and City of Poughkeepsie from the private picnic area at the Hudson Valley Winery. It also recognizes the Town of Lloyd's waterfront in the Esopus/Lloyd Scenic Area of Statewide Significance (SASS) which encompasses a 17 mile stretch of the Hudson River and its shorelines. The NYSDOS Office of Communities and Waterfronts has a scenic assessment program that identifies the scenic qualities of coastal landscapes, evaluates them against criteria for determining aesthetic significance, and recommends areas for designation as Scenic Areas of Statewide Significance (SASS). SASS designation protects scenic landscapes through review of projects requiring State or federal actions.

The Project is located in the Blue Point sub-unit of the Esopus/Lloyd SASS which is of statewide aesthetic significance by virtue of the combined aesthetic values of landscape character, uniqueness, public accessibility and public recognition. The Blue Point sub-unit has a variety of positive scenic components including historic estates, vineyards, and orchards. The sub-unit offers full, unobstructed views of the Hudson River of five (5) miles or more as well as of the Catskill Mountains to the west. Views across the Hudson River include parts of the Estates District SASS and the Town of Poughkeepsie. The LWRP notes that recent residential development on the ridgeline of the bluffs has resulted in clear cutting and that this type of development has a negative impact on the scenic quality and needs to be reviewed carefully to protect the resource.

Following the Inventory and Analysis Element, the Town of Lloyd LWRP's State and Local Policies are listed with explanations of the policies. They are discussed within Section 3.9.B, Potential Impacts.

<u>Proposed Land and Water Uses and Proposed Project Elements</u>

This element of the LWRP identifies land use and proposed public and private projects that were developed to:

- Improve public access to the Hudson River;
- Improve recreational opportunities;

- Protect scenic resources;
- Revitalize underutilized waterfront areas;
- Identify and protect sensitive natural and cultural resources; and
- Enhance the scenic quality of the Esopus/Lloyd SASS.

None of the sites listed in this section of the Town's LWRP includes the subject site. Proposed projects within this section of the LWRP primarily recommended further planning and zoning work to be completed in the Town. More specifically, they included: a Waterfront Bluffs Overlay District, which has since been completed, Hudson River Access Feasibility Study, Parks and Recreation Plan, and Highland Landing Revitalization, which is currently underway at the Highland Landing Park.

Techniques for Local Implementation Element

This element of the LWRP describes legal, administrative, managerial and financial techniques required for implementation. The WBOD was adopted as a means of protecting the significant aesthetic and natural resources of the area including the bluff overlooking the Hudson River which includes the HVWV Project site.

The Town also revised the Subdivision checklist as well as the Site Plan checklist to address consistency with the LWRP and the WBOD. A Waterfront Consistency Review Law was also adopted by which all potentially significant actions in the Waterfront Area are evaluated for consistency with the LWRP. Discussion of the HVWV Project's consistency with this law is found in Section 3.9.B below.

Hudson River Valley Greenway

The Town of Lloyd is a Greenway Community within the Hudson River Valley Greenway (HRVG). The HRVG is a state sponsored program created to facilitate the development of a regional strategy for preserving scenic, natural, historic, cultural and recreational resources while encouraging compatible economic development and maintaining the tradition of home rule for land use decision-making. In 1996 the Town passed a resolution in support of the HRVG's vision for local programs and projects, which are framed by five (5) criteria. These criteria include:

- Natural and Cultural Resource Protection - Protect, preserve and enhance natural resources including natural communities, open spaces and scenic areas as well as cultural resources including historic places and scenic roads.
- Economic Development - Encourage economic development that is compatible with the preservation and enhancement of natural and cultural resources including agriculture, tourism and the revitalization of established community centers and waterfronts.

- Public Access - Promote increased public access to the Hudson River through the creation of riverside parks and the development of the Hudson River Valley Greenway Trail System.
- Regional Planning - Communities can work together to develop mutually beneficial regional strategies for natural and cultural resource protection, economic development (including necessary public facilities and infrastructure), public access and heritage and environmental education
- Heritage and Environmental Education - Promote awareness among residents and visitors about the Valley's natural, cultural, scenic and historic resources

The general nature of the Greenway criteria allows communities to develop locally-based projects which address community concerns while contributing to the overall framework of the Hudson River Valley Greenway. A number of projects have been funded by HRVG in partnership within the Town of Lloyd. These projects include: Updates to the Master Plan (1998), Black Creek Water Trail Study (2003), Highland Landing Park Trail Development (2008), Bob Shepard Highland Landing Park Water Trail Site (2008), and Black Creek Access for Canoes and Kayaks (2012).

B. Potential Impacts

Town of Lloyd 2013 Comprehensive Plan

The HVWV Project is consistent with the goals set forth in the Comprehensive Plan. The concentrated development plan promotes multiple types of housing in a neighborhood setting that is accessible to bicycle and pedestrian networks linked to existing recreational resources. The Project further aims to protect the bluff and significant environmental resources while promoting light industrial and commercial uses along the Route 9W corridor. The Project incorporates rehabilitation of winery buildings for commercial/office uses and promotes extension of water services southward on Route 9W and will incorporate the development of a new wastewater treatment plant.

Proposed Zoning Districts

The Project Sponsor proposes the creation of three new zoning districts: the Blue Point Commercial District (BPC) (110 acres), the Blue Point Industrial District (BPI) (65 acres) and the Blue Point Multi-Family District (BPMF) (212 acres). In addition, the Project Sponsor also proposes to rezone a portion of the property into the existing General Business District (5 acres) (see Figure 3.9.3 Proposed Zoning Map). Allowed Uses, Bulk Regulations and Design Standards for the New Districts and Rezoned areas are set forth in more detail in Appendix L.

Certain areas around the periphery of the HVWV Project site will not be rezoned. This area is a distance of 101 feet from the property boundary that will retain the existing zoning in those

areas (i.e. R-1 or R-2). This is being done to create a buffer between the existing uses and the proposed new zoning districts. (see Figure 3.9.3 Proposed Zoning Map).

The rezoning of the Project site allows the HVWV property to be developed in such a way as to provide a maximum variety of housing types and densities, encourage job supporting and tax producing development, and increase the range of services and facilities available to serve the Town's present and future populations. The intent of the new zoning districts is as follows:

The Blue Point Commercial District (BPC) is the cultural, commercial and tourism hub of the Project area. The enhancement and preservation of the existing character of the buildings/structures will be an essential element of this new community, along with integrated new construction. The development of the land will include a mixture of designated land uses and would encourage job-supporting and tax producing new development in accordance with the Blue Point Overlay District Design Standards. Permitted uses in the BPC District are shown in the Table 3.9.4 below:

Table 3.9.4, Schedule of Permitted Uses in Blue Point Commercial (BPC) District

Permitted Use	Special Permitted Use
Craft or artist workshops & studios.*	Two Family Dwelling*
Professional Offices*	Townhouses*
Retail Businesses*	Low-rise multi-family*
Service Businesses*	Condominiums*
Medical or dental clinic or group offices*	Church or Place of Worship*
Museums*	Hospital*
Hotels*	Day care, adult*
Lodging Facilities*	Nursing home*
Conference Centers*	School, private*
Spa Facilities / Health Clubs*	School, Public*
Work/Live establishments*	Colleges & Universities
Restaurants*	Dormitories & associated dining facilities
Essential Services*	Club*
Park, playground or other public recreation facility	Library*
Day care center*	
Recreational business*	
** Site Plan approval required*	

The Blue Point Industrial District (BPI) is configured to accommodate manufacturing, assembly, treatment, processing, packaging and storage of a wide range of products that do not generate objectionable levels of smoke, noise, dust, odor, glare, or vibration beyond the district boundaries. The public approaches to this district shall be sufficiently landscaped and screened to limit the visual impact of the industrial uses therein. It is intended that the development produce limited impact on the environment, and that such impact be contained within the district. Therefore the impact on the neighboring properties and the other zoning districts

within the Blue Point Overlay District will also be limited. Permitted uses in the BPI District are shown in the Table 3.9.5 below:

Table 3.9.5, Schedule of Permitted Uses in Blue Point Industrial (BPI) District	
Permitted Use	**Special Permitted Use**
Light Industry	Kennels
Professional Offices*	Veterinary Office or Veterinary Hospital
Bakeries, wholesale*	Telecommunications Facilities
Health Club*	Hospital*
Indoor & Outdoor Recreation*	Nursing home*
Restaurants*	School, private*
Essential Services*	School, Public*
	Colleges & Universities
Medical or dental clinic or group offices	Dormitories & associated dining facilities
	Church or Place of Worship*
** Site Plan approval required*	

The BPMF District is intended to encourage flexibility and innovation in land use in regards to various styles of residential development. Through careful planning, such districts will provide for the best use of the site consistent with the goals of protecting and embracing the natural environment. At the same time, it is intended that projects within any planned district provide a compatible blending with surrounding developments, minimizing such negative impacts as land use conflicts, traffic congestion, and excessive demands on existing or proposed public facilities. To the extent possible, the use of open space preservation techniques; such as clustering of homes and dwelling structures, is encouraged for the undeveloped land within this district which is available for major subdivision. The purpose for this is to establish links to existing open space areas which exist throughout the site.

The uses allowed in the BPMF are the same as those allowed in the R-1/2 and R-1/4 Districts with the addition of Neighborhood Commercial Uses. The uses allowed in the BPMF District are shown in the Table 3.9.6 below:

Table 3.9.6, Schedule of Permitted Uses in the Blue Point Multi-Family (BPMF) District	
Permitted Use	**Special Permitted Use**
Single Family Dwelling	Continuing care retirement community*
Two Family Dwelling*	Nursing home*
Townhouse*	Family home day care*
Condominium*	Home Occupation – Class II*
Multi-family*	Special uses for historic structures*
Home Occupation – Class I	Recreational business*
Conservation Area	Civic youth center*
Park, playground or other public recreation facility	Club*
Wildlife Refuge	Library or Museum*

Church or Place of Worship*	School, private*
Essential Services*	Bed-and-Breakfast
School, Public*	Neighborhood Commercial Uses
Agriculture	
** Site Plan approval required*	

The Bulk Regulations for the new Zoning Districts are set forth briefly in Table 3.9.7 below and are further described in Appendix L.

Table 3.9.7 Dimensional Table for Proposed Blue Point Districts

	BPC District	**BPI District**	**BPMF District (Multifamily)**	**BPMF District (Single Family)**
Minimum Lot Size	2,500 sq ft	1 acre	10 du/acre	10 du/acre
Minimum lot width	25 feet	150 feet	150 feet	85 feet
Minimum lot depth	--	--	---	---
Minimum required yard setbacks: Front	10 feet	25 feet	50 feet	30 feet
Side (One/Both)	None	35 feet	None	15/50 feet
Rear	10 feet	25 feet	None	30 feet
Maximum building height	45 feet	45 feet	45 feet	40 feet
Maximum building coverage	---	8%	40%	35%
Maximum lot coverage	70%	10%	55%	45%

Form based zoning rather than traditional zoning is intended for use in the Blue Point Commercial and Multifamily Districts. Traditional zoning setbacks are not intended for use in these districts. Zero lot line buildings are encouraged to create a typical village streetscape that encourages the creation of a walkable community.

LWRP Consistency

The proposed HVWV Project is consistent with the Town of Lloyd LWRP and promotes its underlying goals of redeveloping deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational and other compatible uses while promoting access to the waterfront (see Appendix K and Table 3.9.8).

Hudson River Valley Greenway

The HVWV Project is consistent with the HRVG criteria in the following ways.

- Natural and Cultural Resource Protection - The Project preserves 60 percent of the site, including 77 acres of the bluff and archaeologically sensitive areas. The Project also aims to rehabilitate six of the existing HVWV buildings.

Table 3.9.4- Applicability and Compliance with Town LWRP		
Policy	**Policy Summary**	**Project Applicability or Conformity**
Development Policies		
1	Restore, revitalize and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational and other compatible uses.	Proposed project implements this policy.
1A	Revitalize and redevelop Highland Landing with appropriate water-dependent or enhanced uses.	Not applicable
1B	Revitalize and redevelop the area surrounding the former Columbia Boathouse as a potential site for access to and from the river.	Not applicable
1C	Identify and promote a Highland "waterfront" to increase awareness and enjoyment of the river by both residents and visitors to the town.	Not applicable
1D	Ensure the maximum benefit from a New Hudson River Bridge with a terminus in the Town of Lloyd.	Not applicable
2	Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.	Although the project site has frontage on the Hudson River, implementation of the is policy is not practical due to terrain considerations.
3	The State Coastal Policy regarding development of major ports is not applicable in the Town of Lloyd.	Not applicable
4	The State Coastal Policy regarding the strengthening of small harbor areas is not applicable to the Town of Lloyd.	Not applicable
5	Encourage the location of development in areas where public services and facilities are adequate.	The proposed project will utilize an on-site wastewater treatment plant and will therefore make no demand on this service. The project will involve the extension of public water facilities of which there is adequate capacity to service the project. Similarly, there is adequate public utilities service to meet the needs of the project.
6	Expedite permit procedures.	An expedited process should be considered given the proposed project's consistency with the Town LWRP.
6A	Develop performance standards to clearly articulate requirements for development within the waterfront area and along the bluffs.	The proposed project complies with this policy.
Fish and Wildlife Policies		
7	Significant coastal fish and wildlife habitats shall be protected, preserved, or restored.	The proposed project is adjacent to a significant coastal fish and wildlife habitat. However, no habitats will be impacted as a result of the project. The proposed project complies with this policy.
7A	Protect and preserve the viability of the Poughkeepsie Deep Water Habitat and the Shortnose Sturgeon, which is considered and endangered species.	Not applicable
7B	Protect, preserve and enhance the wooded bluffs of the Hudson River Shore.	The proposed project implements this policy through preservation along the bluff line.
8	Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants.	The proposed project complies with this policy.
8A	Protect fish and wildlife resources in the waterfront area from any possible hazardous wastes and other pollutants.	The proposed project complies with this policy. The proposed wastewater treatment plant discharge will meet state treatment standards.
9	Expand recreational use of fish and wildlife resources in coastal areas.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
9A	Ensure continued public access to the river and the possibility for recreational fishing.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
9B	Encourage the passive recreational enjoyment of the wildlife, especially birds, present along the bluff area.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
10	Further develop commercial finfish, shellfish and crustacean resources in the coastal area.	Not applicable
10A	Encourage the development of commercial shad fishing.	Not applicable
Flooding and Erosion Policies		
11	Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.	The proposed project implements this policy as no buildings or structures will be located within 100 year flood zones as identified by National Flood Insurance Program Flood Insurance Rate Map (FIRM), for Ulster County, New York.
12	Minimize damage to natural resources and property from flooding and erosion as a result of activities or development in the Coastal Area.	The proposed project will not increase erosion or flooding at the project site. An erosion and sediment control plan will be implemented prior to and during construction.
13	Construction or reconstruction of erosion protection structures shall control erosion for at least 30 years.	The proposed project complies with this policy. Erosion and sediment control structures will be maintained in perpetuity by the homeowner's association.
13A	Maintain the bulkheads along the Hudson River and require private landowners and the Conrail Corporation to restore and maintain erosion control mechanisms along their river frontage.	Not applicable
14	Activities or development undertaken will cause no measurable increase in erosion or flooding.	The proposed project will not increase erosion or flooding at the project site. An erosion and sediment control plan will be implemented prior to and during construction.
14A	Construction activities will cause no measurable increase in erosion or flooding.	The proposed project will not increase erosion or flooding at the project site. An erosion and sediment control plan will be implemented prior to and during construction.
15	Mining, excavation or dredging shall not significantly interfere with the natural coastal processes.	Not applicable
16	Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development.	Not applicable
17	Whenever possible, use non-structural measures to minimize damage to natural resources and property from flooding and erosion.	The proposed project complies with this policy because construction is not proposed along the bluff line.
17A	Whenever possible, efforts to control erosion along the bluff line and the steep slopes rising from the Hudson River shall be of a non-structural nature.	Not applicable

Table 3.9.4- Applicability and Compliance with Town LWRP		
Policy	**Policy Summary**	**Project Applicability or Conformity**
General Development Policies		
18	Proposed major actions in the coastal area must give full consideration to economic, social and environmental interests of the state and its citizens.	The proposed project implements this policy by redeveloping a property that has not been operated in over 20 years to provide a variety of housing types, retail and tourism opportunities, and significant employment opportunities.
18A	Safeguard the vital economic, social and environmental interests of the Town of Lloyd and its citizens in the evaluation of any proposal for an additional Hudson River crossing - either a new bridge or second deck - which would impact the town.	Not applicable
Public Access Policies		
19	Protect, maintain, and increase the level and types of access to public water-related recreation resources and facilities.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
19A	Increase the access to, and enjoyment of, the walkways of the Mid-Hudson Bridge and revitalize Johnson Iorio Memorial Park.	Not applicable
19B	Consider and evaluate increased access to publicly owned land and the river during the planning and construction of a second Hudson River bridge with a terminus in the Town of Lloyd.	Not applicable
20	Provide access to the publicly-owned foreshore and to lands immediately adjacent to the foreshore or the water's edge.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
20A	Improve access across the railroad tracks owned by Conrail to the river and the water's edge and to the areas east of the tracks at Highland Landing and the former Columbia Boathouse.	Not applicable
20B	Lands under the waters of the Hudson River currently under public ownership and adjacent to the publicly owned foreshore or the water's edge should remain in public ownership.	Not applicable
Recreation Policies		
21	Water dependent and water enhanced recreation will be encouraged and facilitated.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
21A	Facilitate continued access to, and use of, the land east of the railroad track at Highland Landing and at the former Columbia Boathouse for water-dependent and water enhanced recreation.	Not applicable
21B	Increase the public water-related recreation resources and facilities of the Town.	The proposed project implements this policy through a public-access walking trail connecting to Franny Reese State Park and the Hudson River shoreline.
21C	Encourage passive recreational facilities and activities along the bluff line and immediate upland areas. Mixed-use and multi-residential development shall be encouraged to balance public recreational needs and residential development which is considered water-enhanced.	The proposed project implements this policy through a public-access walking trail and through mixed-use and multi-use residential development.
22	Development, when located adjacent to the shore, will provide for water-related recreation.	Not applicable, no development is proposed adjacent to the shore.
22A	The future development of the former Columbia Boathouse site shall provide for water-related recreation as either a primary or multiple use.	Not applicable
22B	Development along the bluff line and upland area of the waterfront area shall provide for mixed or multiple uses to allow for water-enhanced passive recreational uses.	The proposed project implements this policy by incorporating mixed and multiple uses and by incorporating a public-access walking trail.
Historic and Scenic Resources Policies		
23	Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the state, its communities, or the nations.	The proposed project complies with this policy by protecting important archaeological resources.
23A	Protect, and preserve historic land use patterns which contribute to the identity and attraction of the Highland Area and its waterfront.	Not applicable
24	Prevent Impairment of scenic resources of statewide significance, as identified on the Coastal Area Map.	The proposed project complies with this policy by limiting development to the footprint of the existing historic Winery Building Complex which is already visible within the Esopus Lloyd Scenic Area of Statewide Significance.
24A	Prevent impairment of the Esopus/Lloyd and Estates District Scenic Areas of statewide significance.	The proposed project complies with this policy by limiting development to the footprint of the existing historic Winery Building Complex which is already visible within the Esopus Lloyd Scenic Area of Statewide Significance.
25	Protect, restore or enhance natural and man-made resources which contribute to the overall quality of the coastal area.	The proposed project complies with this policy by protecting the bluff above the Hudson River.
25A	Protect, restore and enhance the scenic quality of the wooded bluffs and upland area of the town's entire waterfront, especially the area from the Mid-Hudson Bridge South to Blue Point.	The proposed project complies with this policy by protecting the bluff above the Hudson River.
Agricultural Policies		
26	Conserve and protect agricultural land.	Not applicable

Table 3.9.4- Applicability and Compliance with Town LWRP		
Policy	**Policy Summary**	**Project Applicability or Conformity**
Energy and Ice Management Policies		
27	Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.	Not applicable
28	Ice management practices shall not damage significant fish and wildlife and their habitats, increase shoreline erosion or flooding or interfere with the production of hydroelectric power.	Not applicable
29	The State Coastal Policy regarding development of energy resources on the Outer Continental Shelf is not applicable to the Town of Lloyd.	Not applicable
Water and Air Resources Policies		
30	Municipal, industrial, and commercial discharge of pollutants will conform to State and National Water Quality Standards.	The proposed project will comply with all state and national water quality standards.
31	State Coastal Area Policies and purposes of approved LWRP will be considered while reviewing Coastal Water Classification and while modifying water quality standards.	Not applicable
32	Encourage the use of alternative or innovative sanitary waste systems where costs of conventional facilities are unreasonably high.	Not applicable because the cost of a conventional system is not unreasonably high.
33	Best management practices will be used to control storm water runoff and combined sewer overflows.	The proposed project will comply with this policy.
34	Discharge of waste materials from vessels will be limited.	Not applicable
35	Dredging and dredge spoil disposal will meets existing state dredging permit requirements.	Not applicable
35A	Spoils from dredging shall not be disposed of in the Poughkeepsie Deepwater Habitat.	Not applicable
36	Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters.	Not applicable
37	Best management practices will be utilized to minimize non-point discharges.	The proposed project will employ best management practices to minimize nonpoint discharges through implementation of a Stormwater Pollution Prevention Plan.
38	Conserve and protect the quality and quantity of surface water and ground water supplies.	The proposed project will comply with this policy.
39	The transport, storage, treatment and disposal of solid wastes within coastal areas will be conducted in such a manner so as to protect ground water and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural lands, and scenic resources.	Solid waste from the project will be transported off-site for disposal.
40	Effluent discharged from major steam electric generating and industrial facilities into coastal water will conform to state water quality standards.	Not applicable
41	Land use or development in the coastal area will not cause national or state air quality standards to be violated.	The proposed project will not violate state or national air quality standards.
42	Coastal management policies will be considered if the state reclassifies land areas pursuant to the prevention of significant deterioration regulation of the federal clean air act.	Not applicable
43	Land use development in the coastal area must not cause the generation of significant amounts of the acid rain precursors: nitrates and sulfates.	The proposed project will not generate acid rain precursors.
44	Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.	The proposed project will impact 0.86 acres of wetland. Mitigations is proposed for this impact.

- Economic Development – The HVWV Project will have significant economic benefits in terms of an increase in employment opportunities, real property tax revenue, sales tax revenue, tourism spending, and spin-off businesses.
- Public Access - The HVWV Project will provide the Town of Lloyd with additional recreational opportunities through the development of 5.5 miles of trails linking the HVWV Project site to Franny Reese State Park to the north, and the Hudson River to the east.
- Regional Planning – The HVWV Project will have regional economic, open space, infrastructure, and public access benefits.
- Heritage and Environmental Education – The HVWV Project will incorporate the site's history, including pre-history, in the Tuscan Village and within the interpretive signage located within the site's trail system.

Public Access

A network of trails is proposed to be built along the bluff line of the HVWV Project site. One trail link will connect to the White Trail (also known as the Ridgeline Trail) in Franny Reese State Park to the north of the HVWV Project site, and the second will descend the bluff to a lookout at the shores of the Hudson River. Part of the trail will be built on an existing foot trail within the Waterfront Bluff Overlay District (WBOD). The WBOD restricts development within 100 feet of the bluff line. In addition, part of the trail network will be located within the 101 foot buffer that follows a portion of the perimeter of the property. The Project Sponsor will retain ownership of the trail system unless it is determined that the trail would be better suited to be owned by the Town or another agency. As such, the Project Sponsor will be responsible for ongoing management of the trail network.

The trails will be built with sufficient width and site distance to foster safe pedestrian activities. Some trails will be evaluated for bicycling use. A total of 5.5 miles of public trails will be built as part of this project to expand the regional trail network and provide greater public access to recreational, cultural, and historic resources. A 28 space parking lot will also be constructed to provide access to this recreational amenity. A conservation easement or other appropriate legal mechanism will be placed upon approximately 77 acres of property on the bluff on the eastern portion of the site overlooking the Hudson River to restrict development of this important scenic viewshed. The development restrictions will comply with the provisions set forth at Section 100-34(E) of the Town Zoning Code or an equivalent method approved by the Town. Development within this Waterfront Bluff Overlay District will be limited to the location of the existing winery structures towards the northern end of the site. In addition to the conservation and environmental benefits, limiting development within the Waterfront Bluff Overlay District will ensure the character of the site remains intact for views across the Hudson River.

