

# **DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)**

## **DRAGON SPRINGS BUDDHIST, INC. SITE PLAN AMENDMENTS**

140 Galley Hill Road  
Town of Deerpark, Orange County, New York  
SEQRA Type I Action

### **Project Sponsor:**

Dragon Springs Buddhist, Inc.  
140 Galley Hill Road  
Town of Deerpark, New York  
Contact: Jonathon Lee  
(845) 754-7400

### **Lead Agency and Contact Person:**

Robert Vicaretti, Chairman  
Town of Deerpark Planning Board  
420 Route 209  
Huguenot, New York 12746  
Phone: (845) 856-2210

### **DEIS Preparers and Contact Person:**

Lanc & Tully Engineering and Surveying, PC  
3132 Route 207  
Campbell Hall, New York 10916  
Contact: Kristen O'Donnell  
(845) 294-3700  
kod@lanctully.com

Submission Date: November 14, 2018

Lead Agency Acceptance Date: December 12, 2018

Date of Public Hearing: February 13, 2018

Deadline Date for Comments on the DEIS: At least 10 days after the close of the hearing

## **PARTICIPATING CONSULTANTS**

### **ENGINEERING**

Kaijin Liang, P.E.  
140 Galley Hill Road  
Cuddebackville, NY 12729  
Contact: Minzi Pan, PE

### **PLANNING, AND EIS PREPARATION**

Lanc & Tully Engineering and Surveying, PC  
3132 Route 207  
Campbell Hall, New York 10916  
Contact: Kristen O'Donnell

### **ATTORNEY**

Burke, Miele, Golden and Naughton, LLP  
40 Matthews Street, Suite 209  
Goshen, New York 10924  
Contact: Richard Golden, Esq.

### **TRAFFIC**

Atlantic Traffic and Design  
35 Technology Drive  
Warren, New Jersey 07059  
Contact: John Harter, PE

### **BIOLOGY AND WETLANDS**

Ecological Solutions, LLC  
1248 Southford Road  
Southbury, CT 06488  
Contact: Michael Nowicki

## TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY	
	A. Introduction	1
	B. Summary of Existing Conditions on the Site	2
	C. Project Description	2
	D. List of Involved and Interested Agencies	4
	E. Project Purpose, Public Need and Benefit	5
	F. Summary of Existing Conditions, Potential Impacts, and Proposed Mitigation Measures	5
	G. Summary of Unavoidable Adverse Environmental Impacts	8
	H. Summary of Alternatives to the Proposed Action	8
	I. Summary of Impacts on Energy Use and Solid Waste Management	8
	J. Summary of Irreversible Commitment of Resources	9
	K. Summary of Growth Inducing Impacts	9
II.	PROJECT DESCRIPTION	
	A. Site Location	10
	B. Description of Proposed Action	11
	C. Project Public Need and Benefit	15
	D. Permits, Consultations, Submissions and Approvals Required	16
III.	ENVIRONMENTAL SETTING: EXISTING CONDITIONS, POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES	
	A. Soils and Topography	17
	B. Surface Water Resources	20
	C. Groundwater/ Water Supply	22
	D. Wastewater Management	24
	E. Stormwater Management	27
	F. Vegetation and Wildlife	32
	G. Traffic	38
	H. Land Use and Zoning	41
	I. Community Services	43
IV.	UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS	46
V.	PROJECT ALTERNATIVES	
	A. No Action Alternative	46
VI.	PROJECT IMPACTS ON ENERGY USE AND SOLID WASTE MANAGEMENT	46
VII.	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	47
VIII.	GROWTH INDUCING IMPACTS	47

## **LIST OF TABLES**

- Table I-1: Summary of Existing Conditions, Potential Impacts and Proposed Mitigations
- Table II-1: Status of Site Plan Items
- Table II-2: Status of Gazebos by Site Plan
- Table III-1: Projected Water Demand
- Table III-2: Effluent Concentration Limits and Monitoring
- Table III-3: Existing and Proposed Weekday Trip Generation
- Table III-4: RR Zoning District Bulk Regulations

## **LIST OF FIGURES**

- Figure II-1: Project Location
- Figure II-2: Project Layout
- Figure III-1: Existing Soils
- Figure III-2: Existing Topography
- Figure III-3: Slope Disturbance
- Figure III-4: Cut and Fill Analysis
- Figure III-5: Existing Wetlands
- Figure III-6: Zoning

## **APPENDICES**

- A. SEQRA DOCUMENTS
- B. WELL TESTING DOCUMENTATION
- C. WASTEWATER TREATMENT PLANT DESIGN AND CORRESPONDENCE WITH DRBC
- D. STORMWATER POLLUTION PREVENTION PLAN
- E. HABITAT ASSESSMENT
- F. TRAFFIC IMPACT STUDY
- G. SITE PLANS

## **I. EXECUTIVE SUMMARY**

### **A. Introduction**

An Environmental Impact Statement contains relevant and material facts and analysis upon which agency decisions on a particular project are made. This Draft Environmental Impact Statement (DEIS) is intended to convey general and technical information regarding the potential environmental impacts of the Proposed Project to the Town of Deerpark Planning Board (as Lead Agency), as well as several other agencies involved in the review of the Proposed Project, as described below. The DEIS is also intended to convey the same information to the interested public.

This DEIS is prepared for the site plan amendments of Dragon Springs Buddhist, Inc. (“Project Sponsor”). The Project Sponsor currently owns and operates a place of worship with temple buildings, two religious schools, and other various accessory structures on a 393-acre property located on Galley Hill Road in the Town of Deerpark, Orange County, New York in the Rural Residential (RR) Zoning District. The Project Sponsor proposes to amend its site plan to include the following: new music hall building, concrete plaza in front of the rehearsal hall with a sculpture and fountain, new rehearsal hall, new glass atrium, internal fences, modification of an existing meditation hall for use as a residence hall, statue work shed, gazebos, relocation of a fire pump house, new construction work shed, new elevated emergency access plaza, relocation of a storage shed, expanded parking facilities with two new parking structures, construction of a new 100,000 gallons-per-day (“GPD”) wastewater treatment plant, completion of 18,400 GPD wastewater treatment system and relocation of a 8,960 GPD subsurface absorption field, extension of an approved covered driveway, reconfiguration of previously approved Lake Drive and dam, increased width of the North Gate bridge, improvements to the North Gate driveway entrance, and associated improvements to stormwater management, lighting and landscaping. The foregoing shall be collectively referred to herein as the “Proposed Project” or “Proposed Action.”

The Project Sponsor submitted a Full Environmental Assessment Form with the application package to the Town of Deerpark Planning Board on January 29, 2018 to initiate the SEQRA process. The Proposed Project is considered a Type I Action under SEQRA. On February 28, 2018 the Town of Deerpark Planning Board declared its Intent to be Lead Agency for the review of the Proposed Project and typed the Proposed Project a Type I Action under SEQRA. A Notice of Intent was circulated to the Involved Agencies on March 8, 2018. After waiting the required 30 days, and receiving no written objections, the Town of Deerpark Planning Board declared itself Lead Agency and adopted a Positive Declaration requiring the preparation of an Environmental Impact Statement on April 11, 2018. A public scoping meeting was conducted by the Planning Board on May 9, 2018, with written comments accepted until the end of business on May 23, 2018. The draft scoping document was amended in response to public and agency comments and ultimately adopted by the Planning Board on June 13, 2018. A copy of all SEQRA documents are provided in Appendix A herein.

## **B. Summary of Existing Conditions on the Site**

The Site consists of 393 acres on a single tax lot in the Rural Residential (RR) Zoning District located at 140 Galley Hill Road in the Town of Deerpark, Orange County, New York. The Site is currently developed and operated as a place of worship. The Site is improved with temple buildings, two religious schools and various accessory structures. The facility was originally constructed for religious use in 2001 and has undergone several plan modifications since that time. The Project Sponsor's most recent site plan approval is dated June 25, 2014. That approval included all elements on the June 25, 2014 approved site plan as well as all buildings, structures and uses existing on the Site as of June 25, 2014 or under construction at that time. The approval of all existing structures and ongoing construction was pursuant to a court-ordered Stipulation of Settlement. Since that time, some structures on the Site have been constructed without a Planning Board approval. These items are part of the present application (see Table II-1, Existing Items).

Notwithstanding various phases of construction on the Site, currently only approximately 70 acres of the 393 acres are developed; the rest of the Site remains undeveloped in its natural vegetated state. Site disturbance has occurred in the locations of existing improvements that are concentrated in the central and eastern portions of the Site.

Existing landscaping on the Site is minimal. Lighting is provided on buildings, in parking areas and at the Site's entrances.

An onsite community well system currently has 2 groundwater wells supplying water to the existing religious educational buildings. Wastewater treatment is provided by an 18,400 GPD wastewater treatment plant located in the northern corner of the Site with subsurface absorption fields. The capacity of this system is currently limited and intermediate improvements will be implemented to bring this system up to its full capacity prior to the construction of the proposed larger system discussed further below. The existing visitor center has its own separate well (Well #4) and 1,200 GPD septic system.

## **C. Project Description**

The Project Sponsor is seeking approval of a comprehensive site plan to both expand the religious use on the Site and to rectify various structures which were constructed without a Planning Board approval. The Project Sponsor also seeks to relocate and/or reconfigure various structures that have been approved but are not yet constructed.

The following items comprise the Proposed Action:

- A partially constructed meditation hall will be converted to a residence hall with 30 rooms that will accommodate an additional 40 onsite residents. This building will be served by the Site's water and wastewater systems.
- A 920-seat music hall will be constructed to host performances. This building will have a 72,800 square foot footprint and will be connected to the community water and wastewater system.

- A concrete plaza with a sculpture and fountain located to the east of the existing rehearsal hall requires approval.
- An elevated emergency access plaza is proposed to allow fire trucks to access to the existing buildings.
- A glass atrium will be constructed as an entrance lobby to the existing college building.
- A new rehearsal hall will be constructed on the existing concrete plaza area to the east of the existing religious educational buildings. After construction, this rehearsal hall will be on the first level underneath the expanded Parking Garage B. The new rehearsal hall will be approximately 15,600 square feet.
- Lake Drive will be reconfigured and resurfaced and the covered driveway will be extended. Modifications to the existing dam are also proposed together with a bridge to allow water to flow between the existing lake and proposed lake. A new dam is also proposed on the east side of the proposed lake. The modifications to Lake Drive, the covered driveway, dam and the bridge are to conform to NYSDEC comments.
- A new parking structure (Parking Garage A) will be constructed with 1,098 car parking spaces and 42 designated bus spaces, replacing parking lot 1 which had 81 car spaces and 5 bus spaces. The new parking structure will be conveniently located adjacent to the music hall to accommodate guests attending events. Parking Garage B will also be expanded to 214 for a net increase in onsite parking of 1,084 car spaces. Parking lot 2 will be replaced by Parking Garage B. Parking lot 3 will remain as it currently exists. Total onsite parking will be 1,324 spaces car spaces and 42 bus spaces.
- Modifications to the North Gate bridge and driveway entrance require approval. The North Gate bridge has been widened from 13 feet to between 13 feet 2 inches and 15 feet 2 inches. The North Gate driveway entrance, the Site access from Galley Hill Road, will be raised and widened. A negative 2% grade will be maintained for the first 15 feet of the driveway. The width of the driveway will be 51 feet with permeable driveway pavers adjacent thereto for a distance of 16 feet and 17 feet on either side. The Zoning Board of Appeals granted variances for these modifications to the North Gate bridge and North Gate driveway entrance. Galley Hill Road will also be raised approximately 1.8 feet to create a more safe condition at this intersection. Improvements within Galley Hill Road will be consistent with Town road specifications.
- A statue work shed will be expanded to 11,000 square feet in the northwestern area of the Project Site. This structure will not have water or sewer connections. Its purpose is to provide workspace for the construction of Buddha statues.
- A previously approved but not yet constructed storage shed in the area of the proposed new parking structure (Parking Garage A) will be relocated northwest.

- A 2,100-square foot construction work shed is proposed to the east of Parking Garage A.
- A 110-square foot Fire Pump House is to be relocated from its previously approved location northerly, in between the proposed concrete plaza and Parking Garage A. It is proposed to be constructed below-grade with underground utility connections.
- The existing 18,400 GPD wastewater collection system requires modifications to bring the system into conformity with its permit. These improvements will be completed as an interim mitigation for wastewater treatment until a new wastewater treatment plan is approved and constructed. A new 100,000 GPD Wastewater Treatment Plant is proposed to replace the existing community wastewater system. This will include a new 50 by 50-foot building and underground utility connections.
- Twelve additional wooden gazebos will be constructed on the Site for a total of 17 on the Site. Three are newly proposed (Gazebos #16, #17 and #18) and one (Gazebo #9) is previously approved, not yet constructed, and is being relocated. The other 8 (Gazebos #2, #3, #4, #5, #6, #10, #11 and #12) are already approved and are not being modified in any manner. Additional approval is required for 2 of the existing gazebos; Gazebo #13 has been constructed in a different location than what was approved and Gazebo # 15 has not yet been approved. All gazebos are on-grade structures with no utility connections.
- An internal green iron fence around the existing temple buildings and religious education buildings that varies in height from 7½ to 9 feet, depending on location, requires plan approval. Portions of this fence were constructed prior to June 25, 2014 and, as a result, it was deemed approved by the court-ordered Stipulation of Settlement that approved all then-existing items and allowed completion of those then under construction. Even so, a height variance was required and because that variance has since been obtained, site plan approval is now being sought as a housekeeping matter.
- Stormwater management basins and other infrastructure are proposed consistent with the NYSDEC design regulations (see Section III-E below for an expanded discussion).

#### **D. List of Involved and Interested Agencies**

The following agencies have been identified as Involved and Interested for this review.

##### 1. Involved Agencies

- NYS Department of Environmental Conservation
- Orange County Department of Health
- Town of Deerpark Zoning Board of Appeals

##### 2. Interested Agencies

- U.S. Army Corps of Engineers
- Orange County Department of Planning
- Delaware River Basin Commission

- Huguenot Fire Department
- Town of Mount Hope

**E. Project Purpose, Public Need and Benefit**

The purpose of the Proposed Project is to expand the existing religious use at the Site and to obtain approval of certain structures that have been constructed not in accordance with a Planning Board approval (see Chapter II, Table II-1 Existing Items). The expansion of this religious institution will provide greater opportunity for elementary, secondary and College educational programs, meditation and practice of religion, art and music. There is always a public need for education, religion, culture and the arts and the Proposed Project will address such needs. Through this expansion of both student living accommodations and public performance space, the Project Sponsor will provide greater housing opportunities for students and have the ability to provide religious, music and art programs that serve a broader audience in the Hudson Valley.

**F. Summary of Existing Conditions, Potential Impacts, and Proposed Mitigation Measures**

The following table summarizes existing conditions, potential impacts and proposed mitigation measures by topic area in the order they appear in the main body of the document.

**Table I-1: Summary of Existing Conditions, Potential Impacts and Proposed Mitigations**

<b>Topic</b>	<b>Existing Conditions</b>	<b>Potential Impact</b>	<b>Mitigation Measures</b>
Soils and Topography	Based on the US Department of Agriculture, soils comprising the majority of the site include SXC, SXD, RSD, RSF, SWB and NaD. Site topography ranges from over 800 feet MSL in the central and southern portions of the Site to a low point of 480 MSL near the existing North Gate. Approximately 20% of the total Project Site contains slopes over 15%.	As a result of the project, approximately 40 acres of the Site will be physically disturbed. Of this land, 10 acres will be made impervious for new buildings, roadways and parking areas. The resulting development coverage for the Site will be 9%.  When vegetation is removed, the potential for erosion increases, particularly on areas of steep slopes.	Adherence to the <i>New York State Pollution Discharge Elimination System General Permit for Storm Water Discharges from Construction Activity</i> , combined with the required storm water pollution prevention plan (SWPPP) and soil Best Management Practices, will reduce the potential for soil erosion.
Surface Water Resources	There are several streams on or in the immediate vicinity of the Project Site including the Neversink River and Basher Kill, which run along the Site’s Northern property line. There are approximately 18 acres of Wetlands on the Project Site that are under Federal Jurisdiction.	The Proposed Project will result in 0.6 acres of Federal wetland disturbance for grading around the new lake and dam reconstruction. Disturbance within the lake will be temporary as this entire area will be water post-construction.	Wetland disturbance will require permits from the USACOE and NYSDEC. Wetland remediation will be required in the form of new wetlands to be created offsite.

