

EMERALD RIDGE SUBDIVISION

FINAL ENVIRONMENTAL IMPACT STATEMENT

Proposed Action: 14 Lot Single Family Residential Subdivision

Marsh Hill Road
TOWN OF PUTNAM VALLEY, PUTNAM COUNTY, NEW YORK
Tax Map Numbers: Section 84, Block 01. Lots 5, 10.1, 10.2, 10.3, and 25

Project Sponsor: VS CONSTRUCTION CORP.
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Lead Agency Acceptance Date: February 12, 2007
Date of Public Hearing: March 12, 2007

Although not required by SEQRA, the Planning Board has determined that a public hearing on the FEIS will be held. The public hearing will be held on March 12, 2007, and written comments will be accepted by the Planning Board for 10 calendar days following the close of the public hearing

February 12, 2007

LIST OF CONSULTANTS

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TOWN OF PUTNAM VALLEY, PUTNAM COUNTY, NEW YORK
Final Environmental Impact Statement**

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**Full size drawings from the FEIS appendices are available
for review at the office of the Lead Agency.**

1.0 INTRODUCTION

This Final Environmental Impact Statement (FEIS) has been prepared in accordance with the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations, 6 NYCRR Part 617. The FEIS provides responses to public comments received by the lead agency on the Draft Environmental Impact Statement (DEIS). The lead agency for this action pursuant to SEQRA is the Town of Putnam Valley Planning Board, to which the application described below has been made. SEQRA prescribes that the lead agency is responsible for the adequacy and accuracy of this FEIS.

The FEIS consists of this volume -- and its appendices, accompanying maps, and referenced technical data -- and the DEIS, which is hereby incorporated by reference into this FEIS.

SEQRA Background

The Applicant prepared a DEIS in response to a Positive Declaration issued by the Town of Putnam Valley Planning Board. The DEIS scope was established by a scoping outline developed by the Planning Board, acting as lead agency, in cooperation with all other involved agencies and interested parties. The Planning Board adopted a Final Scoping Document for the DEIS on February 7, 2005. The accepted scope outlining the information that was to be covered in the DEIS is provided in Appendix A of the DEIS.

The Preliminary DEIS was submitted to the Town of Putnam Valley in August 2005, which reviewed it with respect to its scope and content for the purpose of public review. The Planning Board issued a Notice of Completion of the DEIS and a Notice of SEQRA Hearing on June 5, 2006. The lead agency held a public hearing on the DEIS on July 31, 2006. Written comments were received until 14 days following the public hearing.

In accordance with SEQRA, this FEIS provides written responses to substantive and relevant comments on the DEIS received by the lead agency during the public review period, including oral comments made at the public hearing. Complete copies of all written comments received on the DEIS are included in Appendix A of this FEIS. A transcript of the public hearing is provided in Appendix B.

Project Layout

This FEIS presents a revised proposal with just over half the density of the originally proposed project presented in the DEIS. Through consultation with the Town Board, the Planning Board, and the Town's consultants following the DEIS public hearing and in response to comments received on the DEIS, the Applicant has revised the proposed action with that shown in Figure 2-1. The project now includes 14 residential lots and development of 13 new homes, with nearly one half of the project site preserved as open space through dedicated parkland, and through conservation easements.

The project site consists of Lot "A" that is currently owned by the project sponsor and Lot "B" that is to be acquired from Brookfalls Cottages, Inc., land and combined with Lot "A" through a lot line change. Land to the east of the existing Marsh Hill Road right-of-way just north of Peekskill Hollow Road that currently contains a single-family home has been purchased by the Applicant so that a portion of this land now abutting Marsh Hill Road can be used for right-of-way widening. The remainder of that land, described as Lot "C", will continue to be used

as a single family residence, with a second lot line change proposed that will expand the size of Lot "C".

The project site is characterized by gently rolling topography highlighted by a broad northeast-southeast trending hillside in the center of the site, with grades generally sloping towards the south and east. An existing home that is located on the project site is proposed to remain, with 13 new homes to be constructed along a curvilinear roadway system ending in a looped cul de sac. The project requires a lot line change to transfer approximately 35.5 acres of land in three tax lots from an adjacent owner, Brookfalls Cottages, Inc., to the project sponsor. Of this land, 31.0 acres is proposed to be preserved as open space through the proposed dedication of this land to the Town of Putnam Valley.

The proposed conservation parcel on the eastern portion of the project site includes a 25-foot wide access corridor connecting to the proposed on-site loop road, located between Lot 11 and Lot 12. A gravel area adjacent to the loop road will be provided to accommodate parking for two-to-three cars. Conservation easements are proposed around Wetland A and most of its buffer and upland areas to the north that are an important connection between Wetland A and an off-site New York State Department of Environmental Conservation (DEC) wetland. A wildlife corridor easement is proposed for Wetland B and its buffer and a connection to the 31.0-acre open space parcel. Wetlands C and D are located on the 31-acre parcel that is proposed to be conveyed to the Town of Putnam Valley.

The westerly portion of the proposed subdivision described as Lot "A" is designated as Map 84, Block 01, Lot 5. The total existing area of Lot "A" is 49.94 acres of which 2.99 acres will be conveyed to Lot "C". The easterly portion of the proposed subdivision described as Lot "B" is designated as Map 84, Block 10.1; 10.2; and 10.3. The total existing area of Lot "B" is 57.80 acres, of which 35.50 acres will be conveyed to the project site Lot "A".

Lot "C", designated as Tax Map 83.20, Block 01, Lot 25, is 2.38 acres. One tenth (0.1) of an acre is proposed to be conveyed from Lot "C" to the Town to be added to the existing Marsh Hill Road Town right-of-way. Lot "C" will have 2.99 acres of land added to it, which will be conveyed from existing Lot "A". Lot "C" will consist of 5.27 acres following the lot line adjustment.

The total area of Lot "A", Lot "B" & Lot "C", pre-lot line adjustment, is 110.12 acres. The total area of the subdivision site Lot "A" (including 14 residential single family lots, the conservation parcel and new road right-of-way) post-lot line adjustment, will consist of 82.44 acres.

The project site is zoned R-2 Moderate Density Residence, requiring lot areas of two acres or more for single-family homes under the Town's Zoning Code. The single-family home located at the top of Marsh Hill Road on the site is one of a small group of homes located near the end of Marsh Hill Road. Lot "C" is zoned CC-1, Community Commercial 1. Other existing residential lots abut the southern boundary of the project site. To the east is wooded land and single-family homes that are owned by Brookfalls Cottages, Inc. To the north and west is steeply sloping wooded land. The surrounding area contains residential development and vacant wooded land further to the north and west, and commercial and public uses to the southwest near the intersection of Peekskill Hollow Road and Oscawana Lake Road.

Improvements to Marsh Hill Road are proposed to the south of the project site that will widen this existing, substandard Town roadway at its entrance and improve turning movements at Peekskill Hollow Road. These roadway improvements will match and increase the width of

Marsh Hill Road to a uniform 18 feet wide. Adjacent to the south of the project site, a strip of land on the east side of the existing portion of Marsh Hill Road was purchased by the project sponsor for Marsh Hill Road improvements and will be dedicated to the Town for the widening of the right-of-way to obtain a minimum 50-foot width. While the existing Marsh Hill Road will be improved for residential and emergency vehicle access, this portion of Marsh Hill Road will -- with the concurrence of the Putnam Valley Highway Department and the Putnam Valley Volunteer Fire Department -- continue to exceed Code requirements related to maximum permitted grade. The extension of Marsh Hill Road into the project site will also be dedicated to the Town, and will meet requirements agreed upon with the Town. This road will comply with Town Code requirements with respect to horizontal and vertical alignment, although the width and lack of curbs would not meet Code specifications. These features have been discussed with the Town Engineer and Highway Superintendent, and have been deemed acceptable. However, the total length from the end of Marsh Hill Road will exceed the maximum permissible length of 1,200 feet. Marsh Hill Road currently extends 1,450 linear feet from Peekskill Hollow Road to the end of the existing town-maintained and improved portion of the roadway, and an additional 575 linear feet to the end of its right-of-way area for a total of 2,025 linear feet of existing Marsh Hill Road right-of-way. The total road length for the completed Marsh Hill Road will be 3,900 linear feet, which includes the 2,025 linear feet of existing Town-owned right-of-way and 1,875 linear feet of new Marsh Hill Road extending into the project site.

Project History

The Applicant, VS Construction Corp., originally made application to subdivide the project site, install the required infrastructure, and develop 24 single-family residential homes in response to a continued need and demand for housing in the Town of Putnam Valley and Putnam County. The DEIS proposed action included 25 lots with a layout that preserved on-site wetlands and avoided disturbance of wetlands and wetland buffer areas to the maximum extent practicable, including three wetland conservation easements. As described in the DEIS, in addition to dedicating roadways within the development to the Town, the Applicant proposed to make improvements to the existing Marsh Hill Road to improve the grade, alignment, width and drainage of this substandard Town roadway. In response to Planning Board concerns regarding emergency access and the length of the proposed on-site roadway, the Applicant proposed at the DEIS public hearing to add an Emergency Access Road that would have connected to lands of Brookfalls Cottages, Inc., to the east.

As stated above, this FEIS presents a revised proposal with just over half the density of the originally proposed project. Through consultation with the Town Board, the Planning Board, and the Town's consultants following the DEIS public hearing and in response to comments received on the DEIS, the Applicant has revised the proposed action with that shown in Figure 2-1. The project now includes 14 residential lots and development of 13 new homes, with nearly one half of the project site preserved as open space. No Emergency Access Road is proposed or considered to be necessary for this reduced layout. The number of homes under the revised proposal falls within the range of density that has been discussed by the Planning Board as being acceptable without a second means of emergency access.

Under the revised proposal described and evaluated herein, the eastern half of the project site (Lot "B") that VS Construction Corp is in contract to purchase is mostly proposed for preservation through a 31.0-acre conservation parcel, with only one home proposed on that half of the property. The 31.0-acre conservation parcel will be offered for dedication to the Town of

Putnam Valley in lieu of recreation fees. The Applicant has agreed to donate that property either to the Town, or a land trust, or similar conservation preservation and wildlife protection entity.

The revisions to the project are proposed with the explicit written understanding of the project sponsor that, as a result of reducing the size of the project and length of the proposed on-site roadway according to the modified plans, the Town Board will not adopt a moratorium prohibiting the processing and/or approval of this subdivision. In a letter to the Planning Board dated November 13, 2006, the project sponsor's attorney indicated that if the moratorium is resurrected and adopted, or if the revised roadway improvements are not acceptable per agreement with the Town Engineer, the project sponsor reserves its rights to return to the original 25-lot subdivision, which it continues to maintain is as-of-right, environmentally sensitive, and approvable. If these agreed to revisions are acceptable and no moratorium is proposed, the previous DEIS alternative with 25 lots will be considered to be abandoned. This FEIS does not further refine or analyze the DEIS proposed action, or evaluate effects of the potential construction of the Emergency Access Road to the east, which is no longer required. If the originally proposed 25-lot layout is pursued, the Applicant will address outstanding comments provided by the Planning Board and its consultants in a Supplemental EIS. The 25-lot layout as presented in the DEIS is described in the Alternatives section below for comparative purposes.

The general design concept for the revised project continues to be a conventional subdivision layout that will meet or exceed the minimum required lot size of the R-2 District. Development for the most part is limited to the western half of the project site. All but three of the proposed lots on this western half of the site are similar in size to those originally proposed. Lots 11, 12 and 13 have increased in size.

The revised layout greatly reduces environmental impacts and reduces the amount of proposed new roadway by 1,700 linear feet. The original subdivision contained 25 lots and a total road length of 5,600 linear feet, of which 1,400 linear feet constituted the existing Town-owned and improved Marsh Hill Road. The new proposed subdivision, with 14 lots, has a total road length of 3,900 linear feet, including 1,400 linear feet of the existing Marsh Hill Road.

Areas of site disturbance are reduced in comparison to the previous layout from 26.6 acres to 14.2 acres. The amount of trees that will need to be removed has been similarly reduced. A minor amount of wetland buffer disturbance is required for installation of a drainage line, similar to the DEIS plan. Only one of the previously identified areas of anticipated blasting is still required for project construction. The stormwater infiltration basin previously proposed on Lot C has been eliminated from the plan, with a total of three basins now planned.

Improvements proposed for the intersection of Marsh Hill Road and Peekskill Hollow Road are still proposed although a lesser amount of roadway widening is proposed for Marsh Hill Road in comparison to the DEIS proposed action, thereby eliminating the need for a stone retaining wall. A brick paver island is still proposed at this intersection. The improvements of either the DEIS or the FEIS plan will have similar benefits in terms of truck turning movements. From Lot 2 to the intersection with Peekskill Hollow Road, improvements to Marsh Hill Road will widen this substandard roadway to 18 feet. Through consultation with the Town Engineer, the Applicant proposes new roadway construction and roadway improvements that will be in keeping with the rural character of the area, and that will provide a more environmentally friendly stormwater management solution with less piping and structures than the DEIS plan.

Without curbing, the roadway design will better facilitate wildlife crossings, including between Lots 13 and 14, and Lots 9 and 10, which are located between Wetland "A" and Wetland "B".

The previously proposed drainage pipe along Peekskill Hollow Road is no longer proposed (a drainage connection to the existing catch basin at the intersection of Peekskill Hollow Road and Marsh Hill Road is currently proposed). The revised proposed improvements for the existing Marsh Hill Road include stormwater swales on each side of the roadway. The horizontal curve at Lot 1 is proposed to be straightened. The improved roadway is proposed without curbs or catch basins, with a two-foot wide grassed shoulder and two-foot wide swales that will be two feet deep, with stone rip rap for infiltration.

In addition to the above, the previously proposed improvements along Peekskill Hollow Road are no longer proposed. Based on a conversation with Mr. Mark Rosa of the Putnam County Department of Highways and Facilities (PCDHF), the improvements will be conducted as part of the County's proposed improvements to Peekskill Hollow Road from Oregon Corners to Adams Corners.

There is a catch basin at the intersection of Marsh Hill Road and Peekskill Hollow Road that conveys stormwater from Marsh Hill Road and a small section of Peekskill Hollow Road south via an 18" drain pipe that discharges stormwater drainage onto private property south of Peekskill Hollow Road. This stormwater works its way to the Peekskill Hollow Brook at the rear of the private property.

Based on conversation with the PCDHF, they do not have any easements over the property south of Peekskill Hollow Road, which is why they are proposing to run a new drainage line along the north side of Peekskill Hollow Road to the brook on the north side of the bridge as part of the Peekskill Hollow Road improvements.

The proposed improvements to Marsh Hill Road are minor and no appreciable differences in the stormwater characteristics at the catch basin or discharge location are expected. The reason is primarily that there is a proposed set of interceptor catch basins at station 4+70 that will reroute and convey stormwater to a level lip spreader for dispersal into the woods on Lot C. This will reduce the amount of stormwater reaching the intersection catch basin. A site visit was performed on December 22, 2006 with the Town Engineer and Town Planner for field verification. Subsequent calculations for the 1, 2 10 and 100 year design storms for pre- and post-construction have been performed and have been submitted to the Town Engineer for his review. The calculations can be seen in the attached Drainage Calculations Appendix.

In the pre-development condition, the area tributary to the catch basin is approximately 12.2 acres in size. After development it will be approximately 7.2 acres, with the resulting 100 year storm peak flow reduced from 15.1 cubic feet per second to 8.9 cubic feet per second.

Based on the drainage calculations, the existing 18-inch cross pipe has the capacity to convey the existing flows. Since there is a reduction in the peak flows, the pipe is expected to have the required post-construction capacity.

The stormwater basins will be provided with a landscaping package that will buffer them from the road as well as from homesites. Basins are proposed on Lots 1 and 5, and on the inside of the proposed road loop at the eastern end of Lot "A".

Alternatives Considered

The New York State Environmental Quality Review Act (SEQRA) calls for a description and evaluation of reasonable alternatives to the Proposed Action that are feasible, considering the objectives and capabilities of the project sponsor. Four alternatives are discussed in this DEIS including a “No Action” Alternative, two Cluster Subdivision Alternatives, and a Code Compliant Marsh Hill Road Improvement Alternative.

Because the modified project layout significantly reduces the proposed density of the project and its potential environmental impacts, the previous Cluster Subdivision Alternatives and Code Compliant Marsh Hill Road Improvement Alternative are no longer being evaluated. However, data for these alternatives and the DEIS proposed action with 25 lots is presented herein for comparative purposes. The impacts of the DEIS proposal described below and in the DEIS do not reflect the potential impacts resulting from construction of the emergency access road, which was offered to the Town at the DEIS public hearing but not analyzed in the DEIS. No further evaluation of the DEIS proposal with the added emergency access road is warranted since that plan is no longer being considered. If the originally proposed 25-lot layout is pursued, the Applicant will address outstanding comments provided by the Planning Board and its consultants in a Supplemental EIS.

No Action Alternative

The No Action Alternative is the scenario that would occur if no development were to take place on the project site. This is effectively an open space preservation alternative. The site would remain in its current state with one single-family home present near the current terminus of Marsh Hill Road. Existing homes on Marsh Hill Road would continue to be accessed from a substandard roadway.

DEIS Proposed Action

As stated above, the DEIS proposed action included 25 lots with a layout that preserved on-site wetlands and avoided disturbance of wetlands and wetland buffer areas to the maximum extent practicable, including through wetland conservation easements. As described in the DEIS, in addition to dedication roadways within the development to the Town, the Applicant proposed to make improvements to Marsh Hill Road to improve the grade and alignment of this substandard Town roadway. In response to Planning Board concerns regarding emergency access and the length of the proposed on-site roadway, the Applicant proposed at the DEIS public hearing to add an Emergency Access Road that would have connected to lands of Brookfalls Cottages, Inc., to the east.

Improvements to Marsh Hill Road were proposed in this layout to the south of the project site that would have widened this existing, substandard Town roadway to 22 feet, lessened its steep grade to the extent feasible, and improved its vertical alignment. The right-of-way would be widened to 50 feet through dedication of land to the Town of Putnam Valley. Adjacent to the south of the project site, a strip of land on the east side of the existing portion of Marsh Hill Road would be purchased by the project sponsor for Marsh Hill Road widening and would be dedicated to the Town. The intersection of Peekskill Hollow Road and Marsh Hill Road, which is not part of the project site, would be redesigned and reconstructed by the project sponsor to improve turning movements between Marsh Hill Road and Peekskill Hollow Road (similar to the currently proposed project though a retaining wall would have been constructed). While the

existing Marsh Hill Road would be widened to improve access for residents and emergency vehicles, this widened portion of Marsh Hill Road, with the concurrence of the Putnam Valley Fire Department, would continue to exceed Code requirements related to maximum permitted grade. The extension of Marsh Hill Road into the project site, as with the currently proposed layout, would also be dedicated to the Town, and would meet Code requirements for a Town road. However, the total length from the end of Marsh Hill Road would exceed the maximum permissible length of 1,200 feet. Total length of new roadway proposed from the end of the existing right-of-way under this alternative is 3,605 linear feet. The total length of Marsh Hill Road under the DEIS proposed action, including a cul de sac that was proposed at the end of the main loop roadway, is 5,505 linear feet.

While this proposal included conservation easements for wetlands and wetland buffers on the project site, there would be no dedication of parkland to the Town of Putnam Valley. As with the Cluster Layouts with 25 lots described below, environmental impacts of this layout would be substantially greater than those of the revised proposal described and evaluated herein.

Cluster Subdivision Plan Alternative (with Wetland Impacts)

The purpose of clustering is to encourage flexibility of design and development of land to promote the most appropriate use of land, to facilitate the adequate and economical provision of streets and utilities, and to preserve the natural and scenic qualities of open land. Section 165-17 of the Putnam Valley Zoning Code indicates that the density of proposed cluster development shall be based on the density permitted in the underlying zoning district. The Cluster Subdivision Plan Alternative (Cluster Layout 1) presented in the DEIS includes the same number of proposed homes as the DEIS proposed action, but with the development concentrated on the western portion of the site, with a 25.64-acre open space parcel on Lot "B". This Cluster Layout reduces the length of the proposed on-site roadway in comparison to the DEIS proposed action. Instead of extending into Lot "B", the looped portion of the on-site roadway would almost entirely fall within Lot "A", or the western half of the project site. This Cluster Alternative would not eliminate the need for the proposed lot line adjustment.

Cluster Layout 1 would reduce site disturbance on the easternmost portions of the project site in comparison to the DEIS proposed action, including impacts to steep slopes. A reduction in the amount of impervious surfaces (roads and buildings) of 0.69 acres in comparison to the DEIS proposed action is achieved by incorporation of a shorter roadway under this alternative. Disturbance to slopes 20 percent and greater would be reduced by 0.20 acres and disturbance to slopes that range from 15 to 20 percent would be reduced by just under one half an acre under Cluster Layout 1. A comparison of site disturbance by coverage category is provided below for the DEIS proposed action and cluster layout.

Table 1-1 Cluster Layout 1 Alternative Impact Comparisons: Open Space and Natural Resources								
Alternative	Developed Area			Open Space Resources (acres)			Natural Resource Impacts	
	Area of Concern Residential Units	Impervious Surfaces (acres)	Lawn/Landscaping Water Quality	Wetlands, including Water Surfaces	Woods (uplands)	Meadows	Total Construction Disturbance	Wetland Disturbance
No Action	1	0.20	1.75	5.61	77.88	0	0	0
FEIS Proposed Action	14	2.67	13.44	5.92*	63.09	0	14.20	0
DEIS Proposed Action	25	5.01	24.04	5.61	50.78	0	26.57	0
DEIS Cluster Layout 1	25	4.32	20.70	5.26	55.21	0	23.74	0.35

Source: Cronin Engineering, P.E., P.C., 2006
*Per updated wetland boundary.

Potential surface water impacts would be greater under Cluster Alternative 1 than under the DEIS Proposed Action and the currently proposed action. The reduced length of the on-site roadway proposed for this Cluster Layout would require a crossing of Wetland “B” in order to accommodate a loop road, impacting 0.35 acres of wetland and an additional 0.75 acres of wetland buffer. This crossing would be accomplished via two bottomless arched culverts, allowing water to flow over a pervious surface and relatively undisturbed stream bottom. Mitigation of direct wetland impacts, which include loss of hydrophytic vegetation, hydric soils and a constriction of the current flow path, would be required. Additional concerns would include bisecting the existing wetland, potentially fragmenting the wetland habitat. Mitigation measures would be determined during later design phases but would likely consist of wetland plantings and grading activities to expand existing site wetlands.

Proposed homes and wells are spread out more evenly over the property under the DEIS proposed layout than under Cluster Layout 1. Under this alternative, some wells would be located in closer proximity to one another than under the DEIS Proposed Action. Therefore, there may be a need for additional well pump testing under this alternative to determine if the wells would have the potential to influence each other. If this Cluster Layout is approved, additional testing would be appropriate on perhaps two lots directly adjacent to wells that have already been drilled and tested, to determine the extent, if any, of direct interconnectivity between wells.

No change in the number of water quality basins would be needed under the Cluster Layout 1 alternative in comparison to the DEIS proposed action. Stormwater impacts would be slightly lower with the lower amount of impervious surfaces proposed in comparison to the DEIS Proposed Action. However, stormwater impacts would be greater than the currently proposed conventional layout with 14 homes. No significant stormwater impacts would be expected. However, two of the four proposed basins would be located within the 100-foot buffer to Wetland B, which is not desirable if otherwise avoidable.

With development concentrated on the western side of the project site for the most part, impacts on vegetation and wildlife from this Cluster Layout would be reduced in comparison to the DEIS Proposed Action, although greater than the currently proposed layout. Cluster Layout 1 would allow preservation of over 25.5 acres of the site as uninterrupted open space. Nearly 24 acres of woodland would be removed from the site (including Marsh Hill Road improvements) as opposed to over 26.6 acres under the Proposed Action, and approximately 14.2 acres under the currently proposed layout.

With the same number of proposed homes as the DEIS Proposed Action, this Cluster Layout would have similar levels of traffic impacts and demands on community services in comparison to the DEIS Proposed Action, though greater impacts than the currently proposed layout. There would be no change to the operating level of service for any of the movements at area intersections as a result of construction of this Cluster Layout alternative. The reduced length of the on-site roadway would be considered to be beneficial in terms of emergency access. With similar widening and reconstruction of Marsh Hill Road as the DEIS Proposed Action, this alternative would also improve access to existing homes along Marsh Hill Road.

With over 25.5 acres of the site left undisturbed, there would be less tree clearing associated with Cluster Layout 1 than with the DEIS proposed action. However, the change in visual conditions in comparison to the DEIS Proposed Action would not be significant since the portions of the site that would be preserved do not have a significant visual connection to public places in surrounding areas of the town that would be considered sensitive from a visual perspective. From existing homes on Marsh Hill Road, limited views of this alternative would appear to be more dense than existing residential development on Marsh Hill Road, and more dense in comparison to the DEIS Proposed Action.

Cluster Subdivision Plan Alternative (with No Wetland Impacts)

A second Cluster Subdivision Plan Alternative (Cluster Layout 2) that does not include a roadway crossing of on-site wetlands has been prepared. Like Cluster Layout 1, this alternative would comply with the clustering provisions of Section 165-17 of the Putnam Valley Zoning Code. Like the DEIS proposed action, this alternative also includes 24 new homes. Like the DEIS proposed action, Cluster Layout 2 includes a looped roadway, although it does not incorporate the short cul-de-sac extending east from the loop roadway into the plan. Homes are located on smaller lots, starting at 1.13 acres, with 17 of the lots less than two acres in size. Similar to the modified layout currently proposed, clustering the proposed lots results in preservation of a 30.98-acre open space parcel on the eastern portions of the site. This alternative would not eliminate the need for the proposed lot line adjustment.

Cluster Layout 2 would reduce site disturbance slightly and cut the amount of impervious surfaces (roads and buildings) by 0.46 acres when compared with the DEIS Proposed Action. This is considerably more site disturbance that is required for the revised layout with 14 homes. Disturbance to slopes 20 percent and greater would be reduced by 0.20-acre in comparison to the DEIS proposed action under this alternative and disturbance to slopes that range from 15 to 20 percent would be reduced by roughly one third of an acre under Cluster Layout 2. A comparison of site disturbance by coverage category is provided below.

Table 1-2 Cluster Layout 2 Alternative Impact Comparisons: Open Space and Natural Resources								
Alternative	Developed Area			Open Space Resources (acres)			Natural Resource Impacts (acres)	
	Area of Concern Residential Units	Impervious Surfaces (acres)	Lawn/ Landscaping Water Quality	Wetlands, including Water Surfaces*	Woods (uplands)	Meadows	Total Construction Disturbance	Wetland Disturbance
No Action	1	0.20	1.75	5.61	77.88	0	0	0
FEIS Proposed Action	14	2.67	13.44	5.92*	63.09	0	14.20	0
DEIS Proposed Action	25	5.01	24.04	5.61	50.78	0	26.57	0
Cluster Layout 2	25	4.55	24.04	5.61	51.24	0	26.80	0

Source: Cronin Engineering, P.E., P.C.
*Per updated wetland boundary.

Potential surface water impacts would be less under this Cluster Alternative than under the Proposed Action. The lack of a cul-de-sac extension in this alternative plan and the modified lot layout reduces the amount of land disturbance and the impact associated with the road thereby resulting in a decrease in overall impervious surface. Impact to the wetland and the wetland buffer under this alternative would be identical to that under the DEIS Proposed Action.

Proposed homes and wells are spread out more evenly over the property than under the previously discussed Cluster Layout 1 but less spread out than the DEIS Proposed Action. As with Cluster Layout 1, some wells would be located in closer proximity to one another than under the DEIS Proposed Action and, therefore, there may be a need for additional well pump testing to determine if the wells would have the potential to influence each other. If this Cluster Plan is approved, additional testing would be appropriate on perhaps two lots directly adjacent to wells that have already been drilled and tested, to determine the extent, if any, of direct inter-connectivity between wells.

A change in the number and approximate location of the water quality basins from the DEIS Proposed Action would not be needed under this alternative. However, under Cluster Layout 2, basin sizes and configurations would be slightly different than those included in the Proposed Action. With the total area of disturbance and area of impervious surface for this alternative being slightly less than that for the DEIS Proposed Action, stormwater impacts would be slightly lower.

This Cluster Layout includes the same number of homes as the DEIS Proposed Action and would be expected to generate the same amount of sewage flow, or approximately 85,000 gallons per day. Adequate areas exist within the Cluster Layout lots to accommodate septic areas.

With the alteration in the lot layout associated with this Cluster Layout, impacts on vegetation and wildlife would be reduced in comparison with the DEIS Proposed Action. Cluster Layout 2 would allow preservation of nearly 31 acres of the site as uninterrupted open space. Slightly

less than 27 acres of woodland would be removed from the site (including clearing needed for the associated Marsh Hill Road improvements) as opposed to over 26.6 under the DEIS Proposed Action.

With the same number of homes as the DEIS Proposed Action, this Cluster Layout would have similar levels of traffic impacts. There would be no change to the operating level of service for any of the movements at area intersections as a result of construction of the Cluster Layout alternative. With similar widening and reconstruction of Marsh Hill Road as the DEIS Proposed Action, this alternative would also improve access to existing homes along Marsh Hill Road.

With nearly 31 acres of the site left undisturbed, there would be less tree clearing associated with this Cluster Layout. Changes in visual conditions in comparison to the DEIS Proposed Action would not be significant since the portions of the site that would be preserved do not have a significant visual connection to public places in surrounding areas. From existing homes on Marsh Hill Road, limited views of this Cluster Layout would appear to be more dense than existing residential development on Marsh Hill Road, and more dense in comparison to the DEIS Proposed Action.

Code Compliant Marsh Hill Road Alternative

The Code Compliant Marsh Hill Road Alternative would include the conventional subdivision plan as the DEIS Proposed Action, but with Marsh Hill Road being fully improved to meet current standards for a new subdivision road. To achieve the maximum permitted roadway grade of eight percent, grading activities would need to extend out from Marsh Hill Road for up to 250 feet at one location on the west side of Marsh Hill Road. This assumes a maximum slope ratio of 1:2. The amount of cut that would be required would be excessive. Development of this alternative would result in the greatest amount of site disturbance of all of the alternatives examined, including construction disturbance and associated loss of wooded land.

The viability of home sites and safe access to proposed homes on Lots 17, 19 and 20 would be impacted by grading activities under this alternative, with necessary driveway grades for these lots of between 30 and 60 percent. Access to the existing home on Lot #18 would also be eliminated, with grading necessary for the roadway widening reaching nearly the front of this existing home.

Improvements necessary to bring Marsh Hill Road up to Town Code standards would have significant land use impacts. Off-site grading activities would limit or eliminate access to existing tax parcels and homes on the west side of Marsh Hill Road, and would eliminate several existing off-site structures including the existing house on tax parcel 83.20-1-18 and the existing garage on tax parcel 83.20-1-22. The density of the project would be reduced slightly with the reduced areas of some lots potentially eliminating three house sites and rendering unusable the front yard of the existing home located on the project site.

Unlike the Standard Layout that is currently proposed and the Standard Layout that was proposed in the DEIS, the Code Compliant Marsh Hill Road Alternative would not be consistent with the Town's Hillside Management Environmental Management District policies, which call for the retention of steep slopes and the utilization of driveway and road designs and improvements which serve to minimize grading alterations.

List of Involved and Interested Agencies

This application for subdivision approval will require approvals from the following involved agencies:

Subdivision Approval, Wetland Permit, Development Approval Plan Approval, Waiver of Roadway Length Requirement, Major Grading Permit (applications submitted, approvals pending)

- Town of Putnam Valley Planning Board, as Lead Agency
Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, New York 10579

Realty Subdivision/Subsurface Sewage Treatment System (SSTS) Permits, New Water Supply Well Permits (soil investigations have been completed and were witnessed by Putnam County Department of Health, individual septic plans to be submitted)

- Putnam County Department of Health
4 Geneva Road
Brewster, NY 10509

Front Yard Setback Variance (application submitted, Zoning Board of Appeals review anticipated 2006)

- Town of Putnam Valley Zoning Board
Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, New York 10579

SPDES General Permit for Stormwater (GP-02-01) (to be submitted prior to work)

- New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, NY 12561

Highway Work Permit (to be submitted prior to work)

- Putnam County Department of Highways & Facilities
842 Fair Street
Carmel, NY 10512
- Town of Putnam Valley Town Board
Town of Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, NY 10579
- Town of Putnam Valley Building Department (***to be submitted***)
Town of Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, NY 10579

- New York State Department of Environmental Conservation
Region 3 Headquarters
21 South Putt Corners Road
New Paltz, NY 12561

A complete list of involved agencies, interested parties, and their addresses is included below.

Interested Parties

- Putnam County Department of Planning and Development
841 Fair Street
Carmel, NY 10512
- Supervisor
Town of Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, NY 10579
- City of Peekskill Department of Planning, Development and Code Assistance
City Hall
840 Main Street
Peekskill, NY 10566
- City of Peekskill
Water Department
City Hall
840 Main Street
Peekskill, NY 10566
- Putnam Valley Highway Department
256 Oscawana Lake Road
Putnam Valley, NY 10579
- Putnam Valley Environmental Commission
Town of Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, NY 10579
- Putnam Valley Advisory Board on Architectural and Community Appearance
Town of Putnam Valley Town Hall
265 Oscawana Lake Road
Putnam Valley, NY 10579
- Putnam Valley Fire Department
P.O. Box 21
Putnam Valley, New York 10579
- Putnam Valley Volunteer Ambulance Corps
P.O. Box 141
Putnam Valley, New York 10579

- Putnam Valley Library
30 Oscawana Lake Road
Putnam Valley, New York 10579
- Putnam Valley Central School District
146 Peekskill Hollow Road
Putnam Valley, NY 10579
- New York State Department of Environmental Conservation
Division of Environmental Permits
625 Broadway
Albany, NY 12233-1750
- Office of Parks, Recreation and Historic Preservation
Peebles Island Resource Center
P.O. Box 189
Waterford, NY 12188-0189
(518) 237-8643
- VS Construction Corp.
37 Croton Dam Road
Ossining, NY 10562
- Any Person Requesting a Copy of this FEIS
- Environmental Notice Bulletin (ENB), Notice Only

This FEIS is arranged in sections, with comment summaries and responses arranged by subject area similar to the DEIS. A comment summary, in some cases, may incorporate more than one individual comment on the same subject, followed by a response to that comment. The sources of each comment are referenced. The format of the comments and responses is as follows:

Comment # (Source): Comment summary text.

Response #: *Response text.*

Substantive and relevant comments taken from the letters and hearing transcript are marked with references to the FEIS comment/response numbers in the margins of Appendix B and C, respectively.

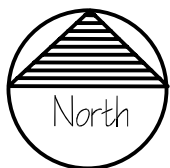
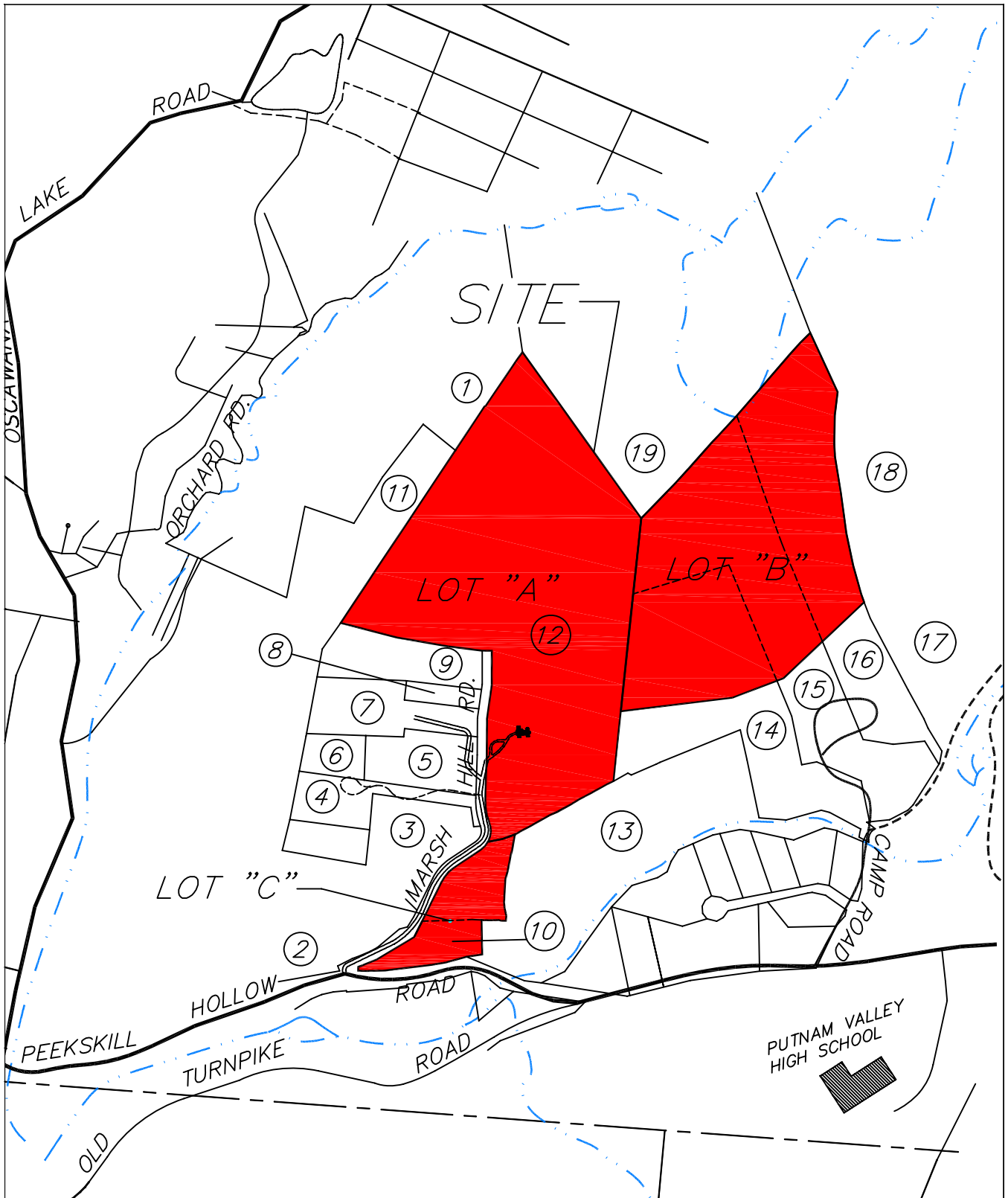


Figure 1-1: Site Location Map

Emerald Ridge Subdivision FEIS

Town of Putnam Valley, Putnam County, New York

Source: Cronin Engineering, P.E., P.C., January 5, 2007

Scale: 1 inch = 750 feet

2.0 EXECUTIVE SUMMARY & PROJECT DESCRIPTION COMMENTS AND RESPONSES

Comment 2-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The applicant should revise the Executive Summary in its entirety. The Executive Summary should be revised to include project changes that have resulted since the DEIS was determined complete. The Executive Summary should be reviewed for consistency with regard to text provided in the body of the DEIS and project changes described in the FEIS. The Project Description should be revised to integrate project changes that have occurred since the DEIS was determined complete.

***Response 2-1:** Chapter 1.0 of this FEIS describes changes to the project that have occurred since the DEIS was determined complete. While the DEIS is incorporated into this FEIS by reference, the project description found in Chapter 1.0 replaces the project description provided in the DEIS. Environmental effects of the proposed plan changes are described for each of the subject areas covered by the DEIS in the corresponding FEIS chapters herein.*

Comment 2-2 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006, and July 31, 2006 Public Hearing Comment; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Throughout the document, the applicant provides information regarding the Brookfalls Cottages parcel. The applicant should identify the current status of the subdivision plan, site development plans, and easements associated with the Brookfalls Cottage' parcels and how said documents and approvals will need to be altered as a result of the proposed emergency access road. Is the applicant going to make this application or is Brookfalls Cottages, Inc. It is recommended that the plans and easement documents that will need to be amended be provided in an appendix. An existing conditions survey of the entire Brookfalls Cottages parcel should be provided as should existing easement documentation. . . . The description of the proposed action should incorporate the addition of the emergency access road along with details of easements needed. Development Approval Plans for the Brookfalls Subdivision should be submitted along with the agreement for easement from William Venezia. . . Site history should be updated to include the addition of the emergency access parcel. . . Discussion of the history of the bridge and its design details on the proposed emergency access parcel should also be discussed. . . [as presented during the Public Hearing], the concept for the emergency access is that they're using an existing traveled way and expanding it. That may be a desirable alternative for a secondary access. However, it does entail disturbance apparently of the Peekskill Hollow Brook buffer as well as the change or modification to the crossing perhaps. We don't know the condition of the bridge and will it need some repair work to accommodate this new alternative route. So not seeing that and not being able to judge the impacts, it's difficult to give it a seal of approval, but from a conceptual basis I don't see an issue because we're using the existing area. I just don't have enough information to share with the Planning Board with respect to impact.

***Response 2-2:** The Proposed Action has been revised as a result of comments received during and following the Public Hearing on the DEIS and as a result of consultation with the Planning Board and other Town officials, staff and consultants. A meeting was held to discuss revisions to the project with members of the Planning Board and its consultants, the Town Board, the Highway Department, the Building Department, the Fire Department and Ambulance Corps and it was determined that the 14-lot layout and reduced road length would not require an emergency access road. Therefore, the previous DEIS layout with 25 lots is*

proposed to be replaced with a layout that mitigates impacts related to the construction of an emergency access road and all but one of the proposed homes on the eastern portion of the project site. The length of the proposed subdivision roadway has been reduced by 1,700 linear feet. With the density of the project reduced to 14 lots, or nearly one half of the density originally proposed, the revised layout no longer requires an emergency access roadway utilizing the bridge over Peekskill Hollow Brook to access Brookfalls Cottages, Inc., lands. Lot "B" that is proposed to be subdivided from Brookfalls Cottages, Inc., is now proposed for one residential lot on its western side, with a 31.0-acre conservation parcel to be conveyed to the Town proposed on the majority of Lot "B".

Comment 2-3 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; William Zutt, Esq., Putnam Valley Planning Board Attorney, Public Hearing, July 31, 2006): The applicant should identify the proposed ownership and maintenance of the emergency access road. Who owns the bridge over Peekskill Hollow Brook?

Response 2-3: As stated in Response 2-2, the emergency access road is no longer required or proposed. There would be no impacts to, or utilization of, the bridge over Peekskill Hollow Brook for the proposed project.

Comment 2-4 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The applicant should identify the extent of improvements proposed for the emergency access road, including existing portions of the driveway to which the emergency access road will tie into. What is the proposed width and grade of the road? How much earth work is required to construct the road? Who will maintain the road, gate, and stormwater facilities? Will Brookfalls Cottages Inc. allow stormwater management structures to be constructed on their property? If so, who will maintain these structures? . . . A significant amount of the DEIS and accompanying studies need to be revisited to include impacts from the construction and use of the proposed emergency access road through the Brookfalls Cottage property.

Response 2-4: See Response 2-2.

Comment 2-5 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): Now that an emergency access road is proposed and amendments will be required to the site development plans recently approved by the Planning Board for Brookfalls Cottages, should the project area include Brookfalls Cottages, Inc. in its entirety?

Response 2-5: See Response 2-2.

Comment 2-6 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): If an easement is proposed for the emergency access road, will the easement be wider than 25 feet? If so, the net lot area calculation will need to be adjusted.

Response 2-6: See Response 2-2.

Comment 2-7 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): Who will have the right to use the emergency access road? How will they access this road? Is a gate proposed? Who will have access to the gate?

Response 2-7: See Response 2-2.

Comment 2-8 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The applicant should identify the ownership of the existing bridge and identify proposed improvements to the bridge (if any). A structural report and analysis signed by a Professional Engineer should be provided. If the bridge and road are not to be offered to the Town, it is recommended that the bridge be recertified every two years as part of the Homeowners Association agreement. . . . The bridge and its design details on the proposed emergency access roadway should be discussed.

Response 2-8: See Response 2-2.

Comment 2-9 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The phasing and construction schedule needs to be revised to include the construction of the emergency access road.

Response 2-9: See Response 2-2.

Comment 2-10 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): It is recommended that the conservation easements be permanently delineated in the field by use of split-rail fence or large boulders or a combination of both. Split-rail fence may be more appropriate in areas in close proximity to proposed dwellings and lawn space.

Response 2-10: The Applicant is willing to consider use of split-rail fencing or large boulders to permanently delineate the conservation easements. Some physical barrier will be used along the boundary of the conservation easement.

Comment 2-11 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): As previously discussed with both the Planning Board and the applicant, it is recommended that the secondary cul-de-sac be removed; this would likely result in the elimination of three lots.

Response 2-11: See Response 2-2.

Comment 2-12 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): At the public hearing, several residents recommended that the applicant meet with representatives of the Town Board, Planning Board, Zoning Board, Highway Department, emergency services and School District to discuss various potential impacts; the applicant should facilitate this meeting.

Response 2-12: Meetings have been held with the Town Board, Planning Board and Highway Department to discuss the project. Representatives of the Fire Department and Ambulance Corps were also in attendance. As a result of these meetings the project has been revised to mitigate anticipated impacts.

Comment 2-13 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The Subdivision and Site Development Plan prepared by Cronin

Engineering, P.E., P.C., should be updated to demonstrate project changes that have occurred since they were last revised.

Response 2-13: *All large scale plans reflecting the modified proposed action are attached to this FEIS (see Sheet PT-2.1 for Subdivision Plat and Sheets SP-3.1 to SP-3.5 for Site, Grading & Utilities Plan) and are included herein at a reduced scale.*

Comment 2-14 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Change word “till” to “rill” in Section 1.2.1.

Response 2-14: *Comment noted.*

Comment 2-15 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The phasing portion should be more detailed and actually broken out into phases with milestones. These phases should also include what lots are going to be worked on first, estimated time to complete the lots and overall project length for each phase to be completed. This will illustrate better what construction easements and grading easements would be required. It will also give the neighboring parcels the ability to see the entire project from a scheduling point of view.

