Appendix 1

Comments Received During the Public Comment Period

Memo

To: Town of Windham Planning Board

From: Mary Beth Bianconi

CC: Kevin Franke, The LA Group; File

Date: April 30, 2012

Re: Comments on the Draft Environmental Impact Statement for the Windham Mountain Sporting Club

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Delaware Engineering, P.C. has completed a review of the Draft Environmental Impact Statement (DEIS) for the Windham Mountain Sporting Club on behalf of the Town of Windham Planning Board. This memo provides comments generated through review of the DEIS by a staff of licensed engineers as well as specialists trained in the fields of architecture, biology, geology, stormwater, and land use planning. Where referenced, "FEIS" means Final Environmental Impact Statement which is anticipated to the response to these comments as well as those provided by other agencies and the public. Comments are provided by section and/or topic.

Section 1 – Purpose, Need and Benefits

Review of Section 1 of the DEIS for WMSC resulted in the following comments:

1. Page 1 – 3. A discussion of the rationale as to why Batavia Lane and the four single family units are incorporated as part of Phase 2 and not part of Phase 1.

2. Page 1 – 6. The DEIS lists the various goals of the Town of Windham Comprehensive Plan and describes the means in which the WMSC project achieves these goals, in the opinion of the project sponsor. One such goal is the provision of community facilities. The DEIS states that the provision of community facilities is not

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a responsibility of a private development, but that the Town can utilize the tax revenue generated from the development to provide enhanced community facilities if desired. The Economic and Fiscal Impact Assessment incorporated in Appendix 14 of the DEIS describes direct, indirect and induced economic benefits of the project. Indirect and induced economic impacts are the result of off-site spending in the community and other economic activity off-site. This infers that either or both employees and Owners/Guests at WMSC will engaged in economic activities in the Town off-site, and while doing so, hopefully, will utilize community facilities. A vibrant community with many excellent community facilities will greatly assist WMSC with sales and satisfaction of Owners and Guests. To the extent that WMSC intends to "take credit" for indirect and induced economic effects, direct contributions for the enhancement of community facilities should be incorporated into the WMSC project.

3. Page 1 – 9. A statement is made that market studies show a significant need for single family homes in Windham. Data to support this statement should be provided.

4. Page 1 – 10. The benefits of the project are described in terms of tax generation, employment, open space preservation, and contribution to the consolidation of the water system in the town. All of these affects are recognized and appreciated; however, the DEIS does not present a Cost of Services Analysis, so the tax generation is not tempered by the resulting cost of services. A recent study in the neighboring Town of Hunter indicated that assessed values of residential properties would have to be increased between two and five times in order to fund the actual cost of services associated with residential land uses. While a Cost of Services analysis is not requested, the WMSC project will demand community services in terms of emergency services and costs associated with use and maintenance of public facilities in the town including roads, parks, etc. Consideration for these impacts should be included in the FEIS. Furthermore, the contribution to the water system consolidation is greatly appreciated by the community; nevertheless, the investment is self-serving as well as beneficial to the community. Lastly, it is appears that the WMSC is targeted at ski-season use alone. The FEIS should state elements of the project that are aimed at four-season use and the benefits to the community thereof.

5. Page 1 – 14. In addition to reviewing stormwater plans, DEP will review and approve the wastewater collection system; DEC will likely defer review of the collection system plans to DEP even still, DEC will issue a State Pollutant Discharge System (SPDES) permit to the WMSC Sewer Transportation Corporation for the operation of the collection system.

Section 2 - Description of the Proposed Action and Appendix 17 and 18

Review of Section 2 of the DEIS revealed the following comments:

1. Page 2 – 7. This section of the DEIS discusses a plan to have 'lock off' units as part of the offering of the larger condominiums. The DEIS states that the lock off units will allow owners of the condos to rent the smaller locked off sections of the condo as hotel-like rental units for owners and guests. The FEIS should identify how the rental of these units will be controlled. Will units be pooled and managed as a group or will rental be at the discretion of each owner. While it is recognized that the investment and price point that is planned for these units should assist in preventing issues associated with 'time share' type offerings, controls should be established to prevent problems of inappropriate use of these lock off units.

2. Page 2 – 7. The descriptions of the housing units offered at WMSC include a discussion of who will construct the various types of housing offered, with the exception of the condo units. The FEIS should clearly state that the condos are integrated into the lodge facilities and will be constructed by the project sponsor. Further, it is assumed that construction of single family homes, duplexes and townhouses will be based on market demand, but this should be confirmed. While it is easy to envision the sale of lots for single family home lots on a market demand basis, it is less clear under what conditions duplexes, townhomes and condos will be sold and constructed. This should be clarified.

3. Page 2 – 8 and 2 - 25. Section 1 of the DEIS describes limited benefits to the community other than tax generation, open space preservation, jobs and water infrastructure contribution. Page 2 – 8 and 2 – 25 describe other minor community benefits including having the on-site restaurant open to the public and a shuttle bus service that will circulate to the hamlet of Windham. These should be expanded upon and better described in Section 1 to enhance the benefits to the community. While

these are minor benefits, it is noted on Page 2 – 9 that the lands of the WMSC will not be open to the public. The FEIS should further define benefits to the community as discussed in Section 1 comments herein.

4. Page 2 – 49. This page of the DEIS discusses the need for extensive blasting to accommodate construction of roads, utilities and potentially structures. Reference to the blasting plan/procedures should be included. Additional comments are provided in Section 3.

In conjunction with the review of Section 2, a staff architect reviewed the Project Design Guidelines, Appendix 17, Parts A & B. The review compared the Town of Windham's Architectural Building Code and Architectural Review Board Local Law #5 of 2006 with the WMSC DEIS which yielded the following comments:

1. Section 3 SITE PLANNING, Bullet number 14 – Where it is stated that consulting a Landscape Architect is required, a New York State Licensed Landscape Architect or a Landscape Architect licensed in a state with reciprocity with New York is recommended.

2. Section 4.10 IRRIGATION – An Irrigation Layout/Plan should be defined within the Site Plan Submittal.

3. Section 5 ARCHITECTURAL DESIGN, Paragraph 6 - An *ARB Image Bank* is first mentioned as visual aid supplement to the ARB Guidelines. While it is understood that there is no *ARB Image Bank* available at this time; the bank should be prepared and submitted to the Planning Board as part of the Site Plan and Subdivision Revewi processes.

4. Section 5.6 PRESERVATION OF SIGNIFACANT VIEWS – The order of importance should be switched; *#1 View of any proposed residence and significant natural features beyond* is paramount.

5. Section 5.8 ROOFS, Paragraph 3 – Required roofing materials seems very restrictive. It would be more practical to allow for more kinds of roofing materials to promote a more "Green" and diverse "Roofscape" in the WMSC.

6. Section 5.9 SUSTAINABILITY GUIDELINES AND ENERGY EFFICIENCY – The 2004 IRC reference should be substituted with the 2010 or *current* Residential Code of New York State (RCNYS), Chapter 11 with strict adherence to the RCNYS adopted REScheck version 4.4.2.3 (or current) compliance program.

7. Section 5.10 MATERIALS AND FINISHES, Paragraph 4 – The reference to the NAHB Model Green Home Building Guidelines Section 2 should be substituted with reference given to the U.S. Green Building Council, LEED for Homes Guidelines as additional information.

8. Section 5.12 EXTERIOR WALL COLORS, Paragraph 1 – Confirm that the exterior wall colors will be provided in the ARB Image Bank to be submitted during the site plan and subdivision review process.

9. Section 5.14 ANTENNAE, SATELLITE DISHES, FLAGPOLES AND WINDMILLS – Need to be more specific on "WINDMILLS" in title of section. How does this apply to energy producing "windmill" devices?

10. Section 5.19 GUESTHOUSES, GAZEBOS AND GARAGES – The guidelines should states a limit of *one* accessory structure to be built upon approval of the ARB. Also, the guidelines should state that the "massing" of accessory structures shall be less than half of the primary structure massing.

11. Section 5.30 FIRE SPRINKLERS – Add to this paragraph: *...and as required by the (current) RCNYS, Section R313".*

12. Section 6.2 LANDSCAPE ARCHITECT – As mentioned earlier in Section 3, each owner should employ a *licensed* Landscape Architect qualified to conduct business in NYS.

13. Section 10 DEFINITIONS – The Definitions Section of the appendix should be located towards the front of this document after the table of contents for ease of reference.

14. Appendix 1 Submittal Requirements and Procedures, PHASE 2-SCHEMATIC DESIGN SUBMITTAL, #5. – The 24"x 36" (a.k.a. ARCH D) size paper will provide quality materials for review; however, it is recommended that the other paper size be

22”x 34” (a.k.a. ANSI D), and the one smaller set be 11”x 17” (a.k.a. ANSI B); which is the exact ½ scale of the ANSI D size paper.

The PROJECT DESIGN GUIDELINES are well thought out, thorough and well defined. Utilization of the project design guidelines will result in a project that is in keeping with the visual, physical, and architectural environmental setting in the Town of Windham.

Section 3 - Environmental Setting, Potential Impacts and Mitigation Measures

3.1, 3.2, 3.3 and 3.5 - Geologic and Topographic Resources, Surface Water Resources, Groundwater Resources, Soils, and Appendices and Appendices 3, 4, 9 and 15

Review of the sections of the DEIS regarding site geology, topography, water resources (surface and ground) and stormwater management has revealed that in general, the stormwater pollution prevention plan presented in the DEIS is thorough and well designed. The following comments are directed to sections of the SWPPP where additional information is needed or where additional information would help with the implementation of the SWPPP.

1. Page 14: The SWPPP proposes to manually dose stormwater in the sediment traps with a flocculent until turbidity is less than 50 NTU and then batch discharge stormwater from the sediment trap via a pump equipped with an in-line turbidity meter and an automatic shutoff valve system that will discontinue dewatering the sediment basin if the turbidity rises above 50 NTU.

   Use of a flocculent will require a Water Treatment Chemical (WTC) permit from the New York State Department of Environmental Conservation, at a minimum pursuant to the Blue Book (This procedure assumes the sediment basin has the capacity to store all stormwater runoff to the basin prior to discharge and that the basin will be dewatered prior to any subsequent storm. Therefore, sediment basins should have sufficient storage capacity to store at least all runoff from a 10-year storm. Runoff calculations documenting sediment basin capacity to store all runoff from a 10-year storm should be provided.

   Consideration should be given to installation of a principle spillway designed pursuant to the New York State Standards and Specifications For Erosion and Sediment Control (Blue Book) Standard and Specification For Sediment Basins, with the capacity to discharge runoff from a 10-year storm. The spillway would provide a controlled outlet from the sediment basin if proposed pumping system

is incapable of dewatering the pond during or between storm events. This would minimize the potential for uncontrolled over topping of the sediment basin by stormwater runoff.

2. Sheet L-8.02 Detail 2 Fiber Roll: The detail for the fiber roll states that flocculent may be added at the discretion of the qualified inspector. As noted above, any use of flocculent will require prior written approval from the NYSDEC.
3. No seed specification appears to be provided for the following:
   - Temporary diversion swales (Typical Detail Sheet L-8.01#7)
   - The seeding for temporary stockpiles (Page 13 of SWPPP)
   - The dry swales (Typical detail Sheet L-8.02 #9)
   - Stormwater conveyance swales (Typical Detail Sheet L-8.02 #4)
   - Grassed Broad Crested Weirs (Typical Detail Sheet L-8.02 #7)
4. Micropool Extended Detention Ponds Broad Crested Weir Outlets: Typical detail (Sheet L-8.02 # 7) states that the final surfacing and the stabilization of the weir outlet will be determined prior to construction based on anticipated flow rates. The SWPPP should provide specifics for each pond broad crested weir outlet. The anticipated flow rates should be available from the post development hydrological modeling.
5. Micropool Extended Detention Ponds: Summary tables should be provided documenting the following for the micropool extended detention ponds:
   - Required sizes for each outlet/orifice for each pond outlet structure.
   - Required size of the broad crested weir for each outlet structure.
   - Treatment capacity of the pretreatment forebay for each pond. The NYS Stormwater Design Manual requires that forebays be designed to contain 10 percent of the water quality volume.
   - Permanent pool storage capacity. The NYS stormwater Design Manual requires that for micropool extended detention ponds that a minimum of 20 percent of the WQv be provided in the permanent pool and a maximum of eighty percent be provided as extended detention.
   - Storage above permanent pool of the required WQv (less the volume in the permanent pool area) and the storage for the CPv.
   - Calculations for the required volume for the CPv
6. Stone Outlet Protection Typical Detail Sheet L-8.01 #5: The detail specifies stone outlet width and length requirements based on pipe sizes. Each stone

outlet apron for each outlet should be designed pursuant to the Blue Book Standard and Specifications For Rock Outlet Protection. Calculations for each outlet should be provided in the SWPPP.

7. Bioretention Area Typical Detail Sheet L-8.02 # 8: The detail depicts a 30 mil Poly or PVC liner around the soil media and underdrain system. The liner will restrict infiltration which is one of the goals of using green infrastructure practices for stormwater management. The intent of this liner is unclear and should be removed from the detail.

In addition to stormwater comments relative to Section 3.5, page 3-41 of this section provides a description of a proposed blasting notification plan. In order to be effective, all property owners within ¼ mile of the blast location must be notified. The proposed solicitation for notification and assumed opt out is unacceptable. Further, all property owners and the Town of Windham Police Department shall be notified at least 24 hours prior to blasting activities. A written record of such notification shall be maintained and available for inspection by the Town of Windham Police Chief on demand. All explosives shall be stored in an approved tamper-proof explosive storage unit. If vehicle storage is utilized, the vehicle storing the explosives shall not be left unattended at any time while on site nor shall the vehicle remain on site overnight. Any explosive storage unit to be utilized that is not contained within a vehicle shall be secured to the satisfaction of the Town of Windham Police Chief.

Furthermore, the blasting procedure to be utilized shall incorporate the following required actions:

Before each blast the blaster shall follow this procedure:

- 5 minutes before the blast the area will be cleared and secured
- 2 minutes before the blast the blaster will blow 3 short blows from a horn to warn of the blast
- 1 minute after the blast the blaster will blow 1 long blow from a horn to signal the all clear

Section 3.2 references Section 3.8 with respect to blasting impacts and mitigations. Additional comments regarding blasting are provided in Section 3.8 of this review.

Water System General Comments:

1. The report discusses Phase I but the figure is not clear as to the limits of service and which pumping and storage tanks would be built.
2. All facilities should either be in the road or located on a separate parcel or leased space.
3. The Sheets are numbered with the prefix “WS” and so are the sections which make the plans confusing to work with; suggest renaming the Drawing Sheets.
4. It would be helpful and clarify the design of the system to provide a simple schematic showing the pumping facilities (pump head, flow and elevation), tanks (high and low water elevation), pressure reducing valve (PRV) stations (elevation and pressure setting) and elevation of water services in each zone (high and low). If this information (or some of it) could be printed out with the model run that would perhaps be sufficient.
5. Comments below point out the absence of hydrants on some lines. This was only noted where the line appeared to go near structures. It is understood that some connector lines have no customers and are not accessible. Where noted below, please add hydrants or explain why they are not appropriate.