Groundwater/Water Supply	The Project Site is not served by municipal water supply. Water supply on the Site is provided via a community well system. The current water usage at the Project Site is approximately 13,000 GPD.	The projected average daily water demand has been calculated to be 88,000 GPD. The system is being designed for an average daily demand of 100,000 GPD.  Water supply for the Proposed Action will be supplied by the existing ground water wells on the Site. Well #4 will be connected to the community system. New 2½ inch service lines are proposed to be run to the proposed residence hall, music hall and visitor center and a new line will connect Well #4 to the main water storage tank.	Fire pumps will be provided in new buildings similar to existing buildings to ensure pressure for fire-fighting. Onsite water storage will be provided in storage tanks in the new residence hall and music hall building. Hydrants will be provided on a separate water line from domestic supply.
Wastewater Management	Wastewater for the majority of the Site is collected to a community septic system while the visitor center has a separate 1,200 GPD capacity septic system. The community wastewater treatment system has an approved SPDES permit for discharge of up to 18,400 GPD but is currently limited in capacity. Current flow to the community wastewater treatment system is approximately 8,000 GPD.	The projected average daily wastewater generation is 88,000 GPD. The system is being designed for an average daily flow of 100,000 GPD. To serve the increased demand for sewer treatment, the existing treatment facilities will be replaced by a new 100,000 GPD facility.  Treated wastewater will discharge to an unnamed tributary of the Basher Kill River. Upon construction of the proposed WWTP, the existing septic tanks will be demolished and backfilled and the subsurface absorption fields will be abandoned in place.	The Project Sponsor will be required to monitor discharges to ensure various effluent parameters are held at or below DRBC and NYSDEC standards to protect downstream rivers and water quality. An emergency generator will be provided to supply back-up power to the WWTP and a remote alarm system will be installed. The Project Sponsor will also prepare an emergency management plan which will be filed with the DRBC and NYSDEC.
Stormwater Management	The Site mainly drains to the onsite lake or the Basher Kill. An area in the central portion of the Site infiltrates naturally into the ground while the undeveloped, western portion of the Site drains away from the development and away from the lake in a southwesterly direction.	The proposed disturbance area for the Proposed Plan is approximately 40 acres, which includes approximately 10 acres of new impervious areas for new buildings, roadways and parking areas. Under post-construction conditions drainage patterns remain largely unchanged with the onsite stream and Basher Kill River used as design discharge points.	A Stormwater Pollution Prevention Plan (SWPPP) consistent with the most up to date NYSDEC stormwater management regulations has been prepared for the Site. Green infrastructure practices have been proposed consistent with NYSDEC requirements. A second lake downstream from the existing lake will provide additional stormwater treatment/control and reduce peak flows to the receiving streams.
Vegetation and Wildlife	In general three habitat types occur on the Project Site:	The project will result in the disturbance of approximately	All onsite tree clearing will be conducted generally between

	<p>Forested Wetland, Tributary and Mixed Upland Forest.</p> <p>Based on correspondence with the NYSDEC and US FWS the following threatened and endangered species are known to be located in proximity to the Site: Bald Eagle, Small-whorled Pogonia, Brook Floater, Dwarf Wedge Mussel, and Indiana Bat.</p>	<p>40 acres of the Site. While the majority of disturbance will occur in areas previously cleared, tree clearing is a necessary part of construction activities. No physical disturbance will occur to the Neversink River, the reported location of sensitive habitat for dwarf wedge mussel and the brook floater. There was no habitat identified in the tributary on the Site. NYSDEC staff have determined that, based on projected effluent levels there will be no impacts to the Dwarf wedge mussel and Brook floater provided that adequate erosion and sediment control measures are in place.</p>	<p>November 1 and March 31 during the hibernation period of the Indiana and Northern Long Eared Bats to avoid impacts to roost trees.</p> <p>The proposed lighting for the Site includes very minimal new lighting with full cut-off downcast light fixtures to eliminate any potential impact to the night sky and existing habitat on the Site.</p> <p>In order to protect potential Bald Eagle all loud construction activities will be undertaken outside of the eagle nesting period and no explosives of any kind will be used on the Site.</p>
Traffic	<p>The Site is currently accessed via both Galley Hill Road and Guymard Turnpike. Traffic volumes were collected through a surrounding study area. At the Site the AM peak hour volume entering the Site is 27 vehicles with 7 vehicles leaving. The peak PM hour volume was 8 vehicles entering the Site with 11 vehicles leaving.</p>	<p>The proposed 920-seat music hall and other public areas on the Site could generate up to 2,000 visitors a day to the site. The anticipated amount of daily commuters to the Site will be as many as 200.</p> <p>The proposed increase of onsite residents is not expected to result in any appreciable increase in peak hour traffic.</p>	<p>The Project Sponsor has agreed to make improvements to the northern Site entrance. The Levels of Service at each of the studied intersections are maintained at C or better and the Proposed Project includes the expansion of onsite parking to accommodate increases in visitors. No additional mitigation measures are required. To address additional visitors parking facilities are to be expanded to a total of 1,324 car spaces and 42 bus spaces with a new parking structure adjacent to the proposed music hall and an expansion of an existing parking structure.</p>
Land Use and Zoning	<p>The Project Site lies within the Town's Rural Residential Zoning District. Places of Worship are principal permitted uses with Planning Board approval in this zone.</p> <p>The Town of Deerpark's most recent Comprehensive Plan does not have any goals which relate specifically to the Project Site or immediate vicinity but the Proposed</p>	<p>The Proposed Project is permitted in the RR Zoning District. A variance will be required for height of the proposed glass atrium and a Buddha Statue. The Proposed Project is otherwise compliant with zoning. The Proposed Project is also in compliance with the Town of Deerpark's Comprehensive Plan.</p>	<p>The maintaining of setbacks which are greater than that which is required ensures no impacts to surrounding land uses.</p> <p>Dense vegetation and forested land will remain on more than 75% of the Site. To supplement this existing vegetation, the Project Sponsor has prepared a landscaping plan which includes both deciduous and evergreen species.</p>

	Project is consistent with Town-wide goals. The Town of Deerpark's Hazard Mitigation Plan does not make any specific recommendations related to the Project Site.		
Community Services	The Project Site is served by the Town of Deerpark Police Department and the Cuddebackville Fire District. Emergency Services are also provided within the Town by Hudson Valley Mobile Life Support Services, Inc.	The entrances to the Project Site currently are controlled by 24-hour manned security gates. Over the last five years, fire/ambulance has responded only once for an emergency at the Project Sponsor's facility. The expansion of operations at the Site is not anticipated to generate additional demand for police, fire or rescue services.	The Project Sponsor hosts on-site training for local fire departments. The Project Sponsor also sends 5-7 members of its onsite security team to basic life-saving training at the Huguenot Fire Station so that an onsite team can serve as first responders in the event of an emergency.  Hydrants and water storage tanks for firefighting will be provided as required. The proposed residence hall and proposed music hall will be sprinklered.

### **G. Summary of Unavoidable Adverse Environmental Impacts**

As part of the Proposed Action certain impacts, while mitigated to the greatest extent practicable, cannot be avoided. These impacts include soil disturbance, changes to topography, removal of existing mature vegetation, use of ground water, generation of sewage effluent and generation of traffic. Refer to individual sections in Chapter III of this document to review proposed mitigations for each of these impacts.

### **H. Summary of Alternatives to the Proposed Action**

#### **No Action Alternative**

This alternative analyzes the impacts associated with a scenario where no additional construction occurs on the Project Site. None of the impacts from the Proposed Action would occur and none of the benefits would be realized. Future development potential would remain the same and various aspects of the Site would remain in violation of the current site plan.

### **I. Summary of Impacts on Energy Use and Solid Waste Management**

New construction such as the proposed residence hall, music hall, parking garages, work sheds and rehearsal hall will increase energy use at the Site. Proposed gazebos will not have electric service. Electricity is supplied to the site by Orange & Rockland Utilities, Inc. and the company will continue to serve the Site. No natural gas is available at the Site. Increases in utility usage are expected to be minor. Trash is collected onsite and brought to the Orange County Landfill

approximately once per week. The Project Site implements a waste separation and recycling program to reduce waste that must go to the landfill.

#### **J. Summary of Irreversible Commitment of Resources**

As a result of the Proposed Project, irreversible impacts will occur in several impact areas. These would generally result from any development of the Site and are proposed to be mitigated to the greatest extent practicable. These impacts include the irreversible disturbance of soils, changes to natural topography, removal of onsite existing mature vegetation, consumption of water and production of wastewater.

#### **K. Summary of Growth Inducing Impacts**

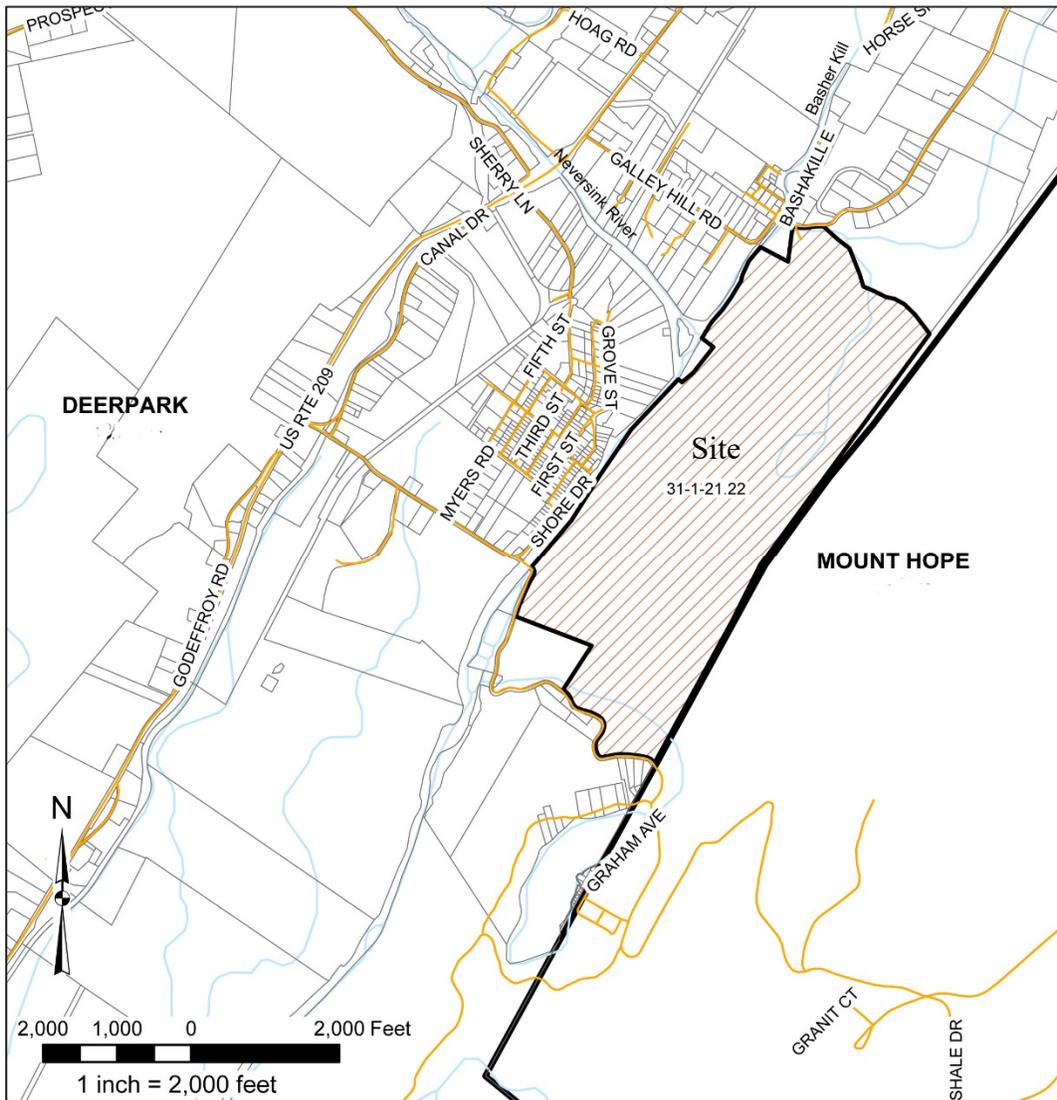
No growth is anticipated from the Proposed Action. Residential growth in the area has historically been limited to internal onsite growth to accommodate students, professors or other individuals who wish to study, teach or worship at the Site. Internal growth could be expected to continue similar to what has historically occurred. Potential visitors who come to watch performances at the Site will be able to use nearby accommodations and will not need additional facilities.

## II. PROJECT DESCRIPTION

### A. Site Location

The 393-acre Project Site consists of one single tax lot (SBL 31-1-21.22) owned and operated by the Project Sponsor. The Site is located at 140 Galley Hill Road (a/k/a 170 Guymard Turnpike) in the eastern portion of the Town of Deerpark, Orange County, New York. It is bound on the north by Galley Hill Road, on the south by Guymard Turnpike, on the east by the Town of Mount Hope boundary and the Conrail railroad line, and on the west by the Neversink River. See **Figure II-1: Project Location**. Existing utilities include both onsite community water and wastewater treatment systems which are owned and maintained by the Project Sponsor, as well as electric and data service. There are no easements, rights-of-way, special district boundaries or any other legal agreements that may affect the proposed use of the Site. The Project Site is located in the Rural Residential (RR) Zoning District. The Site is currently used for religious purposes, as it has been since 2001. Prior to 2001 the site was vacant, forested land. Surrounding uses include mainly residential properties as well as vacant land and recreation areas.

**Figure II-1: Project Location**



**B. Description of the Proposed Action**

The Site consists of 393 acres on a single tax lot located at 140 Galley Hill Road. The Site is currently developed and operated as a place of worship, which is improved with temple buildings, two religious schools and various accessory structures. Development is largely concentrated in the central and eastern portions of the Site, which are topographically flatter and better lend themselves to development. Access to the Site is currently derived from Galley Hill Road and Guymard Turnpike. These two access points will continue to be the only points of access for the Site with the improvements noted below. Circulation will remain mostly as existing via existing internal roads except for the proposed roads that will provide access around the proposed lake and to the proposed music hall.

For this Proposed Action, the Project Sponsor is seeking approval of a comprehensive site plan to both expand operations at the Site and rectify any outstanding items which were constructed without Planning Board approval. (See Appendix G). The following table identifies which items on the site plan are new, which are existing but require an approval, and which have been approved but are being relocated or reconfigured:

**Table II-1: Status of Site Plan Items**

<b>New Items (not constructed):</b>	<b>Existing Items (not approved in full or not constructed per prior approval):</b>	<b>Approved Items Being Relocated/Reconfigured</b>
Music Hall	Concrete Plaza with sculpture & fountain	Gazebo #9
Modification of Meditation Hall to Residence Hall Buddha House	Internal Fences	Fire Pump House
Elevated Emergency Access Plaza	Statue Work Shed	Storage Shed #3
New Rehearsal Hall	Gazebos #13 & #15	Lake Drive
Gazebos #16, #17 & #18		Dam
Parking Garage A		North Gate Bridge & Driveway Entrance
Expansion of Parking Garage B		Completing 18,400 GPD Wastewater Treatment System and Relocating Subsurface Absorption Field
Construction Work Shed		
Extension of Covered Driveway		
Wastewater Treatment Plant		
Stormwater Management Facilities		

Contained within the plans are architectural details for all new structures (see Appendix G, sheets C-18 through C-21). The proposed structures, which are described in more detail below, are to be constructed in existing areas of disturbance or are designed to blend into existing topography. Setbacks have been maintained and dense mature vegetation and forested land will block views of the Site. It is believed that no structures on the Project Site will be visible from offsite locations.

### *New, Existing and Relocated Structures*

A partially constructed meditation hall will be converted into a residence hall. This building is proposed to contain 30 new dormitory-style rooms and will house approximately 40 additional residents. This building will be connected to the Site's community water and sewer systems.

The Proposed Action includes the construction of a new music hall to be located east of the proposed lake that will offer public performances of the schools and performing arts group(s). The music hall will be a 5-story building (including one level below grade) with a seating capacity of approximately 920 people (see Appendix G, building detail on sheet C-20). This building will have a 72,800 square foot footprint and will be connected to the community water and wastewater system.

A 200 by 188-foot concrete plaza with a 20-foot sculpture surrounded by a water fountain has been constructed east of the existing Rehearsal Hall but requires approval.

An elevated emergency access plaza is proposed to allow fire trucks to access to the existing buildings.

A new 120 x 177-foot glass atrium will be added at the main entrance to the existing college building.

A second rehearsal hall (identified as proposed new rehearsal hall on plans) will be constructed on the first level of the existing concrete plaza area to the east side of the existing religious educational buildings. This rehearsal hall will be approximately 15,600 square feet of enclosed space. The building will be used for private rehearsals and not open to the public.

A new parking structure will be constructed with 1,098 and 42 designated bus spaces, replacing surface parking lot 1 which had 81 cars and 5 buses. This lot will be conveniently located adjacent to the music hall to accommodate guests attending events. Parking Garage B, a 2-level parking deck, will also be expanded to 214 spaces. Parking lot 2 will be replaced by the expanded Parking Garage B and Parking Lot 3 will remain as currently exist. Total onsite parking will be 1,324 spaces car spaces and 42 bus spaces (see details in Appendix G, sheet C-18). The net increase in onsite parking will be 1,084 car spaces and 37 bus spaces.

A statue work shed will be expanded to 11,000 square feet in the northwestern area of the Project Site. This structure provides a covered work area for the construction and/or maintenance of various statues or other items on the property.

A previously approved but not yet constructed storage shed in the area of the proposed new parking structure (Parking Garage A) will be relocated slightly northwest of its currently location. This is identified as "Storage Shed #3" on the plans.

A 2,100-square foot construction work shed is proposed to the east of Parking Garage A.

The 18,400 GPD wastewater treatment system requires modification to add a second train and meter pit. An approved subsurface absorption field will be relocated to preserve trees in its approved location.

A fire pump house that has been approved but was never constructed is proposed to be relocated further north near where Zhengdado Road meets the access road. It will be constructed below-grade with underground utility connections.