Response 2-15: *As described in the phasing plan that is attached to this FEIS (see attached sheet ER-6.7). the Emerald Ridge Subdivision will be constructed in phases to comply with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, GP-02-01. The construction of the subdivision will be conducted in three separate and distinct phases as follows (sheet ER-6.7 of the subdivision plan set for the locations, break down, notations and delineation of the overall site phasing plan):*

Phase 1

Phase 1 will partly involve the reconstruction of the existing improved portion of Marsh Hill Road (station 0+00 to station 14+50), which includes the entrance improvements, the widening of the roadway to eighteen feet, the installation of the drainage swales on each side of the road, and structure installations for the stormwater. This portion of phase 1 involves approximately 0.8 acres of disturbance and will be required to be complete (except for the top coat of asphalt) prior to continuing with phase 1.

Upon completion of the above improvements, the remainder of the road from station 14+50 to the end, station 39+00 will be constructed, the stormwater basins will be installed and operational as sediment basins until all site construction is complete.

Also as part of phase 1, a material storage area will be provided on lot 11 and a model home will be constructed on lot 4. Phase 1 involves five acres of disturbance with approximately 5,560 cubic yards of cut and 6,960 cubic yards of fill.

Phase 1 will be considered complete when all disturbed areas are stabilized with a vegetative cover, an impervious cover or other treatment deemed appropriate by the Town Engineer. The entire road will be paved to the binder course of asphalt, the three stormwater basins will be fully operational and the water storage tanks will be installed. No work beyond phase 1 can commence until such time the above items

are complete and satisfactory to the Town Highway Superintendent, the design engineer and Town Engineer.

Phase 2

Phase 2 involves the construction of homes on lots 1, 5, 6, 7, 8 and 9, which includes the houses, septic fields, wells, driveway and lawn/landscaping areas for each lot. This phase involves approximately 4.7 acres of disturbance, 3,300 cubic yards of cut and 750 cubic yards of fill and shall not be deemed complete until such time the houses are completely constructed, the driveways are paved and final grading of the disturbed areas, seeded with mulch or other measure as approved by the design engineer and Town Engineer.

Phase 3

Phase 3 involves the construction of homes on lots 3, 10, 11, 12, 13 and 14 which includes the houses, septic fields, wells, driveway and lawn/landscaping areas for each lot. This phase involves approximately 4.5 acres of disturbance, 1,200 cubic yards of cut and 2,600 cubic yards of fill and shall not be deemed complete until such time the houses are completely constructed, the driveways are paved and final grading of the disturbed areas is complete, seeded with mulch or other measure as approved by the design engineer and Town Engineer.

With prior approval from the Town Engineer and Town Code Enforcement Officer, a lot in phase 3 may be swapped with a lot in phase 2, for example. This option is made available as the entire road and infrastructure will be completely installed with all disturbed areas stabilized and the stormwater systems operational.

The entire Emerald Ridge project will disturb approximately 14.2 acres, all of which will be stabilized with an impervious cover or vegetative cover. It is estimated that the build-out of the project will take approximately 18 to 24 months with phase 1 approximately 4 to 6 months and phases 2 and 3 approximately 6 to 9 months each. Reference is made to sheet ER-6.7 of the subdivision plan set for the above described phasing plan and detailed notes.

In addition to the proposed phasing of this project, compliance with sections 165-81C and D of the Town of Putnam Valley Zoning Code shall be adhered to and generally consists of the following:

-no building permit shall be issued until the right of way has been cleared, the top soil has been removed, the Item 4 and base course of asphalt have been laid, and the drainage and gutters have been put in place and all of the aforesaid has been approved by the Town Highway Superintendent and Town Engineer.

-no building permit shall be issued for the last 25% of the lots, nor shall the owner/developer sell the last 25% of the lots within the subdivision, where improvements are guaranteed by a security, unless it is determined by the Planning Board or its duly authorized representatives or agents that several conditions have been complied with as outlined in the Code.

Comment 2-16 (Joel Mandelbaum, Letter August 8, 2006): I own and live in the summertime on property immediately to the southeast of the site and of course if I had my druthers I would rather nothing be built. The construction is going to be very noisy. It's going to be very dusty. It's going to be a very difficult period of time.

Response 2-16: *Construction period impacts related to noise, dust and other effects are expected to be temporary and are discussed in the DEIS. The implementation of various mitigation measures discussed in Section 3.0 of the DEIS will limit the extent of the impacts which prove unavoidable. Temporary or short term impacts associated with the construction of the project may include soil disturbance, steep slopes disturbance, and potential erosion; disturbance to wetland buffer, and associated wildlife habitats; increased traffic associated with construction on the site and on local roads; and, increased local noise from construction.*

With the reduction in the number of proposed new homes from 24 to 13, the extent of overall construction activities has been reduced in comparison to the proposed action of the DEIS. Mitigation measures to limit construction effects are described in the SWPPP and in the blasting plan (see Appendix). Best management practices will be utilized to limit such effects, including stabilization of disturbed areas as soon as possible. In areas where work will not occur for periods longer than three weeks, soil stabilization by seeding or mulching will occur. Sloped areas, such as fill slopes, may be seeded or stabilized depending upon weather conditions at the time of carrying out the work. Following completion of grading operations, level areas will be immediately seeded and mulched. The construction phasing plan indicates that stormwater conveyances and temporary sediment traps will be installed before earth moving or major land disturbances occur. Redundant sediment barriers (hay bale/silt fence) will be used down slope from roads during construction to limit potential for erosion effects, among other measures.

Blasting locations have been reduced, as indicated in the Blasting Plan. For the remaining blasting sites, blasting operations will not be conducted after the hour of 5:00 pm and before 8:00 am, or at any time on Sunday or any holiday recognized by the Town of Putnam Valley. As described in the blasting plan, whenever blasting is to occur within 600 feet of any structure, including residential dwellings and individual water wells, the inhabitants of such structure or residential dwelling will be personally notified of the date and approximate time that blasting will occur. Said notice shall be received no less than 24 hours prior to blasting. All blasting operations shall be in accordance with the Town of Putnam Valley requirements.

Comment 2-17 (Wendy Whetzel, Public Hearing, July 31, 2006): Is it still going on that we have kind of ignored the 1,200 foot cul-de-sac road? Are they taking care of that already or not? I understand this is not common for projects of this size and it sets a terrible, terrible precedent, I believe, for future projects and this particular issue is of great concern to me. So anyway, these are the concerns that I have on a project of this size. It might work better if there were fewer houses, less risk involved, but it's up to you [the Planning Board].

Response 2-17: *The density of the project has been significantly reduced in response to comments regarding this issue. The original subdivision contained*

25 lots and a total road length of 5,600 linear feet, of which 1,400 feet consisted of the existing Town-owned, improved and maintained Marsh Hill Road. The new proposed subdivision contains 14 lots and a total road length of 3,900 linear feet with the same 1,400 feet of Town-owned, improved and maintained Marsh Hill Road. Therefore, the total new road length has been reduced by 1,700 linear feet. As described in Chapter 3.0 herein, environmental impacts of the project have been greatly reduced as a result of the revised layout and reduced road length.

Comment 2-18 (Patty Villanova, Public Hearing, July 31, 2006): Is any of this housing going to be what's called priced at work force housing. In other words, are we going to have anything in there that is, by definition, either affordable to the working people of the community; if so, how many units would be designated on that?

***Response 2-18:** The Applicant proposes to sell the proposed homes as market rate housing, and not as affordable housing.*

Comment 2-19 (Patty Villanova, Public Hearing, July 31, 2006): The other last comment had to do with something I read about the people -- the construction workers that are going to be working on this project and it was mentioned that they should be people from surrounding counties. We have a lot of construction workers in Putnam Valley, including my husband who's one of them. I'll put that on the table, but I would really like it if some of you developers made a commitment. We have wonderful, wonderful construction workers that live here and work here and you should make a commitment to hiring them.

***Response 2-19:** Comment noted. The Applicant, VS Construction Corp., has completed numerous residential development projects in Putnam Valley and other local communities in the past. It has always tried to use local contractors during construction, with the exception of construction activities that are undertaken by its own crew. As with these past projects, the Applicant will attempt to utilize local contractors from the Town of Putnam Valley to the extent feasible for construction of the Emerald Ridge subdivision.*

Comment 2-20 (Patty Villanova, Public Hearing, July 31, 2006): Since these are new houses, I assume they are going to come with a warranty, a six year warranty. Is that the standard for your homes?

***Response 2-20:** Home warranty issues are outside of the realm of SEQRA issues. However, according to New York State law, the developer is required to provide a warranty.*

Comment 2-21 (Billy Lee Crowder, Chairman, Putnam Valley Planning Board, Public Hearing, July 31, 2006): There are issues that are brought up that are going to require environmental impact studies that aren't closed, namely the emergency access road. I mean the Planning Board has not seen anything in terms of detail engineering studies associated with that or the impacts it might have and we might as well get that done as part of this process; otherwise what we'll have to do is do a supplemental Draft Impact Statement, which I don't think is worth it.

***Response 2-21:** See Response 2-2.*

Comment 2-22 (Billy Lee Crowder, Chairman, Putnam Valley Planning Board, Public Hearing, July 31, 2006): This is not just a public hearing on the Draft Environmental Impact Statement. New York State law requires that we return concurrent public hearings on the preliminary plat and the Draft Environmental Impact Statement. What that may mean is that you're willing to, if we close the DEIS on what is before us, to start a supplemental impact statement relative to issues surrounding the emergency access. If the applicant requests that the Public Hearing be closed, what does he have to gain, since the wetland and biodiversity studies are not complete and the emergency access road requires further evaluation? These evaluations must be circulated as part of the SEQRA process. However, if these issues are covered in the FEIS and Findings Statement then the DEIS Public Hearing can be closed so that the applicant can begin preparing FEIS responses. The FEIS will be subject to a Public Hearing. Comments will be accepted in writing on the DEIS for 14 days after the Public Hearing.

Response 2-22: See Response 2-2 regarding issues surrounding the emergency access road. Supplementary wetland and biodiversity studies have been completed and are described in Chapters 3.2 and 3.6 of this FEIS.

Comment 2-23 (Billy Lee Crowder, Chairman, Putnam Valley Planning Board, Public Hearing, July 31, 2006): The recommendation that an emergency access roadway be explored was made by the Town of Putnam Valley Town Planner in 2004.

Response 2-23: Comment noted. See Response 2-2.

Comment 2-24 (John Zarcone, Planning Board Member, Putnam Valley Planning Board, Public Hearing, July 31, 2006): The Planning Board voted to accept [for SEQRA review] the proposed plan without an emergency access roadway. Neither the Putnam Chase, Strawberry Knolls, Timberline or Trading Post Subdivisions had emergency road accesses, and their subdivision roads were over 1,200 feet in length.

Response 2-24: Comment noted. See Response 2-2.

Comment 2-25 (William Zutt, Esq, Planning Board Attorney, Putnam Valley Planning Board, Public Hearing, July 31, 2006): So that's now been the principal proposal before the Board, it would appear since the Board has not seen this before this evening, nor have the public nor have the consultants, at least in any formal sense, it seems to me that the Chairman is suggesting that the public hearing be postponed so that review can occur, makes perfect practical sense, and it seems to me that if this is now the principal proposal, which you've said it is, that -- failing that, that the appropriate next step is a supplemental impact statement or maybe, and I'll go back and check the regs myself and be sure that this does or doesn't fit in one of those categories, but as a practical matter, it seems to be beneficial to you, to the Board, to the consultant and to the public to simply postpone the hearing so the details of this could be studied, and to the extent any supplemental material in your EIS is needed, then it could be incorporated. There may be environmental impacts associated with this proposed land disturbance that haven't yet been explored. There may be operational aspects of this that may be discussed in EIS in terms of ownership, access, maintenance and use, all of which are appropriate for inclusion, seems to me, in the EIS -- the DEIS. It's easy to say let's put it in the FEIS. My understanding of SEQRA is that the purpose of the FEIS is to provide a document that's responsive to public comment and other comment on the DEIS and at this point in time you've no comment on this particular aspect of this plan which seems to be a very key component of the plan it's certainly not my purpose to penalize the developer in suggesting that

the public hearing be postponed. I just asked the Town engineer if he had seen any of the design details of this emergency access road and his answer was no. Now ordinarily, that's the kind of issue that the consultants would say "I've seen it, it's been adequately described in the DEIS and ready for prime time, ready for public comment." We haven't even gotten to that point and it seems like a fairly important consideration with respect to this project. That's the reason I suggested that the public hearing be postponed, so that this could be made part of the Board's review and distribution so when you do get to the FEIS you've already substantive comment, substantive review on that aspect of the project. I'm not disagreeing with the Applicant's Attorney's statement that they can manage most of this evaluation in the FEIS. My principal concern is primarily that this is being presented tonight for the first time in a public setting, and it would seem that the public ought to be afforded an opportunity to comment with respect to it after seeing the details on it. It hasn't been submitted before tonight.

Response 2-25: See Response 2-2.

Comment 2-26 (Eugene, T. Yetter, Jr., Planning Board Member, Town of Putnam Valley, Public Hearing, July 31, 2006): Are there any significant issues even at eyesight without detailed information that might lead you to believe that there might be significant impacts from this proposed change versus what's already been put on the table.

Response 2-26: *The revised layout greatly reduces environmental impacts of the proposed project. No additional significant adverse impacts are anticipated as a result of the proposed changes in the project.*

Comment 2-27 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Public Hearing, July 31, 2006; Todd Atkinson, PE, Town Engineer, Town of Putnam Valley, Public Hearing, July 31, 2006): I don't have a problem with identifying the impacts, mitigating them in the FEIS. My concern is the public had an opportunity to understand that that was an option until now. The emergency access road was discussed with the Applicant's engineer three weeks ago but a formal review was not completed. The FEIS can be used as a tool to identify impacts and mitigate appropriately.

Response 2-27: *See Response 2-2. The revised layout described and evaluated in this FEIS reflects a collaborative effort to identify and mitigate impacts associated with the proposed project. The emergency access road is no longer proposed.*

Comment 2-28 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): For the List of Interested Parties the City of Peekskill Department of Planning and Development should be revised to the Department of Planning, Development and Code Assistance. The City of Peekskill Department of Public Works should be revised to the Water Department.

Response 2-28: *Comment noted. The list of Involved and Interested agencies has been updated accordingly.*

Comment 2-29 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): The City of Peekskill requests the following note be added to any approved site plans: "the project is located within the City of Peekskill Watershed."

Response 2-29: *Special City of Peekskill notes have been added to the subdivision plans.*

Comment 2-30 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): The City requests that the following note be added to any approved site plan: “The contractor is responsible to notify The City of Peekskill Water Department at (914) 734-4152 prior to the commencement of work in order to permit an inspection by the City of Peekskill Watershed Protection and Enforcement Officers to ensure that all erosion control measures are in place.” This will help the City monitor for any downstream turbidity and assist in preventing the City from shutting down its Raw Water Pumps.

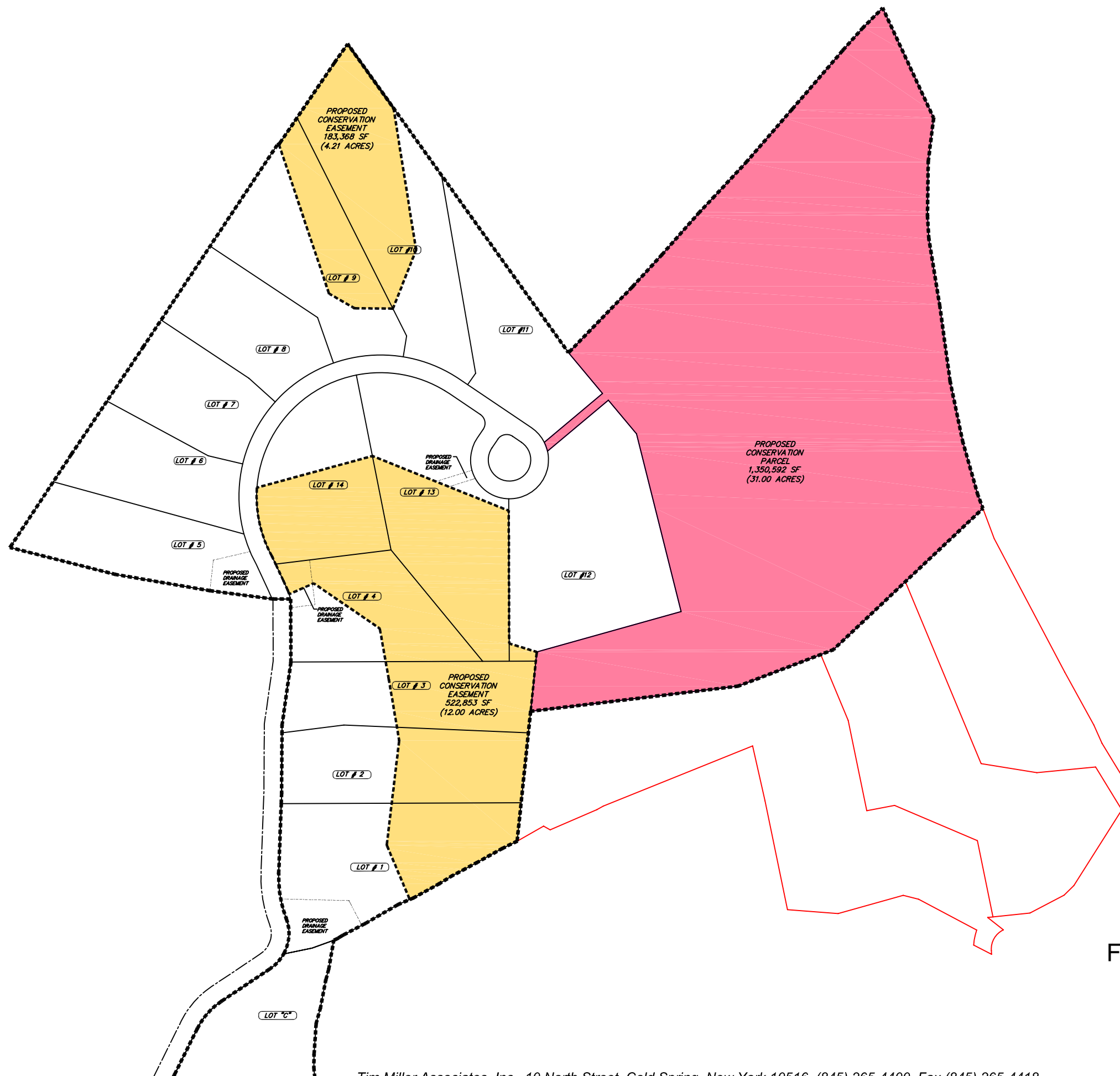
Response 2-30: *See Response 2-29.*

Comment 2-31 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): The City requests that the following note be added to any approved site plan: “The contractor is responsible to contact and notify the City of Peekskill Water Department at (914) 734- 4152 prior to construction.”

Response 2-31: *See Response 2-29.*

Comment 2-32 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): If there is any amicable way to persuade the developer to reduce the number and/or size of the new homes, I would urge the Board to try to do so. A smaller development might still be profitable, if somewhat less so, while the lesser impact, both environmental and economic, would be highly helpful to the town.

Response 2-32: *See Response 2-2.*



LEGEND	
-----	PROJECT SITE
- - - - -	PROPOSED DRAINAGE EASEMENT

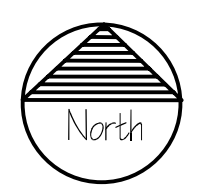


Figure 2-1: Proposed Subdivision Layout
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 300 feet

Fig. 2-1_2/15/2007 1:12:35 PM

File: 04010 11/20/06

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

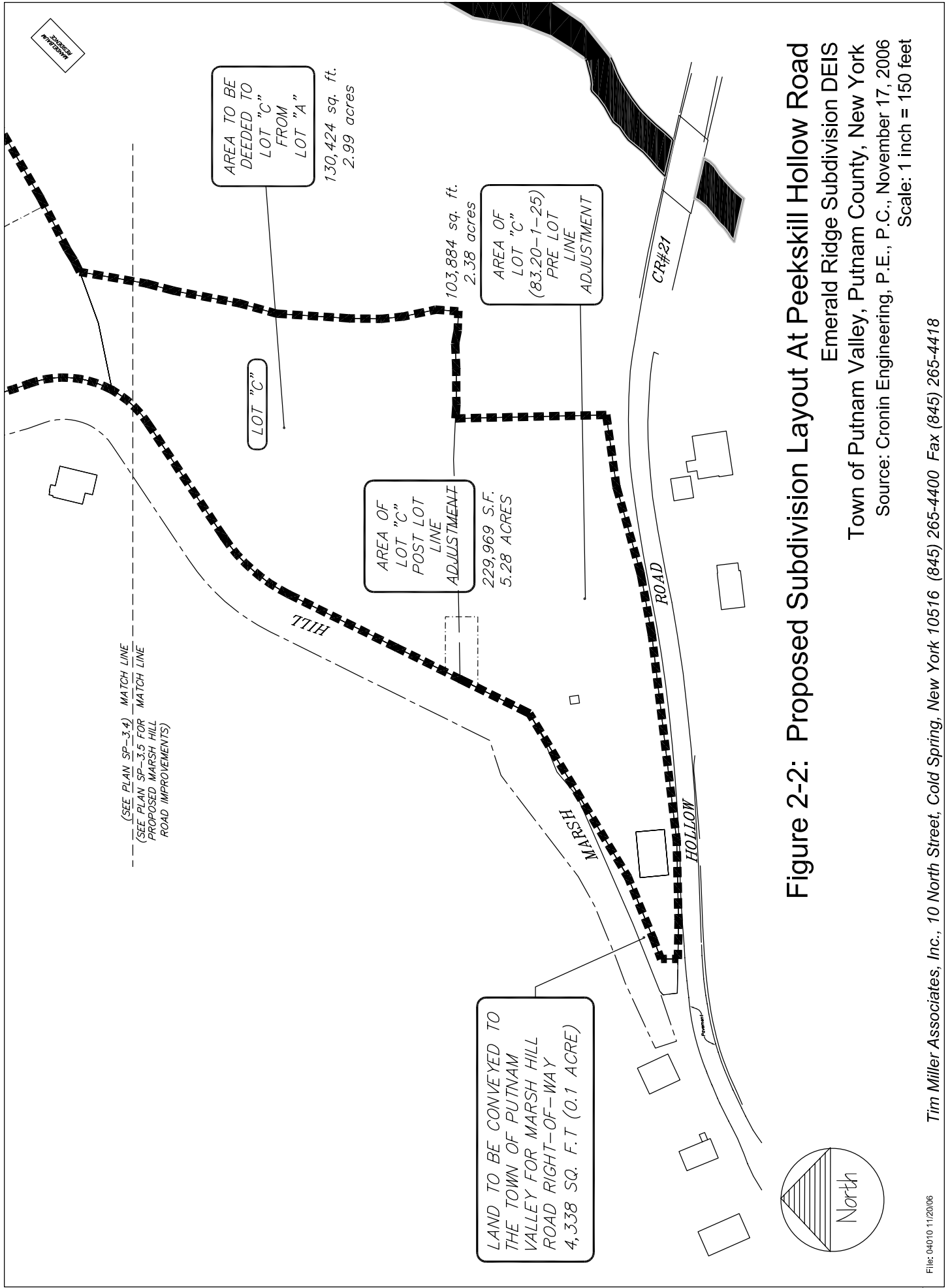
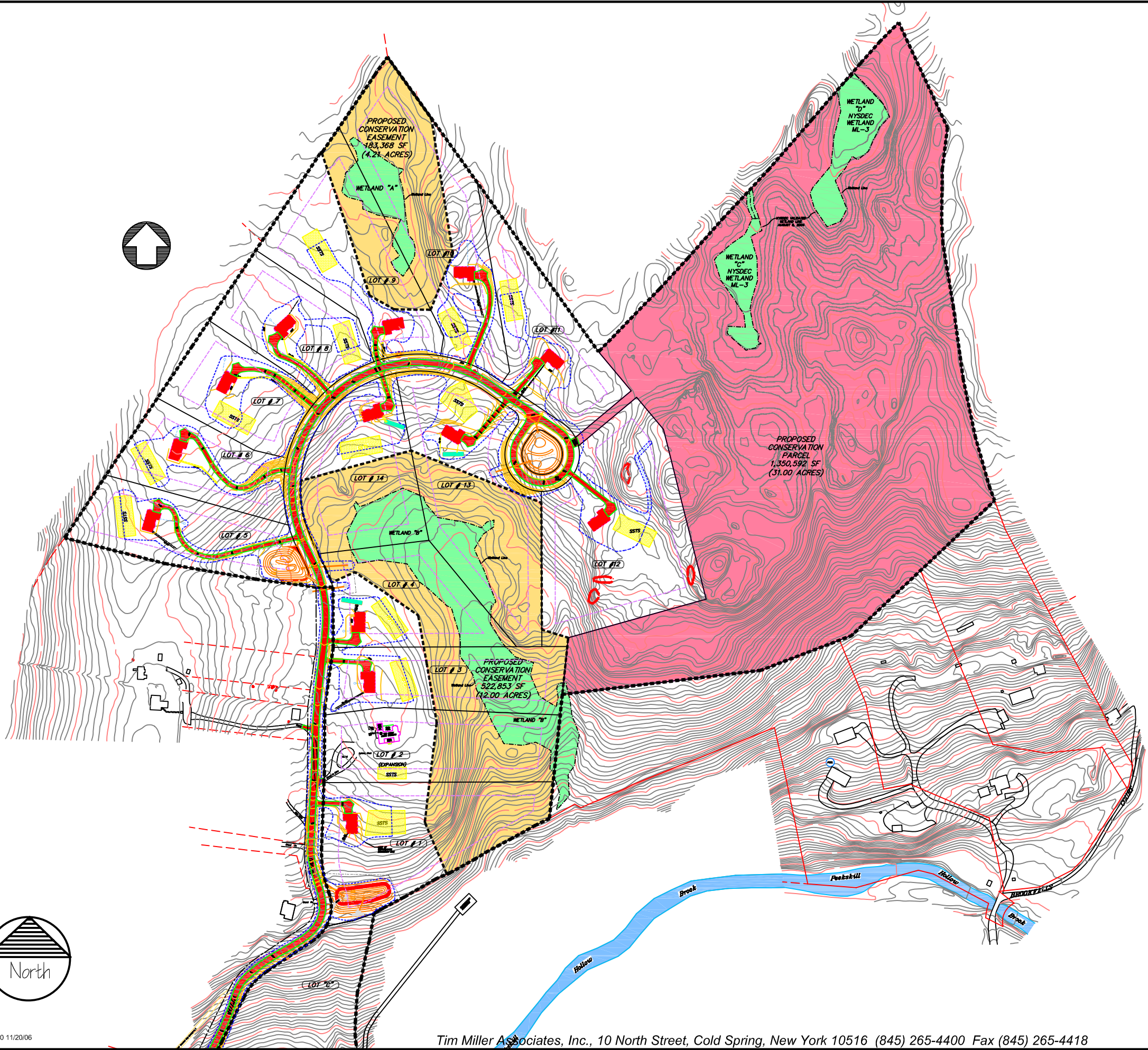
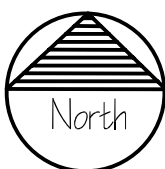


Figure 2-2: Proposed Subdivision Layout At Peekskill Hollow Road
 Emerald Ridge Subdivision DEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 150 feet

Fig. 2-3, 2/16/2007 12:41:33 PM

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LEGEND	
387.3, 400	EXISTING SPOT ELEVATION
(contour lines)	EXISTING CONTOURS
(dashed line)	EXISTING STONE WALL
(dashed line)	EXISTING DIRT TRAIL
(red outline)	EXISTING ROCK OUTCROPPING
(dashed line)	CONTROLLED AREA BOUNDARY (100')
(dashed line)	EXISTING WETLAND BOUNDARY & FLAG
(green fill)	EXISTING WETLAND AREA
(yellow dotted fill)	PROPOSED SSTS AREA
(contour lines)	PROPOSED CONTOUR
(dashed line)	LOT BUILDING SETBACK
(red outline)	PROPOSED RESIDENCE AND DRIVEWAY
(blue circle)	PROPOSED WATER WELL
(hatched pattern)	PROPOSED DRY SWALE
(hatched pattern)	PROPOSED LEVEL SPREADER
(dashed line)	EXISTING ROAD / EDGE OF PAVEMENT
(red fill)	PROPOSED 18' WIDE ASPHALT ROAD
(red outline)	PROPOSED STORMWATER QUALITY BASIN
(dashed line)	PROPOSED DRAINAGE EASEMENT
(circle with text)	PROPOSED LOT DESIGNATION
(dashed line)	PROPOSED DISTURBANCE BOUNDARY LINE

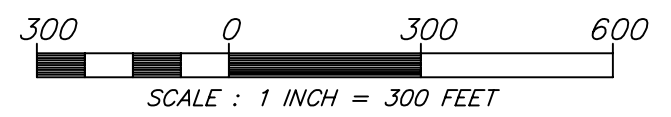























Figure 2-3: Grading and Utility Plan
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 300 feet

LEGEND

-  EXISTING SPOT ELEVATION
-  EXISTING CONTOURS
-  EXISTING STONE WALL
-  EXISTING DIRT TRAIL
-  EXISTING ROCK OUTCROPPING
-  CONTROLLED AREA BOUNDARY (100')
-  EXISTING WETLAND BOUNDARY & FLAG
-  EXISTING WETLAND AREA
-  PROPOSED SSTS AREA
-  PROPOSED CONTOUR
-  LOT BUILDING SETBACK
-  PROPOSED RESIDENCE AND DRIVEWAY
-  PROPOSED WATER WELL
-  PROPOSED DRY SWALE
-  PROPOSED LEVEL SPREADER
-  EXISTING ROAD / EDGE OF PAVEMENT
-  PROPOSED 18' WIDE ASPHALT ROAD
-  PROPOSED STORMWATER QUALITY BASIN
-  PROPOSED DRAINAGE EASEMENT
-  PROPOSED LOT DESIGNATION
-  PROPOSED DISTURBANCE BOUNDARY LINE

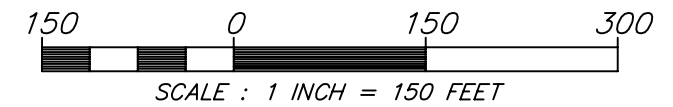
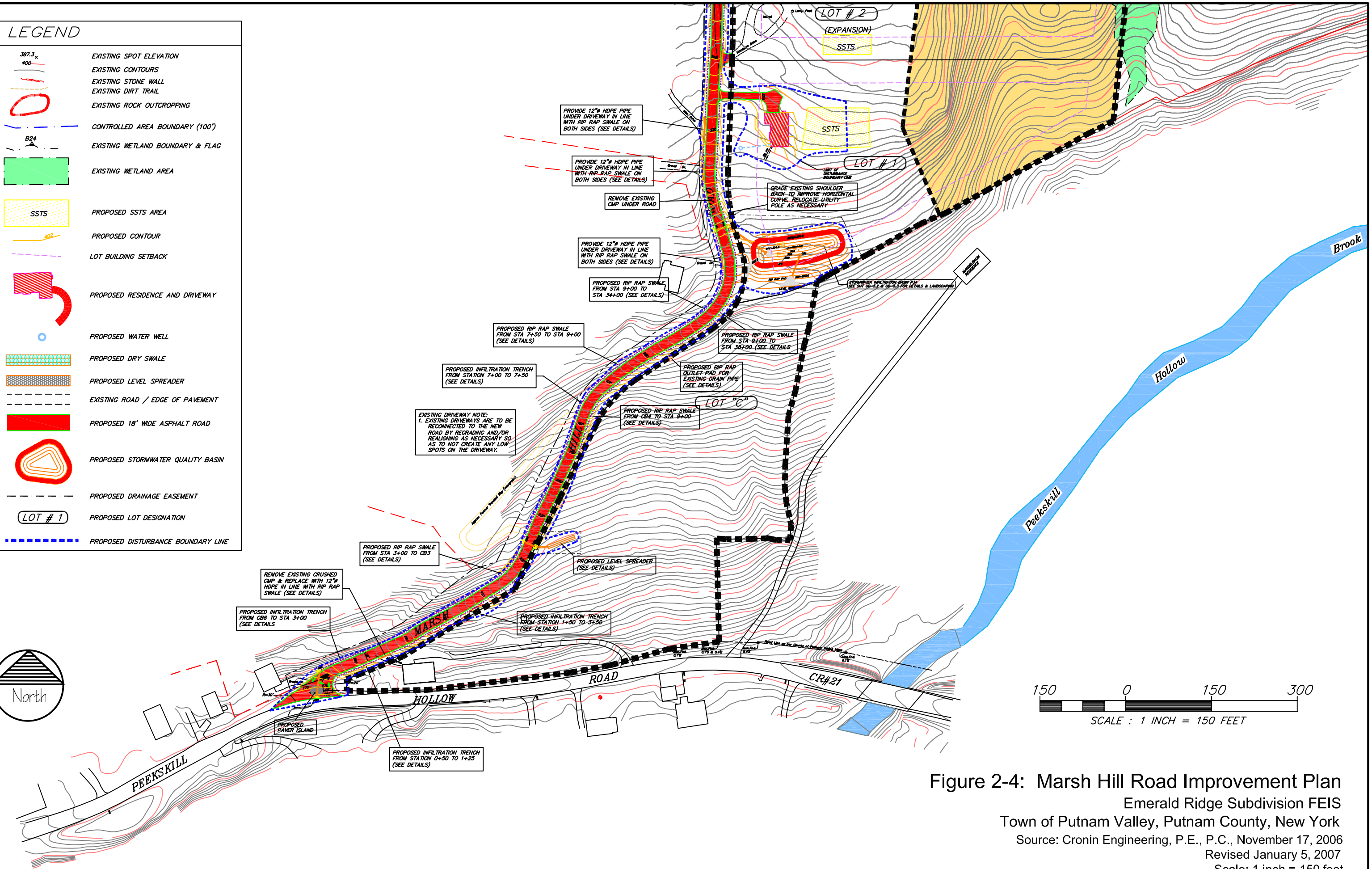


Fig. 2-4 - 2/15/2007 1:21:28 PM

File: 04010 11/20/06

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

Figure 2-4: Marsh Hill Road Improvement Plan
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 150 feet



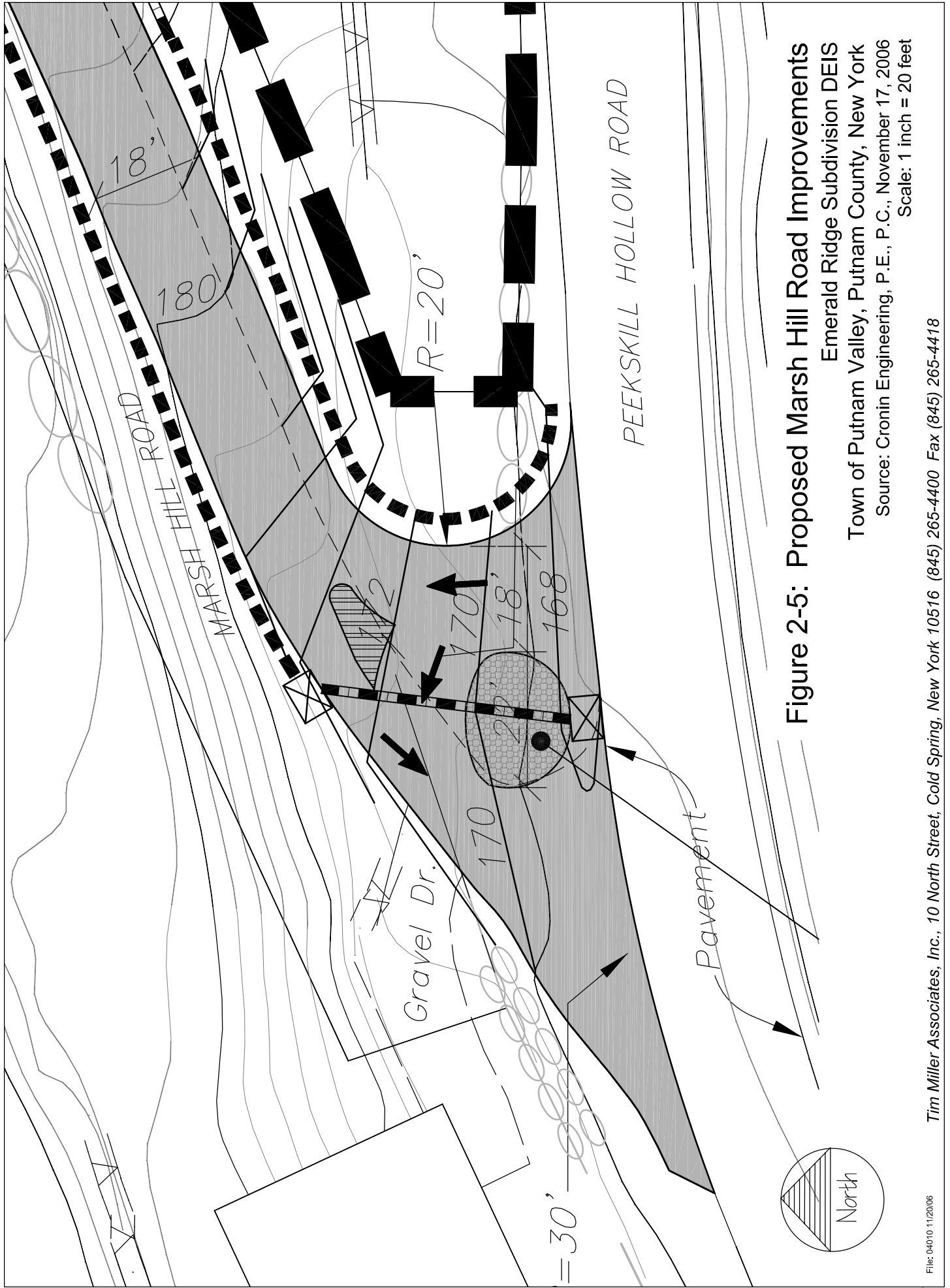


Figure 2-5: Proposed Marsh Hill Road Improvements
 Emerald Ridge Subdivision DEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 20 feet

3.1 GEOLOGY AND SOILS COMMENTS AND RESPONSES

Comment 3.1-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006):The applicant should identify if temporary grading easements will be required for grading taking place over proposed internal property lines.

Response 3.1-1: According to the project engineer, grading easements between individual lots will not be required for this development. While grading will be performed across common property boundary lines for the road and infrastructure grading, pursuant to the proposed Phasing Plan, all road and infrastructure work will be conducted, completed, inspected and approved as part of Phase 1, prior to the sale of any lot.

Even though there is no cross-grading between individual lots, a note will be placed on the Subdivision Plat that there shall be no sale of any lot until such time as all of the road and infrastructure grading is complete to the satisfaction of the Town and its representatives.

Comment 3.1-2 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The total amount of disturbance and total amount of impervious area should be revised to include the emergency access road. Cut and fill projections should also be modified.

Response 3.1-2: See Response 2-2.

Comment 3.1-3 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A blasting mitigation plan is provided and described in text. This plan and the text describing it should be revised to include the emergency access road. . . If there is a requirement for additional blasting due to the addition of the emergency access road it should be stated.

Response 3.1-3: Although the emergency access road has been eliminated, along with 11 houses and 1,700 linear feet of roadway, one identified blast site remains, located at the southeast end of the road loop (see Figure 3.1-4, Areas of Potential Rock Blasting). It is estimated that this activity will occur in one or two blasts and will involve approximately 600 cubic yards of rock (750 cubic yards with expansion). All of the rock will be utilized on-site as part of the fill section for another section of the road loop. Therefore, it is not anticipated that the rock will be removed from the site (see revised blasting Mitigation Plan in Appendix F).

Comment 3.1-4 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006):The applicant should confirm that the soils described in the DEIS include soils in the area of the proposed emergency access road.

Response 3.1-4: See Response 2-2.

Comment 3.1-5 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter

August 26, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006):The section pertaining to soil impacts should be expanded to include construction of the emergency access road; Table 3.1-2 should be updated. . . The DEIS and associated studies must be modified and fully consider the impacts to the Brookfalls Cottages property including soils, erosion and sediment control/phasing, topography, and grading . . . Erosion and sediment control plans should include the addition of the emergency access roadway.

Response 3.1-5: See Response 2-2.

Comment 3.1-6 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The applicant estimates the amount of truck trips required to remove the excess material from the site. How will this number differ with the emergency access road now proposed?

Response 3.1-6: *Revised cut and fill projections for each phase are provided on the Construction Phasing Plan, sheet ER-6.7 of the attached Subdivision plan set and the trucking has been revised in the attached Blasting Mitigation Report.*

Chapter 3.1 of the DEIS indicated 8,630 cubic yards of excess material for the former 25-lot proposal, which would potentially result in 431 truck trips from the project site. The DEIS also indicated that there would be 11,790 cubic yards of rock removed and 14,690 cubic yards of rock removed if calculated with an expansion factor. Overall, construction was estimated to require 32,750 cubic yards of cut and 24,120 cubic yards of fill.

For the current 14-lot proposal, the project engineer estimates that earthwork will be balanced, with no removal of excess material necessary and no truck trips from the project site. 600 cubic yards of rock removal is expected, with 750 cubic yards of rock removed if calculated with an expansion factor. Overall, construction for the 14-lot proposal is estimated to require 10,160 cubic yards of cut and 10,310 cubic yards of fill.

As indicated above, the project engineer does not expect that removal of material (rock or soil) from the site will be necessary for construction of the project. However, in the event that removal of some material from the site is necessary, the amount is not expected to exceed 2,000 cubic yards, which would equate to approximately 100 truck trips from the site (10-wheel dump trucks). If semi trailer trucks were to remove material from site, the truck routes would be west from the site to Oregon Corners, and then south into Cortlandt, since a semi trailer would not be able to make an eastbound turn from the site. The proposed trucking route from the site is east onto Peekskill Hollow Road to Mill Street, then south to Route 6. No trucks would be permitted to travel north on Oscawana Lake Road (see Rock Removal, Blasting and Trucking Program located in Appendix F of the FEIS).

Comment 3.1-7 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Summary should provide information the potential effects of blasting (ie: groundwater, neighboring houses, biodiversity and habitat, etc.). Will the indicated 4,200 cubic yards of rock be removed from the site or crushed and used on site? What are the impacts of

each action? Summary indicates that 4,200 cubic yards of rock will be removed. Text (page 3.1-8) indicates that 14,683 cubic yards of rock will be removed from the site by blasting.

Response 3.1-7: *As a result of the reduced size of the project, expected blasting sites have all been eliminated except for potential blasting for road construction at one location at the south end of the loop road. This area is approximately 4,000 square feet in size and will result in removal of approximately 700 cubic yards of material. The blasted rock will be used for road fill. There is no expectation for on-site rock crushing or removal of the rock from the site.*

Since the blast site is small and blasting activities would be temporary (not extending over more than a day), potential effects to groundwater, biodiversity and habitat would be deminimus. Additionally, there are no existing buildings located within 1,000 feet of the blast site. Therefore no impacts are expected to buildings or houses. (See Appendix F, Revised Rock Removal and Blasting Program.)

Comment 3.1-8 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter

August 26, 2006): Phasing should allow only five total acres of undisturbed site at any time. Stabilized should be defined, how will site be stabilized in winter, what are soil types, will they remain in suspension in silt basins, how will vehicles be cleaned off, as-built maps of basins and house lot clearings shall be provided, stockpile areas, pump out areas, construction and sales trailers, port-o-jons, stabilization of all slopes greater than 2:1 and all exposed areas during 10/1-4/1 with erosion blankets.

Response 3.1-8: *The phasing plan located on attached sheet ER-6.7 of the subdivision plan set provides a detailed description of the work to be performed for each phase. Each phase entails less than five acres of disturbance. "Stabilized" is defined as 80 percent stabilized, whether the stabilization is vegetative growth, impervious surfaces, or other surface treatment.*

Winter stabilization will consist of mulching and erosion control matting. The on-site soil types are generally in the "B" hydrologic soil group and "B" within the limits of construction disturbance. While the soils on-site are sandy in nature, it is expected that some silt will remain in suspension for a small period of time in the sediment basins. The function of the basin, however, will allow the silt to settle out.

The phasing plan shows the locations of the stockpile areas. No construction trailer or sales trailer is proposed.

Since the location of the orange construction fencing as well as all other structure locations will be survey-located, as-built maps of the lot clearings will not be provided. However, as-built maps showing compliance with the approved Site Development Plan for each lot prior to the issuance of a Certificate of Occupancy, as well as the road and infrastructure as-built maps, will be submitted to the Town. The Applicant agrees to providing certification to the Town of the staked limits of disturbance for each lot prior to construction through a Surveyor letter confirming that the limits of disturbance have been accurately staked out.

Comment 3.1-9 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Provide rationale for locations of 10 field soil borings.

Response 3.1-9: The soil boring locations (see Figure 3.1-1) were chosen based on the USDA SCS Soils Map for Westchester and Putnam Counties to confirm soils types within those boundaries.

Comment 3.1-10 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Provide soils info for basins and septic systems.

Response 3.1-10: Soils information for the basins and septic systems is located on sheet NS of the subdivision plan set.

Comment 3.1-11 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Provide most recent Erosion and Sediment Control Manuals that will be used.

Response 3.1-11: The erosion and sediment control manuals that will be used for the construction of the project are as follows:

- NYSDEC New York State Standards and Specifications for Erosion and Sediment Control, August 2005 or latest edition.
- NYSDEC New York State Stormwater Design Manual, August 2003 or latest edition.

Comment 3.1-12 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Blasting Mitigation Plan - The hours of blasting operation identified in this section should correspond to those identified in Appendix O.

Response 3.1-12: Comment noted.

Comment 3.1-13 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Additional soils research is needed along the proposed emergency access roadway to determine that adequate soils are present for construction of a roadway and how much additional blasting is required to construct the roadway.

Response 3.1-13: See Response 2-2.

Comment 3.1-14 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Public Hearing, July 31, 2006; Unidentified Speaker, Public Hearing, July 31, 2006): The Applicant's Engineer indicated in discussions that he prepared both a 16 and a 22 foot design. Which is currently shown? For the 22-foot width, what's the grading aspect? Would it be 15 percent? Would a retaining wall be needed?

Response 3.1-14: See Response 2-2.

Comment 3.1-15 (Joseph S. Paravati, Jr., Assistant Public Health Engineer, Putnam County Department of Health, Brewster, New York, Letter August 14, 2006): Section 3.1-2 Potential Impacts, it should be noted that the proposed SSTS areas are to be cordoned off to avoid having the trucks for rock removal driving over any proposed SSTS area.