C. Mitigation Measures

No DGEIS thresholds are proposed by the applicant.

Comprehensive Plan

No amendments to the 2013 Comprehensive Plan are proposed. The HVWV Project advances a number of goals set forth Comprehensive Plan Update as described in this section. Mitigation measures are therefore not necessary.

Zoning Update – Blue Point Overlay District

The Project Sponsor proposes the creation of three new zoning districts: the Blue Point Commercial District (BPC), the Blue Point Industrial District (BPI) and the Blue Point Multi-Family District (BPMF). The establishment of these districts allows for the HVWV property to be developed in such a way as to provide a maximum variety of housing types and densities, encourage job supporting and tax producing development, and increase the range of services and facilities available to serve the Town's present and future populations. Bulk regulations identifying the district's purpose, allowable uses, special permitted uses, general provisions, characteristics, and bulk requirements can be found within Appendix L.

Design Guidelines

Design guidelines have been prepared to provide clear and useful architectural standards for the design, construction, review and approval of growth in the Blue Point Overlay District (see Appendix L). These guidelines will help insure that new buildings are compatible with either the Town of Lloyd's vernacular architecture, the character of the "Tuscan Village" or the rural traditions of American architecture. The design guidelines further address architectural standards for each of the proposed zoning districts and identify site planning, planting areas, and building design requirements.

3.10 Visual Character

This section describes the existing site conditions and natural and built features contributing to the visual quality of the site and its surrounding environment. This section also provides an analysis of project's potential visual impacts, changes to the existing visual character and visual quality as a result of the proposed action, and describes mitigation measures, where necessary.

A. Environmental Setting

The HVWV Project site is situated along the western shores of the Hudson River in the Town of Lloyd at the intersection of US Route 9W and Blue Point Road. The majority of the site is undeveloped with the exception of a number of structures associated with the Hudson Valley Wine Company. Views from the HVWV Project site look east across the Hudson River to the City of Poughkeepsie which is a dense urban environment that provides commercial and cultural amenities at a regional level. The HVWV Project site is located within the Blue Point Sub-unit of the Esopus Lloyd SASS and across the river from the Estates District SASS.

Existing structures on the HVWV Project site are not visible from the US Route 9W corridor due to existing tree lines, topography and the location of the structures. Approximately 1,800 linear feet of the Project site adjoins US Route 9W. Although not visible from US Route 9W, a number of these structures are visible from locations on the Hudson River and from various locations throughout the City of Poughkeepsie due to the significant change in elevation.

Existing views of the Project site were photographed from 20 locations throughout the area by Creative Visuals, Inc. (see Appendix M). Photos were taken during leaf-off and leaf-on conditions at locations selected by the Lead Agency. These locations generally relate to publicly accessible places where the topography presented a potentially significant view of the Project site (see Figure 3.10.1 Leaf On Photo Location Map and Figure 3.10.2 Leaf Off Photo Location Map). The HVWV Project site is visible from 16 of the 20 locations where photos were taken. In many of these locations the existing buildings on the HVWV site are not a significant factor within the viewshed due to the wooded nature of the bluff on the property. Long views at locations north of the Project site are obscured by the Mid-Hudson Bridge and the Walkway over the Hudson.

B. Potential Impacts

Viewshed Mapping Analysis

Using Geographic Information Systems (GIS) software, a viewshed map was prepared to assist in identifying areas where the Project may be visible. This analysis was completed consistent with NYSDEC policy for visual impact analyses. The study area for this analysis included the Project site and all locations within a 5-mile radius. The viewshed map incorporates existing vegetation and illustrates areas of visibility under the build-conditions for the Project.

The visibility analysis was conducted for the built condition utilizing the proposed Tuscan Village Conference Center. The base elevations and heights of the buildings were determined from the conceptual architectural plans prepared by Tinkelman Architecture, LLC. Structure height viewpoints were established for the rooftop corners and ridgelines for each proposed building.

This visibility analysis accounts for visual screening due to existing topography, proposed clearing limits, and existing vegetation. The graphic depiction of areas of visibility does not account for additional screening that would result from the proposed 101 foot buffer or existing buildings and structures. It is assumed that the site is not visible from vegetated areas as defined in the 2005 Land Cover data set produced by NOAA. Land Cover types including deciduous forest, evergreen forest, and mixed forest were assumed to have heights of 60 feet and high intensity developed, medium intensity, and palustrine forested wetland were assumed to have a height of 30 feet. The remaining land cover types were assumed to have a height of 0 feet.

Figure 3.10.3 Viewshed Map identifies the Project site, and historic sites and municipal parks where the Project is theoretically visible. These viewpoints are summarized in Table 3.10.1. The Viewshed Map demonstrates the Project's visibility is largely confined to areas east of the Project site as well as a few locations with higher elevations.

Table 3.10.1 Potentially Visible Resources

Visual Resource*	Type	Approximate Visibility Distance (miles)
Esopus Lloyd Scenic Area of Statewide Significance (SASS)	Designated SASS	±0.5
Academy Street Historic District	Historic District	±1.0
Eastman Park	Municipal Park	±1.1
Garfield Place Historic District	Historic District	±1.2
Dwight Hooker Avenue Historic District	State & National Registered Historic Site	±1.4
Vassar, Mathew, Estate	State & National Registered Historic Site	±1.7
Poughkeepsie Railroad Bridge	State & National Registered Historic Site	±1.7
Ethol House, Gray Hook, Sague House	State & National Registered Historic Site	±1.8
College Hill Park	Municipal Park	±2.3
Clark House	State & National Registered Historic Site	±2.5
Guilford Dudley Memorial	State & National Registered Historic Site	±2.5
Hudson River State Hospital, Main Building	State & National Registered Historic Site	±3.2

**Based on NYSDEC Policy for Assessing and Mitigating Visual Impacts DEP-00-2*

It is important to note that as the distances between the proposed Project and visual resources increases the viewer's ability to perceive visual details diminishes. The minimum distance between the Tuscan Village Conference Center and the closest visual resource (Esopus Lloyd SASS) is approximately ±0.5 miles. The maximum distance is ±3.2 miles (Hudson River State Hospital, Main Building). Distance zones established by the U.S. Forest Service (USDA, 1974, p.44) are described below to assist in understanding the effect of distance on potential visual impacts.

- Foreground (0 to 0.5 mile): Viewers typically have a very high recognition of detail. Human scale is an important factor in judging spatial relationships. From this distance, the sense of form, line, color and textural contrast with the surrounding landscape is highest. The visual impact is likely to be considered the greatest at a foreground distance.
- Middleground (0.5 mile to 3 miles): This is the distance where elements begin to visually merge or join. Colors and textures become somewhat muted by distance, but are still identifiable. Visual detail is lessened, although distinct visible patterns may still be evident. Viewers from middleground distances characteristically recognize surface features such as tree stands, building clusters and small landforms. Scale is perceived in terms of identifiable features of surficial geology and development patterns. From this distance, the contrast of color and texture are identified more in terms of the regional context than by the immediate surroundings.
- Background (3 miles to Horizon): At this distance in the landscape, elements lose detailed distinctions. Typically, atmospheric perspective reduces colors to blue-grays, while surface characteristics are lost. Visual emphasis is on the outline or edge of one landmass or water resource against another with a strong skyline element.

Based on the analysis, the Project site will be visible sporadically throughout the 5.0-mile radius visibility analysis zone. Within the foreground areas (up to 0.5 miles), visibility is likely limited to locations on the Hudson River. Views from the middleground (0.5 miles to 3.0 miles) will likely be screened by existing development in the City of Poughkeepsie. Potential visibility of the structures at distances greater than 0.5 miles will likely be limited and/or filtered by more varying vegetation heights that were not assumed in the model.

As noted in Table 3.10.1, the planned project may be visible from limited portions of two (2) municipal parks, one (1) municipal trail, five (5) State and National Registered Historic Sites, and from the Esopus Lloyd Scenic Area of Statewide Significance (SASS). However, as previously noted, the distance to these resources is greater than two (2) miles. Because of these distances the impact to these locations can be considered negligible.

Visual Analysis

To further identify the potential viewshed impacts from the HVWV Project, a Visual Analysis was prepared by Creative Visuals Inc (see Appendix M). The Visual Impact Analysis focused on the visibility of the proposed Tuscan Village Conference Center since it is the only structure which will be visible from across the Hudson River (see Figure 3.10.4 Viewshed Plan Layout Map, Figure 3.10.5 Northeast Elevation Model, and Figure 3.10.6 Eastern Elevation Model). Using the existing condition photos from selected viewpoint locations, and references that were set near the footprint of the proposed Conference Center, visual simulations of the proposed Project were created. From these simulations, it was determined that the Project will be visible from 13 of the 14 photo locations during leaf-off conditions and from 16 of the 20 photo locations during leaf-on conditions.

The visual simulations in Appendix M show the Tuscan Village Conference Center located within the densely wooded bluffs along the Hudson River. Average tree heights in this area are 60'. The proposed Tuscan Village Conference Center does not rise above the existing tree line along the bluff. The most visible area of the Tuscan Village Conference Center is located on a cleared hillside where Hudson Valley Winery buildings currently exist. Viewshed impacts will be limited due to the wooded bluffs which will screen views, building heights of the TVCC below the existing tree line, the nature of the Project in replacing existing development on site, and the narrow clearing which presents views of the Project site.

Given that the HVWV Project will be visible from locations on and across the Hudson River, there is potential for site lighting to be visible. While views of the HVWV Project site are expected within close proximity, they are not anticipated from longer distances.

Line of Sight Profiles

Line of sight profiles were developed to illustrate the potential visibility of the HVWV Project site from US Route 9W. Figure 3.10.7 illustrates the line of sight from a vehicle travelling north on US Route 9W which reveals one of the light industrial buildings will be visible from the roadway through a narrow corridor along the proposed southern entrance to the Project site. This will be the only location off the HVWV property where any buildings within the light industrial component of the HVWV Project will be visible. Figure 3.10.8 illustrates the line of sight from a vehicle travelling south on US Route 9W which demonstrates that the existing tree line and topography screen views of the HVWV Project from the proposed southern entrance to the Project site.

C. Mitigation Measures

Due to the design and placement of all of the buildings on the Project site, visual impacts from the HVWV Project will be limited. Given that the site is generally self-contained and set among varying topography, the individual residences and buildings will not be highly visible. A 101 foot

buffer will be preserved around portions of the perimeter of the site. This buffer further screens any potential views of the Project from adjacent properties and US Route 9W.

Development within the Waterfront Bluff Overlay District will be limited to the location of the Tuscan Village Conference Center at the site of the existing Wine Village Complex towards the northern end of the site. The Tuscan Village Conference Center will have similar visual impacts as the existing structures currently pose. Mitigation of these limited visual impacts will consist of the use of natural construction materials that blend with the surrounding natural environment (see Figures 3.10.5 and 3.10.6). Mitigation will also consist of the use of decorative landscaping and screening as identified during the design and site plan approval process to reduce the visibility of the proposed Project from surrounding areas. To further ensure visual impacts are mitigation and aesthetically pleasing buildings are constructed, design guidelines have been prepared to ensure the Project is consistent with local character (see Section 3.9).

Consistent with Town requirements, detailed design plans will be prepared for site specific individual development projects as they are proposed. These detailed site design plans and survey maps will take into consideration the design guidelines proposed in the HVWV Project and will identify and locate proposed design and screening materials, landscaping, lighting and additional design measures to reduce potential visual character impacts. Lighting will be designed consistent with the supplementary outdoor lighting regulations found in the Town Zoning Ordinance. These regulations identify shielding, height, spacing, time control, and streetlight requirements.

Lighting will also be designed in accordance with light levels and uniformity ratios recommended by the Illuminating Engineering Society of North America (IESNA) Recommended Practice Manual. For building exteriors, public space and pedestrian areas, IESNA recommends illumination levels ranging from one to five foot-candles. All exterior light fixtures will be consistent with this recommendation and be designed with shielding to prevent light spillage to the night sky. Residential and non-residential structures will be illuminated to the minimum extent required to provide safe ingress and egress to the structures to minimize lighting impacts on adjacent structures and properties. All lights will be controlled by photocell switches, creating a natural lighting pattern. Site specific lighting plans will be completed as part of the site plan review process for individual projects.

The mitigation measures include the application of design guidelines, use of natural construction materials, decorative landscaping and screening proposed site layout, design guidelines, landscaping and lighting. Each of these mitigation measures will be applied during the design and site plan review approval process for individual site specific development projects.

No DGEIS thresholds are proposed by the applicant.

3.11 Noise

This section describes the existing noise levels at the Project site and applicable local regulations. It then identifies potential short-term, construction related and long-term impacts from the proposed Project and identifies mitigation measures where necessary.

A. Environmental Setting

The noise environment of the Project site is largely dominated by noise created from the surrounding transportation network, primarily US Route 9W in Lloyd and NYS Route 9 in Poughkeepsie. These are heavily travelled north south corridors with a posted speed limit of 55 mph. US Route 9W runs adjacent to the west of the Project site, and NYS Route 9 is east of the Project site across the Hudson River with two lanes running in each direction. The cumulative effect of numerous vehicles, ranging from passenger cars to busses and trucks traveling at high speeds, generates significant noise levels on and within the vicinity of the site. In addition, trains passing on the east along the Hudson River and aircrafts passing overhead provided additional noise disturbances.

A Noise Assessment was conducted by The Chazen Companies to identify existing sources of noise in and around the Project site and describes the effect of topography and vegetation on noise transmission (see Appendix N). Existing topography can act as a natural sound screen. The closer a hill or other barrier is to the noise source or the receptor the larger the sound shadow will be on the side opposite the noise source. In a similar manner, existing vegetation can also deflect and absorb sound levels in dense vegetation at least 100 feet in depth.

During this assessment, daytime and nighttime noise measurements were taken at five locations on the Project site. The noise measurement locations were chosen as a result of their proximity to sensitive noise receptors and near proposed Project elements (see Figure 3.11.1, Noise Measurement Location Map). Residential receptors were identified to the north of the Project site along Macks Lane and to the west of the Project site along Blue Point Road and US Route 9W. Franny Reese State Park, north of the Project site, was also identified as a sensitive noise receptor.

Measurements were taken from each of the five locations to record existing noise levels. During these readings there was a significant amount of insect noise at each of the locations which appeared to have affected the results. Therefore, it was determined to take a second set of measurements on October 24, 2012 to ensure the results would accurately reflect noise levels on-site.

Noise Measurements - August 29, 2012

Table 3.11.1 summarizes the measured noise levels. The August noise measurements found the average sound level experienced within the Project site during the daytime period ranges from

57.3 dBA to 69.3 dBA. The average sound level experienced within the Project site during the evening period ranges from 58.3 dBA to 67.6 dBA. These measurements were considerably higher than would be expected from a quiet, rural site, and were determined to be the result of the cicadas in the daytime and crickets in the evening.

Table 3.11.1 – August Noise Measurement Readings (dBA)			
	L_{eq}	L_{min}	L_{max}
Noise Point 1 – Eastern property line along bluff			
Daytime	69.3	56.0	91.0
Evening	67.6	54.2	90.2
Noise Point 2 – Northern property line near Franny Reese			
Daytime	65.3	51.7	83.0
Evening	60.4	51.7	73.8
Noise Point 3 – Along Blue Point Rd.			
Daytime	65.2	53.4	83.1
Evening	63.2	57.3	77.6
Noise Point 4 – Western property line near US Route 9W			
Daytime	66.7	51.9	81.0
Evening	62.2	50.9	77.8
Noise Point 5 – Southern Property line			
Daytime	57.3	48.4	74.6
Evening	58.3	51.0	70.9
Source: The Chazen Companies, Noise Assessment			

Noise Measurements – October 24, 2012

The October noise measurements found significantly lower levels of noise. This is primarily a result of the lack of noise produced from the insects during the late summer season. These lower noise levels were found despite an observed increase in noise levels from surrounding roadways resulting from limited foliage on the trees.

Table 3.11.2 summarizes the measured noise levels. The October noise measurements found the average sound level experienced within the Project site during the daytime period ranges from 36.4 dBA to 57.4 dBA during normal conditions. The average sound level experienced within the Project site during the evening period ranges from 40.9 dBA to 58.2 dBA. Based on guidelines accepted by USEPA and the NYSDEC, which set a goal that exterior noise levels not

exceed 65 decibels in mixed land use areas, noise levels on the HVWV Project site are currently within an acceptable range.

Table 3.11.2 – October Noise Measurement Readings (dBA)			
	L_{eq}	L_{min}	L_{max}
Noise Point 1 – Eastern property line along bluff			
Daytime	47.5	44.3	66.3
Evening	45.0	39.3	59.8
Noise Point 2 – Northern property line near Franny Reese			
Daytime	39.6	33.0	68.3
Evening	40.9	36.6	54.8
Noise Point 3 – Along Blue Point Rd.			
Daytime	51.6	42.8	66.8
Evening	52.2	45.4	70.7
Noise Point 4 – Western property line near US Route 9W			
Daytime	57.4	44.0	65.1
Evening	58.2	45.2	66.3
Noise Point 5 – Southern Property line			
Daytime	36.4	31.6	61.0
Evening	42.7	33.9	73.2
Source: The Chazen Companies, Noise Assessment			

Regulatory Controls

The HVWV Project is subject to Town of Lloyd Noise Ordinance, which "prevents unreasonably loud, disturbing and unnecessary noise and to reduce noise levels within the Town so as to preserve, protect and promote the public health, safety and welfare and to foster convenience, peace and quiet within the Town by the inhabitants and transients thereof." The ordinance prohibits "the erection including excavation, demolition, alteration or repair, of any building other than between 7:00 a.m. and 9:00 p.m." The ordinance also prohibits construction work from 8:00 p.m. to 7:00 a.m.

The United States Environmental Protection Agency's (USEPA) "Protective Noise Levels" guidance found that a noise level of 55 dBA was generally considered sufficient to protect public health and welfare. In areas with mixed land uses, including the Project site, a higher level of 65 dBA is considered acceptable. It also states "the addition of any noise source in a non-industrial setting should not raise the ambient noise level above a maximum of 65 dBA."

Therefore, sites with a reading of 65 decibels or below are considered “acceptable,” and do not require additional attenuation measures. These noise levels are contained in EPA document, "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety."

B. Potential Impacts

The Noise Assessment was completed consistent with NYSEC Assessing and Mitigation Noise Impacts Program Policy (Noise Policy). As such, the policy identifies two levels of noise impact evaluation. The first level evaluates the maximum amount of sound created at a single point in time by multiple activities for the proposed Project. This includes all facets of construction and operation that produce noise. The second level refines the evaluation of noise impact by factoring in any additional noise attenuation provided by existing topography, structures, or vegetation located between the point of noise generation and noise reception.

Noise Attenuation from Distance, Topography, and Vegetation

Distance, topography and vegetation can reduce impacts from noise generation as they absorb and deflect noise depending on the extent of site features related to the proposed HVWV Project. According to the Noise Policy, noise from stationary sources attenuates at a rate of 6 dB(A) per doubling distance. Therefore, a 90 dB(A) noise level at 50 ft from the source would be reduced to 84 dB(A) at 100 ft, 78 dB(A) at 200 ft, and so forth.

Topography on the Project site also results in noise attenuation, as topography acts as a natural screen. The closer a hill or other barrier is to the noise source or the receptor the larger the sound shadow will be on the side opposite the noise source.

The Noise Policy also indicates that dense vegetation that is at least 100 feet in depth will reduce the sound levels by three (3) to seven (7) dB(A). The 101 foot buffer located in portions of the perimeter of the property will provide a reduction in sound levels between adjoining properties during construction and operation of the proposed HVWV Project.

Construction Related Noise Impacts

Temporary noise impacts in the immediate vicinity of the site will occur during construction of roads, utilities and buildings. The extent and duration of the construction noise will depend on the type of equipment and the schedule of work, consistent with the Town of Lloyd Noise Ordinance. It is not possible to predict the exact magnitude of this impact on ambient noise levels in the areas that border the Project site due to the variability in many of the factors needed to make such an assessment, including equipment type, duration of use, location of use, number of pieces of equipment operating at any given time, etc. Construction noise is generally intermittent and is usually limited to daytime hours. Construction related noise impacts will be limited by confining noise generating activities to normal working hours as required by the Lloyd Town Code Chapter 75.

According to the Noise Policy, construction equipment generates noise levels (when measured 50 ft from the source) that range from 67 to 98 dB(A) (see Table 3.11.3). These levels can be compared to a shouting voice at six ft (70 dB(A)) or to a lawn mower at three feet (95 dB(A)). Since noise from stationary sources attenuates at a rate of 6 dB per doubling of distance, a 90 dB(A) noise level at 50 ft from the source would be reduced to 84 dB(A) at 100 ft, 78 dB(A) at 200 ft, and so forth. Absorption or deflection by vegetation also attenuates noise levels significantly.

Table 3.11.3 Common Equipment Sound Levels

Equipment	Decibel Level	Distance in Feet
Augered earth drill	80	50
Backhoe	83-86	50
Cement Mixer	63-71	50
Chain saw cutting trees	75-81	50
Compressor	67	50
Garbage truck	71-83	50
Jackhammer	82	50
Paving breaker	82	50
Wood chipper	89	50
Bulldozer	80	50
Grader	85	50
Truck	91	50
Generator	78	50
Rock drill	98	50

Source: Assessing and Mitigating Noise Impacts, NYSDEC, Revised February 2, 2001

Comparatively, the identified common equipment sound levels are higher than existing sound levels on-site as identified in the Noise Assessment. Short-term increases in noise will occur due to the use of construction equipment and earth-moving activities associated with the proposed Project.

The noise level at receptors within the surrounding area will vary depending on the specific location in which construction is taking place and on existing topography and vegetation in between. The sensitive noise receptors along Macks Lane and US Route 9W are a minimum of 300 feet from the disturbed area including the 101 foot buffer. The sensitive noise receptor on Blue Point Road is approximately 200 feet from the disturbed area including the 101 foot buffer. All construction activity will be at least this distance from the residences, with much of it occurring further away. At the closest distance at which construction activity may occur, 200

feet, the maximum noise level would be 78 dB(A) based on an initial noise level of 90 dB(A). It is important to note that the noise levels presented above from construction equipment are without any mitigation and do not consider noise attenuation resulting from topography and vegetation. Based on the Noise Policy, sound levels from sensitive resources would be reduced by an additional three (3) to seven (7) dB(A) in areas with at least 100 feet of dense vegetated.

While the identified common equipment sound levels are greater than guidelines accepted by USEPA and the NYSDEC, construction activities will result in short-term increases in noise during construction activities that will be limited to hours of operation consistent with Town of Lloyd ordinances. Construction contractors will be required to use effective noise mitigation techniques as recommended by FHWA. These are identified in the section below and will reduce impacts to the greatest extent practicable.

Operational Noise Impact

It is reasonable to assume that cars driven by new residents, employees of the light industrial park and patrons of the Tuscan Village Conference Center and retail establishments will be similar in make and variety to those found presently on the road system, thus producing similar levels of sound. Typical noises expected to be generated from the site include traffic noises from passenger cars and occasional truck activity. Since the adjacent land uses include other residential and commercial properties, it is anticipated that new noise levels will be consistent with existing levels for the area.

Permanent noise impacts for this site are associated with vehicular traffic. The highest level of traffic noise will be at the main entrances onto US Route 9W, due to the stopping and turning movements in this location. The proposed northern entrance is approximately 200 feet from a residential structure on the western side of US Route 9W and the closest structure to the southern entrance is approximately 600 feet to the north. Based upon estimated trip generation, assuming the Project will have both passenger car and occasional truck trips, daytime noise level associated with additional vehicular movements are anticipated to fall within the typical range of existing ambient noise levels. Therefore, no significant impacts are anticipated.

In addition, impacts resulting from noise generated by light industrial uses on-site will be reduced by existing vegetation between uses and the distance between other uses on-site.

The primary source of potential noise impacts will result from light industrial uses located on the southeastern corner of the Project site. The exact nature of the light industrial uses is unknown, but they must comply with the Town's noise ordinance. The proposed industrial structures near the southern entrance to the Project site are at least 300 feet from the existing residential structure along US Route 9W. And the next closest structures to the industrial structures are the proposed townhouses to the northeast. Figure 2.1.1 illustrates there is approximately 400 feet between these structures. This area is anticipated to remain densely

vegetated and as such coupled with distance, will result in a significant reduction in sound levels.

At a minimum, the 101 foot buffer is densely vegetated and will result in reduced sound levels to adjoining properties. In addition, the distance between industrial and residential structures on the site will also result in reduced sound levels.

