February 22, 2010

Mr. John Piazza, Chairman,
Town of Mamakating Planning Board
2948 Route 209
Wurtsboro, NY 12790

Re: Seven Peaks At Mountain Road
Mountain Road/Hamilton Road (County Route 65)
Town of Mamakating, New York
Technical Evaluation of DEIS

Dear Chairman Piazza and Planning Board Members:

Our firm has been retained by the Basha Kill Area Association to review the Draft Environmental Impact Statement (DEIS) of the above referenced proposed Seven Peaks At Mountain Road Development. Our review focused primarily on the engineering and associated environmental elements of the proposed project, with particular emphasis on stormwater management, site alteration, visual impacts and sewer services. The following review comments are being submitted on behalf of our client, to be entered into the DEIS public hearing record for this proposed development.

I. Summary of Review Findings

Our review of the DEIS materials was conducted to determine whether substantive impacts associated with the proposed development require further investigation and to identify corrections that must be made to the document to allow an accurate representation of potentially significant project impacts.

The results of our review indicate that the DEIS documentation:

- Does not properly assess the visual impact associated with the extensive tree clearing that that project will require
- Does not show that sanitary sewer services can be approved/constructed as designed
- Does not properly assess the impact associated with the massive earthwork operation required to construct the proposed road system network
- Does not include a valid stormwater analysis to properly show that stormwater impacts have been mitigated and;
contains many substantive errors and significant omissions in the information presented that must be corrected so that the Board can properly determine the environmental impacts associated with the project.

The Stormwater analysis provided lacks the level of detail typically provided for a project of this scope and scale, preventing the proper assessment of the stormwater impacts. The grading required to construct the proposed extensive road network is substantial, requires massive cuts and fills to construct, and has a high potential for causing erosion of soil and an impact on downstream properties. The limit of clearing shown on the plans has also been substantially underestimated with regard to providing views to the homeowners, which appears to be a critical element of the project’s design. Additionally, the DEIS has not shown that sewer services can be constructed or approved at the site, due to the lack of soil testing data and nonconformance with Health Department regulations.

As the Board will note, substantial changes to the DEIS are required to provide the Board and public with a document that comprehensively and clearly assesses the environmental impacts associated with the project, with proper mitigation measures to be implemented. The following comments are offered on behalf of our client, the Basha Kill Area Association, for the Board’s consideration and to be entered into the project's record of public comment.

II. Visual Impact & Clearing

Per our review of the DEIS and project correspondence, it is clear that providing views for the homeowners of the surrounding valleys is a key element of the project’s design from the Applicant’s standpoint. The importance of this amenity to each homeowner has been made clear, as iterated on several occasions in the Chazen 12/22/09 Letter to the Board. Although the topography of the site seems to afford views of the surrounding valleys, the clearing required to obtain these views has been substantially underestimated in the DEIS.

The “limit of clearing” lines shown on Sheets ER-1 through ER-4 will provide very little views from the homes due to the close proximity of wooded areas to the home sites. As the Board may know, providing views in wooded areas typically requires large swaths of trees to be removed in the line of site. Specifically, it is assumed that views will be expected from the first floor elevation of the proposed home. The site is predominantly wooded with small brush areas throughout the site, therefore the majority of houses will have large mature trees in their line of sight. Assuming a minimum tree height of 40 feet (as assumed in the Visual Analysis), the wooded areas would have to be cleared to an elevation of 40 feet below the first floor elevation at a minimum to provide a line of site during leave on conditions. This distance is approximately 150 to 250 feet from the house depending on the extent of the view desired and would also have a view width desired by the builder/homeowner. Significant additional tree clearing beyond what is shown on the Subdivision Plans will be required to provide the homes with any form of a view. Perhaps more importantly, the Visual Analysis does not appear to have accounted for this significant additional tree clearing, therefore underestimating the visual impact from surrounding viewpoints.

We consider this to be a substantial shortfall in the assessment within the DEIS of land clearing and visual impacts of the project. The site as designed simply will not provide the views that appear to be a key element of the project’s design. If the homes are to be afforded views of the valley, the limits of clearing must be revised to provide those views, resulting in clearing
substantially beyond what is currently shown on the plans. The Visual Analysis must also be revised to account for the “clearing swaths” that would certainly be more visible from surrounding areas than the minimal clearing that was previously assumed.