Water System Drawings:

1. WS-08: Line WS-06 is a dead end; consider connecting to line WS-07.

2. WS-12: This seems to use 2 PRVs fairly close together, leading to the question of whether two zones are really needed. Information as suggested in Item 4 above would help answer such questions. Also no hydrants are on line WS-11.

3. WS-14: No hydrants.

4. WS-17: No Hydrants on Line WS-014. On WS-015, -018, -020 and other sheets the line is shown extending 40-50-ft beyond the last hydrant. On dead end lines we typically locate the hydrant after the last service and at the end of the line to allow flushing. Is there a reason for the pipe after the hydrant?

5. WS-23: Hydrants 1100-ft apart.

6. WS-24: Hydrant spacing 1000-ft apart.

7. WS-41: Pumps should use VFD starters to prevent surge on starting and for flexibility of operations.

8. WS-42: The reservoir is shown underground. Under the coming revision of 10-States this is not allowed; 50% or more must be above ground. It is suggested that VFDs be used to start pumps for flexibility of operations. The float valves should be installed outside the tank to allow service; the float only should be located in the tank. The pipe gallery pipe and valves are not clear; suggest numbering valves and providing a key or description of operations in final plans.

9. WS-43: the reservoir is below grade – see comment above.

Wastewater System General Comments:

1. The report should contain a better explanation of the extent of pressure sewers and the number of pumps. All sewer lines that will be owned by the Transportation Corporation (TC) should be gravity if feasible and unless the cost is prohibitive. Where force main is necessary HDPE pipe with fused joints should be used.
2. Lateral locations should be shown on the final drawings.
3. No drainage piping or stream channels are shown on the plans. There will undoubtedly be such crossings and these should be shown on sections along with separation.
4. Labeling of manholes on the individual plan sheets would be very helpful.
5. The Sheets are numbered with the prefix “SC” and so are the sections which make the plans confusing to work with; suggest renaming the Drawing Sheets, perhaps SS-01, etc.
6. Sewer Main being replaced will require approval from Greene County Highway.
7. Several sections have pipe laid at >20%. DEP does not typically approve such installations. Their logic goes back to 10-States requirements to protect pipe when velocity exceeds 15-fps; and a 8” pipe laid at 20% slope has a flow velocity of approximately 15-fps. We have argued this point with DEP without success. In the event sewers are approved at >20%, ballast blocks should be used as per the schedule in 10-States. Since so much of the pipe is steep, pipe sections should be installed with the bell end uphill to limit pipe displacement and leakage.

Wastewater Drawing Comments:

1. (SC used here refers to the Drawing Sheet, not the Section)

2. SC-02: This shows a section of sewer line being replaced on South Street. No details are shown of this section.

3. SC-04: Pipe section >20%.

4. SC-08: Five pipe sections >20%.

5. SC-10: Between manholes SMH-48 and SMH-50 a section over 200' long is being filled to a depth as much as 6-ft under the pipe and manholes. Fill should be thoroughly compacted in lifts, and preferably be allowed to settle through one freeze-thaw cycle. This offers the greatest chance of meeting testing.

6. SC-14: Two pipe sections >20%.

7. SC-15: Pipe section >20%.

8. SC-17: Pipe section >20%.

9. SC-19: Pipe section >20%. Force main and should be labeled as such, showing size and pipe materials. Also, an Air Relief Valve (ARV) is required at or around Sta. 4+20. There is a 40' drop in this 1950-ft long section. Is there a reason it is a force main rather than a gravity sewer. Clean-outs should be included at typical 400-ft spacing.

10. SC-20: Check Station numbering for SMH-140.

11. SC-24: Force main and should be labeled as such, showing size and pipe materials. The section for station 0+00 – 6+50 appears to be gravity and through the main development. Please provide reasons for not using gravity here or change this section to gravity sewer. An ARV is needed at 12+50 and, if the line stays all force main, at Station 6+50 as well.

12. SC-26: Sheet is numbered 27. On manhole detail, please add a note specifically saying that it is a 24-in clear opening.

13. SC-27: The clean out detail for lawn areas shows Schedule 40 PVC pipe. This is not a durable construction and is subject to pipe fatigue and freeze thaw damage. No glued joints should be used underground. Instead a fused HDPE clean-out wye should be used. Alternatively gasketed PVC pipe and fittings rated for pressure service could be used along with mechanical pipe restraints. This protective covers should be a corrosion resistant material not subject to damage by mowers or traffic. A concrete collar with cast-iron hand-hole is preferred.

14. No force main detail is provided; this should show materials of construction laying depth, conditions for insulation to reduce depth, pipe bedding, locator tape and SS tracer wire extending from one clean-out to the next with wires bonded together and labeled.

15. SC-28: Detail 2 is for Duplex (not Simplex). A detail should be provided for installation of a check valve between the pump station and the force main. Check valve must remain accessible for future service.

<u>3.4 - Terrestrial and Aquatic Ecology, Flora, Fauna, and Wetlands and Appendices 10 and 16</u>

The DEIS contains a narrative discussion of wildlife and floristic features of the WMSC site as well as appendices providing reports regarding wildlife, large mammals and floristic surveys. As a result of review of these sections of the DEIS, the following comment is offered:

The "Floristic Survey for Rare, Threatened and Endangered Plant Species and Invasive Plants", stated that a GPS device was used to help keep track of the locations on the site that were visited. The survey also stated an attempt was made to make a least one pass through each house lot and that less attention was paid to areas where houses, roads and other facilities were unlikely to be constructed. A map depicting locations investigated overlaying the proposed development areas would help illustrate the depth of the investigation.

In addition, page 3-24 in Section 3.4.1 states that control of the importation or distribution of invasive species during construction shall be conducted. The discussion states that the documented cleaning of equipment brought onto the site will be required. The intention of this effort is to prevent the carry of invasive species from off-site onto the site. The FEIS should also identify measures to be utilized to reduce or prevent, if possible, the spread of

existing invasive species on site from areas of current occurrence to other areas of the site due to construction activities.

3.5 – See above.

3.6 – Traffic and Transportation and Appendix 13

A Traffic Impact Study (TIS) was conducted to review the potential impacts of the proposed 302 housing units that comprise the WMSC. The TIS provides a discussion of existing conditions, conditions over the build period to 2027 without the additional traffic generated by the WMSC development, and conditions in 2027 with the trips generated by the proposed WMSC. According to the TIS, the project is expected to generate 94 new vehicle trips during the Friday peak hour and 109 new vehicle trips during the Sunday peak hour both during the peak of ski season. The TIS and related sections of the DEIS were reviewed by Delaware Engineering staff, resulting in the following comments:

1. The TIS states that field data was collected during the months of January and March, and that data collected in March was adjusted to account for peak season trip generation. The method of adjustment of the March data along with the rationale should be provided.

2. The TIS provides a trip distribution with 25% traveling to and from the south on Route 296, 60% to and from the east on Route 23 and the remaining 15% to and from the west on Route 23. The TIS states that this trip distribution is based on existing travel patterns and probable travel routes for residents of the WMSC. Additional description of the rationale and any data supporting the trip distribution should be provided.

3. The TIS identifies a limited sight distance at the intersection of Trailside Road and South Street. Table 4.1 shows limited sight distance for both left and right turns from Trailside Road onto South Street. Mitigation in the form of grading just west of the Trailside Road and South Street intersection is recommended. This mitigation should be incorporated in the Findings Statement and as a condition of any future local approvals for the WMSC project.

4. The TIS determined that there is drop in Level of Service (LOS) during the Sunday peak which is the result of an approximately 1.4 second increase in delay at the

Route 23 and 296 intersection between the no build and build condition. This decrease in delay does not merit any mitigation.

5. The eastbound intersection of South Street and Route 296 is an intersection with a very low LOS presently, and the condition is expected to decline over time regardless of whether WMSC is constructed or not. The current delay is approximately a minute. The delay increases by just over two minute without construction of the project by 2027, and increases to just short of four minutes with construction of the project taking background growth into account. A signal warrant analysis was conducted and the TIS states that the traffic volumes fail to meet the standards for installation of a traffic light. The TIS further states that the delays experienced only occur during peak times in the peak ski season and that regional growth patterns that cannot be predicted presently may alter the potential delay. While these statements are true, the FEIS should state if there are any other measures that could be considered to reduce the anticipated delay such as turning lanes and/or directional signage at the junction of Trailside and South Street to direct travelers to exit to the left crossing over South Street to the west to Church Street and through the business district.

In addition, Page 3-44 of Section 3.6.2 of the DEIS discusses the inclusion of a Road Use Agreement in the Scoping Document. While it is recognized that the overall proposed build out of the project is anticipated to cover a 15 year period and a road maintenance agreement is inappropriate for such a lengthy duration, page 3-43 of the same section of the DEIS discusses significant heavy truck traffic associated with Phase 1 development specifically the disposal of excess materials off-site and the need to transport oversized loads such as the water tank onto the site. A Road Use Agreement for the portion of Phase 1 involving heavy truck traffic and the movement of oversized loads onto the site is appropriate. The FEIS should contain a proposed Road Use Agreement for these impacts.

<u>3.7 - Visual Resources and Associated Appendix 11</u>

Delaware Engineering has reviewed the Visual Impact Assessment (VIA) for the Windham Mountain Sporting Club and has the following comments:

1. Section 4.A. Study Area and Zone of Potential Visibility Mapping

The VIA notes that vegetation from USGS quads was used to create the tree cover footprint in the five-mile study area. The USGS quad maps in the Windham area were originally created from 1943 aerial photographs, and later updated with 1978 photography (revisions were primarily additional roads and buildings). The area has undergone development over the several decades and the vegetative footprint may have been reduced. Was the USGS vegetation compared to current orthoimagery to verify if the depicted tree cover layer is accurate and reflects existing development patterns?

2. Section 4.B. NYSDEC Visual Policy Resource Inventory

The VIA follows the methodology outlined in NYSDEC Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts*. This Policy Purpose notes: "This memorandum provides direction to Department staff for evaluating visual and aesthetic impacts generated from proposed facilities. This guidance defines State regulatory concerns and separates them from local concerns. <u>There is nothing in this program policy that eliminates or reduces the responsibility of an applicant to local agencies to address local visual or aesthetic concerns.</u>"

The NYSDEC Policy is very clear that local resources must be evaluated in addition to those of statewide significance. Why does the VIA limit its Resource Inventory to the 15 categories of aesthetic resources of statewide significance listed in the DEC Policy, and not consider resources of community importance identified at the local and regional level? The Town of Windham Comprehensive Plan (2002), Mountain-top Community Recreation, Cultural Resources and Scenic Quality Strategy (2009), and Generic Environmental Impact Statement on the Development Capacities of the Town of Windham (2009), include listings and maps of resources of local importance.

A more comprehensive Resource Inventory may have identified other potential viewpoints of local importance, such as those listed below:

- Property on or eligible for the National or State Register of Historic Places

  The VIA notes there are four sites on the National Register within the study area. However, the Greene County Historical Society has included twenty-four Town of Windham sites listed on the Greene County Historical Register. In addition,

the Town of Windham has identified two historic districts located on Main Streets in Windham and Hensonville that should be protected and preserved. Development within these historic districts requires review by the Town's Architectural Review Board.

- State Parks

  Although there are no State Parks in the Study Area, there are several community parks and recreation facilities including the Clarence D. Lane Park in Maplecrest, the Town Baseball Field on South Street, and the Windham-Ashland-Jewett School outdoor recreational facilities.

- Urban Cultural Parks (now State Heritage Areas)

  It should perhaps be noted that Greene County, including the Town of Windham, is part of the Hudson River Valley National Heritage Area.

- State Forest Preserve

  A significant portion of the Town of Windham and the five mile Study Area falls within the Catskill Park, including the entire area south of the Batavia Kill in the Hamlets of Windham and Hensonville. The Windham High Peak Wild Forest (Elm Ridge) and the Blackhead Range Wilderness encompass four peaks above 3,500 feet. Hiking trails to each of the four peaks and throughout the preserve offer hikers the opportunity to explore the park. These include Long Trail, Elm Ridge Trail, and Black Dome Trail and the Escarpment Trail. (It would be helpful to show the Catskill Park Boundary and public trail systems on Figure 4, *Zone of Potential Visibility Map*.)

  Northern areas of the Town that lie outside the Catskill Park also have State Forest recreational opportunities available to the community. Portions of the Ashland Pinnacle, Mount Pisgah and Mount Hayden State Forests fall within the Town.

- A highway designated or eligible for designation as scenic

Figure 4 shows two segments of Mitchell Hollow and Sutton Roads, on the northern boundary of the Study Area, designated as NYS Scenic Byways. NYSDOT's website https://www.dot.ny.gov/display/programs/scenic-byways/ScenicRoads-no-detailed-info and the Mountaintop Community Resource Inventory indicate there are also several sections of NYS Designated "Scenic Roads" within the study area: 0.45 miles of NYS Route 23 (The Mohican Trail) and 1.4 miles of Mitchell Hollow Road.

3. Viewshed Impact

Although the context and significance of each of the ten selected views is discussed in the VIA, several discussion items listed in the Scoping Document are not addressed and should be in the FEIS. These include:

- a discussion of the numbers and types of people to be affected
- the duration of views that can be expected
- the nature of the visual change and the public's reaction to such change
- the visual impacts of the project as they relate to the NYSDEC Catskill State Park Land Master Plan.

3.8 – Sound Resources

Page 3-66 in Section 3.8.4 provides a noise complaint procedure. While in general, the noise complaint procedure is adequate, several modifications should be considered. The DEIS states that the procedure will be in place during the first two years of construction. While it is assumed that the site roads and infrastructure will be constructed during this duration, it is clearer to state that the procedure will be in place during the construction of site roads and infrastructure, rather than an arbitrary timeframe. In addition, the timeframe should be amended to incorporate any time during which blasting will occur on site, regardless of the purpose (e.g. Phase 1, 2 or 3). The written complaint log containing the date of complaint, name and contact information for the complainant, any follow-up contact and resolution should be provided at the end of each month to the Town of Windham Police Department. The reason for this is that it is very common for residents with noise complaints to attend Town Board meetings, and it often resolves many issues if the Town is aware of the

concerns prior to each monthly meeting. The statement that the applicant has 'sole discretion' to determine if corrective action is required seems at odds with the statement that the compliant procedure will not limit other remedies of the Town or any other person or organization with regard to noise conditions at or around the WMSC site. While it is understood that noise is an inevitable result of construction and that it is short in duration, the Town has a duty to protect the health, safety and welfare of its residents; remedies may be required. Please clarify these two statements that appear to be at odds.