C. Mitigation Measures

Construction Related Mitigation

Construction-related noise is an unavoidable impact of development; however, it is short-term in duration and will occur in accordance with the Noise Section of the Town Code, which, in part, restricts construction activities to between the hours of 7:00 AM and 8:00 PM.

The DEC Noise Policy identifies best management practices (BMP) that reduce noise frequency and impulse noise at the source of generation, reduce noise generation, and reduce noise sound pressure levels. To the extent practicable, construction contractors will be required to use the following BMP as recommended by NYSDEC:

- All construction vehicles and equipment will be well maintained and operated in an efficient manner. Construction equipment will be required to be equipped with noise attenuation devices and mufflers. In particular, the mufflers on all construction equipment will be fully functional and well maintained by the construction contractor. Mufflers will reduce the frequency of sound on machinery that pulses, such as diesel engines and compressed air machinery. All exhaust systems will be maintained in good working order. Properly designed engine enclosures and intake silencers will be required. Regular maintenance will be required.

- Stationary equipment will be placed as far away from sensitive receptors as possible.

- Shielding mechanisms will be employed where possible. The use of sound barriers such as screens or berms around noise generating equipment or near the point of reception can be an effective sound barrier.

- Disposal sites and haul routes will be chosen to minimize objectionable noise impacts.

To the extent practicable, construction contractors will be required to use the following effective noise mitigation techniques as recommended by FHWA:

- The construction contractor will be required to use equipment with mufflers, on-board shields and any other sound reduction equipment maintained to their original specification.
- Equipment will not be allowed to idle when not in use.

- Any equipment for which there is a choice of locations, such as electrical generators and air compressors, will be situated as far as possible from the closest receptors.
- Loose engine parts or other parts with loose or missing screws, bolts or metal plates will be repaired so that vibration and noise generation are reduced.
- Enclosures, such as plywood barriers, will be constructed around significant stationary sources of sound if the noise from such equipment cannot be effectively mitigated by distance or other means.
- The slamming of tailgates by dump trucks or trailers will be discouraged, and rubber gate gaskets will be required.

By utilizing these accepted noise impact reduction techniques, the sound increases associated with construction will be substantially mitigated to the degree possible and will be a temporary condition.

Operation Related Mitigation

Significant increases in noise levels are nto anticipates as a result of operation of the Project. However, it is conceivable that some project components such as industrial uses could generate noise in excess of ambient levels.

The DEC Noise Policy indicates sound pressure increases of more than 6 dB may require a closer analysis of impact potential depending on existing sound pressure levels and the character of surrounding land use and receptors. It further suggests an increase of 10 dB(A) deserves consideration of avoidance and mitigation measures in most cases. These thresholds as indicators of impact potential should be viewed as guidelines subject to adjustment as appropriate for site specific characteristics including surrounding land use and sensitive receptors. Increases of 10 dB(A) or more at the perimeter of the proposed HVWV Project will require additional noise assessment and identified mitigation measures. However, such increases are extremely unlikely.

Increases of 10 dB(A) or more at the perimeter of the proposed HVWV Project will require supplemental environmental review.

3.12 Traffic

This section describes the Project's location within the local and regional roadway network, identifies the existing traffic volumes along local roadways, and evaluates the existing intersection operations in the Project vicinity. This section also includes an estimate of the Project's trip generation characteristics and describes potential impacts to area roadways and intersection operations. Proposed site access and internal circulation is also described and evaluated. Mitigation measures are provided where necessary to address potential project-related impacts to the transportation network.

A Traffic Impact Study (TIS) was conducted by John Collins Engineers, P.C. (JCE), now Maser Consulting, to identify traffic impacts associated with the proposed Project. The Study was prepared in accordance with the Institute of Transportation Engineers (ITE) and the New York State Department of Transportation (NYSDOT) guidelines for traffic studies. The complete TIS is available within Appendix O and the following sections summarize the study findings.

A. <u>Environmental Setting</u>

Description of Existing Roadways in the Vicinity of the Site

U.S. Route 9W - U.S. Route 9W is a major Ulster County arterial that generally traverses in a north/south direction. In the vicinity of the site, the roadway generally consists of one lane in each direction with paved shoulders. North of Macks Lane, the roadway has two travel lanes in each direction and separate turning movement lanes at several intersections. The roadway has a posted speed limit of 55 MPH south of Marie Road and a posted speed limit of 40 MPH to the north. The pavement along this section of U.S. Route 9W is generally in fair to good condition. NYSDOT has completed widening and repaving of the Route 9W at the Macks Lane/Chapel Hill Road intersection in the past year.

Chapel Hill Road (C.R. 11) - Chapel Hill Road is a county road which originates at a four-way signalized intersection with U.S. Route 9W and aligns with Macks Lane. Chapel Hill Road travels in an east/west direction as a two lane road. Chapel Hill Road has a posted speed limit of 40 MPH. The pavement is generally in good condition.

Blue Point Road – Blue Point Road is a Town road which originates at an unsignalized "T" intersection with U.S. Route 9W. Bluepoint Road travels in an easterly direction and is a dead-end street. Bluepoint Road will be considered for an additional emergency vehicle connection to the site. In the immediate vicinity of the site the roadway consists of one lane per direction. The pavement is generally in fair to good condition.

Intersection Analysis

Eight existing intersections and the ramps for the Mid-Hudson Bridge were analyzed relative to operating characteristics including level of service and vehicle delay. Figure 3.12.1, Existing Roadways/Intersections Map, illustrates the location of each intersection. Figure 3.12.1A provides more detail regarding the identified intersections. The characteristics described below define the parameters used in the intersection capacity analysis for each location.

U.S. Route 9W and Chapel Hill Road (C.R. 11)/Macks Lane - Chapel Hill Road/Macks Lane intersects with U.S. Route 9W at a four-way signalized intersection. Chapel Hill Road consists of two lanes formed by a single left turn lane and one shared left/through/right turn lane. The westbound Macks Lane is a single lane approach. U.S. Route 9W northbound consists of two through lanes with a shared right and a separate left turn lane. The U.S. Route 9W southbound approach consists of a through lane and a separate left turn lane.

U.S. Route 9W and Bluepoint Road - Bluepoint Road intersects U.S. Route 9W to form an unsignalized "Stop" controlled "T" shaped intersection. U.S. Route 9W and Bluepoint Road consist of one lane in each direction. Bluepoint Road has varying vertical and horizontal alignment changes.

U.S. Route 9W and Sam Williams Road (North Leg) - Sam Williams Road intersects with U.S. Route 9W to form an unsignalized, "T" shaped intersection. The intersection approaches currently consists of one lane.

U.S. Route 9W and Sam Williams Road/Mackey Road - Sam Williams Road/Mackey Road intersects with U.S. Route 9W forming an offset full movement unsignalized intersection. All approaches consist of one lane approach per direction. The construction of a separate left turn lane on Route 9W would improve the intersection function.

U.S. Route 9W and Argent Drive - Argent Drive intersects with U.S. Route 9W at a signalized "T" shaped intersection. Argent Drive consists of two left turns and a separate right turn lane. U.S. Route 9W northbound consists of two through lanes and a channelized right turn lane. The southbound approach has a separate left turn lane and two through lanes.

U.S. Route 9W and Mayer Drive - Mayer Drive intersects U.S. Route 9W at an unsignalized, "T" shaped intersection. Mayer Drive has a shared left/right lane. U.S. Route 9W northbound consists of two through lanes with a shared left turn. U.S. Route 9W southbound consists of two through lanes and a shared right turn.

U.S. Route 9W and Tillson Avenue/Haviland Road - Tillson Avenue/Haviland Road intersects U.S. Route 9W at a four-way signalized intersection. Tillson Avenue/Haviland Road both consist of two lanes; a left/through lane and a separate right turn lane. U.S. Route 9W northbound and

southbound both consist of a separate left turn lane and two through lanes with a shared right turn lane.

Vineyard Avenue and Chapel Hill Road – Chapel Hill Road intersects with Vineyard Avenue at a "Stop" sign controlled intersection. All approaches consist of a single lane.

U.S. Route 9W and Ramps to Mid-Hudson Bridge Access to and from U.S. Route 9W to the Mid-Hudson Bridge is provided via a directional interchange connection. Traffic arriving to the Project from the Mid-Hudson Bridge will traverse via the loop ramp connection to U.S. Route 9W southbound while traffic leaving the Project and destined to the bridge will exit from U.S. Route 9W as a right turn movement onto a ramp traveling towards the bridge.

Existing Traffic Volumes

Turning movement traffic counts were conducted by JCE during May 11th, 12th, 17th, and 18th of 2011 as well as September 21st and 22nd of 2011 in the vicinity of the site to identify current traffic conditions. Year 2011 Existing Traffic Volumes were established for the intersections listed above for the Weekday AM Peak Hour and Weekday PM Peak Hour. The resulting 2011 Existing Traffic Volumes for each of the intersections for these periods are shown in Figure 3.12.2 and Figure 3.12.3.

Future No-Build Conditions Traffic Volumes

The Year 2011 Existing Traffic Volumes were increased by a growth factor of 0.5 percent per year to the 2021 and 2031 Design Years to account for other traffic growth in the area. In addition, traffic volumes for the proposed Mountainside Woods Project were also accounted for in the No-Build volumes. The resulting Year No-Build Traffic Volumes are shown on Figure 3.12.4 and Figure 3.12.5 for each of the Weekday AM Peak Hour and Weekday PM Peak Hour, respectively.

Public Transportation Services

Public transportation services in the area include the Ulster County Area Transit (UCAT) System which operates along the U.S. Route 9W corridor. Service is available from Bridgeview Plaza to the Poughkeepsie Train Station. Metro-North train services are available via the Hudson River Line which is accessed at the Poughkeepsie Station located approximately 4.5 miles east of the site. Copies of the various bus routes are presented in Appendix O.

The Poughkeepsie Train Service (Metro-North) is available weekdays between 6AM – 8AM. A total of eight (8) trains with headways between 15 and 30 minutes with a total trip time of 1 ½ hour to 1:45 operate between Poughkeepsie and Grand Central Station. Also, between 4PM – 7PM a total of seven (7) trains with headways between 20 and 30 minutes with a total trip time of 1 ½ hour to 1:45 operate between Grand Central Station and Poughkeepsie. Copies of the various train schedules are presented in Appendix O.

B. Potential Impacts

Site Generated Traffic Volumes

The trip generation analysis for the proposed Project estimates the amount of traffic anticipated to be generated by the proposed Project. The Institute of Transportation Engineers (ITE) *Trip Generation Manual*, provides trip generation rates for most land uses and building types.[8] It is important to note that each different land use component of the proposed Project was considered independently for the purposes of estimating traffic generation.

Table 3.12.1, Site Generated 2021 Traffic Volumes, summarizes the estimated project-generated traffic volumes for AM and PM peak hours. Under the analyzed scenario, the proposed Project would generate an estimated 850 AM peak hour trips and 1,130 PM peak hour trips.

Table 3.12.1 Site Generated 2021 Traffic Volumes

Land Use: Traffic Generator	**Peak Hour Volumes* Weekday AM**		**Peak Hour Volumes* Weekday PM**	
	Enter/Exit	Total	Enter/Exit	Total
Light Industrial	350/48	398	52/385	437
Hotel and Conference Center	26/17	43	32/29	61
Office	87/12	99	21/101	122
Retail	38/23	61	111/120	231
Single Family Dwelling Units	6/17	23	18/11	29
Apartment	25/100	125	95/50	145
Townhome	9/43	52	41/20	6
High Turnover Sit-Down Restaurant	26/24	50	25/19	44
Total	**566/284**	**850**	**395/735**	**1,130**

**Reflects a 25 percent pass by for retail portion of development and a 10 percent internal trip credit for light industrial and office as interplay with residential and other on site uses as per ITE procedures.*
Source: Traffic Impact Study, John Collins Engineers, P.C.

The resulting Site Generated Traffic Volumes for each of the intersections for these periods are shown in Figure 3.12.6 and Figure 3.12.7.

Table 3.12.2, Site Generated 2031 Traffic Volumes, summarizes the estimated project-generated traffic volumes for AM and PM peak hours. Under the analyzed scenario, the

[8] *Trip Generation Manual*, 8th Edition, Institute of Transportation Engineers, 2008.

proposed Project would generate an estimated 1,101 AM peak hour trips and 1,325 PM peak hour trips.

Table 3.12.2 Site Generated 2031 Traffic Volumes

Land Use: Traffic Generator	Peak Hour Volumes* Weekday AM		Peak Hour Volumes* Weekday PM	
	Enter/Exit	Total	Enter/Exit	Total
Light Industrial	350/48	398	52/428	437
Hotel and Conference Center	26/17	43	32/29	61
Office	87/12	99	21/101	122
Retail	38/23	61	111/120	231
Single Family Dwelling Units	11/32	43	34/20	54
Apartment	58/232	290	220/119	339
Townhome	20/98	118	140	6
High Turnover Sit-Down Restaurant	26/32	58	25/25	50
Total	**615/486**	**1,101**	**486/839**	**1,325**

**Reflects a 25 percent pass by for retail portion of development and a 10 percent internal trip credit for light industrial and office as interplay with residential and other on site uses as per ITE procedures.*
Source: Traffic Impact Study, John Collins Engineers, P.C.

The resulting Site Generated Traffic Volumes for each of the intersections for these periods are shown in Figure 3.12.8 and Figure 3.12.9.

Future Build Conditions

The site generated traffic volumes were assigned to the roadway network utilizing the arrival and departure distributions detailed in Appendix O of the Traffic Impact Study. These site generated traffic volumes were added to the specific No-Build Traffic Volumes resulting in the Year 2021 Build Traffic Volumes which are shown on Figure 3.12.10 and Figure 3.12.11. Year 2031 Build Traffic Volumes are shown on in Figure 3.12.12 and Figure 3.12.13.

Sight Distance Evaluation

Sight distance evaluations were completed for the two project roadway intersections with existing public roads. The methodology used to take these measurements is based on the American Association of State Highway and Transportation Officials (AASHTO) “A Policy on Geometric Design of Highways and Streets” 2004 Fifth Edition. The intersection sight distance is the distance a driver approaching the intersection from a side road or driveway can see left or right, for vehicles approaching the intersection along the main road. The stopping sight distance

is the distance a driver traveling along the main road can see a stopped vehicle making a left hand turn onto a side road or driveway.

Existing sight distances obtained at each intersection were compared to the AASHTO recommendations in Table 3.12.3 below. Results of the Sight Distance Study are discussed below.

Table 3.12.3 Sight Distance Summary

Intersection	Existing Sight Distance (feet)	AASHTO Recommended Sight Distances	
		Stopping Sight Distance (feet)	Intersection Sight Distance (feet)
US Route 9W and North Access			
Looking North (Right)	1,000+	570	665
Looking South (Left)	815	570	665
Left Turn Entry	1,000+	570	490
US Route 9W and South Access			
Looking North (Right)	1,000+	570	665
Looking South (Left)	950	570	665
Left Turn Entry	1,000+	570	490
US Route 9W and Blue Point Road			
Looking North (Right)[1]	400±	570	665
Looking South (Left)	745	570	665
Left Turn Entry	700+	570	490
US Route 9W and Sam Williams Drive (North)[2]			
Looking North (Right)	700	570	665
Looking South (Left)	1,000+	570	665
Left Turn Entry	1,000+	570	490
US Route 9W and Sam Williams Drive (South)			
Looking North (Right)	850	570	665
Looking South (Left)	720	570	665
Left Turn Entry	650	570	490

**AASHTO Recommended sight distances assume 85th percentile speed of 60 mph along US Route 9W. The posted speed limit along US Route 9W is 55 mph.*

1. Sight distance looking to the right (north) from Blue Point Road is controlled by existing grade and vegetation located outside the right of way along the east side of US Route 9W with clearing and grading of this area the sight distance could be increased to 600 ft+.

2. Sam Williams Drive intersects US Route 9W at a skewed angle at both the north and south ends of the roadway, which impacts the perceived sight distances due to existing vehicle alignment at the intersection.
Source: Traffic Impact Study, John Collins Engineers, P.C., AASHTO

As shown, all field measured sight distances of project roadway intersections meet or exceed the AASHTO standards.

Intersection Capacity Analysis

To identify intersections that may have issues of concern, a term called Level of Service (LOS) is used to describe the average amount of time delay per vehicle at an intersection. LOS A represents the best condition and LOS F represents the worst condition. LOS C is generally used as a design standard while LOS D is acceptable during peak periods. LOS E represents an operation near capacity. The Highway Capacity Manual further classifies LOS as follows:

- *LOS A* - Free flow, Excellent operating conditions
- *LOS B* - Reasonably free flow, Good operating conditions
- *LOS C* - Stable flow, Acceptable operating conditions
- *LOS D* - Approaching unstable flow, Acceptable during peak hour
- *LOS E* - Unstable flow, Operations at capacity and extremely volatile
- *LOS F* - Forced or breakdown flow, Demand is greater than capacity, Operation failure

In order to identify a signalized intersection's existing LOS, the average amount of vehicle delay is computed for each approach to the intersection as well as for the intersection as a whole. For un-signalized intersections, the average vehicle delay is computed for each critical movement to the intersection, which are normally the stop or yield controlled approaches along with the left-turns from the main roadways.

To assess the existing LOS at each intersection, traffic volumes of weekday AM and PM peak hour periods were considered. Results of the capacity analysis are summarized in Table 3.12.4 for the eight (8) existing intersections and the two (2) new intersections. The overall LOS and LOS directional approach for each study area intersection are presented for existing volumes (2011), no-build volumes (2021), and build volumes (2021). An overall LOS is not determined for un-signalized intersections due to the lack of a traffic signal. The complete results, including the LOS and estimated delay in seconds for each approach, are located in Appendix O, Traffic Impact Study.

Table 3.12.4 Levels of Service/Estimated Delay (in seconds per vehicle)

			2011 Volumes	2021 Volumes		2031 Volumes	
Intersection	**Peak**	**Approach**	**Existing**	**No-Build**	**Build**	**No-Build**	**Build**
US Route 9W and Chapel Hill Road/ Macks Lane Signalized	AM	**Overall**	**C/26.9**	**C/29.1**	**F/88.7**	**C/31.4**	**F/100.0**
		EB	C/34.2	D/36.2	D/37.4	D/38.7	D/40.3
		WB	D/39.7	D/39.8	D/40.1	D/39.9	D/40.3
		NB	B/16.3	E/16.6	B/18.3	B/17.0	C/20.4
		SB	C33.6	D/38.9	F/208.2	D/43.6	F/244.8
	PM	**Overall**	**C/32.9**	**D/39.4**	**E/70.8**	**D/47.0**	**F/103.8**
		EB	E/75.8	F/87.7	F/106.8	F/100.8	F/131.0
		WB	E/63.3	E/70.7	E/75.7	E/78.4	F/87.3
		NB	A/7.8	A/8.1	A/9.9	A/8.2	B/10.4
		SB	C/32.5	D/42.2	F/120.3	D/53.4	F/187.4
US Route 9W and Bluepoint Road Unsignalized	AM	WB	B/13.7	B/14.2	C/17.1	B/14.6	C/19.7
		SB	A/9.6	A/9.8	B/10.7	A/10.0	B/11.6
	PM	WB	B/14.9	C/15.8	C/24.9	C/16.1	D/28.5
		SB	A/9.3	A/9.6	B/12.0	A/9.7	B/12.8
US Route 9W and Sam Williams Road (North Leg) Unsignalized	AM	WB	C/15.7	C/16.4	C/20.0	C/17.1	C/24.4
		SB	A/9.6	A/9.8	B/10.6	A/10.0	B/11.6
	PM	WB	B/14.5	C/15.4	C/24.6	C/16.0	D/27.8
		SB	A/9.3	A/9.5	B/11.9	A/9.7	B/12.6
US Route 9W and Site Access Driveway (North) Signalized	AM	**Overall**	-	-	**B/14.7**	-	**C/26.3**
		EB	-	-	C/34.7	-	C/34.7
		WB	-	-	C/29.8	-	C/31.3
		NB	-	-	B/18.3	-	C/28.4
		SB	-	-	A/8.8	-	C/23.0
	PM	**Overall**	-	-	**C/22.8**	-	**C/31.5**
		EB	-	-	C/34.7	-	C/34.7
		WB	-	-	C/34.2	-	D/38.0
		NB	-	-	C/32.1	-	D/45.1
		SB	-	-	B/11.4	-	B/18.2
US Route 9W and Sam Williams Road / Mackey Road Unsignalized	AM	EB	D/32.9	E/37.1	F/64.0	E/41.0	F/84.9
		WB	C/15.3	C/16.0	C/18.7	C/16.7	C/21.1
		NB	A/8.7	A/8.8	A/9.6	A/8.9	A/9.9
		SB	A/9.6	A/9.7	B/10.4	A/9.9	B/11.0
	PM	EB	E/49.4	F/59.4	F/144.8	F/69.0	F/233.7
		WB	B/14.2	B/15.0	C/20.0	B/15.5	C/22.1
		NB	A/9.9	B/10.2	B/11.3	B/10.4	B/12.0
		SB	A/9.2	A/9.5	B/10.8	A/9.6	B/11.2

Table 3.12.4 Levels of Service/Estimated Delay (in seconds per vehicle)

			2011 Volumes	2021 Volumes		2031 Volumes	
Intersection	**Peak**	**Approach**	**Existing**	**No-Build**	**Build**	**No-Build**	**Build**
US Route 9W and Site Access Driveway (South) Signalized	AM	**Overall**	-	-	**C/22.1**	-	**C/28.7**
		WB	-	-	C/27.1	-	C/28.9
		NB	-	-	C/25.5	-	C/31.4
		SB	-	-	B/16.4	-	C/25.2
	PM	**Overall**	-	-	**C/22.8**	-	**C/28.5**
		WB	-	-	C/33.0	-	D/36.0
		NB	-	-	C/26.3	-	C/32.7
		SB	-	-	B/15.3	-	C/21.7
US Route 9W and Mayer Drive Unsignalized	AM	EB	C/15.3	C/16.2	C/21.4	C/16.8	C/24.3
		NB	A/9.1	A/9.3	B/10.8	A/9.5	B/11.2
	PM	EB	C/19.2	C/20.7	D/26.4	C/22.1	D/32.0
		NB	B/13.3	B/14.0	C/16.1	B/14.6	C/18.3
US Route 9W and Argent Drive Signalized	AM	**Overall**	**C/29.6**	**C/32.7**	**D/42.8**	**D/37.5**	**E/66.5**
		WB	C/27.0	C/27.0	C/31.8	C/27.2	C/32.1
		NB	D/40.9	D/46.2	E/67.2	D/54.1	F/108.2
		SB	B/10.1	B/10.1	B/10.1	B/10.2	B/10.3
	PM	**Overall**	**C/22.0**	**C/25.9**	**C/30.7**	**C/26.6**	**D/35.4**
		WB	C/32.8	C/33.0	C/34.8	C/33.1	C/35.7
		NB	C/29.5	C/30.6	D/42.7	C/31.5	D/52.6
		SB	B/15.3	C/21.9	C/21.7	C/22.6	C/23.7
US Route 9W and Tillson Avenue / Haviland Road Signalized	AM	**Overall**	**C/26.0**	**C/28.9**	**C/29.7**	**C/32.8**	**C/34.3**
		EB	C/25.8	C/28.2	C/28.4	C/28.8	C/29.1
		WB	D/42.0	D/42.0	D/42.0	D/42.1	D/42.1
		NB	B/14.0	B/14.8	B/14.9	B/15.1	B/15.3
		SB	C/34.0	D/38.6	D/40.3	D/46.1	D/49.0
	PM	**Overall**	**C/24.7**	**C/27.4**	**C/28.1**	**C/30.5**	**C/31.8**
		EB	C/24.5	C/25.4	C/25.4	C/25.6	C/25.7
		WB	D/44.2	D/44.4	D/44.4	D/44.6	D/44.6
		NB	C/23.0	C/27.0	C/28.1	C/31.7	C/33.7
		SB	C/26.2	C/27.1	C/27.4	C/28.1	C/28.5
Vineyard Avenue and Chapel Hill Road Unsignalized	AM	WB	**C/15.6**	**C/17.1**	**C/18.7**	**C/18.2**	**C/20.8**
		SB	A/9.4	A/9.6	A/9.8	A/9.8	A/10.0
	PM	WB	**F/52.2**	**F/87.1**	**F/124.6**	**F/118.4**	**F/173.9**
		SB	A/8.2	A/8.4	A/8.4	A/8.4	A/8.5

Source: Traffic Impact Study, John Collins Engineers, P.C.