Alternatively, the limits of clearing currently shown on the plan should be legally enforced (e.g. conservation easement) to prevent homeowners from clearing to provide views. Should the clearing of these “swaths” occur, the current environmental review would be insufficient in that regard, since it is not accounted for in the current plans or analysis.

III. **Sanitary Treatment**

The project proposes individual Sanitary Subsurface Treatment Systems (SSDS’s) for the treatment of sanitary effluent from each of the proposed homes. Although the proposed lots are typically large (~ 5 Acres), the terrain is steep and the soil conditions are not optimal for the installation of SSDS’s. The soil testing performed was not adequate to show the feasibility of providing sewer service for the lots. The following details the issues with regard to sanitary sewer services:

1. **Insufficient Testing.** To allow construction of an SSDS under NYS Department of Health regulations, acceptable percolation as well as acceptable deep hole tests must be provided at the proposed SSDS location. To our knowledge, no percolation tests were conducted on the site, therefore it is unclear whether any of the proposed SSDS locations would be allowable. Additionally, the deep hole tests conducted were sparse, with tests completed on only a portion of the lots. The results of many of the deep soil tests also were not favorable, with many of the lots showing mottling in the upper 24 inches of soil. Mottling in these cases shows the presence of the water table less than 24 inches below the surface, which is an unacceptable test result per NYS Department of Health regulations. In our opinion, the soil testing is inadequate in showing that the current lot configuration is feasible with regard to the installation of SSDS’s.

2. **SSDS Areas Sited Over 15% Grade.** Per NYS Health Department Regulations, SSDS’s cannot be located where topography is greater than 15%, however many lots do not meet this criteria in these areas. The DEIS should describe how these systems will be approved while not in conformance with applicable regulations (e.g. Lot 3).

3. **50% Expansion Area Not Shown.** Per the Subdivision Plans, each home site includes a primary SSDS area for sanitary effluent treatment. However, per NYS Health Department Regulations, a minimum additional 50% expansion area must be provided. The required expansion areas are not sited on the plan, and it appears that several lots do not have area that is suitable for this use (e.g. Lot 48).

IV. **Site Grading**

Due to the steep topography of the site, substantial grading will be required to construct the proposed road network, as clearly shown on the Subdivision Plans. The proposed grading includes massive cuts and fills of up to 20 feet in height and grading swaths up to 175 feet wide necessary to construct the road. The earthwork required is substantial, and will forever change the landscape of the site. These impacts were not properly assessed in the DEIS with regard to the site alteration and the potential for soil erosion during construction.
Additionally, the proposed road grading extends beyond the limits of the property in three separate instances, all along John Muir Drive. In the first instance on Sheet SD-15, the grading associated with the construction of the road (south of intersection with Frederick Law Olmstead Way) extends approximately 50 feet beyond the property line to within 60 feet of the existing home on the property. The road grading again extends onto neighboring property at the bottom of Sheet SD-15 (just before the road turns southwest extending down the hill). The proposed contours are not shown correctly in this location, which would have shown the grading extending a minimum of 25 feet onto neighboring property. Finally, the grading again extends onto neighboring property on the top of Sheet SD-16.

There appear to be three different property owners for these three locations. In all three cases, the road should either be redesigned, or proof of permission from the owner to construct the improvements must be provided.

V. Cul-De-Sac Length

Per the proposed road design, the first 2,100 +/- feet of the road will be the only access into and out of the development for homeowners and emergency access vehicles. This portion of proposed road is very steep (12% grade), has steep roadside embankments and has a large upstream drainage area that could cause washouts during storm events. Should the road be impassible for any period of time, many residents and future hotel guests risk having no emergency services available for extended periods of time. We consider the proposed road network to be unsafe with regard to emergency services and this issue should be further discussed/mitigated in the DEIS.

VI. Segmentation

In an effort to avoid segmenting the environmental review of the project (not allowed under SEQRA), the Scoping Document required that the impacts of the hotel with regard to area of disturbance and stormwater runoff be assessed (as well as other impacts listed in the Scope). However, only very simple schematics of the hotel area were prepared (with no stormwater improvements shown) and no stormwater design/analysis was provided. The DEIS does not follow the Scoping Document in this regard and inappropriately segments the SEQR review of the hotel portion of the project. The Applicant has indicated that a Supplemental EIS (SEIS) would be prepared for the hotel portion of the project. However, SEQR requirements are clear in that the estimated environmental impacts of the additional action (in this case the hotel) must be assessed in the original DEIS, and the SEIS would assess any impacts beyond what was originally proposed. In this case, the impacts with regard to the additional action are simply not assessed in the original DEIS, which is not allowed under SEQR. The impacts associated with the hotel use must be assessed in the DEIS to comply with SEQR.