3.9 – Land Use and Community Character

The WMSC project is highly consistent with existing patterns of land use and the character of the Town of Windham as supported by the Town's GEIS. No comments.

3.10 – Community Services

The Community Services section of the DEIS focuses largely on conditions and potential impacts to the Windham Ashland Jewett School District. The analysis of the impact to the school district appears reasonable given the existing conditions in the District and development patterns in the Town with respect to the number of primary and second homes expected at the WMSC project.

This section also briefly mentions that letters to serve were provided by the Town Police Department and EMS services; however, the letters indicated that potential impacts would be indentified during the SEQR process. Review of the proposed project in consideration of current conditions with respect to police and emergency services has revealed two comments. The first comment is that a need has been identified by the Town in the GEIS for improved cellular communications specifically in the Hamlet of Hensonville. The WMSC project will be increasing the population using cellular services in the vicinity of the Hamlet of Hensonville due to travel of owners and guests to and from the WMSC project. Due to this, the cooperation of the project sponsor is sought in improving cellular communications in this area of the Town. The referenced cooperation could be in the form of assisting the Town in evaluating potential locations for telecommunication facilities on the project site and/or non-financial support for the installation of such facilities on adjacent properties. The provision of enhanced cellular coverage in the Hamlet of Hensonville would improve emergency communications in the Town and benefit owners and guests of WMSC. The second comment is that emergency services representatives will review the site plans for the project

during the Town Planning Board's site plan review primarily for vehicular access and the location of fire hydrants, etc. Specific requirements in these regards will be identified during the site plan review process.

In addition to the police, emergency and educational services provided by the Town and/or School District, the Town of Windham provides a number of recreational services and community facilities, the existing conditions, potential impacts and mitigation measures for which have not been included in the DEIS. Consistent with the comments offered regarding Section 1, the FEIS should identify the existing recreational and community facilities provided by the Town of Windham, discuss potential impacts and offer mitigation measures.

3.11- Socioeconomics and Appendix 14

This section of the DEIS and the associated Appendix largely address the economic impacts of the proposed WMSC. On its face, the analysis is extremely positive with the generation of direct, indirect and induced contributions to the local, regional and state economy. While there is no argument that the construction of the WMSC or any portion thereof will generate taxes, employment and spending for local, regional and state jurisdictions, the DEIS does not identify any commensurate costs associated with the provision of services and/or the use of local and regional facilities. As discussed in comments regarding Section 1 of the DEIS, the tax generation potential is not tempered by the resulting cost of services. While a Cost of Services analysis is not requested, the WMSC project assumes that owners and guests will utilize local retail and commercial shops and it is reasonable to also assume that these same people will utilize local community facilities. The increased use of communities facilities is encouraged by the Town in the GEIS; consideration of the demand for and impacts to community facilities such as recreational facilities should be included in the FEIS.

3.12 - Cultural Resources and Appendix 12

The DEIS contains a Phase 1A Literature Review and Archaeological Sensitivity Assessment as well as a Phase 1B Archaeological Field Survey and Reconnaissance.

The Phase 1A report was generated as a result of a site file search, literature review, historic and slope map research. The report states that the probability of encountering prehistoric and historic cultural materials within the project site is low to moderate. Documentary and physical evidence of historic uses of the site for lumbering, tanneries, asheries, and distilleries

were noted. In addition, the geology could support pre-historic rock shelters. For these reasons, a Phase 1B Field Survey covering an area of approximately 92 acres with excavations at a 50 foot (15 m) interval on testable and marginally testable land was recommended and completed.

The Phase 1B study included the excavation of 633 soil test pits (STPs) on 62 transects within the project area as well as an extensive visual survey conducted by walking the project area, including inspection of large rock outcrops and overhangs. Of the total number of STPs, 9.8% were excavated in natural subsoil levels while the majority of which were terminated in shallow soil layers due to the presence of water (56.7%) and bedrock (30.2%). Testing was not conducted on steep slopes or in the presence of water bodies or wetlands. Also excluded from testing were areas of visible disturbance including grading and filling associated with ski trail and ski lift infrastructure.

No significant cultural resources were documented as a result of the Phase 1B study. There were no prehistoric rock shelters or camps, and there was no evidence of important historic land uses. On February 8, 2012, the State Historic Preservation Office (SHPO) issued a letter stating that the WMSC project will have No Impact upon cultural resources listed or eligible for listing on either the State or National registers of Historic Places.

Based on review of the materials in the DEIS and the letter from SHPO, we offer no additional comment.

Section 4 – Unavoidable Adverse Environmental Impacts

This section lists a group of unavoidable adverse environmental impacts to land, water, wetlands, flora and fauna, community character and services, aesthetics and infrastructure. Mitigation measures have been or will be (based on comments regarding the DEIS) provided to the extent practicable. No comments.

Section 5 – Alternatives

The DEIS lists the range the alternatives requested with the Scoping Document and provides responses to each requested alternative analysis to varying degrees of detail.

It is understood that the project sponsor does not own and does not have any option to purchase additional lands for the project.

The discussion of alterative uses of the site on Page 5-1 appears reasonable; however, it is noted that the project sponsor's cost of purchase of the land appears to have been based on a highest and best use that may or may not come to fruition which eliminates a number of alternatives from consideration including silviculture and active/passive recreation.

It is noted that the project master plan provides for a development footprint of no more than 30% with 70% of the project acreage dedicated to open space.

The discussion of reduced a reduced infrastructure demand option seems to avoid the obvious means to reduce the infrastructure demand which is to construct only Phase 1 of the development. Phase 1 is compact and provides for 145 units plus amenities. The FEIS should provide a justification as to why the reduced infrastructure demand alternative presented in Section 5 is appropriate for this analysis.

The integral phasing plan provided in the DEIS and discussed as an alternative in Section 5 is well conceived and should be beneficial to the Town and the project sponsor. The phasing plans provided in Section 5 do not appear to match the description of the project provided in Section 2 of the DEIS. The FEIS should correct any inconsistencies or provide explanation as to why the plans are not consistent.

The alternative involving no road waivers appears to show that additional environmental impact would occur to avoid the road waivers and there is not a commensurate benefit for such disturbance.

It is understood that the no-action alternative would not generate any benefits or impacts associated with any of the build alternatives including the proposed master plan. It is noted that the project sponsor could sell the land to any number of persons or entities. It is further noted that while the WMSC project is preserving 70% of the site as open space without public access, sale to the NYCDEP and/or a land trust would preserve 100% of the land as open space, likely with public access for passive recreation.

Section 6 – Irreversible and Irretrievable Commitment of Resources

This section lists the irreversible and irretrievable commitment of resources to the project, including the land, building materials, water resources, etc. No comments.

Section 7 – Growth Inducing, Secondary and Cumulative Impacts

This section of the DEIS discusses anticipated growth inducing, secondary and cumulative impacts that could result from the WMSC project. The nature of the anticipated positive impacts include an increase in demand for local retail and commercial services, without a commensurate negative impact on housing stock, schools, etc. The type of impact anticipated from the demand for local retail and commercial services is welcome in the local community as demonstrated in the Town of Windham GEIS. The negative cumulative impact of this development is with respect to traffic on South Street, particularly at the intersection of South Street and Route 296. Comments regarding this impact are provided in Section 3.6.

Section 8 – Effect of the Proposed Action on the Use and Conservation of Energy

This section described the use and conservation of energy. No comments.

Section 9 – Consultation and Coordination

This section lists entities contacted during preparation of the DEIS. No comments.

April 30, 2012

Ms. Maureen Anshanslin
Chairwoman
Windham Planning Board
371 State Route 296
P.O. Box 96
Hensonville, NY12439

Mary Beth Bianconi
Senior Planner
Delaware Engineering P.C.
28 Madison Ave. Ext.
Albany, NY 12203

Dear Ms. Anshanslin and Bianconi:

Subject: Windham Mountain Sporting Club Project
Public Comment

In response to your request for public comment I strongly encourage the Windham Planning Board to work with the applicant of the Windham Mountain Sporting Club project to develop specific activities/benefits that will enhance the Hensonville/Windham business districts and/or community-at-large.

As I read through the DEIS submitted by the applicant I see that little consideration has been given to this topic other than mention of potential property tax revenue and the installation of a water line required by the development. It should be noted that tax revenue will only occur to the extent that the property is improved.

This is by far the largest development ever proposed for our community and it will no doubt have a significant impact for many years to come. This project has been proposed to be constructed within our community because the Town of Windham has succeeded in encouraging a vibrant "Main Street" business environment and has succeeded in developing an attractive recreational, cultural and community environment. To the best of my knowledge the GEIS provided by the applicant fails to describe any specific direct activity/contribution to our recreational, cultural and community environment which would sustain this historical success.

I commend the Planning Board for your efforts to date and look forward to working with you as this project advances.

Sincerely,

Stephen J. Walker
Windham

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 4
65561 State Highway 10, Suite 1, Stamford, New York 12167-9503
Phone: (607) 652-7741 **FAX:** (607) 652-3672
Website: www.dec.state.ny.us

Joseph Martens
Commissioner

April 30, 2012

Town of Windham Planning Board
c/o Delaware Engineering, P.C.
28 Madison Avenue Extension
Albany, NY 12203

RE: Request for DEIS Revisions
DEC #4-1946-00152/00001
Windham Mountain Sporting Club
(T) Windham, Greene County

Dear Sir:

Staff have reviewed the Draft Environmental Impact Statement and supporting documentation, dated March 2, 2012, and offer the following comments and request revisions and/or additional information as outlined below.

1. State Land

As outlined in our September 28, 2010 letter we asked that consideration be given to creating an access point for the Cave Mountain State Forest Preserve to provide public access that would otherwise be precluded by the project. However, the DEIS did not address this issue. Please advise on the options considered including trailhead access and parking. The project provides a sufficient buffer area between the project and the State Forest Preserve. The size of the buffer area is approximately 1600' between the State Forest Preserve and the proposed buildings and approximately 3200' in length.

2. Open Space

The DEIS addresses the objective of providing at least 70% open space (322 acres) for the project. However, the issue of deed restrictions needs to be addressed to ensure the benefits of maintaining open space in perpetuity. Wildlife displaced by development will have sufficient area to relocate to and will reduce the impact to the maximum extent practicable.

3. Sewer

The DEIS states that the WWTP has sufficient capacity to handle increased flow from the proposed facility. An engineering report and sewer plans will have to be approved by DEC prior to final issuance. In that approval, the Department will need to determine the sufficiency of the sewer and conveyance system and if a SPDES permit modification is needed. As stated in the DEIS, the formation of a Transportation Corporation is required. To allow for the formation of the Transportation Corporation, once the Department has determined in writing that conceptual approval can be given, this will allow for formation of the Transportation Corporation to proceed. Since the project lies within the NYC watershed, then NYCDEP will have to review the wastewater aspect as well.

4. Water Supply

The Town of Windham's water supply permit, under the current regulations, will need to be modified to allow the extension of supply or distribution mains into a new service area not specifically authorized by the existing NYSDEC permit for the system for which the extension is proposed.

5. Visual

The visual analysis appears to be complete and the mitigation measures proposed appear to mitigate potential visual impacts. Mitigation cited in the DEIS included preservation of existing vegetation, underground utility extensions, building design, structures to be below the horizon, exterior colors compatible with vegetation and terrain, linear layout of structures so mass is reduced, conservative directional exterior lighting.

6. Natural Resources

Staff have reviewed the plan for bear proof waste management and the wildlife and wetland reviews. The mitigation measures to minimize bear-human interactions (bear resistant containers, prohibition of fruit trees, no feeding of wildlife) appear to suffice. While there will be 0.094 acre of wetland fill in federally regulated wetlands, the majority of wetlands will not be disturbed. Staff have also reviewed the statement suggesting that the project area was not suitable eagle habitat. While it is not ideal habitat, the possibility of a future nest on the property does exist. The DEIS should reflect that in the future, if a nest is discovered, the NYSDEC will be notified immediately of its existence.

7. Road Crossings

The DEIS addresses the preferred use of span structures over waterways. These span structures provide for natural stream bottoms and accommodate stormwater flows.

8. Stormwater

The DEIS addresses and contains the Stormwater Pollution Prevention Plan. The SWPPP has to be approved by DEC prior to construction. Since the project lies within the City watershed, NYCDEP also has approval authority on the SWPPP.

If you have any questions or concerns, please feel free to contact me.

Sincerely,

Martha A. Bellinger

Martha A. Bellinger
Deputy Regional Permit Administrator

/mb
Windham sporting deis comments.doc

NYC Environmental Protection

Carter H. Strickland, Jr.
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
Bureau of Water Supply
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April 30, 2012

Ms. Maureen Anshanslin, Chairwoman
Town of Windham Planning Board
371 State Route 296
Hensonville, New York 12439

Ms. Mary Beth Bianconi, Consultant to the Town of Windham
Delaware Engineering, P.C.
28 Madison Avenue Extension
Albany, NY 12203

Re: **Windham Mountain Sporting Club (WMSC) - DEIS**
Trailside Road
Town of Windham, Greene County
DEP Log#: 2009-SC-0708-SQ.1

Dear Ms. Anshanslin and Members of the Planning Board:

The New York City Environmental Protection (DEP) has reviewed the following documents for the above captioned project: 1) DEIS, accepted March 1, 2012 prepared by The LA Group and 2) site plans last revised November 23, 2011.

The proposed site is located in the Schoharie Reservoir drainage basin of the New York City's Water Supply Watershed. As you are aware, the New York City Water Supply System is an unfiltered, surface water resource that provides high quality drinking water to almost half the population of New York State – over eight million consumers in New York City and nearly one million consumers in Westchester and Putnam Counties.

Based upon the review of the documents received, DEP has a number of concerns about potential water quality impacts resulting from the project. DEP is concerned about the project's potential for turbidity and increased pollutant loading, particularly phosphorus, into Schoharie Reservoir; disturbance of steep slopes and wetland buffers; degradation of downstream channels; lack of "green infrastructure" practices; inadequate wetland/watercourse buffers and encroachment into those buffer areas may degrade the wetland and watercourse buffer's beneficial water quality attributes. Further, there is a lack of information regarding mitigation of groundwater and stormwater impacts, land clearing and grading, construction sequencing and various other concerns detailed below.

Since these concerns are so considerable, and because addressing them will require extensive reconsideration of core project elements, DEP urges the Planning Board to request a revised or supplemental draft environmental

impact statement, to allow full public review of a revised analysis, instead of proceeding directly to a final EIS.