U.S. Route 9W and Chapel Hill Road (C.R. 11)/Macks Lane - Capacity analyses were conducted at this intersection utilizing the 2011 Existing Traffic Volumes. The results indicate that the intersection currently operates at an overall Level of Service "C" during the AM and PM Peak hours. Capacity analysis conducted using the 2021 No-Build operates at an overall Level of Service "C" during the AM and "D" during the PM Peak Hours. Note that the Level of Service "D" is considered acceptable for peak hour conditions and represents conditions with average

vehicle delays of 35 to 55 seconds for signalized intersections. The capacity analysis conducted using the 2021 Build condition at an overall Level of Service "F" during the AM and PM Peak Hours. To improve this condition and to obtain an overall Level of Service "D" or better, signal phasing and timing improvements will be required. Also, Macks Lane would have to be widened to provide two lanes approaching Route 9W. Also, to accommodate growth and traffic conditions for the Year 2031, an additional southbound through lane may be required on Route 9W.

U.S. Route 9W and Bluepoint Road - Capacity analysis conducted utilizing the Year 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "B" during the AM Peak Hour and PM Peak Hour.

Capacity analysis conducted utilizing the No-Build Traffic Volumes indicates that the intersection will operate at an overall Level of Service "B" during the AM Peak Hour and a "C" during the PM Peak Hour. Under the 2021 and 2031 Build Traffic Volumes it can be expected that the intersection will operate at an overall Level of Service "C" during AM and PM Peak Hour.

U.S. Route 9W and Sam Williams Road (North Leg) - Capacity analysis conducted utilizing the Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" or better during each of the Peak Hours. Reanalyzing the intersection with the 2021 No-Build Traffic Volumes will continue to operate at a Level of Service "C" during each of the peak hours. The 2031 Build Traffic Volumes indicates that the intersection will experience an overall Level of Service "D" during the AM Peak Hour and PM Peak Hour. These levels will be improved as a result of the proposed access configuration, which will provide turning lanes and signalization.

U.S. Route 9W and Proposed Site Access Connections - Capacity analysis conducted utilizing the 2021 and 2031 Build Traffic Volumes indicates that the intersection is currently operating at an overall Level of Service "C" during the AM Peak Hour and PM Peak Hour.

U.S. Route 9W and Sam Williams Road/Mackey Road - The capacity analysis conducted at this location utilizing the 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "E" or better during each of the peak hours.

The capacity analysis conducted utilizing the 2021 and 2031 No-Build Traffic Volumes indicates that the intersection will continue to operate at an overall Level of Service "E" during the AM and PM Peak Hour for traffic exiting the side road. It should be noted that with the signalization of the proposed site access connections to US Route 9W, additional gaps in traffic stream will be provide which will allow left turn vehicles to exit more efficiently.

Capacity analysis conducted utilizing the 2021 and 2031 Build Traffic Volumes indicates that as a result of the improvements at the north access a Level of Service "C" will be experienced.

U.S. Route 9W and Argent Drive - The capacity analysis conducted utilizing the 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" during each of the peak hours.

The capacity analysis conducted utilizing the 2021 No-Build Traffic Volumes indicates that the intersection will continue to operate at an overall Level of Service "C" during the AM and PM Peak Hours of the Build scenario. The analysis with the 2021 and 2031 Build Traffic Volumes indicates that signal timing improvements will be required to maintain an overall Level of Service "C" or better.

U.S. Route 9W and Mayer Drive – The capacity analysis conducted utilizing the 2011 Existing Traffic Volumes indicates this intersection is currently operating at an overall Level of Service "C" or better during each of the peak hours. The Level of Service will remain the same for the 2021 No-Build condition.

The capacity analysis utilizing the 2021 and 2031 Build Traffic Volumes indicates that the intersection will continue to operate at a Level of Service "C" during the AM Peak Hour and a Level of Service of "D" during the PM Peak Hour for traffic exiting Mayer Drive.

U.S. Route 9W and Tillson Avenue/Haviland Road - Capacity analysis conducted utilizing the Year 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" during the AM Peak Hour and PM Peak Hour.

During the 2021 and 2031 No-Build and Build Traffic Volumes it can be expected that the intersection will continue to operate at the same overall Level of Service "C" during the AM and PM Peak Hours.

Vineyard Avenue and Chapel Hill Road - The capacity analysis indicates that traffic exiting Chapel Hill Road turning left at the intersection currently operates at a Level of Service "F" during the PM Peak Hour.

The capacity analysis for the 2021 No-Build condition indicates Levels of Service "F" for this movement. In order to improve this, the installation of a traffic signal would be required. With signalization, a Level of Service "C" or better will be experienced during peak hours.

The analyses were recomputed using the 2021 and 2031 Build Traffic Volumes assuming signalization. The results indicate Levels of Service similar to the No-Build condition will be experienced.

Accident History

To assess roadway safety in the vicinity of the Project site, the past three (3) years of accident information was obtained from the New York State Department of Transportation. No specific accident type predominated in the accident data reviewed. In general, the review of the US

Route 9W information does not reveal a pattern of weather or other contributing circumstances which would indicate the existence of specific areas of concern. Complete accident information is included in Appendix O, "Traffic Impact Study."

Public Transportation Services

There are no existing sidewalks along US Route 9W near the Project site; however the northbound and southbound shoulders are fairly wide. The HVWV Project is not anticipated to incorporate sidewalks along US Route 9, however, there will be sidewalks built within residential areas, the Tuscan Village and Conference Center, and Industrial areas. In addition, an extensive trail network is proposed to be built within the Project that will connect the Project site to Franny Reese State Park, and the Walkway Over the Hudson. No impacts to pedestrian systems have been identified.

Public transportation services in the area include the Ulster County Area Transit (UCAT) System which operates along the U.S. Route 9W corridor. Given the size and scope of the HVWV Project, the need for additional bus stops within the Project site may be necessary to serve the influx of residents and employees. Service is currently available from Bridgeview Plaza to the Poughkeepsie Train Station. Metro-North train services are available via the Hudson River Line which is accessed at the Poughkeepsie Station located approximately 4.5 miles east of the site. A total of 1,123 parking spaces are available at the Poughkeepsie Train Station. Fifty eight percent of these spaces are dedicated to those with parking permits, 38 percent are for daily metered parking spaces, and the remaining four spaces are flex permit/metered spaces. Copies of the various bus routes and train schedules are presented in Appendix O. While the HVWV Project may increase the frequency of use at the Poughkeepsie Train Station, there is no way to reliably estimate the potential for increased use of this public transportation service. *Site Circulation and Access*

The Central Boulevard will be constructed throughout the site linking each of the development areas to US Route 9W at the northern entrance point at Sam Williams Road and at the southern entrance approximately 2,000 feet south from Sam Williams Road within the light industrial park. These will be the primary entrances to the proposed Project and serve as emergency access points. In addition, Blue Point Road will be considered for emergency access only during the site plan review stage.

Parking throughout the Project site will be consistent with the number of spaces required by the Town of Lloyd Zoning Code §100-29, Off-Street Parking, Loading and Vehicular Access. All buildings will be a minimum of 50 feet in distance from the Central Boulevard to minimize any potential impacts.

In addition to this road network, a network of trails is proposed to be built along the bluff line of the HVWV Project site. One trail link will connect to the White Trail (also known as the Ridgeline Trail) in Franny Reese State Park to the north of the HVWV Project site, and the second will descend the bluff to a lookout at the shores of the Hudson River. The trails will be

built with sufficient width and site distance to foster safe pedestrian activities. Some trails will be evaluated for bicycling use. A total of 5.5 miles of public trails will be built as part of this project to expand the regional trail network and provide greater public access to recreational, cultural, and historic resources. A 28 space parking lot will also be constructed to provide access to this recreational amenity.

Truck Routes / Construction Routes

The majority of construction vehicles in the vicinity of the Project site travel along US Route 9W. The new Project site entrances at US Route 9W will be the primary access points to the property, and will serve as the emergency access points. Heavy equipment will be delivered to the site and will remain on the site until that piece of equipment is no longer needs. Daily access traffic will be passenger vehicles that will bring workers to and from the site.

C. Mitigation Measures

An evaluation of the local roadway network under the Existing, Build, and No Build conditions was conducted in the TIS to identify potential impacts to the local roadway network from the proposed HVWV and to develop mitigation measures. The proposed procedures to mitigate impacts to traffic are discussed below.

Proposed Site Access Connections

The site will have two access locations, which will both provide access from U.S. Route 9W to the site. The north access driveway will intersect with U.S. Route 9W by reconstructing and realigning a portion of Sam Williams Road to form a "T" intersection with U.S. Route 9W (see Figure 3.12.14 North Access Intersection Concept). The remaining segments of Sam Williams Road will be considered for discontinuation. The south access driveway is located approximately 2000 feet south of Sam Williams Road on U.S. Route 9W (see Figure 3.12.15 South Access Intersection Concept). The evaluation of full buildout indicates that the northern and southern access points to the HVWV site will have to be signalized. The capacity analysis conducted utilizing the 2021 and 2031 Build Traffic Volumes indicates that the north and south access to the HVWV site will experience a Level of Service "C".

When constructed, the northbound approach will consist of a separate through lane and a separate right turn lane. The southbound approach will consist of a separate through lane and separate left turn lane. The site westbound approach will consist of a separate left and separate right turn lane. A traffic signal will also be installed at both locations.

Roadway Improvements

The provision of left and right turn lanes at the two Project entrance connections to Route 9W will be required during the early phases of development to accommodate turning movements to and from Route 9W. In addition, prior to the completion of the 2021 design period,

signalization of the south access connection will also be required. The evaluation of the full build out indicates that the northerly access via Sam Williams Road will also have to be signalized. The intersection of Chapel Hill Road and Vineyard Avenue will also require signalization in the future even without the Project. These offsite roadway improvements, including turn lanes and signalization, will be coordinated with the NYSDOT as part of the Highway Work Permit process.

Access related improvements including provision of turning lanes and signalization will be undertaken by the Applicant. Other traffic signal timing improvements which are identified will also be coordinated by the Applicant with the NYSDOT as part of the Highway Work Permit process. Table 3.12.5, Levels of Service/Estimate Delay After Roadway Improvements, identifies the proposed Levels of Service once the proposed roadway improvements have been completed.

Additional improvements will be necessary at the intersection of Route 9W and Macks Lane to accommodate future traffic growth. These improvements will include signal timing/phasing improvements as well as two approach lanes on Route 9W. An additional southbound through lane on Route 9W may also be necessary based on future background traffic increases. These types of potential improvements would be part of regional conditions and would be expected to be completed in the future if and when required. Since they are not specific to the proposed development, other than the signal timing improvements, these are not proposed by the Applicant.

The sight distances at the proposed access connections to Route 9W are shown on Table 3.12.3. The distances shown also include the improvements and are compared to the AASHTO intersection sight distances for a 55 mph roadway. Note that with the completion of the improvements the required AASHTO sight distances will be obtained.

Table 3.12.5 Levels of Service/Estimated Delay After Roadway Improvements (seconds per vehicle)

			2011 Volumes	2021 Volumes		2031 Volumes	
Intersection	**Peak**	**Approach**	**Existing**	**No-Build**	**Build**	**No-Build**	**Build**
US Route 9W and Chapel Hill Road/ Macks Lane With Signal Timing and Phasing Improvements	AM	**Overall**	-	-	**C/32.3**	-	**D/38.5**
		EB	-	-	D/45.1	-	D/50.3
		WB	-	-	D/40.1	-	D/40.3
		NB	-	-	B/16.6	-	B/18.5
		SB	-	-	C/40.2	-	D/54.4
	PM	**Overall**	-	-	**E/70.8**	-	**F/103.8**
		EB	-	-	F/106.8	-	F/131.0
		WB	-	-	E/75.7	-	F/87.3
		NB	-	-	A/9.9	-	B/10.4
		SB	-	-	F/120.3	-	F/187.4

Table 3.12.5 Levels of Service/Estimated Delay After Roadway Improvements (seconds per vehicle)							
			2011 Volumes	2021 Volumes		2031 Volumes	
Intersection	**Peak**	**Approach**	**Existing**	**No-Build**	**Build**	**No-Build**	**Build**
US Route 9W and Chapel Hill Road/ Macks Lane	AM	**Overall**	-	-	C/28.7	-	C/34.2
		EB	-	-	D/45.1	-	D/50.3
		WB	-	-	D/40.0	-	D/40.0
		NB	-	-	B/15.9	-	B/17.6
		SB	-	-	C/30.6	-	D/42.7
With Geometric Improvements on Mack Lane	PM	**Overall**	-	-	D/53.7	-	E/78.5
		EB	-	-	F/106.8	-	F/131.0
		WB	-	-	D/43.9	-	D/48.3
		NB	-	-	A/8.9	-	A/9.1
		SB	-	-	F/83.4	-	F/132.7
US Route 9W and Sam Williams Road / Mackey Road	AM	EB	-	-	C/23.0	-	C/25.6
		WB	-	-	C/18.7	-	C/21.1
		NB	-	-	A/9.6	-	A/9.9
		SB	-	-	B/10.4	-	B/11.0
With Improvements on Route 9W at Site Access	PM	EB	-	-	D/24.7	-	C/27.6
		WB	-	-	C/20.0	-	C/22.1
		NB	-	-	B/11.3	-	B/12.0
		SB	-	-	B/10.8	-	B/11.2
US Route 9W and Argent Drive	AM	**OVERALL**	-	-	**C/22.9**	-	**C/28.7**
		WB	-	-	C/34.5	-	C/34.7
		NB	-	-	C/30.9	-	D/40.8
		SB	-	-	A/9.5	-	A/9.6
With Signal Timing Improvements	PM	**OVERALL**	-	-	**C/30.9**	-	**C/34.1**
		WB	-	-	C/33.4	-	C/34.5
		NB	-	-	D/48.0	-	D/49.7
		SB	-	-	B/18.6	-	C/23.5
Vineyard Avenue and Chapel Hill Road	AM	**OVERALL**	-	-	**C/24.2**	-	**C/28.1**
		WB	-	-	C/22.5	-	C/22.8
		NB	-	-	C/27.5	-	C/33.1
		SB	-	-	B/11.1	-	B/11.4
With Signalization	PM	**OVERALL**	-	-	**C/24.2**	-	**C/26.7**
		WB	-	-	C/33.7	-	D/38.4
		NB	-	-	B/16.8	-	B/17.4
		SB	-	-	B/14.8	-	B/15.3

Source: Traffic Impact Study, John Collins Engineers, P.C.

It is anticipated that the Town will require regular traffic monitoring. Traffic generation in excess of counts analyzed in this DGEIS will require supplemental environmental review.

Pedestrian/Biking Infrastructure

Bus service to the Poughkeepsie Train Station is available at Bridgeview Plaza north of the HVWV Project site. UCAT Bus Route G provides service along Route 9W between Marlboro and Kingston. Consideration of providing a shuttle service for residents from the Project to

Bridgeview Plaza to access this service or eventually extending service to the Project site would help reduce the peak hour trip generation of the Project.

Currently, US Route 9W does not include sidewalks or dedicated bike/pedestrian lanes. The HVWV Project is not anticipated to incorporate these elements, however, an extensive network of trails is proposed to connect the Project site to Franny Reese State Park, and the Hudson River.

Construction Traffic and Activities

As part of the Highway Work Permit Process, a Construction Management Plan and a Maintenance and Protection of Traffic Plan will be prepared by the Applicant and coordinated with New York State Department of Transportation during the construction of the access connections to Route 9W. This work would be intermediate short term stationary and would be governed by the 619 series of NYSDOT Standard Sheets. A Construction Management Plan and Maintenance and Protection of Traffic Plan would detail: barrier vehicle use requirement, public access, work locations, lane closures, channeling devices, signs and locations, pavement markings, temporary traffic signals and work duration. An example standard detail sheet based on the 619 series of NYSDOT Standard Sheets is provided in Appendix O.

Relative to the on-site construction, deliveries will be scheduled outside of peak hours, i.e., morning and afternoon peak hours. Also, construction traffic and activities will be coordinated such that construction workers arrive prior to the typical morning peak hour and depart the site before or after the afternoon peak hour of the adjacent roadway system. Furthermore, heavy equipment will be delivered to the site and will remain on the site until that piece of equipment is no longer needed, thereby reducing daily traffic trips and lessoning impacts on adjacent intersections during the construction period. It is anticipated that the construction of the site will be completed over a 20 year period; therefore, this type of construction management is important to minimize any impacts on the surrounding roadway system.

Emergency Access

Since the development will be completed in phases, it will be important to provide emergency access to the site. It is anticipated that the development will commence on the southerly most parcel and will proceed in a northerly direction. The construction of a spine road connecting to Sam Williams Road will be completed to provide emergency access once any significant development occurs or the access road extends more than 1,500± feet. The new northern and southern entrances along US Route 9W will serve as the primary access points in case of emergency. In addition, consideration will be given to using Blue Point Road for emergency access only during the site plan review stage.

3.13 Utilities

This section describes the existing and proposed water supply and distribution system, sewage collection and treatment, natural gas, electric and telecommunication utilities servicing the HVWV Project site. Mitigation measures needed to address potential impacts from the proposed Project are also discussed.

A. Environmental Setting

Water Supply

The Highland Water District provides potable water service to homes and businesses within the hamlet of Highland and in adjacent areas in the Town of Lloyd. The Water District relies on four (4) upland surface reservoirs near Illinois Mountain and an intake near the Hudson River as the primary water sources. The District also uses one (1) horizontal and three (3) vertical wells drilled into Illinois Mountain as supplemental sources for the reservoirs. The Town relies on the upland reservoirs for a period of 4 to 5 months throughout the year to supply water to the District and the Hudson River intake for 6 to 7 months in the year.

The existing Town of Lloyd water filtration plant has capacity to treat up to 3.5-4.0 million gallons of water a day (MGD). The water is chemically conditioned, clarified, filtered and chlorinated prior to distribution. According to the 2010 Annual Drinking Water Quality report, the amount of water produced in 2010 was 537,000 gallons per day on average with a maximum single day production of 889,000 gallons. The unaccounted for water represents 29 percent of the total amount produced.

The Water District also operates and maintains a 2 MG welded steel finished water storage tank on Illinois Mountain adjacent to the existing filtration plant.

The HVWV property is currently not served by public water and lies outside the boundaries of the existing Highland Water District. The existing facilities located at the Project site are supplied with water from on-site wells.

Wastewater

The existing buildings at the HVWV site currently use subsurface disposal fields for treatment of sewage. These disposal systems will be abandoned for the proposed development.

The Town of Lloyd has an operating wastewater treatment facility (WWTF) located on River Road, approximately 2.5 miles north of the proposed development. The Lloyd Highlands Sewage Treatment Plant (STP) is currently permitted for 1.25 million gallons per day (MGD) and may exceed this limit in wet weather. Recently, average dry weather flows to the facility have

been approximately 0.8 MGD. Recent upgrades to the facility allow for a permitted flow of 1.75 MGD.

Conveying sewage generated by the proposed activity to the existing publicly owned treatment works (POTW) would present significant expense and logistical challenges. The direct distance between the two locations is approximately 2.5 miles. Installation of a force main between these locations would need to follow state and local roadway right-of-ways to connect to the existing collection system, and would have a longer route. The added flow from the proposed activity would also bring average flow to the existing POTW close to the current capacity of the facility.

The preferred alternative for this project is therefore to construct a new collection and treatment system for wastewater at the site. A detailed description of the preferred alternative for wastewater treatment is provided in the report in Appendix Q.

Natural Gas, Electric, Telecommunication

Central Hudson Gas & Electric Corporation currently provides natural gas and electric services in the area of the Project site. Existing buildings on the HVWV property are connected to electric service; however there is currently no natural gas connection. A gas transmission line (high pressure main) currently runs north-south adjacent to the HVWV property through Blue Point Road. Correspondence with Central Hudson indicates they will be able to serve the HVWV Project (see Appendix B, Correspondence).

Telecommunication service, including phone, internet and cable TV, is provided Cablevision, as well as other commercial providers which have facilities in the vicinity of the proposed Project. Cablevision was contacted to confirm capacity to serve the Project, however no response was received as of the date of preparation of this DGEIS.

B. Potential Impacts

Water Supply

The HVWV Project includes a mix of residential, commercial and light industrial development. Water use was taken as 1.25 times the estimated wastewater flow using the typical hydraulic loading rate values presented in Table B.3 of the draft 2012 NYS Department of Environmental Conservation (NYSDEC) guidance manual[9] to take into account that only 80 percent of the water utilized is typically returned as sewage. The loading rates from NYSDEC do not include water usage which is typically unaccounted for in the wastewater flows including lawn sprinkler, irrigation and cooling systems. As such, the additional 25 percent included within the estimated wastewater flow accounts for these water uses.

[9] *Design Standards for Intermediate-Sized Wastewater Treatment Systems*, 2012 Draft, NYSEDC – Division of Water, Bureau of Water Permits

The average daily water demand for the Project is estimated at 314,273 gallons per day (gpd) or 218 gallons per minute (gpm). The anticipated maximum daily flow is estimated at 628,547 gpd or 436 gpm using a peak factor of 2.0. A table detailing water demand calculations is included in Appendix P, Water Supply Concept Report.

According to the Town, the existing Highland Water District has adequate water supply, treatment and storage capacity to serve to the proposed development. Based on the district's overall capacity to treat up to 3.5 MGD, its current 1 MGD use, and the 314,273 gpd estimated water demand for the HVWV Project, the water district will have an additional 2.2 MGD capacity. It is the intent of the Project Sponsor to connect the proposed development to the nearby Highland Water District by extending the existing Town water mains south on US Route 9W to the Project site. The water district extension will be accomplished at no cost to the existing users in the District. Sources for public funding not originating with the Town are currently being sought for the Route 9W water line extension. Upon construction it will be offered for dedication to the Town Board as part of the Town's extended water district. A detailed description of the proposed water district improvements is provided in the report in Appendix P. These improvements include an extension of the water main to the Project site, and improvements to the District's pumping facilities.

Preliminary hydraulic analysis revealed that the proposed water distribution system will provide an adequate level of service within the proposed service area under maximum day conditions. Simulation results indicated that dynamic pressures in the water distribution system vary between 42 and 91 psi under the maximum day scenario. According to simulation results, available fire flows vary between 385 gpm and 860 gpm.

The existing Town of Lloyd water filtration plant has sufficient treatment, storage, and pumping capacity to satisfy the anticipated combined water demand of the Water District and proposed HVWV development project. The existing filtration plant also has adequate chemical storage facilities and sufficient sludge dewatering and disposal capacity to serve the proposed development. However, improvements to the plant's sludge holding and pumping capacity may be required in order to meet the additional water demand associated with the proposed HVWV Project. The District's existing 2 MG water storage tank has adequate reserve capacity to accommodate the proposed development.

Wastewater

The proposed development includes a mix of residential, commercial and light industrial development. At this time, it is not anticipated that significant process water will be required for the proposed industrial development. If an industrial process in the proposed development requires water and generates industrial wastewater, the owner of that use may be required to have a separate industrial SPDES permit to provide pre-treatment prior to discharge to the proposed WWTF.

Estimated wastewater generated for the proposed development is approximately 250,000 GPD. The WWTF will be designed to handle periodic high flow days that exceed the average daily flow while maintaining effluent quality consistent with SPDES permit requirements. Based on this volume, the SPDES permit for the proposed development will request a flow limit of 325,000 gpd (0.33 MGD). The added flow from the proposed activity would bring average flow to the existing POTW close to the current capacity of the facility. In addition, the installation of approximately 2.5 miles of force main from the POTW to the Project site would present a significant expense and logistical challenge. The preferred alternative is therefore to construct a new collection and treatment system for wastewater at the site. The cost of the on-site facility is estimated to be similar to the cost of conveying sewage to the existing facility plus connection fees. The proposed wastewater treatment facility and conveyance/collection systems will be built, maintained, and initially operated by a Sewage Works Transportation Corporation formed by the Project Sponsor. The wastewater collection and treatment system will be offered for dedicated to the Town Board in the future.