VII. Wetland Buffers

Although the direct filling of wetlands on the site is minimal, the impact to their buffers is substantial. Several of the larger wetlands on the site will be virtually encompassed by the development’s roads and stormwater ponds (See sheets SD-6, SD-7, SD-10 and SD-14), providing no buffer at all around these sensitive areas.
Although there is significant project area (562 acres) to locate the road system network and stormwater ponds, the development did not avoid the sensitive wetland buffers in several areas, virtually eliminating the buffer in several instances. This type of development should be discouraged, as it will undoubtedly severely impact the functionality of these wetlands with regard to wildlife habitat and stormwater filtering capabilities. The DEIS should further address the impacts to these wetland areas as a result of the buffer removal.

VIII. Stormwater

As mentioned above, the stormwater analysis provided in the DEIS is rudimentary and therefore inappropriate for a project of this scope and scale and in no way assesses the stormwater impacts of this project. The Planning Board’s engineer has indicated their concern regarding these issues, however, the Applicant has stated that the information will be provided after the SEQR process. This method of review is unacceptable, as it removes the public from the review of the stormwater impacts associated with the project. The current DEIS does not allow the Planning Board and public to properly review the stormwater impacts of the project, since the information provided lacks any substantive detail. The following lists the deficiencies and lack of detail associated with the stormwater analysis and design:

1. Inappropriate methodology. The Applicant has chosen to utilize the TR-55 method for sizing stormwater detention basins (Chapter 6), which is a very simple method for estimating the size required for the basins. The method was commonly used in the 1980’s and early 1990’s, until much more sophisticated and accurate stormwater modeling software became available, which use time-dependant hydrology (simulated storm events) to size stormwater ponds. The TR-55 detention basin sizing method is simple, takes very little time to use, but is much less accurate than the computer software that is used almost exclusively for stormwater analysis for current projects. Although the stormwater analysis utilized modern Hydrocad software in it’s analysis, the stormwater ponds were not modeled with this software, and broad assumptions were made within the parameters, further reducing the accuracy of the analysis. The Lanc & Tully 10/12/09 Letter states “Although a stormwater management plan was submitted it is somewhat generic in nature...”. The Applicant has responded by stating that a design of the ponds will be provided during the subdivision approval process. A generic simplified stormwater analysis is simply unacceptable for a project of this magnitude and potential impacts.

2. Incorrect Drainage Areas. As observed in our review and stated in the Lanc & Tully 10/20/09 Letter, virtually all of the drainage areas have been delineated incorrectly. Instead of correcting the error, the Applicant again responded by indicating the errors will be addressed “as the project design progresses” (Chazen 12/08/09 Letter). Accurate drainage areas are the basis for any drainage analysis and must be corrected to provide a meaningful review of the stormwater impacts.

3. 10-year Design Storm. The NYSDEC requires that the 10-year design storm be analyzed, however this storm event was not included in the analysis. Despite the request in the 10/20/09 Lanc & Tully Letter stating that “The report should analyze the site for the 10 year design storm”, the Applicant indicates that this storm event will be included in the “final SWPPP” (Chazen 12/08/09 Letter), which we assume means it will be
provided during the Subdivision review process. Again, this information must be included as part of the SEQR process to assess the stormwater impacts.

4. **Time of Concentration Assumptions.** The time of concentration calculations use a direct entry assumption for time of concentration segments within the calculations. The actual time of concentration should be calculated using the available topography and data on the site. Broad assumptions are not appropriate for a project of this scale.

5. **Incorrect Time of Concentration Sheet Flow Segments.** Pre-development drainage areas 1 and 2 utilize a sheet flow segment through the very limited grassed areas that exist in those watersheds. Per the TR-55 methodology, the longest time of concentration path must be chosen, in this case a sheet flow segment through any of the wooded areas would have yielded a longer path. The result are pre-development flows that are overestimated, improper preliminary pond sizing and an incorrect comparison to post-development flow rates. The calculations must be revised to follow TR-55 methodology and therefore providing accurate results.