DEP respectfully submits the following comments for the Board's consideration in order of priority then in accordance to the chapters in the DEIS:

Appendix 9 Draft Stormwater Pollution Prevention Plan (SWPPP)

1. As previously referenced in DEP's comment letter submitted to the Lead Agency on November 11, 2009, the hydrology of the mountain top is delicate and extremely susceptible to disruption from construction related activities. The present nature of the stormwater flow throughout much of this area is shallow concentrated surface flow and shallow subsurface groundwater flow. The existing ground cover and the terraced benches that make up the prominent bedrock formation maintain stormwater flows spread out and evenly distributed over much of the terrain from the mountaintop to the valley floor. As such, much of the pre-development flow does not leave the area in concentrated flow channels. In fact, there are one prominent (west basin) and three lesser (east basin) drainage ways of note leaving the entire mountaintop area slated for development. All of these channels are small, steep, high velocity streams that are vulnerable to erosion from stormwater discharge vectors originating from development.
2. One of the goals of the Stormwater Pollution Prevention Plan (SWPPP) is to maintain pre-development hydrology patterns and peak discharges for the required design storms. Unfortunately, the high density and large contiguous area of the proposed development coupled with the diffuse nature of the pre-development stormwater runoff, gives rise to a situation where the changes in stormwater runoff patterns and flow volume cannot be mitigated after construction by conventional stormwater management techniques. In addition, the effects of the development will decrease soil moisture content on the slopes below as shallow surface and sub-surface water is diverted from it into conveyances within the development. The result is a radical departure from the existing condition during a storm event.
3. It has been well documented that while stormwater peak *discharges* may be controlled with conventional stormwater management techniques, higher *volumes* of stormwater discharge from development are not mitigated by a SWPPP. These higher volumes are delivered to the downstream channels and wetlands and can often have a negative impact. The downstream systems are small, steep, high velocity streams, wherein changes in flow regime can result in rampant erosion and changes in channel morphology which could cause negative impacts to water quality as well as downstream flooding of property and infrastructure. As such, downstream analyses, in accordance with the criteria included in the Design Manual, must be performed for each off-site receiving stream/watercourse. The potential impacts would be compounded if upon completion of the analyses that the downstream channels are found to be currently unstable and lacking capacity to adequately convey post-construction flows.
4. Recent changes to the New York State Stormwater Management Design Manual, and by incorporation the NYC *Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources*

(Watershed Regulations), encourage certain management techniques to offset the impacts associated with unmitigated discharges of excess stormwater runoff volume. Chapter 5 of the New York State Stormwater Management Design Manual (Design Manual) introduces many practices to encourage source management of stormwater flows and on-site infiltration of stormwater aimed at offsetting or at least reducing this problem. When, as here, the site is already limited by poor soils (minimal opportunity to infiltrate stormwater) and steep slopes coupled with the high density and a large contiguous area of the proposed development, the ability to apply these techniques are also limited. This predicament is compounded when the stream channels draining the site are vulnerable to changes in flow regime as described above. When this situation is encountered, a viable option is to decrease the development footprint to allow for inclusion of more of the Chapter 5 practices that will reduce runoff volumes and are feasible on the site such as open space to break up the contiguous nature of the development and increased stream and wetland buffer zones to preserve existing flow patterns. In this manner the *development is planned to fit the site* instead of the site being planned to fit the development. This concept has long been the mantra for planning the design of the SWPPP.

5. Given the above discussion, provided to portray the environmental setting and natural site constraints, DEP believes that the evaluation in the DEIS of several critical elements is insufficient. In its current state the project will result in significant substantive, site specific environmental impacts on the water quantity and quality of the receiving streams. The DEIS's overall site plan does not take into account many of the elements discussed in Chapter 5 of the Design Manual. This will result in undisclosed and unmitigated increase in the volume of stormwater flow to downstream channels during any given storm event.

    a. The DEIS does not adequately apply the required 5 step process outlined in the Design Manual. Section 3.6 of The Design Manual states that designers are required to adhere to a five step process for stormwater site planning and practice selection when preparing a Stormwater Pollution Prevention Plan (SWPPP). It is apparent that the five step process has not been applied to the proposed site layout. The first step requires that natural resources and sensitive areas that are susceptible to construction-related impacts be identified and preserved in order to minimize runoff and maintain the pre-construction hydrology of the site. These sensitive areas include but are not limited to wetlands and their buffer areas, watercourses and their buffer areas, steep slopes, highly erodible soils, and exposed/shallow bedrock areas. The layout and design of the project must then be configured using the process of "site fingerprinting" to avoid these areas wherever possible and to minimize environmental impacts when disturbance is unavoidable. Only after Section 5.1.1 through 5.1.5 of Chapter 5 of the Design Manual (Green Infrastructure Practices) are fully implemented should the designer consider construction or post-construction treatment practices to mitigate the impacts of development.

    b. The DEIS does not adequately provide for open space and buffer zone preservation. Section 5.1.1 of the Design Manual states that natural conservation areas should be protected during construction and managed after occupancy by a

responsible party able to maintain the areas in a natural state in perpetuity. The DEIS notes that these areas may provide open space and recreational benefits, but does not specify any deed restrictions or conservation easements to protect them. Since the stormwater management plan for this development will depend on the preservation of open space and sensitive water resources for reduction of runoff volumes, it is recommended that some form of deed restriction, conservation easement, or restrictive covenant be provided.

c. The DEIS does not provide an adequate stream and wetland buffer zone width. Section 5.1.2 of the Design Manual specifies that naturally-vegetated riparian buffers should be preserved along streams and wetlands to prevent stormwater from concentrating and flowing directly into protected water resources. A minimum of 25 feet of buffer for streams and wetlands is recommended (streamside or inner zone), with additional buffer width (middle and outer zones) provided to transition from the inner zone to upland development areas. As discussed in previous letters to the Lead Agency in reference to this project, the effectiveness of a given buffer zone can be determined by a number of features:

    i. Slope: The greater the slope of the buffer zone area, the larger the area must be to adequately slow runoff velocities into the wetland.
    ii. Development Intensity: The larger the proposed impact on the wetland, the larger the buffer zone should be to effectively minimize the impact
    iii. Vegetative Density: The less vegetative cover and associated organic debris a buffer zone has, the more area is needed to successfully dissipate the energy of rainfall and runoff.
    iv. Soil Erodability: If the soil of the area adjacent to a wetland bears a high erosion potential, a larger buffer zone is needed to separate the disturbed area from the wetland. This increase is necessary in order for the buffer zone to attenuate the abnormally large sediment load contained in the runoff.
    v. Wetland Value or Sensitivity: The more valuable a wetland or the more sensitive it is to impacts, the greater the need for a buffer zone large enough to provide adequate protection of the wetland resource.
    vi. Depth to Bedrock: Steep land with shallow soil (less than 3 feet) under intense rainfall produces rapid stormflow whether forested or not (Hewlett, 1982). A visit to the project site found numerous bed rock outcrops throughout the site. In addition, the Vly-Halcott soil complex found over the vast majority of the site is stated as having shallow bedrock at 10 to 40 inches deep.

    The buffer zones at the WMSC are all limited in most or all of these categories. As such, the 25 foot proposed buffer zone for this project is inadequate. Given the site conditions and the limited opportunity to apply other practices discussed in Chapter 5 of the Design Manual, all site buffer zones should be increased to a minimum of 100 feet and genuinely protected in an undisturbed state.

d. The DEIS does not effectively limit development on steep slopes. Section 5.1.4 of the Design Manual (Locating Development in Less Sensitive Areas) states that steep slopes should be kept in undisturbed natural conditions to help stabilize hillsides and soils. On slopes greater than 25%, no development, re-grading, or

stripping of vegetation should be considered. The DEIS identifies a proposed disturbed vegetation area of approximately 141 acres associated with this development. As noted above, this estimate may not include all on- and off-site disturbances associated with this project; however, if this disturbance limit is compared to Drawing L-2.01, the total disturbance on soils with a slope classification of "E" or "F" will be approximately 37 acres, meaning that approximately one-quarter of the total site disturbance will occur on slopes of 25% or steeper. DEP recommends that the amount of clearing and grading on steep slopes be substantially reduced to reduce the potential for failure of the proposed erosion and sediment control and stormwater management practices.

6. The hydrologic analysis is flawed and does not accurately represent the site existing or proposed conditions. Several inaccuracies and misrepresentations of on-site conditions are presented and affect the model in such a way as to artificially elevate pre-construction stormwater flow discharges to any one stream in order to decrease the departure from the estimated post-development stormwater flow at the same location. Other inaccurate input variables also work within the modeling exercise to mask the magnitude of this change. The DEIS greatly depends upon this analysis to gauge the site's stormwater impacts. The entire hydrologic analysis must be corrected using empirical data gathered from site specific field reconnaissance in order to properly evaluate off-site water quantity and quality impacts in the DEIS.

    a. Several of the pre-development watershed areas contributing to design points have been significantly overestimated. Incorrect characterization of pre-development areas can lead to inaccurate conclusions regarding the magnitude of the impact of stormwater discharges from the project. For example, the existing watershed Area 2 is oversized. The northern watershed boundary (adjacent to Area 2b) extends up from the property line for approximately 400 feet at which time the boundary turns sharply north(parallel to the property line) along a logging road for another 400 feet before turning west to the top of the hill. Based on site visits and aerial photography the flow coming off this section of the mountain does not follow the section of logging road as shown on the preconstruction watershed map. The runoff from this area continues east as shallow concentrated flow and does not contribute to design point 2. This extra section of the watershed in effect erroneously adds an additional 30% to the preconstruction watershed Area 2 acreage. Similar issues exist with watershed areas contributing to design points 1, 3, 4, 9 and 12.

    The watershed area draining to design point 4 is also overestimated. The pre construction area for watershed 4S is 12.33 acres. The pre construction diagram indicates this watershed extends up the mountainside for a considerable distance. However, in assessing aerial photographs of this location, a swale can be clearly seen running across the slope above what will be Sheridan Drive. This swale captures all of the runoff from the area above the proposed Sheridan Drive and therefore cuts off the majority of what is shown for the pre construction watershed. This diverted flow is directed east across the slope to a water bar approximately 250 feet west of DP-3.The post construction HydroCAD report in the DEIS indicates a watershed area identified as 4.1S consisting of 2.52 acres.

This area is a more realistic delineation of the pre-construction watershed to DP-4 and should be adjusted accordingly. As calculated by DEP staff, the 10-yr post construction flows (12.12 cfs) at DP-4 without the diversion are still greater than the pre-construction flows. As such, the pre-development flow is 19.17 cfs and jumps to 50.51 cfs.

b. The physical location of several design points are inappropriate. The NYC Watershed Regulations define a design point as "...a point where stormwater runoff enters a watercourse or wetland or leaves the site of an activity for which a stormwater pollution prevention plan must be prepared, etc." As such, the design points must be located where the stormwater is released from the treatment practice and enters a receiving stream. For example, DP-11 should be deleted and three new design points located at R11.11, R11.24 and R11.26 identified. These new design points should be utilized for the pre/post analysis. The above example is by far the most significant; however similar instances exist at DP-1, DP-8, DP-9 and DP-12.

c. Post construction drawings indicate several significant diversion swales (one measured over 1350 ft long) that relocate large drainage areas. The impact of this construction is not properly evaluated in the DEIS hydrologic analysis.

d. The true dimensions of the existing mountain streams on the property do not match the dimensions shown in the DEIS hydrologic analysis. The hydrologic model misrepresents the actual channel dimensions located on-site. It is imperative for the model to depict the on-site stream dimensions accurately. By overestimating the dimensions of the channels, the post construction velocities will be artificially low and not representative of the site conditions or the impact on receiving streams. In addition, with no construction proposed within these on-site natural channels, there should not be any change in how they are modeled in the hydrologic analysis when comparing pre vs. post construction. Below are three instances where this error was made, at design points 1, 2 and 12 all in the east basin.

Area-1,

Pre – 760 feet long, 20 feet wide by 1 foot deep (Reach 1R: 1)
Post –1,332 feet long, 20 feet wide by 1.5 feet deep (R1.3, 1.4, 1.6 combined)

Area-2

Pre – 275 feet long, 2 feet wide by 1 foot deep
Post –466 feet long, 20 feet wide by 1 foot deep (R2.13, R2.14 combined)

Area-12

Pre – 300 feet long, 1 foot wide by 1 foot long
Post –435 feet long, 20 foot wide by 1 foot deep (R12.1, R12.2)

e. The DEIS must include a detailed downstream analysis of the condition and stability of all receiving channels off and on site. Given the project scale, downstream stream surveys should be performed for all watercourses that will receive stormwater discharges from the site. The surveys typically indicate channel roughness, stability, and dominant stream bank vegetation. The DEIS is

notably vague in the descriptions of the design points and associated receiving streams. Page 9 of Exhibit B, Stormwater Management Design Report, states "all of the primary perennial and intermittent drainages are rocky, cobbly mountain streams that convey storm flows and seasonal flows…" However, this is non-specific and somewhat misleading. Only DP-1 is representative of a "rocky, cobbly mountain stream". At each of the other design points, channels either do not exist (6, 7, 2A, 2B) or are located at unstable receiving channels where any increase in discharge velocity or volume may cause significant erosion. The channel off-site at DP-2 is particularly unstable.