There are currently five gazebos on the Site. Three of these five gazebos have been approved and are constructed in accordance with their approvals (labeled as Gazebos #1, #7 and #14 on the site plans), and the other two existing gazebos (Gazebos #13 and #15) require approval as part of this Action. (Gazebo #13 was previously approved but was constructed in a different location than what was approved, and Gazebo #15 requires approval). There are eight other gazebos (Gazebos #2, #3, #4, #5, #6, #10, #11 and #12) that have been approved as part of prior Planning Board actions but were not yet constructed. Each of these will be constructed consistent with the earlier approval. Gazebo #9, which was approved previously but not yet constructed, is to be relocated to southwest of the existing lake. Gazebos #16, #17 and #18 are newly proposed gazebos. In total, there will be 17 gazebos on the property. Each of the gazebos is a wooden structure, constructed on-grade without any utility connections. The square footage of the gazebos ranges from 600 to 1000 square feet. The following table lists each gazebo corresponding to its number on the site plan and its status.

**Table II-2: Status of Gazebos by Site Plan**

Gazebo #1	Approved and built
Gazebo #2	Approved not built, to be relocated
Gazebo #3	Approved not built
Gazebo #4	Approved not built
Gazebo #5	Approved not built
Gazebo #6	Approved not built
Gazebo #7	Approved and built
Gazebo #8	Not built, removed from plan
Gazebo #9	Approved, proposed to be relocated
Gazebo #10	Approved not built
Gazebo #11	Approved not built
Gazebo #12	Approved not built
Gazebo #13	Built and needs modified approval/ Proposed
Gazebo #14	Approved and built
Gazebo #15	Built and needs approval/ Proposed
Gazebo #16	Proposed
Gazebo #17	Proposed
Gazebo #18	Proposed

Finally, while most of the internal green iron fence, which surrounds existing temple buildings and religious education buildings, was constructed before June 25, 2014 and, as a result, was deemed approved by the court-ordered Stipulation of Settlement that approved all items then-existing on the property and allowed completion of those items which were then under construction, this item has been included for site plan approval. The fence is located approximately 540 feet from the

property line and varies in height from 7½ to 9 feet depending on location due to the topography. The Project Sponsor has obtained a variance for the height of this fence.

#### *Extension of Covered Driveway and Reconfigured Lake Drive and Dam*

The Project Sponsor proposes to extend the existing covered drive and reconfigure Lake Drive and the existing earthen dam to conform to NYSDEC comments. A new retaining wall will run along the reconfigured road and the road will be resurfaced. A bridge will be constructed on the existing dam to allow water to flow into the proposed lake. A new dam will be constructed on the east end of the proposed lake. Modifications to the previously approved dam are subject to review and approval of the NYSDEC and disturbance for the dam, which is within areas of wetlands, will require a permit from the US Army Corps for Engineers.

#### *North Gate Bridge and Driveway Entrance*

The North Gate is an entrance to the Project Site located off Galley Hill Road. The North Gate driveway entrance is proposed to be widened and raised. It will consist of a 51-foot wide paved entrance plaza with permeable grass pavers on each side for a distance of 16 and 17 feet. This entrance will maintain a negative 2% grade for the first 20 feet from Galley Hill Road. Variances were granted to permit this entrance in its proposed configuration. Such variances were conditioned upon the Project Sponsor providing funds to the Town of Deerpark to make improvements to Galley Hill Road in this location to raise the road elevation. The Galley Hill Road improvements are not part of the Project Action because such are public improvements being undertaken by the Town directly.

The North Gate driveway leads to the North Gate bridge, which was constructed slightly wider than was approved. The Zoning Board of Appeals granted the Project Sponsor a variance of between 2 inches and 2 feet 2 inches to allow the bridge to remain at its current width. The Project Sponsor is seeking site plan approval for this widened bridge.

#### *New Wastewater Treatment Plant*

The existing wastewater treatment facilities will be replaced with a 100,000 GPD treatment plant that will discharge to an existing swale that leads to a tributary of the Basherkill. Proposed discharge and design of the new plant will be subject to review and approval by the NSYDEC. The treatment building will be a 50 by 50-foot building located in the northern corner of the Project Site in a similar location as the existing subsurface absorption fields and approved 18,400 GPD wastewater treatment plant. The existing absorption fields will be abandoned and 18,400 GPD wastewater treatment building will be demolished after the 100,000 GPD plant is in operation. For a discussion regarding projected wastewater treatment demand see Section III-D.

#### *Projected Residents, Visitors and Commuters*

The Site will continue to operate 24-hours a day and seven days a week. General operations at the Site will not be impacted by the Proposed Project. However, the Proposed Action will increase the number of persons on the Site on a regular basis. The Project Sponsor anticipates regular onsite performances at the proposed music hall which, taken with the existing operations, could yield up to 2,000 visitors a day to the Site.

The expansion of the school and other facilities is likely to generate a total of 200 daily commuters to the Site.

The conversion of a meditation hall to a residence hall with 30 rooms is anticipated to generate an additional 40 onsite residents. The Site will accommodate a total of 500 residents.

#### *Proposed Drainage, Utilities and Construction Phasing*

Stormwater runoff will be directed to onsite stormwater management facilities. The second lake and stormwater treatment basins that are part of the Proposed Action will provide stormwater attenuation along with several green practices such as underground sand filters, stormwater planters and tree plantings. Stormwater management infrastructure is proposed consistent with the NYSDEC design regulations (see Section III-E of this document for an expanded discussion). Proposed drainage is discussed further in Section III-E (Stormwater Management).

Construction is anticipated to take 24-36 months and will not be phased.

### **C. Project Public Need and Benefit**

The purpose of the Proposed Project is to expand the existing religious use at the Site and to provide performance venues for the onsite students and/or will be open to the public. The Proposed Project also seeks to rectify certain structures that have been constructed not in accordance with a Planning Board approval.

The Project Sponsor provides facilities used for religious, educational, and cultural purposes. The Site contains a Buddha school temple built in the style of the majestic Tang Dynasty and provides refuge to men and women who have escaped religious persecution in China for their practice of Falun Gong. The Project Sponsor offers elementary, secondary and college educational programs through two schools located on the Site, and promotes education, cultural awareness, and traditional art forms.

The expansion of this religious and cultural institution will provide greater opportunities for elementary, secondary and college educational programs, meditation and practice of religion, art and music. There is always a public need for education, religion, culture and the arts and the Proposed Project will address such needs. The new residence hall will provide greater housing and education opportunities for students and the new music hall will be an entertainment venue where it is anticipated that the public will attend performances. Through the proposed expansion of both student living accommodations and public performance space, the Project Sponsor will have the ability to serve a broader audience in the Hudson Valley and continue to attract dedicated individuals and top talent and bring attention to the area. The Proposed Action will benefit the public by improving and expanding the existing Site and enhancing the educational, religious and artistic opportunities provided by the Project Sponsor.

#### **D. Permits and Approvals**

The following Involved Agencies have permitting authority over the Proposed Action:

NYS Department of Environmental Conservation – SPDES (Stormwater and Wastewater Discharge), wastewater treatment plant design, stream disturbance and dam modifications

Orange County Department of Health – Community Water System modification

Town of Deerpark Planning Board – Site Plan Approval

Town of Deerpark Zoning Board of Appeals – necessary Area Variance(s)

U.S. Army Corps of Engineers – Federal wetland/stream disturbance

Delaware River Basin Commission –water withdrawal permit

### III. EXISTING CONDITIONS, POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

#### A. Soils and Topography

##### 1. Existing Conditions

###### *Onsite Soils*

According to the Orange County Soil Survey and available mapping from the US. Department of Agriculture (see **Figure III-1**, below) the following soils are present on the Site:

Swartswood and Mardin Soils (SXC and SXD) make up 38% of the Site. These soils are a combination of well drained Swartswood soils and moderately well drained Mardin soil. These are deep, upland soils that form on glacial till deposits on hillcrests, hilltops and ridges. The water table can be perched above the fragipan in early spring. Permeability is moderate within surface layers while being slow or moderately slow in the substratum. Available water capacity is low to moderate and runoff is medium.

Rock-outcrop- Nassau (RSD & RSF) makes up 23% of the Site. This soil classification consists of approximately 55% exposed bedrock and 35% shallow, somewhat excessively drained Nassau soil with the remaining portion other soils in such an intricate pattern that they are mapped jointly. The rock outcrop protrudes as exposed ledges and angular beds of tilted and folded shale or slate bedrock. Bedrock underlies the Nassau soils at 10 to 20 inches. Available water capacity is low or very low. Runoff is rapid over Nassau soils and very rapid over bedrock

Swartswood gravelly loam (SwB) makes up 16% of the Site. This deep, well drained to moderately well drained gently sloping soil is typically found on convex hilltops and ridgelines in uplands. The water table is commonly perched in spring. Permeability is moderate within surface layers while being slow or moderately slow in the substratum. Available water capacity is low to moderate. Runoff is slow to medium. Bedrock is at a depth of more than 10 feet.

Nassau shaly silt loam (NaD) makes up 15.7% of the Site. This shallow, somewhat excessively drained, moderately steep soil is located on hillsides and valley sides in uplands. Bedrock is typically at a depth of 18 inches. There is no seasonally high water table. Permeability is moderate. Available water capacity is very low or low and runoff is rapid.

Erie extremely stony soils (ESB) makes up 2% of the Site. These soils are deep and somewhat poorly drained with a surface layer comprised of 35% gravel or large stones (known as channery). Bedrock is at a depth of approximately 8 to 12 feet. The water table is commonly perched in spring and other wet periods. Permeability is moderate within surface layers while being slow or moderately slow in the substratum. Runoff is medium.

Udifluents – Fluvaquets (UF) make up 2% of the Site. This soil complex is found along secondary streams and ranges from well drained to very poorly drained. Lands are subject to frequent flooding. Bedrock is typically at a depth of over 5 feet. Other characteristic very widely.

Arnot – Lordstown (AND) makes up less than 1% of the Site. This complex is typically found on hillsides and valley sides in uplands. Soils range in depth but sandstone can be found at a depth of 2 to 4 feet. Soils are well drained and permeability is moderate. Runoff is rapid.

Barbour fine sandy loam (Ba) makes up less than 1% of the Site. This deep, well-drained soil is typically found along streams and rivers. Occasional flooding is a hazard in the spring and the water table is seasonally high in early spring. Permeability is moderate within surface layers while rapid in the substratum. Runoff is medium to slow and available water capacity is moderate.

Water comprises the remainder of the Site.

**Figure III-1: Existing Soils**



Source: USDA online soil mapping

### *Topography and Slopes*

Site topography ranges from over 800 feet MSL in the central and southern portions of the Site to a low point of 480 MSL where a tributary of the Basherkill River traverses the property near the existing North Gate entrance.

Approximately 46% of the total Project Site contains slopes over 15%, while 15% of the Site contains slopes between 10 and 15%. Approximately 39% of the Site contains slopes less than 10%. A map showing existing site topography at 10-foot contours has been provided<sup>1</sup>. See **Figure III-2: Existing Topography**.

## 2. Potential Impacts

As a result of the project, approximately 40 acres of the Site will be physically disturbed. Of this land, 10 acres will be made impervious for new buildings, roadways and parking areas. In total the Site will have approximately 36 acres of impervious coverage, including both existing and proposed structures, which results in an overall development coverage for the Site of 9%.

When vegetation is removed, the potential for erosion increases, particularly on areas of steep slopes. As shown on **Figure III-3: Slope Disturbance**, 9.86 acres or 25% of the area to be disturbed contains slopes of over 15%.

Based on the soil composition of the areas of new construction, construction activities will not require blasting or chipping of rock.

A cut and fill analysis has been prepared (see **Figure III-4**) which shows proposed grading at the Project Site. The map shows grading around each of the proposed new structures. Areas of the most significant grading will be around the proposed lake for the reconstructed dam and Lake Drive and around the proposed music hall buildings. Minor grading, is required around proposed Parking Garage A and new residence hall. To reduce the overall amount of grading, the proposed five-story parking structure will be terraced into the land (see Appendix G, cross section detail on Sheet C-19). A retaining wall is proposed for construction of the statue work shed and retaining walls are also required around the south side of Parking Garage A. Full grading plans and details are provided in Appendix G on Sheets C-2, C-2A and C-3.

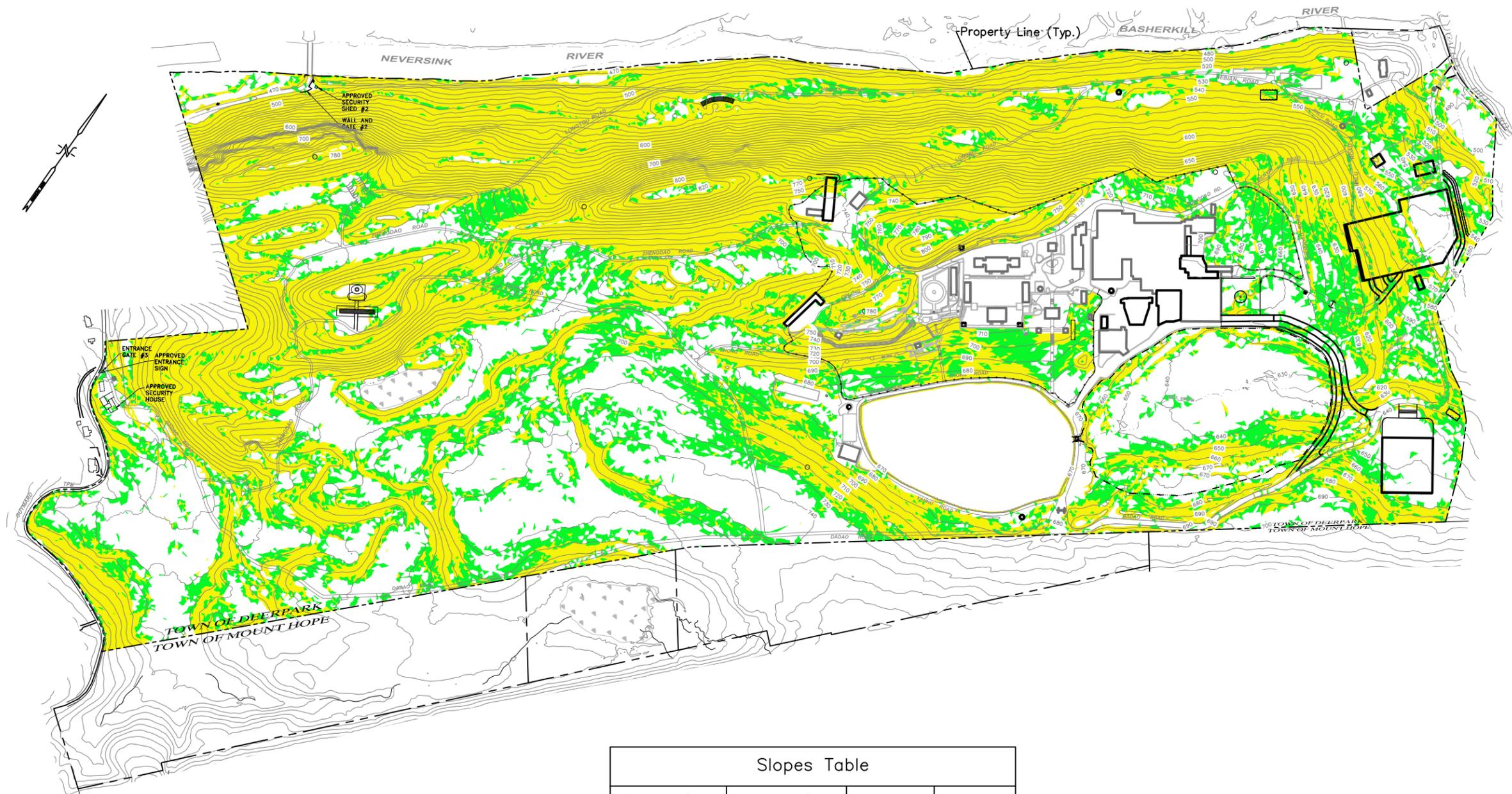
## 3. Mitigation Measures

Permanent disturbance of existing soils, changes to the Site's soil makeup and changes to Site topography are unavoidable adverse impacts.

Mitigation measures for soil disturbance to be implemented during construction will include best management practices (BMPs) designed to minimize and reduce the potential for soil erosion from moderate levels to less-than-significant levels. Adherence to the *New York State Pollution Discharge Elimination System General Permit for Storm Water Discharges from Construction*

---

<sup>1</sup> It is noted that while the scoping document stated that topographical maps at two-foot contours would be provided, given the size of the Site and amount of elevation change, two foot contours would not be legible on this map.