The sewage collection and treatment system will be designed and constructed in accordance with state and county regulations. The estimated daily volume of sewage is 250,000± gallons per day, and a SPDES permit for 325,000 gallons will be requested. Discharge of treated sewage at the development will be to an on-site intermittent stream. The default effluent limits for this situation are referred to as the Intermittent Stream Effluent Limits (ISELs). These are the most stringent effluent limits normally required by NYS Department of Environmental Conservation (NYSDEC). For the proposed HVWV WWTF location, it is concluded that the ISEL limits are appropriate. The proposed treatment facility will be designed to address the ISEL effluent limits.

Figure 3.1.3 Conceptual Grading Plan identifies the location of proposed wastewater collection/ conveyance systems serving the site (see Appendix Q). The sanitary system is comprised of a combination of gravity sewers, low pressure sewers and force mains.

Wastewater treatment is a complex process and, if not carried out properly, has the potential to impact many components of the surrounding environment. Discharge of wastewater effluent to receiving waters has the potential to result in adverse impacts to water quality in those waters due to the effluent's biological oxygen demand, nutrient loading and total suspended solids, for example. However, as discussed below, in the Mitigation section, designing the WWTF to comply with required wastewater effluent standards of the NYSDEC to maintain water quality is key to ensuring that potential impacts to receiving water quality are mitigated.

Natural Gas, Electric, Telecommunication

Natural gas, electric, telephone, cable TV, and internet utilities extending to the HVWV Project will be installed in accordance with the requirements of each respective utility provider.

Extensions of these services from existing off-site terminations may impact Town or County roads or rights-of-ways off-site. The traveling public may experience minor delays in passage should travel be slowed or stopped to allow for construction activities. Impacts to soils will be

minimal as the areas where these facilities are to be extended have been previously disturbed by road construction.

On-site impacts involve excavation to allow for underground installation of conduits and lines. This work will be conducted in conjunction with the installation of the water distribution systems, wastewater collection system and the construction of the roads. During construction, erosion and sedimentation as well as fugitive dust may result from the activities involved in the installation of these utilities.

C. Mitigation Measures

Water District Improvements

Connection of the Project site to the Highland Water District requires extension of the existing water main along US Route 9W and improvements at the water treatment plant to accommodate the anticipated water demand associated with the Project. The contemplated water system improvements necessary to support the proposed development were discussed with the Town of Lloyd Engineer and Town Water Department. The Project Sponsor will file a petition to extend the Highland Water District to include the Project area. These improvements can be described as follows (see Figure 3.13.1 Proposed Water System Improvements).

Extension of Town Water Main - An existing 12-inch diameter water main terminates near the newly constructed Rite Aid Pharmacy at the intersection of Macks Lane and US Route 9W in Highland. Extension of the District water distribution system will entail the installation of approximately 6,500 linear feet (1.2 miles) of 12-inch diameter ductile iron pipe along the US Route 9W from Macks Lane to the southern entrance of the Project site. The Town of Lloyd will likely require the extension of the 12-inch water main an additional 550± linear feet along US Route 9W to the southern property limit based on discussion with Town of Lloyd Engineer. Flushing hydrants and isolation valves will also be installed along the water main at appropriate locations for proper operation and maintenance of the water system.

Extension of water service to the site along US Route 9W will be coordinated with the Town and County departments of Public Works to minimize disruptions to the traveling public and to ensure restoration of public roads and rights-of-ways in accordance with permits issued and local standards. The water district extension will be accomplished at no cost to the existing users in the District. Sources for public funding not originating with the Town are currently being sought for the Route 9W water line extension. Upon construction it will be offered for dedication to the Town Board as part of the Town's extended water district.

On site, installation of water lines will be coordinated with construction of other buried utilities and wastewater lines as well as the roads so as to minimize construction impacts. Sedimentation and erosion during construction as well as fugitive dust emissions will be mitigated by the stormwater control and construction measures described in Section 3.2 and Section 3.4.

Water Plant Improvements - HVWV Project The existing filtration plant has sufficient treatment and pumping capacity to satisfy the anticipated combined water demand of the Water District and proposed HVWV Project. The existing 2 MG water storage tank has adequate reserve capacity to accommodate the proposed development. The existing filtration plant has adequate chemical storage facilities and sufficient sludge dewatering and disposal capacity to serve the proposed development. However, improvements to the plant's sludge holding and pumping capacity may be required in order to meet the additional water demand associated with the proposed HVWV Project. The contemplated improvements may include operational changes and installation of additional tankage and pumps for the storage and handling of sludge.

On-Site Water Distribution System - The primary on-site water distribution line will consist of approximately 7,700 linear feet of 10- inch water mains installed under the loop road. The primary water main loop will connect to the 12-inch water main on Route 9W at the proposed northern entrance near Blue Point Road and at the proposed southern entrance. Water will be delivered to the contemplated areas of development within the Project site by secondary water distribution systems. These secondary systems will generally consist of a network of smaller diameter water mains (6-inch or 8-inch) totaling approximately 25,500 linear feet in length. In some instances, these secondary systems have been interconnected or looped to increase the capacity and reliability of the overall water distribution system.

Water mains will be generally installed with a minimum earthen cover of five (5) feet. Main isolation valves will be installed at all water main intersections and at a maximum spacing of 800 feet between valves. Hydrants will be installed throughout the distribution system at all road intersections, dead end lines and all high points, and will be spaced at intervals between 300 and 600 feet.

The overall water distribution system will be divided into two distinct pressure zones, denoted PZ-1 and PZ-2, to accommodate the wide range of elevation within the service area and provide acceptable working pressures. Pressure zone PZ-1 serves the northern portion of the proposed development and is an extension of the tank core atmospheric pressure zone. Pressure zone PZ-2 serves the southern portion of the proposed development through a PRV installed on the proposed 12-inch water main along US Route 9W.

Water use in excess of rates assessed in this DGEIS will require supplemental environmental review.

On-Site Wastewater Treatment Facility

The site of the proposed development generally has higher elevations at the northwest and southeast corners of the site and the site elevation trends downward both easterly and toward the center of the property. The proposed location of the on-site WWTF is near the center of the site (see Figure 3.13.2 Proposed Wastewater Improvements). The WWTF is proposed at a location that achieves the minimum separation distance from residences required by NYSDEC.

By distancing the WWTF from residences, the impact of noise and odors at the facility are mitigated.

The sewage collection system is anticipated to be a network of gravity collection pipes constructed in accordance with local code and Ten-States standards. Where gravity collection systems will not be capable of conveying sewage to the WWTF, pump stations will be required. The pump stations will also be designed in accordance with Ten-states and NYSDEC documents. Each pump station will be, at a minimum, furnished with duplex pumps and an emergency power supply. It is anticipated that several smaller pump stations may be needed to either convey sewage to the main interceptor pipe leading to the WWTF, or to gravity piping leading to a central pump station designed to lift sewage from the lower areas of the site directly to the vicinity of the inlet to the WWTF.

Environmental impacts from the collection system are minimal. Generally, collection system components are installed in areas disturbed by roadways and other buried utilities. Small sewage lift stations are totally enclosed and can be hidden by shrubbery and similar small vegetation. Larger pump stations, if required, can be located away from residential development and also can be screened by fencing and landscaping. Generators are enclosed in sound-proof enclosures to minimize noise impacts. In addition, treatment tanks may be equipped with removable covers, to further reduce noise and odors. Where necessary, the building ventilation will be equipped with odor control units.

Wastewater treatment facilities require significant power to operate. Power demands can be minimized by specifying premium efficiency electrical motors, efficient design of other systems throughout the treatment process, and adhering to the same design standards for buildings at the WWTF as for other utility buildings within the development.

The proposed WWTF and conveyance/collection systems will be built, maintained, and initially operated by a Sewage Works Transportation Corporation formed by the Project Sponsor pursuant to Article 10 of the Transportation Corporations Law. A request will be made pursuant to Article 10 of the Transportation Corporations Law to the Town Board for the formation of the corporation and setting of the rates. Capacity of the new WWTF will be designed to exceed projected wastewater demand for the HVWV. The wastewater collection and treatment system will be offered for dedication to the Town Board in the future.

Wastewater Treatment

Treatment facilities are designed in accordance with Ten-States, NYSDEC, and NEIWPCC publications. The size of tanks, the number of tanks, redundancy, instrumentation and controls and many other details are all to be addressed as design of the Project advances. However, the traditional activated sludge process commonly used for WWTFs will address the main requirements of the anticipated effluent limits. There are many variants of this process. All should provide the required level of treatment. The tertiary filtration systems anticipated to supplement the main treatment processes are commonly either units utilizing sand for the

filtration or cloth-type units. The intent of the treatment processes is to have the proposed WWTF normally operate in compliance with the proposed effluent limits listen in Table 3.13.1 below, which was developed in coordination with NYSDEC.

Table 3.13.1 Proposed Effluent Limit

Constituent	Limit	Unit	Description
Flow	0.33	MGD	30-day arithmetic mean
CBOD, 5-day	5.0	mg/l	30-day arithmetic mean
Solids, Suspended	10.0	mg/l	30-day arithmetic mean
Solids, Settleable	0.1	mg/l	Daily Maximum
pH	6.5-8.5	SU	Range
Ammonia, as N	1.1	mg/l	May to October, 30-day arithmetic mean
	2.2	mg/l	November to April, 30-day arithmetic mean
Dissolved Oxygen	7.0	mg/l	Minimum, Year-round
Disinfection	0.1	mg/l	Year-round, TRC for chlorine

Notes: CBOD – Carbonaceous Biochemical Oxygen Demand
mg/L – Milligrams per Liter
SU – Standard Units
N – Nitrogen
TRC – Total Residual Chlorine

The HVWV site is bisected by an intermittent stream that flows from west to east across the center of the site. The proposed WWTF location is adjacent to this stream, and the discharge from the WWTF will be to this stream. In the area of the WWTF, the stream is within an area of minimal slope. As the stream approaches the eastern edge of the property, it flows down the steep face of the bluff at the edge of the Hudson River in a ravine that has been excised into the face of the bluff. The ravine is steep and the stream has minimal detention time in this reach. At the bottom of the bluff the stream crosses under the CSX rail line through a small bridge and enters the Hudson River.

The streams within the HVWV site are not included in the NYCRR sections that list and classify streams. Also, no NYSDEC-classified ponded water body is located within the HVWV property. Normally, for unlisted streams, the policy of NYSDEC is the unlisted stream takes the classification of the receiving stream. In this case, the receiving stream is the Hudson River. This reach of the Hudson River is classifies as an 'A' stream, and the intermittent stream on the HVWV property is assumed to also be classified as an 'A' stream for purposes of determining wastewater discharge requirements. The effluent limits in Table 3.13.1 meet these requirements.

Wastewater generation in excess of rates assessed in this DGEIS will require supplemental environmental review.

Natural Gas, Electric, Telecommunication

Central Hudson Gas & Electric Corporation has indicated in writing a willingness and capacity to serve the proposed HVWV Project (see Appendix B). Expansions of capacity are not required. Extensions of services will be conducted at cost to the Project Sponsor.

Extension of natural gas, electric, and telecommunications services to the site will be coordinated with the Town and County Departments of Public Works to minimize disruptions to the traveling public and to ensure restoration of public roads and rights-of-ways in accordance with permits issued and local standards.

On site, installation of natural gas, electric, and telecommunications facilities will be coordinated with construction of water and wastewater lines as well as the roads so as to minimize construction impacts. Sedimentation and erosion during construction as well as fugitive dust emissions will be mitigated by the storm water control and construction measures described in Section 3.2 and Section 3.4.

3.14 Community Services

A. Environmental Setting

Schools

The HVWV Project site is located within the Highland Central School District which serves students in Ulster County, including the towns of Lloyd, New Paltz, Esopus, Clintondale, and Marlborough. Highland Elementary and Middle School are located within the Hamlet of Highland, and the High School is located on Pancake Hollow Road within the Town.

According to the Economic and Fiscal Impact Analysis, included in Appendix R, the Highland Central School District currently has 1,900 students enrolled, 151 teachers, and class sizes averaging 24 students. From 2000 to 2010 enrollment within the school district has remained relatively stable. However, enrollment projections for 2020 suggest that enrollment could decline by as much as seven percent from the district's peak enrollment of 1,943 students in 2005.[10] Compared to other school districts within Ulster County, Highland Central School District is projected to see enrollment decline by the least amount.

Police

The Town of Lloyd Police Department provides police coverage to the Town, including the HVWV Project site. There are currently 31-35 employees that comprise the Town of Lloyd Police Department including nine full time officers, 15 part time officers, three full time dispatchers, and four to eight part time dispatchers. The police station is located within the Town at 25 Milton Avenue and receives, on average, a total of 6,500 to 7,500 calls per year. The Police Department operates the following equipment: 4 Patrol Cars , 5 Special Use Vehicles, 1 Segway, 1 ATV, and 2 Bicycles.

Fire

The Highland Fire District (HFD) responds to fires, alarms, and critical medical response calls as necessary within the Town of Lloyd. The HFD operates Station 1 at 25 Milton Avenue and Station 2 at 570 New Paltz Road. They maintain a staff of approximately 60 volunteers including one chief, three assistant chiefs, one captain, two lieutenants, eight EMT's, fire fighters, and drivers. The number of calls received a year average 425-450. The HFD operates the following equipment: 95 foot tower ladder, 3 Type 1 Engines, Tanker, Brush Truck, Trailer, 4 Chief Cars, and a Medical Response Vehicle at Station 1 – truck with AED and oxygen.

[10] *The Empty Classroom Syndrome A discussion Brief on the State of School Enrollment Projections in the Hudson Value.* The Hudson Valley Pattern for Progress. May 2013

The HFD prepares a budget on an annual basis which is passed by the Fire Commissioners and forwarded to the Town. The Town then collects taxes from district residents to pay for fire services.

Emergency Medical Services

Mobile Life Support Services, Inc. provides emergency medical services in Orange, Rockland, Ulster, and Dutchess County. They operate 22 stations throughout the service area, including two in the Town of Lloyd located at 25 Milton Avenue (HFD Station 1) and Route 299 (State Police Barracks). Mobile Life contracts with the Town of Lloyd for one ambulance 24 hours a day and a second for 12 hours a day during peak call times. They employ around 400 employees, 90 percent of which are uniformed personnel (paramedics and EMT's). Their fleet includes 48 paramedic units and six four-wheel drive ALS first response vehicles. Average response times range from four to eight minutes.

Health Care Services

There are three emergency medical facilities located within close proximity to the HVWV Project site. These include Vassar Brothers Medical Center, Saint Francis Hospital, and First Care Walk-In Medical Center.

Vassar Brothers Medical Center is a 365 bed facility located at 45 Reade Place in the City of Poughkeepsie, less than five miles away from the HVWV Project site. Vassar Brothers Medical Center is an affiliate of Health Quest Hospital System, an integrated healthcare network providing services in Columbia, Dutchess, Ulster, Orange, Putnam and northern Westchester Counties. As a regional medical center, Vassar has established centers of excellence in cardiac services, cancer care and women and children's health services.

Saint Francis Hospital is a 333 bed facility located less than six miles away from the HVWV Project site at 241 North Road in the City of Poughkeepsie. In terms of healthcare services, they provide: robotic surgery, physical and occupational therapy, trauma emergency services, orthopedics and sports medicine, home services, speech, language and hearing services, cardiac care, cancer care, mental health, chemical dependence treatment, as well as a range of other services.

First Care Walk-In Medical Center, located at 222 NYS Route 229 in the Town of Lloyd is approximately six miles away from the HVWV Project site. They provide urgent care, family practice, pediatrics, physical therapy and cosmetic dermatology healthcare services. Hours of operation are generally daytime hours throughout the week, with evening hours available Monday through Friday.

Solid Waste Disposal

The Town of Lloyd does not currently provide town-wide pickup for solid waste disposal and recycling. What pickup does exist within the Town is completed by private vendors providing services to various developments. The Town Transfer Station is located on Lily Lake Road within Highland. Residents can purchase annual permits, or pay for disposal for individual bags. Recycling is currently provided to residents free of charge.

Waste collected at the town transfer station is sent to Ulster County Resource Recovery Agency (UCRRA) transfer stations in New Paltz or Ulster. Waste accepted by the UCRRA is transported to the Seneca Meadows landfill in Waterloo New York.

At this time it is not possible to determine if any manufacturing waste will be generated as a result of the Project. However, should manufacturing waste be generated within the HVWV Project, all waste shall be disposed of consistent with local, regional, and statewide regulatory controls.

Recreation Facilities

The Town of Lloyd has a number of recreational resources that include: Tony Williams Park, Bob Shepard Highland Landing Park, the Hudson Valley Rail Trail, Berean Park, Johnson-Iorio Memorial Park, and the Town Field. These recreational resources provide access to the Hudson River, athletic fields/courts, swimming, hiking, picnicking, playgrounds, scenic overlook, and trails connecting to the Walkway Over the Hudson and Franny Reese State Park.

Major recreational resources within Ulster County include: Belleayre Mountain/Pine Hill Lake Day Use Area, Kenneth Wilson Campground, Minnewaska State Park Preserve, Ulster County Pool, Ulster Landing Park, and Woodland Valley Campground. Within the county there is a total of 350 miles of hiking trails within the Catskill Forest Preserve, Shawangunk Ridge, Wallkill Valley, Esopus/Roundout Valley, and the Hudson River Valley Rail Trail.

B. Potential Impacts

Schools

The estimate of the number of public school aged children (PSAC) is derived from published demographic multipliers for each of the identified housing types proposed within the HVWV Project. Based on these multipliers, the HVWV Project is anticipated to generate 270 new PSAC upon full build out (see Table 3.14.1). Conversations with the Superintendant at Highland Central School District indicated that the HVWV Project will impact the School District's day-to-day operations, but considering the Project's lengthy build out timeline, it did not appear that it would have an immediate or foreseeable impact on the School District's building capacity. Correspondence from the Superintendant has not been returned.

Table 3.14.1 Public School Aged Children			
Unit Type	Number of Units	PSAC Multiplier	New PSAC
1 Bedroom Apartments	240	0.15	36
2 Bedroom Apartments	344	0.43	148
Townhouse Low	148	0.23	34
Townhouse Moderate	86	0.18	15
Townhouse High	48	0.28	13
Single Family	47	0.50	24
TOTAL			**270**
Source: HVWV Economic and Fiscal Impact Analysis, Rutgers University			

Police

Correspondence with Daniel Waage, the Town of Lloyd Police Department Chief of Police, indicates the need to add two additional police officers to the department, as recommended by the New York State Division of Criminal Justice, which recommends one full time police officer for every 1,000 residents. Based on the Chief's calculation, the HVWV Project will cost the Town of Lloyd an additional $257,011 annually upon full build out.

Fire

The HFD will provide fire protection services to the new development. Based on discussion with the HFD Fire Chief John Gallagher there will be no substantial impact as a result of the HVWV Project (see Correspondence, Appendix R). The Chief anticipates an increase of one to four calls per month on average. Based on this estimate, the HFD will be able adequately serve the HVWV Project with no additions of staff or equipment.

Emergency Medical Services

Mobile Life will provide emergency medical services to the new development. Correspondence with Scott Woebse, Vice President/Chief Operating Officer, indicates there will be a 10 percent increase in call volume as a result of the HVWV Project (see Correspondence, Appendix R). This increase in call volume will reduce the Town's payment for service by approximately 10 percent as they receive 94 percent of their revenue from insurance payments. The increase in call volume results in an increase in revenue from insurance payments.

In addition, it is not anticipated that there would be any increase in response time. Mobile Life will not have to acquire any additional equipment or resources in order to service the HVWV Project.

Health Care Services

The HVWV Project will have very limited impacts to existing healthcare services within the area. Correspondence from Saint Francis Hospital indicates they have sufficient capacity to treat additional patients as a result from the HVWV Project (see Appendix B). Their facility is equipped to deal with unscheduled emergencies. Therefore no impacts on healthcare services from the proposed HVWV Project are expected. Correspondence was not returned from Vassar Brothers Medical Center or the First Care Walk-In Medical Center.

Solid Waste Disposal

The HVWV is estimated to produce approximately 2,000 tons per year of solid waste once full build-out is achieved (after year 2034). During the years prior to full build-out, the quantity of waste generated by operations will ramp up proportional to square feet in operation. The waste generated is assumed to be typical municipal solid waste (MSW). Assumptions were made regarding the percentage of solid waste that would be recycled for commercial and residential waste. Estimated recycling rates were identified from the California Environmental Protection agency (CEPA) publication *Targeted Statewide Waste Characterization Study: Waste Disposal and Diversion Findings for Selected Industry Groups (CEPA 2006)*. According to this publication, an average of 23 percent of commercial waste, 31 percent of hotel waste, and 32 percent of residential waste is recycled. Based on these assumptions, it is estimated that approximately 590 tons per year will be recycled, and 1,410 tons per year will be transported to an off-site landfill.

The HVWV Project will have designated garbage disposal areas on-site for residents to dispose of their household waste and recyclable materials. Separate areas will be designated for commercial and light industrial uses. Depending on the agreement, a private hauler will likely transport the waste/recyclables to the Town's transfer station which will be transported to Ulster County Resource Recovery Agency (UCRRA) transfer stations in New Paltz or Ulster. Waste accepted by the UCRRA is transported to the Seneca Meadows landfill in Waterloo New York.

Adverse impacts on the available capacity of the receiving landfills are not expected to result from the HVWV Project's expected solid waste output. Correspondence from the Ulster County Resource Recovery Agency was returned and indicated the Agency could handle the increased capacity and that there would be no impact on NYSDEC permit limitations (see Appendix B).

Recreation Facilities

The HVWV Project is estimated to generate 2,121 new residents within the Town of Lloyd at full build out. Over this 20 year period new residents will likely take advantage of the recreational resources within the Town, County, and greater New York State area. Correspondence was not returned from the Town's Recreation Director to identify any potential impacts. However, it is

anticipated that existing recreational resources within the Town, County, and region have sufficient capacity to support the Project.

The Town of Lloyd has approximately 575 acres of park space to be utilized by area residents. Based on the 2010 population of 10,863 residents, this equates to approximately 53 acres of park space per 1,000 residents, which is well above the standards identified by the National Parks and Recreation Association.

The HVWV Project will also provide the Town of Lloyd with additional recreational opportunities. The development of 5.5 miles of trails within the HVWV Project site will link to more than 350 miles of trails in Ulster County. On site, the trails will link the HVWV Project site to Franny Reese State Park to the north, and the Hudson River to the east. Public parking and interpretive signage will be provided on site to access this resource at a trail head located near the center of the site, immediately off the Central Boulevard.

Based on these findings and project elements it is anticipated that there will be no impacts to recreational facilities as a result of the HVWV Project.

C. Mitigation Measures

Schools

The Highland Central School District has adequate capacity to accommodate the Projected population at full build out. As noted in the fiscal impact analysis in Section 3.15, the Project will contribute $2,030,309 in additional net school tax revenue. The addition of school aged children with the Project will require the addition of school bus stops within the proposed development. At the time of site plan approval coordination with the Highland Central School District will identify the most appropriate locations for school bus stops. The additional net school tax revenue exceeds any additional costs related to additional bus stops within the development.

Therefore, no mitigation measures are necessary.

Police

Based on correspondence with the Town of Lloyd Police Department, two additional full time police officers will be needed as a result of the HVWV Project. The cost of the additional officers to the Town of Lloyd is anticipated to be $257,011 at full build out. However, as noted in the fiscal impact analysis in Section 3.15, the Project will contribute $1,072,276 in additional net town and special district tax revenue at full build out. Therefore no mitigation measures are necessary.

Fire

Based on correspondence with HFD adequate staff and equipment is available to provide service to the proposed Project, and response times will not be negatively affected. The HVWV will result in an additional 30 calls per year which translates to an anticipated cost of $29,030 to the Fire District at full build out. However, as noted in the fiscal impact analysis in Section 3.15, the Project will generate an additional $188,308 in net Fire District tax revenue at full build out. Therefore no mitigation measures are necessary.

Emergency Medical Services

Based on correspondence with Mobile Life Support Services adequate staff and equipment is available to provide service to the proposed Project, and response times will not be negatively affected. Therefore no mitigation measures are necessary.

Health Care Services

Based on correspondence with Saint Francis Hospital adequate staff and equipment is available to provide service to the proposed Project, and response times will not be negatively affected. Therefore no mitigation measures are necessary. Correspondence was not returned from Vassar Brothers Medical Center or First Care Walk-In Medical Center.

Solid Waste Disposal

No adverse impacts to solid waste disposal services or capacity are anticipated therefore no mitigation measures are warranted. The site will be served by a private waste hauler and recycling measures will be included. Therefore no mitigation measures are necessary.