7. The DEIS does not clearly depict the extent of clearing and grading. This omission gives the impression of less ground disturbance and wetland buffer encroachment than is actually proposed.

    a. The submitted materials do not provide enough information on the extent of filling and grading necessary to construct the single family lots. Section 2.4 of the DEIS states that "professionally prepared individual grading plans for each lot are required to be submitted by the lot owners and approved by the Architectural Review Board (ARB)"; however, it is unclear if the single family lots can be constructed on these steep slopes within the envelopes provided on the plans. Fill side slopes and road embankments adjacent to some of the proposed lots (such as the lots to the north of Meadow Crossing) will exceed 40%, with up to 20 feet of elevation change between the road and the building envelope for the dwelling. This will require extensive filling and grading to provide safe access to the lot and to establish a building pad.

    b. Section 5.1.4 of the Design Manual states that cut and fill grading on steep slopes should be avoided due to the potential for large impacts associated with creating a level building pad. It should be noted that development on very steep slopes disturbs far more than the building footprint: on a 30 percent slope, 250 feet would have to be graded in order to create a 100-foot wide pad for construction, assuming a maximum 2:1 (50 percent) steepness of cut and fill as specified in the Uniform Building Code (NH Innovative Land Use Planning Techniques, A Handbook for Sustainable Development, 2010). The Grading and Drainage Plan should be expanded to include the single family lots, and should include an estimate of the amount of cut and fill required to construct each lot. The plan should identify all areas where soil will be exposed, including the disturbance that will result from construction of the individual residential building pads and yard/driveway envelopes. If the plan shows that a lot cannot be constructed within the specified lot lines, then the property lot lines should be modified or the lot eliminated. Similarly, if lot development at a given location is only feasible with the use of structural slope stabilization practices such as retaining walls, then the approximate size and locations of these structures should be identified on the plans.

    c. DEP recommends that a detailed plan showing the limits of filling, grading and disturbance be prepared for each phase of this project. The limits of disturbance and open space described in the DEIS do not include all disturbance associated with this project. For example, Figure 2-8 does not include the large fill and

stockpile areas to be constructed off of Trailside Road or the disturbance associated with utility trenches as shown on Drawing WS-02, Preliminary Water Supply Plans.

d. Large scale development activities immediately adjacent to wetlands and buffers will result in disturbance and encroachment into these areas. If a 50 foot zone of disturbance results from equipment operation at the edge of cut, fill and blasting zones, it is likely that 2.25 acres of ACOE Jurisdictional Wetlands will be lost or severely impacted by construction in these areas. This estimate was obtained by comparing the Grading and Drainage Plans to the Wetland Areas Maps (WD-1 to WD-10) and Blasting Locations Map (2-17). Blasting is proposed to construct portions of the Stormwater Management Practices within 100 feet of regulated watercourses and/or wetlands for ponds 1.1, 2.3, 2.5, 11.1, 11.2, 11.5, 11.7 and 12.1. Cut or fill areas and disturbance associated with the removal of spoil from blasting operations will result in additional encroachment. It is likely that off-site spoil disposal or stockpiling will result in further undocumented impacts and potential wetland losses.

e. Moreover, Section 2 of the DEIS and Drawings L-4.01 to L-4.09 (Grading and Drainage Plans) show the proposed development areas in relation to the delineated watercourse and wetland locations. The proposed treeline (limit of clearing) shown on these drawings indicates that naturally vegetated buffer areas will be cleared up to the wetland edge in many areas within watersheds S-1, S-7, S-8, S-12 and S-13 and within 50 feet of regulated watercourses in S-1, S-7 and S-13. This does not include disturbance associated with clearing or excavation required to install pipes and outfalls for the Micropool Extended Detention Ponds and underdrain pipes and outfalls for the Bioretention units, which are not shown in the clearing limits. Similarly, groundwater interceptor drains, diversions, and foundation drainage outlets are not accounted for in the clearing limits or shown on the Grading and Drainage Plans. In conclusion, the aforementioned issues point again to the need for larger buffers. Larger buffers should be provided at the limits of cut and fill areas to allow for proper stabilization of the side slopes.

8. The design of stormwater management practices (SMP) in the DEIS has ignored critical required elements listed in the Design Manual resulting in substandard pollution abatement. The SWPPP proposes to use the following practices to reduce post development increases in stormwater runoff volumes and pollutant loading to pre-development levels:

   a. Dry Swales (O-2): Dry Swales are proposed throughout this project for treatment and conveyance. According to section 6.2.5 of the Design Manual, the peak velocity for the two-year storm must be non-erosive (i.e., 3.5-5.0 fps). The hydrologic report does not provide the data for the two year storm event to evaluate this requirement; however, based upon DEP's calculation, it does not appear that this requirement has been met. The entrance velocities to several of the proposed Dry Swales are too high and will cause scour within the practices:

P8.1 – 6.34fps,	P12.2 – 5.41fps,	P2.2 – 8.83fps,	P3.2 – 5.49fps,
P2.1 – 6.71fps,	2.1P – 6.71fps,	P3.1 – 7.88fps,	P8.1 – 6.34fps,

P11.4 – 6.59fps, P11.5 – 10.03fps, P11.10 – 8.83fps, P11.11 – 11.02fps.

In addition, the Design Manual recommends a two foot vertical separation distance from the bottom of the Dry Swale to groundwater. According to the USGS soil survey the depth to groundwater across the site is within 3 feet of the surface. Based on the soil survey and site observations it is highly unlikely a two foot separation will be achievable for the Dry Swales and therefore these practices will intercept the interflow that naturally occurs at this site. By intercepting this flow and directing it to the collection system the functioning of these practices and the natural hydrology of the site will be altered in a negative way.

According to page 20, Exhibit B, Stormwater Management Design Report of the DEIS, the Dry Swales are designed with an 18 inches ponding depth; however, according to the Design Manual a maximum ponding depth of 12 inches is allowed at the mid-point of the Dry Swales.

Furthermore, the Dry Swales are incorrectly modeled in the HydroCAD report. The Dry Swales volume would be 400 cubic feet; however, if the same Dry Swale had a 2% slope (2 foot drop in 100 foot length) the volume would only 200 cubic feet of storage. Thus, the HydroCAD report does not accurately model the storage volume provided by the Dry Swales which may in turn require larger receiving stormwater basins.

Lastly, Dry Swale 2.4P is modeled in HydroCAD as having a primary and secondary outlet. The schematic in the report indicates the secondary outlet from the dry swale discharges to DP2b via exfiltration; however, based on the soil types, as well as the Dry Swale being designed with an underdrain, the exfiltrated amount of water will be captured in the underdrain and discharge to R2.8. Consequently, this dry swale must be modeled with all of the flow routed to R2.8.

b. Micro-Pool Extended Detention Basins: According to chapter 6 of the Design Manual, the contributing area to Micropool Extended Detention Ponds should not exceed 10-acres; however, most of the Micro Pool Extended Detention Ponds have significantly larger contributing watersheds:

P2.5 - 36+ acre watershed,
P3.1 – 20+ acre watershed,
P3.3 – 20+ acre watershed,
P8.2 – 27+ acre watershed.
P9.2 – 19+ acre watershed,
P11.1 – 24+ acre watershed,
P12.1 – 17+ acre watershed,

The Micropool Extended Detention Ponds meet the requirements for the length to width ratio specified in section 6.1.4 of the Design Manual; although, these ponds do not provide the same geometry as shown in Figure 6.1 of the Design Manual. Figure 6.1 shows a Micropool Extended Detention Pond with some key differences that set it apart from other pond designs, such as a micropool at the outlet of the pond and a pilot channel between the forebay and the micropool which provides an area of high marsh between the inlet and outlet. The proposed ponds should be reconfigured to incorporate the key features shown in figure 6.1 of the Design Manual. Furthermore, the Design Manual requires a minimum

Surface Area: Drainage Area of 1:100; however, some of the ponds fail to meet this requirement:

P2.5 – proposed 7,652sf	required 7,940sf
P8.2 – proposed 4,839sf	required 10,162sf
P9.2 – proposed 3,838sf	required 6,677sf
P12.1 – proposed 5,504sf	required 7,794sf

In addition, section 6.1.4 of the Design Manual requires the division of storage of the water quality volume in a Micropool Extended Detention Pond (P-1) as 20% minimum in the permanent pool and 80% maximum in extended detention. Because the 1-year storm volume is greater than the WQv the ponds have been sized to treat the 1-year storm event. According to the information provided in the HydroCAD report, the proposed ponds do not exceed 80% of the volume of the 1year storm event in the extended detention; however, all the ponds fail to meet the 20% minimum volume in the permanent pool:

Permanent Pool Volume	Total Volume	1 yr Storm Event	Percentage
P1.1	6,889cf	39,1650cf	17.6%
P2.5	13,933cf	132,727cf	10.5%
P3.3	5,563cf	80,194cf	7.0%
P8.2	10,231cf	114,955cf	9.0%
P9.2	6,979cf	81,370cf	9.0%
P11.1	11,991cf	210,700cf	6.0%
P12.1	5,359cf	158,079cf	3.4%

Since the proper geometry and required elements listed above have not been applied, the benefit described in Exhibit B Stormwater Management Report on page 14 regarding the selection of Micropool Extended Detention Ponds to reduce thermal loading on trout waters is not valid. What is more, as Design Manual requirements and recommendations have not been incorporated, the resulting stormwater basins possess a smaller footprint and hence, reduced stormwater treatment effectiveness. The proposed site plan may need to be altered considerably to apply the Design Manual requirements. DEP encourages the use of appropriate Micropool Extended Detention Ponds for this project, for the important reason that, if not designed and installed properly, they will not provide the necessary intended functions.

The proposed stormwater treatment ponds appear to have been design and located with scant regard to future maintenance. Most of the ponds have been located in inaccessible areas such as at the rear of proposed houses, down gradient of roadways with guardrails and wedged between wetlands. Section 6.1.6 of the Design Manual requires a maintenance right of way or easement which shall extend to the pond from a public or private road. Additionally, maintenance access should be at least 12 feet wide, having a maximum slope of no more than 15%, and be appropriately stabilized to withstand maintenance equipment and vehicles. As well, the maintenance access should extend to the forebay, safety bench, riser, and outlet.

c. Bioretention: The required size and treatment volume of the bioretention basins are based on a few variables, one of which is the coefficient of permeability of the filter media. It appears in an effort to reduce the size of the bioretention basin a coefficient of permeability of 0.5 inches per hour ("/hr) was used in the design calculations. This value is twice as fast as the recommend design coefficient in section 6.4 of the Design Manual. Appendix H of the Design Manual states "A permeability of at least 1.0 foot per day (0.5"/hr) is required (a conservative value of 0.5 feet per day [0.25"/hr] is for the "design permeability"). The intent of specifying a required permeability is for testing material during construction; however, the "design permeability" is for sizing the basin. The report does not provide the required design information or sizing calculations for the individual house bioretention units.

According to section 6.4 of the Design Manual "filtering systems should not be designed to provide stormwater detention (Qp) or channel protection (Cpv) except under extremely unusual conditions. If runoff is delivered by a storm drain pipe or is along the main conveyance system, the filtering practice shall be designed off-line. A flow regulator (or flow splitter diversion structure) shall be supplied to divert the WQv to the filtering practice, and allow larger flows to bypass the practice." Bioretention basins 1.2, 2.3, 5.1, 11.7, 11.8 and 11.9 are designed along the main conveyance and must be redesigned off-line to adequately treat only the water treatment volume.

Furthermore, adequate pretreatment for bioretention systems should incorporate all of the following: (a) grass filter strip below a level spreader or grass channel, (b) gravel diaphragm and (c) a mulch layer. Bioretention basins 5.1, 11.2, 11.7, and 11.9 do not have adequate pretreatment. The Design Manual states in section 6.4.7: "If a filter is used to treat runoff from a parking lot or roadway that is frequently sanded during snow events, there is a high potential for clogging from sand in runoff". These basins must be redesigned to include pretreatment in accordance with section 6.4.3 of the Design Manual.

According to chapter 6 of the Design Manual, "outfalls should be constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream." As designed, the post construction discharges from this project will likely cause significant erosion of the offsite receiving channels.

Drawing L-2.01 (Soil Inventory Plan) provides detailed information on soil types present on the project site and identifies the location of forty (40) deep hole test pits performed on the site in October of 2008. Many of the test holes revealed boundary conditions within three feet of the surface due to the presence of hardpan, bedrock or high groundwater conditions. Additional percolation tests were performed by Kaaterskill Engineering on December 20, 2010 (Exhibit H); however, these locations are not shown on the Soil Inventory Plan. At a minimum, additional test pits will be needed wherever stormwater management practices will be installed, since many of these practices will require a minimum separation distance from boundary conditions.

The discharge velocity from diversion swale R1.1 along the bottom of Area 1.12 is too high at 5.65fps.

Page 13 indicates that "stormwater is captured, treated and attenuated in catch basins…" Catch basins do not provide any treatment or attenuation to stormwater flows. This statement should be removed from the DEIS.

9. The erosion and sediment control plan (E&SCP) portion of the DEIS is inadequate; proposing work on multiple sub-phases simultaneously and relies on chemical treatment and manual pumping of ponds to control fine-grained sediment.

    a. The proposed method of focusing attention on sediment control rather than erosion control during construction is contrary to the proper, primary fundamental design criteria for an erosion and sediment control plan. The WMSC project is proposed to be constructed on steep slopes with areas of exposed bedrock and shallow soils. Construction-related activities will alter the nature of shallow subsurface groundwater flow on the site, concentrating surface runoff and subsurface flow from disturbed areas into swales and other existing and proposed drainage features. In addition, clay and fine sediment washed from disturbed areas will be difficult to control.

    b. The premise of allowing the concurrent construction of sub-phases without independent oversight and control is inappropriate for a development project of this magnitude on a site with so many physical constraints to development. Appendix 9 of the DEIS states that the first phase of construction will disturb 52.4 acres of land, with the disturbance occurring in 23 distinct sub-phases. Phase 1 will result in the creation of approximately 13,700 linear feet of roads and 150 building units. Table 2-3 of the DEIS, Project Earthworks Quantities, estimates that Phase 1 will result in 271,910 cubic yards of cut and 198,320 cubic yards of fill, with a surplus of 73,590 cubic yards of spoil material to be stored in three on-site soil stockpile areas and at least one off-site area as shown on Drawing L-3.01, Construction Sequencing Plan – Phase 1.

    c. Several major design deficiencies were identified in the DEIS's Erosion & Sediment Control Plan (E&SCP):

        i. The impact of individual single-family home lot construction on permanent stormwater management facilities should be better detailed and explained in the DEIS. Erosion and sediment control plans for the individual single-family home lots are not included in the plan, and will be developed after the lots are sold. This will result in ongoing construction activity on the project site after the access road is completed and temporary erosion and sediment control practices have been removed or converted to permanent stormwater management practices.

        ii. The relationship, timing of construction activity and contrary nature between the shared locations and use of temporary soil stockpiling both on and off-site and runoff conveyance swales should be better detailed and explained in the DEIS. Numerous temporary and permanent drainage diversions, swales, level spreaders, and rip-rap conveyance structures are included on Drawings L-3.02 to L-3.05, Erosion and Sediment Control Plan, which are not

included in the sub-phase limits shown on Drawing L-3.01. In some cases, these drainage controls are incompatible with the proposed staging and stockpile locations.

iii. The direct relationship between work areas, sub-phasing and use of soil stockpiles should be better detailed and explained in the DEIS. Drawing L-3.01, Construction Sequencing Plan, Phase 1 Construction, identifies the locations and total area of disturbance associated with each sub-phase, but does not describe which on- or off-site staging and stockpile areas will be active during each sub-phase.

iv. It should be made clear that this project will require a five acre disturbance waiver from NYSDEC. Section 2.8.3 (B) of the DEIS states that multiple sub-phases may be worked on simultaneously. It is likely that the active disturbance in these areas when combined with active disturbance in stockpile areas and on unpaved construction haul roads will exceed five acres at one time (disturbance of five or more acres at any one time is prohibited unless a specific exemption is obtained from NYSDEC).

v. The timing and relationship between the implementation of temporary and permanent Erosion and Sediment Control measures and clearing, grading and other construction related activities within separate sub-phases within the same drainage area must be better detailed and explained in the DEIS. The E&SCP includes temporary stabilization practices, such as mulch and seed to be used in combination with erosion control practices (rolled matting, fiber rolls, inlet and outlet protection, temporary swales and check dams) and sediment controls such as silt fence and sediment basins. On development sites such as the WMSC property where disturbance of steep slopes and soils containing fine sediment and clay is unavoidable, it is strongly recommended that each sub-phase of the plan achieve complete stabilization of sediment source areas and temporary swales before moving on to the next phase. Concentrated runoff must not be allowed to flow onto or through disturbed areas unless they are protected with properly sized and designed armoring or anchored erosion control products. Mulch and seed alone will not provide adequate stabilization on steep cut or fill slopes, particularly in areas where seeps and springs are present or slumping of soil or fill material is likely to occur.

vi. The DEIS E&SCP relies heavily on the use of end of the line sediment traps and flocculent to control turbid discharges. It should be noted that the proposed use of sediment basins in combination with flocculent treatment and dewatering following storm events should be considered as an emergency or "last resort" option, rather than a key component of the E&SCP. Based on DEP's past experience with this practice, the unpredictable timing and intensity of rainfall and runoff events in combination with lack of equipment and qualified personnel to perform the flocculent treatment and pond dewatering operation will result in significant turbidity releases to protected waters. In addition, the DEIS must better detail where and when point discharges from these practices will take place.