Slopes Table			
Minimum Slope	Maximum Slope	Acres	Color
10.00%	15.00%	58.93 ac.	Green
15.00%	Vertical	182.03 ac.	Yellow

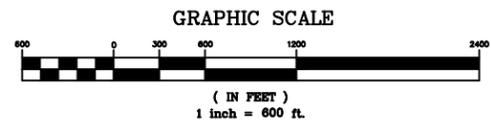
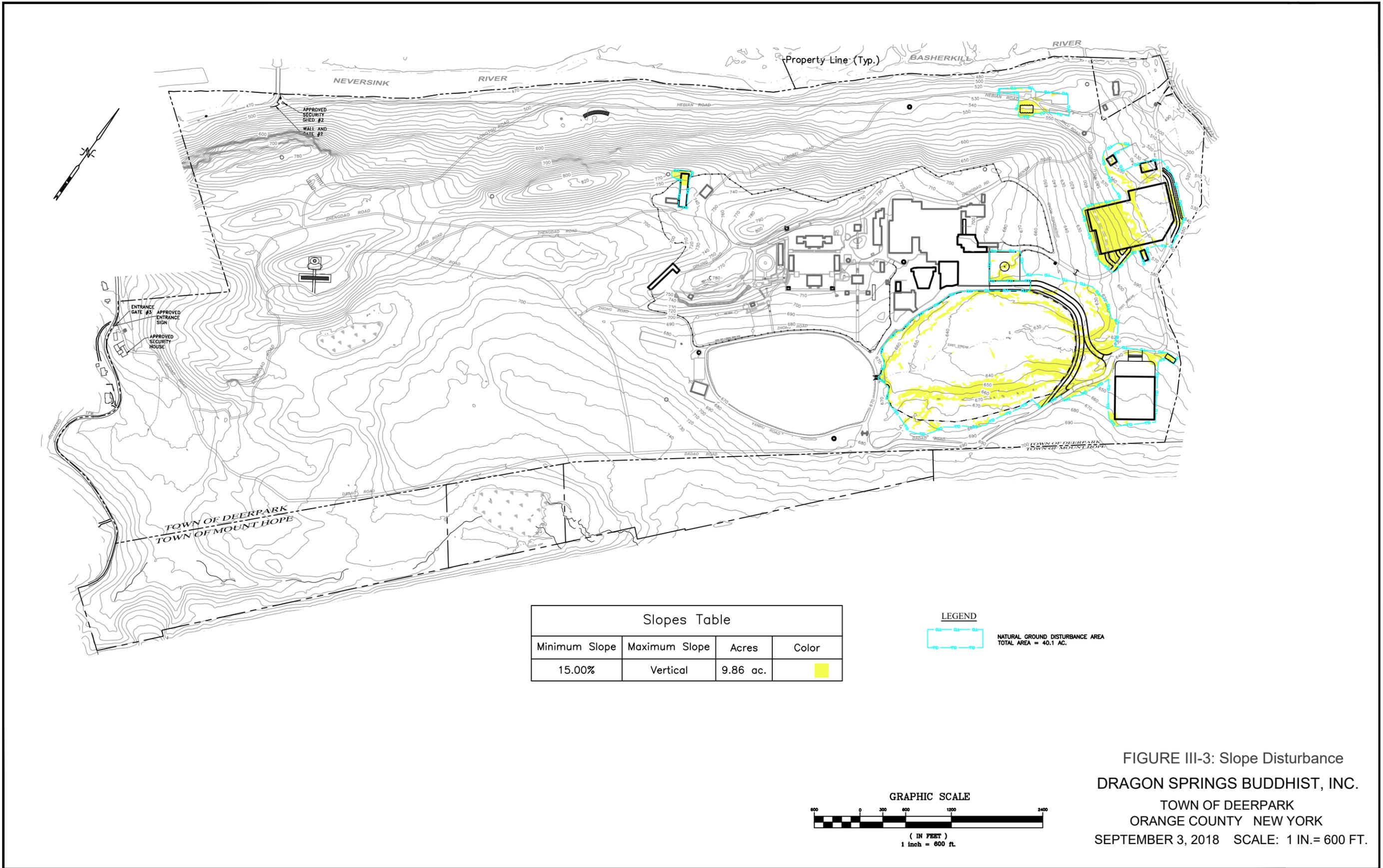
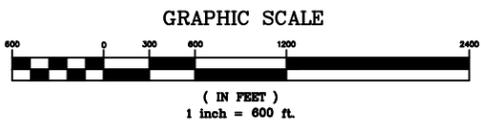


FIGURE III-2: Existing Topography  
 DRAGON SPRINGS BUDDHIST, INC.  
 TOWN OF DEERPARK  
 ORANGE COUNTY NEW YORK  
 SEPTEMBER 3, 2018 SCALE: 1 IN.= 600 FT.

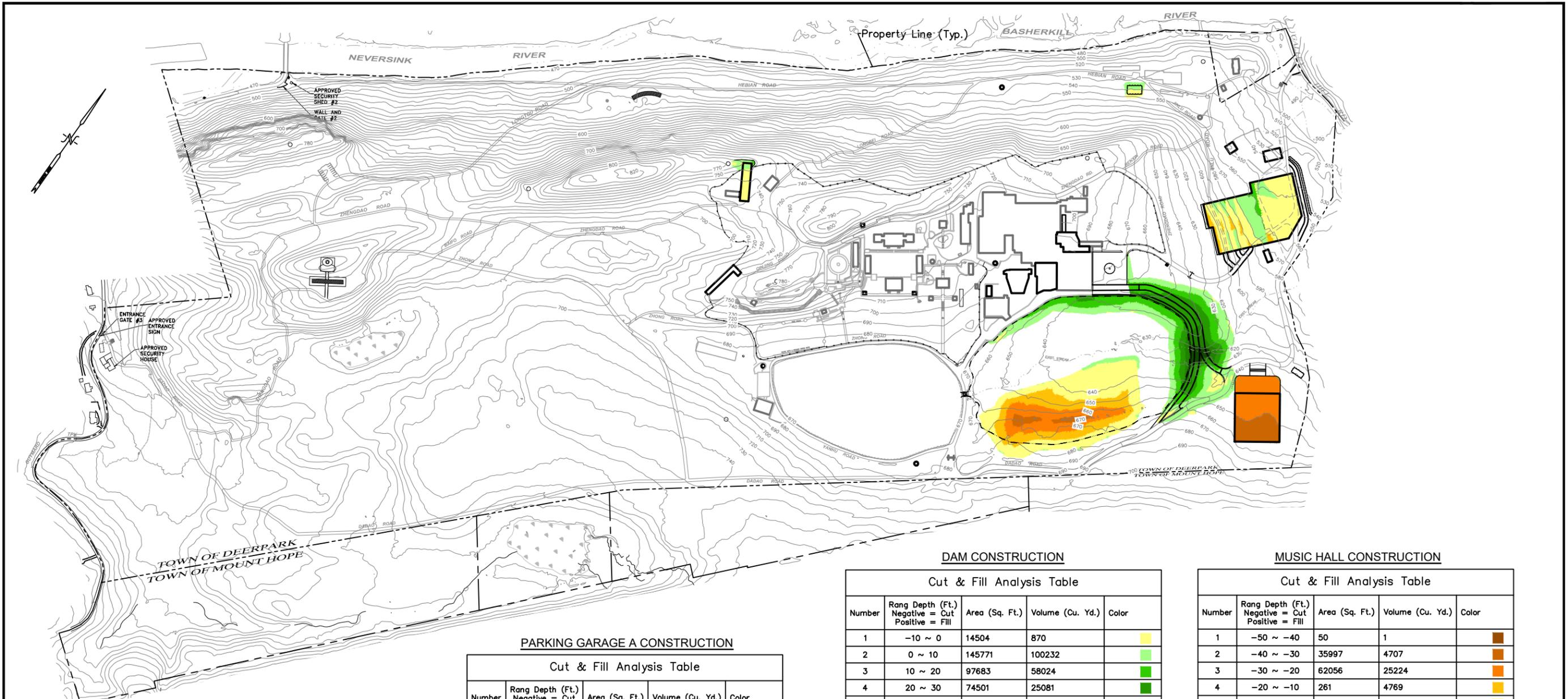


Slopes Table			
Minimum Slope	Maximum Slope	Acres	Color
15.00%	Vertical	9.86 ac.	Yellow

**LEGEND**  
 NATURAL GROUND DISTURBANCE AREA  
 TOTAL AREA = 40.1 AC.



**FIGURE III-3: Slope Disturbance**  
**DRAGON SPRINGS BUDDHIST, INC.**  
 TOWN OF DEERPARK  
 ORANGE COUNTY NEW YORK  
 SEPTEMBER 3, 2018 SCALE: 1 IN.= 600 FT.



**STATUE WORK SHOP CONSTRUCTION**

Cut & Fill Analysis Table				
Number	Rang Depth (Ft.) Negative = Cut Positive = Fill	Area (Sq. Ft.)	Volume (Cu. Yd.)	Color
1	-20 ~ -10	28	1	Orange
2	-10 ~ 0	10625	856	Yellow
3	0 ~ 10	4064	548	Light Green
4	10 ~ 20	133	3	Dark Green

**PARKING GARAGE A CONSTRUCTION**

Cut & Fill Analysis Table				
Number	Rang Depth (Ft.) Negative = Cut Positive = Fill	Area (Sq. Ft.)	Volume (Cu. Yd.)	Color
1	-20 ~ -10	11625	730	Orange
2	-10 ~ 0	114921	22200	Yellow
3	0 ~ 10	36912	7328	Light Green
4	10 ~ 20	5158	450	Dark Green

**SAND FILTER #3 CONSTRUCTION**

Cut & Fill Analysis Table				
Number	Rang Depth (Ft.) Negative = Cut Positive = Fill	Area (Sq. Ft.)	Volume (Cu. Yd.)	Color
1	-10 ~ 0	4052	303	Yellow
2	0 ~ 10	4662	424	Light Green

**DAM CONSTRUCTION**

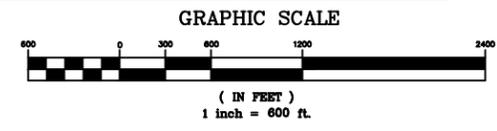
Cut & Fill Analysis Table				
Number	Rang Depth (Ft.) Negative = Cut Positive = Fill	Area (Sq. Ft.)	Volume (Cu. Yd.)	Color
1	-10 ~ 0	14504	870	Yellow
2	0 ~ 10	145771	100232	Light Green
3	10 ~ 20	97683	58024	Green
4	20 ~ 30	74501	25081	Dark Green
5	30 ~ 40	23815	6644	Very Dark Green
6	40 ~ 50	8996	1268	Black

**DAM SOIL BORROW AREA MAXIMUE VOLUME**

Cut & Fill Analysis Table				
Number	Rang Depth (Ft.) Negative = Cut Positive = Fill	Area (Sq. Ft.)	Volume (Cu. Yd.)	Color
1	-40 ~ -30	14060	765	Dark Orange
2	-30 ~ -20	68008	16602	Orange
3	-20 ~ -10	93041	46276	Yellow-Orange
4	-10 ~ 0	168736	94936	Yellow
5	0 ~ 10	7085	324	Light Green

**MUSIC HALL CONSTRUCTION**

Cut & Fill Analysis Table				
Number	Rang Depth (Ft.) Negative = Cut Positive = Fill	Area (Sq. Ft.)	Volume (Cu. Yd.)	Color
1	-50 ~ -40	50	1	Dark Orange
2	-40 ~ -30	35997	4707	Orange
3	-30 ~ -20	62056	25224	Yellow-Orange
4	-20 ~ -10	261	4769	Yellow
5	-10 ~ 0	48	1	Light Green



**FIGURE III-4:**  
**CUT & FILL ANALYSIS MAP**  
**DRAGON SPRINGS BUDDHIST, INC.**  
**TOWN OF DEERPARK**  
**ORANGE COUNTY NEW YORK**  
**SEPTEMBER 3, 2018 SCALE: 1 IN.= 600 FT.**

*Activity*, combined with the required stormwater pollution prevention plan (“SWPPP”) and soil BMPs, would further reduce the potential for soil erosion. The BMPs shall include but not be limited to the following:

- The smallest practical area of land shall be exposed at one time;
- When land is exposed during development, the exposure shall be the shortest practical period of time;
- Temporary vegetation and other protective measures shall be provided to ensure soil stabilization to steeply slope areas;
- Provide controls to reduce soil erosion and intercept/slow storm water flows;
- Cover stockpiled soil;
- Use dust suppressants, such as watering soils and unpaved roadways;
- Preserve existing vegetation where no construction activities are planned and wherever possible; and
- Replant/re-vegetate all exposed disturbed areas immediately upon completion of construction.

No blasting will be necessary for construction.

## **B. Surface Water Resources**

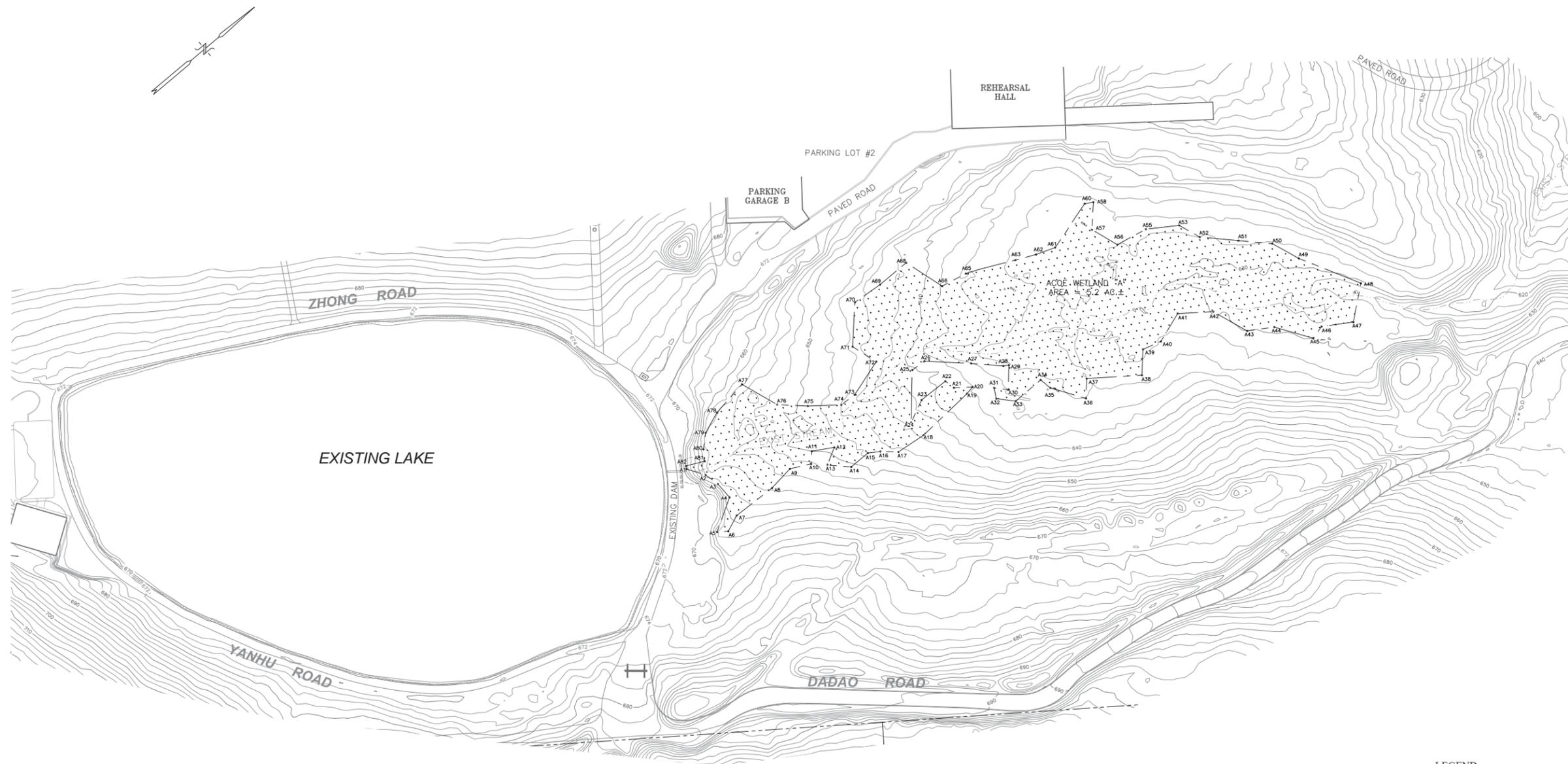
### 1. Existing Conditions

There are several streams on or in the immediate vicinity of the Project Site including the Neversink River and Basher Kill, which run along the Site’s western property line. Certain waters of the State are protected on the basis of their classification. Streams and small water bodies located in the course of a stream with a classification of AA, A, or B, or with a classification of C with a standard of (T) or (TS), indicating that the resource may support a trout population, are collectively referred to as "protected streams," and are subject to the stream protection provisions of the NYSDEC Protection of Waters regulations. The Neversink River is a NYSDEC Class B(T) protected stream. The Basher Kill is a Class C stream and is not protected. A tributary stream that crosses the Site by the North Gate, running under an existing bridge, is classified C(T) and is protected, and another tributary running through the Site’s lake and wetland area is a Class C (TS).

Wetlands on the Project Site are under Federal Jurisdiction regulated by the U.S. Army Corps of Engineers. The total area of Federal wetlands on the Site, which include the existing lake, is approximately 18 acres (see **Figure III-5: Existing Wetlands**).

### 2. Potential Impacts

Improvements to the dam and Lake Road and construction of the second lake will require 0.6 acres of Federal wetland disturbance. This disturbance will require an individual permit from the U.S. Army Corps of Engineers and an Article 15 Water Quality Certificate from the NYSDEC. Disturbance will be permanent in nature, as the disturbed area will be expanded into a second lake, but the area will remain pervious. The lakes will continue to provide stormwater attenuation and onsite aquatic habitat as the existing lake currently does.