Recreation Facilities

No adverse impacts to recreational facilities are anticipated as a result of the Project. Adequate facilities exist locally and regionally to meet any other needs such as athletic fields and community trail systems. Further, the Project incorporates more than five miles of trails that connect to the existing trail network through Franny Reese State Park.

No DGEIS thresholds are proposed by the applicant.

3.15 Fiscal Conditions

A. Environmental Setting

The HVWV Project site is a compound of buildings that were operated as a winery up until the last decade of the 20th Century. The property currently has a total assessed value of $4,584,600. The existing tax revenues generated by the HVWV Project site for applicable taxing districts (town, highway, ambulance, fire, light, school district, and county) totaled approximately $140,480. Approximately $94,947 of the tax revenue was received by the Highland Central School District. The Project site is privately owned and maintained and therefore has not required Town services aside from the potential for emergency police, fire, or emergency medical services. The property owner currently employs a single caretaker on-site. No residents or school children reside within the HVWV Project site. The Project site is not served by public water or wastewater.

B. Potential Impacts

The Hudson Valley Wine Village Economic and Fiscal Impact Analysis (Impact Analysis) was prepared by Camoin Associates to identify potential impacts resulting from the HVWV Project (see Appendix R).

Economic Impacts

The Impact Analysis estimates the construction of the HVWV Project over the 20 year build out period at a total cost of $273,467,196. On average, construction costs per year will total $13,673,360. In addition to this annual spending, construction jobs will be created and received wages will be spent in the local economy for daily needs, housing and other expenses. The indirect impacts of the new spending at the Project will result in annual totals of 166 construction related jobs, $16.4 million in sales, and $7.7 million in earnings. These jobs and spin-off impacts would last for the duration of the Project's construction.

The operation of the HVWV Project is estimated to generate a total of 1,286 jobs at full build out. The indirect impacts of the new jobs at the HVWV Project (upon full build out) will result in a total of 1,645 new jobs and over $74 million in annual earnings generated in the Study Area.

Fiscal Impacts

The HVWV is expected to generate $1,940,108 in annual Town and Special District revenue and $867,832 in annual Town and Special District expenses (see Table 3.15.1 and 3.15.2).

Table 3.15.1 Town and Special District Annual Revenue	
General Fund - Town Property Tax Revenue	$618,768
General Fund - Sales Tax Revenue	$34,922
General Fund - Variable Revenue	$69,282
Highway District Revenue	$341,326
Ambulance District Revenue	$46,983
Highland Fire District Revenue	$217,338
Highland Light District Revenue	$44,827
Water and Sewer District Revenue	$566,662
Total	**$1,940,108**
Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates	

Table 3.15.2 Town and Special District Annual Expenses	
General Fund - Variable Expenses	$93,446
General Fund - Police	$257,011
Highway District Expenses	$34,311
Ambulance District Expenses	$(21,671)
Highland Fire District Expenses	$29,030
Highland Light District Expenses	$43,509
Water and Sewer District Expenses	$432,196
Total	**$867,832**
Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates	

Table 3.15.3 shows the net impact of the HVWV Project on the Town (including Special Districts) throughout the 20 years of construction and following construction in year 21. Over the 20 year construction period, the average annual net impact on the Town and Special Districts is $987,298 in new revenue. The net impact is projected to increase by three percent annually following year 20 beginning at a net positive impact of $1,936,649 in year 21.

Table 3.15.3 Net Fiscal Impact of Project on Town and Special District			
Year	Revenue	Expenses	Net
1	$-	$-	$-
2	$260,241	$116,409	$143,832
3	$619,064	$276,914	$342,150
4	$891,885	$398,950	$492,935
5	$994,162	$444,700	$549,462
6	$1,096,911	$490,661	$606,250
7	$1,233,306	$551,672	$681,634
8	$1,375,178	$615,133	$760,046
9	$1,515,599	$677,945	$837,655
10	$1,661,384	$743,156	$918,228
11	$1,838,973	$822,593	$1,016,380
12	$1,981,218	$886,221	$1,094,997
13	$2,164,225	$968,082	$1,196,143
14	$2,321,530	$1,038,446	$1,283,083
15	$2,501,127	$1,118,782	$1,382,345
16	$2,695,943	$1,205,926	$1,490,018
17	$2,893,469	$1,294,281	$1,599,188
18	$3,056,519	$1,367,216	$1,689,304
19	$3,224,369	$1,442,297	$1,782,073
20	$3,401,991	$1,521,749	$1,880,242
21+*	$3,504,050	$1,567,407	$1,936,649

**Assumes 3 percent increase over year 20 and continuing into the future*
Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates

The HVWV Project would also generate revenue for the Building Department through various building permit, environmental review, and recreational fees. Using the Town's current building permit fee schedule, the Project will pay an estimated $4.45 million in building permit fees for the environmental review plus an additional $3.6 million in building permit fees throughout the life of the construction as the development occurs. Camoin Associates has removed these revenues and associated expenses from consideration because of offsetting expenses incurred by the Town Building Department. This is a highly conservative estimate in that the Town will likely receive far more in fee revenue than it will incur in expense.

School District Impacts

In addition to the Town of Lloyd, the Project will also have an impact on the Highland Central School District. Based on multipliers developed by Rutgers University, Camoin Associates estimates that the HVWV Project will generate 270 new public school aged children (PSAC) upon full build out (see Tables 3.15.4 and Table 3.15.5).

Table 3.15.4 Public School Aged Children

Unit Type	Number of Units	PSAC Multiplier	New PSAC
1 Bedroom Apartments	240	0.15	36
2 Bedroom Apartments	344	0.43	148
Townhouse Low	148	0.23	34
Townhouse Moderate	86	0.18	15
Townhouse High	48	0.28	16
Single Family	47	0.50	24
Total			**270**

Source: HVWV Phasing Plan, Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associate, Rutgers University

Table 3.15.5 Public School Aged Children by Grade – Full Build Out

	New Students
Kindergarten	28
First Grade	28
Second Grade	28
Third Grade	22
Fourth Grade	22
Fifth Grade	22
Sixth Grade	22
Seventh Grade	17
Eight Grade	17
Ninth Grade	17
Tenth Grade	16
Eleventh Grade	16
Twelfth Grade	16
Total	**270**

Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates

Based on the School District's 2011-2012 adopted budget, and the approximate cost per student of $15,891, the HVWV Project will result in $4,290,537 in additional annual expenses at full build out. It is also estimated that the HVWV Project will generate an annual total of $4,710,984 in property tax revenue and $1,609,862 in additional annual State Aid revenue, totaling $6,320,846 annually.

Over the 20 year build out period, the HVWV Project will generate an average annual net revenue of $2,194,503 to the Highland Central School District. The net revenue is projected to increase by 3% annually following year 20 beginning at $3,495,482 in year 21.

Tax Abatement Program Impacts

The 485(b) tax abatement program ("Program") authorizes a partial exemption from real property taxation on the increase in assessed value that occurs as a result of construction or improvement of commercial, business, or industrial property (residential property is not eligible for the program).

The Project Sponsor has an as-of right to the 485(b) tax abatement program for the Town of Lloyd (including the Highway Fund) and Ulster County, which means that it would be able to phase in the increase in assessed value of the commercial portion of the Project over a 10 year period, after which it would pay taxes on the full assessed value. The 485(b) program requires the property owner to pay taxes on the existing assessment (without the improvements) plus taxes on a certain percentage of the improvement increasing from 50 percent in Year 1 to 100 percent in Year 11. Year 1 begins following the completion of property improvements.

Commercial value of the Project is phased in over a three year construction (between year 2 and year 4). The assessed value of the commercial properties is $20,233,081 in Year 2, $48,890,154 in Year 3, and $70,098,605 in Year 4 and every year after.

The following table shows the total new taxable value of the Property assuming that the Project Sponsor utilizes the 485(b) program to phase in the value of the commercial portion of the Project (see Table 3.15.6). Since the 485(b) program does not impact the residential portion, Column B shows the phasing in of the residential assessed value where Columns C through F show the increase in taxable value under the 485(b) program.

Table 3.15.6 Total Taxable Value Under 485(b) Tax Program					
YEAR	New Residential Assessed Value	Commercial Change in Assessed Value (Phased in Based on 485(b))			Total Taxable Value
1	-	-	-	-	-
2	$5,337,667	$10,116,540	-	-	$15,454,208
3	$10,675,334	$11,128,194	$14,328,537	-	$36,132,066
4	$18,681,835	$12,139,848	$15,761,391	$10,604,225	$57,187,300
5	$26,688,336	$13,151,502	$17,194,244	$11,664,648	$68,698,731
6	$34,194,431	$14,163,157	$18,627,098	$12,725,070	$79,709,756
7	$44,536,161	$15,174,811	$20,059,952	$13,785,493	$93,556,416
8	$54,711,089	$16,186,465	$21,492,805	$14,845,915	$107,236,275
9	$64,052,007	$17,198,119	$22,925,659	$15,906,338	$120,082,122
10	$73,226,123	$18,209,773	$24,358,513	$16,966,760	$132,761,168
11	$84,568,665	$19,221,427	$25,791,366	$18,027,183	$147,608,641
12	$92,074,760	$20,233,081	$27,224,220	$19,087,605	$158,619,666
13	$102,416,490	$20,233,081	$28,657,074	$20,148,028	$171,454,673
14	$109,922,585	$20,233,081	$28,657,074	$21,208,451	$180,021,190
15	$118,596,294	$20,233,081	$28,657,074	$21,208,451	$188,694,899
16	$127,771,410	$20,233,081	$28,657,074	$21,208,451	$197,869,015
17	$136,444,119	$20,233,081	$28,657,074	$21,208,451	$206,542,724
18	$141,948,588	$20,233,081	$28,657,074	$21,208,451	$212,047,193
19	$147,286,256	$20,233,081	$28,657,074	$21,208,451	$217,384,861
20	$152,790,752	$20,233,081	$28,657,074	$21,208,451	$222,889,330
	Indicates the period impacted by the 485(b) tax abatement program. The first year of the schedule is 50% of the change in AV, the second year is 55% of the change in AV, and so on.				
Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates					

Not all jurisdictions participate in the 485(b) program (see Table 3.15.7). The following table lists the taxing jurisdictions that apply to the Property and whether or not they participate in the 485(b) tax abatement program. According to Ulster County, only the Town of Lloyd (including the Highway Fund) and Ulster County allow the 485(b) exemption.

Table 3.15.7 485 (b) Participating Jurisdictions		
District	Participating	Rate
Town of Lloyd Tax Rate (per $1,000 of AV)	Yes	$2.776120
Highway Fund Tax Rate (per $1,000 of AV)	Yes	$1.531370
Ambulance District Tax Rate (per $1,000 of AV)	No	$0.210791
Highland Fire District Tax Rate (per $1,000 of AV)	No	$0.975092
Highland Light District Tax Rate (per $1,000 of AV)	No	$0.201118
School District Tax Rate (per $1,000 of AV)	No	$20.71000
County Tax Rate (per $1,000 of AV)	Yes	$4.237418
Total Participating Districts (per $1,000 of AV)		**$8.544908**
Total Non-Participating Districts (per $1,000 of AV)		**$22.0970010**
Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates		

The rest of this analysis compares the tax payments to these jurisdictions (Town including Highway and County), as the other jurisdictions will not be impacted by the 485(b) program and therefore the tax payments would be the same whether or not HVWV utilizes the 485(b) program.

The table below calculates the cost as the difference between the tax payments under the 485(b) program and the payments without the 485(b) program (see Table 3.15.8). There is no difference in the first year, as no construction is expected to be completed and therefore there will not be an increase in assessed value. Between year 2 and year 13, the jurisdictions will receive less in tax income under the 485(b) program, but by year 14 of construction of the Project the Property will be taxed at full assessed value and therefore payments will be the same. On average, the affected jurisdictions will receive $4,554 less in tax payments annually over the 20 years period.

Table 3.15.8 Tax Policy Comparison			
Year	Total Payment Under 485(b)	Total Tax Payment Without 485(b)	Benefit (cost) to Jurisdiction of 485 (b)
1	-	-	-
2	$134,696	$222,870	-$88,174
3	$321,218	$529,544	-$208,326
4	$518,570	$805,054	-$286,484
5	$635,414	$895,210	-$259,796
6	$752,003	$983,929	-$231,926
7	$900,289	$1,103,125	-$202,836
8	$1,052,568	$1,225,059	-$172,491
9	$1,202,229	$1,343,079	-$140,850
10	$1,355,751	$1,463,626	-$107,875
11	$1,537,520	$1,611,044	-$73,524
12	$1,685,258	$1,723,014	-$37,756
13	$1,858,056	$1,869,548	-$11,492
14	$1,989,909	$1,989,909	$0
15	$2,127,502	$2,127,502	$0
16	$2,275,557	$2,275,557	$0
17	$2,422,814	$2,422,814	$0
18	$2,537,131	$2,537,131	$0
19	$2,653,015	$2,653,015	$0
20	$2,774,597	$2,774,597	$0
Annual Average	**71,835**	**76,389**	**-$4,554**
Source: Hudson Valley Wine Village, Economic and Fiscal Impact Analysis, Camoin Associates			

Expenses are anticipated to be less than total tax payment under the 485(b) program as well as less than the total tax payment without the 485(b) program. The annual average net revenue from the HVWV Project under the 485(b) program is $671,209 throughout the 20 year build out.

C. Mitigation Measures

Based on the Impact Analysis provided in Appendix R, and summarized in this section, the HVWV Project would have significant positive fiscal impact to the Town taxing districts as well

as to the Highland Central School District, the Town and the County. Annual property tax revenues from the Project will more than offset the increase in costs the HVWV Project may generate through increased demand for public services. The Project will also provide a considerable increase in tax payments to the Town of Lloyd and Ulster County compared to the property's current tax payments.

In addition, the Project will also generate sales tax revenues through operation of the Tuscan Village Conference Center and commercial space. Moreover, the employment opportunities provided by the Project will contribute to an increase in household spending in the region, which, in addition to the revenue generated by the retail and sales components of the Project and spending by visitors staying at the conference center, will produce an economic multiplier effect throughout the local and regional economy. In light of these additional significant fiscal and economic benefits, no adverse impacts would occur and no mitigation measures are proposed.

The HVWV Project would have significant positive fiscal impact to the Town taxing districts as well as to the Highland Central School District, the Town and the County. Annual property tax revenues from the Project will more than offset the increase in costs the HVWV Project may generate through increased demand for public services. The Project will also provide a considerable increase in tax payments to the Town of Lloyd and Ulster County compared to the property's current tax payments. No DGEIS thresholds are proposed by the applicant.

3.16 Demographics

A. Environmental Setting

Population Characteristics

Population trends in the Town of Lloyd over the past three decades have shown significant increases (see Table 3.16.1). From 1980 to 2010 the Town's population increased by nearly 3,000 residents, or 38 percent. In comparison, the population within Ulster County increased by 15 percent over the same period, less than half the rate of growth within the town. As another point of comparison, the overall rate of population growth for the state during this time period was 10 percent.

Table 3.16.1. Population Trends

	Lloyd	Percent Change	Highland CDP	Percent Change	Ulster County	Percent Change
1980	7,875	---		---	158,158	---
1990	9,231	17%	4,492	---	165,304	5%
2000	9,941	8%	5,060	13%	177,749	8%
2010	10,863	9%	5,647	12%	182,493	3%
2020	---	---	---	---	181,869	0%
2030	---	---	---	---	178,028	-2%
2040	---	---	---	---	170,141	-4%

Source: US Census Bureau, Cornell Program on Applied Demographics

Much of the population growth in the Town of Lloyd occurred within the Hamlet area of Highland. According to the Town's Comprehensive Plan, approximately 31 percent of the Town's population resided within the hamlet in 1970. By 2010, 5,647 residents lived within the hamlet, more than half of the town's population. The 4.6 square mile hamlet had a population density of 1,205 people per square mile compared to a population density of 343 people per square mile in the town.

Despite population growths within the Town, a May 2013 study completed by the Hudson Valley Pattern for Progress on the state of school enrollment projections predicted significant declines within Ulster County school districts. The study based this conclusion on: the one percent annual decline in the number of babies born in the Hudson Valley from 2001 to 2011; the sparse influx of new jobs, continuing unemployment and the cost of housing; taxes and the high cost of living in New York State; and a decline in school age populations and an increase in residents 65 years and older.

Age Characteristics

The distribution of residents based on their age is detailed in Table 3.16.2 below. The age cohorts of 0-19 years, 20-34 years and 35-44 years have each declined in terms of their overall percentage relative to the total population since 2000. The shift in the age of resident's population has shown significant increases in the age cohorts of 45-54 years, 55-64 years, and 65-74 years. However the older age cohorts of 75-84 years and 85 years and over have remained relatively stable. The only two age cohorts that saw declines in overall population were 45-54 years (267 residents) and 85 years and over (2 residents).

Table 3.16.2. Population by Age, 2000-2010

	2000		2010		Percent Change
	Total	**Percent Total**	**Total**	**Percent Total**	**(2000-2010)**
0-19 years	2,753	28%	2,774	26%	0.8%
20-34 years	1,781	18%	1,844	17%	3.5%
35-44 years	1,722	17%	1,455	13%	-15.5%
45-54 years	1,417	14%	1,828	17%	29.0%
55-64 years	816	8%	1,369	13%	67.8%
65-74 years	641	6%	738	7%	15.1%
75-84 years	501	5%	547	5%	9.2%
85 years and over	310	3%	308	3%	-0.6%
Total	**9,941**	**100%**	**10,863**	**100%**	**9.3%**

Source: US Census Bureau

The median age of the population in Lloyd has seen significant changes over the past few decades (see Table 3.16.3). In 2010, the median age in Ulster County was higher than in the Town of Lloyd. However, they both experienced considerable increases from 2000 to 2010 and are currently higher than the median age in New York State, 38 years.

Table 3.16.3. Median Age

	Town of Lloyd	Ulster County
1990	33.3	34.3
2000	37.5	38.2
2010	40.7	42

Source: US Census Bureau

Household Size and Type

Average household size for the Town of Lloyd was 2.54 persons in 2010 and 2.52 in 2000. These numbers support a national trend toward smaller household sizes.

In 2010, 66 percent of all households in the Town were classified as family households, meaning those living together are related. Non family households are comprised of individuals who cohabitate but are unrelated, such as roommates. The overall number of family households increased from 2,430 in 2000 to 2,706 in 2010, an increase of 11 percent. Non-family households increased from 1,196 in 2000 to 1,406 in 2010, an increase of 18 percent.

According to the Mid-Hudson Valley Community Profiles for Ulster County, the Town of Lloyd had 65 percent owner occupied housing units in 2000, and 67 percent owner occupied housing units in 2010. Comparatively, Ulster County's owner occupied housing unit percentage was 68 percent and 71 percent in 2000 and 2006–10 respectively.

The Community Profiles also measure household ownership affordability by identifying the ratio of the median home value divided by the median household income. A ratio of less than two (2) or three (3) is considered affordable. Within the Mid–Hudson Valley, Ulster County had the most affordable homes with a ratio of 3.4, while Dutchess County was least affordable with a ratio of 3.8, followed by Orange County at 3.6. The Town of Lloyd had an affordability ratio of 3.2 in 2006–10, up from 1.9 in 2000.

Relative to housing affordability for renters, the Community Profiles calculate the proportion of household income that goes toward monthly rent, utilities, and fuel. The federal Housing and Urban Development Department guideline for affordability is that rent should consume no more than 30 percent of household income. In 2006–10, 32 percent of household income in Ulster County went to rent, above what is considered affordable and up from 28 percent in 2000, though on par with the state (excluding NYC) and nation. In the Town of Lloyd in 2006–10, 29 percent of household income went to rent, up from 24 percent in 2000.

Workforce Housing

In 2009, *A Three-County Regional Housing Needs Assessment: Dutchess, Orange and Ulster Counties From 2006 to 2020* was completed by the respective Planning Departments within the three (3) counties. This collaborative study details housing affordability challenges throughout the three county region and, based on U.S. Department of Housing and Urban Development (HUD) guidelines, projects a greater need for affordable housing through 2020. Using the median household income, and home sales statistics, the study identifies the affordability gap, or the difference between unit demand and unit supply, calculated by tenure and income category.

The assessment identifies a baseline of information used to calculate the affordability gap. In Ulster County, in 2006, the median household income was $52,348, the median home sale price was $244,665, and the calculated affordable home price based on the median household income was $143,215. The average annual change in median home price was 9.9 percent from 1996 to 2006. Comparatively, the average annual change in median household income was 3.8 percent. For renters in Ulster County, the estimated 2006 median rent was $738 and the calculated affordable rent, excluding utilities, was $1,211.

In Ulster County the affordability gap in 2006 was 10,696 owner units and 5,257 renter units for a total need of 15,953 units. Projected to 2020, the affordability gap increases to 13,986 owner units, and 8,045 renter units for a total of 22,031 units. The assessment estimates that in 2020 the affordable home price, based on median household income, will be $214,332, and the affordable rent will be $1,748.

The assessment further details the Project need at the municipal level for the Town of Lloyd. Based on historical trends, property taxes, household income, poverty rates, and price growth relative to income growth, allocations were able to be made. The estimated affordability gap in 2006 was 446 owner units and 301 renter units for a total of 747 units. The assessment further projected the 2020 affordability gap will increases to 537 owner units and 452 renter units for a total of 989 units.

Based on 100 percent of the median household income of $65,706 in the Town of Lloyd in 2006, the assessment estimates the affordable home price in 2006 was $178,341. The affordable home price drops to $142,672 at 80 percent of the median household income, and to $89,170 at 50 percent of the median household income. Based on the same median household income for 2006, the assessment estimates the monthly affordable rent, excluding utilities, is $1,545 at 100 percent, $1,217 at 80 percent, and $736 at 50 percent.

Household Income

Median household income in the Town of Lloyd was $52,686 in 2000 and $64,030 in 2010. Comparatively, the median household income in Ulster County was $42,551 in 2000 and $57,584 in 2010.

B. Potential Impacts

The HVWV Project is estimated to increase the population of the Town of Lloyd by approximately 2,121 people at full build out (see Table 3.16.4). A residential multiplier model developed by Rutgers University was used to identify calculate the population increase based on housing type. This represents a 20 percent population increase within the Town at full build out and is consistent with the nine percent population growth that occurred in the Town from 2000 to 2010. It would further directly counteract the population decline that is predicted in Ulster County by the Cornell Program on Applied Demographics (see Table 3.16.1). Using similar

multipliers from Rutgers University, it was determined the Project would generate 270 new PSAC upon full build out.

Table 3.16.4 Estimated Population Generated by HVWV Project			
Unit Type	Number of Units	Multiplier	New Residents
1 Bedroom Apartments	240	1.97	473
2 Bedroom Apartments	344	2.53	870
Townhouse Low	148	2.11	312
Townhouse Moderate	86	2.23	192
Townhouse High	48	2.82	135
Single Family	47	2.95	139
TOTAL			**2,121**
Source: HVWV Economic and Fiscal Impact Analysis, Camoin Associates, Rutgers University			

The introduction of 915 housing units in the Town of Lloyd at full build out would represent a 21 percent increase overall. This overall rate of growth over a 20 year period is less than the 16 percent growth in housing units that occurred in the Town of Lloyd from 2000-2010.

The proposed zoning allows for a mix of apartments, townhomes and single family residences that creates a wide range of options for housing prices. The Project proposes to an increase in residential density to allow for the construction of multifamily apartment buildings which are needed in the Town of Lloyd and in the Ulster County region as noted in *A Three-County Regional Housing Needs Assessment*. Multifamily apartments are an economical way to provide affordable housing for the region. In addition owner occupied attached townhouses and condominiums units can be constructed reasonable cost to address the affordability gap in owner units. The construction of affordable owner units is not feasible on lots with one and two acre zoning which is the present zoning for the property.

It is anticipated that the developer or its successor will partner with state and county agencies to seek government or private sector grant funding assistance for the creation of affordable housing for a portion of the Project. Such funding will be helpful for the installation of the needed infrastructure which will service the affordable housing and other portions of the Project. Grants to reduce the cost of infrastructure will reduce the costs of targeted affordable housing as well as market rate housing at lower prices.

Because of the desirable location of the Project, market priced housing will occupy the largest portion of the Project but opportunities are available to build low, medium and high end residential units based on market demand. The price for the residential units will be determined by market conditions during the build out period which is anticipated to be about 20 years. With the possible exception of some targeted affordable housing constructed with

government funding, the residential units will be market rate housing constructed by the private sector. Housing units will not be constructed without a demonstrable market demand and market forces will control the potential of market saturation. Because of the length of the proposed build out and the changing real estate market, housing prices and housing types will vary over the build out cycle.