6. **Incorrect Time of Concentration Shallow Concentrated Flow Segments.** Pre-development drainage areas 1 and 2 utilize a ground cover condition of “unpaved” for the shallow concentrated flow segments. However, the vast majority of site is wooded, therefore the available ground cover condition of “woodland” should be utilized. Since the “unpaved” condition is much faster than “woodland”, the result is pre-development flows that are overestimated, improper preliminary pond sizing and an incorrect comparison to post-development flow rates. The length of shallow concentrated flow for drainage area 2 is also incorrect (800 feet unaccounted for). The calculations must be revised.

7. **Hotel Impacts Not Analyzed.** The project’s Scoping Document (Page 2) indicates that the impacts related to the hotel with regard to “stormwater runoff and erosion control will be assessed in the DEIS”. No stormwater design or calculations whatsoever were provided with regard to the hotel portion of the project. The DEIS must be revised to be in conformance with the Scoping Document.

8. **Stormwater Design Not Provided.** As mentioned above, the Subdivision Plans include only preliminary grading designs for the stormwater ponds, with no volume calculations provided. The Plans also do not include any stormwater collection system components (e.g. swales, culverts, etc.) to indicate how any of the runoff would be conveyed to the ponds. Showing the preliminary locations of these structures is typical for a project of this scale and should be included in the plans.

As thoroughly detailed above, the stormwater analysis provided lacks the detail to allow a meaningful assessment of the environmental impacts associated with stormwater. The calculations are crude and incorrect, preventing accurate results. The DEIS must be revised in this regard.

**IX. Subdivision Plan Revisions**

During our review, we found it difficult to determine the identity of several objects on the Subdivision Plans, which should be revised for clarity. We have the following comments in this regard:
1. The plans do not have a legend, making it difficult to determine the identity of objects/lines. A legend should be provided to identify the features on the plans.

2. Many lots contain a circular symbol with an "X" through it (generally numbered in the 5000's), many times located within or near a proposed septic system. We could not determine what this symbol represented anywhere on the plans or in the DEIS. If the symbol represents a soil or field test, the results of the test should be provided. Regardless, the identity of symbol should be provided in the legend.

3. Many lots contain large boxes (e.g. located to the east of the home on Lot 8) which could not be identified by our office.

4. The road station numbers were not on Sheets 12, 15, 16, making it very difficult to review the road profiles in these areas.

5. Rock outcrops do not appear to be located on the Subdivision Plans, however it is assumed that they exist on this prominent ridge. Their locations are particularly important in estimating blasting requirements as well as the feasibility of constructing inground septic systems and should therefore be shown on the plans.

X. **Conclusions and Recommendation**

As detailed above, the DEIS is substantially incomplete with regard to stormwater, due to the lack of detail provided, preventing a meaningful determination of the impacts. The sanitary sewer systems on each lot lack the soil testing to support their feasibility and do not meet basic Health Department regulations. With regard to the visual impacts of the project, the land clearing required to provide the views for each homeowner has been grossly underestimated on the plans and the analysis, resulting in an incorrect assessment of the visual impact associated with the project.

The proposed road network is unsafe, potentially preventing emergency vehicles from accessing the site. Additionally, the grading associated with the proposed road system in this sensitive area is substantial, with road and stormwater grading decimating wetland buffers throughout the site. The review process is also flawed, allowing a segmented future SEQR review of the hotel in direct violation of the SEQR process.

Based on the substantial lack of information provided and the corrections to very substantive errors and omissions that need to be made to the DEIS, we believe that addressing all of these issues is well beyond the normal procedure used to continue toward preparing the FEIS and project finding statement. We suggest that the Board consider requiring a new DEIS to address these substantial issues of concern, or at the very least, require an addendum to the submitted DEIS be prepared by the Applicant. Once this "new" information is available, we suggest that the public hearing be reopened on this matter so that the Board will have the opportunity to evaluate input from the public on the revised project proposal.

We thank you for your consideration of this matter and appreciate the opportunity to provide these comments. Please feel free to contact me at your convenience with any questions or comments.
Sincerely,
David Clouser & Associates

Andrew Willingham, PE
NYS Professional Engineer No. 083984

cc: Paula Medley / Basha Kill Area Association