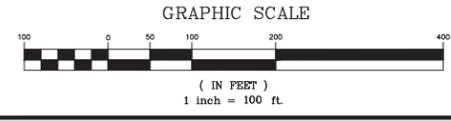


**LEGEND**

- 700 EXISTING SPOT ELEVATION
- ▲ 700 PROPOSED SPOT ELEVATION
- 700 EXISTING CONTOUR LINE
- 700 PROPOSED CONTOUR LINE
- EXISTING WATER BODY
- A23 WETLAND FLAG LOCATION
- ◻ WETLAND AREA

**NOTE:**  
WETLAND BOUNDARY BASED ON DELINEATION BY  
BIOLOGIST MICHAEL NOWICKI ON MAY 21, 2018.

**FIGURE III-5: Existing Wetlands**



WETLAND MAP  
EXISTING CONDITION

Dragon Springs Buddhist, Inc.

Orange County, New York

Town of Deerpark

**KAJIN LIANG, P.E.**  
Consulting Engineer  
140 Galley Hill Road  
Cuddebackville, NY 12729

REVISIONS	Description
By	Date

Date: 10/16/2018  
Scale: 1"=100'  
Drawn: MP  
Checked: KL

The proposed dam will be redesigned to include a covered driveway. The existing dam will be modified to allow water to flow between the existing and proposed onsite lakes via a 16-foot by 2-foot bridge (see detail in Appendix G on sheet C-19). The Project Sponsor has been coordinating plans for dam design with the NYSDEC and will continue to work with this agency. Based on correspondence with NYSDEC, modifications to the dam will need to be permitted.

Discharge from the proposed Wastewater Treatment Plant will be treated and discharged to the Neversink River. Discharge from the proposed Wastewater Treatment Plant will be treated to protect against any potential contamination, and discharged to an unnamed and unmapped intermittent stream within the Delaware River Drainage Basin. The stream flows to an unnamed tributary of the Basher Kill River, which is a tributary of the Neversink River. From the wastewater treatment plant, a new surface discharge line will be installed to the nearby intermittent stream. The discharge line will include a flow meter vault near the building, and a pipe end section and rip-rap apron outlet to prevent erosion of the stream. The wastewater treatment plant is required to meet stringent effluent limits imposed by NYSDEC and the Delaware River Basin Commission (DRBC). The DRBC has found that the wastewater treatment plant is designed to prevent substantial adverse impact on the water resources related environment. A copy of the DRBC Docket approval is included in Appendix C.

Given the proximity of construction activities to surface water resources, there is potential for surface water contamination during the construction phase of the project.

### 3. Mitigation Measures

In order to mitigate onsite wetland disturbance, the Project Sponsor will construct additional wetlands on an offsite parcel of land located at 32 Grove Street in the Town of Deerpark. The property is 9.8 acres in total, and contains approximately 2 acres of existing Federal wetlands which abut the Neversink River. The area will be graded to create wetlands and replanted with wetland seed mix. The Project Biologist has evaluated this property and believes it is suitable for the creation of additional wetlands. The final amount of wetland mitigation area required will be determined by the U.S. Army Corps of Engineers as part of the onsite wetland disturbance permitting process. Once the wetland mitigation area is constructed, it will be subject to the same regulations as the existing Federal wetlands. The area will be monitored for a period of five years to ensure the survival of plantings. Reports will be provided to the Town Building Department.

Stormwater runoff from the developed areas of the Project Site will be treated to ensure water quality and will be consistent with NYSDEC regulations. The Stormwater Pollution Prevention Plan (SWPPP) is described in Section III-E below. The SWPPP complies with the NYSDEC State Pollution Discharge Elimination System General Permit for Stormwater Discharges.

Practices such as diversion swales, silt fencing and temporary sediment traps and basins will be used to control stormwater during the construction phase from entering surface water resources. All grading activities will be done in such a manner as to direct stormwater to the sediment control structures. These structures will stay in place and be properly maintained until the Site is stabilized.

## C. Groundwater/ Water Supply

### 1. Existing Conditions

The Project Site is not served by municipal water supply. Water supply on the Site is provided via a community well system. There are 7 groundwater wells on the Site with three wells currently serving the Project Site. Wells #2 and #7 are currently approved by the Orange County Health Department as part of the existing community well system. Well #4 currently only serves the visitor center building. Wells #2, #4 and #7 have yield capacities of 40 GPM, 100 GPM and 100 GPM, respectively. Wells # 3 and #6 are used sparingly for irrigation and landscaping purposes. The remaining two wells on the Site are not in service and will not be used.

The current water usage at the Project Site is approximately 13,000 GPD.

#### *Pumping and/or Rated Capacity of Existing Wells*

Based on pump testing, Well #2, originally constructed in 2001, can provide a constant yield of 40 GPM and has been approved by the Orange County Health Department at this rate. Well #2 has continued to provide reliable water supply for almost 17 years. Well #7 was subjected to a 72-hour pumping test after it was constructed in 2010. Pump testing demonstrated that Well #7 can provide a reliable flow rate of 100 GPM and Well # 7 was approved by the Orange County Health Department at this rate. Based on well logs, Well #4 is capable of producing 100 GPM. Additional testing details and well testing data is provided in the water design report in Appendix B.

#### *Water Quality*

Water samples have been taken at each of the wells to be used to supply drinking water to the Site (Wells #2, #4 and #7). Testing was done for nitrates, inorganic compounds and metals as required by the Orange County Health Department for a community water supply. Based on independent lab testing, Wells #2, #4 and #7 all meet health department water quality standards. The testing results for Wells # 2 and #7 was previously submitted and reviewed by the Orange County Health Department when these wells were approved as community water supply sources. The testing results for Well #4 will be submitted to the Orange County Health Department so that this well can be used as a community water supply source. Water Quality Data is provided in the water design report (Appendix B).

#### *Site Hydrology and Aquifers*

The Project Site is located in a valley between the Shawangunk Mountains and the hills along the Basher Kill/ Neversink Rivers. The onsite lake and stream are located roughly at the center of this valley. Tributaries of these rivers run along the north and south sides of the property. The existing bedrock wells which are to be part of the Proposed Community Wells system (#2, #4 and #7) are located on the west, east and south sides of the Project Site with more than 1,500 feet separating each well. Because of the distance between these wells and their separation by the lake and stream, water-level interference among them is not likely.

Offsite surrounding residential dwellings use private wells for water supply. The nearest private wells are located west of the Neversink River more than 1,500 feet from any wells on the Project Site. According to an Orange County Groundwater Study (1998) and available Orange County GIS data this area is underlain by a stratified sand and gravel aquifer that serves as the major

groundwater source for these residences. This aquifer is bordered by bedrock cliffs east of the rivers and does not extend onto the Project Site. There is no aquifer underneath the Project Site. The cliffs serve as a barrier between the onsite wells and the offsite private wells, limiting any potential hydrologic connection between them.

## 2. Potential Impacts

The Project Site is proposed to include temple buildings, educational facilities, student residences and a music hall. It is estimated that after the Proposed Project is completed, the Site will accommodate approximately 500 boarding students, 200 staff and 2,000 daily visitors. Accordingly, the overall projected water demand has been calculated as follows:

**Table III-1: Projected Water Demand**

<b>Population at the Project Site</b>	<b>Projected Water Demand</b>
500 students @ 150 gpd	75,000 gpd
200 staff @ 15 gpd	3,000 gpd
2,000 visitors @ 5 gpd	10,000 gpd
<b>TOTAL AVERAGE DAILY DEMAND</b>	<b>88,000 GPD*</b>

\*The projected average daily water demand is 88,000 GPD. The design of the system will be for an average daily demand of 100,000 GPD.

### *New Infrastructure and System Improvements*

Water supply for the Proposed Action will be supplied by the existing ground water wells on the Site – Well #2, #4 and #7. A well location map is included in the water design report (Appendix B). New 2½ inch service lines are proposed to be run to the proposed residence hall, music hall and visitor center and a new line will connect Well #4 to the main water storage tank. Service line sizing calculations have been provided in the water design report in Appendix B. Water storage tanks and pump stations will be provided in the new residence hall and the music hall.

Wells # 2 and # 7 are already approved by the Orange County Health Department as community water supply sources.

Well #4 will be connected to the community well system as a back-up water source. Review and approval from the Orange County Health Department will be required for modifications to the Site’s community water system.

According to the Recommended Standards for Water Works (Ten State Standards) the total developed groundwater source capacity shall equal or exceed the design maximum daily demand with the largest producing well out of service. For design purposes, 100,000 GPD or 69 GPM is used as the average daily demand. A design factor of 2 is used to estimate the maximum daily demand:

$$\text{Maximum Daily Demand} = 69 \text{ GPM} \times 2 = 138 \text{ GPM}$$

The three wells that are proposed to be part of the community water supply system (Wells # 2, #4 and #7) have yields of 40 GPM, 100 GPM and 100 GPM. With the largest producing well out of service, the available well capacity is 140 GPM. Thus, these three wells have adequate capacities to meet the future development demands under the Ten States Standards.

The onsite water system will be fully owned and maintained by the Project Sponsor. As all infrastructure is contained onsite, no easements are necessary. The Project Sponsor will be responsible for submitting monitoring reports to the Orange County Health Department.

#### *Chemicals*

Outdoor chemicals used on the Project Site are mainly restricted to those for deicing purposes. Road salts, are purchased as needed and not stored in bulk on the Site. Smaller portions may be stored in fully enclosed buildings and sheds. No chemicals are used in or around the onsite lake.

#### 3. Mitigation Measures

Fire pumps will be provided in new buildings similar to existing buildings to ensure pressure for fire-fighting. Onsite water storage will be provided in storage tanks in the new residence hall and music hall building. Hydrants will be provided on a separate water line from domestic supply. No further mitigation is proposed.

### **D. Wastewater Management**

#### 1. Existing Conditions

The Project Site is not served by municipal wastewater collection. The majority of wastewater generated at the Site is conveyed to a community septic system which consists of a 6,000-gallon grease trap tank, two 2,000 gallon septic tanks and three 6,000 gallon septic tanks. Wastewater collects and discharges to a subsurface absorption field for wastewater treatment and disposal. The visitor center has a separate 1,200 GPD capacity septic system.

The community wastewater treatment system has an approved SPDES permit for discharge of up to 18,400 GPD. The NYSDEC required modifications including the construction of a second treatment train and relocation/ reconstruction of leach fields. Until such required modifications are made to the treatment system, the Site is limited to a flow of 8,520 GPD. According to the system operator, current flow to the community wastewater treatment system is approximately 8,000 GPD.

Although a Notice of Violation was issued in 2017 related to the existing leach field, this matter was ultimately closed with a finding of no illicit discharge. The Orange County Health Department performed a dye test at the Site in the area of the subsurface absorption field to determine if any illicit discharges had occurred. A representative from the Orange County Health Department placed colored dye into the system and conducted follow-up visits at the Site to check for dye on the ground surface on multiple days. The test confirmed no illicit discharge had occurred. The Orange County Health Department concluded that there was no sewage system failure, closed its files on the matter, and notified NYSDEC of the negative results.

Other than the 2017 Notice of Violation, in 2013 there was some seepage observed at the bottom of the subsurface absorption field for Outfall #3 (by the North Gate) due to uneven settling of the main distribution box which resulted in the lower portion of the leach field receiving most of the discharge. This has been corrected. The distribution box outlets were leveled and the lower portion of the leach field was closed out. The septic tanks and grease trap were pumped out and a new trench was constructed.

## 2. Potential Impacts

Based on the above calculated water demand, the projected average daily wastewater generation is 88,000 GPD. The design of the system will be for an average daily flow of 100,000 GPD.

To serve the increased demand for wastewater treatment, the existing wastewater facilities will be abandoned/removed and a new 100,000 GPD wastewater treatment plant will be constructed. The new wastewater treatment plant (WWTP) will consist of an influent splitter box, four (4) septic tanks, an equalization tank, a post-equalization splitter box, two (2) pre-anoxic tanks, four (4) aerobic tanks, two (2) post-anoxic tanks, a membrane bioreactor, a sludge holding tank, two (2) ultraviolet disinfection channels, a post-aeration tank and will include a 50x50-foot building adjacent to the location of the existing treatment facility. The sole purpose of the proposed building is to house wastewater treatment processes. Access to the building will be restricted to authorized personnel. The existing grease trap will remain for the capture of fats, oil and greases (FOG) from the existing kitchen at the Site. The new WWTP will utilize the existing grease trap tank for preliminary treatment and new septic tanks for primary treatment. The effluent from the septic tanks will be conveyed to a new treatment train consisting of a flow equalization tank, biological reactor tanks/membrane tank (membrane bioreactor system), UV disinfection and post aeration. This system will be more protective of the environment than the existing onsite treatment in that wastewater will be treated to a much higher standard prior to being discharged.

The system will predominately flow by gravity to the proposed WWTP, but a pump station will be required in the vicinity of the visitor center which has been designed to handle effluent from both the visitor center and the proposed new residence hall (see Appendix G, sheets C-4 through C-8). Further details about the proposed system are included in Appendix C.

An amendment to the Site's existing SPDES permit will be required from the NYSDEC.

In 1992, the DRBC adopted "Special Protection Water" requirements, as part of the DRBC *Water Quality Regulations (WQR)*, designed to protect existing high water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap has been classified by the DRBC as SPW.

Treated wastewater will discharge to an unnamed tributary of the Basher Kill River, which is a tributary of the Neversink River, which is located within the drainage area subject to the Special Protection Water standards noted above and shown in Table III-2 below.

The contents of the grease trap tank and the septic tanks will be removed via vacuum truck and hauled away periodically. Waste sludge from the biological reactors will be hauled off-site by a licensed hauler for disposal at a State-approved facility.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the DRBC's Wastewater Quality Regulations. The Project Sponsor will be required to monitor discharges to ensure various effluent parameters are held at or below DRBC and NYSDEC effluent limits which are provided below in Table III-2. The following monitoring will take place:

**Table III-2: Effluent Concentration Limits and Monitoring**

PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6.0 to 9.0	Daily
Total Suspended Solids	20.035 lbs/day, 10 mg/l	Weekly
Dissolved Oxygen	7.0 mg/l (minimum at all times)	Daily
Biochemical Oxygen Demand (BOD5) at 20° C	8.345 lbs/day, 85% Minimum Removal, 5 mg/l	Weekly
Ammonia Nitrogen (5-1 to 9-30) (10-1 to 4-30)	0.84 lbs/day 1.68 lbs/day	Monthly
Nitrate + Nitrite as N (5-1 to 9-30) (10-1 to 4-30)	0.84 lbs/day 1.68 lbs/day	Monthly
Phosphorus (5-1 to 9-30) (10-1 to 4-30)	1.04 lbs/day 3.12 lbs/day	Monthly
TKN (5-1 to 9-30) (10-1 to 4-30)	2.67 lbs/day 5.34 lbs/day	Monthly
Total Dissolved Solids	1,000 mg/l	Quarterly

The Project Sponsor is required to submit the required monitoring results electronically to the DRBC Project Review Section annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the Project Sponsor is required to submit the results to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the Project Sponsor has taken to correct the violation(s) and protect against any future violations.

A fiberglass flow measurement manhole with an integral partial flume and ultrasonic level sensor will be provided to measure effluent flow. A turbidity meter will be provided to monitor turbidity downstream of the MBR system. The turbidity sensor will serve to detect membrane fiber breaks. Process instrumentation will also include level floats in the equalization tank and biological reactor tanks, various pressure gauges and tank level indicators, pH sensors and dissolved oxygen sensors to monitor the treatment process, and UV intensity sensors.

The septic tanks, equalization tank, biological reactors, and the sludge holding tank will be covered and the area from within the tanks will be collected and vented to packaged odor control units. The proposed WWTP building will house the membrane filter tank and although such tanks are not typically a source of odor, the membrane tank will be fitted with a removable cover and the air from within the tank will be vented to the outside of the building to a packaged odor control unit. The amount of treatment chemicals that will be stored within the proposed WWTP building will not exceed the allowable amounts listed in Table 307.1(1) and 307.1(2) of the building code. Noise from the WWTP will be minimally discernable at the location of the plant and will be not be audible outside of the Project Site.

The Project Sponsor submitted its WWTP conceptual plan to the DRBC for review in 2014. The Findings from the commission conclude that while the design had not been finalized at that time, “[t]he project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.”

The onsite sewage collection and treatment system will be fully owned and operated by the Project Sponsor. As the entire system will be located onsite, no easements are needed.

### 3. Mitigation Measures

In addition to the monitoring discussed above, an emergency generator will be provided to supply back-up power to the WWTP and a remote alarm system will be installed that continuously monitors plant operations in accordance with requirements of the Delaware River Basin Commission’s recommendations. The Project Sponsor will also prepare an emergency management plan which will be filed with the DRBC and NYSDEC. No further mitigation is proposed.

## **E. Stormwater Management**

### 1. Existing Conditions

Stormwater runoff and its subsequent impact to receiving water bodies led Federal, State and Local officials to set new standards on stormwater discharge to attempt to restore stream water quality and control peak flow rates for specific storm events. 40 CFR Part 122 prohibits point source discharges of stormwater to waters of the United States without a permit issued under the National Pollutant Discharge Elimination System (NPDES). The EPA delegated the administration of the NPDES program to the NYSDEC, which regulates stormwater through the SPDES regulations currently in effect. Current regulations require that any construction site proposing a disturbance of one acre or greater prepare a Stormwater Pollution Prevention Plan (SWPPP). While a stormwater management plan was prepared for the various construction activities that have occurred on the Site based on the 2001 regulations, a new SWPPP has been prepared for the entire Site consistent with current NYSDEC design manual standards. A copy of this document can be found in Appendix D of this document.