C. Mitigation Measures

The HVWV Project will result in an increase in population, school age children, and housing units within the Town of Lloyd. The rate of growth over the 20 year build out period is consistent with existing rates of growth from 2000 to 2010 within the Town. The Project will generate an average annual net revenue of $987,298 to the Town of Lloyd and $2,194,503 to the Highland Central School District over the 20 year construction period. The net revenue is projected to increase by 3 percent annually following year 20 beginning at a net annual revenue of $1,936,649 to the Town of Lloyd and $3,495,482 to the Highland Central School District in year 21.

Given these trends, the HVWV Project will create additional housing opportunities consistent with recommendations within the Town's 2013 Comprehensive Plan. The HVWV Project will result in a mix of apartments, townhomes, and single family residences that creates a wide range of options for housing prices. Because of the length of the proposed build out and the changing real estate market, housing prices and housing types will vary over the build out cycle. The HVWV Project proposes an increase in residential density to allow for the construction of multifamily apartment buildings which are needed in the Town of Lloyd and in the Ulster County region as noted in A Three-County Regional Housing Needs Assessment. Multifamily apartments are an economical way to provide affordable housing for the region. Therefore, no mitigation measures are proposed.

No DGEIS thresholds are proposed by the applicant.

3.17 Community Character

This section describes the Project site environs with respect to the neighborhood character and the architectural appearance of the proposed Project.

A. Environmental Setting

The Town of Lloyd is relatively rural in nature and includes the Hamlet of Highland. The Town's 2005 Comprehensive Plan identifies the need to accommodate new growth while retaining the rural character that provides a high quality of life. The plan states that the Town's sense of community is "provided by its rural places coupled with easy accessibility to commercial and cultural amenities, and a diversity of housing choices." Further, the Plan identifies the public's support for "a mix of land uses, that when well designed, can contribute to the quality of life and stabilization of the tax base."

The proposed HVWV site is situated along the western shore of the Hudson River in the Town of Lloyd at the intersection of US Route 9W and Blue Point Road. The HVWV Project site has previously been operated as a winery, however over the past few decades much of the site has been vacated. Many of the buildings associated with the winery remain on site, as well as a few residential structures. Land use within this area in Lloyd is a mix of residential, agricultural, and commercial and is relatively rural in nature (see Section 3.9 of this DGEIS). A number of industrial uses can be found south of the Project site including Sono-Tek Corporation and Brooklyn Bottling.

The Hamlet of Highland is located approximately two (2) miles to the north of the site and is comprised of uses typical of a village center, including higher density residential uses, commercial uses, and community and public services uses. New York State Route 9W runs north-south through the hamlet. The Hamlet area is home to the Highland Elementary and Middle Schools, Town of Lloyd offices, Highland Public Library, multiple churches, and many other public and commercial uses. Business within the hamlet area include a number of restaurants, salons, a barbershop, a music store, attorneys offices, flower shop, and various healthcare services. In 2011 Camoin Associates and Barton & Loguidice completed the Highland Hamlet Development Analysis and Action Plan for the Town of Lloyd. The plan describes the downtown business district as having experienced a period of disinvestment which has created vacant storefronts, reduced property values, and reduced retail opportunities for residents.

The village like setting in Highland provides small residential lots for single-family and two-family residences. In addition, the Hamlet is supported by a 160 lot subdivision off of Vineyard Avenue, and 120 townhouses on Sunnybrook Circle just west of downtown Highland. The 2013 Comprehensive Plan identifies the community's goal to encourage economic development and balance growth, bringing life and commerce back to the Town Center. The Comprehensive Plan further promotes concentrated mixed use development, design guidelines, and development where adequate water and wastewater infrastructure exists. It specifically identifies the

conceptual plan for the Winery property and the potential for extending municipal water south on Route 9W to the Marlborough border as a means to encourage commercial and light industrial uses along the Route 9W corridor.

East from the HVWV Project site, across the Hudson River, the City of Poughkeepsie is a dense urban environment that provides commercial and cultural amenities at a regional level. Uses visible from the Project site include: Vassar Brothers Medical Center, Health Quests Systems, Central Hudson Employee Federal Credit Union, the Poughkeepsie Rural Cemetery, as well as a number of industrial uses along the shores of the Hudson River.

B. Potential Impacts

The uses proposed within the HVWV Project including residential, commercial/office, industrial and the Tuscan Village Conference center are consistent with community character and nearby uses.

The residential component of the HVWV Project will largely consist of townhouses and apartments with 47 single-family homes. Residential development in Lloyd is predominantly single-family homes; apartments and townhomes are not a common residential form in Lloyd. The proposed Project will therefore add to housing diversity and choice within the Town and region.

The Tuscan Village Conference Center will be a unique concept in the Town reusing certain of the historic winery buildings, and creating a regional draw, bringing visitors to the Town who will patronize other businesses. The commercial space will be relatively small in scale and likely appeal to specialty uses and not directly compete with commercial uses located in Bridgeview Plaza or within the Hamlet of Highland.

The light industrial component of the HVWV Project will also be consistent with the natural setting of the site, and the character of the Town of Lloyd. The location of the light industrial facilities at the southern end of the Project site allows this aspect of the Project to operate separately from other uses. The new access drive at the southern end of the site will be the primary entrance and exit for all employees, patrons, and deliveries to the light industrial facilities to ensure the character of the remainder of the site is not disturbed.

The density of the proposed HVWV Project will be greater than the surrounding uses and greater than the existing zoning permits. The proposed new zoning districts allow the HVWV Project site to be developed in such a way as to provide a maximum variety of housing types and densities, encourage job supporting and tax producing development, and increase the range of services and facilities available to serve the Town's present and future populations.

Due to the design and placement of all of the buildings on the Project site, the buildings will not have an adverse impact on community character. Given that the site is generally self-contained and set among varying topography, the individual residences and buildings will not be highly

visible to where they would seem out of character with other existing homes in the immediate area. Visibility of the Project will be limited to a small window for drivers heading north on Route 9W. This will be the only location where the Project is visible from this heavily travelled north/south corridor. As such, development within the Project site will be visible from the main loop road to be constructed within the site to be used by residents, employees/patrons of the commercial/office and industrial spaces, and employees/guests of the Tuscan Village Conference Center. Natural materials used to construct the buildings will blend with the surrounding natural environment and decorative landscaping and screening will be installed within the developed areas of the Project site to reduce the visibility of the proposed Project from surrounding areas.

Upon completion of the Project, large areas of the Project site will remain largely forested, including the 77 acre bluff on the eastern portion of the site overlooking the Hudson River. Development within this Waterfront Bluff Overlay District will be limited to the location of the existing winery structures towards the northern end of the site. In addition to the conservation and environmental benefits, limiting development within the Waterfront Bluff Overlay District will ensure the character of the site remains intact from views across the Hudson River.

The Town's Draft 2013 Comprehensive Plan sets forth goals similar to those identified in the 2005 Comprehensive Plan. However, the places an increased emphasis on balancing growth, bringing life and commerce back to the Town Center, and encouraging economic development. The Draft Comprehensive Plan further promotes concentrated mixed use development, design guidelines, and development where adequate water and wastewater infrastructure exists. It specifically identifies the conceptual plan for the Winery property and the potential for extending municipal water south on Route 9W to the Marlborough border as a means to encourage commercial and light industrial uses along the Route 9W corridor The Draft Plan also promotes the creation of walkable and bikeable neighborhoods and the extension of the ridge trail southward with the cooperation of property owners. In regards to the 2013 Draft Comprehensive Plan, the HVWV Project will:

- Promote multiple types of housing in a bicycle and pedestrian accessible neighborhood linked to existing recreational resources;
- Protect the bluff and significant environmental resources while promoting light industrial and commercial uses along the Route 9W corridor;
- Incorporate rehabilitation of winery buildings for commercial/office uses;
- Promote extension of water services southward on Route 9W; and
- Incorporate the development of a new wastewater treatment plant.

As it more specifically relates to the Hamlet of Highland, the proposed HVWV Project will further enhance ongoing revitalization efforts. The HVWV Project is estimated to create 166 construction related jobs, and at build-out, an increase of 2,121 residents, and 1,645 employees

that will require access to goods, services, and forms of entertainment currently provided within the hamlet and surrounding area. This influx of consumers will have a significant impact on the local economy through support of local businesses and increased property tax and sales tax revenue within the Town and Hamlet. The Highland Hamlet area will continue to remain as the center of the Town, further supported by the proposed HVWV Project.

C. Mitigation Measures

The proposed HVWV Project has been designed to be in harmony with the landscape. Due to the scale and size of the proposed Project and the separation of the Project site from the Hamlet of Highland, the existing topography and woodland area is utilized to minimize the visibility of the proposed Project. This will help maintain consistency with the existing character of the area.

Upon completion of the Project, large areas of the Project site will remain largely forested, including the 77 acre bluff on the eastern portion of the site overlooking the Hudson River. Development within this Waterfront Bluff Overlay District will be limited to the location of the existing winery structures towards the northern end of the site. In addition to the conservation and environmental benefits, limiting development within the Waterfront Bluff Overlay District will ensure the character of the site remains intact from views across the Hudson River.

The creation of design guidelines will also further assist in ensuring the proposed HVWV Project is consistent with community character through each individual project that goes through site plan review. The design guidelines address site layout, grading and drainage, public space, planting areas, and building design (building form, roof forms, garages, windows and entries, materials and colors, fences and screening) for each of the proposed zoning districts. These measures will mitigate community character impacts and ensure future development within the HVWV Project site is consistent with community character. In addition, the materials used for construction of the buildings will be selected to allow the buildings to be visually unobtrusive, in harmony with the surrounding wooded hillsides and open space character of the community.

No DGEIS thresholds are proposed by the applicant.

3.18 Greenhouse Gas Emissions

A. Environmental Setting

Climate change is occurring at a global scale and stems from increased human activity resulting in a greater concentration of greenhouse gases (GHG). The Northeast Climate Impacts Assessment's (NECIA) *Confronting Climate Change in the U.S. Northeast* details climate changes across the region. The report notes that the Northeast has been warming at a rate of nearly 0.5 degrees Fahrenheit (°F) per decade and that winter temperatures rose at faster rate of 1.3 degrees Fahrenheit per decade from 1970 to 2000. Other climate related changes include: more frequent days with temperatures above 90°F; a longer growing season; less winter precipitation falling as snow and more as rain; reduced snowpack and increased snow density; earlier breakup of winter ice on lakes and rivers; earlier spring snowmelt resulting in earlier peak river flows; and rising sea-surface temperatures and sea levels. The report further notes that each of these observed changes are consistent with those expected to be caused by global warming. NYSDEC's *Policy on Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements* provides guidance on how GHG emissions should be assessed as related to development projects within New York State.

B. Potential Impacts

A Greenhouse Gas Assessment was completed by The Chazen Companies, consistent with NYSDEC's *Policy on Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements* (GHG Policy) (see Appendix S). The carbon footprint for the HVWV is the total set of all GHG emissions and is calculated as metric tons of carbon dioxide equivalent (CO_2e) per year, as directed by NYSDEC. Consistent with the GHG Policy, the assessment addresses project emissions from direct stationary and non-stationary sources, indirect stationary and non-stationary sources, and waste generation from the HVWV Project.

Direct GHG emissions from stationary sources at the Hudson Valley Wine Village include emissions from combustion of on-site fossil fuels for heat, hot water, steam generation, and industrial processes. This can include, but is not limited to, boilers, heaters, furnaces, oven, internal combustion engines, and any other equipment or machinery that combusts carbon-containing fuels or waste streams. The assessment estimates 25,599 metric tons of CO_2e will be generated at full build from direct GHG emissions from the HVWV Project.

Direct non-stationary sources of GHG emissions include fleet vehicles owned and operated by the Project proponent and would include freight trucks, delivery trucks, and on-site mobile equipment such as forklifts, tractors, and maintenance vehicles. Given that much of the HVWV Project is residential in nature, there will be little in the way of GHG emissions resulting from direct non-stationary sources. However it is likely the case that commercial/office space, industrial space, and the Tuscan Village Conference Center will require the use of

freight/delivery trucks and on-site vehicles. Since specific uses and operators have not been identified for these project components, estimates of fuel usage to calculate GHG emissions would be unreliable.

Direct non-stationary sources of GHG emissions for the HVWV Project were not included in the quantitative analysis because of the lack of sufficient input data or reliable methods to estimate this information based on other generic data.

Indirect GHG emissions are emissions that are not from HVWV owned or leased equipment but that are associated with HVWV activity. The NYSDEC Policy identifies indirect emissions from stationary sources as those that are generated by off-site energy plants supplying energy used on the site of the proposed Project during its operation, such as the off-site production of electricity which will be used on-site. They also include emissions generated by non-stationary sources including vehicles associated with residents, in addition to those associated with commuting employees, suppliers/vendors, and customers/users of the Project. The assessment estimates 23,638 metric tons of CO_2e will be generated at full build from indirect GHG emissions from the HVWV Project.

The GHG emissions over an approximately 30-year life cycle period of municipal solid waste is estimated at 1,719 metric tons of CO_2e, or an average of 57 metric tons of CO_2e per year over 30 years for one year of waste generation. This estimate takes into consideration recycling assumptions from the California Environmental Protection Agency.

The Hudson Valley Wine Village is estimated to generate approximately 49,294 metric tons of CO_2e based on calculations of direct stationary, indirect stationary, indirect mobile and solid waste sources of GHG emissions (see Table 3.18.1). These source categories represent all significant GHG sources associated with the HVWV Project at full build out.

Table 3.18.1 Summary of Hudson Valley Wine Village GHG Emissions

	Metric Tons CO_2e
Direct Stationary	25,599
Indirect Stationary	10,508
Indirect Mobile	13,130
Solid Waste	57
Total	**49,294**

Source: Greenhouse Gas Assessment, The Chazen Companies

C. Mitigation Measures

The proposed HVWV Project does not reasonably allow for quantitative analysis due to the lack of site specific design proposals that can be evaluated for benefits resulting from

implementation of example mitigation measures. As such, the application of mitigation measures identified within the GHG Policy cannot be applied in a quantitative manner. However, a number of design features have been included in the existing project resulting in the added benefit of minimizing the emission of greenhouse gases. The mixed use nature of the Project provides opportunities to live, work, and play; thereby reducing the need for travel by residents and employees on the Project site. Multi-family dwellings are the primary residential structure on-site which reduce building footprint, amount of construction materials required, and utility cost savings. The Project also preserves 60 percent of the site, including 77 acres of the bluff along the Hudson River.

The GHG Policy identifies example mitigation measures that can increase energy efficiency, reduce energy demand, and reduce GHG emissions from proposed Projects. As individual site specific development projects are designed and proposed, many of these mitigation measures will be incorporated in individual projects over the 20 year build out period. The GHG Policy identifies example mitigation measures related to the following categories: building design and operation measures, efficiency or mitigation measures for on-site GHG sources, site selection and design measures, transportation measures, and waste reduction or management measures. Some of the specific examples identified within these categories that are commonly accepted design practices, or have been included in the proposed Project include:

- Installing high efficiency HVAC systems;
- Maximizing interior daylighting;
- Using efficient, directed exterior lighting; using water conserving fixtures that exceed building code requirements;
- Providing for storage and collection of recyclables in building design;
- Providing design guidelines to facilitate sustainable design for build-out, promote and facilitate recycling;
- Improving traffic flow through roadway and traffic signalization improvements;
- Supporting pedestrian and bicycle safety
- Developing multi-use paths to and through the site,
- Providing on-site amenities;
- Using energy efficient boilers, heaters, furnaces, incinerators, or generators;

At the time of site specific development design and approvals, example mitigation measures as identified in the GHG Policy, along with other design strategies will be considered to reduce GHG emissions resulting from the HVWV Project. The application of these example mitigation measures and other green building principles will result in a number of important mitigation measures to lower energy consumption and reduce the GHG emissions estimated in the GHG Assessment (See Appendix S). Further, it is anticipated that over the 20 year build out period

technological advancements will made in building materials, site development, HVAC systems, energy conservation, alternative forms of energy, and fuel economy that will have a significant impact on lowering GHG emissions.

It has not been determined if LEED certification will be sought for any of the HVWV Project components. The LEED rating system for new construction is organized into five environmental categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, and Indoor Environmental Quality. An additional category, Innovation & Design Process, addresses sustainable building expertise as well as design measures not covered under the five environmental categories. The LEED for new construction ratings are awarded a rating of Certified, Silver, Gold, and Platinum according to the Projects score consistent with the LEED rating system.

Similar to the application of example mitigation measures identified as part of the GHG Policy, credits and pre-requisites identified as part of the LEED rating system cannot be applied to the Project at this time. The pursuit of LEED certification will be further developed for individual site specific development projects during the design and site plan approval process. However, the use of green building principles as identified in the LEED environmental categories will result in a project with lower energy consumption and reduced environmental and GHG emissions impacts.

No DGEIS thresholds are proposed by the applicant.

4.0 ALTERNATIVES

The New York State Environmental Quality Review Act (SEQRA) calls for the evaluation of reasonable alternatives to a Proposed Project that are feasible, considering the objectives and capabilities of the Project Sponsor. In accordance with SEQRA, the following alternatives to the Proposed Project were considered:

- No-Action Alternative
- Alternative Site Plan 1 - As of Right Development Plan (200± units of housing)
- Alternative Site Plan 2 - Conservation Subdivision Plan (200± units of housing)
- Alternative Site Plan 3 - Revolutionary Ridge Development Equestrian and Golf Course Plan
- Alternative Site Plan 4 – 1,194 Dwelling Units, 400,000 SF Alternative Uses Plan
- Alternative Site Plan 5 - 120 Suite Hotel, 240 Condominiums, 768 Dwelling Units Plan
- Alternative Site Plan 6 – 90 Suite Hotel, Conference Center, 50,000 SF Commercial/Office and 50,000 SF Adaptive Reuse
- Alternative Site Plan 7 – 750 Dwelling Units, 50,000 SF Commercial/Office, 50,000 SF Adaptive Reuse, 600,000 SF Industrial/Manufacturing/Institutional, Conference Center, and 90 Suite Hotel
- Route 9W Commercial Alternative Site Plan 8 - 847± Dwelling Units, 157,971 SF Commercial/Office (53,144 SF new and 51,727 SF adaptive reuse within the Tuscan Village and 53,100 SF new along Route 9W), 450,000 SF Industrial/Manufacturing/ Institutional, Conference Center, and 103 Suite Hotel

A comparison of impacts resulting from the alternatives can be found in Table 4.3.1 on the following page.

Summary of Proposed Alternative's Impacts

Table 4.3.1 Development Alternative Impact Comparison										
	HVWV	**Alt. 1** *Fig. 4.2.1*	**Alt. 2** *Fig. 4.2.2*	**Alt. 3*** *Fig. 4.2.3*	**Alt. 4** *Fig. 4.2.4*	**Alt. 5** *Fig. 4.2.5*	**Alt. 6** *Fig. 4.2.6*	**Alt. 7** *Fig. 4.2.7*	**Alt. 8** *Fig. 4.2.8*	**No Action**
Site Disturbance (acres)	170	117	75	243	117	159	30	162	174	0
Open Space Preservation (acres)	258	312	354	186	312	270	399	267	256	403
Slope Impact (acres)	33	32	5	77	21	35	8	32	34	0
Wetland Impacts (acres)	0.86	0.47	0.26	12.26	0.22	1.44	0.88	2.05	1.55	0
Vernal Pool Impact to 750' Buffer(acres)	31.31	34.17	20.82	77.63	42.21	42.21	0.0	41.89	41.91	0
Traffic – Peak AM Trips	850	130	132	280	607	695	93	1,111	1,158	0
Traffic – Peak PM Trips	1,130	168	167	329	707	739	105	1,423	1,562	0
Water Demand (gpd)	313,142	52,663	60,638	70,125	342,845	300,392	63,029	302,092	302,998	0
Wastewater Demand (gpd)	250,000	42,130	48,510	56,100	276,460	240,293	50,423	241,493	233,378	0
Dwelling Units	915	147	148	250	1,194	1,008	0	750	847	0
Residents	2,121	437	437	680	3,032	2,336	0	1,784	1,900	0
Public School Aged Children	240	74	74	0	515	282	0	215	248	0
Hotel Rooms	103	0	0	0	0	120	90	120	103	0
Commercial Space (square feet)	104,871	0	0	0	400,000	0	104,871	104,871	157,971	0
Industrial Space (square feet)	435,262	0	0	0	0	0	0	600,000	450,000	0
Operation Related Jobs	1,645	0	0	102	1,485	123	494	2,222	2,328	0
*Alternative 3 – Revolutionary Ridge proposes second home residential units and temporary stay units which will result in impacts well below those estimated within this table.										

4.1 No-Action Alternative

The "No-Build" alternative is the scenario that would occur if no new development were to take place on this site. Without development of the planned condominium project, the site would remain as is. The site is no longer operated as a winery but is a mix of overgrown orchards, vineyards, woodland, and open lawn areas that have been maintained by mowing. Many of the structures on-site are in significant disrepair and are no longer in use.

Under the "No-Action" Alternative, there would be:

- No increase in vehicular traffic
- No impacts to wetlands or wetland buffer areas;
- No impacts to vernal pools or vernal pool buffer areas
- No soil or vegetation disturbance
- No increase in impervious surfaces
- No changes in local zoning
- No increase in demand for public services such as police or fire protection
- No impact to cultural resources;
- No impact to viewshed along Hudson River

However, the "No-Action" Alternative would also not generate the anticipated benefits of the Proposed Action, such as:

- Average annual net revenue of $987,298 to the Town of Lloyd, including special districts, and $2,194,503 to the Highland Central School District during the 20 year build out;
- After year 20, a projected three percent increase in net annual property tax revenues to all taxing jurisdiction;
- Increase in the number of jobs including approximately 166 construction related jobs and 1,645 direct and indirect jobs at full build out;
- Local and regional economic activity resulting from the construction of the Project and the on-going needs of new residents;
- Provision of a mix of housing types in a community with few current options other than single-family homes;
- A network of trails along the bluff line of the HVWV Project site connecting a lookout at the shores of the Hudson River on the Project site to the White Trail (also known as the Ridgeline Trail) in Franny Reese State Park;

- Permanent protection of the 77 acre bluff above the Hudson River; and
- Extension of the Town water main south on US Route 9W, improvements to the town water infrastructure and construction of a wastewater treatment plant within the HVWV.

4.2 Alternative Development Plans

Alternative Site Plan 1 - As of Right Development Plan (200± units of housing)

According to the Town's Zoning Map, a majority of the proposed Project site is located within the Single-Family District-2 acres (R-2, 326.4 acres), while the remaining is in Single-Family District-1 acre (R-1, 102.3 acres). Permitted uses within these districts include Single Family Dwelling, Agriculture, Animal Husbandry, Funeral Home, Greenhouse and Nursery, Home Occupation – Class I, Conservation Area, Wildlife Refuge, Church or Place of Worship, Essential Services, and School – Public.

Under this alternative a total of 58 minimum one-acre lots, and 89 minimum two acre lots could be constructed for a total of 147 single family homes (see Figure 4.2.1 As of Right Development Plan). For the purposes of this evaluation, it was assumed the homes would be two-story ranging from 1,500-2,500 square feet in area.

In terms of site related impacts, this alternative would disturb 117 acres of the site, 32 acres of steep slopes, 0.47 acres of wetlands, and 34.17 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

Alternative 1 would include significantly fewer housing units than proposed in the Project and would not include any of the commercial or industrial land uses. Under Alternative 1, the assessed value of the Site would increase as a result of the new housing units, which would create an increase in property tax revenue for the Town, Special Districts, and School District. The construction of the housing units would create temporary jobs, but the permanent on-site jobs would not exist because of the lack of commercial/industrial land uses. Alternative 1 would provide less of a positive impact as compared to the Project because of the lack of commercial/industrial tax base.