10. Radical changes to existing groundwater flow patterns are not analyzed in the DEIS. The DEIS should evaluate the impact of decreased groundwater recharge on downstream areas and the redirection of groundwater flow on proposed stormwater management systems.

    a. Construction-related activities will alter the nature of shallow subsurface groundwater flow on the site, concentrating surface runoff and subsurface flow from disturbed areas and cut off swales into conveyance swales and other existing and proposed drainage features. This action will change the pre-development nature of groundwater flow across the slopes down-gradient of the project, potentially reducing groundwater flow. Much of the groundwater base flow will be diverted to stormwater management facilities impacting their ability to function as designed. This issue must be analyzed and resolved in the DEIS during the SEQRA process as the SWPPP is not equipped to address this phenomenon.

    b. The development plan includes temporary diversion swales which will be replaced with permanent swales (rip-rap, dry, or grass lined swales) when the Phase 1 access road system is completed. In some cases, old "jeep trails" will be utilized for diversion swales at the upper project limits. It should be noted that the pre-development runoff patterns in these areas is generally diffuse, with small areas of sheet and shallow concentrated flow contributing to small ponded areas on the "jeep trails." If these areas are to be connected by a well-defined diversion swale, as is proposed for this project, it is likely that the rate and volume of runoff delivered to existing watercourses will be substantially increased at the swale outlets. It is recommended that a downstream analysis for this project include an evaluation of changes in stream and wetland hydrology resulting from these temporary and permanent shallow groundwater and drainage diversions. Similarly, the potential for interception of shallow subsurface groundwater flow by dry swale underdrain systems should be addressed in the SWPPP.

11. The DEIS is missing a significant amount of data critical to the review of the SWPPP at this stage in SEQRA.

    a. The DEIS is incomplete because all 1-year and 100-year storm data for all pre/post construction subcatchments within the hydrologic analysis is missing. This information is absolutely necessary to properly evaluate the hydrologic changes in each of the sub-catchments as a result of the development. The 1-year storm is required to determine the channel protection volume and the 100-year storm is required to determine the safe conveyance of runoff to, through and away from the site.

    b. The following additional data was found missing in the DEIS's hydrologic analysis.

        i. No post-construction reach or culvert data has been provided for the 100-year storm. This information is necessary to evaluate the safe conveyance of the storm flows through proposed structures. For example, Pipe R1.7, located near Cave Mountain Road, is shown as having a 24 inch diameter outlet with the inlet invert set at elevation 2,230'; however, the peak

elevation of flow for the 10-year storm at this point is at elevation 2,233.02'. As the elevation at the 10-year storm is 3 feet above the inlet invert of the pipe (1 foot above the pipe) it is likely the 100-year storm elevation will be significantly higher than the culvert and could pose a safety issue with overtopping at Cave Mountain Road.

ii. No post construction data for Pond 11.9R and no data for pond P2.4: It is impossible to evaluate the outflows from these ponds without the complete pre/post data.

iii. No pre/post data has been provided for design points 8a, 11a and 11b. It is impossible to evaluate the effects of the project on these design points without the 2, 10 and 100-year storm data.

iv. Splitter R3.6 discharges to DP-4 via a proposed swale along the north side of Sheridan Drive; however there is no HydroCAD data for this swale.

Due to the size, complexity and scope of this project, it would be beneficial if all of the HydroCAD data be provided to involved agencies on a CD and included with the DEIS. This information would provide the reviewer ample access to all of the data used in the hydrologic analysis and allow for an efficient, proper and complete review of this portion of the DEIS.

12. The DEIS improperly applies the NYC Watershed Regulations in several instances resulting in a deficient SWPPP.

    a. The applicant has improperly calculated the DEP required water quality volume when designing the project's stormwater treatment practices. This has resulted in an undersizing of all the site's practices. It appears that the required water quality volume has been miscalculated in the DEIS Stormwater Management Design Report. Page 16 (Exhibit B) of the report states that the WQv calculation utilized both the 1.1 inch storm event (90% rainfall) and the 3.0 inch storm event (1 year/24-hour rainfall). The 1-year storm event is not intended to be used in the WQv calculation, rather the runoff volume utilizing the 1 year storm, is to be calculated using the National Resource Conservation Services (NRCS) method. DEP requires a comparison of the WQv and the volume of runoff generated by the 1-year storm event for sizing SMP's. The NYC Watershed Regulations 18-39(c)(3) states: Stormwater Treatment Volume. All stormwater pollution prevention plans prepared pursuant to this section shall include measures to capture and treat the greater of the volume of runoff generated by the 1-year, 24-hour storm or the Water Quality Volume (WQv). Stormwater management practices which provide treatment shall be designed to accommodate the quantity of runoff flowing to the stormwater management practice, including runoff from off-site areas. To clarify, when calculating WQv one must use the calculation procedure presented in section 18-16(126) of the NYC Watershed Regulations (also found in Table 4.1 in Chapter 4 of the Design Manual). The Water Quality Volume (denoted as the WQv) is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volume. The WQv is directly related to the amount of impervious cover created at a site. Therefore, the WQv is a culmination of site specific inputs that generate a water quality volume. In this instance, the Stormwater Treatment Volume is based on the post

construction volume of runoff from the 1-year storm event to the stormwater practice. This volume is typicality generated using a program for modeling the hydrology and hydraulics of stormwater runoff such as HydroCAD software.

b. In addition, there appear to be some discrepancies in the Supporting Water Quality Volume spread sheets in Appendix B of the report:

   Design Point 1

   i. Subcatchment 1.3 represents a section of road approximately 600 feet long and 18 feet wide equaling 10,800 square feet; however, the spread sheet only indicates 5,380 square feet of impervious area.
   ii. Subcatchment 1.4 is listed in the "None/Undisturbed" section of the spread sheet; however, the spread sheet shows an impervious area of 5,600 square feet, and the plans show two proposed houses with bioretention basins.
   iii. Subcatchment 1.4 is also listed in the section named "Bioret. on indiv Lots" and the impervious area is half of what is listed above.

c. The DEIS improperly applies the DEP's "20% Rule." The NYC Watershed Regulations state that if an activity requiring a stormwater pollution prevention plan will result in impervious surfaces covering twenty percent (20%) or more of the drainage area for which a stormwater management practice is designed, the stormwater pollution prevention plan shall provide for stormwater runoff from that drainage area to be treated by two different types of stormwater management practices in series. The following Subcatchments have impervious surfaces covering twenty percent (20%) or more of the drainage area for which a stormwater management practice has been designed.

   i. Bioretention Basin P1.2 has an impervious area of 27%
   ii. Bioretention Basin P6.1 has an impervious area of 49%
   iii. Bioretention Basin P6.3 has an impervious area of 44%
   iv. Bioretention Basin P9.3 has an impervious area of 35%
   v. Dry Swale P11.5 has an impervious area of 27%
   vi. Bioretention Basin P11.7 has an impervious area of 55%
   vii. Bioretention Basin P11.8 has an impervious area of 77%
   viii. Bioretention Basin P11.9 has an impervious area of 22%
   ix. Dry Swale P12.2 has an impervious area of 27%

d. The Project fails to maintain existing drainage patterns. Section 18-39(c)(5)(i) of the NYC Watershed Regulations states that *"to the maximum extent practicable, an activity requiring a SWPPP, and the SWPPP prepared for such an activity, shall be designed to minimize the alteration of the existing drainage areas..."* Contrary to this requirement, the project proposes to radically alter existing drainage patterns. This is best exemplified by the frequent use of splitters and secondary outlets at six different locations. These structures are used at several locations on the site to manually manipulate and distribute low and high flow events to different drainage (design) points. A total of three hydraulic flow

splitters (identified as CB R3.6, R8.15 and R11.28) are used as standalone units to divide low versus high flow storm events. These locations also represent a point of possible failure during an extreme storm event if the devices are not regularly maintained or if an excessive amount of storm related debris affects the functioning of the unit during a storm event. It is advised that the project not rely on such devices given the sensitive nature of site hydrology.

Section 2.5 Wastewater Collection and Treatment

13. Following the review of the DEIS, DEP notes there are a few concerns with the Wastewater proposal. As detailed further below, there is a concern regarding capacity of the existing Windham WWTP and the flow numbers utilized to determine capacity and future use. DEP observes the flow numbers utilized for the capacity analysis were based on a 2008 report which utilizes different flow numbers from those proposed for the WMSC project as taken from the Town of Windham Sewer Use Law (SUL).

    a. Based on the flows allocated to currently approved users and projected flows from other properties within the Town sewer district, the available documented capacity at the Town of Windham WWTP is 100,000 gallons per day (gpd). Full build-out of the subject project (94,024 gpd) in accordance with the DEIS analysis would leave only 5,976 gpd of available capacity.

    b. The capacity analysis for Windham WWTP used in the DEIS and noted above is based on a 2008 letter prepared by Delaware Engineering. Many additional connections have been made since that time and there are more connections under consideration. For example, Copper Ridge Transportation Corporation permitted flow of (6,600 gpd), and Stonewall Glen Townhouses permitted flow of (17,707 gpd), approved by the Town of Windham, are not included in the remaining capacity analysis. It is important to provide all potential and current flow numbers in the capacity analysis.

    c. Taking into consideration how narrow the margin is between the proposed flow for WMSC (94,204 gpd) and the reported available capacity at the Windham WWTP (100,000 gpd), and the developments noted above, a current flow analysis is warranted.

    d. The 2008 flow analysis by Delaware Engineering used 150 gpd per Equivalent Design Units (EDU) to estimate future flow from vacant properties. One hundred and fifty gpd is less than the 300 gpd referenced in the Windham Sewer Use Law. Using the two different EDU values results in inaccurate evaluation of the available capacity of the WWTP. A revised analysis should be provided using consistent flow values.

    e. Wastewater flow estimates are based on 300 gpd/EDU, as referenced in the Windham Sewer Use Law. Homes with four or more bedrooms will likely produce more flow than 300 gpd when occupied. For flow estimation purposes, homes with four or more bedrooms should be counted as more than 1 EDU. Using 1 EDU for a five bedroom house will result in underestimating the projected wastewater flow.

14. DEP pays a percentage of Operations and Maintenance costs to the Town of Windham for the WWTP. DEP requests additional details be provided regarding the transportation corporation structure including details of sewer use fees, maintenance and servicing the sewer mains, sewer laterals and grinder pumps.

Section 1.4 Required Permits

15. Given the extent of soil disturbance proposed on the United States Department of Agriculture (USDA) E/F slopes (very steep and highly erodible soils), it appears that the project will require New York State Department of Environmental Conservation (NYSDEC) review and approval of an individual permit in accordance with Part 1.D.6 of the 2010 SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001).

16. A copy of the final United States Army Corps Engineers (USACE) jurisdictional determination should be included to confirm the extent of federally regulated wetlands and water courses. Confirmation should also be provided from the USACE indicating whether this project requires an individual permit or meets the requirements of Nationwide Permit 14 (Linear Transportation Projects) or Nationwide Permit 29 (Residential Development) as proposed activities include directional boring for utility lines as well as 769.5 linear feet of fill in ephemeral streams for features such as stormwater basins, duplex units, in addition to fills in wetlands for linear transportation features. In any case, the assertion on page 1-15 that the project does not require a Pre-Construction Notification is incorrect, as NWP 14 requires notification for fills to special aquatic sites, including wetlands, and NWP 29 requires notification for all activities.

Section 2.4 Land Cover, Open Space and Recreation

17. It is not clear if the individual grading plans for each lot will be included in the overall construction sequencing and phasing as described earlier in the document. Furthermore, the limits of disturbance must be accurately shown on the drawings.

Section 2.10 Lighting, Landscaping and Signage

18. This section indicates an intention to use existing vegetation and native landscaping plants as much as possible with the exception of non-native plants in small enclosed gardens. It should be noted that invasive species can escape to adjacent natural areas from developments placed within natural settings. It is recommended that only native, non-invasive plant species be used in landscaping designs. It is also recommended that language to this effect be included in the Use Restrictions segment of the Project Design Guidelines.

Section 3.4 Terrestrial and Aquatic Ecology

19. DEP requests confirmation of the boundary of wetland W-24 as there are proposed disturbances within close proximity to this wetland and its boundaries were unclear at the time of the DEP site visit.

20. While it is important to preserve as much existing vegetation on the property as possible, it should be noted that normal land clearing and grading activities associated with home construction can be detrimental to vegetation far outside the footprint of new structures and access roads. Activities such as placing 3 inches or more of fill over 1/3 of a tree's root system or cuts that sever 1/3 or more of a tree's roots can severely limit the tree's uptake of water and nutrients, de-stabilize the tree or cause mortality. It is not clear whether the entire prism areas of cut and fill from site grading were considered in calculating impacted areas of vegetation for the building envelopes. It is recommended that a Certified Arborist or similar professional be consulted to determine whether trees need to be removed at the time of construction and provide advice at the planning phase in determining impacts.

21. Section 3.4.2.B of the DEIS should also be amended to indicate that a total of 769.5 linear feet of fill is proposed in ephemeral waters as indicated on drawings W1 and W-2 for the construction of roads, driveways, trails, duplex units (9-12) and a new stormwater basin.

22. Section 3.4.3.B of the DEIS should be amended to disclose and assess impacts to wetlands not under jurisdiction of the USACE. The DEIS narrative and wetland drawings WD 1 through 10 indicate 2.74 acres of non-jurisdictional wetlands on site. These wetlands are not shown on any of the project plans. Based on their locations shown in drawings WD1 though 10, direct impacts are anticipated to at least nine non jurisdictional Wetlands (W-16 through W-22 and W-31). These wetlands should be shown on the project plans, and the extent of impacts to them should be disclosed and assessed in the DEIS.