Response 3.1-15: *Comment noted. A note has been placed on the plans under "PCDH Notes."*

Comment 3.1-16 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006):

Any measures the Board can think of to mitigate the noise, dust, pollution and general dislocation during the construction process, especially during the months of June, July and August would be greatly appreciated.

Response 3.1-16: *See Response 2-16.*

Comment 3.1-17 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006):

The total area of grading or site disturbance is estimated to be 26.6 acres. Town Code specifies disturbance should be kept at a practical minimum. Over 1/3 of the parcel will be disturbed, including steeply sloped area, important transportation corridors and regulated wetland buffers. How is a "practical minimum" defined?

Response 3.1-17: *The DEIS layout was extensively revised to reduce the amount of proposed disturbance. Grading for the proposed home sites was limited to that necessary for house, driveway and SSST construction. Proposed clearing for yard areas was limited to the areas in the immediate vicinity of the proposed homes. Extensive preservation of wetlands and wooded area was proposed through dedicated Conservation Easement areas. These measures have been carried through in the revised layout presented in Chapter 1.0. With the reduction in proposed roadway length and density, the amount of overall site disturbance has been reduced to 14.2 acres from 26.6 acres previously.*

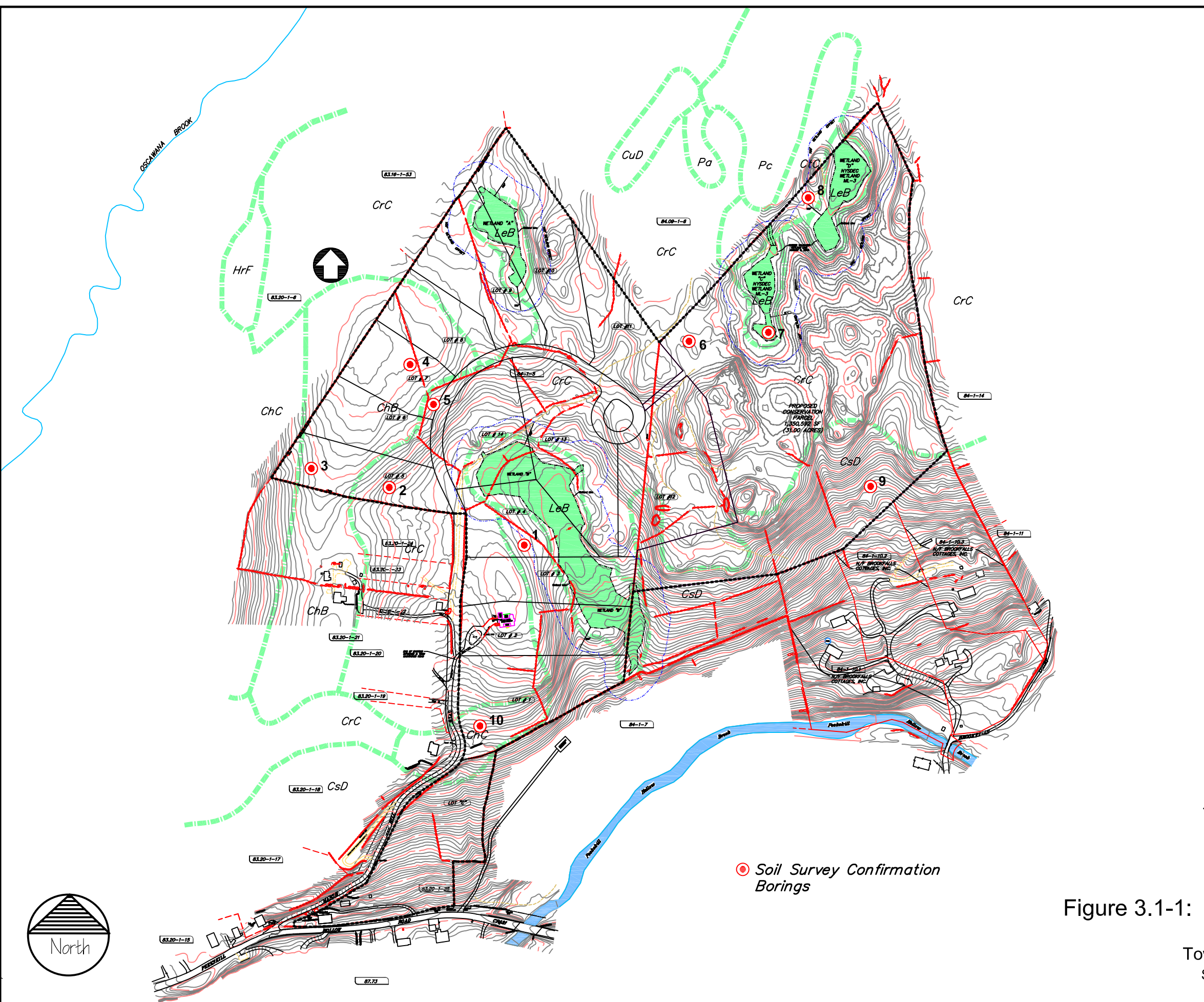
Comment 3.1-18 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006):

As shown in the figure, (3.1-8) potential blasting may occur for portions of the infrastructure as roadway and utilities as well as for a few individual lots. These locations are near the center of the site and are located at a distance of approximately 1,000 feet from any nearby residences.

Blasting for an individual house site and infrastructure are within the drainage basin of Wetland C and D. Potential blasting site BZ5 appears to be less than 150 feet from Wetland C. What are the potential short term and cumulative impacts to the existing wetlands related to the proposed blasting?

Response 3.1-18: *Please see the response to Comment 3.1-7. With the elimination of all but the smallest amount of blasting, the revised subdivision layout ensures that there will be no impact to site wetlands. While the effects to wetlands hydrology and subsurface geology are a concern on some sites, the proposed blasting area is so far from Wetlands C and D (many hundreds of feet), and of such short duration, that there is no reason to expect that the integrity of these wetlands could be affected.*

Fig. 3.1-1 2/16/2007 12:44:36 PM

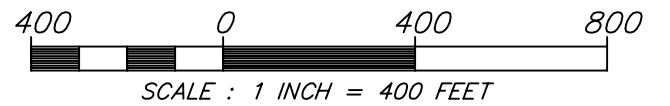


LEGEND

- 400 EXISTING CONTOUR
- CONTROLLED AREA BOUNDARY (100')
- EXISTING WETLAND BOUNDARY & FLAG
- EXISTING WETLAND AREA
- EXISTING SOIL BOUNDARY LINE
- EXISTING SOIL GROUP DESIGNATION

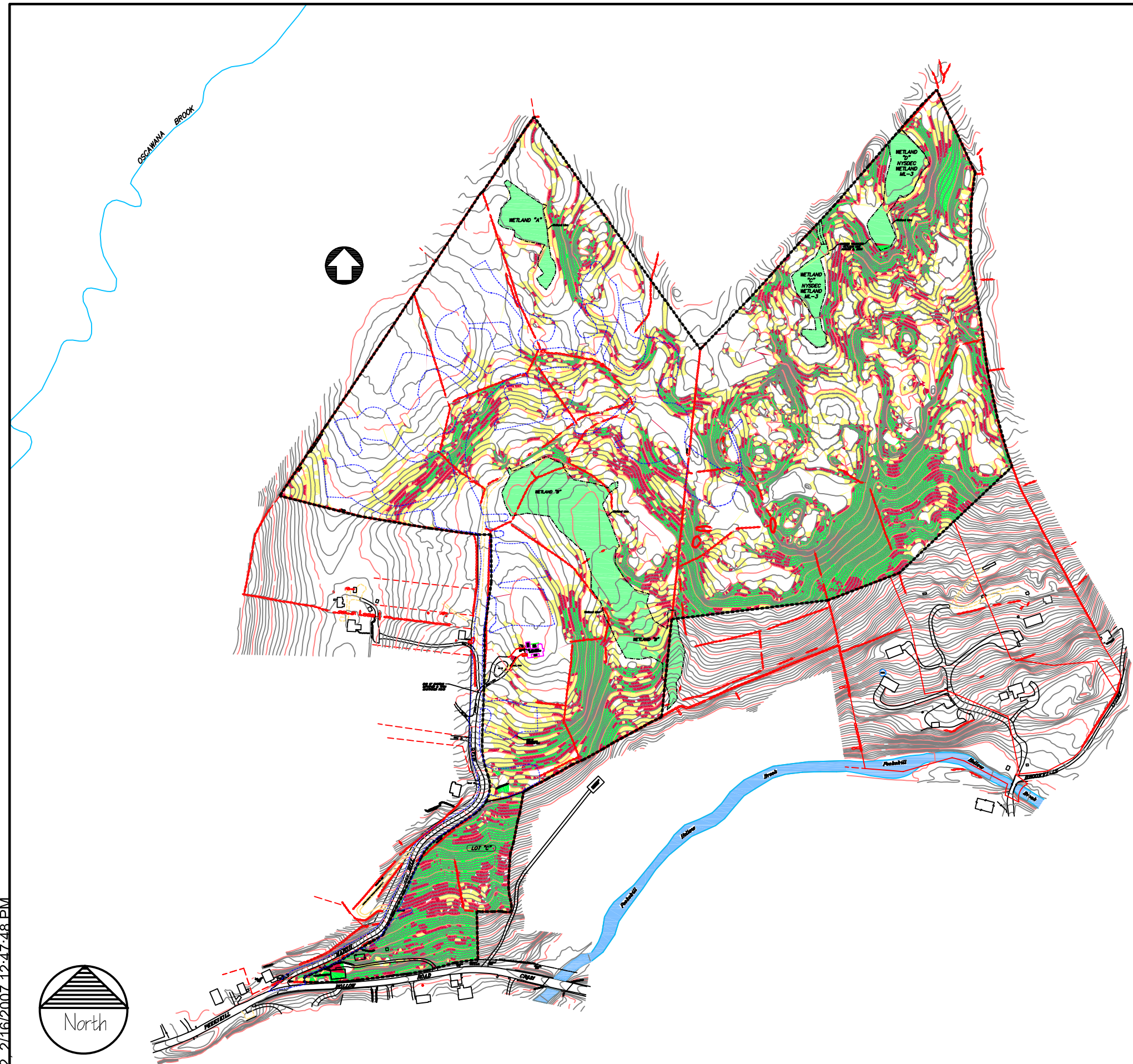
SOIL DESCRIPTION	HYDROLOGIC GROUP
ChB CHARLTON LOAM	B
ChC CHARLTON LOAM	B
CrC CHARLTON-CHATFIELD COMPLEX	B
CsD CHATFIELD-CHARLTON COMPLEX	B
CtC CHATFIELD-HOLLIS-ROCK	B
LeB LEISCESTER LOAM	C

NOTE:
 BASEMAP SOURCE: SOIL SURVEY OF PUTNAM AND WESTCHESTER COUNTIES, NEW YORK, USDA SOIL CONSERVATION SERVICE. SOILS BOUNDARIES ADJUSTED BASED ON FIELD WORK FOR WETLANDS DELINEATION CONDUCTED BY STEVE MARINO, PWS, OF TIM MILLER ASSOCIATES, INC., AND STEVE COLEMAN, TOWN OF PUTNAM VALLEY WETLAND INSPECTOR. SLOPE DELINATIONS CONFIRMED BY GEOLOGIST JON DAHLGREN OF TIM MILLER ASSOCIATES, INC.



Soil Survey Confirmation Borings

Figure 3.1-1: Existing Soils & Boring Location Map
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 300 feet



SLOPE LEGEND

	AREAS W/PREDOMINANT SLOPE 0% to 10% (NO SHADING)
	AREAS W/PREDOMINANT SLOPE 10% to 15%
	AREAS W/PREDOMINANT SLOPE 15% to 20%
	AREAS W/PREDOMINANT SLOPE 20% AND OVER

SLOPE ANALYSIS DATA CHART

Range Begin	Range End	Percent (%)	Area (sf)	Area (ac)
0.00	10.00	50.7	1,886,545	43.31 AC.
10.00	15.00	18.1	674,154	15.48 AC.
15.00	20.00	12.4	460,910	10.58 AC.
20.00	OVER	18.8	700,099	16.07 AC.
TOTAL		100.0	3,721,708 S.F.	*85.44 AC.

*INCLUDES LOTS A, B & C

SLOPE DISTURBANCE ANALYSIS DATA CHART

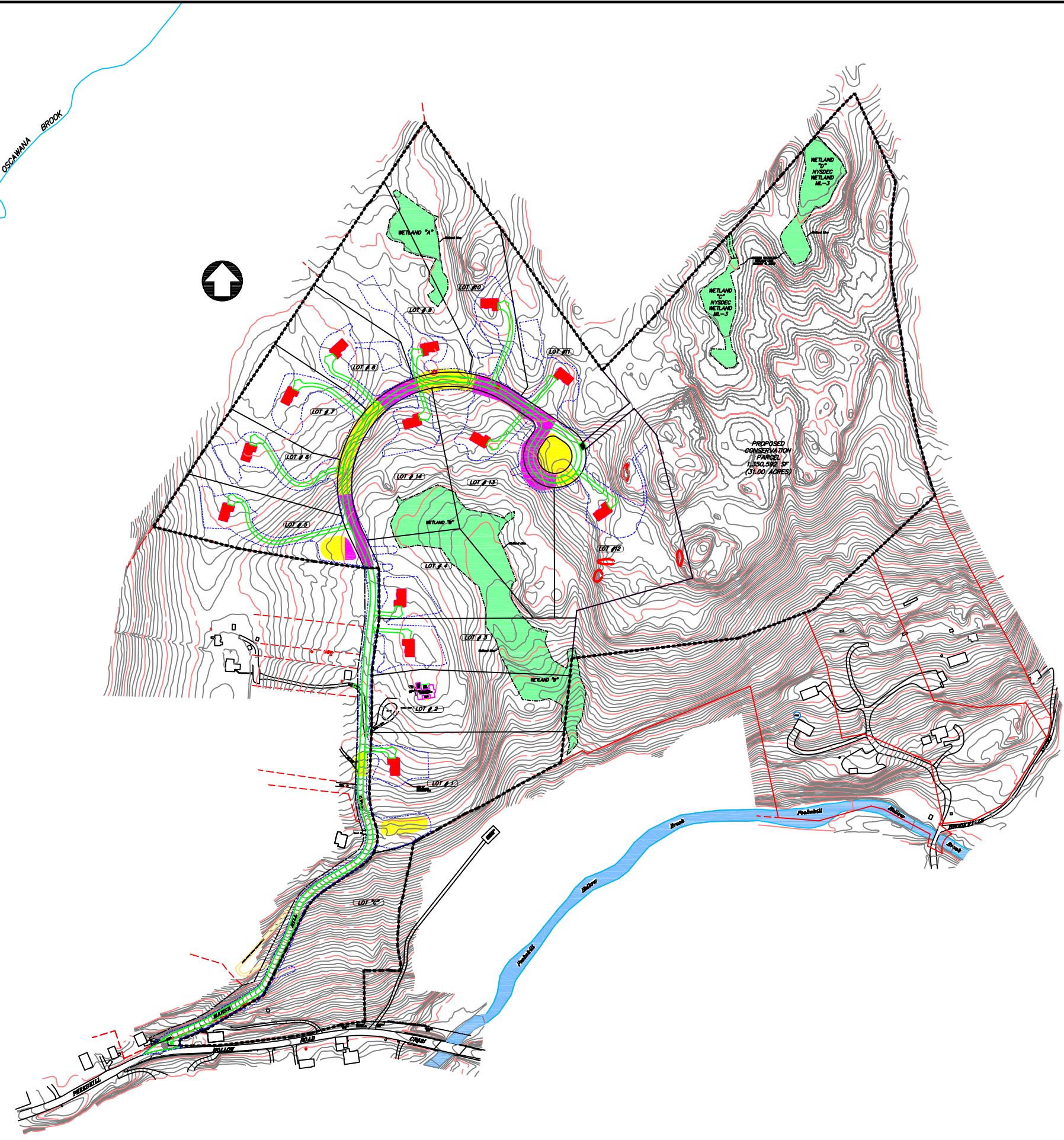
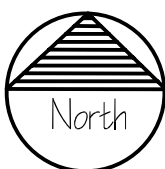
Range Begin	Range End	Area (sf)	Area (ac)
0.00	10.00	365,904	8.4
10.00	15.00	148,104	3.4
15.00	20.00	60,984	1.4
20.00	OVER	43,560	1.0
TOTAL DISTURBED AREA		618,552	14.2 AC.

Figure 3.1-2: Proposed Slopes Disturbance Map
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 400 feet

Fig. 3.1-2_2/16/2007 12:47:48 PM

Fig. 3.1-3_2/16/2007 12:50:50 PM

File: 04010 11/20/06



LEGEND

- EXISTING CONTOUR
- EXISTING WETLAND BOUNDARY & FLAG
- EXISTING ROCK OUTCROPPING
- PROPOSED CUT SECTION
- PROPOSED FILL SECTION

CUT & FILL CHART

DESCRIPTION	CUT	FILL	NET
PHASE 1	5,660 CY	6,960 CY	+1,300 CY
PHASE 2	3,300 CY	750 CY	-2,550 CY
PHASE 3	1,200 CY	2,600 CY	+1,400 CY
TOTAL	10,160 CY	10,310 CY	+150 CY

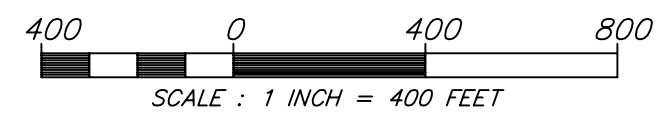
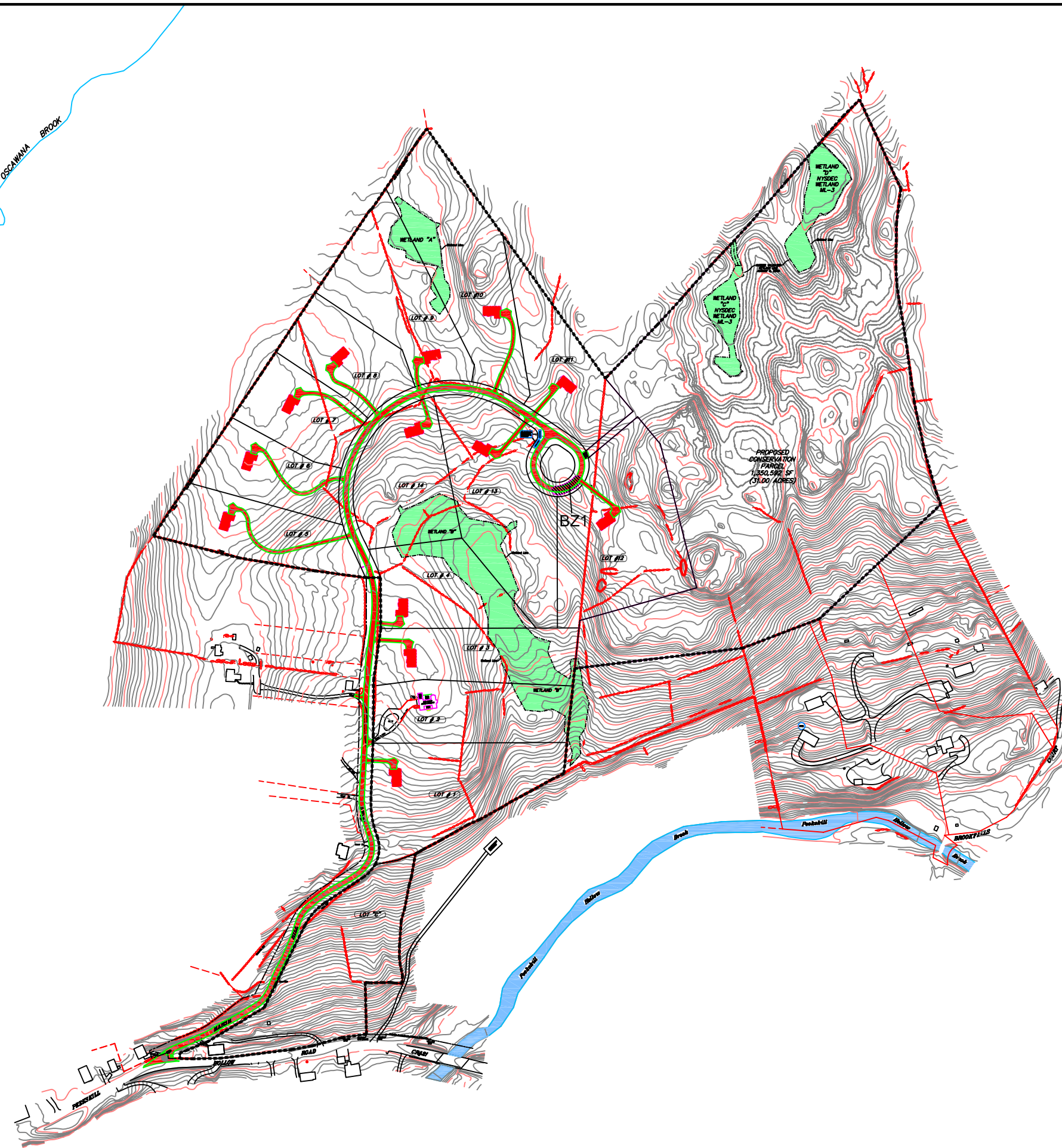
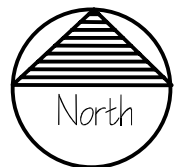


Figure 3.1-3: Grading Plan for Infrastructure
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 400 feet

Fig. 3.1-4_2/16/2007 12:53:43 PM

File: 04010 11/20/06



LEGEND	
	EXISTING CONTOUR
	EXISTING WETLAND BOUNDARY & FLAG
	EXISTING ROCK OUTCROPPING
	POTENTIAL BLAST SITE FOR INFRASTRUCTURE

NOTE:
 ONE AREA HAS BEEN DESIGNATED AS A
 POTENTIAL ROCK BLASTING WHICH IS
 LOCATED WITHIN THE RIGHT-OF-WAY IN
 FRONT OF LOT 12 AND LABELED AS BZ1.

Figure 3.1-4: Areas of Potential Rock Blasting
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 400 feet

3.2 SURFACE WATER RESOURCES COMMENTS AND RESPONSES

Comment 3.2-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The applicant has described in text that a conservation easement will be provided for Wetland A; this easement is not illustrated on the submitted subdivision plans.

***Response 3.2-1:** The conservation easement is shown in the attached subdivision plan set and in Figure 2-1.*

Comment 3.2-2 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The New York State Department of Environmental Conservation (NYSDEC) has indicated that a freshwater wetland permit is required for wetland buffer disturbance. As no NYSDEC buffer disturbance appears to be proposed, a confirmation letter from the NYSDEC is warranted.

***Response 3.2-2:** The DEC correspondence indicated that an Article 24 permit “will be required for proposed construction within 100-foot adjacent area of State-designated Freshwater Wetland ML-3”, depending on the final site layout. With the revised subdivision layout as described, there will be no activities within the 100 foot setback to the offsite portion of the DEC wetland, or within 100 feet of Wetlands C and D. Based on recent site reconnaissance, all site activities will take place a minimum of 650 feet away from Wetland ML-3. Thus no Article 24 permit will be required. Based on current agency workloads and the loss of permitting staff, it is unlikely that the DEC will respond to a request for a confirmation letter. However, the applicant will make such a request if so required by the Lead Agency, or the Lead Agency may also make this request. The DEC will receive a copy of this FEIS and will make its own determination regarding its jurisdiction. Construction can not proceed until all necessary permits are procured. Figure 3.2-1a has been revised to show the approximate extent of the off site wetland and its regulated adjacent area.*

Comment 3.2-3 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The surface water resources section of the DEIS needs to be revised to identify changes resulting from further investigation by the Town’ Wetland Inspector. . . Any changes incurred during the finalization of the wetland delineation will require this section be updated with the new information.

***Response 3.2-3:** Comment noted. The plans submitted with this FEIS reflect the minor changes that were made to the wetland delineation following consultation with the current wetland inspector. Minor changes were made to flag locations in all four wetlands, but did not result in significant expansion or reduction of the total wetland area on the site or to proposed buffer encroachments. The resulting wetland boundary is shown on Figure 3.2-1a.*

Comment 3.2-4 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): It is understood that Wetlands C and D are part of a greater NYSDEC regulated wetland located off-site. The approximate location of the larger NYSDEC wetland should be provided to determine if any additional buffer area extends on-site.

Response 3.2-4: *Figure 3.2-1a of this FEIS shows the approximate location of the offsite DEC wetland to the north relative to the existing property line. The applicant did not flag and survey locate this boundary, due to its location on another property. However, a site reconnaissance was completed by two wetland specialists from Tim Miller Associates. Using a handheld GPS unit and geo-referenced aerial photography available from NYSDEC and Google, the applicant determined that the off site wetland is a minimum of 650 feet north of the existing property boundary at proposed Lots 10 and 11. This is the closest point to the area of disturbance based on the revised plan. Even activities up to this northern property line would be well outside of the boundary of the DEC adjacent area. It is noted that the limits of disturbance on the submitted plans are shown a minimum of 50 feet away from this property line. Figure 3.2-1a has been revised to show the extent of the existing wetlands on site, connections to the off-site wetland and the Peekskill Hollow Brook, and an estimated line showing the limits of the regulated buffers around these off-site features.*

Comment 3.2-5 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The verification of the wetlands as mapped in the DEIS has not been completed as the above date. Although substantial areas of the wetlands have been field reviewed, the entire site has not been walked and adjacent areas have not been reviewed.

Response 3.2-5: *Comment noted. The applicant's consultants have completed the verification of the wetlands with Mr. Barber. The revised delineation is shown on the plans submitted with this FEIS and on Figure 3.2-1a.*

Comment 3.2-6 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Additionally wetlands that are located on the Brookfalls Cottage property which represent a substantial crossing of Peekskill Hollow Brook have not been delineated by the applicant.

Response 3.2-6: *Due to the revisions made to the overall subdivision layout, and the reduction in the number of proposed lots, the applicant is no longer proposing to access the site through the Brookfalls property or a crossing of Peekskill Hollow Road. Thus, the wetlands in this area are no longer relevant to this application.*

Comment 3.2-7 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Conclusions regarding pre and post construction hydrology are not substantiated in the DEIS.

Response 3.2-7: *The analysis on Pages 3.2-12 and 3.2-13 of the DEIS considers the size and condition of the watershed pre and post development, and concludes that with only minor changes the drainage areas and flow paths will not be significantly altered. This has become even less of an issue with the revised subdivision layout, as no disturbance or alteration of the site conditions or flow patterns to Wetlands C and D are now proposed. With this FEIS, the applicant has provided a detailed modeling of the hydrology to Wetlands A and B (Appendix J). This analysis concludes that the hydrology to these wetlands will not be significantly altered following construction as proposed.*

Comment 3.2-8 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The DEIS and associated studies must be modified and fully consider the impacts to the Brookfalls Cottages property including wetland and wetland buffers

Response 3.2-8: Please see the response to Comment 3.2-6.

Comment 3.2-9 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The DEIS and associated studies must be modified and fully consider the impacts to this property including the proposed crossing of Peekskill Hollow Brook.

Response 3.2-9: Please see the response to Comment 3.2-6.

Comment 3.2-10 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should propose mitigation measures for the wetland buffer area that is proposed to be lost as part of this action.

Response 3.2-10: With the exception of very minor buffer disturbances adjacent to Wetland B (less than 0.06 acres, approximately 2,500 square feet), no buffer disturbance is proposed under the revised subdivision layout. No "building or other structure, construction of any road, driveway or motor vehicle parking facility, paving, installation of sewage disposal systems or sewer outfall, discharge of sewage treatment effluent or other liquid wastes, drilling and digging of wells" is proposed for the wetland or regulated buffer (Chapter 144-4B(3)). The area that will be disturbed, for minor road grading and installation of two stormwater outfalls, will be revegetated following disturbance. There is no identifiable impact to the protected wetland from this action, therefore no mitigation of buffer "impacts" is necessary to ensure the continued protection of the regulated wetland. Chapter 144 of the Town Code does not require that compensatory mitigation of buffer impacts be provided. It is noted that expanded areas of buffer are being preserved by the conservation easement proposed around Wetland B (on Lots 1, 3, 13 and 14), and that preservation of large areas of the property does mitigate potential long term impacts to the wetlands on site. The existing 100 foot setback to Wetland B covers 6.1 acres of the site; the portion of the conservation easement area around Wetland B is 8.4 acres, or 2.3 acres of additional preserved area around Wetland B. At Wetland A, there are currently three acres of regulated wetland buffer. The proposed conservation easement covers 3.4 acres around the wetland, or an increase of 0.40 acres from the existing condition.

As described in the DEIS, the buffer around Wetland B functions to filter runoff from overland flow as well as providing a visual and physical buffer between the wetland and adjacent upland areas. In this case, the wetland will separate the proposed construction areas from the wetland.

All of the water flowing to the wetland from areas where perviousness has changed will be first captured and treated in the stormwater management structures, which have been designed to meet the State water quality standards. These structures are all located outside of the wetland buffer area, and do not require specific Town wetland permitting approval. As noted above, one of the outfalls from a stormwater basin will be constructed in the wetland buffer. As

noted in Town Code Chapter 144-4B(3), the construction of this outfall will require a Town wetland permit. The outfall is being constructed as far from the wetland as possible, with appropriate velocity dissipation before entering the wetland, and will not affect the functions of the wetland. Preservation of the expanded wetland buffers, which are required by the Town Code in part to ensure the water quality entering the wetland and downstream receiving waters, will, in combination with the SWPPP, protect the waters within the wetland and the Peekskill Hollow Brook. It is also noted that one of the most important functions provided by the Town regulated wetlands is the capture of nutrients and protection of water quality to downstream waters. With the preservation of the entire Wetland B corridor, this wetland will continue to provide this function.

Comment 3.2-11 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should indicate that wetland delineation is not complete.

Response 3.2-11: Please see the response to Comment 3.2-5.

Comment 3.2-12 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Wetlands and wetland buffers should not be used under any circumstance for stormwater treatment.

Response 3.2-12: Comment noted. No stormwater quality structures will be placed within the wetland setback area. Only the construction of two stormwater outfalls, which will discharge treated stormwater, is proposed within the buffer. The location of these outfalls is unavoidable due to its location near the narrow "throat" where the proposed road accesses the property between Wetland B and the property line in the western part of the site. The stormwater treatment basin is located to the west of this crossing, well outside of the buffer. All water discharged from these basins will meet the water quality goals established by the DEC as part of the stormwater general permit. As required by Chapter 144 of the Town Code, no "building or other structure, construction of any road, driveway or motor vehicle parking facility, paving, installation of sewage disposal systems or sewer outfall, discharge of sewage treatment effluent or other liquid wastes, drilling and digging of wells" is proposed for the wetland or regulated buffer (Chapter 144-4B(3)). Only the temporary disturbance associated with the installation of a stormwater outfall and velocity dissipator more than 65 feet from the wetland. The applicant will need a Town of Putnam Valley wetland permit to build this outfall. Regarding the quality of water leaving the detention basin, the applicant must comply with the water quality goals as directed by the New York State general permit, and will not receive final subdivision approval until the final SWPPP is completed and reviewed by the Town and State.

The wetland hydrology analysis, provided in Appendix J and discussed below, concludes that there will be no significant change in hydrology to the site wetlands.

Comment 3.2-13 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Hydrological source of wetlands should be clearly identified and measures taken to ensure the water budget remains unchanged should be detailed.

Response 3.2-13: *As discussed in Response 3.2-7, the DEIS included as analysis of pre and post development drainage areas to all four site wetlands. Based on the results of the piezometer monitoring (see Response 3.2-17, below), it is clear that the source of the hydrology to the wetlands is a perched water table resulting from dense subsoils and surface runoff. When evapotranspiration rates (ET) are high during the growing season (mid spring through early fall) the water levels within the piezometers drop until surface water is no longer observed. With the decrease in ET, water levels begin to rise and surface inundation occurs. This is particularly important in Wetlands C and D, where there is no low level outlet to drain off any accumulated runoff, and Wetland A, where the microtopography creates small, scattered pockets that collect runoff. Because of the lack of outlets, these wetlands fill up during the period between late fall and early spring, resulting in the potential for vernal pool hydrology. With the changes in the proposed subdivision layout, there will be no disturbance in the watersheds that drain to Wetlands C and D, and only minor changes to Wetland A (Figure 3.2-2). Unlike Wetlands C and D, Wetland A only has small areas that collect water, and does slope gently to the north, so that minor changes to the hydrology are not significant. As shown on Table 3.2-8 in the DEIS, the watershed to Wetland A is proposed to change from 3.2 to 3.1 acres, with a small increase in impervious surfaces. Hydrology to this wetland will not be significantly altered.*

Wetland B is a “slope” wetland, with more than 30 feet difference in elevation between its northern and southern extents. The watershed to Wetland B will remain the same size, and the amount of impervious surface proposed will be decreased from the original proposal. All areas where the perviousness has changed will be treated either through capture and treatment in the water quality basins or infiltration. Flows from the northern side of the wetland will continue to enter at the north side, but those from the road bed will be captured and treated first. Because this wetland is a “slope” wetland, minor fluctuations will not impact the long term hydrology since most of the runoff moving through the system leaves the wetland after the initial saturation.

Comment 3.2-14 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Wetland verification is incomplete and wetlands on the Brookfalls Cottage property have not been delineated or analyzed by the applicant. Upon completion of wetland verification and items below, map and text of this chapter will require updating. All Town of Putnam Valley jurisdictional wetlands that are adjacent to this site, such that buffers extend onto the subject property must be identified and mapped. . . . Discuss whether or not any disturbance of wetland or wetland buffers will take place with the addition of the emergency access road.

Response 3.2-14: *Please see the responses to Comments 3.2-5 and 3.2-6 above.*

Comment 3.2-15 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The sizes of watersheds are described on page 3.2-12 but what are post construction run-off (RCn) alterations in each watershed and how will that effect wetland hydrology.

Response 3.2-15: *Please see the response to Comment 3.2-13.*

Comment 3.2-16 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The subject property lies at the nexus of the Oscawana and Peekskill Hollow Brooks and immediately south of a large, NYSDEC regulated wetland. The importance of the location of the wetlands of the subject property to these wetlands and watercourses and how post construction conditions will alter these connections requires further analysis. How will develop effect base flow and bank flow conditions in the brooks, and how will construction modify the water depth and the hydroperiod which is critical to maintain vernal pool habitat.

Response 3.2-16: *The “nexus” of these two brooks, as described in the comment, lies approximately 4,000 linear feet to the south and west of the subject property. With some very minor exceptions, none of this watershed will be affected by the project as it is now proposed. The two largest sub-watersheds that drained to the Oscawana Brook, identified as B6 and B7 in the DEIS, are now a part of the open space parcel and will not be disturbed.*

The remainder of the site flows to the Peekskill Hollow Brook. The project engineers have designed a stormwater management system that will ensure that post-construction flow rates leaving the site do not exceed those calculated for the existing condition, including the 10 year storm event (considered by the DEC to be the “overbank flood” event). Final design of the proposed detention basins, all of which are outside of regulated setbacks, will ensure that the peak flow rates for all storms through the 100-year storm event will be less than or equal to the existing condition.

Regarding base flow to the Peekskill Hollow Brook, the design includes a number of features to ensure drainage patterns and flow paths that are consistent with the existing condition. Rather than have one stormwater catchment which conveys and captures all flows from impervious areas and concentrates them in one outfall, the proposed system collects runoff in three local basins, discharging detained runoff to Wetland B in three locations. This is much more representative of existing flow patterns. In addition, those residences on the north end of the wetland, utilize infiltration trenches and dry wells for the recharge of groundwater to the base flow in locations where routing to the basins would not be possible by gravity.

Based in part on concerns stemming from the findings of the Biodiversity Study, the applicant has eliminated all development from the area around the identified vernal pools (Wetlands C and D). No development or other disturbance will occur within the watershed that drains to either of these two wetlands. Therefore neither the water budgets nor the hydroperiod to either wetland will be affected.

Comment 3.2-17 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Piezometer data is not supported by field inspections. Areas of the vernal pools had at least 12”-18” of water during the spring months. Piezometer data should be summarized and hydrological connections and patterns identified.

Response 3.2-17: *Piezometer data has been collected in each of the site wetlands on at least a monthly basis since March of 2005. A summary of this data is presented below.*

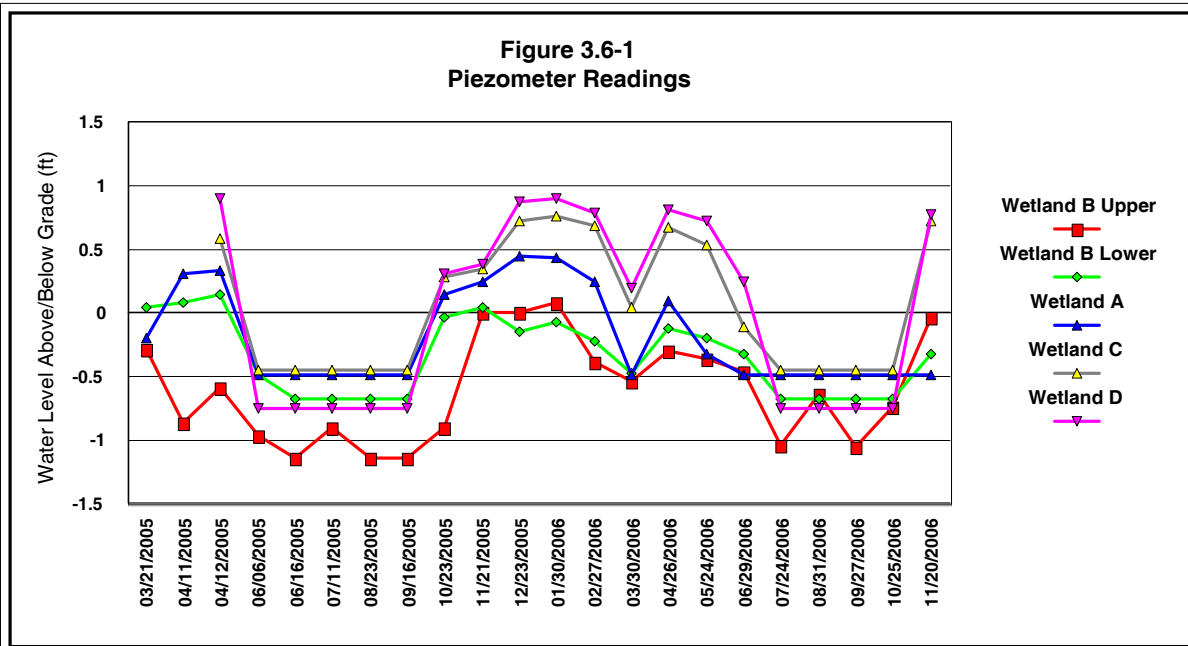
Table 3.2-1 and Figure 3.6-1 (from Section 3.6) below present the annual cycle of water levels observed in these four wetlands over the interval from March, 2005 through November, 2006. To collect this data, open-ended 2-inch PVC pipes with screened bottoms were installed into the soils within each wetlands. Location and installation of these units were observed and approved by Steve Coleman in his role as the Town Wetland Inspector. Recordings were made at least monthly of the depth to the water table within these monitoring wells by using an electronic water level indicator (Slope Indicator Co. Model 51453). Wetlands A, C and D were monitored through the use of a single well. Wetlands B, due to its sloping gradient and shallow, active water course during most of the year, was monitored by two wells, one at the upper portion of the wetlands and one at the bottom portion of the wetlands near to the point at which the wetland crosses off of the property.

The locations of the piezometers are shown in Figure 3.2-3 of the DEIS.

The monitoring results show that Wetlands A, C and D exhibited vernal pool seasonality with periods of inundation in the early winter through early summer, followed by significant drawdown and surface drying of the pools during mid-summer through fall months. During 2006, each of the wetlands water tables became temporarily depressed by March, following historically low rainfall for that month. All four wetlands became dry during the summer months, with piezometer readings showing the water table had dropped below the bottom of each of the sampling wells by July, 2006.

As stated in the comment, surface water was frequently observed in the wetlands on a regular basis. As expected, water levels above the soil interface were observed in Wetlands C and D from March of 2005 through late May 2005, and over a more extended observation period from October of 2005 through June of 2006, when evapotranspiration exceeded runoff and the pools went dry. Wetland A, which has marginal vernal pool hydrology and was found not to support a significant population of pool breeding amphibians, the hydroperiod was much shorter and the inundations shallower. Wetland B, which is a slope wetland and does not store runoff to a great extent, was "dry" at the surface, i.e., there was typically no standing water at the surface, although soils were certainly saturated.

Based on this data, it is the conclusion of the applicant's wetlands scientist that the wetlands depend on the runoff, soils and evapotranspiration characteristics of each individual sub-watershed and their respective landscape position, and are not hydrologically linked via any subsurface or other connections. The most important consideration, therefore, for the preservation of the site wetlands, is the maintenance of surface hydrology. This is discussed in the response to Comment 3.2-13.



**Table 3.2-1
Water Level Above/Below Grade (ft) at Emerald Ridge**

Date	Wetland B - Upper	Wetland B - Lower	Wetland A	Wetland C	Wetland D
03/21/2005	-0.28	0.04	-0.19	nm	nm
04/11/2005	-0.86	0.08	0.31	nm	nm
04/12/2005	-0.59	0.14	0.33	0.58	0.90
06/06/2005	-0.96	-0.49	-0.49*	-0.45*	-0.75*
06/16/2005	-1.14*	-0.67*	-0.49*	-0.45*	-0.75*
07/11/2005	-0.90	-0.67*	-0.49*	-0.45*	-0.75*
08/23/2005	-1.14*	-0.67*	-0.49*	-0.45*	-0.75*
09/16/2005	-1.14*	-0.67*	-0.49*	-0.45*	-0.75*
10/23/2005	-0.90	-0.03	0.15	0.28	0.31
11/21/2005	0.01	0.05	0.25	0.35	0.39
12/23/2005	0.01	-0.14	0.45	0.72	0.87
01/30/2006	0.08	-0.07	0.44	0.76	0.90
02/27/2006	-0.39	-0.22	0.24	0.69	0.79
03/30/2006	-0.54	-0.47	-0.49*	0.04	0.20
04/26/2006	-0.29	-0.12	0.10	0.68	0.81
05/24/2006	-0.36	-0.19	-0.32	0.54	0.72
06/29/2006	-0.46	-0.32	-0.49*	-0.11	0.24
07/24/2006	-1.04	-0.67	-0.49*	-0.45	-0.75
08/31/2006	-0.64	-0.67	-0.49*	-0.45	-0.75
09/27/2006	-1.05	-0.67	-0.49*	-0.45	-0.75
10/25/2006	-0.74	-0.67	-0.49*	-0.45	-0.75
11/20/2006	-0.03	-0.32	-0.49*	0.72	0.77

Measurements are represented by feet above or below grade. (*) indicates no water in the test well.
nm = Not measured
Source: Tim Miller Associates, Inc., 2005-2006.

Comment 3.2-18 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): There is no explanation or detail of how the use of infiltration practices will recharge the wetlands or what these infiltration practices are.

Response 3.2-18: The infiltration practices proposed, whether they be infiltration trenches or dry wells, will recharge the shallow groundwater that ultimately provides a portion of the hydrology to the site wetlands as baseflow. These are proposed at a minimum for Lots 4, 13, and 14, i.e., those lots that are closest to Wetland B. Details of these practices are provided in the plan set.

Comment 3.2-19 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A very small portion of a very large NYSDEC wetland to the north of the site is shown on the plans. The project overview plan should be updated showing just how large that wetland is.

Response 3.2-19: Please see the response to Comment 3.2-4.

Comment 3.2-20 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Public Hearing Comment, July 31, 2006): The wetland locations will be verified per chapter 144 of the Town of Putnam Valley Town Code. As a result, the wetlands delineation may change compared to the delineation shown in the DEIS. The applicant has been made aware that that may change the ultimate development in terms of its design, possibly its lot count, configuration, etc, etc.

Response 3.2-20: Please see the response to Comment 3.2-5.

Comment 3.2-21 (John Cohen, Public Hearing, July 31, 2006; Dan Ricci, Public Hearing, July 31, 2006): In relation to the wetland areas and the ponds around them and the issue of, I guess they call them vernal ponds because some of these wetlands dry up. In the past we have considered wetlands to be a discrete area just where it's wet, but it turns out in terms of the wildlife, the wildlife needs more than just a wet area. They may at a later point go to a field and then to a forest and then to a meadow and then to a pond before they go back to a wetland, and I think that that should be -- it looks like these wetlands are going to be very disruptive -- disrupted by the houses all around them, so I think that should be considered. I'm not sure exactly what the terminology for that phenomenon I'm describing, but it exists. . . There are issues with wetlands.

Response 3.2-21: As stated above, there are no direct impacts proposed to site wetlands. The two vernal pools on site that were confirmed to have breeding amphibian populations will not be disturbed, and in fact the entire eastern part of the original proposed subdivision has been eliminated in part to protect these wetlands. Only minor encroachments are proposed to wetland buffers, which are temporary in nature and will be re-vegetated following construction.

Regarding wildlife corridors that include the site wetlands, please refer to Section 3.6 for the Biodiversity Study and discussion of the site wildlife and vegetation.

Comment 3.2-22 (John Cohen, Public Hearing Comment, July 31, 2006): I'm concerned when you put so many septic systems surrounding wetland areas. That has ways of seeping through.

Response 3.2-22: All of the proposed septic systems are at least 100 feet away from the site wetlands, as per State and County Health Code requirements. In general, Putnam County is very conservative regarding the placement of septic systems, ensuring that slope and soil conditions, including separation to ground-water and bedrock, are closely observed and maintained. The County Health Department will have final jurisdiction over septic system placement and installation.

Comment 3.2-23 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): The City is most concerned about any potential impacts to the Peekskill Hollow Brook, the water source for the City of Peekskill's Water Supply. The City of Peekskill Watershed, of which the Oscawana and the Peekskill Hollow Brook are a significant part, encompasses approximately 48 square miles. The City desires to mitigate any potential impacts of the proposed action upon the Peekskill Hollow Brook, which has been designated as a Critical Environmental Area (CEA) by the County of Westchester.