For the purposes of the SWPPP, the existing conditions studied were the 2001- predeveloped condition with no impervious surfaces on the Project Site. Under the 2001 existing condition, 337 acres, divided into 5 sub-watersheds, drain to the on-site lake or the Basher Kill. An area in the central portion of the Site, labeled as WS #6 on the existing drainage map, is in an area with natural ground depressions where water infiltrates naturally into the ground. The western portion of the Site drains away from the development and away from the lake in a southwesterly direction, off the Project Site. Although separated by a railroad bed which interrupts natural drainage flow, land to the southeast of the Site also drains back towards the on-site lake while stormwater from the north of the site drains to the Neversink River and does not enter the Project Site. See map provided in the SWPPP (Figure 1 of Appendix D).

According to the NYSDEC, a watershed is an area of land that drains water into a specific body of water. Watersheds include networks of rivers, streams, and lakes and the land area surrounding them. Watersheds are separated by high elevation geographic features (mountains, hills, ridges). There are 17 major watersheds in New York State. The project lies within the Delaware River Watershed which contains 12,800 square miles in parts of New York, Pennsylvania, New Jersey and Delaware and the Neversink River subbasin of that watershed.

## 2. Potential Impacts

Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces such as paved streets, parking lots and rooftops and does not seep into the ground. Consequently, it accumulates and transports chemicals, nutrients, sediment or other pollutants and debris. If the runoff is not captured or it is discharged without first being treated, it can adversely affect water quality in the receiving lakes, rivers and estuaries. The potential for stormwater to collect sediment is even greater during construction when vegetation is removed and soils are exposed.

The proposed disturbance area for the Proposed Action is approximately 40 acres, which includes approximately 10 acres of new impervious areas for new buildings, roadways and parking areas. The Proposed Action requires a SPDES General Permit for Stormwater Discharges from Construction Activity. In total the Site will have approximately 36 acres of impervious coverage, which results in an overall development coverage for the Site of 9%. The buildings are constructed in a cluster style to minimize disturbance of nature woodlands. The ridges along the Neversink Rivers and most of the south portion of the Site are to remain undisturbed.

The SWPPP, which includes a sediment and erosion control plan and maintenance and inspection schedule for construction, is included as Appendix D.

Before construction started in 2001, most of the Site was covered by forest. The proposed building site naturally drained to a wooded area flooded by beavers and then to an unnamed stream (tributary of the Basher Kill River). The wooded area has been improved with a lake and a second lake will be constructed downstream of the existing lake. The lakes will help reduce peak stormwater runoffs and provide stormwater quality treatment. Stormwater sand filters and green infrastructure techniques will be constructed to treat runoff from building sites that cannot naturally flow to the lakes.

The drainage area boundaries and flow paths under pre- and post-development conditions are presented in the SWPPP. Under post-construction conditions drainage patterns remain largely unchanged with the on-site lake and Basher Kill River used as design discharge points (See Drawing D-2 of the SWPPP in Appendix D). The analysis shows that discharge flow rates at each of the discharge points under the 1-year, 10-year and 100-year storms will be reduced as a result of construction of the lakes and the implementation of the various stormwater attenuation practices.

For water quantity, peak stormwater runoffs under the post-development condition are compared with those under the pre-2001 site condition to assure a zero-net increase in peak runoffs from the Project Site. (See Appendix D, Tables 2 and 3). The hydraulic modeling shows that, by

construction of the onsite lakes and directing stormwater to these lakes, the peak stormwater runoff flow volumes to the receiving streams will be greatly reduced.

For water quality, new DEC standards, such as Green Infrastructure Techniques, are provided to the proposed disturbed areas in accordance with the NYSDEC Stormwater Management Design Manual 2015.

### 3. Mitigation Measures

A Stormwater Pollution Prevention Plan (SWPPP) consistent with the most up to date NYSDEC stormwater management regulations has been prepared (See Appendix D).

NYSDEC requires that the water quality volume (WQv) be treated through use of specific green infrastructure practices. The EPA defines Green Infrastructure as “us(ing) vegetation, soils, and natural processes to manage water and create healthier urban environments. . . . At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water.” The design of these practices is based on promoting infiltration of the WQv. The treatment provided by the green infrastructure practices is called the runoff reduction volume (RRv). NYSDEC requires the RRv to be equal to the WQv unless site-specific conditions would not allow the full treatment using green infrastructure practices. Green practices, particularly underground filter areas, also control stormwater temperature increases which could occur from holding stormwater in a detention pond being exposed to sunlight.

Consistent with NYSDEC stormwater design manual, the project proposes green infrastructure techniques be implemented or installed at the Project Site as follows:

#### Stormwater Planters

Stormwater planter is a green infrastructure technique for runoff reduction for roof areas. It consists of a layer of landscaping stone, a layer of sand, a layer of gravel, and an underdrain. The planter provides soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality. One (1) stormwater planter is proposed for the Music Hall, and two (2) stormwater planters are proposed for Parking Garage A. These planters will collect and treat a total of 1.1 acres of roof area stormwater runoff.

#### Sheetflow to Riparian Buffer

Vegetated filter strips or undisturbed natural areas such as riparian buffers can be used to treat and control stormwater runoff from development areas. Stormwater runoff from a part of the proposed dam and Lake Drive Road flows naturally toward an undisturbed wooded area along the onsite stream. This wooded area is more than 120 feet wide, which can be used as a riparian buffer. The total contributing area to the buffer is 1.1 ac, with 0.27-acres impervious surface. A flow spreader will be constructed along the toe of the dam to provide sheetflow to the riparian buffer. The RRv credit provided by this treatment technique is 0.035 ac-ft.

#### Disconnection of Rooftop Runoff

This green infrastructure technique will direct runoff from rooftop areas to designated vegetated areas which can filter and infiltrate runoffs, thus increasing water quality. Roof leaders from

Storage Shed #3, Wastewater Treatment Plant (WWTP) Building, and the Statue Work Shed will discharge to nearby wood or grass areas. Each roof leader will collect runoffs from no more than 2,000 square feet of rooftop area. Level spreaders will be provided at discharge points. The total disconnected rooftop area is 0.49 acres, and the RRv is 0.051 ac-ft.

### Tree Planting

Planting new trees at development sites can reduce stormwater runoff, promote evapotranspiration, increase nutrient uptake, provide shading and thermal reductions, and encourage wildlife habitat. Approximately 420 trees will be planted near impervious areas. According to the NYSDEC Design Manual, the RRv area credited is 100 square feet per tree. For 420 trees, the total impervious area credit is 42,000 square feet, and the RRv is 0.107 ac-ft.

Catch basins will collect stormwater in areas of impervious surfaces such as roads, parking areas and concrete plazas and direct stormwater to the following infrastructure for water quality treatment:

### Sand Filter #1

Stormwater runoff from the proposed Music Hall area will be collected by a storm sewer and conveyed to Sand Filter #1 for treatment. The total drainage area to the Sand Filter #1 is approximately 3.4 acres, with approximately 3.05 acres of impervious areas.

### Sand Filter #2

Stormwater runoff from a portion of the proposed dam, Construction Work Shed, and a portion of the proposed Parking Garage A, as well as the road and wooded area in between, will be collected by a storm sewer to Sand Filter #2 for treatment. The total drainage area is approximately 10.7 acres, with approximately 4.2 acres of impervious areas.

### Sand Filter #3

Stormwater runoff from the proposed Emergency Access Plaza, the concrete plaza in front of the Rehearsal Hall, and a portion of the proposed Parking Garage A, surrounding roads, and wooded area in watershed P-WS#7 is conveyed by a storm sewer to Sand Filter #3 for treatment. The total drainage area to the Sand Filter #3 is approximately 19.4 acres, with approximately 5.4 acres of impervious areas.

### Wet Ponds

Most of the existing temple and educational building areas are located within the watershed of the onsite lakes. In 2001, NYSDEC approved the construction of an onsite lake that can be used for post-development stormwater treatment and control. The lake's average depth is approximately 10 feet and water volume is approximately 127 acre-feet. A second lake is proposed downstream of the existing lake with a larger surface area. Its water storage volume is approximately 417 acre-feet. When the dam construction is completed, the second lake will be able to provide post-development stormwater treatment and control.

### *Erosion and Sediment Control*

Full erosion and sediment control measures shall be incorporated into the project construction. These practices shall be in accordance with those set forth in the NYSDEC Standards and Specifications for Erosion and Sediment Control 2016 as described below. Temporary erosion control devices shall be installed prior to commencing earth moving activities. The installation of erosion control measures should begin with the most downstream device, then working upstream. All erosion control devices shall be installed and maintained in accordance with the approved plans, manufacturer's recommendations, and as directed by Town representatives including the Town Engineer, highway superintendent, and building inspector or third-party inspector. No erosion control structures shall be removed until all work upstream has been completed, stabilized, and approved by the Consulting Engineer and Town Inspector.

#### Filter fabric silt fence

Prior to commencing construction activities, the limits of clearing and grading shall be clearly marked. Perimeter silt fence and stabilized construction entrances shall be put in place. Silt fence shall be used to control erosion from sheet flow on slopes not to exceed two horizontal to one vertical. Concentrated flows shall not be directed toward silt fence and spacing shall vary from 50 feet to 200 feet depending on slope steepness. Silt fence should be placed parallel to contours. Orange construction fencing should be used to delineate the construction site.

#### Permanent and temporary seeding mixtures

Permanent and temporary seeding, mulch, fertilizer, soil amendments, and slope stabilization will be used on seeded areas. Land that is stripped of vegetation will be left bare for the shortest time possible. Any area that will remain cleared but not under construction for 14 days or longer will be seeded with a temporary mixture. Topsoil shall be stockpiled, stabilized with temporary seeding, and saved for reuse on the Site.

#### Slope Stabilization

All slopes shall be stabilized to minimize erosion. Slopes shall be stabilized with temporary seeding mixtures and straw mulch. Slopes in excess of four horizontal to one vertical shall be stabilized with jute netting and hydro-seed. Existing vegetation that is not to be removed will also act as filter strips to protect down-slope areas. Runoff will be diverted from newly graded areas to prevent erosion until a permanent ground cover has been established.

#### Dust Control

Measures for dust control during construction shall be implemented as needed (daily water sprays will be used during dry conditions and Calcium Chloride will be used only if necessary). In addition to water sprays, temporary plantings will aid in minimizing dust.

#### Temporary Diversion Swales

Temporary diversion swales shall be constructed to either divert clean stormwater runoff from newly graded areas or direct sediment laden runoff to a sediment-trapping device.

#### Channel Stabilization

Drainage channels and temporary diversion swales shall be stabilized with seed, jute netting or riprap, as specified, to minimize deterioration of the channel bed.

### Sediment Traps

Sediment traps shall be constructed in the location, and be of size and type specified, to collect sediment from sediment laden stormwater runoff. Sediment traps shall be constructed downstream of disturbed areas and be in place prior to disturbance within the contributory area.

### Stabilized Construction Entrance

Existing roads will be protected by installation of crushed stone blanket for cleaning construction vehicle wheels. Blankets shall be placed at any intersection of a construction road with a paved or publicly owned road. Stabilized construction entrances shall be installed in the location and be of size and type specified.

### Tree Protection

Trees to be preserved within areas of construction shall be protected. In areas of concentrated construction activity, temporary fencing will be placed around the driplines. In all other areas, construction workers will be directed to avoid the storing of equipment or soil under trees to be preserved, in order to prevent soil compaction. If necessary, trees will be preserved with tree wells in fill areas, and retaining walls in cut areas.

### *Maintenance*

The maintenance of erosion control devices will be the responsibility of the Project Sponsor. A critical part of an effective erosion control plan is a conscientious maintenance program. All erosion control devices will be cleaned and restored throughout construction to maintain their effectiveness. The Job Superintendent will monitor the condition of all devices and clean or replace them, as conditions require, particularly after rain events. Sediment shall be removed from behind silt fence when bulges start to occur and fencing reset to original condition. All erosion control devices shall be installed and maintained in accordance with the approved plans, manufacturer's recommendations, and as directed by Town representatives including the Town engineer, highway superintendent, and building inspector or third-party inspector. Water sprays will be used to prevent pollution from dust until construction is completed and soil cover is established.

## **F. Vegetation and Wildlife**

### 1. Existing Conditions

Ecological Solutions was retained to conduct an environmental assessment of the Project Site focusing on potential threatened and endangered species habitats of the Project Site. A full copy of the report, including mapping, agency correspondence and staff qualifications can be found in Appendix E of this document.

In general, the following three habitat types occur on the Project Site:

**Forested Wetland** - The wetland in the area of the proposed lake is a deciduous wooded swamp. Canopy species range from 3 to 8 inches dbh and include red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*) with an understory consisting of redosier dogwood (*Cornus stolonifera*), spicebush (*Lindera benzoin*), and winterberry (*Ilex verticillata*) as well as skunk cabbage (*Symplocarpus foetidus*), and tussock sedge (*Carex stricta*). This wetland contains Mardin silt loam soils.

**Tributary** - A class C(T) tributary flows through the middle of the proposed lake and contains several springs that contribute to the flow. The tributary is perennial about 6-10 feet wide and contains a rocky substrate and flows below and around boulders and stones in the proposed pond area. The main source of water is the existing lake west of the proposed lake that drains into this tributary.

**Mixed Upland Forest** - The proposed lake site contains segments of two forest types. Chestnut oak forest: a hardwood forest that occurs on well-drained sites in glaciated portions of the Appalachians. This forest is similar to the Allegheny oak forest; it is distinguished by fewer canopy dominants and a less diverse shrub layer and groundlayer flora. Dominant trees are typically chestnut oak (*Quercus montana*) and red oak (*Q. rubra*). Common associates are white oak (*Q. alba*), black oak (*Q. velutina*), and red maple (*Acer rubrum*). American chestnut (*Castanea dentata*) was a common associate in these forests prior to the chestnut blight; chestnut sprouts are still found in some stands. The shrub layer is predominantly ericaceous; characteristic shrubs are black huckleberry (*Gaylussacia baccata*), mountain laurel (*Kalmia latifolia*), and lowbush blueberry (*Vaccinium pallidum*). Common groundlayer plants are Pennsylvania sedge (*Carex pensylvanica*), wild sarsaparilla (*Aralia nudicaulis*), wintergreen (*Gaultheria procumbens*), and white cushion moss (*Leucobryum glaucum*). Hemlock-northern hardwood forest: a mixed forest that typically occurs on middle to lower slopes of ravines, on cool, mid-elevation slopes, and on moist, well-drained sites at the margins of swamps. In any one stand, eastern hemlock (*Tsuga canadensis*) is codominant with any one to three of the following: sugar maple (*Acer saccharum*), red maple (*A. rubrum*), yellow birch (*Betula alleghaniensis*), black birch (*B. lenta*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), white ash (*Fraxinus americana*), chestnut oak (*Quercus montana*), white oak (*Q. alba*), white pine (*Pinus strobus*). Other trees may include hop hornbeam (*Ostrya virginiana*), black cherry (*Prunus serotina*), and basswood (*Tilia americana*). The relative cover of eastern hemlock is quite variable, ranging from nearly pure stands in some steep ravines to as little as 20% of the canopy cover. Striped maple (*Acer pensylvanicum*) is often prominent as a mid-story tree. The shrub layer may be sparse and typically includes saplings of canopy trees. Characteristic shrubs are witch hazel (*Hamamelis virginiana*), hobblebush (*Viburnum lantanoides*), maple-leaf viburnum (*Viburnum acerifolium*), lowbush blueberry (*Vaccinium pallidum*), and raspberries (*Rubus spp.*). Canopy cover can be quite dense, resulting in low light intensities on the forest floor and hence a relatively sparse groundlayer. Characteristic groundlayer herbs include woodferns (*Dryopteris marginalis*, *D. intermedia*, *D. campyloptera*), Christmas fern (*Polystichum acrostichoides*), Canada mayflower (*Maianthemum canadense*), white wood aster (*Eurybia divaricata*), sarsaparilla (*Aralia nudicaulis*), partridge berry (*Mitchella repens*), common wood-sorrel (*Oxalis montana*), jack-in-the-pulpit (*Arisaema triphyllum*), star flower (*Trientalis borealis*), lady fern (*Athyrium filix-femina var. asplenoides*), and Pennsylvania sedge (*Carex pensylvanica*).

Based on correspondence from the NYSDEC on June 27, 2016 and April 10, 2018, the Site may contain or is near known occurrences of the following state- and federally-listed species: bald eagle, brook floater, dwarf wedgemussel, Indiana bat, northern long-eared bat. (See Appendix D). Additionally, U.S. Fish and Wildlife Service has previously identified small whorled pogonia as potentially occurring in Orange County.

Bald Eagle (*Haliaeetus Leucocephalus*) – NYS Status: Threatened, Federally protected via the Eagle Act

One of the largest birds of prey (raptors) found in North America, bald eagles stand about 30 inches high, sport a wingspan of 72-84 inches, and weigh between 8 and 14 pounds. This majestic bird is easily identified in adult plumage by its unmistakable brown body set off by a white head and tail and bright yellow bill (male and female eagles look identical, except that the female is usually about one third larger and heavier than the male, as is typical in birds of prey).