Alternative Site Plan 2 - Conservation Subdivision Plan (200± units of housing)

The Town of Lloyd Zoning Law allows for the development of conservation subdivisions with densities consistent with existing zoning districts. The local law requires a minimum of 60 percent of open space, including unbuildable lands due to environmental constraints. It may also require up to an additional 10 percent of land area for recreation purposes. Based on these constraints, Alternative 2 illustrates a total of 148 lots on the 429± acre HVWV property. Under this alternative, a total of 312 acres are set aside for open space conservation, which exceeds

the minimum 60 percent requirement and allows for additional conservation for recreation purposes (see Figure 4.2.2 Conservation Subdivision Plan).+

In terms of site related impacts, this alternative would disturb 75 acres of the site, 5 acres of steep slopes, 0.26 acres of wetlands, and 20.82 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

Alternative 2 would include significantly fewer housing units than proposed in the Project and would not include any of the commercial or industrial land uses. Under Alternative 2, the conservation subdivision plan would increase the assessed value of the Site, which would create additional property tax revenue for the Town, Special Districts, and School District. The construction of the housing units would create temporary jobs, but Alternative 2 would not create any permanent on-site jobs. Alternative 2 would provide a less positive impact as compared to the Project because of the lack of commercial and light industrial tax base.

Alternative Site Plan 3 - Revolutionary Ridge Development Equestrian and Golf Course Plan

In 2002 Kanon Asset Development Group, Inc. proposed the Inn and Golf Club at Revolutionary Ridge at the current HVWV Project site. The proposal included a gated residential community of approximately 250 units divided between 170 second home residential units and temporary stay units placed throughout the site. The focus of the community was an 18-hole championship golf course, and a Club House and Inn designed with a Revolutionary War theme. The Project also incorporated an equestrian facility (see Figure 4.2.3 Revolutionary Ridge Development Equestrian and Golf Course Plan).

In terms of site related impacts, this alternative would disturb 243 acres of the site, 77 acres of steep slopes, 12.26 acres of wetlands, and 77.63 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

Under this alternative, the assessed value and property taxes paid to the Town, Special Districts, and School District would increase compared to what they are receiving currently. The economic impact of Alternative 3 would be much smaller than the Project since there would be fewer construction jobs created and significantly fewer on site permanent jobs created. Alternative 3 would provide a less positive impact as compared to the Project because of fewer jobs created and less property tax revenue.

Alternative Site Plan 4 - 1,194 Dwelling Units, 400,000 SF Alternative Uses Plan

This scenario presents an alternative that includes 528 dwelling units in multi-family three story apartment buildings, 640 dwelling units in multi-family duplex over simplex apartments, and 26 single family homes on minimum two acre lots (see Figure 4.2.4). A total of 400,000 SF of commercial/office space is proposed in one and two story buildings. This alternative does not include the Tuscan Village Conference Center, hotel, restaurant, or light industrial uses.

In terms of site related impacts, this alternative would disturb 117 acres of the site, 21 acres of steep slopes, 0.22 acres of wetlands, and 42.21 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

Alternative 4 would create significantly more residential units and commercial space compared to the Project but would not have any industrial use. Under Alternative 4 the Town, Special Districts, and School District could expect to see an increase in property tax revenue compared to current revenue. Highland Central School District revenues could be partially offset by the increased school children generated by this alternative.

Alternative 4 would not have as much commercial/industrial tax base and a larger percent of the Project would be residential, which typically demands more in services (particularly with respect to the School District). Alternative 4 would provide a less positive fiscal impact compared to the Project because of the lack of industrial tax base along with the increase in school aged children.

Alternative Site Plan 5 - 120 Suite Hotel, 240 Condominiums, 768 Dwelling Units Plan

This alternative site plan includes a residential component, and a commercial component in the form of a hotel (see Figure 4.2.5). A total of 363 dwelling units in multi-family three story apartment buildings, 384 dwelling units in multi-family duplex over simplex apartments, 240 dwelling units in condominiums, and 21 single family homes. A total of 1,008 dwelling units are proposed in this alternative. The alternative also includes a 120 suite hotel located at the site of the former Hudson Valley Winery. This alternative does not include the conference center, commercial or light industrial uses in the proposed Project.

In terms of site related impacts, this alternative would disturb 159 acres of the site, 35 acres of steep slopes, 1.44 acres of wetlands, and 42.21 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

Under Alternative 5, the assessed value of the Site would increase compared to current conditions and generate more in tax revenue. The 120 room hotel would not create as many jobs as the commercial and industrial land uses proposed in the Project. The residential portion of the Alternative is similar to the Project, however with the lack of commercial/industrial tax base to generate revenue there might be a negative (i.e. less positive) impact on the School District. Alternative 5 would provide a less positive impact compared to the Project because of the lack of industrial tax base and the increase in school aged children.

Alternative Site Plan 6 – 90 Suite Hotel, Conference Center, 50,000 SF Commercial/Office and 50,000 SF Adaptive Reuse

This alternative site plan includes the Tuscan Village Conference Center and commercial/office space (see Figure 4.2.6). This alternative does not include a residential or industrial component in the proposed Project.

In terms of site related impacts, this alternative would disturb 30 acres of the site, 8 acres of steep slopes, 0.88 acres of wetlands, and 0.0 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

Alternative 6 would generate increased property tax revenue for the Town, Special Districts, and School District compared to existing conditions. Under Alternative 6 there would be no residential units and therefore no school aged children. This alternative does not include any industrial land uses which would reduce the economic impact (jobs and fiscal) and limit the assessed value of the Site. Alternative 6 would provide a less positive impact compared to the Project because of the reduced job creation and the lack of industrial tax base.

Alternative Site Plan 7 – 750 Dwelling Units, 50,000 SF Commercial/Office, 50,000 SF Adaptive Reuse, 600,000 SF Industrial/Manufacturing/Institutional, Conference Center, 90 Suite Hotel

Alternative 7 contains many of the same elements outlined in the Project (see Figure 4.2.7). In terms of site related impacts, this alternative would disturb 162 acres of the site, 32 acres of steep slopes, 2.05 acres of wetlands, and 41.89 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

The assessed value of the Site would increase as a result of Alternative 7 which would benefit the Town, Special Districts, and School District in terms of increased property tax revenue.

Alternative 7 includes more industrial land use which would increase the number of permanent on-site jobs that are created. The 750 residential units in Alternative 7 would create fewer school aged children as compared to the Project. Alternative 7 would provide a more positive impact compared to the Project because of the increased industrial tax base and the decrease in school aged children.

Route 9W Commercial Alternative Site Plan 8 - 847± Dwelling Units, 157,971 SF Commercial/Office (53,144 SF new and 51,727 SF adaptive reuse within the Tuscan Village and 53,100 SF new along Route 9W), 450,000 SF Industrial/Manufacturing/ Institutional, Conference Center, and 103 Suite Hotel

Alternative 8 was not included in the scoping outline but contains many of the same elements outlined in the Project (see Figure 4.2.8). This alternative includes a total of 847 dwelling units in the form of multi-family three story apartment buildings (198 dwelling units), multi-family duplex over simplex apartment buildings (320 dwelling units), four (4) unit condominiums (196 dwelling units), two (2) unit condominiums (86 dwelling units) and single family dwellings (47 dwelling units). The alternative also includes the 103 Suite Hotel and Conference Center and 450,000 square feet of industrial space as proposed in the HVWV Project. This includes an additional 14,378 square feet beyond the proposed HVWV Project. In order to meet goals set out by the 2013 update to the Town of Lloyd's Comprehensive Plan, this alternative proposes an additional 53,100 SF of commercial/office space to be located along US Route 9W (see Figure 4.2.8). Total commercial/office space included within this alternative is 157,971 square

feet. The location of this commercial/office space results in a reduction of housing units compared to the proposed Project. In terms of site related impacts, this alternative produces nearly identical impacts. Disturbance would total 174 acres of the site, 34 acres of steep slopes, 1.55 acres of wetlands, and 41.91 acres of total impacts to the 750 buffer surrounding the vernal pool (see Table 4.3.1).

The significant differences between Alternative 8 and the proposed HVWV Project are mainly demographic and economic. Alternative 8 proposes a total of 847 residential units, 66 units less than the Project as a result of the reduction in the number of housing units in favor of additional commercial/office space. This alternative is estimated to generate 1,900 residents and 248 school aged children. This reduction also causes a reduction in the estimated demand for water and sewer services on the Project site.

Alternative 8 would provide a more positive fiscal and economic impact compared to the Project because of the increase in commercial/office space. This alternative proposes an additional 53,100 square feet of commercial space on top of the 104,871 square feet proposed in the Project. In total, this alternative is estimated to generate 1,438 operation related jobs, 152 more than estimated as part of the Project. Beyond job generation, this alternative would produce an assessed value of the site greater than the Project which would benefit the Town, Special Districts, and School Districts in terms of increased property tax revenue.

Based on the Fiscal Impact Analysis prepared for this alternative, the HVWV is expected to generate $1,913,829 in annual Town and Special District revenue and $478,981 in annual Town and Special District expenses (see Appendix R). Over the 20 year construction period, the average annual net impact on the Town and Special Districts is $990,730 in new revenue. On average, this annual impact is $3,500 greater than the Project. The net impact is projected to increase by three percent annually following year 20 beginning at a net positive impact of $1,902,867 in year 21.

The HVWV Project would also generate revenue for the Building Department through various building permit, environmental review, and recreational fees. Using the Town's current building permit fee schedule, the Project will require an estimated $4.4 million in initial building permit fees for the environmental review plus an additional $3.4 million throughout the life of the construction as the development occurs. Building permit fees paid to the Town under this alternative are similar to those in the proposed Project.

In addition to the Town of Lloyd, the Project will also have an impact on the Highland Central School District. Based on multipliers developed by Rutgers University, Camoin Associates estimates that the HVWV Project will generate 248 new public school aged children (PSAC) upon full build out. Based on the School District's 2011-2012 adopted budget, and the approximate cost per student of $15,891, the HVWV Project will result in $3,940,937 in additional expenses at full build out. It is also estimated that the HVWV Project will generate a total of $4,647,777 in property tax revenue and $1,478,688 in additional State Aid revenue,

totaling $6,126,465. Over the 20 year build out period, the HVWV Project will generate an average annual net revenue of $2,392,469 to the Highland Central School District. On average, this annual impact is $197,966 greater than the Project. The net revenue is projected to increase by 3% annually following year 20 beginning at $3,775,824 in year 21.

Compared to the Project, Alternative 8 results in similar site related impacts, less residents and school aged children, more jobs, increased assessed value, and increase property tax revenues to the Town, School District, and Special Districts.

4.4 Alternative Sites

There are no alternative sites under the control of the Project Sponsor that meet the Project Sponsor's objectives.

5.0 IRREVERSIBLE AND IRRETRIEVABLE RESOURCE COMMITMENTS

The proposed Project, like any development, will cause the short-term and long-term commitment of environmental resources. Land development, whether residential, commercial, or light industrial, results in land being converted into another use. The construction of impervious surfaces, and the attendant human and mechanical activities, alters the landscape and the pre-development environment.

On the Project site, undeveloped land will be committed to the development of apartments, townhouses, single family dwellings, conference center, hotel, commercial and office space, industrial/manufacturing/institutional space and associated amenities. Existing topography, soils, drainage patterns, wildlife habitats and vegetation will be altered, some replaced with impervious surfaces and some reverting back to green-space.

Resources consumed during construction of the development, including fossil fuels, electricity, and construction materials, will be committed for the life of the Project. Non-renewable fossil fuels will be irretrievably lost through the use of gasoline and diesel powered construction equipment during construction. To the extent feasible, 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. The need for construction jobs will be an irretrievable commitment of labor resources.

As described in detail in Section 3.0, “Environmental Setting, Impacts and Mitigation Measures,” the long-term demand for water and energy resources at the site will increase when the proposed land uses are operational. The proposed Project would result in the long-term commitment of these resources for the operation of the HVWV. However, the amounts of water and energy used in operation of the proposed Project would be relatively small in relation to regional consumption, and sufficient quantities of water and other resources are available locally and in the region to accommodate this demand.

6.0 UNAVOIDABLE ADVERSE IMPACTS

As identified in Section 3.0, the proposed Project will have some adverse impacts on the environment that cannot be avoided if the Project is implemented. Some of these are short term impacts that will occur primarily during construction. Most arise from the alteration of existing site conditions. There are, however, others that will have permanent or long-term environmental impacts. Most of these are unavoidable consequence of the development process. The impacts that cannot be avoided will be mitigated through reduction of impacts to the greatest extent possible through the proposed engineering design and by the use and implementation of specific mitigation measures summarized in Section 3.0 of the DEIS.

Adverse impacts that cannot be avoided are identified below:

- Disturbance to the site for grading, construction, paving, dredging, and landscaping;
- Replacement or disturbance of onsite soils during the course of development, including disturbance of approximately 33 acres of steep slopes (>15 percent);
- Increase in the amount of impervious surface (a total of approximately 70 acres);
- Alteration of on-site stormwater runoff patterns although there will be no increase in the amount or decrease in the quality of stormwater leaving the site;
- Impacts to approximately 0.86 acres of onsite wetlands, including 0.45 acres of an unregulated isolate wetland, and 0.41 acres of a jurisdictional wetland.
- Impacts to on-site terrestrial and aquatic habitats;
- Generation of traffic. During the construction phase, trucks, machine transport vehicles, supply vehicles, and work crew vehicles would add to the present traffic. Once the development is complete, there will be additional trips generated by residents, employees and patrons of the HVWV;
- Increase in dust particles generated at the site during construction;
- Increase in water usage and wastewater generation;
- Increase in solid waste and recyclable material generated at the site;
- Increase in lighting generated at the site; and
- Increase in energy usage, specifically electricity and heating fuels.

7.0 GROWTH INDUCING ASPECTS

Certain actions associated with the development of land and subsequent operations of the development can result in the inducement of growth beyond the Project borders and within the community at large. Often, projects that have high employment demands result in growth in the surrounding community to support those demands. Alternatively, the provision of water and sewer as well as other infrastructure in remote areas can allow previously difficult or costly to develop land to become more feasible for development and thus growth occurs outside the Project boundaries. Factors that can induce growth from projects include:

- Increase in housing stock
- Demand for employees
- Provision of new infrastructure
- Increase in property values of surrounding land
- Increase in demand for local retail goods and services

With respect to an increase in housing stock, the Project will contribute 915 housing units with up to 1,681 bedrooms over the 20 year build out period. The Project is estimated to generate a total of 2,121 new residents. The impacts of this projected maximum growth are discussed in Section 3.14 and Section 3.16, Community Services and Demographics, respectively.

The demand for employees of the HVWV Project is discussed in Section 3.15, Fiscal Conditions. The proposed Project will generate employment opportunities during construction and over the long-term operation of the Project. The Project Sponsor estimates that approximately 166 temporary jobs would be created during construction of the Project. Over the long term, approximately 1,649 direct and indirect jobs would be created within the Tuscan Village Conference Center, commercial/office space, and light industrial component. Most employees are expected to come from the local and regional workforce. Training and skill-building will be provided on the job. Indirect jobs will be created as a result of the HVWV Project and will be spread out over a wide geographic area, and not only located in the Town of Lloyd.

The provision of new infrastructure, particularly drinking water and wastewater collection and treatment can be an inducement to growth under some circumstances. The Project site is not currently serviced by public water or wastewater systems.

With respect to water service, an existing water line on US Route 9W will be extended to the Project site. US Route 9W is currently developed with various commercial and residential properties. Some vacant properties are also located along this corridor. The extension of the water line from Macks Lane may induce growth as properties between Macks Lane and the HVWV Project on US Route 9W may wish to connect to the new water line. Additionally, undeveloped properties along this corridor may also be developed as a result of the provision

of public water. However, the potential for induced growth from the water line extension on US Route 9W is very limited due to the available land stock and current land uses. Similar to the sewer system, the water system proposed for the development will only service the development. Any water line extensions would require municipal approval and therefore all controls will be in place to ensure that induced growth is limited or at a minimum considered as an impact in the future.

The Project will involve the construction of a new wastewater collection and treatment system which will be privately owned and operated. The Project will be serviced by municipal water though the extension of an existing water line. These services are discussed in detail in Section 3.13 Utilities. The provision of wastewater service will not cause induced growth since the wastewater will only service the Project site. As part of the local approvals for the Project, municipal consent to incorporate a Transportation Corporation for the purpose of operating the wastewater system will be sought. The municipal approval will incorporate an approval of the wastewater service area for the collection and treatment system. In order to service areas outside the Project site, the Transportation Corporation will have to obtain additional municipal approval. Thus, a control will be in place to ensure that induced growth is limited or at a minimum considered as an impact in the future.

With the HVWV Projected to result in a total estimated assessed value of $227,473,930, it is possible that surrounding property values will rise. Rising property values can result in increased interest in land for the purpose of development or protection from development. Induced growth as a result of a successful HVWV Project is difficult to predict, although a review of land uses within the area adjacent to the Project can reveal a potential order of magnitude.

It is anticipated that future occupants and employees within the HVWV will patronize a variety of existing local retail and commercial establishments. Local businesses are expected to provide many of the goods and services future occupants will require, and the additional population from the Project will help sustain these local businesses while promoting the opportunity for new businesses to open. There is the likelihood that demand for retail and commercial services could increase as a result of the proposed Project, which could contribute to increased commercial growth in Hamlet of Highland and in surrounding areas. This may be seen as a positive effect.

While some amount of induced growth is anticipated as a result of the successful implementation of the HVWV Project, mostly due to an increase in property values, new jobs and an increase in resident, existing land use and infrastructure provision controls result in restraints that reduce and control induced growth.

8.0 EFFECTS ON THE USE AND CONSERVATION OF ENERGY

Through the utilization of sustainable design techniques, selection of energy efficient and environmentally sensitive construction materials and mechanical systems, and a commitment to conservation practices and low impact development techniques, the proposed Hudson Valley Wine Village will utilize energy wisely and ensure the conservation and protection of the natural environment in the short term and long term. As with all development projects, energy will be consumed during construction and will continue to be consumed upon completion and use of the facilities and residences of the proposed Project. Due to the proposed 20 year build-out of the HVWV Project construction and operation will both occur in the short term and long term. Construction of the HVWV is subject to change as the Project moves forward, depending on many factors, including market demand and employment generation resulting from the Tuscan Village Conference Center, commercial/office space, and industrial uses. The HVWV Project may be built out faster or slower than the estimated 20 year built out depending on job creation and housing demand.

During construction, energy will be used to power equipment and various construction vehicles. Once construction is complete and homes are occupied, energy will be required for air conditioning, lighting, and the use of household appliances. The design and plans for all energy conservation systems within the development will take into account the New York State Energy Code. It is expected that all systems will be modern, energy efficient units. It is anticipated that the primary source of energy for the Project will be electricity and natural gas provided through Central Hudson Gas and Electric.

Section 3.18 Greenhouse Gas Emissions details the estimated amount of GHG to be generated by the Project at full build-out. At the time of site specific development design and approvals, example mitigation measures as identified in the GHG Policy, along with other design strategies will be considered to reduce GHG emissions resulting from the HVWV Project. The application of these example mitigation measures and other green building principles will result in a number of important mitigation measures to lower energy consumption and reduce the GHG emissions estimated in the GHG Assessment (See Appendix S). Further, it is anticipated that over the 20 year build out period technological advancements will made in building materials, site development, HVAC systems, energy conservation, alternative forms of energy, and fuel economy that will have a significant impact on reducing energy demand and usage.

Additionally, the Project Sponsor will investigate retaining ENERGY STAR-rated Home Building Contractors. Facilities that earn ENERGY STAR must meet guidelines for energy efficiency set by the U.S. Environmental Protection Agency (EPA). ENERGY STAR-qualified facilities can include a variety of energy-efficient features, such as effective insulation, high performance windows, tight construction and ducts, efficient heating and cooling equipment, and ENERGY STAR-qualified heating and lighting appliances. These features have been proved to contribute to improved home quality and comfort, and to lower energy demand and reduce air pollution.

Street lighting fixtures may use LED lights or other newer technology lighting. The goal of this lighting is to have lower energy consumption and a longer light element lifespan than traditional light sources.

The potential for the Project to pursue designation/certification under the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) will be examined during the site plan review process for each individual development project. Similar to the application of example mitigation measures identified as part of the GHG Policy, credits and pre-requisites identified as part of the LEED rating system cannot be applied to the Project at this time. However, the use of green building principles as identified in the LEED environmental categories will result in a project with lower energy consumption.

9.0 SUMMARY OF CUMULATIVE IMPACTS

Cumulative impacts are those that are considered in light of the proposed action as well as other actions occurring simultaneously or over the same period of time as the Project. Environmental impacts from the proposed Project are discussed in Section 3.0 and Unavoidable Adverse Impacts are discussed in Section 6.0. Cumulative effects can result from individually minor but collectively significant actions that take place over a period of time.

Three projects have been identified by the Lead Agency that are anticipated to occur over the same period of time that the proposed HVWV Project is expected to occur.

The Highland Square Project was proposed to be an Alzheimer's residential long term care facility with approximately 180 rooms. The Project also incorporated approximately 100,000 SF of retail space. However, the site plan for the proposed Project has expired and the Project is no longer active.

The Sixteen Acres Project is a preliminary project that conceptually proposes various pad sites for a range of commercial, retail, and service space with a possible larger anchor. There is also the potential the Project could incorporate a residential component. However, no formal application has been submitted to the town, therefore the cumulative impacts of the Project cannot be identified.

Mountainside Woods (MSW) is a proposed 162 single family residential lot conservation subdivision located near Vista Drive in the Town of Lloyd. The Project aims to develop approximately 30± acres of the site while preserving 124± acres of the site as open space to be dedicated to the Town. The Mountainside Woods project currently has Preliminary Plat Approval from the Town with conditions. However, there is no expectation at this time as to when construction would begin. The MSW Project is approximately three (3) miles north of the HVWV Project site.

A DEIS prepared for the MSW Project was completed in 2011 and the FEIS was completed in 2012. The MSW Project's impacts relating to water supply, traffic, population growth, fiscal, and visual were reviewed based on these documents.

The EIS prepared for the MSW Project identifies a total potable water demand of 32,275 GPD. The HVWV Project is estimated to use approximately 314,273 GPD. Cumulatively the two projects will use 346,548 GPD. Based on the district's overall capacity to treat up to 3.5 MGD, its current 1 MGD use, and the 346,548 GPD estimated water demand for the HVWV Project and MSW Project, the water district will have an additional 2.15 MGD capacity. No cumulative water impacts are anticipated.

The Traffic Impact Study prepared for the MSW Project indicates the Project will result in an increase in vehicles on local roadways and in trucks and construction vehicles during

construction period. In general, the Project is expected to generate a total of 144 vehicle trips during the AM Peak Hour and 201 vehicle trips during the PM Peak Hour. The intersections of Reservoir Road and Vineyard Avenue and Brescia Boulevard and Vineyard Avenue will continue to operate at a level of service "B" or better during the peak periods. The intersection of Toc Drive and Tillson Avenue and Vineyard Avenue would continue to operate at a level of service "C" during the AM peak hour while a Level of Service "E" or better will be experienced during the PM peak hour. This intersection is proposed to be realigned by the Town of Lloyd such that Toc Drive and Tillson Avenue will intersect Vineyard Road opposite each other. No cumulative traffic impacts are anticipated between the HVWV Project and the MSW Project, primarily due to the distance between and location of each project.

Both the HVWV Project and the Mountainside Woods project will result in an increase in population and in PSAC children. Given that the Highland Central School District has indicated sufficient capacity to support these projects, the addition of 94 students from the MSW Project and 270 students from the HVWV Project over the 20 year build-out, no known potentially significant cumulative impacts have been identified.

The potential cumulative fiscal impacts of the Project have been evaluated. The EIS for the MSW Project indicates no significant no significant fiscal resource impacts were identified. Taxes generated by the MSW Project will provide a net annual surplus to Ulster County ($29,237) and the Town of Lloyd ($19,819). The MSW EIS further indicates the Highland Central School District may incur a minimal deficit of $2,498 at project build out, if State Aid cuts are not reinstated. This deficit may cost taxpayers an additional 60 cents per year per tax parcel. Given that the MSW Project results in a net annual tax revenue to the Town of Lloyd and Ulster County, and the potential for a minimal deficit to the Highland Central School District and the HWVW Project results in a net annual tax revenue to the Town of Lloyd, Ulster County, and the Highland Central School district, no known significant cumulative impacts have been identified.

Given the distance and location of the HVWV Project and the Mountainside Woods project, and the lack of significant visual impacts, no known potentially significant cumulative visual impacts have been identified.

The potential for noise and air resource impacts were not evaluated as part of the MSW Project. However, due to the distance between the Projects, no known potentially significant visual impacts are anticipated.

Given the distance, location, and build-out periods of the Mountainside Woods project from the HVWV Project, no known potentially significant cumulative impacts have been identified.

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