Response 3.2-23: As described in the DEIS, the proposal is designed to avoid any potential adverse impacts to the Peekskill Hollow Brook and its tributaries. With the reduction of the project to 14 building lots, all development is confined to the western portion of the parcel, where stormwater runoff can be captured and treated from a smaller area. Additional mitigation measures, as described in the DEIS, will also be used, including the development of a sedimentation and erosion control plan that must be implemented and monitored by a certified erosion control specialist (CPESC), Professional Engineer (P.E.), or a qualified individual under the direction of a P.E.; the use of infiltration trenches and dry wells for treatment of roof and driveway runoff in some areas; and the use of deeded open space areas to ensure the limits of the development envelope.

Comment 3.2-24 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): DEIS Page 1-10, 1st full paragraph discusses the proposed mitigation measures to impacts to the Peekskill Hollow Brook Watershed (City of Peekskill Watershed). In reviewing the DEIS there does not appear to be a corresponding section regarding any impacts to the City's Watershed in Section 1.2, Potential Significant Impacts.

Response 3.2-24: Comment noted. The DEIS did provide a detailed analysis of the site, its location within the City of Peekskill Watershed, the potential for stormwater and construction related impacts, and proposed mitigation measures in Sections 3.2 and 3.4. With the substantial decrease in the density of the project, it is more likely that the project as proposed will not impact the Peekskill watershed if mitigation measures are implemented as proposed.

Comment 3.2-25 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Section 1.2.9 Police, Fire and Emergency Medical Services, should also include a brief discussion any potential impacts to the City of Peekskill Watershed Protection and Enforcement Officers. In 2004 the City of Peekskill was authorized by New York State to appoint Watershed Protection and Enforcement Officers, which have most of the powers and authorities provided to "Peace Officers." The City's Watershed Protection and Enforcement

Officers are authorized to enforce to provisions of the Environmental Conservation Law and Penal Law which relate to the contamination of water in those areas of the Peekskill Hollow Brook Watershed and the Wiccopee Reservoir located outside the City of Peekskill in the both Putnam and Westchester County, including its reservoirs, shoreline and tributaries.

Response 3.2-25: Comment noted. As described in the comment, the City's Watershed Protection Officers have police powers in enforcing many aspects of conservation and penal law. It is expected that during the major part of road construction and land clearing, officers will occasionally visit the site to ensure that appropriate best management practices are being utilized and that documentation for inspections and erosion control maintenance is kept up to date. Due to the reduced size of the project, the absence of impacts to wetlands and buffers, and the preparation of a stormwater pollution prevention plan that meets or exceeds the requirements of the DEC general permit, it is not expected that the service provided by these officers will be impacted by the proposed development.

Comment 3.2-26 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Figure 3.2-4, Watershed – the Oscawana Brook Watershed and the Peekskill Hollow Brook Watershed should both be identified as the City of Peekskill Watershed.

Response 3.2-26: Comment noted.

Comment 3.2-27 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Page 3.2-11, Peekskill Hollow Brook Watershed – this title should be changed to the City of Peekskill Watershed. The project needs to be identified in this section as being located within the City of Peekskill Watershed.

Response 3.2-27: Comment noted.

Comment 3.2-28 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Page 3.2-11, 3rd full paragraph – the population served by the City of Peekskill water system is 22,441 according the 2000 Census. This population number does not include the additional population served in the Town of Cortlandt and the Village of Buchanan.

Response 3.2-28: Comment noted. Additional households in Cortlandt and Buchanan utilize water from the City of Peekskill system.

Comment 3.2-29 (Scott E. Sheeley, Deputy Regional Permit Administrator, NYS Department of Environmental Conservation, Region 3, New Paltz, New York, Letter July 31, 2006): Article 24, Freshwater Wetlands - A Freshwater Wetlands permit will be required for proposed construction within the 100-foot adjacent area of State-designated Freshwater Wetland ML-3 (Class II).

Response 3.2-29: As described above in the response to Comment 3.2-2, no activities are proposed within the 100-foot adjacent area to Wetland ML-3.

Comment 3.2-30 (Scott E. Sheeley, Deputy Regional Permit Administrator, NYS Department of Environmental Conservation, Region 3, New Paltz, New York, Letter July 31, 2006): The site contains a portion of State-designated Freshwater Wetlands ML-3 (Class II).

Based on the proposed site development plan, it appears that most impacts to these wetlands, and their 100-foot adjacent areas have either been avoided or minimized. However, proposed Lot No. 9 is significantly constrained by the presence of the wetland and its 100-foot adjacent area. We recommend that this lot be eliminated or reconfigured to provide a reasonable envelope around the proposed residence to allow for establishment of lawn and construction of accessory structures (e.g., pool, shed, deck, etc.) Without encroachment into the regulated area.

In addition, please note our recommendations for plan notes and requirements for deed notices as described in the enclosed "notice to Local Governments, Project Sponsors, and Applicants". Further and more detailed evaluation of wetland impacts and potential mitigation will be conducted by DEC during the review of the permit application and full development plans.

Response 3.2-30: *As suggested in this comment, Lot 9 was eliminated from the revised lot layout. The applicant and Lead Agency will consider the use of plan notes and deed notices as recommended by the DEC notice. It is the applicant's expectation at this time that no Article 24 or other DEC permit will be required for this action.*

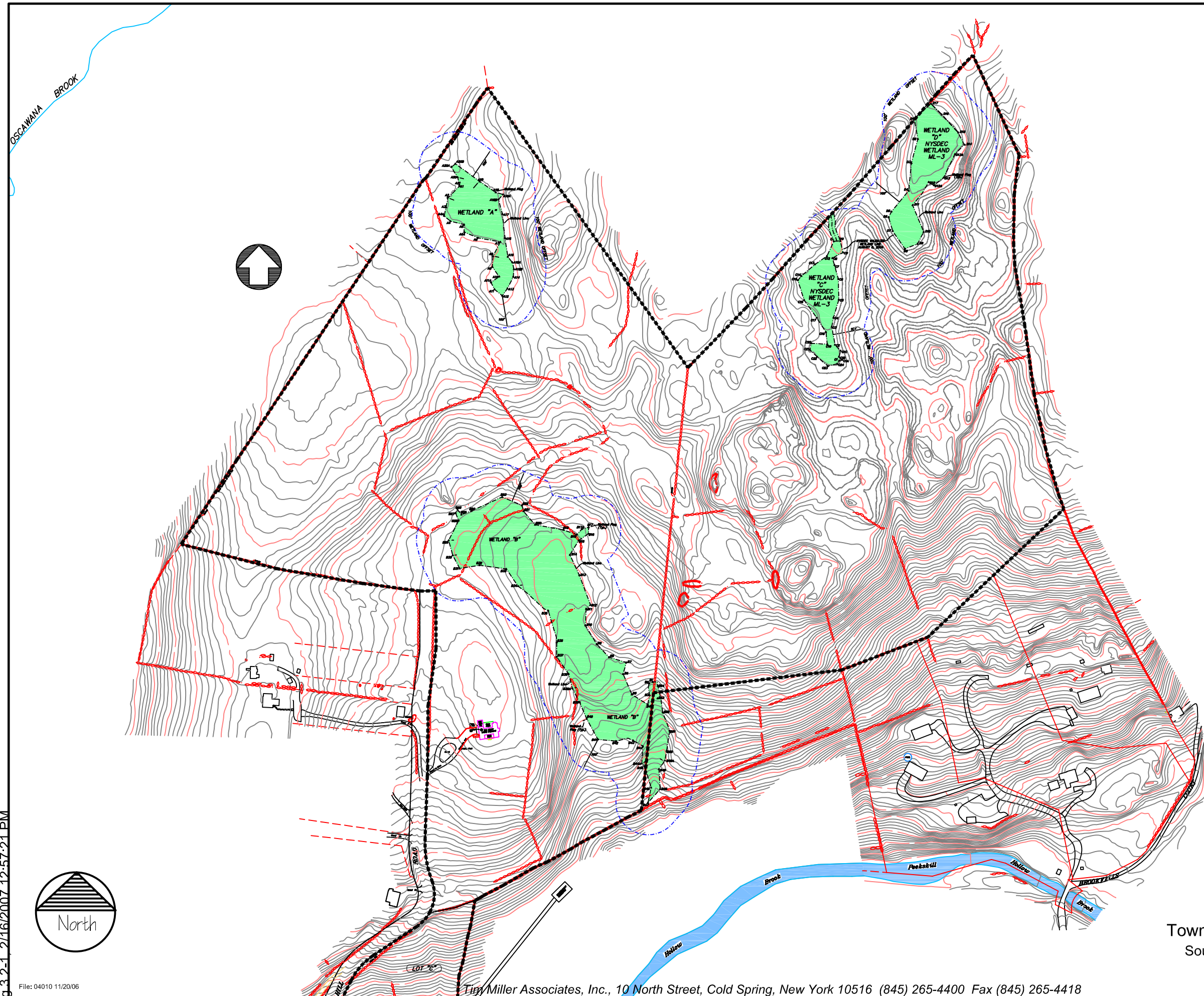
Comment 3.2-31 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): All four wetlands will be included within conservation easements, as will the 100 foot buffers and additional areas outside the buffers. Conservation Easements are an effective land preservation tool only if terms of the easement are enforced. Who is the Grantee of these conservation easements? How often will the conservation easements be monitored? Who will enforce the terms of the conservation easement if there is a violation? Who will pay the legal fees if a violation is found?

Response 3.2-31: *The terms of the conservation easements are to be determined. In general, the terms of the easements that were applied to the Applicant's previous Southfork Estates Subdivision in the Town of Putnam Valley are proposed for the Emerald Ridge Subdivision. The enforcement of the conservation easement protections will be done through a note on the plat referring to a recorded conservation easement with enforcement rights in favor of the Town. Third party stewardship, such as through a land trust, or a financial contribution from the Applicant for monitoring are not considered to be necessary. Aside from the Town's code enforcement, it is also likely that neighbors would be expected to report to the Town or Code Enforcement Officer any violations related to clearing, filling, etc. The Town and Planning Board have direct control over any future improvement proposals, including structures, which would need to adhere to Site Plan requirements and possibly wetland permitting.*

Comment 3.2-32 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): The proposed conservation easement areas depicted on Figure 2.4 include Wetland B, C, and D, their associated 100 foot regulated buffer and a small area of steeply sloped forested area. The primary function of Wetland A, C, and D "are storm-water storage and the potential as vernal pool habitat for amphibian species", (3.4-4). These areas are not fed by groundwater, rather precipitation and stormwater runoff supply these areas with water, making the integrity of the drainage basin a vital feature of these wetland systems. significant development is proposed within these drainage basins, removing over 50% of the natural landscape and replacing naturally filtering vegetation with rooftops, roads, landscaped

lawns, etc. (note, the proposed conservation easement area for wetland a and basin area were not identified in the deis). Blasting is also proposed in these critical basin areas. How will the integrity of these wetland systems be protected from the adverse impact of the proposed development? The proposed conservation easement will inadequately protect the wetland systems from the impacts of development (increased impervious surface, road salt, etc.). How do the proposed conservation easements further protect the natural resources on the site beyond what is currently protected under Town of Putnam Valley Code? What are the conservation values of the proposed easements?

Response 3.2-32: *With the changes in the subdivision layout, the proposal now is expected to result in changes to less than 15 acres of the overall project site. The proposal for maintenance and conservation of portions of the Emerald Ridge site includes the preservation of a 31-acre open space parcel (to be deeded to the Town as park land) and provision of a conservation easement that includes all of Wetland B and its buffers with a connection to the new open space parcel. This connection will provide a permanent undisturbed wildlife corridor between Wetland B and the open space parcel. The proposal also includes the establishment of a conservation easement around Wetland A, which includes the wetland, most of its buffers and upland areas to the north. This easement preserves an important connection between Wetland A and the off site DEC wetland, both for wildlife movement and hydrologic continuity between the two areas.*



LEGEND

	EXISTING SPOT ELEVATION
	EXISTING CONTOUR
	EXISTING STONE WALL
	EXISTING DIRT TRAIL
	EXISTING ROCK OUTCROPPING
	CONTROLLED AREA BOUNDARY (100')
	EXISTING WETLAND BOUNDARY & FLAG
	EXISTING WETLAND AREA
	EXISTING TREE LINE
	EXISTING SOIL BOUNDARY LINE
	EXISTING SOIL GROUP DESIGNATION
	EXISTING ROAD / EDGE OF PAVEMENT
	EXISTING RETAINING WALL
	EXISTING OVERHEAD WIRE
	EXISTING DRAINAGE STRUCTURE & PIPE
	EXISTING UTILITY POLE
	EXISTING PROPERTY LINE (ADJOINING)

NOTE:
 WETLANDS DELINEATED AND FLAGGED BY THE TOWN PUTNAM VALLEY WETLAND INSPECTOR. WETLAND FLAGS UPDATED BY TOWN OF PUTNAM VALLEY WETLAND INSPECTOR AND STEVE MARINO OF TIM MILLER ASSOCIATES, INC., AUGUST 2006.

Figure 3.2-1: Site Wetlands
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 300 feet

Fig. 3.2-1_2/16/2007 12:57:21 PM

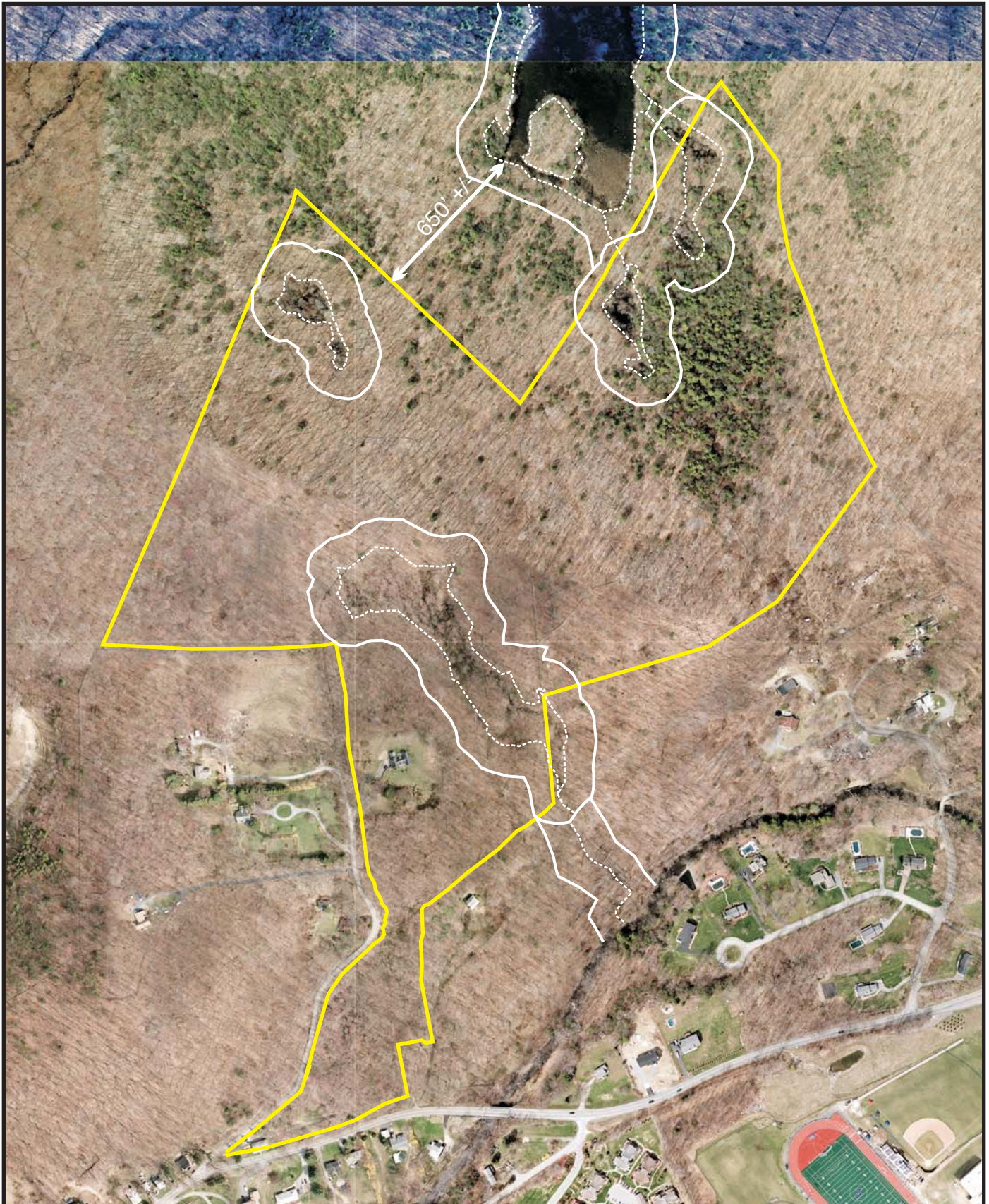


Figure 3.2-1a: Distance to Off-site Wetland ML-3
Emerald Ridge Subdivision FEIS
Town of Putnam Valley, Putnam County, New York
Source: NYS GIS Clearinghouse, 2004 Aerial Photo
Approx. Scale: 1 inch = 475 feet

3.3 GROUNDWATER RESOURCES COMMENTS AND RESPONSES

Comment 3.3-1 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should cite information source regarding septic system recharging approximately 85% of ground water.

Response 3.3-1: *According to project consultants Leggette, Brashears & Graham, Inc., the assumptions on septic system recharge represent commonsense, intuitive estimates that Leggette, Brashears & Graham, Inc. has used for more than 30 years to deal with the consumptive versus non-consumptive use of ground water by residential subdivisions. Leggette, Brashears & Graham, Inc., has reviewed these estimates in the past with numerous consulting site engineers who indicated that the numbers were acceptable. Leggette, Brashears & Graham, Inc., has applied these estimates to SEQRA evaluations and documents for many years without any questions related to their accuracy or viability. It is evident that in this climate regime there is very little outdoor water use during the winter months, and that nearly 100 percent of water use during winter months is for indoor use, which is conveyed to septic system leaching fields. In the warmer months of the year, outdoor water use increases for such activities as car washing, lawn and garden sprinkling, recreational use of lawn sprinklers and the like. According to Leggette, Brashears & Graham, Inc., water company contacts indicate that such use generally peaks in June and July, and carries over into August.*

It should be noted that any given household may deviate from the average estimated outdoor water use in the summer months, but in a subdivision of 25 lots -- now reduced to 14 lots -- this estimate is considered to be reasonable. It should also be noted that this estimate does not contemplate the use of in-ground sprinkler systems, which tend to be wasteful of water, and in the opinion of Leggette, Brashears & Graham, Inc., should not be permitted in subdivisions supported by individual bedrock aquifer wells.

It is further noted that domestic water use in the warm summer months is likely to be higher to some degree than in the winter months. The estimated average annual water demand is supported by the requirements of the New York State Department of Health and is usually acceptable to the NYSDEC, as well as by the Putnam County Health Department. Leggette, Brashears & Graham, Inc., has done an extensive search of the literature, both printed and online, and has come up with only two pertinent references from credible sources, probably because the ratio of water use to sewage flows is not a significant issue to design professionals. They prefer to use design sewage flows based on local experience and, of course, as mandated by regulatory agencies.

The quotation given below is from a highly-respected textbook on wastewater treatment, Metcalf & Eddy, 1991, "Wastewater Engineering, Treatment, Disposal and Reuse", 3rd Edition, McGraw-Hill, Inc., page 25: "About 60 to 85 percent of the per capita consumption of water becomes wastewater (the lower percentages are applicable to the semiarid region of the southwestern United States)." In Leggette, Brashears & Graham, Inc.'s view, the parenthetical phrase represents what most professionals recognize as the result of excessive irrigation practices in that region.

A second reference is more oblique in that when describing a series of calculations of wastewater design flow, it states: "Assume 80% of water consumption goes to the sewer" (Lin, Shun Dar, 2001, "Water and Wastewater Calculations Manual", McGraw-Hill, Inc., page 491).

In conducting this research, Leggette, Brashears & Graham, Inc., came across numerous references from U.S. EPA and other reputable sources that state or imply that 100 percent, or nearly 100 percent, of indoor water use becomes wastewater, and other references that indicate that outdoor water uses are larger in the irrigation months, depending on the locality. We are also aware of water districts, especially on Long Island, which have seen their ratios of summer to winter water use grow substantially in response to the increasing use of in-ground sprinkler systems for lawn irrigation, in places to more than 4 to 1.

Furthermore, the "Putnam County Groundwater Protection and Utilization Plan" is a well-conceived and executed report by a consulting firm that Leggette, Brashears & Graham, Inc., knows and respects, but at times has professional disagreements with on technical issues. That being said, it is noted that on page 13, this report notes: "Using generally accepted estimates that 80 percent of water used in homes and businesses becomes wastewater to aquifers." (page 13). This estimate is reinforced on page 65 in the SEQRA and Environmental Evaluation section (4.2.4.2) where it is stated that: "A typical single home site may require extraction of 300 gallons daily and may return 240 gallons daily to an on-site septic system, yielding a first-order consumption value of 60 gallons daily. (i.e., 80%). Leggette, Brashears & Graham, Inc., finds these statements as broadly on the same order of magnitude as our estimate of 85 percent, on an average annual basis. It is further noted that the LBG report utilizes the Putnam County Department of Health requirement of 450 gpd per 4-bedroom house and 525 gpd for the existing 5-bedroom house, rather than the more realistic estimates in the Chazen report.

The Chazen report concurs with the Leggette, Brashears & Graham, Inc., estimate that "virtually 100 percent wastewater released to septic systems returns to aquifers except where septic wastes travel laterally along clay layers directly to nearby surface water bodies." The report goes on to state that: "During summer, 30 to 50 percent of wastewater passing to septic leaching fields may be drawn upward by evaporation or root transpiration (Chazen, 1999, LBG, 2001)." (page 20). [The reference to LBG, 2001, is incorrect, as the cited LBG report, which was part of the DEIS for the Strawberry Knoll subdivision, makes no such statement, and Leggette, Brashears & Graham, Inc., does not concur with the concept of significant upward water loss from properly-installed septic systems by evaporation or root transpiration.] Certainly, this is not quite the same as saying that "septic system recharge in the summer months is approximately 50%, as stated in the comment.

Leggette, Brashears & Graham, Inc., was not specific in either of its Emerald Ridge reports about where the water returned to the septic system leaching fields eventually goes, but in many reports of a similar nature, Leggette, Brashears & Graham, Inc., has noted that some of the water withdrawn from the bedrock aquifer by water-supply wells and discharged to septic system leaching fields

percolates downward through the glacial till subsoils to recharge the bedrock aquifer and some travels laterally to discharge to streams, ponds or wetlands, thereby supporting surface water resources. The same flowpaths are followed by natural rainfall recharge, which occurs sporadically whereas septic systems recharge is semi-continuous. The point is that consumptive use of ground water derived from wells with respect to the subsurface ground-water system, whether in the overburden sediments or in the underlying fractured bedrock aquifer, is a small percentage of water use on an average annual basis (estimated by Leggette, Brashears & Graham, Inc., as 15 percent and by Chazen as 20 percent).

Leggette, Brashears & Graham, Inc., believes that in-ground sprinkler systems have the potential to overtax residential water supplies derived from wells completed in fractured bedrock aquifers, especially because the season of maximum irrigation usage coincides with the season of minimum natural recharge to ground water. Although in-ground sprinkler systems have been improved in recent years by use of rain detectors that disable the irrigation system, even casual observers note sprinkler systems operating during significant rain events or at non-optimum times of day when irrigation efficiency is low due to high evapotranspiration losses.

Subject to review by Town Counsel, measures for control could be a condition of subdivision approval that forbids the installation of in-ground sprinkler systems or places enforceable limitations on the area of any lot that may be so irrigated. Leggette, Brashears & Graham, Inc., is aware of cases in which community water supplies derived from bedrock wells have failed as the results of prevalence of in-ground sprinkler systems. LBG is also aware of at least one case where the City of Stamford, Connecticut, took the latter approach of restricting the areas permitted to be irrigated, with a requirement for system design and as-built drawings sealed by a licensed professional engineer. For the longer term beyond this application, the Town might wish to address this issue in the Town Code.

According to the Putnam County Groundwater Protection and Utilization Plan, septic system recharge in summer months is approximately 50 percent.

Comment 3.3-2 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should indicate that testing of one of the test wells resulted in an arsenic level above acceptable standards and what measures will be taken to insure that on-site wells will have acceptable levels.

Response 3.3-2: *According to Leggette, Brashears & Graham, Inc., an adverse result from a single water analysis is rarely accepted as definitive. For that reason, new Wells 1, 2 and 3 were re-sampled on June 22, 2005, and analyzed for arsenic, with none detected to a method detection limit of 0.004 milligrams/liter (mg/l), less than half of the drinking water limit, as reported in Appendix II-C and as discussed on page 7 of the July 2005 report. Although the laboratory reported that their initial analysis of water from Well 1 was correct, either they were wrong or the sample was accidentally contaminated. Leggette,*

Brashears & Graham, Inc. suggests that re-sampling of Well 1 for arsenic analysis would be prudent before a Certificate of Occupancy is issued.

It is standard practice for the Putnam County Department of Health (PCDOH) to require resampling of test wells before they are put into operational use, and before they sign off on a Certificate of Occupancy for residences to be served by private wells. The Project Engineer contacted PCDOH on January 23, 2007 regarding available testing protocols regarding this issue. According to PCDOH Public Health Engineer Joseph Paravati, PCDOH has no written protocol addressing arsenic contamination per se. The testing protocol for the PCDOH is simply to re-test the well for the suspect contaminants to achieve either a confirmed positive reading for the substance, or a confirmed negative reading for the substance. If there is a confirmed positive for arsenic, then appropriate filtering or other mechanical devices would be required to be approved by the PCDOH prior to approval of any lot.

Comment 3.3-3 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): There should be a summary of measures that will be taken to insure wells proximal to the site will not be affected by the proposed improvements.

***Response 3.3-3:** Leggette, Brashears & Graham, Inc., indicates that the first three bullets of its conclusions on page 8 of its July 2005 report are fully responsive to this request and are valid for the revised layout. There are no offsite wells within 200 feet of any onsite well.*

Comment 3.3-4 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Piezometer data should be summarized and hydrological connections and patterns identified.

***Response 3.3-4:** Please see the introduction to Section 3.6 for a full description of the piezometer monitoring within the site wetlands. Please also see the responses to various comments in Section 3.2, Surface Water Resources regarding wetland hydrology and flow patterns.*

Comment 3.3-5 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): How will prohibition of fertilizers, pesticides and herbicides be implemented and enforced?

***Response 3.3-5:** Implementation of this prohibition will be done through a note on the Integrated Plat Plan stating that regular use of pesticides and herbicides is prohibited in the Groundwater Protection Overlay District. This will be enforcement by the Town's Code Enforcement Department.*

Comment 3.3-6 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Piezometer data is incomplete. Data must be used to complete analysis of pre and post construction water budget and hydrograph wetland analysis. Hydrological source of wetlands is unsupported. Conclusions regarding post construction hydrological modifications to the wetlands are not supported due to insufficient data and analysis.

***Response 3.3-6:** Please see the introduction to Section 3.6 for a full description of the piezometer monitoring within the site wetlands. Please also see the*

responses to various comments in Section 3.2, Surface Water Resources regarding wetland hydrology and flow patterns.

Comment 3.3-7 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Clarify if demand is 6,750 gallons per day or 11,325 gallons per day.

Response 3.3-7: As stated on pages 2 and 3 of the July 2005 Leggette, Brashears & Graham, Inc., report, the estimated water demand of the entire previously proposed 25-lot subdivision was 11,325 gallons per day (gpd), of which 525 gpd is the estimated demand of the existing 5-bedroom residence (i.e., 24 times 450 gpd + 1 times 525 gpd). Leggette, Brashears & Graham, Inc., indicates revised demand of 6,375 gpd based on a development with only 14 lots (13 times 450 gpd + 1 times 525 gpd = 6,375 gpd).

Comment 3.3-8 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Provide source that septic effluent will return 85% or the groundwater specifically to the soil types and geological conditions on this site. Substantiate that the septic effluent will provide recharge to the wetlands and groundwater resources.

Response 3.3-8: See Response 3.3-1 above. According to Leggette, Brashears & Graham, Inc., the septic systems' effluent will go into the soil and will be able to travel in the soil both laterally and vertically. Some of this effluent will likely flow in the soil zone to discharge ultimately into surface water bodies and some will likely penetrate the soil to enter and recharge the bedrock. Water entering the bedrock will also ultimately discharge to surface water bodies, but at perhaps more remote locations. The proportions of flow laterally versus vertically cannot be estimated with any reliability. In contrast to recharge from precipitation, which occurs sporadically and which generates some loss to runoff, septic system recharge is applied virtually every day and is introduced to the subsurface, without runoff losses.

Comment 3.3-9 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): DEIS must consider groundwater resource impacts on Brookfalls Cottage property.

Response 3.3-9: There is no offsite well within 200 feet of any onsite well.

Comment 3.3-10 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): TW-4 measured yield is 5.8 GPM. Upon initial water testing elevated arsenic levels were found. The DEIS reports that the water was tested a second time at a pump rate of 10 GPM and arsenic levels were acceptable. The DEIS concludes that the elevated arsenic levels were a false positive readings. There is no documentation of this conclusion and the greater pumping level during the second water test is not explained.

Response 3.3-10: See Response 3.3-2. According to Leggette, Brashears & Graham, Inc., the greater pumping water level during the re-sampling event resulted from the higher pumping rate.

Comment 3.3-11 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): There appears to be a labeling issue with what wells are test wells and which are

monitoring wells. Please verify that test well (TW) and monitoring well (MW) are utilized as appropriate throughout the section.

***Response 3.3-11:** The comment is correct. TW-1 etc. and MW-1 etc. are identical wells, as are the references in this response to Well 1, etc.*

Comment 3.3-12 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): It appears that test wells were not analyzed using the full Part 5 test but the monitor wells were. Please clarify.

***Response 3.3-12:** This was explained on page 7 of the July 2005 Leggette, Brashears & Graham, Inc., report. The test wells were analyzed for the full Part 5-1 requirements.*

Comment 3.3-13 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Some test samples on the test wells were over the maximum containment level for iron, color, turbidity and iron plus manganese. Please elaborate on these findings.

***Response 3.3-13:** The comment is correct, and such findings are common in newly-drilled bedrock wells that have not been subjected to extensive well development (cleaning) or pumping. Prolonged pumping will likely improve these parameters, in which the metals are commonly associated with high color and turbidity. It will be in the best interest of the developer and the home buyers to develop the wells by pumping until these secondary, non-health related parameters are met.*

Comment 3.3-14 (Unidentified Speaker, Public Hearing, July 31, 2006): How deep were the test wells.

***Response 3.3-14:** The test wells were approximately 500 to 600 feet deep.*

Comment 3.3-15 (Joel Mandelbaum, Public Hearing, July 31, 2006): I worry somewhat about the quality of the water and my well. I appreciate the fact that it has been tested and I very much appreciate the proposal in the DEIS that the tests continue through construction and up to two years after the certificate of occupancy. That sounds very good to me.

***Response 3.3-15:** The Applicant is prepared to commit to an offsite well monitoring program that essentially follows the precedent of its previous program completed successfully at the Strawberry Knolls subdivision. At the appropriate time, after subdivision approval, the plan for Strawberry Knolls, dated November 7, 2001, will be modified to meet the needs of Emerald Ridge and submitted for approval by Town staff and its hydrogeologic consultant. That program will include monitoring during construction and two full years of post-construction occupancy monitoring.*

Comment 3.3-16 (Michel LeBlanc, Public Hearing, July 31, 2006): I live on Seifert Lane. I have two questions. The first speaker, the gentleman who lives adjacent to the property was talking about the things that he appreciated about the well testing specifically during construction and then two years after construction. My question is: If there's a problem with his water, if there's not enough water, if his well goes dry, if it is polluted, then what happens? Who remediates that? And I know that did happen on Mill Street -- well, I think it happened on Mill Street -- it did happen on Mill and after a development was put in, people's wells got dry -- went dry and in

the construction phase or at some point the people that were building it said we'll put well monitors to make sure that, you know, that the water will be okay. But again, what happened after the well monitor found the problem? Were the people -- you know, was it the Town's expense that, you know, we had to give them water or repair their wells or dig their wells. Who paid for it then?

Response 3.3-16: *In the case of the Mill Street project, the developer put money into escrow in that situation. However, the developer would be responsible for such costs only if that is a condition of Subdivision approval.*

The Leggette, Brashears & Graham, Inc., report of July 2005 was for a previous proposal to build 24 new residences and retain one existing residence on a total of approximately 87.824 acres, whereas the present proposal is for a total of 14 residences (including the existing unit) on a total on part of the same acreage, with a conservation parcel of 31.00 acres to the east of the development area and 11.56 acres of a proposed conservation easement that encompasses parts of Lots 1-4, and 12-14. The western part of the site comprises 51.44 acres, including the conservation easement, which represents a lower housing density than previously proposed, 3.67 acres per lot, versus 3.51 acres per lot, without even considering the 31 acres of the conservation parcel, which would certainly benefit the ground-water recharge budget of the site, at least in the vicinity of Lots 2-4 and 10-13, if not the entire site. The overall housing density of the present proposal is almost 6.3 acres per residence, which assure a highly positive post-development ground-water budget.

Comment 3.3-17 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Does the Groundwater Protection Overlay District prohibit the use of all fertilizers and pesticides or only specific fertilizers and pesticides? If there are specific fertilizers and pesticides that are prohibited, the City requests that they are incorporated into the FEIS. The City's Water Department would like to receive a copy of the information regarding the prohibition on the use of fertilizers and pesticides.

An additional concern by the City is ensuring that all of the potential new homeowners receive notification of the prohibition on the use of fertilizers. A copy of the method of dissemination is also requested to be sent to the City's Water Superintendent.

A discussion should be placed in this section regarding which municipal agency, if any, is responsible for enforcing the prohibition against the use of fertilizers and pesticides. The FEIS should include a resolution of this enforcement issue.

Response 3.3-17: *See Response 3.3-5.*

Comment 3.3-18 (Joseph S. Paravati, Jr., Assistant Public Health Engineer, Putnam County Department of Health, Brewster, New York, Letter August 14, 2006): Based on Appendix II-B, it appears that the test wells were not analyzed using the full Part 5, but the monitoring wells which are not required to be tested, were. Please clarify.

Response 3.3-18: *See Response 3.3-11 and 3.3-13 above. The prototype water wells were tested for the full Subpart 5 requirements of the Health Code, although this is not a requirement for individual domestic water supply wells.*

Comment 3.3-19 (Joseph S. Paravati, Jr., Assistant Public Health Engineer, Putnam County Department of Health, Brewster, New York, Letter August 14, 2006): If MW2 and MW3 are really TW2 and TW4, the iron, color, turbidity and iron plus manganese are over the maximum containment level.

Response 3.3-19: See Response 3.3-11 and 3.3-13 above. The comment is correct. As with the Leggette, Brashears & Graham, Inc., Response 3.3-2 above, no definitive judgments about water quality should be made on the basis of one sample.

Comment 3.3-20 (Joseph S. Paravati, Jr., Assistant Public Health Engineer, Putnam County Department of Health, Brewster, New York, Letter August 14, 2006): If MW3 is really TW3, the iron is over the maximum containment level.

Response 3.3-20: See Responses 3.3-11, 3.3.13, and 3.3-19 above.

Comment 3.3-21 (Joseph S. Paravati, Jr., Assistant Public Health Engineer, Putnam County Department of Health, Brewster, New York, Letter August 14, 2006): If MW1 is really TW1, the sodium level is greater than 20 mg/l and it should not be used for drinking by people on severely restricted sodium diets.

Response 3.3-21: See Responses 3.3-11, 3.3-13, 3.3.19, and 3.3.20 above. According to Leggette, Brashears & Graham, Inc., the sodium standard that is applicable to public supply wells is not applicable to domestic supply wells. However, the results for Well 1 are so at variance with those for the other three wells tested, that one must question its validity. A re-test prior to a Certificate of Occupancy would be standard practice and is recommended.

Comment 3.3-22 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): As proposed by the Town Water Commissioner, it is imperative that the wells on adjoining off-site properties, including mine, be continuously monitored from the start of construction until two years after the granting of the certificate of occupancy. Further, the Developer should be required to commit in writing to punctually making good any failure of any of these wells to maintain their levels of volume and purity should that happen during that time. I would hope that this would be a precondition to approval of the project.

Response 3.3-22: The available evidence indicates very little potential for offsite impacts to private wells, including that of Mr. Mandelbaum, whose well was monitored for an application for 25 lots. The Applicant will be pleased to respond to, and investigate, any legitimate complaint regarding quantitative or water quality impacts caused by its construction and housing occupation, and will be responsible for any adverse impacts shown to be caused by its development. Furthermore, the Applicant agrees to a reasonable bond or other acceptable financial instrument to assure that such problems that may arise within two years of full development and occupancy of the Emerald Ridge Subdivision will be responded to with the resources to correct such well problems. It is noted that the testing program for a larger development indicated a very low probability of any quantitative or water quality impacts to any offsite wells, and the undeveloped acreage is now to be part of a conservation easement, a further protective element.

As stated above, the Applicant is prepared to commit to an offsite well monitoring program that essentially follows the precedent of its previous program completed successfully at the Strawberry Knolls subdivision. At the appropriate time, after subdivision approval, the plan for Strawberry Knolls, dated November 7, 2001, will be modified to meet the needs of Emerald Ridge and submitted for approval by Town staff and its hydrogeologic consultant. That program will include monitoring during construction and two full years of post-construction occupancy monitoring.

Comment 3.3-23 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): I would hope that town inspectors would be on top of any problems regarding the individual septic systems both at the time of building and later, should any of them become degraded while in use.

Response 3.3-22: Comment noted.

3.4 STORMWATER COMMENTS AND RESPONSES

As a result of the reduced scope of the project (with the elimination of 11 lots and 1,700 linear feet of roadway), the potential stormwater drainage impact as a result of the project has been greatly reduced. Proposed impervious area has been reduced from 5.01 acres to 2.67 acres. Disturbed areas of the site have been reduced from 26.6 acres to 14.2 acres. The number of trees to be removed has been revised from 2,475 to 1,197. A 31.0-acre conservation parcel has been included and the area of proposed conservation easements has increased from 11.5 acres to 16.1 acres. According to the project engineer, based on these changes the potential impact from stormwater drainage is greatly reduced and the post development stormwater peak flows will be lower, along with the requirement for water quality treatment. As such, a revised SWPPP will be provided when the construction drawings are prepared.

Comment 3.4-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): It is understood that the applicant is now proposing six stormwater basins; the DEIS and submitted plans identify only five. The applicant should describe and illustrate all proposed stormwater basins and if an additional basin is proposed, appropriate easements should be provided. Net lot area calculations should be adjusted in text and on the plans to account for an additional easement area.

Response 3.4-1: As a result of the reduced scope of the project described above and in Chapter 1.0, the need for six stormwater basins has been eliminated. A total of three stormwater basins are proposed for the revised subdivision (see Figure 3.4-1).

[The proposed water storage tanks are located within the road right-of-way and easements are not required. The net lot areas include easement areas as required.]

Comment 3.4-2 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The stormwater section needs to be revised to include the emergency access road and identify impacts (if any) to the Brookfalls Cottages parcel. The Stormwater Pollution prevention Plan (SWPPP) and Erosion and Sediment Control Plan should be revised. . .The DEIS and associated studies must be modified and fully consider the impacts to this property including stormwater management.

Response 3.4-2: See Response 2-2.

Comment 3.4-3 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The proposed basin on lot 22 is 10 feet deep and spans 180 feet from berm to berm. The applicant should attempt to reduce the size of the basin on lot 22 and determine if this basin can be relocated in a less visible area; if relocation is not feasible, extensive landscaping should be required.

Response 3.4-3: The originally proposed basin located on Lot 22 will be relocated in the loop portion of the new roadway and will be approximately six

feet deep. The basin will be incorporated into the road design and should be visually more pleasing.

Comment 3.4-4 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The stormwater section should describe the aesthetics of all proposed basins and how each basin will be properly screened. As previously mentioned, detailed landscaping plans, including cross-sections, should be provide and described in text.

Response 3.4-4: *As a result of the reduced size of the proposed project, the need for six stormwater basins has been eliminated and only three stormwater basins will be required. The stormwater basins will be provided with a landscaping package that will screen them from the road view as well as from homesites. There will be a basin on Lot 1, Lot 5 and on the inside of the road loop.*

A detailed planting plan for all stormwater detention and treatment basins will be provided with the plan set for final approval. All basins will be planted using native herbaceous and shrub materials that are suitable for the expected inundations. In some areas, trees will also be used where hydrology is suitable and the root structures will not potentially impact berm structures. When complete, the basins will replicate the vegetation found in local wetlands.

See Chapter 1.0 for further description of the revised drainage improvements along Peekskill Hollow Road and Appendix A for January 4, 2007 Putnam County Department of Highways and Facilities letter.

Comment 3.4-5 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): There should be a summary of measures that will be taken to insure wells proximal to the site will not be affected by the proposed improvements.

Response 3.4-5: *There are no existing off-site wells within 200 feet from any proposed well and therefore no special measures are required. Please see Response 3.3-3, 3.3-15, and Response 3.3-22.*

Comment 3.4-6 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Document should reflect changed design to B4 and that there will be no pre and post construction changes.

Response 3.4-6: *As a result of the reduced size of the proposed project and elimination of 1,700 linear feet of roadway, reduction in limits of disturbance from 26 acres to 14.2 acres, and the creation of a 31.0 acre conservation parcel, the post flow stormwater peak flows will be greatly reduced from the original plan and will also be equal to or less than the pre-development rates. As indicated above, the SWPPP will be prepared at the time that the construction drawings are prepared.*

The stormwater structures located on lots 13, 14 and 4 are dry swales that are provided to provide water quality treatment of the stormwater from the roof leaders and driveways. Details are available in the attached Subdivision Plan

set. All technical design data will be provided at the time the construction drawings are prepared.

The stormwater on lot 1 will discharge from the extended detention basin into a level lip spreader that will release and disperse the stormwater uniformly into the wooded area on Lot C.

The proposed stormwater structure located on lot C is a level lip spreader that is designed to capture the concentrated stormwater flow from the catch basin and release and disperse the stormwater uniformly into the wooded area.

Stormwater basin plantings are provided on the Subdivision Plan set.

Comment 3.4-7 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Pre and post construction water quality studies should be summarized in the DEIS Section 1.2.4.

***Response 3.4-7:** Pre- and post-development water quality calculations will be provided in the revised SWPPP for the project.*

Comment 3.4-8 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should indicate that the SWPPP shall conform to NYSDEC Phase II Erosion and Sediment Control requirements.

***Response 3.4-8:** The SWPPP indicates that all construction shall be in compliance with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, GP-02-01.*

Comment 3.4-9 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The applicant should also indicate whether the site is located within a TMDL basin or will discharge to a listed impaired waterbody or watercourse.

***Response 3.4-9:** The project site is not located in a TMDL watershed nor does it discharge into an impaired waterbody or watercourse.*

Comment 3.4-10 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should also indicate jurisdiction of the City of Peekskill.

***Response 3.4-10:** The project lies in the City of Peekskill Watershed and special City of Peekskill notes are provided in the attached subdivision plan set.*

Comment 3.4-11 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant shall provide information regarding pre and post construction base flow and bank full changes to Peekskill Hollow Brook. Applicant should indicate that pre construction baseline photographs and measurements shall be taken of all wetlands and watercourses and that a sediment monitor shall be installed in Peekskill Hollow Brook prior to the commencement of construction.

***Response 3.4-11:** If required by the Planning Board, some level of pre-construction data (base full flow, base bank flow, photographs, or other*

measurements) could be provided. However based on the reduced scope of the project, the stormwater impact, if any, is greatly reduced.

According to the project engineer, it is not practical to provide a sediment monitor in the Peekskill Hollow Brook since the brook's watershed is so large (+/- 40 square miles), and every reasonably runoff-producing storm event causes the brook to have a muddy consistency. If silt laden stormwater were to escape the project site, the origin could easily be traced to the project site, and the impacts would subsequently be addressed by the owner/developer.

It is anticipated that pre construction baseline data will include photographs of the Peekskill Hollow Brook stream bank and stream flow at the existing outlet to wetland B, at the bridge crossing at Brookfalls Cottages and at the Peekskill Hollow Road bridge crossing.

In addition and within the confines of the SWPPP for this project, monitoring of the sediment, if any, leaving the site will be conducted by the owner/developer SWPPP inspector. Inspections will be conducted after every runoff producing rainfall event and at other prescribed times and will be conducted at each detention basin outfall, at each level lip spreader, the wetland B outlet at the Peekskill Hollow Brook, and the Peekskill Hollow Brook at the Peekskill Hollow bridge. The entire site will be inspected during each inspection, however, the above specified locations are described here to ensure that there is not a point discharge of silt laden stormwater leaving the site or entering any wetland.

Comment 3.4-12 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Basin design should be modified to reduce impacts from "deep holes" in the landscape and changed to biofilter and habitat creation areas.

Response 3.4-12: *The basin designs utilize acceptable methods as prescribed in the NYSDEC Stormwater Management Design Manual. In order to attenuate peak flows, storage volume is required that cannot be accomplished with the use of biofilters and habitat creation areas.*

However, as a result of the reduction in the scope of the project described above and the creation of a 31.0 acre conservation parcel, stormwater management requirements have been greatly reduced. There are now only three stormwater basins instead of the six previously proposed and the basins are relatively shallow (six to eight feet deep).

Comment 3.4-13 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Cost and responsibility of maintaining stormwater infrastructure should be included.

Response 3.4-13: *Maintenance and repair of the stormwater drainage system shall be the responsibility of the Town of Putnam Valley. A taxing Drainage District will be established for the entire project site whereby each homeowner will pay annual taxes to the Town that will be utilized by the Highway Department to offset maintenance and repair costs.*

As stated in the DEIS, the residents of the Emerald Ridge Stormwater District can expect to pay between \$100 and \$200 annually. This money is paid to the Town for maintenance of the drainage facilities by the Town Highway Department. Presently, the homeowners in the Putnam Chase Subdivision Drainage District (20 lots) and Strawberry Knoll Subdivision Drainage District (15 lots) are paying \$100.55 and \$134.07 annually, respectively.

Comment 3.4-14 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): DEIS must include stormwater impacts on Brookfalls Cottage property.

***Response 3.4-14:** As a result of the reduction in the scope of the project described above and the creation of a 31.0 acre conservation parcel, stormwater management requirements have been greatly reduced and no impacts to the Brookfalls Cottages property are anticipated.*

Comment 3.4-15 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Will NYSDEC permits be required for activities described on page 3.4-2?

