



# 10

## Mitigation

The following is a summary of all proposed mitigation for significant adverse impacts identified in the environmental impact statement.

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### 10.1 Cultural Resources

#### **Pre-contact Resources**

Additional STs should be placed in a grid at a five-meter interval out from positive ST 111 to determine the extent and nature of the recovered materials. In addition, at least two larger Excavation Units (EUs) should be excavated in the immediate vicinity of the four positive STs, including ST 111, to further address the nature of the lithic cluster. NYSOPRHP has reviewed and concurred with this recommendation (see Appendix 16.3).

If there is a change to the development plans that results in subsurface disturbance to locations outside of the APE that was established when field testing was undertaken, then additional field-testing would be warranted for those locations as well.

#### **Historical Resources**

If the Sheldon Avenue House Site or the Schneider House Site will be impacted by project development, additional archaeological consideration, or Phase II fieldwork, is recommended for the two house sites in order to further elucidate the extent and integrity of the existing resources. Phase II testing would be carried out on the site in order to gather enough data to make a determination of eligibility for listing on the National Register of Historic Places. The Phase II investigation includes completing additional background research (e.g., deed and census information; reviewing regional museum collections) and the additional excavation of 50 x 50 centimeter STs (placed at closer intervals) in order to define horizontal boundaries of cultural deposits. Once this is complete, a series of larger 1 x 1 meter excavation units are placed in those areas with the greatest concentration of cultural resources.



NYSOPRHP has reviewed and concurred with this recommendation (see Appendix 16.3).

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## **10.2 Natural Resources**

The construction related impacts associated with the project (including the potential for soil erosion, sedimentation of down-gradient areas, and slope instability) will be mitigated to the maximum extent possible by the implementation of the Erosion and Sediment Control Plan.

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### **10.2.1 Conservation of Vernal Pool Habitat**

Regarding the potential vernal pool habitat that was observed in Wetland B, the project proposes significant improvements to the primary vernal area and the vernal "envelope". The two existing dwellings which exist in this area (within 50 feet of where spotted salamander egg masses were observed) will be razed and the area restored to a wetland/buffer habitat. Following removal of the houses, it is proposed to re-grade the area consistent with wetland topography and re-seed the area with a suitable seed mix containing transitional and emergent herbaceous materials. It is noted that this activity would require a permit from the Village of Tarrytown.

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### **10.2.2 Proposed Measures to Protect Trees to Remain**

Limits of disturbance will be delineated by snow fencing or similar methods. Trees near working areas may be wrapped at the base by snow fencing to avoid accidental damage to trunks and roots.

There will be no disturbance of any kind within the projected root zone of these trees or within the drip line of the tree foliage. Snow fencing or other highly visible means of marking will be placed around the maximum area of the root system to prevent the destruction of roots by exposure or through the compaction of soils. Construction crews will be notified to exclude all equipment from these protected areas. If necessary, trees would be protected by tree wells in fill areas, and retaining walls in cut areas.

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### **10.2.3 Wetland Restoration/Enhancement**

At Gracemere Lake, the applicant will discontinue the mowing of the grass in close vicinity to the lake. It is noted in the Wetlands section that a portion of the area that is flagged as wetland around the lake was based on soils and hydrology, but there is a

lack of hydrophytic vegetation due to regular maintenance of this area. This condition also invites resident Canada geese to browse along the edges of the pond, and in three instances this year to nest along the shore of the pond. Allowing the grasses to grow taller will deter the geese and eliminate some of the nutrient loading to the pond for which they are responsible. The longer grass will also provide a more efficient buffer strip along the pond shores for the filtering of stormwater runoff, which should also result in some water quality improvement to the lake. The grasses will be monitored as they grow, and will be re-seeded if necessary after the first season to establish a community suitable for the wetland conditions.

At Wetland C, a different condition exists that should be dealt with. Where the existing trail enters the site from the east, the culvert that allows stream flow from the south has been entirely blocked by sedimentation. Two possible remedies for this condition exist. The sediment can be removed and the culvert restored, allowing the resumed flow of the watercourse in its original path. A sediment trap should remain on the upstream side of the culvert for future maintenance in the event more sediment accumulates. The trail would remain as a walking path for access to the open space area and ultimately to Taxter Ridge.

An alternative to this would be to remove the trail entirely and restore the stream channel. It is likely that this would ultimately dry out some of the existing area that is flagged as wetland, because the resumption of natural flow through this area would eliminate any backing up of water at the culvert which currently provides hydrology to this small wetland area. Since the wetland is artificially created by the clogged culvert, this represents a restoration rather than adverse impact. The applicant will seek feedback from the Planning Board to determine if either of these activities at the trail are desirable. A Wetland Permit would be required for this activity.