Section 3.9 Land Use and Community Character

23. The DEIS notes that, "...it is unlikely that the proposed project would result in new secondary development impacts or business growth that would have any significant impacts on land use or community character in the Town." If the project was strictly meant to be a winter-based residential community than perhaps it would not result in any noticeable secondary development impacts; however, the applicant has made it clear that this is meant to be a "four season" year-round residential community. As a consequence, it would seem that if the full development potential is achieved on a year-round basis that there would logically be some land use impacts in the Town.

Section 3.11 Secondary Growth Impacts

24. There are a variety of concerns related to the potential for induced growth associated to the WMSC. These include demand for new residential housing, development of additional commercial space along NYS Routes 296 &23, and conversion of some residential structures to non-residential uses. As a result of this development a number of

natural resource impacts are likely to occur, which would have the potential to adversely affect water quality. Potential alterations to natural resources include land clearing for residential and commercial units, addition of impervious surface through paving of roads, driveways, and parking lots, and conversion of forest to landscaped areas, which would increase sedimentation, pesticide use, phosphorus and other contaminant loads within the watershed.

Section 4 Unavoidable Adverse Environmental Impacts

25. Section 4.2 notes that the "The project will also utilize the Town of Windham municipal wastewater collection and treatment system. Full build-out of the project, which is projected for 15 years, may not be accommodated by the Town's wastewater treatment plant's current treatment capacity; however, because the project has a long projected timeframe for build-out, and because each unit that is built on the project will be required to pay a fee to connect to the Town's system, the project, in conjunction with other development proposals in the Town will generate the revenues needed to increase the capacity of the Town's wastewater treatment plant to accommodate the project in its entirety." If expansion of the WWTP is an anticipated impact from the project, the project sponsor should be required to assess the necessary modifications to the wastewater treatment plant within the DEIS. Absent that analysis, the proposed development should be downsized to fit within the wastewater capacity under the existing SPDES permit.
26. Section 4.4 discusses the extent of impacts to flora and fauna in a general way but does not provide specific information regarding the number of acres expected to be re-forested following construction, converted to native grass and wildflower meadows, vegetated with grass lawns and/or landscaping plants, allowed to grow through ecological transitions from field to shrub to forest communities, etc. Value of native plant materials and successional habitats should be evaluated (at least qualitatively) in terms of their contribution to maintaining and enhancing wildlife diversity in the region while areas converted to non-native vegetation can be better evaluated in terms of lost values.
27. The project should be modified to reduce the numerous disturbances within 100 feet of wetland areas. Construction within the wetland buffer can negatively impact the buffer and associated wetland and decrease the wetlands ability to provide water quality protection. The EIS should assess these impacts and avoid or minimize them to the extent practicable.

Section 7 Growth Inducing & Secondary & Cumulative Impacts

28. This section of the DEIS notes that the proposed project has the potential to result in growth inducing effects pertaining to new housing and commercial development. Section 3.11 (Secondary Growth Impacts) seems to make light of this. There does not appear to be any information in the DEIS on the actual costs of secondary and cumulative impacts associated with the proposed development. This information should be provided in a revised or supplemental EIS as presented at the beginning of this letter.

Appendix 4 Wastewater Design Report

29. Section 3.3.3With regard to SPDES Permit and Contract Flow - Copper Ridge Transportation Corporation permitted flow of 6,600 gpd, approved by the Town of Windham, is not included in the remaining capacity. It is important to note that together with Copper Ridge, WMSC will exceed the plant capacity.

Appendix 10 Wetland Delineation Report

30. Delineation forms were provided for only 13 of the 36 on site wetlands. Forms for each delineated wetland and adjacent upland area should be included in the DEIS.

Appendix 17 Project Design Guidelines

31. Section 4 should provide required steps to prevent the spread of invasive plants from gardens such as use of sterile varieties, careful disposal of clippings at appropriate off-site facilities, etc.

32. Section 4 should also include information about and drawings of typical measures used to protect existing vegetation during construction, such as tree guards and wells, construction mats over wet areas and tree roots, etc.

33. Section 4.2 refers to a restriction on the use of fruit-bearing plants within Zones 1 and 2. Technically speaking, this restriction would be very difficult to achieve because so many shrubs, trees and herbaceous plants produce a fruit. It is recommended to specifically restrict plants that bear fruits that would be especially attractive to bears (such as berries and stone fruits) and to provide a list of those. Likewise, deer-resistant plants should be listed.

34. Section 7.14, regarding Protection of Trees, should include drawings depicting what is meant by the "drip line of... tree" and "the outermost 20% of the radius distance from the drip line to the tree trunk." The practice of strapping lumber to a tree trunk should be more fully discussed, since it is just as important that this material is removed in a timely manner. Allowing impervious paving under the dripline of trees when soil is not disturbed is not advised if 1/3 or more of a tree's roots will be covered with impervious material. This will cause tree mortality and a hazardous condition over time. Pervious materials can have the same impact if more than 3 inches deep, including gravel, mulch, etc. Please clarify these items in the text.

35. Appendix 3, Approved Landscape Plant Palette, does not provide guidance regarding which plants are suitable for natural areas (Zones 2and 3) and which are only acceptable for use in contained plantings immediately around a home. While a knowledgeable landscape designer may be able to distinguish between native and non-native plants and those that escape cultivation it would be preferable to divide the list further to avoid errors in judgment (DEP's suggestion for dividing the list is follows the comments).

Appendix 17 Part B: Master Declaration of Covenants, Conditions and Restrictions

36. Article 6.14 Landscaping mentions fertilizer and grass seed. It is not recommended to apply fertilizer in the absence of a soil test within the New York City watershed. Failure of vegetation to grow may be attributable to numerous factors (soil type, moisture, shade,

contaminants, etc.). It is recommended that fertilizers not be applied unless soil tests indicate a need for them.

37. Drawings L-4.01 to L-6.09 Grading and Drainage Plan

    a. The DEIS does not assure that off-site spoil stockpiles located northwest of Trailside Road will not impact federal wetlands. Additional wetland acreage may be present on adjoining properties that will receive spoil from this development. In addition, adequate buffer zones should be provided to prevent direct and indirect impact to wetland areas from construction activities. A minimum 50 foot buffer should be applied to allow construction site access, allow for installation of perimeter erosion and sediment control measures and preserve wetland integrity.

    b. Furthermore, the plans do not include grading limits or detailed information on the amount of cut and fill that will be needed to construct the building pads and driveways The limits of disturbance and filling/grading shown on this plan and Limits of Disturbance and Open Space (Figure 2-8) plans should be revised to include all contiguous disturbances, including on and off-site fill and spoil disposal areas and utility cuts that will be accessed from the project site. In addition, disturbance associated with heavy equipment access to blasted, ripped, cut, filled or grubbed areas and their associated spoil/debris stockpile areas should be shown on the plans. This should include realistic equipment access routes (corridors) necessary to stabilize steep side slopes and to install erosion and sediment control practices and runoff controls, and to provide access for installation and maintenance of stormwater management practices.

38. Drawings L-6.01 to L-6.09 Site Layout, Materials and Planting Plan

    a. General Note 3 on drawing L-6.01 indicates that areas that are not to be mowed regularly but, rather, allowed to re-vegetate naturally will be seeded with Agway Conservation Seed Mix. Agway Green Grass Conservation Mix contains perennial ryegrasses, red fescue, Kentucky bluegrass, and white clover. None of these are native to New York and are not recommended for use in areas where the intention is to return an area to native grassland, shrubland or forest as these grasses tend to persist and prevent establishment of native species. A native seed mix combined with Annual Ryegrass (which does not persist) would be preferred in these areas. Consider using roughly 10 lbs. /acre of Annual Ryegrass and 20 lbs. /acre of Ernst Conservation Seeds native mixes such as one or more of the following: Native Habitat for Strip Mines Mix, Warm Season Grass Mix, Showy Northeast Native Wildflower and Grass Mix, Eastern Ecotype Native Grass Mix. Other vendors, such as New England Wetland Plants and Pinelands Nursery, also carry acceptable native seed mixes.

    b. Planting Note 1, also on drawing L-6.01, states that plant material will conform to the guidelines in the American Standard for Nursery Stock published by the American Association of Nurserymen. The organization changed its name and is now the American Nursery and Landscape Association. The guidelines, which the organization still develops, are ANSI Z60.1 American Standard for Nursery Stock and should be referred to as such.

c. Planting Note 4 should state that plant beds shall receive no more than 3" of bark mulch. Excessive mulching causes plants, especially longer-lived woody plants, to establish roots shallowly in the soil or even within the mulch, which makes them very susceptible to extremes in soil moisture conditions.

39. Drawing L-8.02 Site Details

a. Detail Drawing 5 Micropool Extended Detention Pond (P-1) requires seeding of duckweed and pondweed (Sago) in the permanently inundated area, Ernst Waterfowl Buffet Mix nearer the edge of the permanent pool, and Agway Conservation Seed Mix above pool level. It is recommended that Duckweed (*Lemna spp.*) and Sago Pondweed (*Stuckenia pectinata*) be provided with scientific taxonomy on the drawing. The Ernst Waterfowl Buffet Mix is appropriate for this location but must be established during a period when conditions are moist but not inundated with several inches of water. A note should be added to the drawing to reflect this. As noted above, Agway Conservation Seed Mix does not contain native seed material and would not be appropriate in close proximity to wetlands, watercourses or other natural areas where the goal is to avoid introduction of non-native species.

b. Detail Drawing 8 Bioretention Area states that each area will have one tree, sixteen shrubs, and twenty-four herbaceous perennials per 1000 square feet of surface area. This quantity appears to be adequate to provide complete cover at maturity; however, some guidance about appropriate placement of plants relative to expected soil moisture conditions would be helpful. Sandy soils may not retain sufficient soil moisture to support plants that require wet conditions. Please provide additional information about plant placement either here or in the list of acceptable plants in Appendix 17.

40. Drawing L-8.04 Site Details

a. Detail Drawings 1 (Deciduous Tree Planting) and 2 (Evergreen Tree Planting) both depict use of guying and staking materials. Current industry standards (International Society of Arboriculture) limit use of guying and staking to severe conditions where trees are exposed to high winds, flowing water, steep slopes and the like. Even in these conditions, trees develop better root systems and wind firmness when guying materials are removed within a year after planting. This avoids bark damage and mortality if guying materials are not removed at the appropriate time. In addition, tree wrap has been found to harbor insects and diseases and should only be used on thin-barked trees in areas where they will be susceptible to sunscald. Please review standard detail drawings found at: http://www.isa-rbor.com/education/onlineResources/cadPlanningSpecifications.aspx.

b. At minimum, a note should be added to these details requiring the landscaping contractor to remove guy wires and tree wrap, where used, within one year following planting.

41. Drawing W1-1

a. Proposed fill F8 will impede flow through wetland 10. This crossing should be designed to maintain connectivity in accordance with NY state Nationwide Permit

regional condition II.A.10. In addition, this condition should also be considered for all proposed fills to wetlands and watercourses.

b. Recommendations for modifying the Landscape Plant Palette (Appendix C) are provided as an Appendix at the end of this letter.

DEP offers this last comment as a recommendation:

Section 2.6 Water Supply

42. The project site is outside of the Town's municipal water district. The project sponsor estimates that maximum daily water demand and maximum daily design wastewater flows will approximate 94,024 gallons per day; 180,000 gallons of fire flow over a 2 hour period (1,500 gallons per minute) are also calculated as necessary. Two water reservoirs are proposed with a 50,000 and 300,000 gallon capacity. A Town wide consolidation of existing water supplies in different districts will be required to provide the water demands for the subject project. Additionally, the Town intends to utilize funds collected from project applicants, including WMSC, to pay for the water system consolidation. It might be more appropriate for the Town of Windham to require WMSC to provide a water supply source for WMSC and the Town of Windham within their proposed Transportation Corporation, in addition to the Town of Windham consolidating several municipal and private water supplies.

In conclusion, the DEIS should not be accepted as final and a revised or supplemental DEIS should be prepared. The revised or supplemental document should contain the analyses contained herein and propose proper mitigation for the identified issues.

Thank you for the opportunity to provide comments. You may reach me at cgarcia@dep.nyc.gov or (914) 773-4455 with any questions or if you care to discuss the matter further.

Sincerely,

Cynthia Garcia

Cynthia Garcia
SEQRA Coordination Section

X: Kent Sanders, NYSDEC – Region 4
Teresa Emmitt, P.E., NYSDOH
Heidi Firstencel, U.S. Army Corps of Engineers
Ed Diamante, Greene County Planning Department
Kevin Frank, The LA group
Tuck Eastside Partners, LLC

Appendix

Recommendations for modifying Landscape Plant Palette (Appendix C)

1. Acceptable native materials (Zones 1 through 3) include:

   Shade Trees: Red Maple (Acer rubrum), Sugar Maple (Acer saccharum), Yellow Birch (Betula allegheniensis), Black Birch (Betula lenta), River Birch (Betula nigra), Gray Birch (Betula populifolia), Paper Birch (Betula papyrifera), American Hornbeam (Carpinus caroliniana), Pignut Hickory* (Carya glabra), Shagbark Hickory* (Carya ovata), Mockernut Hickory* (Carya tomentosa), Common Hackberry (Celtis occidentalis), American Beech (Fagus grandifolia), Tulip Tree (Liriodendron tulipifera), Black Tupelo (Nyssa sylvatica), White Oak (Quercus alba), Red Oak (Quercus rubra), Scarlet Oak (Quercus coccinea), Bur Oak (Quercus macrocarpa), Pin Oak (Quercus palustris), Chestnut Oak (Quercus prinus), Black Oak (Quercus velutina), American Sycamore (Platanus occidentalis), Sassafras (Sassafras albidum), Basswood (Tilia americana), American Elm (Ulmus americana). *Note: hickories are exceptionally difficult to grow and commercial sources may not be available.

   Understory Trees: Striped Maple* (*Acer pensylvanicum*), Downy Serviceberry* (*Amelanchier arborea*), Shadblow Serviceberry* (*Amelanchier canadensis*), Allegheny Serviceberry* (*Amelanchier laevis*), Pagoda Dogwood (*Cornus alternifolia*), Flowering Dogwood (*Cornus florida*), American Hophornbeam (*Ostrya virginiana*). *Notes: Striped Maple can interfere with establishment of native trees growing from seed by shading them out. Serviceberries may be attractive to bears if growing in sunny areas where they will bear fruit.