***Response 3.4-15:** The only NYSDEC permit required for the project is the SPDES General Permit for Stormwater Discharges from Construction Activities, GP-02-01.*

Comment 3.4-16 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Table 3.4.3 requires updating to include all basins and to reflect modifications to post construction peak rates.

***Response 3.4-16:** The SWPPP and all data will be revised as part of the construction plans prepared for the project.*

Comment 3.4-17 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Provide summary of all pre and post construction water quality calculations in tabular form. The “expectations” that there will be no adverse impacts to on-site or downstream waters is not substantiated,

***Response 3.4-17:** Pursuant to the NYSDEC permit requirements for the SPDES General Permit for Stormwater Discharges from Construction Activities, GP-02-01, design and construction will comply with the General Permit and therefore the water quality standards as established by New York State will be met. Final design elements will be provided as part of the construction drawings.*

Comment 3.4-18 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Conclusion that basins will operate under cold weather conditions is not supported by data.

***Response 3.4-18:** According to the project engineer, the stormwater basins will operate under cold weather conditions based on the following:*

- *the permanent pools will not be used for water quality volume.*
- *except for the forebay and/or micro-pool, the basins are extended detention basins that will drain out.*
- *outlet structures will have several inlet orifices.*

Since the basins are not wet ponds and are designed to drain out except for the forebay/micro-pool, operation in cold weather conditions is expected to be satisfactory. The project engineer indicates that it has designed several similar stormwater basins that have recently been constructed in the Town of Putnam Valley in similar types of developments.

Comment 3.4-19 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Appendix J " Stormwater Pollution Prevention Plan" - Hydraulic calculations for the proposed stormwater pipes should be provided. Very high slopes that will produce very high velocities are proposed for the stormwater pipes shown on the drawing PR-4.5. Proposed design for these pipes should be revised. For the stormwater pipes that will have velocities greater than 15 ft/sec special provisions shall be made to protect against displacement by erosion and impact.

***Response 3.4-19:** As a result of the reduction in the scope of the project described above and the revised improvement package proposed for the existing Marsh Hill Road, most drainage piping has been eliminated. The remaining piping will have lower slopes. Hydraulic calculations, if required, will be provided at the time that the construction drawings are prepared.*

Comment 3.4-20 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): As it is proposed, as the part of the mitigation package, two existing culverts will be abandoned and the stormwater will be rerouted along the north side of Peekskill Hollow Road to Peekskill Hollow Brook. Hydraulic calculations should be provided and is requested by the Department of Highways and Facilities, in the letter dated December 19, 2005. A 50 feet buffer line for Peekskill Hollow Brook should be delineated on the submitted drawings.

***Response 3.4-20:** As a result of the reduction in the scope of the project described above and the revised improvement package proposed for the existing Marsh Hill Road, the previously proposed drainage piping along Peekskill Hollow Road has been eliminated.*

Comment 3.4-21 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Hydraulic calculations for the proposed 12" HDPE and 15" HDPE culverts, located on Marsh Hill Road should be provided.

***Response 3.4-21:** Hydraulic calculations will be provided at the time that the construction drawings are prepared.*

Comment 3.4-22 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Stationing and rim elevation information for proposed CB #5, illustrated on drawing PR-4.5, should match the information presented on drawing PR 4-7.

***Response 3.4-22:** Comment noted.*

Comment 3.4-23 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): According to the Town Code of the Town of Putnam Valley, section § 155 –10, it is requested by the Planning Board, the applicant shall agree to the granting and recording of easements for drainage facilities, for the maintenance of swales and for access to provide for

the maintenance of stormwater management facilities. These proposed easements should be illustrated on the Plans.

Response 3.4-23: *Proposed drainage easements are shown on the subdivision plans.*

Comment 3.4-24 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A copy of performed field test results for the proposed permanent stormwater management facilities should be provided.

Response 3.4-24: *Test hole data for the stormwater basins is shown on the subdivision plans.*

Comment 3.4-25 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): HydroCAD calculations presented in the submitted SWPPP should match the information illustrated in the submitted Subdivision and Development Approval Plan. Presented information for the pipe material, length, and slope for primary and secondary outlet devices for splitter catch basins No. 12, 20, 29; deep parabolic channel information for wetland reaches reach r1: 30" pipe, as well as reach r2 and r3 for 18" pipes, do not correspond to the information illustrated on the submitted set of drawings.

Response 3.4-25: *These items will be addressed in the revised SWPPP at the time that the construction drawings are prepared.*

Comment 3.4-26 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Subsurface stormwater storage should be evaluated to eliminate unsightly surface basins and provide for quality treatment of stormwater runoff. . . The SWPPP should evaluate the use of subsurface storage systems in lieu of unsightly surface basins.

Response 3.4-26: *As a result of the reduction in the scope of the project described above and the creation of a 31.0 acre conservation parcel, stormwater management requirements have been greatly reduced and there are only three proposed stormwater basins. In addition, with the modified road section (i.e., 18 feet wide with grass shoulders and rip rap swales/trenches), subsurface storage is not practical nor essential for visual aesthetics. (See also Response 3.4-4).*

Comment 3.4-27 (Gelosh Lekocevic, Public Hearing, July 31, 2006): The land that I own remains wet for weeks sometimes when it rains and I am concerned about that because my property is only 15 yards from the project site (78 Peekskill Hollow Road).

Response 3.4-27: *According to the project engineer, the proposed project is not expected to add to the existing wet condition on the speaker's land. Existing Marsh Hill Road will be improved with drainage swales composed of a rip rap trench two feet deep to collect and convey stormwater from Marsh Hill Road to the existing stormwater drainage facilities. The proposed rip rap swales/infiltration trenches proposed on either side of the road will infiltrate some runoff and will actually compensate for the reduced stormwater infiltration due to impervious features (asphalt) existing or proposed. No significant change in the water table, if any, is expected near the speaker's property or anywhere else on the site.*

Comment 3.4-28 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Page 3.4-1 Peekskill Hollow Brook Watershed – this title should be changed to the City of Peekskill Watershed.

Response 3.4-28: Comment noted.

Comment 3.4-29 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Page 3.4-1, 3rd full paragraph - the population served by the City of Peekskill water system is 22,441 according the 2000 Census. Again, this population number does not include the additional population served in the Town of Cortlandt and the Village of Buchanan.

Response 3.4-29: Comment noted.

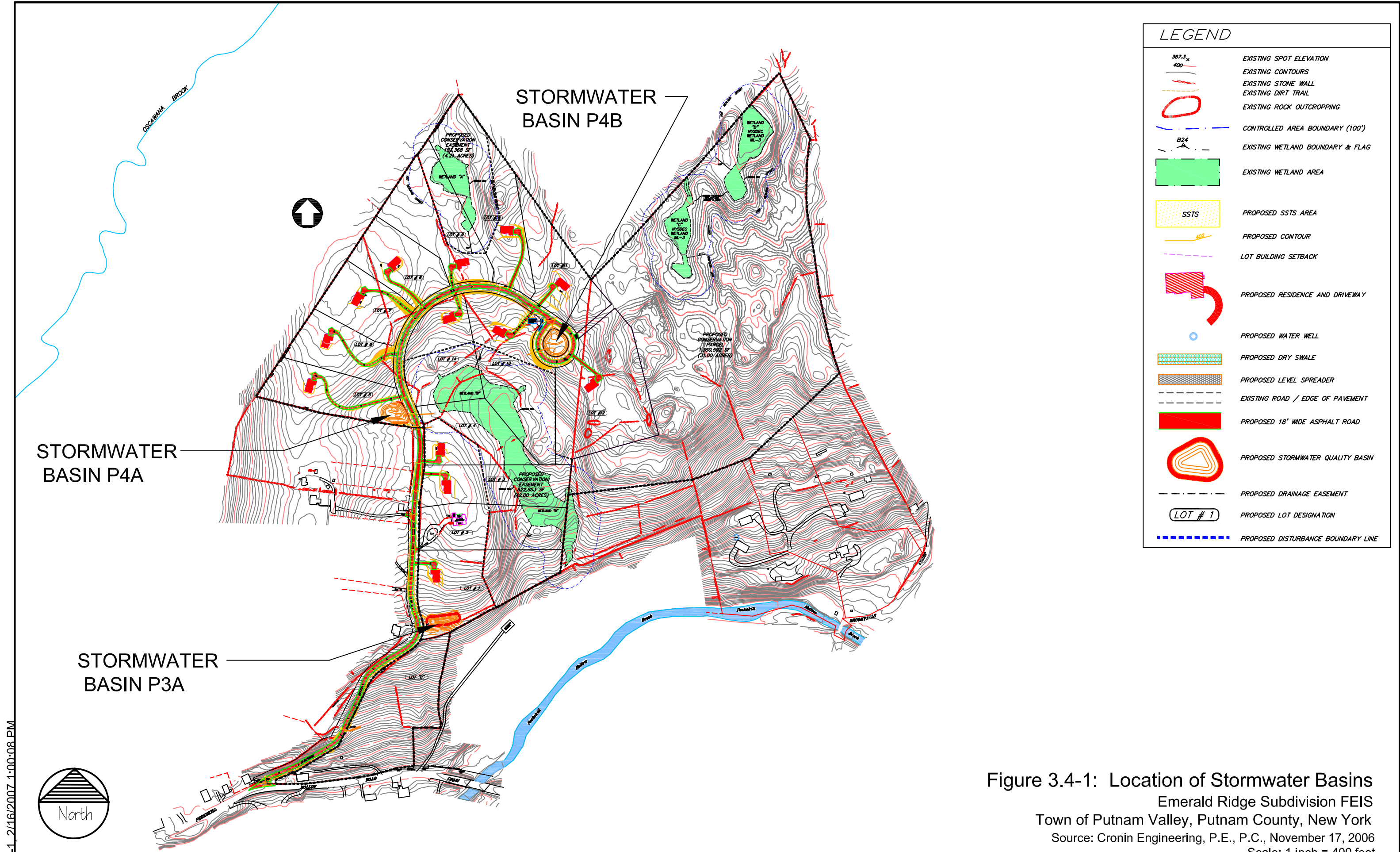
Comment 3.4-30 (Anthony J. Ruggiero, Assistant City Planner, City of Peekskill, Letter July 24, 2006): Page 3.4-8, 4th full paragraph – The City of Peekskill Water Department would like to receive copies (if possible in digital format) of any pictures of any physical/chemical data related to the Peekskill Hollow Brook at the proposed stormwater outfall locations prior to construction.

Response 3.4-30: Comment noted. It appears that the speaker is requesting the data described in Response 3.4-11. The SWPPP will be in compliance with applicable regulations.

Comment 3.4-31 (Scott E. Sheeley, Deputy Regional Permit Administrator, NYS Department of Environmental Conservation, Region 3, New Paltz, New York, Letter July 31, 2006): Compliance with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-02-01) - Compliance with this SPDES General Permit is required for any project that disturbs greater than one acre of land area. When other DEC permits are necessary, the Stormwater Pollution Prevention Plan (SPPP) required by the SPDES General Permit must be prepared and submitted for concurrent review with applications for the other DEC permits.

It is possible that the DEC permit requirements noted above may change based upon additional information received or as project modifications occur.

Response 3.4-31: Comment noted.



LEGEND

387.3 x	EXISTING SPOT ELEVATION
400	EXISTING CONTOURS
(Red dashed line)	EXISTING STONE WALL
(Red dashed line)	EXISTING DIRT TRAIL
(Red dashed line)	EXISTING ROCK OUTCROPPING
(Blue dashed line)	CONTROLLED AREA BOUNDARY (100')
B24	EXISTING WETLAND BOUNDARY & FLAG
(Green shaded area)	EXISTING WETLAND AREA
(Yellow dotted area)	PROPOSED SSTS AREA
(Red dashed line)	PROPOSED CONTOUR
(Red dashed line)	LOT BUILDING SETBACK
(Red shaded area)	PROPOSED RESIDENCE AND DRIVEWAY
(Blue circle)	PROPOSED WATER WELL
(Red dashed line)	PROPOSED DRY SWALE
(Red dashed line)	PROPOSED LEVEL SPREADER
(Red dashed line)	EXISTING ROAD / EDGE OF PAVEMENT
(Red shaded area)	PROPOSED 18' WIDE ASPHALT ROAD
(Red shaded area)	PROPOSED STORMWATER QUALITY BASIN
(Red dashed line)	PROPOSED DRAINAGE EASEMENT
(Red dashed line)	PROPOSED LOT DESIGNATION
(Red dashed line)	PROPOSED DISTURBANCE BOUNDARY LINE

Figure 3.4-1: Location of Stormwater Basins
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 400 feet

Fig. 3.4-1_2/16/2007 1:00:08 PM

3.5 WASTEWATER COMMENTS AND RESPONSES

Since there are no newly located sewage treatment systems under the revised plan with 14 lots, subdivision approval from the Putnam County Department of Health is anticipated as previously and currently shown. According to the project engineer, the Putnam County Department of Health has inspected and logged all of the test holes on the project site.

All of the proposed lots with the exception of Lot 13 have their limit of disturbance line bisecting their proposed sewage treatment areas. These lots do not require fill sections and therefore the sewage treatment system expansion areas can remain undisturbed up to ten feet from the last primary system sewage lateral. No waivers are required from the Putnam County Department of Health. Lot 13 requires fill for the placement of its sewage treatment system. Therefore, the entire sewage area for this lot needs to be cleared and filled.

Comment 3.5-1 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant is requested to submit this chapter for review and comment.

Response 3.5-1: Chapter 3.5 was included in the copies of the DEIS that were circulated for agency distribution. The Applicant contacted the Town Wetland Inspector regarding this comment and was told that the no additional copies of Chapter 3.5 were needed.

Comment 3.5-2 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A copy of performed field test results should be provided.

Response 3.5-2: Field test data for both the sewage treatment systems and the stormwater basins are shown in the attached subdivision plan set (see Sheet NS).

Comment 3.5-3 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Projected wastewater generation was 15% less than water demand. Please discuss this methodology.

Response 3.5-3: See Response 3.3-1.

Comment 3.5-4 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Subsurface disposal systems on some lots run right up to the edge of the wetland buffer, with a new wetland delineation the systems may fall into the buffer. Redesign maybe necessary in order to keep all of the SSDS out of the wetland buffer.

Response 3.5-4: The wetland boundaries have been re-delineated and do not affect any proposed sewage treatment system.

Comment 3.5-5 (Joseph S. Paravati, Jr., Assistant Public Health Engineer, Putnam County Department of Health, Brewster, New York, Letter August 14, 2006): Section 3.5-2 Potential Wastewater Impacts. How was the projected wastewater generation of 15% less than the water demand (9,350 gpd, 374 gpd per house) arrived at?

Response 3.5-5: See Response 3.3-1

3.6 VEGETATION AND WILDLIFE COMMENTS AND RESPONSES**Introduction**

Comments were made during the public review of the DEIS regarding the comprehensiveness of the ecological surveys that were conducted as part of the background information for the DEIS. Based on continuing discussions with the Town and its consultants during the ongoing review of this application, the Applicant has continued site observations of vegetation and wildlife, utilizing protocols adopted from the Town of Putnam Valley "Wildlife Habitat and Biodiversity Assessment Guidelines" dated 11/16/04) or those specifically requested by the Town Wetland Inspector for the investigation of wildlife groups of special concern (Table 3.6-1).

Table 3.6-1 Extended Biodiversity Study Schedule and Methods - 2006					
Focus Group	Focus Group Habitats	Focus Group Species	2006 Survey Season	Survey	
				Time of Day	Techniques
Vernal Pool Amphibians	Vernal Pools in Wetlands A, C and D	Jefferson salamander Blue-spotted salamander Spotted salamander Marbled salamander Wood frog	March 15 to April 30	Warm rainy evenings for breeding, late afternoon to dusk for observation and counting of egg masses; minimum of three visits	Flashlight and dip-net searches at night, observation and photographing of egg masses
Reptiles, Non-Vernal Pool Amphibians	Site-wide	Eastern box turtle Eastern hognose snake Worm snake Red-spotted newt Black racer Rat snake Ribbon snake	May 1 to June 30, and Mid-Summer	Late morning to mid-afternoon; minimum of three visits	Turning of cover objects, 15 minute observations at specific points along transects
Breeding Birds	Site-wide	Cerulean warbler Worm-eating warbler Red-headed woodpecker Breeding Bird Atlas species	Early May to Early July	6:00 AM through 9:30 AM on at least two dates, two hours before sunset to one hour after sunset on at least one date	Direct observation, nest identification, song recognition
Mammals	Site-wide	Any regional species	March 1 to October 31 for direct observation; year round for observation of tracks, scat, etc.	6:00 am through 10:00 am for at least two dates, two hours before sunset to one hour after sunset for at least one date	Turning of cover objects, 15 minute observations at specific points along transects; observation of tracks, scat

These surveys were conducted by field biologists from the Natural Resources section at Tim Miller Associates, Inc. (TMA). TMA staff contributing to these field surveys included the following: Mr. Steve Marino, PWS, a certified wetland scientist with more than 20 years experience in delineating, evaluating and constructing wetlands -- he has conducted numerous wildlife surveys, particularly for reptiles and amphibians, in southeastern New York; Mr. Chris Robbins,

a wetland scientist and field biologist with particular interest in avian species, who has been doing bird surveys for more than seven years; Mr. Bruce Friedmann, who is an aquatic ecologist and herbaceous plant specialist; and, Mr. James Bates, who is a wetland scientist and field biologist. All four took part in the numerous surveys and site walks that were conducted on the Emerald Ridge property.

Lists of plant and animal species common to the area that could reasonably be expected to utilize the site or the surrounding environment were provided in the DEIS in Table 3.6-4. This table specifically identifies those species that were observed on the property during site walks conducted in 2005. As the DEIS Scope suggested, additional species that are likely to utilize the site were also included in the table. It is noted that this more extensive list is not solely based on observations at the site, but uses research carried out during studies for the Westchester County Department of Planning, and regional experience of the consulting biologists for similar habitat conditions on other nearby sites in upper Westchester and Putnam Counties. Due to weather conditions, time of day or seasonal patterns of movement it is possible that many of the animal species listed are utilizing the site but were not observed. It is stressed, however, that the list includes species that were observed on site, not only those species that are listed in the literature as being known to inhabit the area. As discussed below, further site visits made subsequent to the submittal of the DEIS confirmed the on-site presence of more of the species listed as "expected" for the site and added additional species that were not listed in the DEIS.

These additional site visits were conducted at least monthly through November of 2006, thus providing observations of the site over nearly a two-year period beginning in March of 2005. Follow up wildlife survey dates were made to coincide with times of higher seasonal wildlife activities. Late Spring dates were chosen for observation of nesting birds, breeding salamanders and other amphibians, Spring movement of turtles from Winter hibernaculum and increased activity by mammals during Spring mating and parenting. Photographs supporting these wildlife surveys are included with this FEIS in Appendix H. The complete Biodiversity Study report, which summarizes all analysis and survey work conducted throughout the length of the site studies, is provided with this FEIS as Appendix I. It is presented in a format that is consistent with the Town's biodiversity guidelines, and utilizes the Hudsonia "Biodiversity Assessment Manual", MCA's "Croton-to-Highlands Biodiversity Plan" and the DEC's "Ecological Communities of New York State" as resources, among others. What follows is a summary for this FEIS of the continuing studies and surveys that took place during and after the review of the DEIS. Appendix I presents the complete Biodiversity Study Report.

The Croton-to-Highlands Biodiversity Plan

The Croton-to-Highlands Biodiversity Plan¹ was published in early 2004. Large areas of Putnam Valley were included in this assessment, and identified as "Areas important for biodiversity". These areas are identified as "Canopus Hollow to Fahnestock", "North-central to Eastern Putnam Valley", and "East-central to Southern Putnam Valley." The subject site is not located within or immediately adjacent to any of these "biotic planning units" (BPU) or biodiversity corridors (see DEIS Figure 3.6-3). Thus it is clear that this area was not determined by the MCA Study to be an area with high potential to be "important for biodiversity. Regardless, the applicant agreed that knowledge regarding the biodiversity of the area would be an important factor

¹Miller, N.A. And M.W. Klemens. 2004. Croton-to-Highlands Biodiversity Plan: Balancing Development and the Environment in the Hudson River Estuary Catchment. MCA Technical Paper No. 7, Wildlife Conservation Society, Bronx, NY.

in the development of the final site layout. The smaller limits of disturbance proposed with this revised FEIS plan will lower the removal of upland forest vegetation to a total of just over 14.23 acres of woodland, or a reduction of the removal of upland forest by 46.50 percent in comparison to the DEIS proposal. All impacts to the existing vegetated characteristics of the site will be limited to upland areas, outside of all identified wetlands (FEIS Figure 3.6-1).

Vernal Pool Amphibians

Surveys for the presence or absence of amphibian species known to be Spring vernal pool species were conducted in March and April of 2006 within the confines of Wetlands A, C and D.

As described in Section 3.2 of the DEIS, Surface Water Resources, these three onsite wetlands were delineated by Steve Coleman, Putnam Valley Wetlands Inspector, and were considered to include vernal pools within their boundaries. The nearest surface waters offsite are associated with the New York State Department of Environmental Conservation (NYSDEC) mapped Wetland ML-3 which is present along Oscawana Brook.

Wetland A is an approximately 0.80 acre forested and seasonally flooded/saturated wetland located in a shallow depression within the northwestern part of the site. Small, isolated pockets of Wetland A were observed to have standing water. Wetlands C (0.60 acres) and D (0.93 acres) are morphologically similar wetlands in the northeast corner of the site that have been determined by NYSDEC to be hydrologically connected to the State mapped Wetland ML-3. Like Wetland A, these wetlands appear to have hydrology that is consistent with vernal pool habitat. Each wetlands receives runoff only from small surrounding watersheds. (See Figure 3.2-1a in Section 3.2 of the FEIS for the mapped location of these wetlands).

Observations

Spring vernal pool breeding surveys were conducted in these wetlands during the late afternoon and evenings of March 13, March 28, April 3 and April 14, 2006, at a time when several other sites in Orange, Ulster, Westchester and Putnam Counties were being surveyed and it was known that both salamanders and frogs were actively breeding within the lower Hudson River Valley. Surveys were conducted by personnel equipped with flashlights and dip nets and wearing knee high boots to allow the participants to readily access the full perimeter of the wetland pools. In addition to observations of adults, the mating calls of frogs and the identification of egg masses or salamander spermatophores were also reported for each visit.

Four species of pool breeding amphibians were identified during the course of the Spring surveys, and one species during Fall surveys, as listed in Table 3.6-2. Three of these species are dependent on vernal hydrology for successful breeding; spring peepers will also utilize permanently ponded wetlands. Two of these species were mole salamanders, a family of terrestrial, burrowing salamanders that includes several common to uncommon species throughout New York and across the United States.

Table 3.6-2 Observed Pool Breeding Species at Emerald Ridge				
Common Name	Scientific Name	Breeding Period	Location Observed	Method of Identification
Wood frog	<i>Rana sylvatica</i>	Spring	Wetlands A, C and D	Direct observation of adults, or mating calls, or egg masses
Spring peeper	<i>Hyla crucifer</i>	Spring	Wetlands A, C and D	Direct observation of adults, or mating calls
Spotted salamander	<i>Ambystoma maculatum</i>	Spring	Wetlands A, C and D	Direct observation of adults and egg masses (one egg mass in Wetland A)
Marbled Salamander	<i>Ambystoma opacum</i>	Fall	Wetlands A, C and D	Direct observation of Fall nesting female; larvae in Winter and Spring
Source: Tim Miller Associates, Inc., 2005-2006.				

Wetland A

In Wetland A, sporadic calls of wood frogs and Spring peepers were noted, although no breeding individuals were observed. One wood frog egg mass and one spotted salamander egg mass were observed in Wetland A on April 3, 2006. By way of reference, vernal pools that were surveyed during the same period (including Wetlands C and D on the Emerald Ridge site, as well as in southern Ulster and Orange County) had readily observable aggregations of breeding spotted salamanders and multiple egg masses present, so the surveyors are confident that the timing of the surveys at Emerald Ridge was appropriate for this year. While some evidence of vernal hydrology at Wetland A was observed during the March and April surveys, no evidence of amphibian activity was observed.

As described below in the discussion of the hydrology study performed for the site, Wetland A has only one small area where significant pooling occurs (an area approximately six feet by twelve feet), and the surface wetland hydrology dries up well before the requisite time period for maturation of the larvae to a terrestrial phase. In the two years of observations, Wetland A had only marginal hydrology for the needs of the target species (ambystomid salamanders), and the standing surface water had dried up by mid-May. Thus it is the conclusion of this study that Wetland A does not have suitable hydrology to support a viable population of ambystomid salamanders, although it was observed that one individual did attempt egg laying in the isolated pool.

Further indirect evidence of the lack of mole salamander larvae in Wetland A during these surveys was the high density of mosquito larvae that occupied the pools until they dried up in late Spring. Had mole salamander larvae been present, it would be expected that their predation could have maintained the population of mosquito larvae at lower densities. Notably lower densities of mosquito larvae were observed in the pools of water at Wetlands C and D where some breeding success of both spotted salamanders and marbled salamanders was observed this year.

Wetland B

In Wetland B, isolated pockets of water were observed adjacent to the main stream flow in this flowing wetland, however, no breeding amphibians were noted during the Spring surveys. During subsequent site walks by early to mid May, the water pockets were dry indicating that

the hydroperiod for these small pools was not long enough to sustain egg laying, hatching and larval development for vernal pool amphibians.

Wetland C

In Wetland C, a single seasonal pool of water was present during periods of high water table. This pool was confined narrowly within the delineated boundary of the lower portion of this wetland and was the observed site for adults and larvae of several vernal pool breeding species (Table 3.6-2). This pool had up to 14 separate wood frog egg masses during the 2006 survey. The main pool, with a maximum estimated depth of up to 18-24 inches, was persistent from late Fall through early Summer, although it fragmented into numerous smaller pools as the water table descended. During the 2006 surveys, some egg masses were observed to be stranded and to dry up as some of the fragmented pools became desiccated. More than 25 individual spotted salamanders were observed during the two April surveys, with numerous egg masses observed before and after these dates. In addition, larvae were observed during all survey dates and ultimately determined to be marbled salamander larvae. The marbled salamander is a NYS listed species of special concern.

Wetland D

In Wetland D, a single seasonal pool of water was present that was confined broadly within the delineated boundary of the lower portion of this wetland. This pool, also with an estimated depth of up to 18-24 inches, was persistent from late Fall through early Summer and was the observed site for adults and larvae of the same vernal pool breeding species observed in Wetlands C (Table 3.6-2). Spotted salamander adults, seen in this wetlands only on the final night of the 4-day survey, were observed in greatest numbers within this wetlands during the survey. Fewer egg masses were observed within this pool than within adjacent Wetlands C and, of the four wood frog egg masses observed here in 2006, three became stranded on dry ground and desiccated during the transient low water levels observed in late March. Specimens of an invertebrate vernal pool inhabitant, the fingernail clam (Family Sphaeriidae) were found in the surface sediment of this wetland as it dried.

Water Level Recordings

Table 3.6-3 and Figure 3.6-2 present the annual cycle of water levels observed in these four wetlands over the interval from March, 2005 through November, 2006. To collect this data, open-ended 2-inch PVC pipes with screened bottoms were installed into the soils within each wetlands. Recordings were made monthly of the depth to the water table within these monitoring wells by using an electronic water level indicator (Slope Indicator Co. Model 51453). Wetlands A, C and D were monitored through the use of a single well. Wetlands B, due to its sloping gradient and shallow, active water course during most of the year, was monitored by two wells, one at the upper portion of the wetlands and one at the lower portion of the wetlands near to the point at which the wetland continues off of the property.

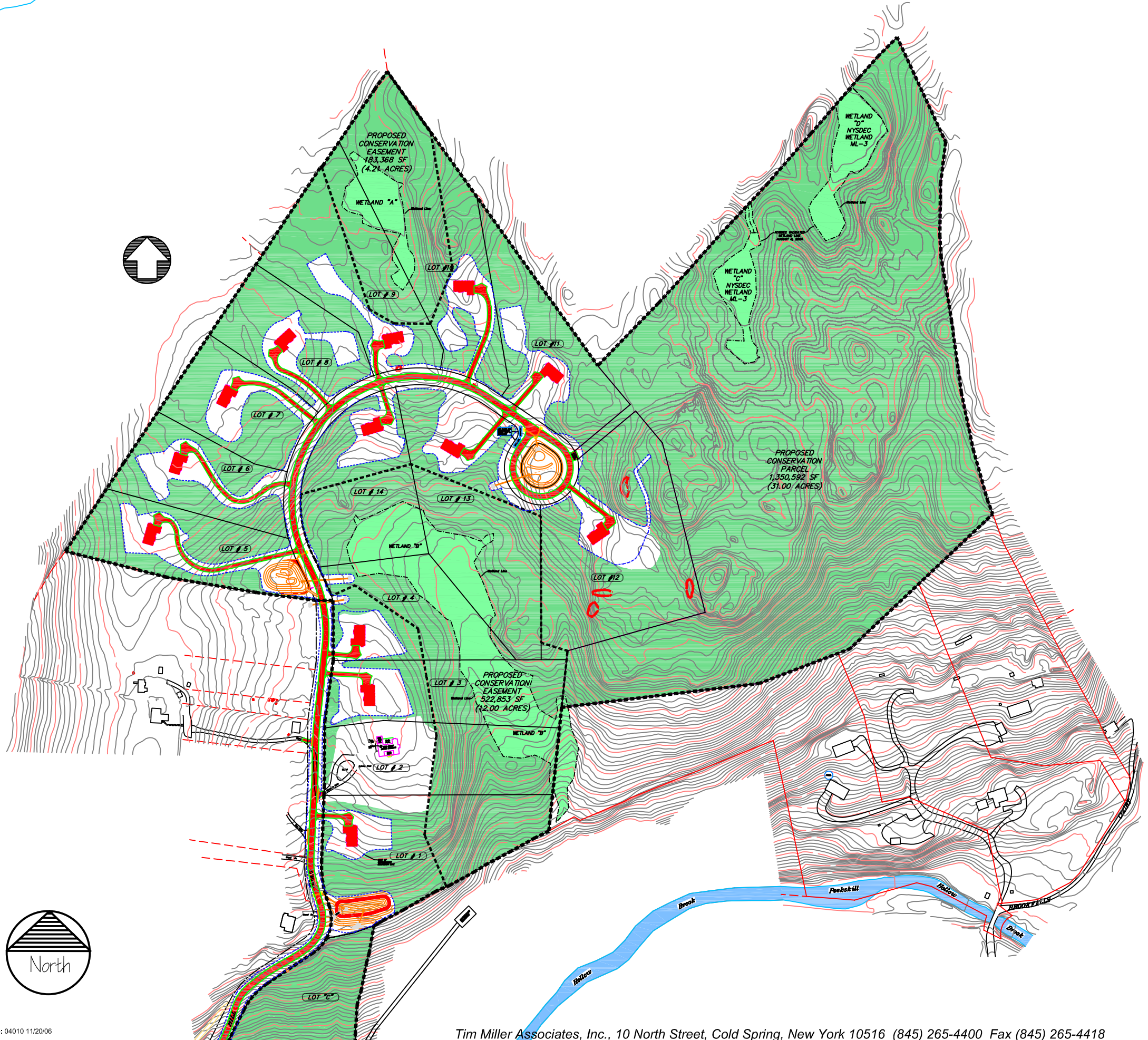
The locations of the piezometers are shown in Figure 3.2-3 of the DEIS.

The monitoring results show that Wetlands A, C and D exhibited vernal pool seasonality with periods of inundation in the early Winter through early Summer, followed by significant drawdown and surface drying of the pools during Summer through Fall months. During 2006, each of the wetlands water tables became temporarily depressed by March, following

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historically low rainfall for that month. All four wetlands became dry during the Summer months, with piezometer readings showing the water table had dropped below the bottom of each of the sampling wells by July, 2006. As shown on the chart, Wetland A dried out a month or so before Wetlands C and D, and never reached the same levels of inundation.



LEGEND

	UNDISTURBED WOODLANDS
	PROPOSED AREA TO BE PRESERVED VIA CONSERVATION EASEMENT

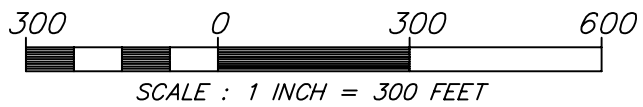
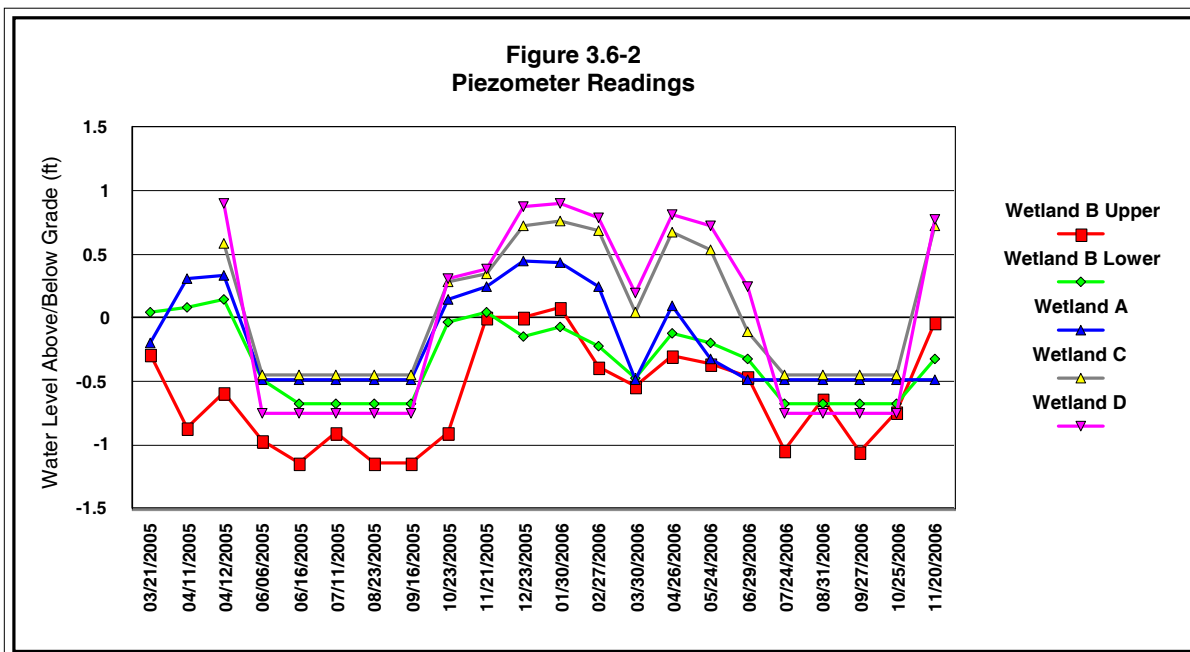


Figure 3.6-1: Undisturbed Woodlands
 Emerald Ridge Subdivision FEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Scale: 1 inch = 300 feet

Fig. 3.6-1, 2/16/2007 1:03:04 PM

File: 04010 11/20/06

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



**Table 3.6-3
Water Level Above/Below Grade (ft) at Emerald Ridge**

Date	Wetland B Upper	Wetland B Lower	Wetland A	Wetland C	Wetland D
03/21/2005	-0.28	0.04	-0.19	nm	nm
04/11/2005	-0.86	0.08	0.31	nm	nm
04/12/2005	-0.59	0.14	0.33	0.58	0.90
06/06/2005	-0.96	-0.49	-0.49*	-0.45*	-0.75*
06/16/2005	-1.14*	-0.67*	-0.49*	-0.45*	-0.75*
07/11/2005	-0.90	-0.67*	-0.49*	-0.45*	-0.75*
08/23/2005	-1.14*	-0.67*	-0.49*	-0.45*	-0.75*
09/16/2005	-1.14*	-0.67*	-0.49*	-0.45*	-0.75*
10/23/2005	-0.90	-0.03	0.15	0.28	0.31
11/21/2005	0.01	0.05	0.25	0.35	0.39
12/23/2005	0.01	-0.14	0.45	0.72	0.87
01/30/2006	0.08	-0.07	0.44	0.76	0.90
02/27/2006	-0.39	-0.22	0.24	0.69	0.79
03/30/2006	-0.54	-0.47	-0.49*	0.04	0.20
04/26/2006	-0.29	-0.12	0.10	0.68	0.81
05/24/2006	-0.36	-0.19	-0.32	0.54	0.72
06/29/2006	-0.46	-0.32	-0.49*	-0.11	0.24
07/24/2006	-1.04	-0.67*	-0.49*	-0.45*	-0.75*
08/31/2006	-0.64	-0.67*	-0.49*	-0.45*	-0.75*
09/27/2006	-1.05	-0.67*	-0.49*	-0.45*	-0.75*
10/25/2006	-0.74	-0.67*	-0.49*	-0.45*	-0.75*
11/20/2006	-0.03	-0.32	-0.49*	0.72	0.77

Measurements are represented by feet above or below grade. (*) indicates no water in the test well.

nm = Not measured

Source: Tim Miller Associates, Inc., 2005-2006.

Conclusions

Based on these observations, TMA concluded that successful Spring breeding by vernal pool amphibian species was observed on the site (in Wetlands C and D) during 2006. Spotted salamanders were observed within the pools on April 3 and April 14, 2006. Salamander egg masses were observed in the Spring as were mature adults. Observed fluctuations in the pool hydrology, however, may have resulted in decreased survival of larvae, as the pools were observed to begin drawdown early in the time frame that would typically be required for maturation of the larvae. Breeding of the Fall-spawning marbled salamander may be relatively more successful in these pools (based on observed larval survival) as their eggs would not be subject to the same potential for seasonal fluctuations leading to egg mortality.

The data collected for wetlands can be used to evaluate the relative ecological value of a pool and determine if mitigation measures are appropriate to preserve the area long term. One such index is available for rating vernal pools within residential and commercial communities in the northeastern states.¹ This model considers the species observed, estimates of population and breeding use, and the area around the pool that would be preserved for use outside of the breeding season. Utilizing this index as a rating tool for Wetlands A, C and D, the cumulative assessment for Wetlands C and D could rank them as significant community resources. This rating process then indicates that maintenance of an undeveloped zone around more than 75 percent of the 100-foot wetlands buffer, along with preservation of at least half of the primary maintenance of the critical terrestrial habitat zone that extends out to 750 feet from the wetland pool, would result in preservation of the ecological value of each of these wetlands for pool-breeding amphibians. In the case of Emerald Ridge, 100 percent of the buffer around all three pools, regardless of its ecological value, is being preserved. All of the area within 750 feet of Wetland D is being preserved, as well as more than 75 percent of this same area around Wetland C. The proposal clearly meets the criteria for preservation of the pool's biological integrity for these species.

The proposal presented with this FEIS further reduces the wetland impacts over the proposed DEIS protections provided for wetlands. The vernal pools of Wetlands C and D, where viable populations of two mole salamander species were observed, will not be disturbed as part of the revised site plan. Further, with this plan, all adjacent wetlands buffer areas of Wetlands A, C and D are protected from encroachment, the majority of which is also included in a dedicated conservation easement area. All disturbance is projected to be a minimum of 500 feet from Wetland C, and more than 800 feet from Wetland D. Given the protection of contiguous wetland, wetlands adjacent buffer, and upland areas in the northwest corner of the property, any existing routes of amphibian dispersal among any of these pools are likely to be preserved.

Wetlands B was not assessed to have characteristics that would support the successful reproduction of vernal pool amphibians. With the FEIS proposed plan, the stream and adjacent buffer lands for this 3.9 acres of wetland are included within a larger 12.0 acre conservation easement that runs to the limit of the property where this wetlands crosses off of the site.

¹ Calhoun, A.J.K. And M.W. Klemens. 2002. Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Wildlife Conservation Society, Bronx, NY.

It is noted that of the three Springtime breeding species observed (i.e. spotted salamanders, Spring peepers and wood frogs) none is a State-listed species of concern, but that the marbled salamanders that were observed to breed in the site wetlands in the Fall are listed by the State as of "special concern." Species designated as of "special concern" by Section 182.2(i) of 6NYCRR Part 182 warrant "attention and consideration" but the NYSDEC does not have information for these listed species that could justify their listing as "endangered or threatened."

Reptiles and Non-Vernal Pool Amphibians

Survey activities for other reptiles and non-vernal pool amphibians were conducted in Spring and Summer months and included the turning over of rocks and fallen wood litter or the disruption of leaf litter, duff and brush piles along wildlife survey transect routes, and prolonged observation from several fixed locations within the site. During the wetlands piezometer surveys, conducted monthly throughout the year, additional records were made of birds, mammals, reptiles and amphibians observed. In excess of 40 man-hours were spent on the site making these observations, which occurred during daylight hours, generally between 8 am and 6 pm. Supplemental field observation methods used on the Emerald Ridge site included walking of transects through the site and observation of biological indices (scat, prints, carcasses, etc.). Site surveys did not include trapping, mist netting or other means of live animal collection. Generally the surveyor used zigzag patterns off of various pathways and ATV trails that criss-cross the site. In this way all gross habitat types throughout the site were covered. Special emphasis was given to breaks in the overhead canopy that occur along the trails and associated rock walls on the site where reptiles could bask while remaining within the vicinity of sheltering rock crevices, as well as in the area of the wetlands where saturated ground could concentrate amphibians. For example, the flowing streambed portions of Wetland B were specifically searched during August for stream salamanders, such as juvenile two-lined salamanders (*Eurycea bislineata*) that may be commonly observed within perennial streams in this region during mid- to late Summer. Several hours were dedicated solely to a search for snakes in late May of 2006, but none were observed.

The DEIS provided a long and detailed list of wildlife that were either observed on the site or were considered very likely to be present on the property (DEIS Table 3.6-4). A list of all reptiles and amphibians observed on the site during the 2005-2006 surveys is provided in Table 3.6-4.

Table 3.6-4
Reptiles and Amphibians Observed at Emerald Ridge, 2005 - 2006

<i>Reptiles and Amphibians</i>		<i>Habitat Type</i>				
		U	FW	W	SC	SW
Box turtle	<i>Terrapene carolina</i>	X	X			
Northern red-backed salamander	<i>Plethodon cinereus</i>	X	X		X	
Northern two-lined salamander	<i>Eurycea bislineata</i>		X		X	
Spotted salamander	<i>Ambystoma malculatum</i>	X	X	X	X	X
Red-spotted newt	<i>Notophthalmus viridescens</i>	X	X	X	X	X
Marbled salamander	<i>Ambystoma opacum</i>	X	X		X	X
American toad	<i>Bufo americanus</i>	X			X	X
Wood frog	<i>Rana sylvatica</i>	X	X	X		X
Green frog	<i>Rana clamitans</i>			X	X	
Spring peeper	<i>Pseudacris crucifer</i>		X		X	
Pickerel frog	<i>Rana palustris</i>		X	X	X	
Habitat type: U - Upland Hardwood Forest, FW - Forested Wetland, W - Standing Water, SC - Stream Corridor, SW - Stone Walls						
Source: Tim Miller Associates, Inc.; 2005, 2006						

As indicated in the Table, several frog and salamander species were identified throughout the site. The Spring peepers were isolated to the vicinity of Wetlands C and D and the off site wetland, but the red-backed salamanders and red-spotted newts were ubiquitous throughout the site. Numerous pickerel frogs were observed in Wetlands C and D during July of 2006, when the spring hydrology had drawn down and the pool bottoms were relatively dry.

Box Turtles

Box turtles are typically land-dwelling reptiles, but sometimes retreat to woodland pools or puddles. Some individuals have reportedly lived for more than a hundred years, and "can live their entire life in an area no larger than a football field provided the environment doesn't change."¹ Their typical habitat is moist forests, fields and floodplains. They feed on invertebrates, wild fruits and mushrooms, being most active in the morning. In New York State, the Eastern box turtle has been recently listed as a species of special concern statewide.

TMA staff confirmed the presence of Eastern box turtles on the site through one sighting in the upland area between Wetlands A and B. Because this observation took place on the trail between these two wetlands, it is not possible to speculate whether the turtle was using the trail as a travel way, or was moving between the two wetland areas.

Breeding Birds

Breeding bird surveys were conducted on May 19 and June 14, 2006 between the hours of 5:00 AM and 10:30 AM to identify avian species using the project site. Weather on the dates of the surveys was fair with mostly sunny skies and temperatures ranging from the high fifties to the mid-sixties.

¹ Western New York Herpetological Society website: <http://www.wnyherp.org/>

Survey Methodology

In preparation for the breeding bird survey, the Town Wetland Inspector was contacted to discuss survey methodologies. The Town's consultant recommended the use of the Cornell Lab of Ornithology's "Birds in Forested Landscapes" (BFL) survey protocol. This protocol calls for two separate site visits during which recorded calls of target species are played between an initial "Observation Period" and a subsequent "Behavior Watch Period". Recorded calls are played for one minute followed by one minute of observation then another minute of call playback followed by a two minutes of observation. While the protocol focuses on target species, the ten minute Observation and Behavior Watch Periods were used to record all avian species observed.

The protocol correlates defined forest types and regions with a single "Highest-Priority Species" and two to three "Other Priority Species". The site is best classified as an "Eastern Deciduous Forest". The Highest-Priority Species associated with this forest type is the cerulean warbler. The worm-eating warbler, Eastern wood-pewee and red-headed woodpecker round out the "Other Priority Species" of the BFL designated Eastern Deciduous Forest. Other resources, including the Westchester County Endangered Species List, the Breeding Bird Atlas, the Putnam Valley Biodiversity Assessment Guideline and the NYSDEC list of Endangered, Threatened and Special Concern Fish & Wildlife Species were consulted to determine the possibility that the BFL identified species could use the habitat on the site as well as their state and local status. As a result of cross referencing the lists provided by each of these organizations it was determined that the bird survey would target the cerulean warbler, worm-eating warbler, and red-headed woodpecker. The Eastern wood-pewee was not included as it had been observed on site during an earlier survey.

Based on existing ecological community data from previous site visits including a bird survey conducted on July 11, 2005 as well as knowledge of alternate bird survey techniques, eight representative Bird Survey Points were selected across the site. These points were chosen to provide data that would represent bird use in all ecological community types found on the property.