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### 10.3 Traffic

Although the traffic generated by the proposed project will not significantly affect the roadway system in the vicinity of the site, based on the Traffic Impact Study, an "All-Way Stop" is recommended at the intersection of Browning Lane and Walnut Street.

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### 10.4 Infrastructure

Implementation of the proposed stormwater management plan will result in a net reduction of stormwater peak flows leaving the site and therefore a reduction a reduction of stormwater flow downstream than currently exists.



For the treatment of stormwater, the project will employ the use of several stormwater BMP's, which include an extended detention pond, a water quality basin, wooded filter strips with level spreaders preceding them, grassed swales, and other adjunct measures as previously described.

Proper implementation and construction of both the stormwater drainage and quality infrastructures and maintenance of the erosion and sediment control plan will mitigate and potential adverse impact to either upstream or downstream drainage areas or facilities due to stormwater quantity or quality as a result of the proposed development.



# 11

## Other SEQRA Chapters

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### 11.1 Unavoidable Adverse Impacts

Although the development of the site would result in some adverse environmental impacts which cannot be avoided, none of these are significant or unmitigated. Some of the impacts would be temporary or short term impacts associated with the construction phases of the project, while others would be long term impacts associated with the physical alteration of the site.

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#### 11.1.1 Short Term Impacts

Unavoidable adverse impacts may include local increases in truck traffic, noise, dust, and pollution with the presence of construction vehicles on the site and the surrounding roads during the construction period.

Air quality impacts associated with construction activities may include fugitive dust, exhaust and emissions from construction equipment and increased traffic on local roadways. These impacts are temporary in nature and can be mitigated by using best management construction practices such as wetting the ground, covering stored materials with a tarp to reduce windborne dust, and proper maintenance of equipment.

Similarly, noise impacts due to construction are temporary in nature and are not considered to be significant given the limited number of homes (between three and five) to be constructed annually. Construction will be limited to daytime hours and will be in accordance with Village requirements.



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### **11.1.2 Long Term Impacts**

Long term adverse impacts, although not considered to be significant in SEQRA terms, will include the following:

- An increase in the Village population by 31 new residents could result in minor and incremental impacts on community services such as police and fire protection services, and school facilities from the projected increase in enrollment of approximately five students.
- Full build-out of the site will result in an increase of 3 entering vehicles and 9 exiting vehicles in the weekday AM peak hour and 10 entering vehicles and 6 exiting vehicles in the weekday PM peak hour. Like other impacts, additional traffic is not anticipated to have a significant adverse impact on the area road system.
- As a result of this development, 365 trees will be removed and approximately 1.53 acres of additional impervious surface will be realized.

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## **11.2 Growth Inducing Aspects**

At full build-out of the Jardim Estates East site, it is estimated that the net increase of seven new homes on the site would generate approximately 31 new village residents, representing an increase in population in the Village of Tarrytown of less than one-half of one percent. This increase in population would not, by itself, be sufficient to generate other additional growth or significant demands for commercial development in Tarrytown.

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## **11.3 Energy Use and Conservation**

Construction of the proposed residential subdivision would result in the consumption of gasoline, oil and electricity used in the operation and maintenance of construction equipment. Once construction is completed, the new homes would require energy for heating, air conditioning and electricity. Site generated automobile traffic would result in the consumption of fossil fuels.

The Village of Tarrytown has agreed to the U.S. Mayors Climate Protection Agreement, committing to take action with smart energy solutions that reduce global warming emissions. The development of each lot will include the submission of an individual lot site plan for Village review. Based upon the actual house to be built, these plans will allow for precise clarification of green or sustainable building techniques to be employed. Some key elements of green building that may be incorporated in the individual design of the proposed homes include the use of environmentally beneficial building design and materials, which create more energy and resource efficient homes.



At a minimum, the proposed homes would be designed to meet or exceed the New York State Energy Conservation Code which requires the use of energy efficient products in all new and renovated construction. The exterior walls and roofs of the homes would have thermal insulation to reduce heat loss in the winter and heat gain in the summer. The windows used are likely to be double paned, insulating glass for winter heating and low emissivity for summer cooling.

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## **11.4 Commitment of Natural Resources**

The development of the proposed project would involve the irreversible and irretrievable commitment of a variety of natural resources:

- At full build-out of the site, there will be 1.53 acres of additional impervious surfaces.
- The proposed development will result in the replacement or alteration of existing vegetative cover. However, most of this area will be revegetated and landscaped. The reduction of native vegetation on site will result in some migration of wildlife habitat. A total of 365 trees will be removed as a result of the proposed development.
- The proposed development will result in an increase in impervious surfaces (including roads, driveways and buildings) which will alter the existing on-site drainage patterns.