Bald eagles are wholly North American, and currently are found in every state except Hawaii, as well as throughout Canada. Eagles prefer undisturbed areas near large lakes and reservoirs, marshes and swamps, or stretches along rivers where they can find open water and their primary food, fish. While pesticide use and human development over the last century threatened the species, the NYS Eagle Restoration Project has helped restore the species more recently. As per the NYCDEC, confirmed breeding territories in New York State are currently concentrated along the Hudson River, the Upper Delaware River Watershed and the Montezuma Wetlands Complex (Wayne and Cayuga Counties). Two known nests are in close proximity to the Project Site.

Based on the National Bald Eagle Management Guidelines,<sup>2</sup> breeding season is the most sensitive and critical time period for establishment and impact to a potential bald eagle habitat. In New York State this period is typically from December to March. As per this document, “During the breeding season, bald eagles are sensitive to a variety of human activities. However, not all bald eagle pairs react to human activities in the same way. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair.”

Brook Floater (*Alasmidonta Varicosa*) - NYS Status: Threatened, not Federally protected

The Brook Floater is strictly a running water species favoring gravelly riffles in creeks and small rivers. Freshwater mussels are particularly susceptible to threats due to their unique life history traits. They are essentially sedentary creatures that spend their lifetime burrowed part way into a stream or river bottom. Past changes to stream and river hydrology due to dams, channelization, and impoundments have isolated, fragmented, and eliminated historical populations and species. Formerly widespread in southeastern New York, this species has disappeared from many sites since the 1950's and is now extremely rare in the state. Populations have been previously identified in the Shawangunk Kill and Delaware River basins but are sparse and limited in extent. Only the Neversink River population currently appears healthy although it also apparently declined by an estimated 38,000 individuals during the mid 1990's.<sup>3</sup>

---

<sup>2</sup> U.S. Fish and Wildlife Service. May 2007.

<sup>3</sup> NYS Natural Heritage Program database. [www.acris.nynhp.org](http://www.acris.nynhp.org)

### Dwarf Wedgemussel- Federal and NYS Status: Endangered

The dwarf wedgemussel is a small freshwater mussel that spends the majority of its life buried almost completely in the bottom of streams and rivers. This rare mussel has a dark brown to yellow-brown ovate, bivalve shell with a blue, to silvery white inside and can reach a maximum length of 1.5 inches. Typical habitat for this mussel includes running waters of all sizes, from small brooks to large rivers. The only location in Orange County where the dwarf wedge mussel has been identified is in the lower reaches of the Neversink River where a population of at least 10,000 exist.<sup>4</sup> Although the Project Site is adjacent to the Neversink River, it does not enter the Project Site.

### Indiana Bat - Federal and NYS Status: Endangered

The Indiana bat is a temperate, insectivorous bat whose life cycle can be coarsely divided into two primary phases: hibernation and reproduction. Indiana bats emerge from the caves in which they hibernate (i.e., hibernacula) in early spring; males disperse and remain solitary until mating season at the end of the summer while pregnant females form maternity colonies in which to rear the young. Maternity colonies generally occur in riparian and floodplain forests under the loose bark of dead or dying trees. Indiana bat roosting sites have been documented in numerous species of deciduous trees. Factors influencing the stability of a particular tree as a roost site include the tree's solar exposure, location in relation to other trees, and the tree's spatial relationship to water sources and foraging areas. Studies have shown that Indiana bats show a strong site fidelity to summer colony areas (USFWS, 2015, NJDEP, 2013, NYSDEC, 2010). Common roost trees include shagbark hickory, silver maple and other species with cracks or loose bark.

Indiana bat populations in the northeastern United States are affected by the rapid spread of white-nose syndrome, the most devastating wildlife disease in recent history. By the end of 2011, this unprecedented threat had killed 5.7 to 6.7 million bats in the United States since its discovery in 2007 based on photographs taken in 2006. In New York, the Indiana bat population had decreased from 52,779 to 15,564 by the end of 2015.

### Northern Long-eared Bat - Federal and NYS Status: Threatened

Like Indiana bats, Northern long-eared bats hibernate in caves or mines during winter and emerge in early spring, with males dispersing and remaining solitary until mating season at the end of the summer, and pregnant females forming maternity colonies in which to rear young. The Northern long-eared bat is found throughout New York State and appears to be associated with mature unfragmented interior forest. Northern long-eared bats may be found in uplands as well as along forested streams and vernal habitats. Some studies indicate that they select forest hilltops rather than the lowland forest favored by Indiana bats. However, like Indiana bats, they will roost in dead and live trees under exfoliating (loose) bark, in fissures, crevices, and cavities (U.S. Fish and Wildlife Service 2015). Northern long-eared bats have been known to roost in human structures including houses, sheds, barns, and man-made bat boxes. Maternity roosts tend to be in large diameter trees, but individuals have been found in trees as small as 3 inch diameter at breast height

---

<sup>4</sup> <http://www.dec.ny.gov/animals>

(DbH). Northern long-eared bats hibernate in caves and mines where the air temperature is constant, preferring cooler areas with high humidity (U.S. Fish and Wildlife Service 2013).

Like Indiana bats, the Northern long-eared bat population is affected by white nose syndrome, and was recently declared a threatened species by the U.S Fish and Wildlife service in April 2015.

Small whorled Pogonia (*I. medeoloides*) – Federal Status: Threatened, NYS Status: Endangered

The small whorled pogonia is a member of the orchid family. It usually has a single grayish-green stem that grows about 10 inches tall when in flower and about 14 inches when bearing fruit. The plant is named for the whorl of five or six leaves near the top of the stem and beneath the flower. The leaves are grayish-green, somewhat oblong and 1 to 3.5 inches long. The single or paired greenish-yellow flowers are about 0.5 to 1 inch long and appear in May or June. The fruit, an upright ellipsoid capsule, appears later in the year. This orchid grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. Sometimes it grows in stands of softwoods such as hemlock. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams.

Habitat in the proposed lake area and surrounding area was observed to determine if this species existed in the area or vicinity of the proposed work. During the June site investigation, small-whorled pogonia stalks, leaves or flowers would have been visible but none was observed. Although U.S. Fish and Wildlife Service identified small whorled pogonia as potentially occurring in Orange County, based on available literature, it was last recorded in 1976. The State of New York has only one known population of the Federally protected plant species and it is not found in the vicinity of the Site.

*Species Likely on the Site*

It is likely the Project Site supports development-tolerant species of mammals including mouse, mole, skunk, bear and eastern cottontail, as well as reptiles and amphibians such as common snapping turtles, American toad, green frog, northern gray tree frog, common garter snakes, northern water snake, wood frog, spring peeper and spotted salamander. The Project Sponsor does not stock the on-site lake.

## 2. Potential Impacts

The Proposed Project will result in the disturbance of approximately 40 acres of the Site. While the majority of building construction will occur in areas previously cleared, approximately 30 acres of tree clearing is necessary as part of construction activities mainly for the construction of the lake, parking garage and music hall. The Proposed Project will not displace any species or fragment any existing habitat. The amount of clearing will not cause the Site to drop below 35% forested habitat coverage, which will positively contribute to the continued use of the Site for potential Indiana or northern long-eared bat habitat as well as other wildlife species which may use this area for habitat. The Proposed Project will not require a taking permit for removal of bat habitat.

According to correspondence from the NYSDEC there are two known bald eagle nests in proximity to the Project Site, one of which has been identified within one mile of the Site. The other known nest location is more than three miles southwest of the Site. The expansion of the

statue work shed is approximately 1,850 linear feet from the nest that is within one mile of the Site, the residence hall conversion is approximately 2,100 linear feet from the nest, and the existing dam to be modified and the area of lake expansion is approximately 3,560 linear feet from the nest location. The proposed roadwork on Galley Hill Road is also approximately 0.75 miles from the nest location. The nest location is buffered from the proposed lake and other interior Site work by woodland on and adjacent to the Site and the surrounding steep topography. The nest is not visible from the Site. Bald eagles are sensitive to a variety of human activities during various stages of the breeding season, including courtship and nest building which is the most sensitive period for eagles. In New York this typically occurs from December through the beginning of March. Based on the proximity to these sensitive habitat areas, there is a concern for loud, construction-related noise to negatively impact the nest sites.

No physical disturbance will occur to the Neversink River, the reported location of sensitive habitat for either dwarf wedgemussel or the brook floater, but areas downstream could be impacted by discharge from the Site's proposed wastewater treatment plant. There is no habitat in the tributary on the Site which has flow that is controlled via the outlet from the existing lake. As per the letters from NYSDEC dated June 27, 2016 and April 10, 2018, NYSDEC staff has determined that, based on projected effluent levels, there will be no impacts to the dwarf wedgemussel and brook floater provided that adequate erosion and sediment control measures are in place. A SWPPP with erosion and sediment control measures has been prepared for the Proposed Project (see expanded discussion in Section III- E and Appendix D). No impacts are anticipated to these species.

### 3. Mitigation Measures

All onsite tree clearing will be conducted generally between November 1 and March 31 during the hibernation period of the Indiana and Northern long-eared bats to avoid impacts to any active roost trees. Indiana and Northern long-eared bats generally hibernate in communal caves or old mine shafts, many of which have already been identified and protected by New York State. The Project Site does not provide hibernacula potential. Therefore, until the bats disperse to their summer range, tree clearing in the winter months will not negatively impact bats usage of the Site.

The proposed lighting for the Site includes very minimal new lighting with full cut-off downcast light fixtures to eliminate any potential impact to the night sky and existing habitat on the Site.

In order to protect potential bald eagle, all loud construction activities will be undertaken outside of the eagle nesting period and no explosives of any kind will be used on the Site. Much of the construction proposed on the Site is on-grade construction in centralized portions of the Site which would not be considered noisy enough to warrant restrictions on when work could occur. However, certain construction activities which would pose a threat to possible habitat, such as excavation for foundations for the parking garage and music hall and construction of the WWTP and North Gate entrance which are closest to the river, will be done outside of eagle breeding season, between the months of September to December. No further mitigation is proposed.

A landscaping plan has been prepared for the Proposed Project (see Appendix G, Sheet C-13) which will supplement existing vegetation with additional deciduous and coniferous trees along roadways and around proposed buildings including the residence hall, music hall and Parking

Garage A. Additional trees will benefit the Site's habitat as well as providing noise attenuation, visual buffer and stormwater benefits to the Site.

## **G. Traffic**

### **1. Existing Conditions**

The Site is currently accessed from Galley Hill Road via a driveway known as Garda Road (North Gate Entrance) and from Guymard Turnpike via a second driveway (South Gate Entrance). Both entrances have 24-hour manned security booths.

Based on the adopted scoping document, the Study Area for the Proposed Project consists of the following intersections:

- Galley Hill Road and Garda Road (North Gate Entrance)
- Galley Hill Road and US Route 209
- Galley Hill Road and NYS Route 211
- Guymard Turnpike and Site Entrance
- Guymard Turnpike and US Route 209

Galley Hill Road is a Town road that generally runs east/west from its unsignalized intersection with U.S. Route 209 to its unsignalized location with NYS Route 211. Galley Hill Road has one travel lane in each direction and is classified as a rural local road. The speed limit on all Town roads is 30 MPH. This road carries an annual average daily traffic volume of approximately 200 vehicles.

Guymard Turnpike is a Town road which that generally runs east/west and also provides one travel lane in each direction with a speed limit of 30 MPH. Guymard Turnpike is classified as an urban local road. This road runs from its unsignalized intersection with U.S. Route 209 east along the southern boundary of the Site into the Town of Mount Hope. This road carries an annual average daily traffic volume of approximately 300 vehicles.

U.S. Route 209 is classified as an urban principal arterial road and is under NYS jurisdiction. U.S. Route 209 generally runs north/ south from Port Jervis, just west of the Project Site, and continuing into Sullivan and Ulster Counties. It provides one travel lane in each direction and carries an annual average daily traffic volume of approximately 5,000 vehicles in the vicinity of the subject property. The speed limit on this road is 55 MPH in the vicinity of Guymard Turnpike and 45 MPH in the vicinity of Galley Hill Road.

NYS Route 211 is classified as a rural major collector in the vicinity of Galley Hill Road and is under NYS jurisdiction. It provides one travel lane in each direction running generally east/west from U.S. Route 209 into the City of Middletown. The road has a posted speed limit of 55 miles per hour in the vicinity of Galley Hill Road and carries an annual average daily traffic volume of 3,000 vehicles.

### *Existing Traffic Volumes*

To examine the existing traffic conditions, manual traffic counts were conducted at the above-noted intersections during the weekday morning and weekday evening peak periods on June 2<sup>nd</sup> (Thursday) and 3<sup>rd</sup> (Friday) of 2016. This time of year represents an overlap of school-year traffic and the post-Memorial Day recreational season traffic. The results of the traffic counts indicate that there are distinct hours during the periods of study when traffic experiences its highest level. Based on the data collection, the weekday morning peak hour occurred from 7:30 a.m. to 8:30 a.m. and the weekday evening peak hour occurred from 5:00 p.m. to 6:00 p.m. The peak hour traffic volumes are primarily influenced by weekday morning and weekday evening commuting trips. Based on weekday counts taken in June of 2016, the peak weekday morning volume was 34 trips, with 27 vehicles entering the Site and 7 vehicles exiting. The peak weekday evening volume was a total of 19 trips, with 8 vehicles entering the Site and 11 vehicles exiting. The observations of traffic volumes included observations of the numbers of “heavy vehicles,” *i.e.*, tractor trailers, straight trucks and buses. There were no heavy vehicles observed entering or exiting the Site in the peak hours, outside of peak hours the Site is typically served by 3 to 5 truck deliveries or pickups per day, which includes refuse pickups, mail, UPS and other deliveries. Additional analysis and collected data can be found in the full Traffic Impact Study in Appendix F.

### *Parking and Circulation*

Currently the Site contains three parking areas, identified on the approved site plan as Lots 1, 2 and 3. These lots contain 240 parking spaces and five bus spaces.

Access to the Site is currently derived from Galley Hill Road and Guymard Turnpike. Internal circulation roads connect these two access points, as well as provide a loop around the site, access along the existing lake, and directly through the center of the developed area. Roads are paved with one lane in each direction.

## 2. Future Traffic Conditions Without the Project

It is anticipated that the Proposed Action will be completed within two (2) years. In order to reflect background traffic increases and provide a conservative analysis, the existing traffic volumes on the study roadway system were increased by a growth rate of 1.5% per year, based on a comparison of traffic data collected by Atlantic Traffic in 2011 and the data collected for the updated report (Appendix F). There are no significant adverse traffic impacts from any other projects that are proposed, approved or under construction.

## 3. Potential Impacts

### *Anticipated Site-Generated Traffic*

The data collection shows that the Site is currently a relatively low traffic generator. This, coupled with the unique nature of the use, results in a lack of available reference data on which to base trip generation calculations for the Proposed Project expansion. Therefore, the increase in site trips due to the proposed expansion has been calculated by prorating the existing trips per the increase in daily commuters and visitors. For this analysis it was assumed that the 920 seat music hall and other public areas on the Site could generate up to 2,000 visitors a day to the Site while the expansion of the other facilities would accommodate 200 commuters for an overall growth factor attributable to the Proposed Action of 12.6. This factor is conservative in that it is weighted by the more significant increase in visitors compared to commuters; where commuters are more likely

to travel to and from the Site in the weekday morning and the weekday evening peak hours than visitors, and commuters are more likely to arrive and depart as a single occupant in a vehicle compared to visitors. The assumptions are also conservative in that the proposed music hall will be used for evening events only, and therefore will result in a greater proportion of visitors leaving the Site outside of peak hours. The proposed increase in site traffic due to an expansion from 100 to 140 onsite residents is not expected to result in any appreciable increase in peak hour traffic. The expansion from 100 to 500 residents was previously studied and determined not to result in any adverse traffic impacts (see letter dated July 1, 2015 from Atlantic Traffic & Design Engineers, Inc at the end of Appendix F).

Table III-3 below summarizes the weekday morning and weekday evening peak hour in the existing and proposed conditions, using a 12.6 growth factor to account for the proposed expansion.

**Table III-3: Existing and Proposed Weekday Trip Generation**

	EXISTING			PROPOSED		
	Entering	Exiting	TOTAL	Entering	Exiting	TOTAL
Weekday Morning Peak hour	27	7	34	340	88	428
Weekday Evening Peak hour	8	11	19	101	139	240

*Source: Data collected by Atlantic Traffic + Design*

Delivery trucks are anticipated to continue at their current rate of 3 to 5 per day.

Once the projected traffic volumes are established, the site-generated traffic associated with the Proposed Project is assigned to the adjacent roadway network based on the existing travel patterns identified from the traffic counts.

***Build Condition***

The measure for Level of Service (LOS) varies by type of intersection and type of roadway. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. LOS ‘A’ describes operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. LOS ‘B’ describes operations with control delay between 10 and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. LOS ‘C’ describes operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. LOS ‘D’ describes operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. LOS ‘E’ describes operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. LOS ‘F’ describes operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. In accordance with the guidelines set forth in the 2010 Highway Capacity Manual, the results of the traffic analysis show under build conditions, all of the intersections studied maintain a Level of Service of C or better for all lane groups during both the weekday morning

and weekday evening peak hours. The Levels of Service are very well maintained, only showing a maximum Level of Service C, which translates to a 95th percentile queue, of only one (1) vehicle during both the weekday morning and weekday evening peak hour. Therefore, the Proposed Project is not anticipated to have any impact on area traffic

### *Parking and Circulation*

The two main site access points into the Project Site will remain at the same locations and the existing site circulation pattern will also be maintained except for the proposed roads that will provide access around the proposed lake and to the proposed music hall.