During the surveys, point counts were performed at a total of nine locations, one more than originally planned. The extra survey point was added to increase the probability of observing additional bird species. Point 1 is located near the northwest corner of proposed Lot #4. Point 2 is located in the northwest corner of the Proposed Conservation Easement Parcel south of proposed Lot #14. Point 3 is located near a northeast property line by proposed Lot #11. Point 4 is located in Wetland C. Point 5 is located in the Proposed Conservation Parcel south of Wetland C. Point 6 is located in the Proposed Conservation Parcel east of proposed Lot #12 in the vicinity of Existing Test Well #4. Point 7 is located in the northern end of Wetland B. Point 8 is located in the Proposed Conservation Parcel south of Lot #12. Point 9 is located west of Wetland A in Lot #9.

At each of the data collection points, bird surveys were conducted per the required protocol. The surveyor recorded all birds heard and/or seen during the Observation and Behavior Watch Periods of the point counts. Recorded calls and songs of the "Target Species" were played at each survey point and observations documented. In addition, as the surveyor traveled between point locations and through the different habitats incidental observations of birds were documented. The additional data gathered while walking over the site was added to the list of

species observed during the point counts. Birds on the wing were also included in the counts as "Flyby" to indicate that these individuals were observed passing overhead.

Observations

A total of 43 bird species were identified either on, adjacent to, or "flying by" the project site during the formal bird surveys. Of the Target Species, only the worm-eating warbler was observed on the project site.

Bird species were identified by their calls and/or by visual observation. This typically results in the recording of a higher proportion of those birds that are more vocal and/or have a loud call (e.g. red-eyed vireo and ovenbird) and a lower proportion of those that are not as vocal and/or have softer or high pitched calls (e.g. black and white warbler and cedar waxwing).

Vocal birds may also be counted in habitats they do not typically use because their calls can carry for long distances, making it difficult to accurately place their location. During the surveys, there were occasions on which calling birds were not identified due to such factors as similarities in the calls of different species, duration of the call or song, or loss of song characteristics due to distance from the calling or singing bird.

Empidonax flycatchers were observed during the formal surveys. Identification of these flycatchers using visual observation alone is extremely difficult due to the fact that all five are almost identical in appearance. The Peterson Field Guide for Eastern Birds recommends that surveyors "[i]dentify by habitat and voice." The empidonax flycatchers observed during the surveys were not heard calling.

Five species not observed during the formal bird survey were identified during other wildlife and habitat surveys performed on the site. These species are included in Table 3.6-5 and marked with an asterisk. This table is updated from the information provided in the DEIS based on these more formal surveys.

Table 3.6-5						
Birds Observed at Emerald Ridge, 2005 - 2006						
Common Name	Scientific Name	<i>Habitat Type</i>				
		FW	HF	ED	FB	SF
American Crow	<i>Corvus brachyrhynchos</i>	X		X	X	X
American Goldfinch	<i>Carduelis tristis</i>				X	X
American Robin	<i>Turdus migratorius</i>	X				X
Baltimore Oriole	<i>Icterus galbula</i>	X		X		X
Black-and-white Warbler	<i>Mniotilta varia</i>					X
Black-capped Chickadee	<i>Parus atricapillus</i>	X	X	X	X	X
Black-throated Green Warbler	<i>Dendroica virens</i>					X
Blue Jay	<i>Cyanocitta cristata</i>	X		X	X	X
Brown-headed Cowbird	<i>Molothrus ater</i>			X		
Canada Goose	<i>Branta canadensis</i>				X	
Cedar Waxwing	<i>Bombycilla cedrorum</i>				X	X
Common Grackle	<i>Quiscalus quiscula</i>			X		
Downy Woodpecker	<i>Picoides pubescens</i>		X			X
Eastern Bluebird	<i>Sialia sialis</i>					X
Eastern Phoebe	<i>Sayornis phoebe</i>			X		
Eastern Towhee	<i>Pipilo erythrophthalmus</i>					X
Eastern Wood-Pewee	<i>Contopus Virens</i>	X	X			X
Empidonax flycatcher	<i>Empidonax sp.</i>	X				
Gray Catbird	<i>Dumetella carolinensis</i>			X		
Hairy Woodpecker	<i>Picoides villosus</i>	X		X		X
Hermit Thrush	<i>Catharus guttatus</i>					X
House Finch*	<i>Carpodacus mexicanus</i>			X		
House Wren*	<i>Troglodytes aedon</i>			X		
Indigo Bunting	<i>Passerina cyanea</i>			X		
Mourning Dove	<i>Zenaida macroura</i>			X		
Northern Cardinal	<i>Cardinalis cardinalis</i>			X		
Northern Flicker	<i>Colaptes auratus</i>		X	X	X	X
Northern Mockingbird	<i>Mimus polyglottos</i>			X		
Ovenbird	<i>Seiurus aurocapillus</i>	X	X			X
Pileated Woodpecker	<i>Dryocopus pileatus</i>		X		X	X
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	X	X	X	X	X
Red-eyed Vireo	<i>Vireo olivaceus</i>	X	X	X	X	X
Red-winged blackbird	<i>Agelaius phoeniceus</i>	X	X			
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X		X		X
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>					X
Scarlet Tanager	<i>Piranga olivacea</i>					X
Slate-colored Junco*	<i>Junco hyemalis</i>	X				X
Song Sparrow	<i>Melospiza melodia</i>			X		
Tree Swallow*	<i>Tachycineta bicolor</i>				X	
Tufted Titmouse	<i>Parus bicolor</i>	X	X	X	X	X
Turkey Vulture	<i>Cathartes aura</i>				X	
Veery	<i>Catharus fuscescens</i>	X	X	X	X	X
Warbling Vireo*	<i>Vireo gilvus</i>			X		X
White-breasted Nuthatch	<i>Sitta carolinensis</i>	X	X			X

Table 3.6-5 continued on following page.

Table 3.6-5 continued						
Birds Observed at Emerald Ridge, 2005 - 2006						
Common Name	Scientific Name	Habitat Type				
		FW	HF	ED	FB	SF
Wild Turkey	<i>Meleagris gallopavo</i>					X
Wood Thrush	<i>Hylocichla mustelina</i>	X	X	X		X
Worm-eating Warbler	<i>Helmintheros verivorous</i>					X
Yellow Warbler	<i>Dendroica petechia</i>	X	X			
Habitat type: FW = Palustrine Forested Wetland, HF = Hemlock Northern Hardwood Forest, ED = Edge Habitat, FB = Fly by, SF = Successional Northern Hardwood Forest. Habitat Type by Survey Point: Point #1 = ED, Point #2 = SF, Point #3 = HF, Point #4 = FW, Point #5 = ED/SF, Point #6 = SF, Point #7 = FW, Point #8 = SF, Point #9 = SF.						
<i>* Species observed during site visits other than the formal bird surveys.</i> <i>Sources: Tim Miller Associates, Inc., 2006</i>						

Of the birds identified during the survey, none are listed by the NYSDEC as protected.¹ According to the United States Fish and Wildlife Service (USFWS) website of listed threatened and endangered species, none of the observed species are afforded protection at the federal level.²

Breeding Bird Atlas

The New York State Breeding Bird Atlas (BBA) is a comprehensive, statewide bird survey that documents the breeding birds identified by trained volunteers in three-mile square mapping blocks. The most recent surveys (2000 to 2005) have been completed and data is being compiled for inclusion in the final report to be released in 2008. The listings include data on the breeding behaviors observed, the year the birds were observed and the state protection status of the species.

The Emerald Ridge project site falls across the BBA blocks 5857B and 5957A. The breeding bird list for these blocks is available from the recent, 2000 to 2005 surveys, that is considered "interim data" until released officially as part of the final report. Finalized data from the initial survey conducted during 1980 to 1985 is also available. Both are included as Appendix H of this document.

Birds will choose to breed in the habitat most suitable to their species. Therefore, the listing of a particular bird in a block does not mean that species will breed everywhere in that block. The list for each block will include a greater number of breeding birds than will utilize any given site within that block.

¹ New York State Department of Environmental Conservation. 2006. Endangered, Threatened and Special Concern Fish and Wildlife Species of New York State: <http://www.dec.state.ny.us/website/dfwmr/wildlife/endspec/etsclist.html>

² <http://www.fws.gov/endangered/wildlife.html>

Conclusions

Based on the surveys conducted, the Emerald Ridge project site has suitable habitat for several bird species that are listed as Species of Special Concern by the State including the cerulean warbler and red-headed woodpecker. Neither of these Target Species were observed on the project site and neither are listed on either the NYSDEC BBA lists for 1980-1985 or 2000-2005. It is therefore unlikely these species utilize the site for breeding.

The worm-eating warbler, a BFL Priority Species in the Eastern Deciduous Habitat Type was observed on the project site. This species is also listed by the NYSDEC on both the 1980-1985 and 2000-2005 BBA lists for the two Block units in which the project site is located.

As noted previously, none of the observed bird species are afforded protection under State or Federal law. Neither the USFWS nor the NYSDEC Natural Heritage Program listed the potential for any protected bird species on or adjacent to the project site from their GIS database records searches.

With the revised subdivision layout, the applicant is proposing to preserve more than 47 acres of the site in dedicated conservation easements, including a 31-acre block that includes the entire eastern portion of the site. This open space parcel is dominated by successional upland forest, but also includes wooded wetlands/vernal pools and a large of area of hemlock forest, representing the variety of avian habitat available on the site. With a dedicated connection to the Wetland B corridor, clearing of trees that may result in impacts to interior birds will be avoided over most of the site. The likely building envelopes as depicted on the subdivision plans will not impact the ability of any of the observed avian species to use the site.

Mammals

The DEIS provided a long and detailed list of wildlife that were either observed on the site or were considered very likely to be present on the property (DEIS Table 3.6-4). All mammalian species observed on the site during the 2005-2006 surveys are listed in Table 3.6-6.

Table 3.6-6 Mammals Observed at Emerald Ridge, 2005 - 2006						
		<i>Habitat Type</i>				
<i>Mammals</i>		U	FW	W	SC	SW
Whitetail deer	<i>Odocoileus virginianus</i>	X	X		X	
Raccoon	<i>Procyon lotor</i>	X	X		X	
Eastern chipmunk	<i>Tamias striatus</i>	X				X
Gray squirrel	<i>Sciurus carolinensis</i>	X	X			
Eastern cottontail	<i>Sylvilagus floridanus</i>	X				
Striped skunk	<i>Mephitis mephitis</i>	X				
Eastern mole	<i>Scalopus aquaticus</i>	X				
Habitat type: U - Upland Hardwood Forest, FW - Forested Wetland, W - Standing Water, SC - Stream Corridor, SW - Stone Walls						
Source: Tim Miller Associates, Inc.; 2005, 2006						

Wildlife Corridors

This site is part of a continuous wooded area that extends from Peekskill Hollow Road north through extensive areas of Putnam Valley. The ecotypes consist primarily of upland forested areas with stream corridors, as well as the formation of wooded swamps in depressional and flat areas. Putnam Valley is known for areas of steep slope with rocky substrates that drain to depressional areas and drainageways within ridge and valley systems. The Applicant's consultants have walked these wooded areas north and west of the site for this and other projects, and found these forests to be consistent ecologically with the subject property, so it is likely that the distribution of species is similar to that observed or expected on the Emerald Ridge site, as described above.

The proposed project as revised will result in the loss of approximately 12 acres of the roughly 77 acres of forested habitat on-site and hundreds of acres of contiguous adjacent habitat off-site. Long term impacts to wildlife species on this site as a result of the project relate to fragmenting of the existing closed canopy of the site and the disturbance of possible wildlife corridors. With the reduction in overall site disturbance, and the large expanses of open space that will be preserved, fragmentation is not expected to be a concern except in that area between Wetlands A and B. Several measures are proposed to mitigate these potential impacts.

As noted above, the project site is not located within or immediately adjacent to any of the "biotic planning units" (BPU) or biodiversity corridors identified in the Croton-to-Highlands Biodiversity Plan. The vast majority of recommendations for land preservation and local land use planning made in the plan focus on the steps and procedures municipalities can take to promote the protection of biodiversity. One of the recommendations for land preservation made in that plan, the use of conservation easements, has been proposed as part of the project. With the revised plans submitted with this FEIS, large areas of conservation easement and dedicated open space are proposed for portions of the site that contain wetlands and wetland buffer areas, as well as entire wooded upland that makes up the eastern part of the site. As shown on Figure 2-1 in Section 2, these conservation easements are proposed to accommodate the movement of wildlife within the project site as well as to the adjoining open space lands to the north, east and west. These wildlife corridors would allow for ease of movement for indicator species between areas that contribute to the biodiversity of this area of the Town, including Peekskill Hollow Brook and the large wetland area that extends off-site to the north of the project site. The land to the north that would continue the system of open space on the project site is part of the Floradan Estates community and provides habitat for a variety of species. The boundaries of these conservation areas where they exist on individual parcels will be demarcated with split rail fencing, boulders or other manner as deemed appropriate by the Planning Board.

In addition, areas between houses will remain undisturbed wherever possible, thereby affording species more tolerant of disturbance and development the ability to travel between remaining suitable habitat. These routes would require landbound wildlife to cross the lightly used residential road. With the revisions to the subdivision plan and the elimination of all the eastern lots, a corridor more than 300 feet wide will be maintained between Wetland B and the preserved wooded interior on the new open space parcel. This does not account for the additional off-site wooded areas just south of this connection, which makes the total corridor more than 600 feet wide. Regarding the connection between Wetland B and the wetlands and

wooded areas off site to the north, there will be alterations in this area, as shown on the subdivision plans. Approximately 800 linear feet of road and five residences will be constructed in this area. This is unavoidable, particularly with the overall reduction of the project, and this is prime upland area for residential development. The potential impacts for this construction will be mitigated with the use of "Cape Cod" style curbing, which will allow for the passage of smaller wildlife without interruption by hard, steep granite or asphalt curbing. The individual residences are placed more than 200 feet apart, and the road will not be lit, so that wildlife moving at night will not be distracted or intimidated by artificial lighting. With only seven houses using this section of road, there will not be enough traffic to create a significant impediment to wildlife movement, and not a long enough stretch of straight road for vehicle speed to be an issue. At Wetland A, the entire wetland and majority of the adjacent area will be preserved in conservation easement. One boundary of that easement area is an existing stone wall that will be preserved, thereby also preserving this habitat feature known to be used by amphibians, reptiles and small mammals. The easement extends to the "point" at the northern property boundary, ensuring a long term connection to the off site woodlands and wetlands to the north. Overall, it is the applicant's opinion that the project as it is now laid out will not impact wildlife corridors or movement.

Vegetation

The DEIS provided names of plants that were observed on the site within specific habitats. During the subsequent site surveys, additional species were observed and recorded that were either seasonally prominent species and/or were species found uncommonly on the site.

Within this group were several plants observed on upland areas of the site, including Eastern hop hornbeam (*Ostrya virginiana*), hobblebush (*Viburnum lantanoides*) and several woodland Spring and Summer flowering plants: rue anemone (*Thalictrum thalictroides*), Virginia stickseed (*Hackelia virginiana*), Indian cucumber root (*Medeola virginiana*), naked-flowered tic-trefoil (*Desmodium nudiflorum*), Indian hemp (*Apocynum cannabinum*) and Indian pipe (*Monotropa uniflora*)

Additional observations made of wetlands plants included marsh seedbox (*Ludwigia palustris*), marsh mermaidweed (*Proserpinaca palustris*), ditch stone crop (*Penthorum sedoides*), and royal fern (*Osmunda regalis*) in Wetlands D and, in Wetlands C, greater bladder sedge (*Carex intumescens*) and false nettle (*Boehmeria cylindrica*). Flowering plants observed during the Summer in Wetlands B included water pennywort (*Hydrocotyle americana*), bay forget-me-not (*Myosotis laxa*), Virginia jumpseed (*Polygonum virginianum*), water plantain (*Alisma triviale*), mad-dog skullcap (*Scutellaria laterifolia*), halberdleaf tearthumb (*Polygonum arifolium*), false nettle and Allegheny monkey flower (*Mimulus ringens*).

Tree Survey

A tree survey had been conducted for all areas of the site that were within the originally proposed 26.6 acres area of disturbance, identifying the size composition of a total of 2,714 trees on the property. The surveyed trees ranged in size from 6 inches to greater than 24 inches, and include over 30 different species. A list of the trees identified and their locations can be found on Drawing Nos. TP-7.1, 7.2 and 7.3 Tree Plan included as part of the drawing set at the back of the DEIS. The area surveyed was considered to be representative of the overall parcel and this tree data had been used in the DEIS and the FEIS to extrapolate the total number of trees on the property and the number of trees within the proposed limits of

disturbance. The extrapolated size distribution of trees within the smaller proposed limits of disturbance is provided in Table 3.6-7.

Table 3.6-7 Existing Trees to be Removed in Areas of Disturbance (AOD, Approximate)		
<i>Tree Size</i>	<i>Quantity within Original/Smaller AOD</i>	
	Original AOD (26.6 acres)	Smaller AOD (14.2 acres)
Six to Twelve Inches	1,814	838
Twelve to Eighteen Inches	640	296
Eighteen to Twenty-four Inches	109	50
Greater than 24 Inches	28	13
All sizes combined	2,591	1,197
<p><i>NOTE: Rounded values affect summations. Original AOD values taken from DEIS Table 3.6-2. Sources: Cronin Engineering P.E. P.C. and Tim Miller Associates, Inc.; 2005, 2006</i></p>		

It was estimated that there is a total of 7,957 trees on the property. Of these trees, 5,362 were estimated to fall outside of the limits of disturbance for the original AOD and 6,760 are estimated to fall outside of the smaller AOD that is proposed with this FEIS.

The size distribution of the trees outside of the smaller AOD has been estimated based on the proportion of trees within the particular size classes calculated for the 14.2 acre area of proposed disturbance (Table 3.6-7). With the smaller proposed AOD, a total of 6,760 trees will remain on the 63.1 acres of undisturbed woods across the entire site. These woods will include approximately 4,733 trees of diameter six to 12 inches, 1,670 trees of diameter 12 to 18 inches, 284 trees of diameter 18 to 24 inches and 73 trees of a diameter greater than 24 inches.

Areal Impacts

The proposed FEIS subdivision, with 14 lots, greatly reduces the environmental impacts that were described in the DEIS for the original subdivision of 25 lots. Areas of site disturbance in all categories are reduced in approximate proportion to the overall reduction of the AOD from 26.5 acres to 14 acres. A minor amount of wetland buffer disturbance of 2,583 SF is required for installation of a drainage line across the uppermost reach of Wetland B, similar to the DEIS plan.

Table 3.6-8 Disturbance Summary (in acreages)								
	<i>Developed Area</i>			<i>Open Space Resources</i>			<i>Natural Resource Impacts</i>	
	<i>Residential Units</i>	<i>Impervious Surfaces (acres)</i>	<i>Lawn/ Landscaping Water Quality Basins (acres)</i>	<i>Wetlands, including Water Surfaces</i>	<i>Woods (uplands)</i>	<i>Meadows</i>	<i>Total Construction Disturbance</i>	<i>Wetland Disturbance</i>
Existing Acreage	1	0.20	1.75	5.61	77.88	0	0	0
FEIS AOD (14 .2 acres)	14	2.67	13.44	5.92 *	63.09	0	14.20	0
DEIS AOD (26.6 acres)	25	5.01	24.04	5.61	50.78	0	26.57	0

AOD - Area of Disturbance
 Source: Cronin Engineering, P.E., P.C., 2006
 *Per updated wetland boundary.

Section 3.6: Comments and Responses

Comment 3.6-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): I assume street trees will be proposed along Marsh Hill Road; a detailed street tree plan should be provided and described in text.

Response 3.6-1: At this time, street trees are not proposed pursuant to a discussion between the project engineer and the Town Highway Superintendent on November 17, 2006. The Highway Superintendent does not wish to have the responsibility of additional trees within the Town right-of-way. However, since the road specification has been modified to allow for a narrower road, the limit of disturbance has been reduced and more trees will be saved as a result of the new subdivision layout.

In addition, if the Town Planning Board desires to have street trees, the Applicant would propose to provide two street trees per lot, or 28 trees total, spaced evenly from the end of the existing improved Marsh Hill Road to the end of the proposed loop road. The trees would be 2 ½" to 3" caliper and the species would consist of indigenous trees, as approved by the Town Planner or Town Wetland Inspector, such as Sugar Maple, Shagbark Hickory, American Beech, etc.

Comment 3.6-2 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): Although the DEIS provides a brief overview of the landscaping associated with the stormwater basin and a general list of plantings is provided on Sheet UD- 5.3, a detailed landscaping plan should be provided for each basin. Specific locations and species types should be provided and should be aesthetically pleasing and provide screening, as well as offer proper stormwater management.

Response 3.6-2: A detailed planting plan for all stormwater detention and treatment basins will be provided with the plan set for final approval. All basins will be planted using native herbaceous and shrub materials that are suitable for the expected inundations. In some areas, trees will also be used where hydrology is suitable and the root structures will not potentially impact berm structures. When complete, the basins will replicate the vegetation found in local wetlands.

Comment 3.6-3 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): As much of the biodiversity studies were incomplete when the DEIS was accepted, it is anticipated that the entire Vegetation and Wildlife Section and associated reports will be revised and resubmitted in the FEIS. The vegetation and Wildlife Section should include all materials required per the adopted scope and any additional studies or analysis required and discussed with the Wetlands Inspector.

Response 3.6-3: The results of the biodiversity studies conducted for this project are submitted as the detailed introduction to this section.

Comment 3.6-4 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The applicant should determine if the ecological assessment report evaluates the land area in proximity to the proposed emergency access road. This report may need to be

expanded upon to include this additional area. . . . A habitat assessment of the area of the additional emergency access road was not performed and should be in order to determine the extent of impacts to wildlife on that parcel.

Response 3.6-4: The proposed access road through BrookFalls Cottages has been eliminated, and development is no longer proposed on the eastern part of the site.

Comment 3.6-5 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The discussion and table pertaining to the number and size of trees to be removed should be updated to take the emergency access road into account. An updated tree survey should be provided. . . .A tree survey should be prepared for the area where the emergency access roadway is proposed.

Response 3.6-5: As stated above, activities in this area are no longer proposed.

Comment 3.6-6 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The biodiversity study is not complete and updates have not been received. Conclusions drawn regarding impacts to biodiversity are not substantiated.

Response 3.6-6: Please see the introduction to this section.

Comment 3.6-7 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The DEIS and associated studies must be modified and fully consider the impacts to the BrookFalls Cottages property including biodiversity.

Response 3.6-7: Activities on or near the BrookFalls Cottages property is no longer a part of this application.

Comment 3.6-8 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should summarize what measures will be taken to protect vernal pool habitat as preservation of 100' buffer around vernal pools has found to be inadequate. Critical upland and vernal pool habitats should be identified and protective measures discussed. Will the proposed development of this site result in extirpation of species?

Response 3.6-8: Based in part on the conclusions of the Biodiversity Study, the applicant has eliminated the proposed lots in the vicinity of the two confirmed vernal pools (Wetlands C and D). Buffers to these vernal pools are now in excess of 350 feet at a minimum.

Comment 3.6-9 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Study should indicate that upon completion of biodiversity study, habitat found on the subject site which is critical to these species shall be identified and what measures to preserve the critical will be undertaken.

Response 3.6-9: Please see the introduction to this section.

Comment 3.6-10 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant indicates that 26.6 acres will be disturbed. This is determined by

calculation of the area within the limits of disturbance. Upon completion of construction, many of these areas will be able to be improved by individual property owners either as of right or through permit. Several of the lots are so constrained that it is almost certain that areas which are intended to not be disturbed during this review process, will be at a later date. As a result, the applicant should discuss the long-term preservation of the remaining 50.4 acres, either through conservation easement and/or reduction in density to less concentrated, constrained lots.

Response 3.6-10: *With the reduction in the number of building lots from 25 to 14, plus a large open space parcel, overall site disturbance is expected to be reduced to 14.23 acres (from 26.60 acres in the former proposal). More than 47.4 acres of the site will be preserved in permanent open space parcels or conservation easements. These will include all of the site wetlands, the majority of the buffers, and wildlife corridors connecting them to large contiguous open space areas.*

The limits of disturbance around the remaining 14 residences are not highly constraining, and do offer the opportunity for use by future property owners within these envelopes. The applicant acknowledges however, that some property owners may wish to expand their activities outside of these limits. However, with the significant reduction in unit density and the preservation of large contiguous areas of the site, it is the applicant's opinion that these potential impacts are mitigated.

Comment 3.6-11 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should include details of how vegetative corridors connecting wetlands shall be preserved and how corridors and hydrology will not be fragmented as a result of the proposed action. Areas of wildlife road crossings should be identified and appropriate retrofits should be installed (i.e., amphibian crossings). Draw supported conclusion of how loss of interior, upland areas may effect wildlife.

Response 3.6-11: *Approximately 12 acres of interior woodland habitat will be unavoidably affected by this proposal (out of 78 acres available). This will result in the loss of some habitat used by individual birds, small mammals, reptiles and terrestrial amphibians. However, with the elimination of eleven lots in the eastern portion of the site, which is farthest away from other existing development and immediately adjacent to undeveloped land to the north, the impact to overall populations is expected to be minor. The most important consideration is for the maintenance of wildlife connections between undeveloped areas, particularly between wetlands, so that wildlife movement may continue with only minor stress to individuals.*

With the revisions to the subdivision plan and the elimination of all the eastern lots, a corridor more than 300 feet wide will be maintained between Wetland B and the preserved wooded interior on the new open space parcel. This does not account for the additional off-site wooded areas just south of this connection, which makes the total corridor more than 600 feet wide. Regarding the connection between Wetland B and the wetlands and wooded areas off site to the north, there will be alterations in this area, as shown on the subdivision plans. Approximately 800 linear feet of road and five residences will be constructed in this area. This is unavoidable, particularly with the overall reduction of the project, and this is prime upland area for residential development. The potential impacts for this

construction will be mitigated with the use "Cape Cod" style curbing, which will allow for the passage of smaller wildlife without interruption by hard, steep granite or asphalt curbing. The individual residences are placed more than 200 feet apart, and the road will not be lit, so that wildlife moving at night will not be distracted or intimidated by artificial lighting. With only seven houses using this section of road, there will not be enough traffic to create a significant impediment to wildlife movement, and not a long enough stretch of straight road for vehicle speed to be an issue. Overall, it is the applicant's opinion that the project as it is now laid out will not impact wildlife corridors or movement.

Regarding the maintenance of wetland hydrology, please see responses in Section 3.2.

Comment 3.6-12 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Box culverts and/or specialized wildlife crossings should be used under roadways and not culverts.

***Response 3.6-12:** Since the modified road section does not have curbs, the ability for wildlife crossings will not be hampered and therefore box culverts or the like are not necessary. That area of the site where crossings would be of the highest concern, i.e., along the northern part of the roadway separating Wetland A from Wetland B, will receive very limited traffic and will not be a significant impedance to wildlife movement. A detail of the "wildlife friendly" curb design is included on the detail sheet of the attached plan set.*

Comment 3.6-13 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Claims that phasing will help wildlife is not shown due to long-term habitat alteration.

***Response 3.6-13:** Habitat alteration has been significantly reduced with the reduction in lot density and preservation of open space. Phasing will be less of an issue with this lower density plan, and extensive areas of wildlife habitat will be preserved while allowing some reasonable development of this large parcel.*

Comment 3.6-14 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Landscaping: Encourage use of native plants, landscaping for basins should be detailed wetland plantings.

***Response 3.6-14:** While the applicant does not have control of future residential landscaping, all plantings used within and adjacent to the stormwater basins will be native species. Please see the response to Comment 3.6-2.*

Comment 3.6-15 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Based on field inspection, the vegetative descriptions of the wetlands are not accurate and therefore the habitat assessment is not accurate.

***Response 3.6-15:** It is unclear from this comment which wetland specifically the commentor is referring to. The DEIS describes the vegetation in each of the wetlands in detail.*

Comment 3.6-16 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Biodiversity study is incomplete and updates have not been received. FEIS should contain completed studies, analysis and mitigation measures.

Response 3.6-16: Please see the introduction to this section, as well as numerous individual responses regarding biodiversity issues and proposed mitigation measures.

Comment 3.6-17 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): A biodiversity study of the BrookFalls Cottage property should be completed in accordance with Putnam Valley's "Wildlife Habitat and Biodiversity Assessment Guidelines" with appropriate analysis and mitigation measures included in the FEIS.

Response 3.6-17: Please see the response to Comment 3.6-4.

Comment 3.6-18 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Conclusions regarding regional landscape and ecological considerations wildlife are unsupported. Many of the vernal pool species use adjoining upland, open water and shrub/scrub NYSDEC wetland and adjoining watercourses habitat for their life cycle requirements. The property is located between Peekskill Hollow Brook, Oscawana Brook and NYSDEC wetlands and serves as an important vernal pool and upland habitat for these resources.

Response 3.6-18: Please see the introduction to this section for a detailed evaluation of the Biodiversity Study and the site wildlife resources.

Comment 3.6-19 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The biodiversity study focuses on threatened and endangered species. What development sensitive focal species were found and what is the range area/habitat of species indicators as found on page 32 -33 'Focal Species" in Croton to Highlands Plan. Will this habitat be effected from the proposed development.

Response 3.6-19: As noted in the introduction to this section, the subject property does not fall within one of the biotic planning units identified in the Croton to Highlands study. Please see the introduction to this section for a detailed evaluation of the Biodiversity Study and the site wildlife resources. Based on the revisions to the subdivision layout, no significant amount of available habitat for any focal species will be impacted by this proposal.

Comment 3.6-20 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Have wildlife corridors been identified? What mechanisms are used to reduce fragmentation and preserve corridors? Conservation easements should be placed on all wetland, wetland buffer and habitat connections and corridors.

Response 3.6-20: The Biodiversity Study, included as the introduction to this section, identifies the significant wildlife habitat areas and corridors and the methods to be used to preserve them. More than 47 acres of the site will be preserved within conservation easement areas and/or stand alone open space parcels. The largest open space parcel is over 31 acres in size, will be donated to the Town as recreation land, and will have public access from the proposed

subdivision road. All site wetlands and most buffers are included within conservation easements.

Comment 3.6-21 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): What measures will be used that will insure adequate wildlife road crossings.

Response 3.6-21: Please see the responses to Comments 3.6-11 and 3.6-12.

Comment 3.6-22 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): When limits of disturbances are considered, several of the sites are extremely constrained and have very limited yard potential. What measures will be taken so that approved limits of disturbance will not be disturbed over the long term?

Response 3.6-22: The applicant has eliminated 11 of the originally proposed building lots from the current application. The lost lots were those that were closest to Wetlands C and D, and had the most constrained building envelopes when considering wetland setbacks and placement of stormwater structures, septic systems, etc. With the elimination of these lots, there was room for adjustment of lot lines to the remaining lots to avoid future conflicts and constraints. In the applicant's opinion, none of these remaining lots are constrained for future development and reasonable residential use. More than 47 acres of the site will be permanently preserved.

Comment 3.6-23 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Stormwater basins should be redesigned for aesthetic purposes and to encourage use by wildlife.

Response 3.6-23: Please see the response to Comment 3.6-2. The stormwater basins are located in areas that were not shown to have populations of vernal pool breeding amphibians, and are in close proximity to the proposed development. While some incidental use of the basins by breeding amphibians may occur, the known sensitive species (i.e., spotted and marbled salamanders) are unlikely to be found in these areas. After intensive site surveys, spotted and marbled salamanders were only found on the site in and around Wetlands C and D, which will be preserved within an open space parcel. These two wetlands are more than 600 feet from the nearest proposed detention basin, which is located within an island at the proposed cul de sac. This is outside of the typical home range of these two species, which do not tend to wander more than 200 yards from their breeding pools (The Wildlife Resources of Westchester County, 1987). If directed by the Board, the applicant will use a raised, vertical curb around this island to prevent access to the basin in the unlikely event that an individual salamander attempts entry. The other two basins are more than 1,400 feet from the breeding pools and not considered to be a concern. Some use by other, less sensitive species (green frog, American toad, spring peepers and others) is expected, but will not affect overall populations on the site.

Comment 3.6-24 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant indicates random transect routes generally followed the existing trail network on the site. The trail network is a man-made feature resulting in compacted soils and ecological edge conditions. The applicant should provide further information on the

ecological investigative and sampling study techniques that were used on this site to determine biodiversity.

Response 3.6-24: Please see the introduction to this section for all information on wildlife surveys.

Comment 3.6-25 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Mole salamanders and other amphibians are known to require upwards of 1000' of upland buffer around vernal pools. Applicant is to demonstrate how preservation of 100' buffer around these highly functional vernal pools will adequately protect these species and prevent loss of biodiversity.

Response 3.6-25: As stated above, the applicant has eliminated the lots near the confirmed vernal pools (Wetlands C and D). The current buffer to Wetland C is a minimum of 350 feet; site disturbance is more than 800 feet from Wetland D. A discussion of landscape buffers in the area of vernal pools is provided in the introduction to this section.

Comment 3.6-26 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Hydrological analysis remains incomplete and the water budget/hydroperiod not completely analyzed to insure long-term viability of wetland habitat.

Response 3.6-26: Please see the responses in Section 3.2 regarding the maintenance of hydrology to site wetlands.

Comment 3.6-27 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Tree preservation and replanting plan should be included in the FEIS.

Response 3.6-27: See Response 3.6-1 regarding replanting. The revised subdivision layout will result in the clearing of less than half of the trees from the site than was originally envisioned for the 25 lot plan. At this time, it is expected that approximately 1,200 trees will be within the proposed limits of disturbance, compared to almost 2,500 for the last plan. As stated in the DEIS, significant trees within the limits of disturbance will also be preserved where possible if this can be accomplished by minor field adjustments during construction.

Comment 3.6-28 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Public Hearing Comment, July 31, 2006): The biodiversity study is ongoing as most biodiversity studies need to be conducted over a period of time to have a maximum amount of data. That is still open and pending. Information obtained from the biodiversity study may impact the ultimate design, layout, etc of the subdivision as proposed in the DEIS.

Response 3.6-28: Please see the introduction of this section for information on the Biodiversity Study. As stated by the commentor, the final layout of this proposal was dependent on the conclusions of the study, and based on this study the plan has been reduced from 25 to 14 lots, with long term preservation of those areas of the site that were found to be most sensitive.

Comment 3.6-29 (Joel Mandelbaum, Public Hearing Comment, July 31, 2006): I also very much appreciate what are called the undisturbed woodlands, the dark green on the map which

includes the area most immediately next to my house. That is very much appreciated, and I appreciate the strong recommendation of conservation easements that would keep it this way. I'm always concerned that once the plans have been approved that they be followed. I had a kind of strange experience with the Brook Falls development across the brook from my property where there were hearings and I was given plenty of notice and the 10 houses were built and everything was fine and then I suddenly discovered an 11th house being built with no notice ever to me. So I'm a little bit leery from that experience and worry that it stays this way.

Response 3.6-29: *As stated above, more than 47 acres of the site will be preserved within conservation easement areas covering on-site wetlands and most wetland buffers, and/or stand alone open space parcels. The largest open space parcel, with over 31 acres, will be donated to the Town as recreation land, and will have public access from the proposed subdivision road as indicated on the attached plans. Prior to construction, the limits of proposed disturbance are to be survey-located in the field with orange construction fencing installed. Additionally, all conservation easement boundaries will be delineated in the field with either a split rail fence or boulder row.*

As part of the ongoing construction process, the sites will be inspected by both the Town of Putnam Valley and the project engineer during and following construction for compliance with the approved Subdivision and Site Development Plans. Prior to the issuance of a Certificate of Occupancy, the owner/developer is required to submit an as-built survey of the site.

Comment 3.6-30 (Dan Ricci, Public Hearing, July 31, 2006): The idea that there's a great consideration going into the biodiversity of the environment, of the creatures and the other things that exist on the grounds up there is a plus. . . With regard to Mr. Barber's Public Hearing comments, the whole biodiversity corridor thing is yet to be fully defined. You know, it is in a state of study right now. We're really not at a point, you know -- and it shouldn't be an arbitrary thing. It shouldn't just be where, you know, certain things are taking place. It should be, you know, where is the most critical places in this Town. I can tell you right now, I'm not a wildlife expert, but I know that there are way too many -- too much wildlife wandering about in this Town right now. You know what I'm saying. They used to all hide in little dark corners and now it's, you know, making itself very well know. So somebody's very confused. I don't think the animals are protesting, I think they're confused. Many of us have been here long enough to know, you know, that things have to at this point at a very close build out number have to be done in a really careful and cautious way.

Response 3.6-30: *The applicant has reviewed the results of the studies and surveys conducted for the Biodiversity Study and made a significant change to the plan, including the elimination of eleven building lots and the preservation of more than 47 acres of the site in conservation easements. With the exception of the conservation easement area around Wetland A, the open space is all contiguous and will provide significant habitat and corridors for wildlife movement. This plan represents a substantial decrease in overall site density.*

Comment 3.6-31 (Del Jones, Public Hearing, July 31, 2006): I notice the white areas that we're calling the area of disturbance for the development and I assume that also has a secondary septic field as part of that expansion area. Is there something that has been

discussed or forwarded with the health department? Can't a bond be required instead of clear cutting for septic expansion areas so that fill can be put into place.

Response 3.6-31: *If fill is required for the placement of a sewage treatment system, the Putnam County Department of Health requires that the fill for both the primary and expansion areas must be installed at the same time. If no fill is needed, then the expansion area can remain undisturbed.*

Comment 3.6-32 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): I also hope that it will be required that the buyers of the individual houses agree in writing that the portions of the map designated "undisturbed woodlands" remain so in perpetuity. The town should find a way to use its muscle as adjudicator and as assessor, to see that any violations of the conservation easements regarding "undisturbed woodlands" be rectified and punished.

Response 3.6-32: *With the revised plan, it is proposed to deed much of the open space land (31 acres) directly to the town in lieu of recreation fees, and access will be available to the public but is restricted to passive recreation activities. No clearing, construction, etc., will be allowed on the parcel. This also holds true for the easement areas that are part of individual parcels, where deed restrictions will notify future property owners that there are constraints for development of portions of the affected parcels.*

Comment 3.6-33 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): What are the short term and cumulative impacts of increased managed lawn and landscaped lawn areas within the drainage basin of each of the wetlands currently on the project site?

Response 3.6-33: *Very limited expanses of lawn are proposed within the watershed to Wetland A, and no disturbance is proposed near Wetland C and D.*

Limited lawn areas are proposed within the drainage basin to Wetland B, but it is noted that one of the primary functions of a wetland buffer is the filtering of stormwater runoff and uptake of nutrients. With very minor exceptions, there is no disturbance proposed within the wetland buffer, and those disturbances that are proposed are temporary in nature. In most cases the limits of disturbance extend more than 150 feet from Wetland B.

Comment 3.6-34 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): What are the cumulative impacts of eliminating the existing natural transportation corridors to the forest interior and Wetland B?

Response 3.6-34: *Please see the response to Comment 3.6-11.*

Comment 3.6-35 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): During the DEIS public hearing, the Putnam Valley Wetlands Inspector confirmed the box turtle is present on the project site. Recognizing access to forested landscapes and ponds or wetland areas are necessary for its survival, how will the proposed project affect the box turtle's habitat and transportation corridors?

Response 3.6-35: *Box turtle, which is a state listed “species of special concern”, was observed on the site by the applicant’s consultants, as described in the introduction to this section. Based on the changes to the plan and the provisions made for wildlife movement (as described in the response to Comment 3.6-34), it is the applicant’s opinion that the proposal as currently configured will not impact box turtle habitat.*

Comment 3.6-36 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): The increase in managed lawn and landscaped area will create edge habitat for species often associated with suburban development, i.e. Canada geese and white tailed deer. These species can replace development-sensitive species currently thriving on the project site, ultimately leading to an overall loss of biodiversity. What is the cumulative impact of the overall loss in biodiversity related to increased edge habitat not currently available on the project site?

Response 3.6-36: *Edge habitat is typically associated with an increase in diversity of the related plant and wildlife communities due to the greater complexity of this habitat in comparison to interior forests or open fields. By avoiding the creation of excessive edge habitat and maintaining tracts of forested areas, the habitat needs of many interior forest organisms can be preserved within a development. With the elimination of the lots on the eastern part of the subject parcel, and the limited areas of clearing proposed for each individual parcel, the amount of “edge” created will be minor. The part of the site where the most contiguous clearing will occur, along the eastern part of the access road as it enters the site near the existing dwelling, is already adjacent to existing clearing and fields on the west side of Marsh Hill Road. The project will essentially expand the open areas further to the east here, but will not create additional “edge”.*

3.7 TRAFFIC AND TRANSPORTATION COMMENTS AND RESPONSES

Comment 3.7-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The proposed emergency access road should be discussed in the Traffic and Transportation Section. The applicant should specifically mention that the proposed emergency access road will not be used during construction as a point of entry for construction vehicles.

Response 3.7-1: See Response 2-2.

Comment 3.7-2 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): It is recommended that the applicant contact the adjoining owners to discuss the possibilities of providing a pedestrian access easement from the proposed road to the trails located off-site. The easement should be located so that access to the off-site trails is feasible.

Response 3.7-2: The revised layout with 14 lots provides a 31.0-acre open space parcel for dedication to the Town of Putnam Valley as parkland, including a connection to the proposed on-site roadway. This open space parcel abuts private lands to the north. Connections to trails located adjacent to the north of this open space parcel will be possible should the Town allow such connections to off-site adjoining land that is privately owned.

Comment 3.7-3 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The entrance to the site from Peekskill Hollow Road should be designed to maximize the ability of a truck traveling southwest on the roadway to turn up Marsh Hill Road with minimal encroachment into the northeasterly traveled lane of traffic.

Response 3.7-3: Based on a joint site inspection with the Town Consulting Engineer on November 2, 2006, the improvements to Marsh Hill Road at the intersection with Peekskill Hollow Road have been maximized to allow truck turning movements to the greatest extent possible. The improvements are shown on the attached subdivision plan set.

Turning movements of all trucks to and from the west are expected to be satisfactory. Not all truck turning movements to and from the east will be possible, even with the proposed improvements. As indicated in Figure 3.7-1a, a 30-foot Single Unit Truck will have to cross the double line in the center of Peekskill Hollow Road to make a turn into the site from the east. Figure 3.7-1b indicates that the same 30-foot Single Unit Truck will have to cross over the entrance lane to Marsh Hill Road to make a turn into the site. All other movements of a 30-foot Single Unit Truck would be satisfactory (e.g., to and from the west). As indicated in Figure 3.7-2a, a 40-foot bus would similarly have to cross the yellow line slightly to make a turn into Marsh Hill Road from the east, and would have to cross over the entrance lane on Marsh Hill Road to make a turn to the east onto Peekskill Hollow Road. Figures 3.7-3a and 3.7-3b indicate that turning movements to and from the west for a 50-foot Semi-Trailer would be satisfactory. Turning movements of a 50-foot Semi-Trailer to and from the east would not be possible. Figures 3.7-4a and 3.7-4b indicate a slight encroachment onto the yellow line for turning movements into the site for a 36-foot bus or truck,

and a slight encroachment over the Marsh Hill Road entrance lane on exiting the site to the east.

Comment 3.7-4 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): If at all possible, the intersection of Marsh Hill Road and Peekskill Hollow Road should be analyzed to determine if a left turn lane could be established for the northeasterly traveling lane and a right turn lane established for southwestern traveled lane to ease the turn into the site from either direction.

Response 3.7-4: *Due to the excessive downgrade on the south side of Peekskill Hollow Road and the steep up-slope and proximity of the existing residence on the north side of Peekskill Hollow Road, it is not possible to provide either a left turn lane or a right turn lane to access Marsh Hill Road.*

Comment 3.7-5 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The bridge on the emergency access roadway should be widened to the width of the proposed emergency access road.

Response 3.7-5: *See Response 2-2.*

Comment 3.7-6 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A structural review and NYS PE signed and sealed structural plans should be provided for the bridge along with all necessary signs needed to post the bridges maximum weight capacity.

Response 3.7-6: *See Response 2-2.*

Comment 3.7-7 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A maintenance plan should be established for the proper structural review of the bridge at no more than a two year interval unless otherwise directed by the Town Building Inspector or Town Engineer when situations of structural integrity arise.

Response 3.7-7: *See Response 2-2.*

Comment 3.7-8 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Minimum sight distance at the intersection of Marsh Hill Road and Peekskill Hollow Road is insufficient to the east for speeds up to 40 mph. This situation should be analyzed and an appropriate solution found whether it be reducing the posted speed limit or some other method.

Response 3.7-8: *Based on the project engineer's discussions with the Putnam County Department of Highways and Facilities, the required sight distance for a posted 40 mph County Road is 305 feet. This is also supported by the AASHTO "Policy on the Geometric Design of Highways and Streets". The sight distance at the intersection of Marsh Hill Road and Peekskill Hollow Road is estimated at 355 feet looking east and 530 feet looking west.*

Comment 3.7-9 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Sight distance and vertical curve evaluation of the Brook Falls entrance should be discussed for emergency response.

Response 3.7-9: See Response 2-2.

Comment 3.7-10 (John Cohen, Public Hearing, July 31, 2006): I'm also very concerned about the nature of this entrance to Peekskill Hollow Road. It's a very dangerous entrance now. I know widening it looks like a solution, but with the traffic on Peekskill Hollow Road and if you want to go north coming down that Marsh Hill, it's a dangerous, dangerous situation. The road curves around, you have to make a U-turn across the traffic to get there. I don't know if it's really a good idea to use that as an entrance for so many houses.

Response 3.7-10: See Response 3.7-3.

Comment 3.7-11 (Gelosh Lekocevic, Public Hearing, July 31, 2006): Due to the high number of homes that are accessed from it, Peekskill Hollow Road has a lot of traffic. You can't turn left or right easily. There are limited alternative routes and trucks and buses use it a lot, especially in the morning. I am concerned about noise impacts from the additional traffic.

Response 3.7-11: As described in the DEIS, the proposed project will improve vehicular turning movements at the intersection of Marsh Hill Road and Peekskill Hollow Road. The modified proposal maintains these intersection improvements. Additional traffic accessing the 13 new homes is not expected to generate significant adverse noise impacts. As indicated in the table below, based on Institute of Transportation Engineers trip generation rates (*Trip Generation*, Institute of Transportation Engineers, 7th edition, Washington, DC, 2003), the 13 proposed new homes are expected to generate 19 vehicular trips in the am peak hour (five trips in and 14 trips out), and 17 vehicular trips in the pm peak hour (11 trips in and six trips out).