(Note that the landscaping plan and the stormwater management program have been designed to address the effects of the commitment of natural resources.)

The construction of the homes and roadways would also involve the commitment of a variety of natural resources. Those resources include, but are not limited to the following: concrete, steel, timber, brick, wood, paint, and topsoil. The operation of the construction equipment would also involve the consumption of fossil fuels and the completed homes will require electricity and heating oil.

Construction of the proposed project would require a temporary commitment of workers. This commitment, however, must be viewed as a beneficial impact to the construction industry.



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## **11.5 Cumulative Impacts**

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### **11.5.1 Emerald Woods**

The following is a summary of the cumulative impacts of the proposed project together with the impacts from the Emerald Woods subdivision (formerly known as Jardim Estates). HSA was the owner/developer of Emerald Woods.

The Emerald Woods subdivision received Conditional Final Subdivision Plat approval in April, 2004 for 17 lots. Pursuant to the conditions of approval, the applicant sold Lot 17 (2.01) acres and an additional 13.44 acres of open space to the Village. The remaining 16 lots included two lots for existing homes and 14 new building lots.

Of the 14 new building lots, 13 lots have received individual site plan approval (all but lot #16). No individual site plans are under review at the time of this writing. Seven homes have been built and sold. Of the seven homes that have been sold, six are occupied. Six lots have received individual site plan approval, but have not been built yet.

Emerald Woods was the subject of an Environmental Impact Statement for which the Tarrytown Planning Board served as Lead Agency. As such, the following table is not a detailed study of the impacts of the Emerald Woods project, but rather an illustration of the cumulative impacts of the two projects.





**Table 11.1 Cumulative Impacts of the Proposed Project Together with Emerald Woods**

	<b>Emerald Woods</b>	<b>Jardim Estates East**</b>	<b>Cumulative Impact</b>
Number of Residential Lots	16	12	28
Number of Existing Homes	2	5	7
Number of New Homes (net increase)	14	7	21
New Village Residents	54*	31	85
New Public School Children	12 – 19*	5	17 - 24
Domestic Water Use (gpd)	5,980 gpd*	4,800 gpd	10,780 gpd
Wastewater/Sanitary Sewer (gpd)	6,800 gpd*	4,080 gpd	10,880 gpd
Trip Generation			
Peak AM	14	12	26
Peak PM	19	16	35
Total Annual Property Tax Generated	\$624,750*	\$481,896	\$1,106,646
School Taxes Generated	\$301,908 <sup>1</sup>	\$293,957	\$595,865
Site Disturbance	±7.91 acres <sup>1</sup>	7.92 acres	15.83 acres
Tree Removals	252 trees (≥10" dbh) <sup>1</sup>	±365	617
Open Space	15.45 acres	0 acres+	15.45 acres

\* Based on the anticipated impacts as stated in the DEIS for 17 lots, including 2 lots for existing homes and 15 new lots. Since the Applicant sold Lot 17 to the Village, the actual impacts would likely be less than stated. The remaining 16 lots included two lots for existing homes and 14 new building lots.

\*\* Based on the proposed Conventional Layout Plan.

Note: Under the Alternative Cluster Plan for Jardim Estates East, an additional 27.167 acres of open space would be preserved.

## 11.5.2 Greystone on Hudson

Greystone on Hudson is a proposed subdivision located adjacent to and south of the Jardim Estates East site. Greystone on Hudson is the proposed development of 20 single family homes within an approximately 84 acre site located in the Village of Tarrytown and Town of Greenburgh. Eight of the homes will be developed in the Village of Tarrytown and twelve of the homes will be developed in the Town of Greenburgh. In addition, one approximately 21.7 acre lot will be donated to the Town of Greenburgh as open space in perpetuity to be added to Taxter Ridge Park and another lot will be donated to the Village of Tarrytown as open space. The proposed Jardim Estates East subdivision is located adjacent to and north of the Greystone on Hudson Greenburgh portion of the site.



The following is a cumulative analysis of impacts that may occur as a result of these two projects. This analysis includes cumulative impacts with respect to traffic, school children and wildlife fragmentation.