A total of 710 parking spaces are required. This calculation is provided on in Appendix G on Sheet C-1. As part of the Proposed Action, parking will be expanded on the Site. A 5-level parking structure will be constructed on the Site (Parking Garage A) to accommodate parking for potential public visitors. This new parking structure will be constructed with 1,098 car parking spaces and 42 designated bus spaces, replacing parking lot 1 which had 81 car spaces and 5 bus spaces. It will be conveniently located adjacent to the proposed music hall to accommodate guests attending events. Parking Garage B, a two-level parking deck, will also be expanded to 214 spaces. Parking lot 2 will be replaced by the expanded Parking Garage B, while Lot 3, with 12 spaces, will remain as currently exists. The total net increase in onsite parking is 1,084 car spaces and 37 bus spaces. Total onsite parking will be 1,324 spaces car spaces and 42 bus spaces. Construction details for the parking structures are shown in Appendix G on sheet C-18. Additional details for the expanded Parking Garage B are shown in Appendix G on sheet C-2.

### 3. Mitigation Measures

The Project Sponsor has agreed to make improvements to the Site's northern entrance to improve grading and width of this entrance (see Appendix G, sheet C-22 of the plan set for details of these improvements). The Levels of Service at each of the studied intersections are maintained at C or better and the Proposed Project includes the expansion of onsite parking to accommodate increases in visitors; no additional mitigation measures are required.

## **H. Land Use and Zoning**

### 1. Existing Conditions

The Project Site lies within the Town's Rural Residential (RR) Zoning District. Places of Worship are a principal permitted use with Planning Board approval in this zone. In addition to the religious use, several accessory structures are proposed including parking, a music hall, storage sheds and other structures that are customarily incidental to the religious use and which are also permitted structures.

Bulk regulations applicable to a lot without public water or sewer are as follows:

**Table III- 4: RR Zoning District Bulk Regulations**

Minimum Lot Width / depth	200 / 200 feet
Front yard	35 feet
Rear Yard	35 feet
Side yard	35 feet
Maximum Building Height	35 feet
Minimum Floor area	1000 feet
Maximum building coverage	20%
Maximum Impervious coverage	70%
Minimum Lot Area	1 acre

There are no applicable special districts for this Site.

Land in the immediate vicinity of the Project Site includes an area immediately north zoned Residential Settlement (RS), land further north and northwest of the Site zoned Hamlet-Mixed Use (HMU), and a small area of land immediately west of the Site is zoned Neighborhood Residential (NR). See **Figure III-6: Zoning**.

Land uses surrounding the Site include rural and suburban residential areas, vacant land, State and County parkland and commercial recreation uses including a campground.

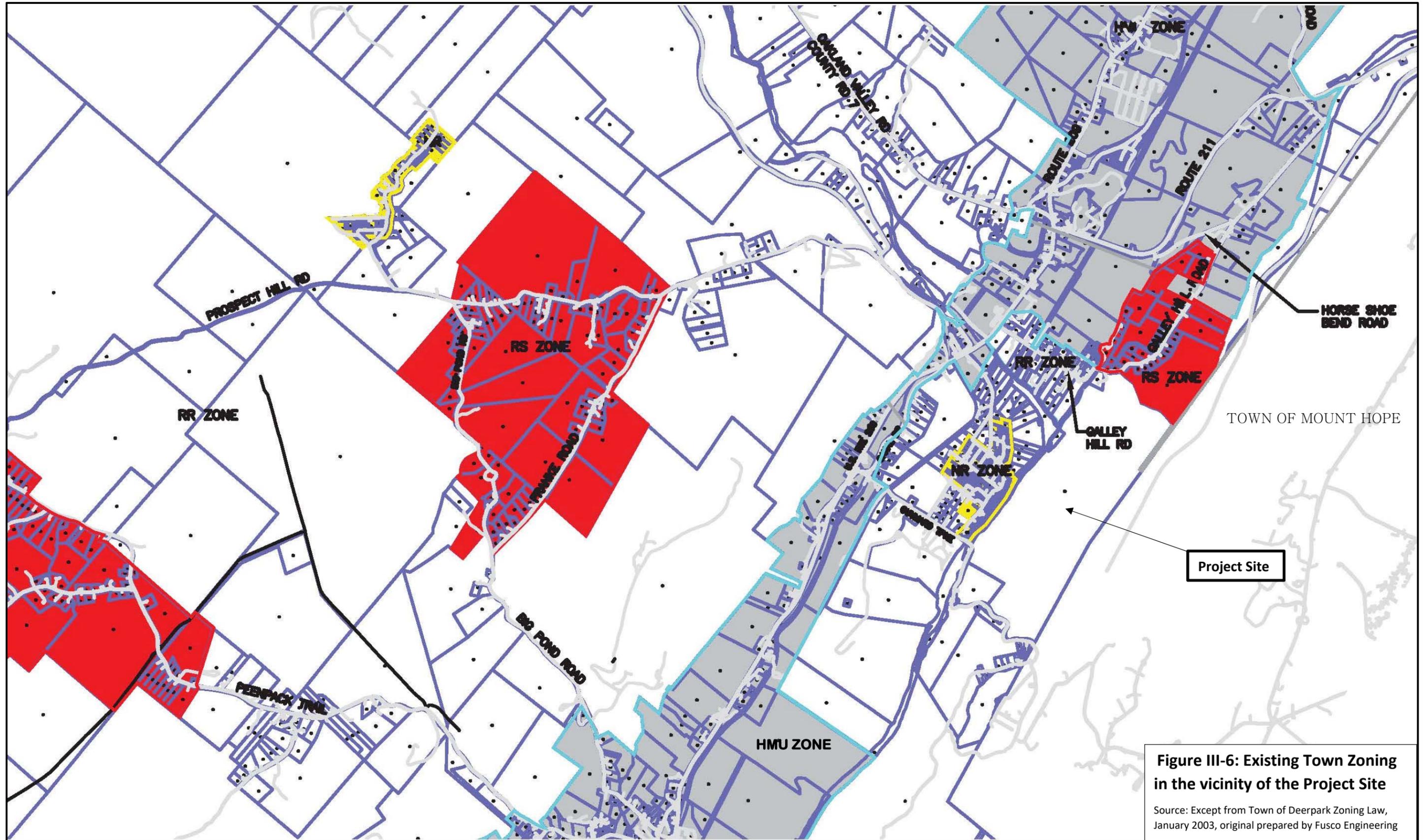
The Town of Deerpark’s most recent Comprehensive Plan, adopted in 2003, does not have any goals that relate specifically to the Project Site or immediate vicinity.

The Town’s Hazard Mitigation Plan is contained within the Orange County Multi-Jurisdictional Multi-Hazard Mitigation Plan adopted in April of 2018 by Orange County. This plan does not make any specific recommendations related to the Project Site.

In April 2017 the Project Site obtained multiple variances for the height of the internal security fencing and the configuration of the North Gate entrance and bridge. The variances allow (1) an internal fence height of between 7.5 feet and 9 feet; (2) a driveway width of 51 feet with permeable driveway pavers adjacent thereto for a distance of 16 and 17 feet; (3) a driveway grade of negative two percent (-2%) for fifteen feet plus or minus; and (4) a bridge width of between 13 feet 2 inches and 15 feet 2 inches. The Project Site also has height variances for certain religious structures, a temple, and educational building on the Site.

## 2. Potential Impacts

The Proposed Project is permitted in the RR Zoning District. A variance will be required for height of the proposed atrium building, which is proposed to be 50.5 feet tall, and the height of a proposed statue, which is proposed to be approximately 45 feet tall. The maximum height permitted in the zone is 35 feet. The Proposed Project is otherwise compliant with zoning. Setbacks from all property lines far exceed that which is required for the use, allowing for natural vegetation to buffer the Site from surrounding land uses. The dense natural vegetation provides both visual buffering and noise attenuation on the Site as well as providing environmental benefits. No impacts are therefore anticipated to surrounding land uses.



**Figure III-6: Existing Town Zoning in the vicinity of the Project Site**

Source: Excerpt from Town of Deerpark Zoning Law, January 2003, original prepared by Fusco Engineering

Although the Town of Deerpark's most recent Comprehensive Plan, adopted in 2003, does not have any goals that relate specifically to the Project Site or immediate vicinity, the Proposed Project is consistent with the Town-wide goal of preserving the Town's essentially rural character while accommodating growth. The overall site development coverage remains at less than 10%, allowing a significant portion of the Site to remain in its natural vegetated state. Protection of the Neversink River is also a recommendation of the plan. Through the various mitigations proposed for stormwater and wastewater management (see Sections III-E and III-D respectively), including the preparation of an erosion and sediment control plan and treatment of all wastewater consistent with NYSDEC regulations, the Project Sponsor is compliant with this recommendation.

The Town Hazard Mitigation Plan does not have any recommendations related to the Project Site nor does it have any recommendations related to development of land. The Proposed Action will not impact any of the priority hazard events identified in the Hazard Mitigation Plan, no development is proposed in the floodplain that would impact flood conditions, nor would the Proposed Action impact the ability of the Town of Deerpark to mitigate identified hazards.

### 3. Mitigation Measures

The maintaining of setbacks that far exceed that which is required ensures no impacts to surrounding land uses.

The area of clearing on the Site is restricted to the smallest area necessary for the development of the Proposed Project. Dense vegetation and forested land will remain on more than 75% of the Site. To supplement this existing vegetation, the Project Sponsor has prepared a landscaping plan that includes both deciduous and evergreen species to soften the appearance of proposed buildings, block headlights from shining off the property, and soften the overall appearance of the development. Additional trees also improve stormwater management on the Site and attenuate noise from the new uses proposed. Landscaping plans are included in Appendix G, Sheets C-13 and C-14. No further mitigation is proposed.

## I. Community Services

### 1. Existing Conditions

#### *Police*

The Project Site is served by the Town of Deerpark Police Department. The Town Police Department operates from 231 Route 209, Building #2, Huguenot, New York, which is approximately 5 miles from the Project Site. The department has 25 officers and supplements its vehicle fleet with 2 ATV's and mountain bikes. Response time to the Site is expected to be approximately 5 minutes. As per records provided by Chief Szyndor, local police have been called to the Site 32 times for service since 2012. The Town Police Department is further supplemented through a mutual aid agreement with Orange County Office of Emergency Management.

### *Fire & Ambulance*

The Project Site is within the Cuddebackville Fire District. Cuddebackville Fire / Rescue is a fire department that provides both fire and emergency medical services to a service area of approximately 75 square miles that includes the Town of Deerpark in Orange County and Forestburgh in Sullivan County. The Department has approximately 35 volunteers, with a vehicle fleet that includes 7 apparatus including a pumper truck, a mini pumper for brush fires, SUVs and a Polaris ATV. In 2017, the Department responded to 188 calls for both fire and EMS services, which was slightly up from the 2016 total of 168. The Fire station is located at 15 Route 211, approximately 1.2 miles from the Site. Response time is expected to be less than 5 minutes.

Emergency Services are also provided within the Town by Hudson Valley Mobile Life Support Services, Inc. (“Mobile Life Services”). Mobile Life Services is a privately owned, commercial Paramedic service licensed by the New York State Department of Health as a Paramedic Ambulance service approved to serve the counties of Orange, Rockland, Dutchess, and Ulster. According to their website, Mobile Life Services has over 60 ambulances and emergency response vehicles and a staff of over 450 and responds to approximately 100,000 calls a year.

Over the last five years, fire/ambulance has responded only once for an emergency at the Project Site.

## 2. Potential Impacts

### *Police*

Town Police were contacted by the Project Sponsor. According to the department, there have been 32 calls for service to the address of the Project Site, since 2012, with five of those calls resulting in ticketing or an arrest.<sup>5</sup> Calls included trespassing, suspicious person or vehicle, barking dog/noise, and littering. No other concerns regarding the site were identified. The entrances to the Project Site are controlled by 24-hour manned security gates. The expansion of operations at the Site is not anticipated to generate an additional demand for police services. Calls can be expected to continue at the existing rate of approximately 4 per year.

### *Fire & Ambulance*

Over the last five years, fire/ambulance has responded only once for an emergency at the Project Site. The proposed expansion of the facilities is not anticipated to significantly increase the number of calls for service to the Site.

Fire-fighting needs are being addressed onsite. A fire pump house will provide pressure for firefighting. Fire hydrants are to be provided along Zhengdao Road. All occupied, enclosed buildings are full sprinklered except the temple buildings.

Additional water storage will be provided in storage tanks in the proposed residence hall and music hall, in addition to the existing tanks provided in the main religious and educational building. The proposed parking deck will be equipped with a dry stand pipe as required by NYS Building Code.

---

<sup>5</sup> Based on Police Blotter provided by Town of Deerpark Police Department dated 06/08/18.

Emergency generators are to be provided at the fire pump house, school building and at the proposed WWTP building.

### 3. Mitigation Measures

No mitigation is necessary. All new construction will meet relevant building and fire codes. The Project Sponsor held a training session at its property with chiefs from various surrounding fire departments, including Huguenot, Otisville, Sparrowbush, and Cuddebackville, as well as representatives from Orange County.

In addition to opening its facilities for on-site training, the Project Sponsor sends 5 to 7 members of its onsite security team basic life-saving training at the Huguenot Fire Station on a monthly basis so that an onsite team can serve as first responders in the event of an emergency.

#### **IV. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS**

As part of the Proposed Action, certain impacts, while mitigated to the greatest extent practicable, cannot be avoided. These impacts, which are likely to occur, include soil disturbance to construct building foundations, dam and lake modifications and run utility lines, changes to topography to create developable areas, removal of existing vegetation, use of ground water to supply additional residents and visitors to the Site, generation of sewage effluent and generation of traffic. Refer to individual sections in Chapter III of this document to review proposed mitigations for each of these impacts. A total of 40 acres of the Project Site are being disturbed with 9.86 acres or 25% of the area to be disturbed contains slopes of over 15%.

#### **V. ALTERNATIVES**

##### **A. No Action Alternative**

This alternative analyzes the impacts associated with a scenario where no construction occurs on the Project Site. None of the impacts from the Proposed Action would occur and none of the project benefits would be realized. No additional disturbance to the Site would occur, including no soil disturbance, tree clearing or grading. No additional traffic would be generated and no improvements to the North Gate entrance would occur. No additional groundwater would be consumed and no additional sewage effluent would be generated. The Site would still make necessary improvements to the existing substandard septic field but would not upgrade to the more environmentally friendly, 100,000 GPD system. Community service requirements would remain as currently exists.

The development potential would remain the same and the Site would be able to be developed with residential development including both single family and multi-family dwellings.

#### **VI. PROJECT IMPACTS ON ENERGY USE AND SOLID WASTE MANAGEMENT**

Electricity will continue to be the main source of energy used on the Site for lighting and HVAC. No natural gas is provided to the Site. Electricity is currently provided to the Site by Orange & Rockland Utilities, Inc. (O&R), which provides energy for 745,000 people in six counties in New York and northern New Jersey. O&R made investments totaling over \$140 million this year to fortify and improve the reliability of its electric system, which includes a \$26 million new substation in the Town of Deerpark that was completed earlier this year. That investment builds on the nearly \$1 billion O&R has invested over the past 10 years on electric system maintenance and reliability projects.

Currently the Project Site implements a waste separation and recycling program to reduce waste that must go to a landfill. Items such as cardboard, glass, plastic and metal are separated from regular trash for recycling and delivered to various offsite recycle facilities. The Project Sponsor collects its own waste and delivers it to the Orange County Landfill in Goshen, New York approximately once per week.

## **VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

This Chapter summarizes the Proposed Project and its impacts in terms of the loss of environmental resources, both in the immediate future and in the long term.

### **Soils**

As a result of site grading and filling activities, the Proposed Project will irreversibly modify the existing soil make up on the Site. A total of 40 acres of the property will be disturbed for the Proposed Action. Ten acres will be impervious, while the remaining land disturbance will be temporary and returned to manicured lawn/ landscaping or will be part of the proposed lake.

### **Topography**

As a result of site grading and filling activities, the Proposed Project will result in the irreversible conversion of the Site's topography. The majority of development is in areas where slopes are minimal and no blasting or significant rock removal is proposed as part of construction.

### **Vegetation**

As a result of the Proposed Project, 40 acres of the Site's natural vegetation will be disturbed.

### **Groundwater**

As a result of the Proposed Project, groundwater use at the Site is anticipated to increase from approximately 13,000 GPD to a demand of 88,000 GPD. This impact would continue long-term, for the life of the Proposed Project. The minor amount of coverage of the overall Site allows precipitation to continue to infiltrate into the ground for recharge of this resource. See Section III-C for additional analysis.

## **VIII. GROWTH INDUCING IMPACTS**

No growth is anticipated from the Proposed Action. Residential growth in the area has historically occurred in the immediate area of the Site to accommodate students, professors or other individuals who wish to study, teach or worship at the Site. Internal growth is expected to continue similar in the limited nature that has historically occurred. Potential visitors to the Site who come to watch performances will be able to use nearby accommodations and will not need additional facilities. As there are no public restaurants or public sleeping accommodations on the Project Site, it would be expected that visitors would patronize off-site locations whether in Cuddebackville or in more developed areas such as Port Jervis or Middletown.