Table 3.7-9 Project Site Trip Generation Summary						
Potential Land Use	Trips Generated					
	A.M. Peak Hour			P.M. Peak Hour		
	IN (Trips)	OUT (Trips)	TOTAL (Trips)	IN (Trips)	OUT (Trips)	TOTAL (Trips)
24 Single Family Detached units	7	20	27	19	11	30
13 Single Family Detached units	5	14	19	11	6	17

See DEIS Table 3.7-8 for trip generation rates.
Source: *Trip Generation*, Institute of Transportation Engineers, 7th edition, Washington D.C., 2003.

Comment 3.7-12 (Dan Ricci, Public Hearing, July 31, 2006): I was happy to hear from Billy Crowder that the Town adopted that road in 1949. That was 10 years before I was born folks, so I had nothing do with that decision even though it's substandard. And actually, to remediate that, to move in a direction of fixing that road is a good thing. That's a hairpin turn. I could see some serious problems occurring there, so that's a plus and I try to look at the pluses and the minuses. That's a plus.

Response 3.7-12: Comment noted.

Comment 3.7-13 (Dan Ricci, Public Hearing, July 31, 2006): Councilwoman Whetsel raised a good question about emergency services. Hopefully part of this process will be meeting with

the fire department and the ambulance corps regarding their concerns, and meeting with the School District's transportation office to discuss concerns about the bus. You know, buses in and out of there with kids. We've had issues with that, with our subdivisions and that's always a great concern of ours and we certainly wouldn't adopt a road until, you know, it's up to the standards that we would request and certainly Earl Smith should be part of that process as well.

Response 3.7-13: *The DEIS describes the Applicant's proposed improvements to the intersection of Marsh Hill Road and Peekskill Hollow Road that would widen Marsh Hill Road and create a more perpendicular intersection with Peekskill Hollow Road. At the intersection with Peekskill Hollow Road there will be a width of pavement of approximately 75 feet (including the turning lanes and an island). The revised project still includes these widening and geometric improvements at the intersection of Marsh Hill Road and Peekskill Hollow Road. As described in the DEIS, the proposed Marsh Hill Road improvement measures have been designed to address the safety concerns of large trucks and school buses, allowing them to turn right onto Marsh Hill Road. While a bus turning right onto Marsh Hill Road from Peekskill Hollow Road will need to cross the double yellow line (as shown in DEIS Figure 3.7-8B and in the following Figures 3.7-4a and 3.7-4b), it should be noted that in the existing condition a bus can not make a right turn from Peekskill Hollow Road onto Marsh Hill Road. The revised proposal with 14 lots is not expected to raise further concerns regarding bus access and access for emergency service providers. The reduced density of the revised proposal will nearly cut in half the number of trips that would be expected from the development.*

Comment 3.7-14 (Del Jones, Public Hearing, July 31, 2006): I think the developer -- representative for the developer had mentioned this improved road would be able to accommodate something up to a UPS truck. I would like to know what accommodations would there be for tractor trailers making moving deliveries, fuel trucks making deliveries in terms of weight; whether that can also be accommodated by this type of road.

Response 3.7-14: *The proposed improvements to the Marsh Hill Road intersection will improve the ability for trucks (box trucks, parcel delivery trucks, fuel trucks, etc.) traveling south to turn right into Marsh Hill Road. It is likely that some of those turning movements may require crossing over the yellow line. However, in its current condition all southbound right hand turns for the vehicles into the site require crossing over the yellow line.*

Similarly, buses and fire trucks will also need to cross over the yellow line to make the southbound right hand turn into the site. Buses and fire trucks will be able turn both right and left out of the site after the improvements are constructed. These movements are difficult with the existing Marsh Hill Road configuration.

It is unlikely that a tractor trailer traveling south will be able to negotiate the right turn into the project site. Therefore, all tractor trailer turning movements would be limited to entering the site from the south (heading northbound) and leaving the site turning right (southbound).

According to the project engineer, Marsh Hill Road does not have a weight limit and the road is capable of accommodating all trucks in terms of weight.

Regarding the route for transport of excavated material from the project site during construction, trucks will be making a right onto Oregon Road at Oregon Corners and will be making their way to Route 6 through Cortlandt.

The trucking routes in the Blasting Mitigation Plan have been revised and additional truck turning movement simulations have been provided.

Comment 3.7-15: (William A. Zutt, Esq., Letter, August 1, 2006): What legal/contractual arrangements exist with the underlying fee owner to acquire title to or an easement across so much of the adjacent property as is necessary to support the emergency access road? Please provide copies of all relevant documents.

Response 3.7-15: See Response 2-2.

Comment 3.7-16: (William A. Zutt, Esq., Letter, August 1, 2006): What dimensional and improvement standards will be applied to the emergency access road?

Response 3.7-16: See Response 2-2.

Comment 3.7-17: (William A. Zutt, Esq., Letter, August 1, 2006): What permanent ownership/maintenance arrangements (including snow and obstruction removal) does the applicant propose with respect to the emergency access road?

Response 3.7-17: See Response 2-2.

Comment 3.7-18: (William A. Zutt, Esq., Letter, August 1, 2006): If the applicant proposes public dedication of the emergency access road, may the Town accept public dedication of anything less than a fee interest? May the town accept public dedication of a roadway that does not meet Town Highway specifications?

Response 3.7-18: See Response 2-2.

Comment 3.7-19: (William A. Zutt, Esq., Letter, August 1, 2006): If the emergency access road is accepted for dedication, must it qualify as a "Town Highway" and, if so, may its use legally be limited to emergency vehicles?

Response 3.7-19: See Response 2-2.

Comment 3.7-20: (William A. Zutt, Esq., Letter, August 1, 2006): If public dedication is not proposed, who will monitor the roadway and how will long term maintenance be secured?

Response 3.7-20: The roadway is proposed for dedication to the Town of Putnam Valley.

Comment 3.7-21: (William A. Zutt, Esq., Letter, August 1, 2006): How will physical access to the emergency access road be controlled, and how will emergency service providers gain access?

Response 3.7-21: See Response 2-2.

Comment 3.7-22: (John Cohen, Letter, August 1, 2006): Will the recently added “appendage” emergency road really serve its purpose? I foresee a situation whereby a bus or truck gets damaged or incapacitated on Marsh Hill Road and therefore blocks that road. Especially in an ice storm, there would be no way for any of the 23 families to exit, and no way for emergency vehicles or tow trucks to get up the icy emergency road with its 15% grade. This is a recipe for a disaster. Have you (the Planning Board) or the Developers notified the County Highway Department about this proposed change? Is there a driveway permit for the emergency road?

Have you notified the DOT from NY State, which is the lead agency for the proposed widening of Peekskill Hollow road project? As of their last public meeting, the plans were very unclear about the Marsh Hill road entrance to PHR. The new road wasn’t even considered on their map.

***Response 3.7-22:** See Response 2-2 regarding the emergency access road, which is no longer proposed. Peekskill Hollow Road is a Putnam County owned road and contact related to this project was limited to the Putnam County Department of Highways and Facilities. Based on the project engineer’s discussions with them, there is a plan in place to provide improvements along Peekskill Hollow Road from Oregon Corners to Adam Corners. The improvements, which include funding from NYS DOT, consist of road widening, curve straightening, and drainage improvements. The proposed improvements in front of the project site consist of minor road straightening, with no improvements proposed for Marsh Hill Road other than intersection improvements.*

Comment 3.7-23 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): A friendly word of advice that the Town Highway Commissioner familiarize himself with the terrain of Marsh Hill Road if he has not already done so. My own private road climbs the same hill, parallel to Marsh Hill Road a short distance away. I have learned from bitter experience not to try to navigate my road between the first snowfall of December and the last snowmelt of March. Should the Town not be concerned that it may be getting a “Trojan horse” when the road is bequeathed to it upon completion?

***Response 3.7-23:** Based on a joint site inspection with the Town Consulting Engineer on November 2, 2006, the improvements to existing Marsh Hill Road will involve the widening of the existing paved and maintained portion of the road (to station 14+00) to eighteen feet wide. The road will be provided with two foot wide grassed shoulders and a rip rap swale/infiltration trench will be provided on each side for the full length of the road.*

The road drainage will sheet off the road into the swales, which will then convey the stormwater to locations off the road for dispersal into wooded area (dispersed via level spreaders) or to the existing drainage ways along the road.

There will also be a horizontal improvement to straighten an existing curve, as well as the intersection improvements that will widen the road entrance to facilitate vehicular movement to and from the site.

In addition, the new portion (or proposed extension) of the road will also consist of 18 feet of pavement with two-foot wide grassed shoulders and drainage

swales as described above. While the Town Code requires twenty-two foot wide pavement with curbs and drainage structures (catch basins, manholes, pipes, etc.), this new modified design has been proposed pursuant to positive discussions with Town officials as a more appropriate design that will require less disturbance and less impervious areas, and produce less stormwater runoff and a road that is consistent with the rural character of the local community.

Furthermore, discussions with the Town Highway Superintendent indicate that snow removal necessary for the proposed new roadway is not expected to impact the Town Highway Department. The DEIS estimates maintenance costs, including snow removal, at approximately \$7,000 per year for the roadway serving 25 homes proposed in the DEIS. The Applicant has contacted the Town Highway Superintendent to discuss the accuracy of the DEIS estimate of roadway maintenance costs. The Superintendent indicates that this estimate of cost for roadway maintenance is reasonable, and that most likely it would be greater than what the Town might actually pay for maintenance for a roadway of the length proposed in the DEIS.

Comment 3.7-24: (William A. Zutt, Esq., Letter, August 3, 2006): It occurred to me after issuing my memo yesterday that, in addition to documenting the applicant's contractual rights in regard to the proposed emergency access road, amendments to the Development Approval Plans (DAP) will be required for such of the Venezia lots as will be traversed by the proposed emergency access road. Since the most recent plan revision (incorporating the emergency access road) represents the current principal proposal, applications to amend the relevant Venezia DAP's will need to be incorporated as part of the overall project application.

Response 3.7-24: *See Response 2-2.*

Comment 3.7-25 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): An emergency access road was not included in the DEIS document, but briefly included in the public presentation. The road appeared to be in the regulated buffer of Peekskill Hollow Brook. What are the potential impacts of the emergency access road to the stream, its buffer and the 1000's of residents who rely on Peekskill Hollow Brook for drinking water?

Response 3.7-25: *See Response 2-2.*

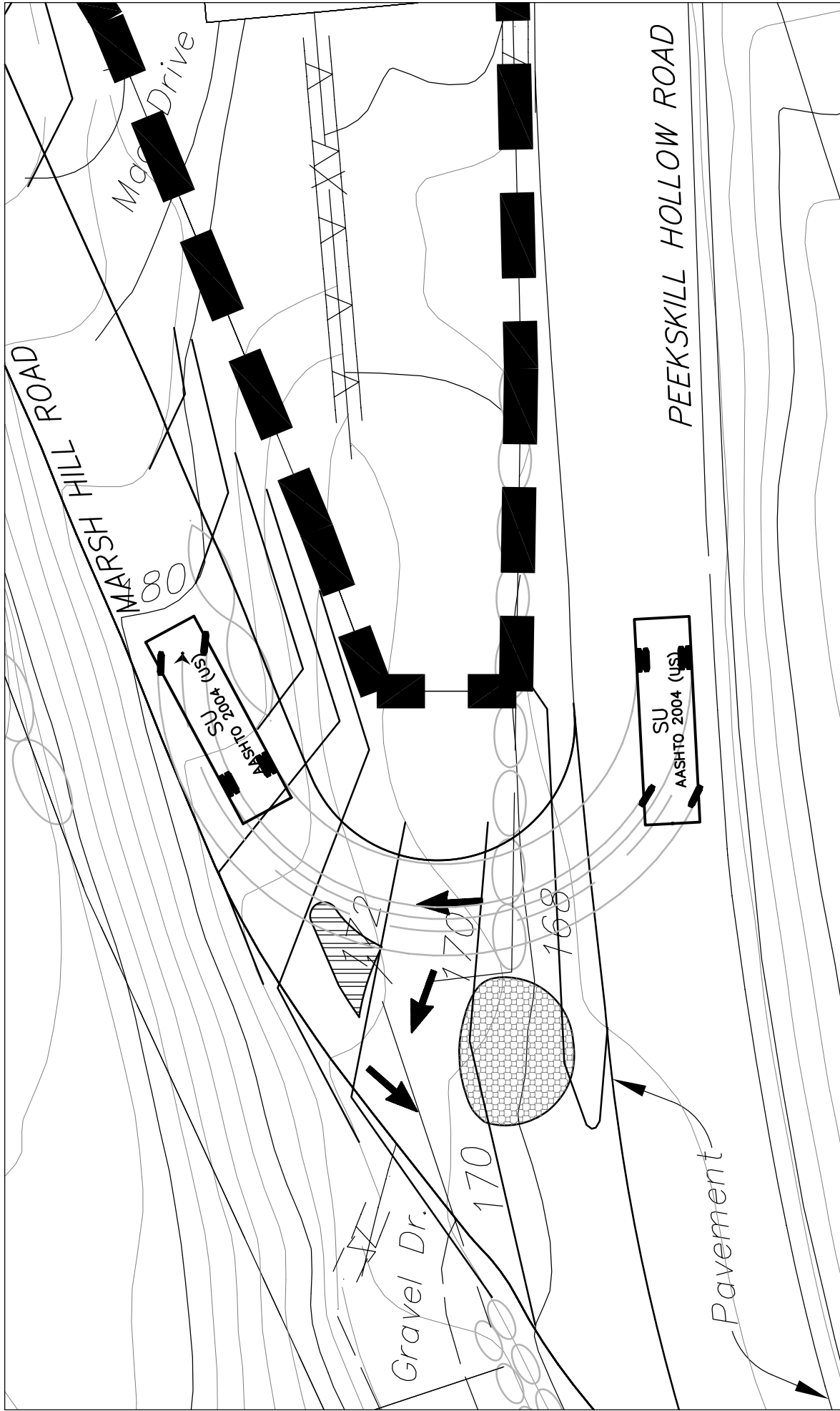
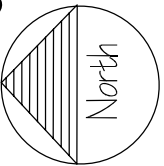


Figure 3.7-1a: Truck Turning Movement Entering Site, Single Unit Truck, 30-Foot Length



Emerald Ridge Subdivision DEIS

Town of Putnam Valley, Putnam County, New York

Source: Cronin Engineering, P.E., P.C., November 17, 2006

Revised January 5, 2007

Scale: 1 inch = 20 feet

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

File: 04010 11/2006

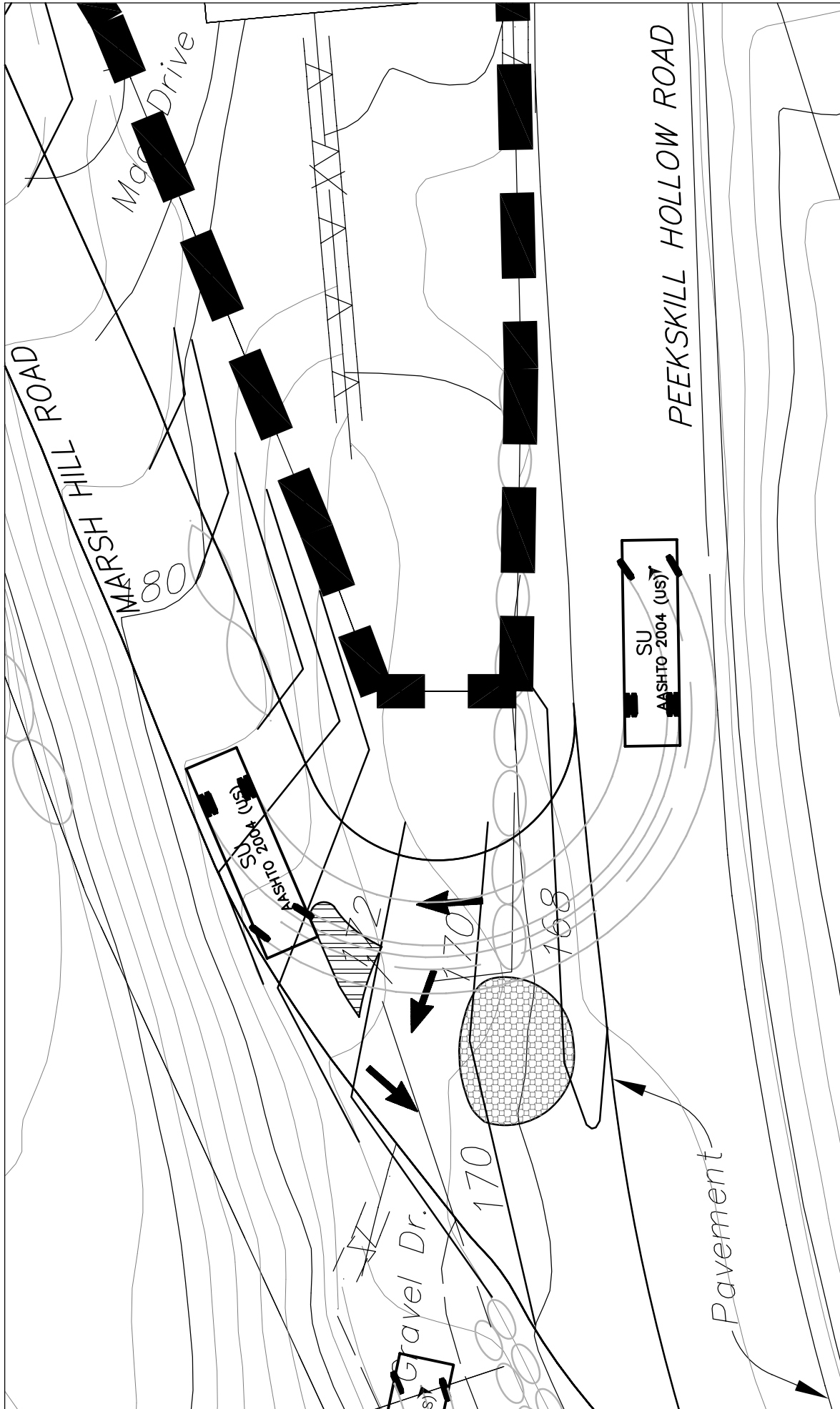
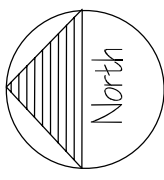


Figure 3.7-1b: Truck Turning Movement Exiting Site, Single Unit Truck, 30-Foot Length



Emerald Ridge Subdivision DEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 20 feet

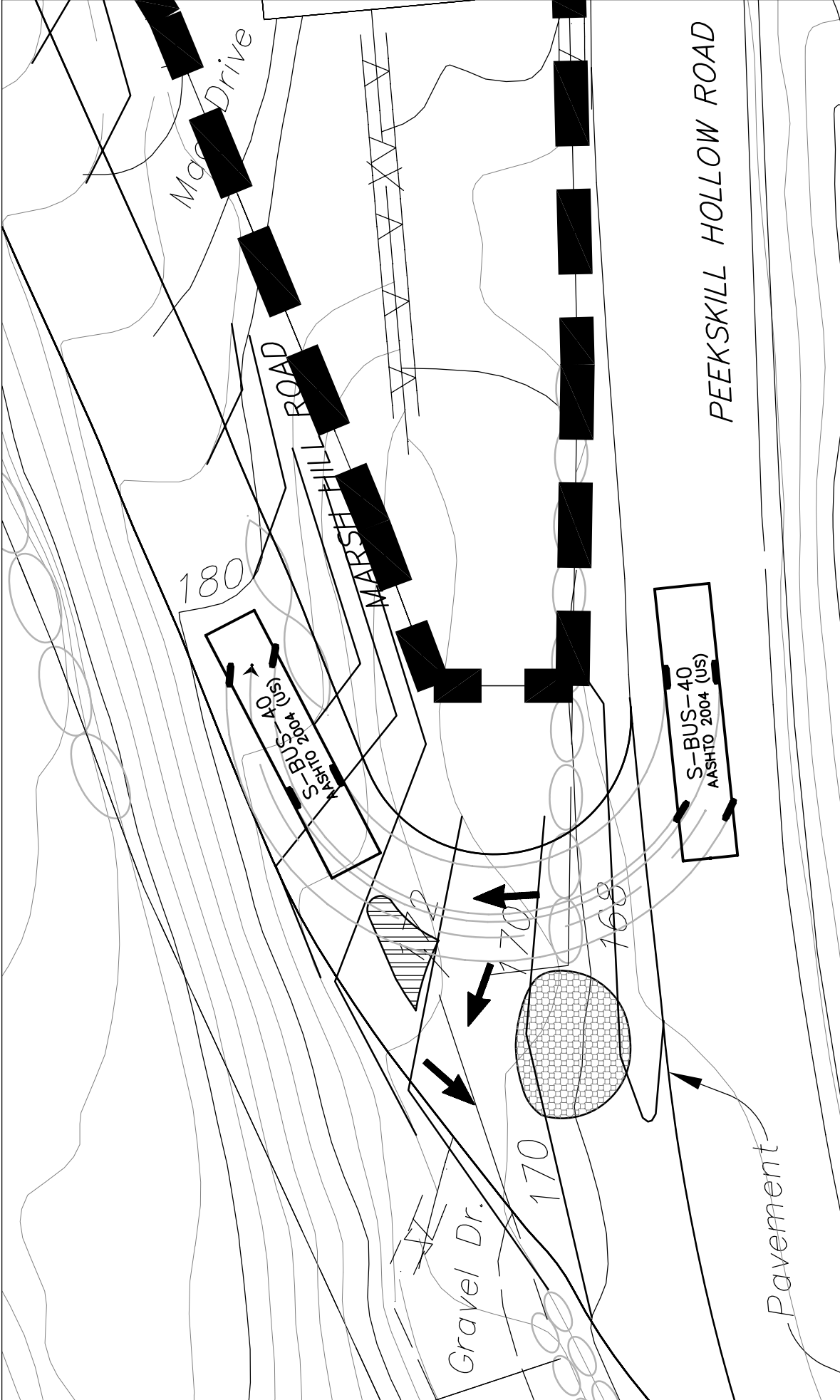


Figure 3.7-2a: Truck Turning Movement Entering Site - Bus-40, 40-Foot Length
 Emerald Ridge Subdivision DEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 20 feet

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

File: 04010 11/2006

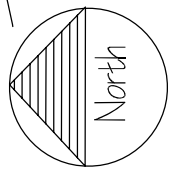
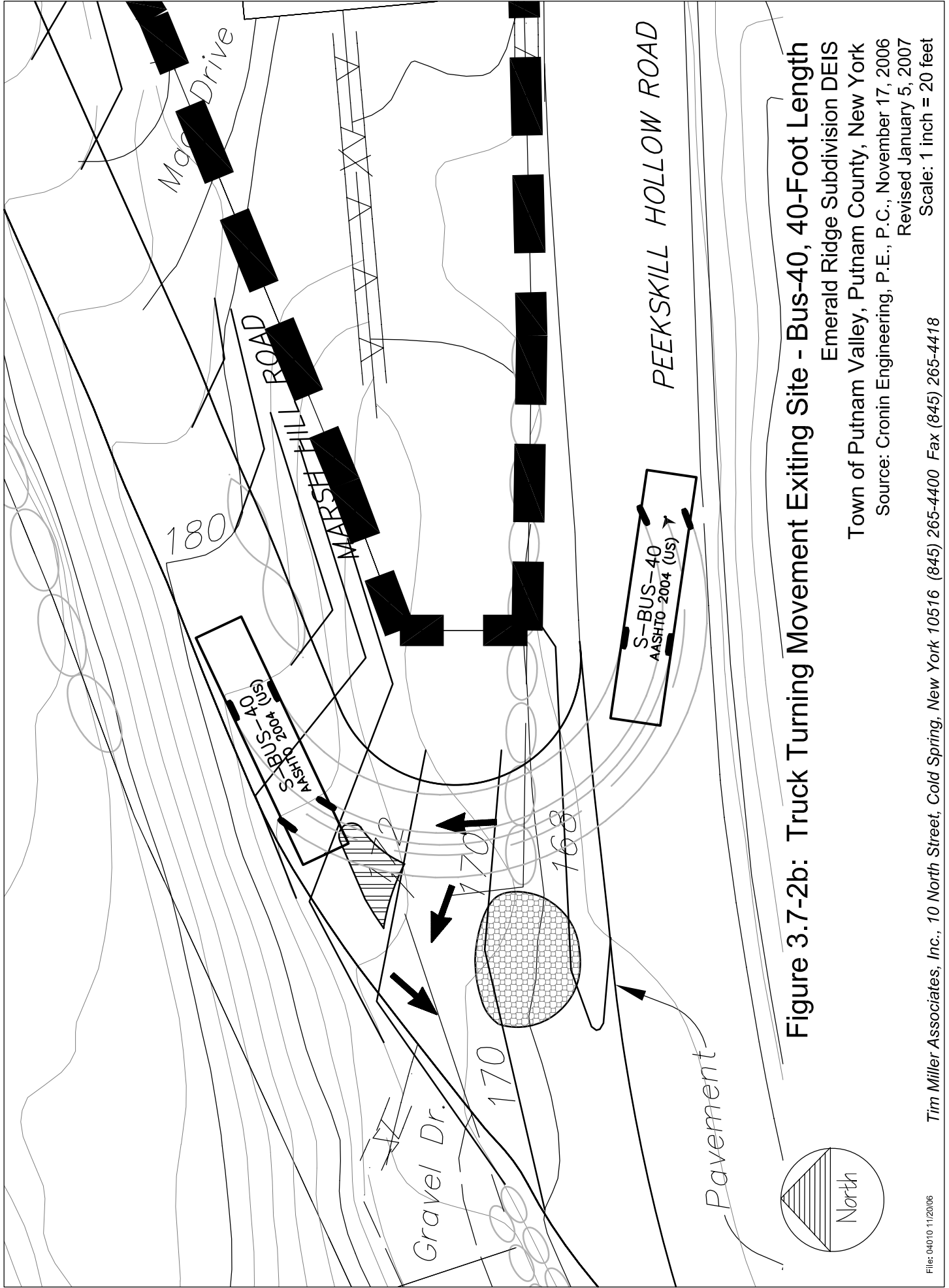
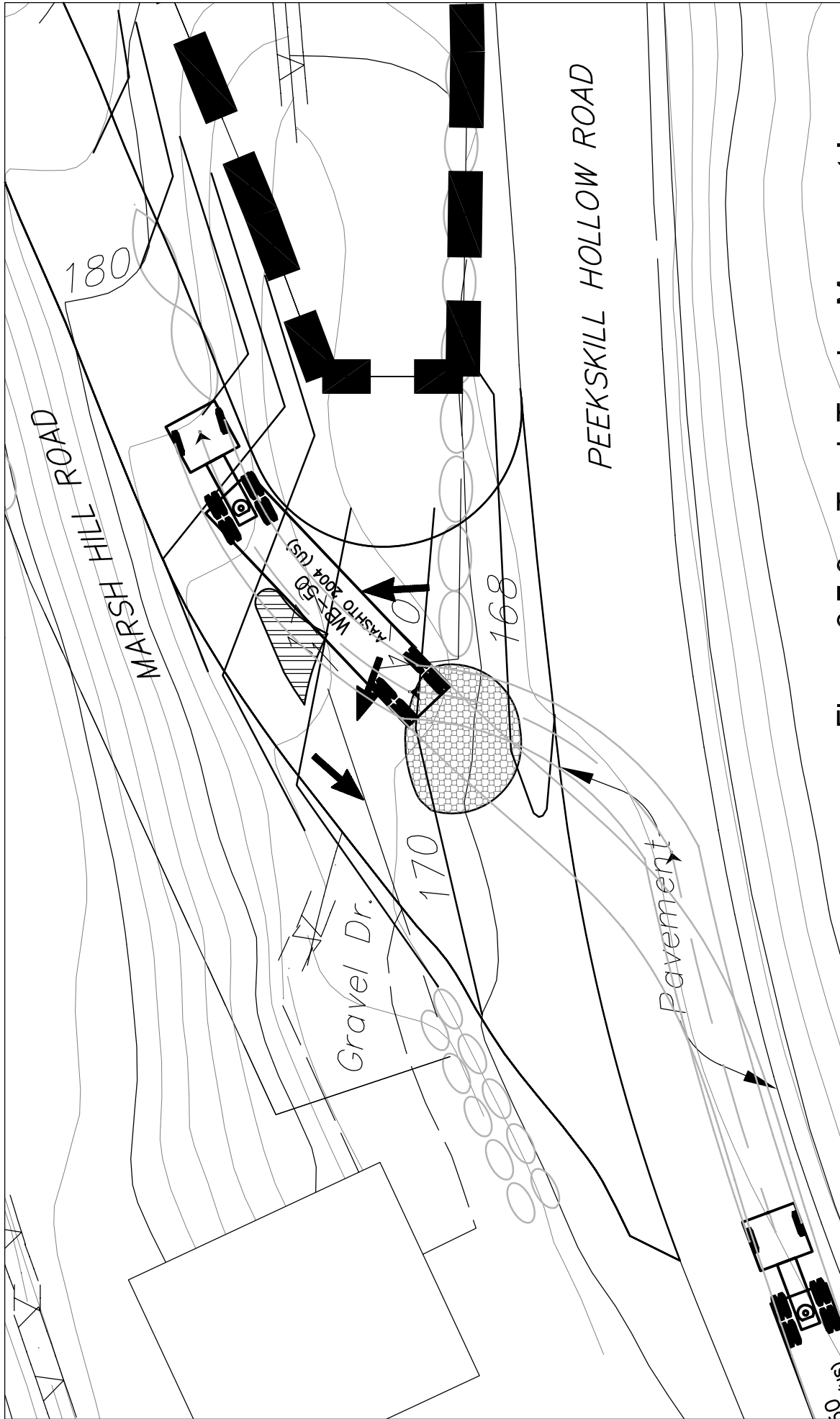


Figure 3.7-2b: Truck Turning Movement Exiting Site - Bus-40, 40-Foot Length
 Emerald Ridge Subdivision DEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 20 feet

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File: 04010_11/20/06



**Figure 3.7-3a: Truck Turning Movement Ingress
50-Foot Semi-Trailer - WB-50, 50-Foot Length**

Emerald Ridge Subdivision DEIS

Town of Putnam Valley, Putnam County, New York

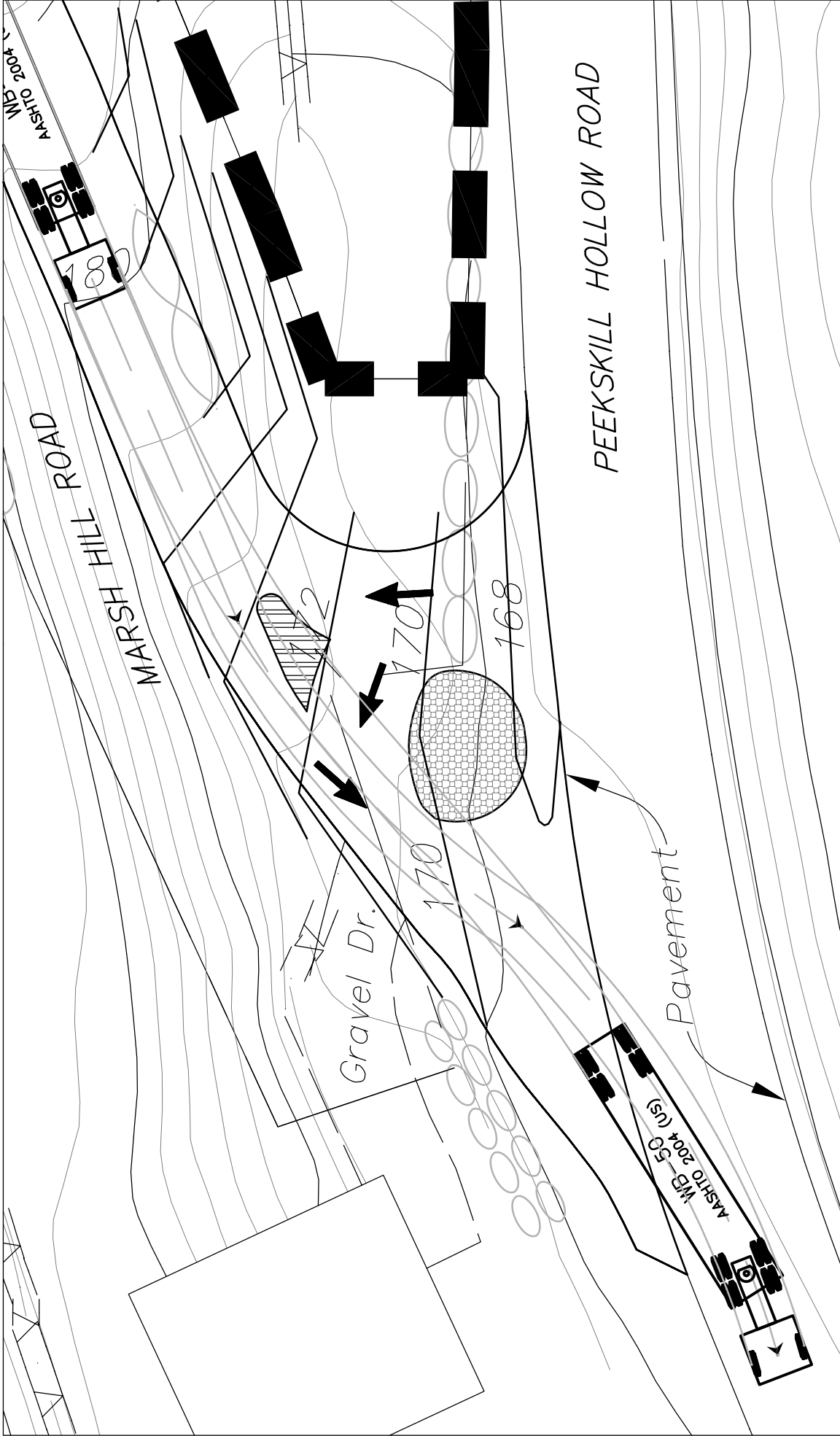
Source: Cronin Engineering, P.E., P.C., November 17, 2006

Revised January 5, 2007

Scale: 1 inch = 20 feet

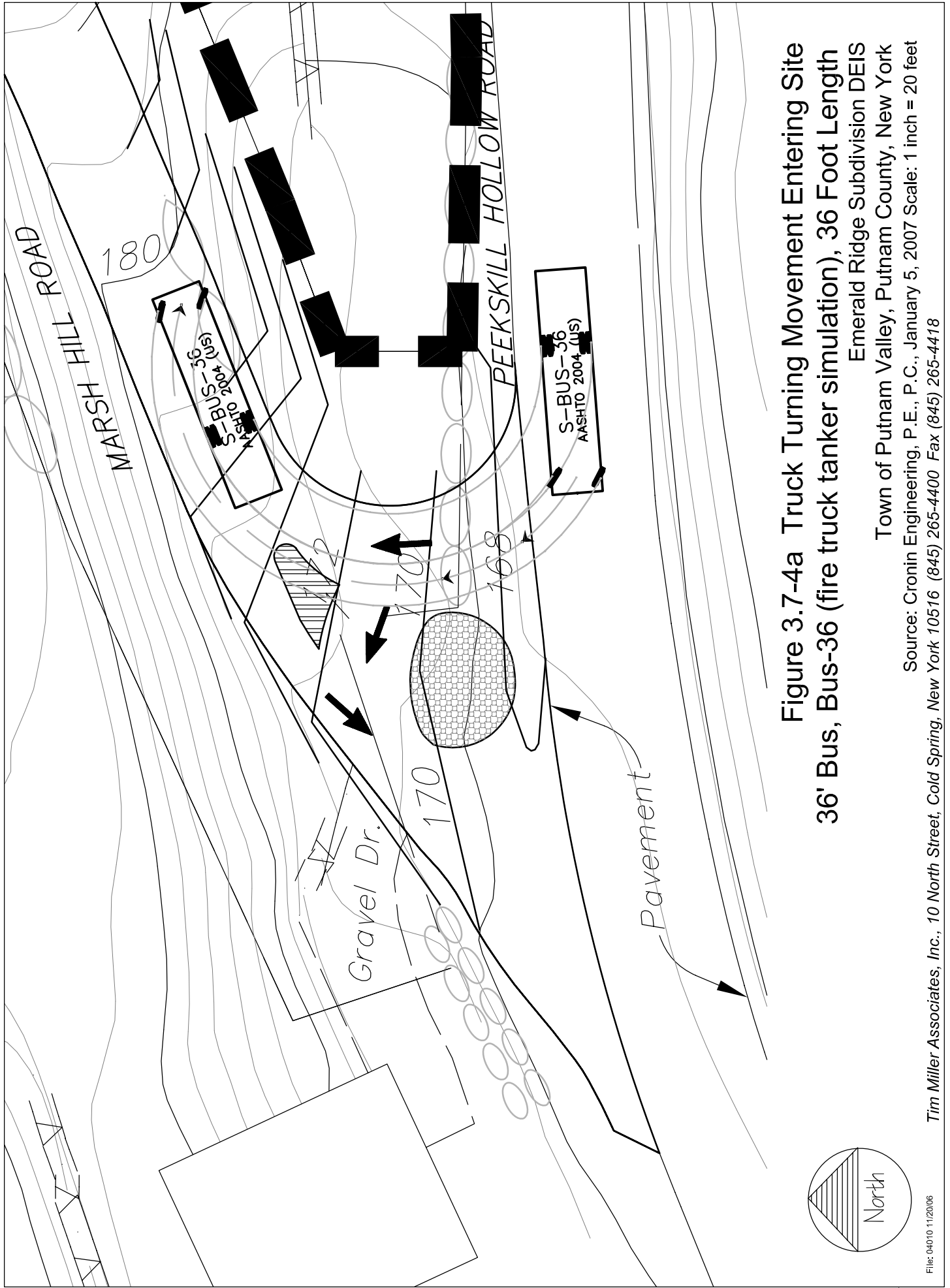
Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

File: 04010 11/2006



**Figure 3.7-3b: Truck Turning Movement Exiting Site
50-Foot Semi-Trailer - WB-50, 50-Foot Length**

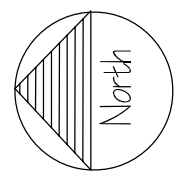
Emerald Ridge Subdivision DEIS
 Town of Putnam Valley, Putnam County, New York
 Source: Cronin Engineering, P.E., P.C., November 17, 2006
 Revised January 5, 2007
 Scale: 1 inch = 20 feet

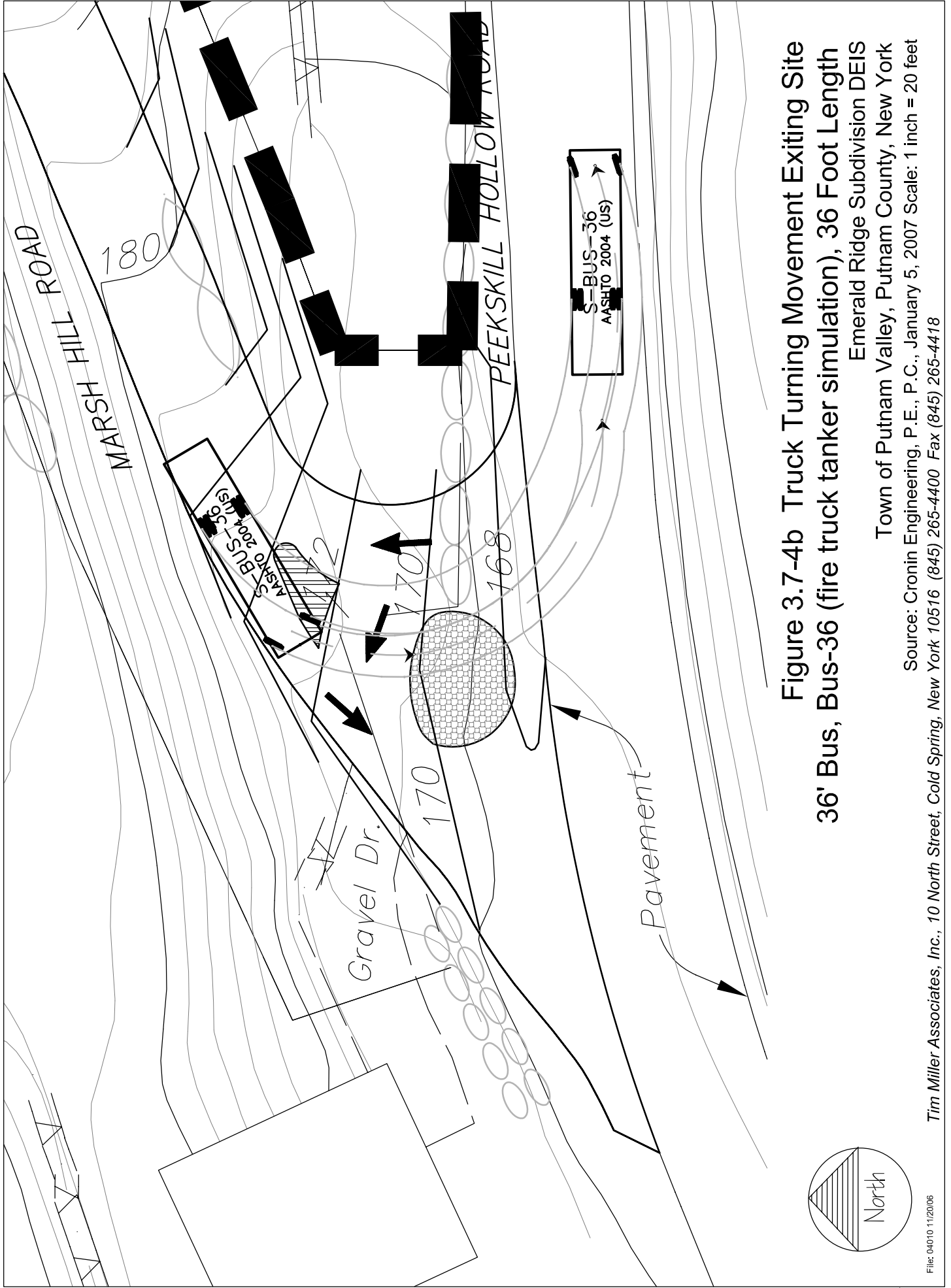


**Figure 3.7-4a Truck Turning Movement Entering Site
36' Bus, Bus-36 (fire truck tanker simulation), 36 Foot Length**

Emerald Ridge Subdivision DEIS
Town of Putnam Valley, Putnam County, New York

Source: Cronin Engineering, P.E., P.C., January 5, 2007 Scale: 1 inch = 20 feet
Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418

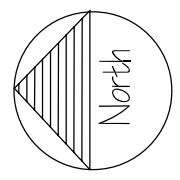


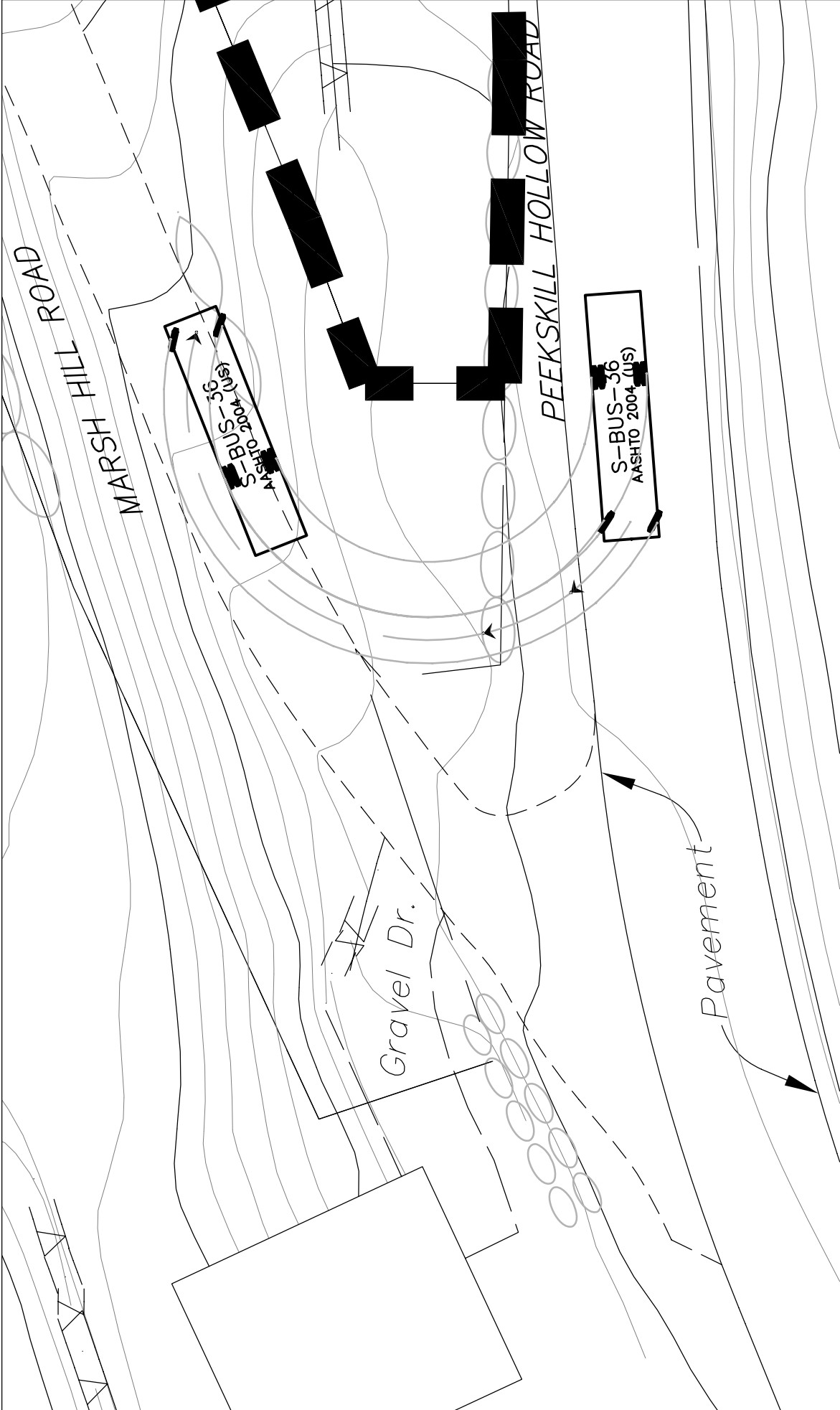


**Figure 3.7-4b Truck Turning Movement Exiting Site
36' Bus, Bus-36 (fire truck tanker simulation), 36 Foot Length**

Emerald Ridge Subdivision DEIS
Town of Putnam Valley, Putnam County, New York

Source: Cronin Engineering, P.E., P.C., January 5, 2007 Scale: 1 inch = 20 feet
Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



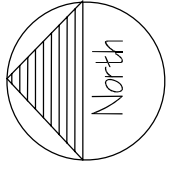


**Figure 3.7-4c Truck Turning Movement Exiting Site
36' Bus, Bus-36 (fire truck tanker simulation), 36 Foot Length**

Emerald Ridge Subdivision DEIS
Town of Putnam Valley, Putnam County, New York

Source: Cronin Engineering, P.E., P.C., January 5, 2007 Scale: 1 inch = 20 feet

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



3.8 LAND USE AND ZONING COMMENTS AND RESPONSES

Comment 3.8-1 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Second paragraph of the Executive Summary Section 1.2.8 is no longer accurate.