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### **11.5.2.1 Traffic**

The detailed traffic study prepared for Greystone on Hudson (see Greystone on Hudson DEIS, Appendix B) examines cumulative traffic impacts from the proposed 20 homes (8 in Tarrytown and 12 in Greenburgh) associated with the Greystone on Hudson proposed subdivision. It examines the impacts within the context of a Cumulative Traffic Impact Study for the south end of Broadway (Route 9) in Tarrytown prepared in 2005 for the Village of Tarrytown Planning Board. It also takes into account the possible future development of Jardim Estates East.

According to the Greystone on Hudson DEIS, the project would generate 27 vehicular trips in the weekday AM peak hour and 26 trips in the weekday PM peak hour. The capacity analysis, which compared existing conditions, no-build conditions and build conditions, found that both in the AM and PM peak hours there would be no change in the levels of service between the no build and build conditions and no significant increase in delays.<sup>1</sup>

The Greystone on Hudson traffic analysis also included a supplemental study to the October 2011 traffic study on the Gracemere roadway and the Pennybridge section of Tarrytown. This “cut-through” survey for Gracemere analyzed the following intersections:

- Broadway at Gracemere Road;
- Sheldon Avenue at Emerald Woods Road;
- Browning Lane at Walnut Street; and,
- NY Route 119 at Meadow Way.

The proposed Greystone development is projected to generate 27 trips during the AM peak hour and 26 trips during the PM peak hour. Based on the assumption that 3 percent of these trips might be destined to the east end of Pennybridge, 4 percent might be destined to the Sheldon Avenue/Meadow Way neighborhood and 20 percent might be destined to NY Route 119, it is calculated that the proposed Greystone development would add just a single trip to Gracemere Road during either of the peak hours. It is not expected that the addition of this trip would have any noticeable impact on traffic operating conditions on Gracemere Road, even with the additional ten peak-hour trips which will be added to Gracemere Road if the Jardim East development is completed.<sup>2</sup>



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<sup>1</sup> Greystone on Hudson Traffic Study, by VHB Engineering, Surveying and Landscape Architecture, P.C., October 2011.

<sup>2</sup> Gracemere Cut-through Study for Greystone on Hudson, by VHB Engineering, Surveying and Landscape Architecture, P.C., February 2012.



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### **11.5.2.2 School Children**

According to the DEIS for Greystone on Hudson, it is expected that about 17 public school students would be generated by the 20 homes. The Greystone DEIS goes on to state that these students could be easily absorbed by the system inasmuch as the School District projects that its enrollment will decrease by approximately 200 students during the 2011 to 2018 period. Greystone on Hudson projections show that a comparison of the School District tax revenues to be generated to the marginal cost of educating 17 pupils, will result in an annual surplus of about \$1,350,000 from the 20 homes.

The proposed Jardim Estates East project will result in an increase in school district enrollment by an estimated five students yielding a cumulative impact of 22 school children from both projects.

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### **11.5.2.3 Wildlife**

As currently proposed, the Jardim Estates East cluster subdivision plan (Alternative 2) would provide four open space areas that total approximately 27.167 acres (56.5% of the Jardim Estates East site). Open space parcel A is a ±18.33 acre parcel that includes the northern portion of the site (along Sheldon Avenue) and much of the eastern portion of the site extending from Sheldon Avenue south to the southerly property-line. Open space parcel B is a ±4.65 acre parcel, which includes Upper Gracemere Lake and a portion of the land adjacent to the lake. Open Space parcel C is a 1.5 acre parcel located along the southern portion of the site, south of the existing roadway. Open space parcel D is located south of the existing roadway along the southerly property boundary.

Open space parcel A (18.33 acres) would be offered for dedication to the Village of Tarrytown. As currently proposed, open space parcels B, C and D, including Upper Gracemere Lake, would be owned and maintained by a homeowners association and would be preserved in permanent open space through a conservation easement.

The proposed Jardim Estates East residential subdivision is located directly north of the Greenburgh portion of the Greystone on Hudson site. As currently proposed, the Greystone on Hudson plan provides an uninterrupted corridor from the 18.33 acre open space parcel A in the eastern portion of the Jardim Estates East property into an undisturbed portion of the Greenburgh portion of the Greystone site that connects to the 21.7 acre parcel to be donated to the Town of Greenburgh as an open space addition to the approximately 200 acre Taxter Ridge Preserve.

Potential impacts to habitat on the site would cause wildlife to find other appropriate habitat nearby. With 27.167 acres (56.5%) of the Jardim Estates East site to be preserved as open space including 18.33 acres adjacent to the 200 acre Taxter Ridge



Preserve and another 21.7 acres from the Greystone site preserved as open space, there will be no wildlife habitat fragmentation occurring as a result of the cumulative impact of the two projects being developed in the future.