Response 3.8-1: *The paragraph in question states that:*

“A lot line adjustment is proposed in order to transfer portions of rear yards of adjoining Brookfalls Cottages, Inc., lots (located to the east) to the project site. A 25-foot access easement is proposed to extend from the Lands of Brookfalls Cottages, Inc., to the proposed on-site roadway in order to allow pedestrian access from lands of Brookfalls Cottages, Inc., to the proposed Town Road on the Emerald Ridge project site.”

A lot line adjustment is still proposed to create proposed Lot “B” that is now proposed for a single new home and a 30.1-acre Conservation Parcel.

Since the Conservation Parcel is proposed to be deeded to the Town of Putnam Valley, the access easement is no longer a viable option.

Comment 3.8-2 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The applicant has not included how the intent of the applicable Town of Putnam Valley Environmental Management Districts has been fully considered in this project. Compliance to the “maximum extent possible” requires substantiation.

Response 3.8-2: *As a result of the reduced scope of the project (with the elimination of 11 lots and 1,700 linear feet of roadway), the potential environmental impacts of the project have been greatly reduced. Proposed impervious area has been reduced from 5.01 acres to 2.67 acres. Disturbed areas of the site have been reduced from 26.6 acres to 14.2 acres. The number of trees to be removed has been revised from 2,475 to 1,197. A 31.0-acre conservation parcel has been included and the area of proposed conservation easements has increased. See Responses 3.3-5 and 3.3-17 regarding the Groundwater Protection Overlay District.*

Comment 3.8-3 (John Cohen, Public Hearing Comment, July 31, 2006): This is very high density for our Town, so I think that should be addressed as well.

Response 3.8-3: *The density of the project has been reduced from 25 homes to 14 homes. It should also be noted that the density proposed in the original layout presented in the DEIS was consistent with the underlying R-2 District regulations, with many of the proposed lots having lot areas greatly in excess of the required minimum lot area. The average lot size under the revised plan is 3.5 acres.*

Comment 3.8-4 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): The proposed changes to Marsh Hill Road will result in a dead end road that is just over 1 mile long and will be 0.8 miles longer than what is permitted under current subdivision regulation. The proposed road improvements would also “require

excessive cut and fill". If the proposed waiver is granted, what kind of precedent does this set for future development proposals?

Response 3.8-4: *The layout proposed in the DEIS involved 5,600 total linear feet of roadway. The current plan involves 3,900 total linear feet of roadway. Of the total road length, +/- 1,400 linear feet of Marsh Hill Road is owned, improved and maintained by the Town; and +/- 600 linear feet is Town-owned, unimproved Town right-of-way. 1,900 linear feet of new roadway is proposed on the project site.*

While this proposed road length exceeds the Town Code limit of 1,200 feet, the proposed number of lots has been reduced to fourteen from the twenty five originally proposed. Based on numerous discussions with the Planning Board and Town consultants and officials, while the DEIS length of roadway was a concern given the proposed density with 25 homes, the reduced density with 14 homes mitigates concerns regarding road length.

3.9 POLICE, FIRE AND EMERGENCY MEDICAL SERVICE COMMENTS AND RESPONSES

As a result of the reduction in the number of houses and overall project scope, the previously proposed 10,000-gallon storage tank with the fire line and fire hydrants has been replaced with two 10,000-gallon storage tanks, located at the beginning of the road loop within the right-of-way.

The tanks will be located next to each other and will be connected to provide a total of 20,000 gallons of continuous flow for emergency use. The 20,000 gallons of storage is twice the amount utilized in the Putnam Chase and Strawberry Knoll subdivisions, each of which has a 10,000-gallon storage tank and is satisfactory to the Fire Department.

There will be an easement granted to the Putnam Valley Volunteer Fire Department to access, use and maintain the proposed tanks, which will ultimately be located within the Town road right-of-way.

Comment 3.9-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The Police, Fire, and Emergency Medical Services Section should be revised to include the proposed emergency access road and specifically detail how this feature will benefit these services. The emergency access road should be specifically described in the mitigation section. The applicant should identify if apparatus responding from Station 2 would utilize the emergency access road on any call to the proposed development. The emergency access road may be a safer route into the development, as the turning radius onto Marsh Hill Road when traveling south on Peekskill Hollow Road has been identified as a problem.

Response 3.9-1: *As stated in Response 2-2, the emergency access road has been eliminated from the proposed project. Improvements that are proposed to the intersection of Marsh Hill Road and Peekskill Hollow Road are still expected to improve the ability of Fire Trucks and other trucks to enter the project site. While the ability of larger equipment to turn right onto Marsh Hill Road from eastbound on Peekskill Hollow Road will be improved, the angle of Marsh Hill Road with improvements may still necessitate maneuvering of larger eastbound trucks into the opposing travel lane. As stated in the DEIS, according to Putnam Valley Fire Chief Michael Koenig, the single access design will not impact Fire Department access. The existing steep grade of Marsh Hill Road south of the project site also does not present a problem for Fire Department access.¹*

Comment 3.9-2 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Second sentence now incorrect. Last sentence is not supported.

Response 3.9-2: *Comment noted.*

The second sentence referred to in this comment states:

“Alternative emergency access is not feasible due to the topography of the site and a lack of development on surrounding land.”

The last sentence referred to in this comment states that “Increased demand for police protection, fire protection services and other Town services would be addressed by increases in tax revenues as a result of the new homes.” Chapter

¹ Chief Michael Koenig, Putnam Valley Fire Department, telephone interview, May 4, 2005.

3.12 describes the fiscal impacts of the revised 14-lot proposal. Based on updated tax rates and fiscal impact analyses, tax revenues from the revised layout would be expected to cover or exceed anticipated costs for all taxing jurisdictions (see Chapter 3.12 for supporting data).

Comment 3.9-3 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): This section should incorporate the addition of the emergency access road and its impacts should be discussed with each service so that the roadway is laid out to meet their requirements.

Response 3.9-3: See Response 2-2.

Comment 3.9-4 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Verification that a fire truck can make the turn and head up Marsh Hill Road when traveling southwest on Peekskill Hollow Road should be discussed.

Response 3.9-4: See Response 3.9-1.

Comment 3.9-5 (Wendy Whetzel, Public Hearing, July 31, 2006): I'm Wendy Whetzel and I'm a Town Council person. I have some concerns about this project. It's the responsibility of the Town Council people to protect and make sure that residents are protected and get the best services possible, for those who live here and for those who are perhaps moving in. I know Marsh Hill grade is way over what's considered a minimum grade of 10 percent and I'm concerned about getting emergency vehicles up to people in the community that might need them. I would recommend that the highway department, the ambulance corps and the fire department meet with the Planning Board to really discuss in length if they have any concerns about making sure that these properties are accessible in case of emergencies and storms. This is done in other towns and it seems like a good idea for perhaps us to do it as well.

Response 3.9-5: See Response 3.9-1. As stated in Response 2-12, meetings have been held with the Town Board, Planning Board and Highway Department to discuss the project. Representatives of the Fire Department and Ambulance Corps were also in attendance.

Comment 3.9-6 (Sam Davis, Public Hearing, July 31, 2006): Now further, I'm curious about what methods you're going to use that reduce the slope of this road. I think that the only thing I can imagine you would be doing is doing some blasting, et cetera, to change the slope and even so, I think that as Wendy mentioned earlier, the slope is still going to be rather extreme and in icy, snowy conditions it's going to represent a hazard if we need emergency vehicles to get in or out of that area. So my concerns briefly are the road in terms of slope and cost to the Town, the degradation to the environment and the immense impact on the Town in terms of the cost to our residents.

Response 3.9-6: Based on a joint site inspection with the Town Consulting Engineer on November 2, 2006, the proposed improvements to existing Marsh Hill Road will involve the widening of the existing paved and maintained portion of the road (to station 14+00) to 18 feet wide. The road will be provided with two-foot wide grassed shoulders, and a rip rap swale/infiltration trench will be provided on each side for the full length of the road. The entrance grades will be reduced slightly to accommodate the proposed widened entrance. As for the

remainder of the existing portion of Marsh Hill Road, the vertical alignment will essentially remain the same, as discussed with the Town Consulting Engineer.

It should also be noted that Marsh Hill Road is an existing Town road that provides access to a number of existing homes. As indicated in Response 3.9-1, the existing steep grade of Marsh Hill Road south of the project site also does not present a problem for Fire Department access.² With the proposed improvements to the intersection of Peekskill Hollow Road and Marsh Hill Road, access for Fire Department vehicles will be improved. Both the extension of Marsh Hill Road proposed in the DEIS and the extension of Marsh Hill Road as revised and presented in Chapter 1.0 of this FEIS would occur on the upper, relatively flatter portions of the project site. No access issues related to slopes are anticipated.

The Applicant notes that the proposed new roadway will likely be better maintained by the Town than by a homeowners association. Regarding the issue of road maintenance, as previously stated the Town Highway Superintendent was contacted to review the DEIS estimate of annual roadway maintenance costs associated with the proposed project of \$7,000. Those costs were indicated by the Highway Superintendent to be reasonable, and likely greater than the actual costs that might be incurred by the Town related to roadway maintenance. With approximately half the length of roadway that was originally proposed, the revised layout presented in Chapter 1.0 would be expected to result in approximately half the estimated annual maintenance costs, or approximately \$3,500, if calculated on a linear foot basis. This estimate was confirmed as being appropriate by the Town Highway Superintendent for estimating purposes.

² Chief Michael Koenig, Putnam Valley Fire Department, telephone interview, May 4, 2005.

3.10 HISTORIC AND ARCHEOLOGICAL RESOURCES COMMENTS AND RESPONSES

Comment 3.10-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006; Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The applicant has prepared a Phase 1 Cultural Resource Survey. The applicant should determine if this study evaluated the land area in proximity to the proposed emergency access road. This report may need to be expanded upon to include this additional area. . . Documentation from the Office of Parks, Recreation and Historic Preservation should be submitted for the Brook Falls parcel because of the addition of the emergency access roadway.

Response 3.10-1: See Response 2-2.

3.11 VISUAL RESOURCES COMMENTS AND RESPONSES

Comment 3.11-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): Large stockpiles for road and infrastructure materials are proposed on lots 17 and 19 (among others). These lots are in close proximity to residences already existing on Marsh Hill Road. Can these stockpiles be relocated so as not to have such an impact (visual/noise) to those living along Marsh Hill Road?

***Response 3.11-1:** The proposed stockpile locations shown will be temporary until the existing section of Marsh Hill Road is improved. The project engineer estimates that the improvements will be completed within 60 days. Once Marsh Hill Road is complete, the material stockpiles will be eliminated and relocated internally on the project site.*

According to the project engineer, the proposed stockpile locations shown for Phase 1 are ideally located and are in areas proposed for future disturbance (house construction). While these areas could be located farther into the site, longer truck/equipment trips to and from the stockpiles would result, creating more noise than is necessary. The temporary stockpiles will be screened by the existing trees and vegetation located along the right-of-way line.

Comment 3.11-2 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): Figure 3.11-1 identifies the potential viewshed within a 2-mile radius and reveals the proposed project is potentially visible from over 1000 homes in Putnam Valley and Cortlandt. The proposed 24 “contemporary style” houses visible from 4 towns will significantly impact the rural character enjoyed by residents and visitors throughout the Hudson Highlands. How will this significant adverse impact be mitigated?

***Response 3.11-2:** DEIS indicates that, overall, due to presence of tree canopy extending between approximately 40 and 60 feet in height and the nature of the site topography and topography of surrounding areas, little if any visual connection to the proposed homes is expected from surrounding areas once the project has been completed. Partial views of the proposed homes that may be available from the view locations identified in the DEIS would be similar to, and consistent with, views of other existing homes in the area.*

3.12 FISCAL AND ECONOMIC IMPACTS COMMENTS AND RESPONSES

Comment 3.12-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The applicant should determine if new school and town budgets and associated tax rates; would substantially alter the fiscal analysis provided in the DEIS.

Response 3.12-1: According to the Town of Putnam Valley Tax Receiver's office, there were minor decreases in the tax rates between 2005 and 2006 for Putnam County (from \$1.65 to \$1.59), the Town of Putnam Valley (from \$2.59 to \$2.37), and the Fire District (from \$0.43 to \$0.38). According to the Putnam Valley Central School District, the 2006 School District tax decreased to \$18.14 from \$19.42 the previous year. As described on the Putnam Valley Central School District website, the decrease in tax rate does not result in lower overall revenues for the school district due to the fact that when overall assessments increase, the tax rate decreases because the tax levy (total taxes raised) remains the same. As demonstrated below, the updated tax rates would not be expected to substantially alter the fiscal impact analysis found in the DEIS.

The revised layout with 11 fewer homes would have a lower fiscal impact than the proposed action presented in the DEIS. The revised layout for the Emerald Ridge Subdivision will consist of one existing home and 13 new homes. The Center for Urban Policy Research's *The New Practitioner's Guide to Fiscal Impact Analysis* (Robert Burchell, David Listokin and William Dolphin, *The New Practitioner's Guide to Fiscal Impact Analysis*, 1985, the Center for Urban Policy Research) indicates that four bedroom homes in the Middle Atlantic Region would generate 4.031 persons per household. Town population is expected to increase by 56 persons (as opposed to 97 persons for the DEIS proposed layout with 25 lots). Based on the *New Practitioner's Guide to Fiscal Impact Analysis* estimates of 1.328 anticipated school age children per four-bedroom home in the Mid-Atlantic region (the source used for estimating school impacts in the DEIS as requested by the Town's planning consultant), minus seven percent private school enrollment assumed by the Putnam Valley Central School District (see DEIS page 3.12-6), the revised project with 14 lots would be expected to increase public school enrollment by 17 children.

Impacts to tax revenues to the various taxing jurisdictions into which the Emerald Ridge project site falls will take the form of increased property taxes. For the purpose of this analysis, it is assumed that each of the proposed single family homes on the project site will have a purchase price of approximately \$825,000 (as opposed to the \$650,000 estimated in the DEIS due to changes in market conditions since the fiscal impact analysis was originally prepared and the anticipated greater value of homes in a subdivision that is 50 percent smaller in size, with a conservation easement that precludes future extension of the subdivision roadway onto adjacent property).

The table below compares existing property tax revenues generated by the project site to projected future taxes, based on an updated 2006 assessed value of the subject site of \$1,516,000. Based on anticipated assessed values per home of \$825,000, the total projected future assessed valuation used in the analysis herein is \$11,550,000 (actual assessed value would likely be higher since the existing home on the project site has an existing assessed value of

Fiscal and Economic Impacts

February 12, 2007

nearly double that of the anticipated assessed value of the proposed homes). The projected revenues presented are based on 2006 tax rates obtained from the Town of Putnam Valley Tax Assessor's Office and the Putnam Valley Central School District. With no changes in assessments, these rates are likely to increase over time.

**Table 3.12-1
Property Taxes Generated Before and After Site Development
Emerald Ridge Modified Layout with 14 Lots**

<i>Taxing Jurisdiction</i>	2006 Assessed Value	Future Assessed Value	2006 Tax Rate	Taxes Generated		Net Increase
				<i>Before Development</i>	<i>Post Development</i>	
Putnam County	\$1,516,000	\$11,550,000	\$1.59	\$2,410	\$18,365	\$15,955
Putnam Valley Town	\$1,516,000	\$11,550,000	\$2.37	\$3,593	\$27,374	\$23,781
Putnam Valley Central School	\$1,516,000	\$11,550,000	\$18.13	\$27,485	\$209,402	\$181,917
Fire District	\$1,516,000	\$11,550,000	\$0.38	\$576	\$4,389	\$3,813
Total				\$34,064	\$259,530	\$225,466

Source: Town of Putnam Valley Assessor, Tax Receiver; Tim Miller Associates, Inc.; 2006 School Tax Bill for Tax Block and Lot Number 84.-1-5.

For comparison purposes, the following Table 3.12-2 from the DEIS indicates property taxes generated before and after site development for the 25-lot DEIS proposal.

Table 3.12-2
Property Taxes Generated Before and After Site Development
Emerald Ridge DEIS Layout with 25 Lots

Taxing Jurisdiction	2005 Assessed Value	Future Assessed Value	2005 Tax Rate*	Taxes Generated		Net Increase
				Before Development	Post Development	
Putnam County	\$1,481,965	\$15,600,000	\$1.65	\$2,448	\$25,740	\$23,295
Putnam Valley Town	\$1,481,965	\$15,600,000	\$2.59	\$3,841	\$40,404	\$36,566
Putnam Valley Central School	\$1,481,965	\$15,600,000	\$19.42	\$28,779	\$302,900	\$274,125
Fire District	\$1,481,965	\$15,600,000	\$0.43	\$642	\$6,708	\$6,065
Total				\$35,511	\$375,752	\$340,241

Source: Town of Putnam Valley Assessor, Tax Receiver; Tim Miller Associates, Inc.

*School Tax Rates are for the 2004/2005 School Year. Other Town tax rates are 2005 rates, according to information supplied by the Putnam Valley Town Clerk and Tax Assessor's office.

Projected Tax Revenue

The approximate net increase between the total current tax revenues generated by the project site and the total future project-generated revenues for the Emerald Ridge Subdivision is projected to be approximately \$225,466. The total projected revenues from the project of \$259,530 represent an increase in revenues of approximately eight times the revenues generated currently by the property. Increases to each of the taxing jurisdictions would be similar in their magnitude of increase, with the Town of Putnam Valley estimated to receive a total of \$23,781 in additional tax revenues over the existing \$3,593 in revenues that the project site currently generates in Town tax revenues. The estimated net increase between the total current tax revenues generated by the site for Putnam County (\$2,410) and the total future project-generated tax revenues for the Emerald Ridge Subdivision (\$18,365) is projected to be approximately \$15,955.

The net increase between the total current school tax revenues for the Putnam Valley Central Schools generated by the project site and the total future project-generated school tax revenues of the Emerald Ridge Subdivision is projected to be approximately \$181,917, or approximately seven times the amount of school tax revenues generated currently by the parcel. Fire District revenues would be expected to rise to \$4,389.

Based on the Preliminary 2006 Town Budget (see Appendix), Town General Fund expense amounts that are raised by taxes total \$1,954,969, and increase over the 2006 level of \$1,620,155. Based on the estimated total year 2005 Town population of 10,686 persons, this results in a per capita cost for the Town General Fund of \$183. Municipal costs for the increase in Town population of 56 persons would total \$10,245 for Town General Fund expenses. Highway Fund

amounts raised by property taxes increased to \$3,253,757, resulting in project-generated Town Highway District expenses (\$304 per person) of \$17,051. Fire District expenses, based on the per capita municipal expenditure of \$70, total \$3,930. This total of \$31,226 in municipal and Fire District costs to serve the increase in population would be covered by total projected Town tax revenues of \$31,763.

Based on demographic multipliers from the Center for Urban Policy Research's *The New Practitioner's Guide to Fiscal Impact Analysis* (Robert Burchell, David Listokin and William Dolphin, *The New Practitioners Guide to Fiscal Impact Analysis*, 1985, the Center for Urban Policy Research), each of proposed homes is expected to generate 1.328 school age children, on average, for a total projected increase in school enrollment from the project of under 19 students, 17 of whom would be expected to attend public schools (based on 7 percent of District school age children attending private or parochial schools¹).

Based on a per pupil expenditure of \$12,476 for the purpose of calculating School District costs related to the project, as described in the DEIS, total cost to the School District as a result of the projected increase in enrollment of approximately 17 students would be expected to total \$212,092. These School District costs would be expected to be offset by \$209,402 in projected School District revenues. The draft 2006/2007 School District Budget is included in the Appendix.

The method for calculating school costs has been refined, resulting in a net fiscal benefit to the School District. Considering the District's updated 2006/2007 enrollment of 1,851 students (Barbara O'Hare, Putnam Valley Central School District, November 21, 2006), and considering the School District's proposed budget using the same method as was used in the DEIS, updated per pupil costs are expected to total \$13,358. However, this estimate is reduced by factoring in the District's \$7,314,156 in State Aid, since the School District also receives State aid and other sources of funding that offset its costs. Major revenue from sources such as State aid would increase proportionately with the increase in students. After State Aid is factored in, the estimate of per pupil expenditure is reduced to \$11,573 per student. Therefore, the updated total based on the 2006-2007 Proposed Budget for the Putnam Valley Central Schools and a refined method for calculating per pupil costs results in projected School District costs from the Emerald Ridge Subdivision of \$196,739. The following table summarizes the project's cost and net revenues.

¹ Paul Lee, Business Administrator of the Putnam Valley Central School District, telephone interview, November 17, 2005.

Table 3.12-3							
Project Costs and Net Revenues							
Emerald Ridge Modified Layout with 14 Lots							
Taxing	Total 2007 Budget	Town Population (2005 Estimate)	Per Capita Cost	Project Generated Population	Project Municipal Cost	Project Generated Net Revenue	Projected Surplus (Shortfall)
Fire District	\$750,000	10,686	\$70.00	56 Persons	\$3,920	\$4,389	\$469
Total Municipal	\$5,208,726	10,686	\$487.00	56 Persons	\$27,296	\$27,374	\$78
Putnam Valley Central School	\$17,411,668*	1,851 (updated 2006/2007 enrollment)	\$11,573*	17 Students	\$196,739	\$209,402	\$12,663

Source: Town of Putnam Valley Preliminary 2007 Budget; Putnam Valley Central School District 2006-2007 Proposed Budget; Tim Miller Associates, Inc.
* Per pupil cost for portion of total 2006/2007 school budget that could be affected by the increase in students from the proposed project, as described in Emerald Ridge Subdivision DEIS, June 5, 2006, and further factoring in State Aid.

For comparison purposes, the following Table 3.12-2 from the DEIS indicates property taxes generated before and after site development for the 25-lot DEIS proposal, although not factoring in State Aid in calculating School District costs.

Table 3.12-4							
Project Costs and Net Revenues							
Emerald Ridge DEIS Layout with 25 Lots							
Taxing	Total 2006 Budget	Town Population (2005 Estimate)	Per Capita Cost	Project Generated Population	Project Municipal Cost	Project Generated Net Revenue	Projected Shortfall
Fire District	\$693,240	10,686	\$65.00	97 Persons	\$6,292	\$6,065	(\$227)
Total Municipal	\$4,659,139	10,686	\$690.00	97 Persons	\$73,222	\$42,631	(\$30,591)
Putnam Valley Central School	\$24,204,360*	10,686	\$12,476*	30 Students	\$374,280	\$274,125	(\$100,155)

Source: Tim Miller Associates, Inc., June 5, 2006.
* Per pupil cost for portion of total school budget that could be affected by the increase in students from the proposed project.

Comment 3.12-2 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant indicates that there will a short-fall of future tax revenues when applied to cost of community services. This short fall must be subsidized by current residents of Putnam Valley.

Response 3.12-2: No significant adjustment of tax rates is expected as a result of the proposed project. Tax revenues generated by the project are expected to cover or exceed anticipated costs for all taxing jurisdictions, based on a refined analysis of municipal costs and assumptions presented herein. As stated above

in Response 3.12-1, School District impacts have been calculated based on the New Practitioner's Guide to Fiscal Impact Analysis estimates of 1.328 anticipated school age children per four-bedroom home, which is the size of the homes proposed for the Emerald Ridge subdivision.

Comment 3.12-3 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): The applicant makes no mention of loss of tax revenues that could take place as a result of tax certiorari proceedings if property values in the area fall from current levels.

Response 3.12-3: *The proposed project is not expected to result in a significant increase in certiorari proceedings or a loss of tax revenues. See previous responses 3.12-1 and 3.12-2.*

Comment 3.12-4 (Joel Mandelbaum, Public Hearing Comment, July 31, 2006): I like the easements also as a kind of a precedent. It seems to me that the problem that the community has, that every time we permit new developments we discover our taxes have to go up because the taxes from the new areas don't pay enough to cover the services. The easements may be the long term solution. I, for example, probably will have to sell my property in a few years because I'm aging and probably can't use it and on a market situation I will probably wind up with, obviously smaller, but a development somewhat like this, likely to pay the highest price for my land, but with even a modest tax abatement in the intervening years I would gladly sign an easement precluding that possibility and keeping this unoccupied land, and so I think many others in the community would be willing to do this and I think the community needs to consider this very strongly.

Response 3.12-4: *In addition to the proposed Conservation Easements covering on-site wetland areas, the revised layout preserves 31.0 acres of Lot "B" in a Conservation Parcel that is to be dedicated to the Town.*

Comment 3.12-5 (Joel Mandelbaum, Public Hearing Comment, July 31, 2006): I do appreciate the tact, I would call it, with which the initial proposal has been made and given, I guess, the fact that we do need the market to operate, but we have to find ways of subsidizing it so much. It's not really a free market if the taxpayers are paying something for both the seller and the buyer.

Response 3.12-5: *See Responses 3.12-1 and 3.12-2.*

Comment 3.12-6 (Wendy Whetzel, Public Hearing Comment, July 31, 2006; John Cohen, Public Hearing Comment, July 31, 2006): One of the other concerns of course is that the amount of houses in some of the reports that I have show that it's going to cost the Town more in services than what the taxes are going to bring in, and of course this is going to impact the individual taxpayer in the community and I would hope to see that not continuing to happen. . . how much is it going to cost the Town, how much the later services, the infrastructure costs, how much that will impact the citizens of the Town.

Response 3.12-6: *See Responses 3.12-1 and 3.12-2. No significant adverse fiscal impacts are anticipated. Proposed improvements to portions of Marsh Hill Road will upgrade this Town-owned roadway at no cost to taxpayers, resulting in a benefit in terms of municipal infrastructure.*

Comment 3.12-7 (Sam Davis, Public Hearing, July 31, 2006): Is all of the roadway proposed to be given to the Town? That's an awful lot of road to add to what our highway department has already has to maintain. We're already working at the limits of what our guys can do. We start taking on more new roads like this we're going to have to add highway workers. We're going to have to add equipment. It's going to cost even more than it does already, significantly more. . . We have a great deal more cost for highway maintenance, for plowing, for salting, for blacktopping, etc. I think that that economic impact to our residents is a very important consideration in any development that we consider.

Response 3.12-7: *The Fiscal and Economic Impacts Chapter of the Draft Environmental Impact Statement (DEIS) for the Emerald Ridge Subdivision, dated June 5, 2006, provided an estimate of road maintenance costs based on a 1995 study by Gary L. Woods Consultants. The following text was provided on DEIS page 3.12-7:*

“Local road maintenance costs were analyzed in a 1995 study commissioned by the Philipstown Town Board (“Philipstown Roads Committee Report,” Gary L. Woods Consultants, February 27, 1995). This study found that for the 10.12 miles of paved roads studied, the cost in 1994 of roadway maintenance without paving costs was \$36,537. Including pavement costs, average cost for maintenance of the total of 10.12 miles of paved roadways was found to be \$48,622. This equates to \$4,804.55 per mile. This amount adjusted to 2005 dollars equals approximately \$6,750.

With a total length of the proposed rebuilt and extended Marsh Hill Road of approximately one mile, annual roadway maintenance costs that would be expected to be incurred by the Town of Putnam Valley would be expected to be approximately \$7,000 or less.”

As stated above, the modified Emerald Ridge Subdivision layout would reduce the proposed roadway length by 2,400 linear feet. With approximately half the cost associated with road maintenance that was estimated in the DEIS for the 25-lot proposal, it is estimated that the modified layout for the Emerald Ridge Subdivision would result in annual road maintenance costs to the Town of approximately \$3,500.

The Applicant has contacted Earl Smith, the Town’s Superintendent of Highways, to confirm this assumption. Mr. Smith indicates that this estimate is appropriate for the purpose of a rough estimate of maintenance costs, but is likely to be considerably more than the Town’s actual expenses for maintaining the roadway.

According to Mr. Smith, routine maintenance includes pothole repair on an ongoing basis after approximately eight-to-ten years, snow removal, salting/sanding, and curbing repair (if needed). Snow removal costs vary every year based on the frequency of storms (e.g., between five and 20 snow falls per season). An estimate of six per month would be a maximum. The costs to the Town for snow removal are relatively low, according to Mr. Smith, typically requiring less than a half an hour of labor at labor costs of roughly \$25 per hour for the typical snow storm.

About 300 lbs of salt at \$55 per ton is used per snow storm per lane mile of roadway, and Marsh Hill Road typically requires a single center lane salting only. Costs of pothole repair

can not be accurately estimated, but would fall within the worst case estimate of \$3,500 per year for all maintenance activities, according to Mr. Smith.² Tax revenues to the Town of Putnam Valley of \$25,418 would be expected to cover annual road maintenance costs associated with the proposed project.

Comment 3.12-8 (Patty Villanova, Public Hearing, July 31, 2006; Dan Ricci, Public Hearing, July 31, 2006): I really like what Sam said about the economic impacts and I was glancing at this document before I came here and it's mentioned that Mr. Santucci, these properties are going to generate over -- close to \$16 million, you know, in the selling price and even if by their own numbers there's only 30 kids coming in and assuming that all things are okay, right now it's costing us almost \$20,000 per child, gross figure, not Special Ed or anything. That's like \$600,000 a year. You know, that's a big hit that we're taking. . . I imagine they're going to be charging them high taxes. I imagine the taxes on the house has got to be over 20 grand. But what if there's two or three kids? What if one of those kids is Special Ed and cost 100,000? I mean, these are all just possibilities. You know, I concurred with Sam's concerns about the road and I was also -- I'm not sure what it means when a developer dedicates the road to the Town. I assume that means that they dedicate the cost to the taxpayers. . . The project has pluses and minuses for the Town and in the minus column are the cost impacts (overall how its it going to effect us). I understood at one point it was four bedrooms. It's been reduced to three bedrooms? . . . How is the [municipal] cost of the project going to affect us? Is it going to hit us in the purse, and we are getting closer to that build out number and I guess I might feel a little better if you know, any possible scaling back -- in other words, if we can get to a number -- you know, get to a number where it's not going to -- the overall impact isn't going to hurt us but at the same time you're going to get a reasonable return because I don't think it's fair that you should have to make the sacrifice so that you're not burdened, but we shouldn't have to be burdened either. And this is really what compromise to me is all about, is the idea that there is a middle ground, we can find it and it may take a little bit more work and there's certainly been a lot of work that's already been put into this project, but it's the idea, you know, what Mr. Santucci does here is what he does for a living, but what he does for a living shouldn't hurt the overall taxpayers of this Town and that's really, I guess, the direction I'm trying to move in; that what he does doesn't hurt the taxpayers. Again, we should not be on the receiving end of, you know, something that was done, you know in a commercial way but that came back, you know, to haunt us years and years later. . . I don't think that the Town is under any obligation to ensure that a developer makes a profit when they come into this Town to try to do something and the Planning Board or Zoning Board needs to take action on it.

Response 3.12-8: *The revised layout with 14 lots described in Chapter 2.0 represents a substantial compromise on the part of the project sponsor. While the original layout with 25 lots was not expected to result in significant adverse fiscal impacts, the reduced project with 14 lots reduces municipal costs associated with the project, as well as revenues (see Response 3.12-1). As indicated in Responses 3.12-1 and 3.12-2, the project is expected to have neutral or positive impacts on all taxing jurisdictions.*

Comment 3.12-9 (Patty Villanova, Public Hearing, July 31, 2006): If we're mentioning about these economic impacts, will the economic impacts if they are found to be substantial, will that ultimately impact this project? Would there be constraints on it? Would it be lessened if it was

² Earl Smith, Superintendent, Town of Putnam Valley Highway Department, Telephone Interview, September 28, 2006.

found that the economic impacts -- it looks like you're mitigating a lot of the environmental stuff and it's certainly being examined very, very carefully, but the economic stuff is what concerns me. Is it realistic -- would you actually lower the density of a project if it was found to be economically a big burden on the Town?

Response 3.12-9: *SEQRA requires that project sponsors provide mitigation for significant adverse impacts associated with their projects. While the DEIS's analysis of costs and revenues from the Emerald Ridge Subdivision indicated a shortfall in terms of municipal and schools taxes, the level of costs not covered by anticipated revenues would not have been likely to result in significant adverse impacts on the Town Budget or the School District. Potential tax increases to compensate for the shortfalls in tax revenues identified in the DEIS, when distributed over all households within these taxing jurisdictions, would be expected to be very minor. However, as indicated in Responses 3.12-1 and 3.12-2, the project is expected to have neutral or positive impacts on all taxing jurisdictions.*

Comment 3.12-10 (Gelosh Lekocevic, Public Hearing, July 31, 2006): My house near the project site on Peekskill Hollow Road is an old, small house. I am concerned about taxes.

Response 3.12-10: *See Responses 3.12-1 and 3.12-2. Regarding the potential for increases in tax assessments for smaller homes in the vicinity of the project site due to changing neighborhood land values, the introduction of the proposed market rate homes is not expected to drive up house values in the area as a result of changes in area-wide housing values.*

Comment 3.12-11 (Michel LeBlanc, Public Hearing, July 31, 2006): About the impact to the Town on the costs, I know I've heard in the literature about the developers covering impact and I know other communities have done this and I'm sure it's researchable, but I would like to formally ask, because you said that that's what happens, we ask questions and we get an answer, right, to have a comparative study of other towns and how they ask or require the developers to cover any impacts like for the highway department or the school.

Response 3.12-11: *Some states have passed enabling legislation to let counties and municipalities impose fees to be collected from developers for improvements to roads, and sewer, drainage and water systems, for example, including New Jersey and Connecticut. Cities in California have utilized this practice to the greatest degree. New York State has no such legislation, although municipalities regularly require developers to make infrastructure improvements as a condition of project approvals. Proposed improvements to Marsh Hill Road will provide a significant benefit to the Town. The project also addresses anticipated additional costs of municipal services through increases in tax revenues (see Responses 3.12-1 and 3.12-2).*

Comment 3.12-12 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): Through attending hearings and reading the DEIS of Emerald Ridge, I have become newly cognizant of the economics of the Town of Putnam Valley. Occupied lands costs the town more than it produces in revenue. Privately owned vacant land is the cash cow that keeps Putnam Valley solvent. In turning 87 acres of vacant land in to occupied land, you are taking a major step (along with other similar steps in other parts of town) toward the killing of that cash cow. How much more development of vacant land can the economy of the town sustain? As the

owner of 18 acres of highly taxed vacant land, I have to ask the town in all seriousness: when will the town align its assessment policies with its own long-term economic interests and needs? After all the many years during which the owners of the land now being turned into Emerald Ridge helped subsidize the schools and services of the community they are now cashing in their equity and letting the town subsidize them. Perhaps, had the town offered tax abatement in return for conservation easements years ago, their land would still be vacant for the foreseeable future. Isn't that a route the town should explore and possibly vigorously promote now? I, as an owner of land likely to be sold for development within the next decade otherwise, might find such an invitation tempting.

Response 3.12-12: *See Responses 3.12-1 and 3.12-2. The level of costs not covered by anticipated revenues for the 25-lot proposal described in the DEIS would not have been likely to have resulted in significant adverse impacts on the Town Budget or the School District. The revised layout with 14 lots reduces anticipated costs to the Town, the School District and other taxing jurisdictions. Proposed areas for preservation on the project site have also been greatly expanded to include the majority of Lot "B". It should also be noted that the statement that the project sponsor has been paying taxes on the project site in the past without realizing the benefits of those associated services (eg, School District taxes) is accurate.*

Comment 3.12-13 (Marlo Kovacs, Land Steward, Hudson Highlands Land Trust, Garrison, New York, Letter August 11, 2006): How will the negative fiscal impact to the community be mitigated? With options that include impact fees, reducing the number of total units and total number of bedrooms per unit, is this truly an unavoidable impact?

Response 3.12-13: *See Responses 3.12-1 and 3.12-2.*

3.13 CUMULATIVE IMPACTS COMMENTS AND RESPONSES

Comment 3.13 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): The applicant should identify the cumulative impacts of the emergency access road on the Brookfalls Cottages parcel. Will the proposed road facilitate additional lots on the Brookfalls parcel? Will the lots of Brookfalls Cottages still conform to the net lot area requirements? Will stormwater run-off affect the homes downhill?

***Response 3.13-1:** See response 2-2. The emergency access road is no longer proposed. A 31.0-acre conservation parcel is proposed on the eastern portion of Lot "B". The proposed conservation parcel will preclude access to the land to the east from the proposed on-site roadway.*

Comment 3.13-2 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Potential impacts section is very general, lacks data and analysis of projects listed in Table 3.13-1. Analysis should be undertaken to determine how much habitat will be altered, how much potential impervious surface created, etc, and the cumulative impacts of these actions should be quantified.

***Response 3.13-2:** The specific impacts of planned and proposed projects identified in DEIS chapter 3.13 will be disclosed through the environmental review procedures associated with those proposed projects. A site-specific review of all proposed development in the Town of Putnam Valley is beyond the scope of the EIS for Emerald Ridge. However, as stated in DEIS Chapter 3.13, some loss or alteration of wildlife habitat is expected in the long term as a result of continued growth in the Town. The clearing of woody vegetation and conversion to maintained landscape will likely result in the conversion of habitats, encouraging species that are better adapted to suburban landscapes. Future SEQRA reviews of all of the proposed projects are likely to consider this alteration of habitat, and may include provision of wildlife corridors and habitat protection, particularly for threatened or endangered species that might exist on individual parcels. Long term impacts to streams and tributaries resulting from the pending projects identified in DEIS Chapter 3.13 are considered to be unlikely due to State, federal and local wetland and stormwater ordinances. The updated New York State regulations include stringent standards based on national research. New York State DEC also requires weekly monitoring of sites with reporting of findings and compliance/non-compliance with regulatory standards to ensure that erosion controls and stormwater structures are properly maintained. All pending projects will be required to meet the standards set forth in the applicable regulations. It is assumed that review of all pending projects within close proximity to these environmentally sensitive areas will include a review of water quality and quantity impacts, thermal impacts from the clearing of trees too close to stream corridors, and siltation of flows from erosion during construction.*

4.0 ALTERNATIVES COMMENTS AND RESPONSES

Comment 4-1 (Jan K. Johannessen, Town Planner, Town of Putnam Valley, Letter August 31, 2006): It is understood that a sixth stormwater basin is required for the conventional plan, would this also be needed for the cluster alternative provided in the DEIS?

Response 4-1: A sixth stormwater basin would be required for the Cluster Alternative presented in the DEIS. This alternative is no longer being evaluated (see Response 2-2).

Comment 4-2 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should submit a cluster alternative which incorporates design principles of Conservation Subdivision Design including the preservation of additional open space and small lot sizes without compromising wetlands, wetland buffers and critical environmental areas. Habitat corridors and passive recreational routes should be designed to connect to existing corridors and routes on adjoining properties or reasonably planned areas in a meaningful way such parcels are linked together by preserved greenbelts and habitats.

Response 4-2: The Cluster Alternative is no longer being evaluated (see Introduction). Although it is a conventional subdivision layout, the revised proposed action presented and evaluated in this FEIS accomplishes the objectives listed in this comment, including wetland and wetland buffer avoidance, preservation of additional open space, and providing habitat corridors (see Chapter 3.6). A 31.0-acre open space parcel is proposed for dedication to the Town as parkland. If the 25-lot layout is pursued, the Applicant will revisit this comment.

Comment 4-3 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): A cluster subdivision with no wetland impacts and with less lots should be discussed, if infrastructure costs can be cut through a cluster subdivision, the same profit margin should be obtainable with less lots. Also, economic impacts are reduced along with environmental.

Response 4-3: See Response 4-2. The revised layout described and evaluated herein also reduces the density of the project from 25 lots to 14 lots.

Comment 4-4 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): The Code Compliant Marsh Hill Road Alternative requires too much environmental impact with the removal of over 600,000 cy of material.

Response 4-4: Comment noted.

Comment 4-5 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): An additional alternative that should be discussed is to build slightly higher valued houses with less lots in total. This will lessen the environmental impacts.

Response 4-5: Comment noted.

Comment 4-6 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): An additional alternative that should be discussed is to eliminate the cul de sac to lessen the environmental impacts.

Response 4-6: Comment noted.

Comment 4-7 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): An additional alternative that should be discussed is to cluster with slightly less lots. The cluster eliminates a lot of disturbance and lessens the infrastructure costs.

Response 4-7: Comment noted.

Comment 4-8 (Joel Mandelbaum, Public Hearing, July 31, 2006): One thing that worried me very much in the DEIS was the alternative cluster housing. I hope that's off the table. Please put it off the table. Putting all these houses right in this area would have an even much greater impact on the wells nearby -- on their own wells and on the wells nearby on the problem of replenishment that is covered very well when the houses are spread throughout. Cluster housing is an ideological matter that has really nothing to do with this project where the undisturbed woodland remains at large and I think that covers the matter.

Response 4-8: Comment noted.

Comment 4-9 (Sam Davis, Public Hearing, July 31, 2006): I think the idea of clustering is a very good one because if we could put all the houses in one small area and take care of the water concerns that you had, sir, we would leave all the rest of it undisturbed which would certainly help in terms of biodiversity, in terms of impact to the wetlands, etc.

Response 4-9: See Response 4-2.

Comment 4-10 (Joel Mandelbaum, Putnam Valley, New York, Letter August 8, 2006): I have examined the two "cluster" alternatives shown in the DEIS. From my standpoint as well as that of the neighbors currently residing on Marsh Hill Road, they would be a disaster, placing all the wells and septic systems of the entire development in close proximity to our properties instead of spreading them out over the full 87 acres. The chance of wells causing depletion of my and other neighbors' wells would be greatly increased, and the problem of natural replenishment, especially during droughts, disastrously increased. The developers' original plan is better and safer, and, if the mapped "undisturbed woodlands" are rigorously maintained, almost as friendly to wildlife as the cluster would be.

Response 4-10: Comment noted.

5.0 USE AND CONSERVATION OF ENERGY COMMENTS AND RESPONSES

Comment 5-1 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Applicant should provide additional information including proposed house orientation regarding solar exposure. What alternative energy systems can be employed to reduce energy usage as part of this subdivision?

***Response 5-1:** Homes on lots eight through eleven are generally oriented to the south, which could afford solar access for energy conversion systems. All homes will have some southern exposure. As described in the DEIS, the proposed houses will be designed and built in conformance with the energy conservation regulations of the New York State Energy and Building Codes, at a minimum. The specific energy conversion systems have not yet been designed in sufficient detail to permit examination of the extent of energy consumption or conservation. Modern heating and cooling systems are proposed to conserve energy resources.*

6.0 APPENDICES COMMENTS AND RESPONSES

Comment 6-1 (Bruce Barber, Town Wetland Inspector, Town of Putnam Valley, Letter August 26, 2006): Volume II and Plans: Were not submitted. Applicant is requested to submit these materials to allow for adequate review.

Response 6-1: Volume II of the DEIS and the full plan set were submitted to the Town in the appropriate number of copies on June 5, 2006. Additional copies of Volume II Appendices and the full plan set were sent to the Town Wetland Inspector in response to this comment.

Comment 6-2 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix B, Wetland Delineation Report and Functional Analysis Data Sheets, the wetlands delineation is not finalized as of this date. Once finalized, all data in this appendix should be updated. The emergency access roadway should be evaluated to determine if any portion of it affects wetlands or wetland buffers.

Response 6-2: See Response 2-2.

Comment 6-3 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix C: Ecological Assessment Report, the addition of the emergency access roadway should be incorporated into this appendix and evaluated for its impact on the ecology.

Response 6-3: See Response 2-2.

Comment 6-4 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix I: Well Test Report, some of the data as discussed in section 3.3 should be elaborated on based on the contaminant levels of the sampled test wells. A comparison chart should be established between actual and acceptable levels or containment.

Response 6-4: There is no credible evidence of any contaminants in the well water tested above the standards applicable to individual domestic supply wells. The apparent finding of arsenic in MW-1 (aka Well 1 and TW-1) was refuted by testing three wells for arsenic with no detected. The findings of elevated levels of iron, color, turbidity, and iron plus manganese are physical water quality parameters typical of newly-completed wells in bedrock aquifers, and can be eliminated by well development (cleaning) and pumping.

Comment 6-5 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix J: Stormwater Pollution Prevention Plan, see comments on section 3.4 above. Incorporate the emergency access roadway into the SWPPP and provide any additional soils testing as required.

Response 6-5: See Response 2-2.

Comment 6-6 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix K: Tree Survey Data Sheets, provide a tree survey for the parcel containing the proposed emergency access roadway.

Response 6-6: See Response 2-2.

Comment 6-7 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix N: Emerald Ridge Drainage Districts Engineer's Report, with the addition of the emergency access roadway, additional easements maybe required for stormwater structures along the new roadway. This new roadway is not going to be dedicated to the town at this time, coordination for parties responsible and a maintenance plan is to be provided.

Response 6-7: See Response 2-2.

Comment 6-8 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): Subsurface storage should be evaluated in lieu of surface basins.

Response 6-8: *As a result of the reduced size of the proposed project and elimination of 1,700 linear feet of roadway, reduction in limits of disturbance from 26.6 acres to 14.2 acres, and the creation of a 31.0 acre conservation parcel, the post flow stormwater peak flows will be greatly reduced from the original plan and will also be equal to or less than the pre-development rates.*

Comment 6-9 (Todd W. Atkinson, P.E., Town Planning Board Engineer, Letter August 31, 2006): For Appendix O: Rock Removal and Blasting Program, any additional blasting requirements due to the addition of the emergency access roadway should be discussed in this section and recalculated.

Response 6-9: *See Response 2-2 regarding the emergency access roadway. A revised Rock Removal and Blasting Program is included in Appendix F.*