   Evergreen Trees: Balsam Fir (*Abies balsamea*), Eastern Red Cedar (*Juniperus virginiana*), White Spruce (*Picea glauca*), Red Pine (*Pinus resinosa*), Eastern White Pine (*Pinus strobus*), Northern White Cedar (*Thuja occidentalis*), Eastern Hemlock* (*Tsuga canadensis*). *Note: Eastern Hemlock may not be a good choice in areas subject to Hemlock Woolly Adelgid and other pests.

   Shrubs: Speckled Alder (*Alnus incana ssp. rugosa*), Brookside Alder (*Alnus serrulata*), Bearberry* (*Arctostaphylos uva-ursi*), Red Chokeberry* (*Aronia arbutifolia*), Buttonbush (*Cephalanthus occidentalis*), Sweet Pepperbush (*Clethra alnifolia*), Red-osier Dogwood (*Cornus sericea ssp. sericea*, synonyms *Cornus alba* and *C. stolonifera*), Silky Dogwood (*Cornus amomum*), Gray Dogwood (*Cornus racemosa*), Leatherwood (*Dirca palustris*), Witch-hazel (*Hamamelis virginiana*), Smooth Hydrangea (*Hydrangea arborescens*), Winterberry Holly (*Ilex verticillata*), Sheep Laurel (*Kalmia angustifolia*), Mountain Laurel (*Kalmia latifolia*), Spicebush (*Lindera benzoin*), Northern Bayberry (*Morella pensylvanica*), Shrubby Cinquefoil (*Potentilla fruticosa*), Great Laurel (*Rhododendron maximum*), Pinxterbloom Azalea (*Rhododendron periclymenoides*), Roseshell Azalea (*Rhododendron prinophyllum*), Swamp Azalea (*Rhododendron viscosum*), Fragrant Sumac (*Rhus aromatica*), Pasture Rose* (*Rosa carolina*), Swamp Rose* (*Rosa palustris*), Virginia Rose* (*Rosa virginiana*), Elderberry* (*Sambucus nigra ssp. canadensis*), Meadowsweet (*Spiraea alba var. latifolia*), Snowberry (*Symphoricarpos albus var. albus*), Lowbush Blueberry* (*Vaccinium angustifolium*), Highbush Blueberry*

(*Vaccinium corymbosum),* Maple-leaved Viburnum* (*Viburnum acerifolium),* Arrow-wood* (*Viburnum dentatum),* Nannyberry *(*Viburnum lentago),* Black Haw *(*Viburnum prunifolium),* American Cranberrybush* (*Viburnum opulus var. Americanum).* *Note: Bearberry, Chokeberry, Blueberry, Viburnum species, and Roses bear nutritious, tasty berries that are likely attractive to bears. Please consider this when planting.

Herbaceous Grasses and Grass-Like Plants: Ticklegrass (*Agrostis scabra),* Broom-sedge (*Andropogon virginicus),* Little Bluestem (*Schizachyrium scoparium,* synonym *Andropogon scoparius),* Bluejoint Grass (*Calamagrostis canadensis),* Pennsylvania Sedge (*Carex pensylvanica),* Plantain-leaved Sedge (*Carex plantaginea),* Tussock Sedge (*Carex stricta),* Fox Sedge (*Carex vulpinoidea),* Canada Wild Rye (*Elymus canadensis),* Blue Wild Rye (*Elymus glaucus),* Virginia Wild Rye (*Elymus virginicus),* Soft Rush (*Juncus effusus var. pylaei),* Switchgrass (*Panicum virgatum),* Reed Canarygrass (*Phalaris arundinacea),* Wool-grass (*Scirpus cyperinus),* Indiangrass (*Sorghastrum nutans),* Prairie Dropseed *(*Sporobolus heterolepsis).* *Note: Prairie Dropseed is a threatened species in New York. Do not plant in areas likely to undergo future development.

Herbaceous Perennials and Vines: Maidenhair Fern (*Adiantum pedatum),* Meadow Anemone (*Anemone canadensis),* Wild Columbine (*Aquilegia canadensis),* Wild Ginger (*Asarum canadense),* Swamp Milkweed (*Asclepias incarnata),* Butterflyweed (*Asclepias tuberosa),* White Wood Aster (*Eurybia divaricata),* Smooth Blue Aster (*Symphyotrichum leave),* New England Aster (*Symphyotrichum novae-angliae),* New York Aster (*Symphyotrichum novi-belgii),* Lady Fern (*Athyrium filix-femina),* Turtlehead (*Chelone glabra),* Black Cohosh (*Cimicifuga racemosa),* Virgin's Bower *(Clematis virginiana),* Bunchberry (*Cornus canadensis),* Hay-Scented Fern* (*Dennstaedtia punctilobula),* Marginal Woodfern (*Dryopteris marginalis),* Trout Lily (*Erythronium americanum),* Joe-pye Weed (*Eutrochium purpureum),* Creeping Wintergreen (*Gaultheria procumbens),* Cranesbill *(Geranium maculatum),* March Hibiscus (*Hibiscus moscheutos),* Slender Blue Flag (*Iris prismatica),* Blue Flag (*Iris versicolor),* Twinleaf (*Jeffersonia diphylla),* Cardinalflower (*Lobelia cardinalis),* Great Blue Lobelia (*Lobelia siphilitica),* Trumpet Honeysuckle (*Lonicera sempervirens),* Virginia Bluebells (*Mertensia virginica),* Partridgeberry (*Mitchella repens),* Bishop's Cap (*Mitella diphylla),* Bee-balm (*Monarda didyma),* Wild Bergamot (*Monarda fistulosa),* Sundrops (*Oenothera fruticosa),* Sensitive Fern (*Onoclea sensibilis),* Cinnamon Fern (*Osmunda cinnamomea),* Royal Fern (*Osmunda regalis var. Spectabilis),* Virginia Creeper (*Parthenocissus quinquefolia),* Foxglove Beardtongue (*Penstemon digitalis),* Meadow Phlox (*Phlox maculata),* Mountain Pinks (*Phlox subulata),* Obedient Plant (*Physostegia virginiana),* Mayapple (*Podophyllum peltatum),* Solomon's Seal *(Polygonatum biflorum),* Cutleaf Coneflower (*Rudbeckia laciniata),* False Solomon's Seal (*Maianthemum racemosum),* Rue Anemone (*Thalictrum thalictroides),* New York Fern* (*Thelypteris noveboracensis),* Foamflower (*Tiarella cordifolia),* New York Ironweed (*Vernonia noveboracensis),* Labrador Violet (*Viola labradorica),* Birdsfoot Violet (*Viola pedata),* Barren Strawberry (*Waldsteinia fragariodes).* *Note: Some native ferns are known to reduce germination and growth of native tree seedlings. Avoid using these in areas where reforestation is desired.

2. Acceptable materials native to the northeastern U.S. and/or suitable for USDA Plant Hardiness Zone 5 and not known to escape cultivation (Zones 1 and 2):

Shade Trees: American Yellowwood (Cladrastis kentukea), Kentucky Coffeetree (Gymnocladus dioicus), Sweetgum (Liquidambar styraciflua), Sourwood (Oxydendrum arboreum), London Planetree (Platanus x acerifolia), Bald Cypress (Taxodium distichum).

Understory Trees: Redbud (Cercis canadensis), White Fringetree (Chionanthus virginicus), Green Hawthorne* (Crataegus viridis), Crabapples* (Malus spp.). *Note: Bears may be attracted to crabapples and Hawthorne berries.

Evergreen Trees: White Fir (Abies concolor), Atlantic White Cedar (Chamaecyparis thyoides).

Shrubs: Carolina Allspice (Calycanthus floridus), Caucasian Daphne (Daphne caucasica), Burkwood Daphne (Daphne x burkwoodii), Dwarf Fothergilla (Fothergilla gardenia), Inkberry (Ilex glabra), Drooping Leucothoe (Leucothoe fontanesiana), Canby's Mountain-lover (Paxistima canbyi), Flame Azalea (Rhododendron calendulaceum), Carolina Rhododendron (Rhododendron carolinianum), Catawba Rhododendron (Rhododendron catawbiense), PJM Rhododendron (Rhododendron PJM), Pinkshell Azalea (Rhododendron vaseyi), Hancock Coralberry (Symphoricarpos x chenaultii 'Hancock), Coralberry (Symphoricarpos orbiculatus), Burkwood Viburnum (Viburnum burkwoodii), Judd Viburnum (Viburnum juddii), Lantanaphyllum Viburnum (Viburnum x rhytidophylloides), Yellowroot (Xanthorhiza simplicissima).

Herbaceous Grasses and Grass-Like Plants: Silver Spike Grass (Achnatherum calamagrostis), Redtop (Agrostis alba), Purple Bluestem (Andropogon glaucopsis), Northern Sea Oats (Chasmanthium latifolium), Tufted Hairgrass (Deschampsia cespitosa), Sheep Fescue (Festuca ovina), Annual Ryegrass (Lolium perenne ssp. multiflorum), Common Rush (Juncus effusus).

Herbaceous Perennials and Vines: Japanese Hybrid and Grecian Windflower (Anemone x hybrid, Anemone blanda), Feather Flower (Astilbe spp.), Bergenia (Bergenia spp.), Bellflower (Campanula spp.), Large-flowered Tickseed (Coreopsis grandiflora), Thread-leaved Tickseed (Coreopsis verticillata), Green and Gold (Chrysogonum virginianum), Tall Larkspur (Delphinium exaltum), Dwarf Larkspur (Delphinium tricorne), Pinks (Dianthus spp. Excluding armeria), Bleeding Heart (Dicentra spp.), Purple Coneflower (Echinacea purpurea), Lenten Rose (Helleborus spp.), Coral Bells (Heuchera spp.), Climbing Hydrangea (Hydrangea anomala ssp. petiolaris), Gayfeather (Liatris spicata), Lavender (Lavandula spp.), Allegheny Spurge (Pachysandra procumbens), Peony (Paeonia spp.), Creeping Phlox (Phlox stolonifera), Orange Coneflower (Rudbeckia fulgida), Sage (Salvia spp. Except S. aethiopsis).,

3. Materials acceptable for use in Zones 1 and 2 but only marginally suitable for USDA Plant Hardiness Zone 5 and require sheltered areas:

   Evergreen Trees: American Holly *(Ilex opaca)*

   Shrubs: Oakleaf Hydrangea (*Hydrangea quercifolia),* Virginia Sweetspire (*Itea virginica),* Kousa x Flowering Dogwood Rutgers Stellar Series.

   Herbaceous Perennials: Yellow False-Indigo (*Baptisia sphaerocarpa),* Lily Turf (*Liriope spp.)*

4. Materials acceptable only for use in Zone 1 in confined beds (known to escape cultivation):

   Shrubs: Bottlebrush Buckeye (Aesculus parviflora), Vernal Witch-hazel (Hamamelis vernalis), Landcruiser Rose (Rosa 'landcruiser series').

   Herbaceous Grasses: Tall Fescue (Festuca arundinacea)

   Herbaceous Perennials: Mosquito Plant (Agastache cana), Japanese and Grapeleaf Windflower (Anemone hupehensis, A. tomentosa), Blue Mist Shrub (Caryopteris x clandonensis), Mouse-ear Coreopsis (Coreopsis auriculata), Sweet Woodruff (Galium odoratum), Daylily (Hemerocallis spp.), Russian Sage (Perovskia spp.), Stonecrops (Sedum spp.), Thyme (Thymus spp. Except T. pulegoides).

RIVERKEEPER.
NY's clean water advocate

Via Facsimile: 518-734-6058

April 30, 2012

Ms. Maureen Anshanslin, Chairwoman
Town of Windham Planning Board
371 State Route 296
Hensonville, New York 12439

Re: Riverkeeper Comments on Windham Mountain Sporting Club (WMSC) DEIS

Dear Ms. Anshanslin:

Riverkeeper is a member-supported watchdog organization dedicated to defending the Hudson River and its tributaries and protecting the drinking water supply of nine million New York City and Hudson Valley residents. As such, we have a demonstrated interest in proposed development projects that may impact the New York City watershed, including surface water resources in the Town of Windham, which lies in the Schoharie Basin of the West-of-Hudson New York City watershed. That watershed supplies nine million consumers with 1.2 billion gallons of unfiltered drinking water daily.

The Windham Mountain Sporting Club (WMSC) project described in the Draft Environmental Impact Statement (DEIS) prepared by The LA Group and accepted March 1, 2012 and site plans last revised November 23, 2011, proposes to disturb 141 acres of forested land on a 464-acre parcel containing 36 wetlands in the Town of Windham. The project would include 143 Single Family Homes, 24 Duplex Units, 54 Townhome Units, 81 Condominium Units, and a Members' Lodge and Clubhouse.

Due to the very real potential for the proposed action to result in significant adverse impacts to surface water quality in the New York City Watershed, Riverkeeper hereby expresses its agreement with the comments contained in and fully supports the recommendations made by the comment letter submitted by the New York City Department of Environmental Protection (DEP) dated April 30, 2012. That letter identifies numerous deficiencies in the project as proposed in the DEIS which, if approved, will significantly impact water quality in the Batavia Kill and the Schoharie Reservoir Watershed. These impacts include, but are not limited to: inadequate watercourse and wetland buffers; disturbance of on-site wetlands; disturbance of 37 acres of steep slopes with shallow, erodible soils; a flawed hydrologic analysis; inadequately sized stormwater management practices; a deficient SWPPP and Erosion and Sediment Control Plan; and the underestimation of projected wastewater flows. In addition, the DEIS fails to provide key information regarding land clearing and grading, construction sequencing and mitigation of groundwater and stormwater impacts, among other issues.

Consequently, we agree with DEP that a supplemental DEIS is warranted to cure the existing deficiencies and propose adequate mitigation for the potential water quality impacts arising from WMSC. Accordingly, we urge the Town of Windham Planning Board not to accept the DEIS in its current form, but rather require the preparation of a revised or supplemental DEIS that would be subject to additional public review and comment, before proceeding to a final EIS.

Thank you for the opportunity to comment on these important issues.

Sincerely,

William Wegner

William Wegner
Staff Scientist

Cc: D. Warne, Assistant Commissioner
DEP Bureau of Water Supply

Windham Mountain Sporting Club

Hearing

April 5, 2012

Opened 7:30 PM on Motion of the board

Ray Olsen – Bagley Road – Windmont Developer – Gated Community

In Southeast Naples, there are 80 mountaintop communities that have survived and flourished for 1000 years. How is this possible? These communities offer clean air, water, safety, security, etc. Mr. Olsen applauded Mr. Wilcock for his visionary proposal.

Mr. Olsen also stated that water and sewer are needed on Mitchell Hollow Road. He asked if NYCDEP rules govern how quickly the mitigation fees will be used to expand sewer and water on Mitchell Hollow Road.

Tim Woods, Windham Mountain Partners

Mr. Woods stated that Windham Mountain is pro growth and pro development and while Windham Mountain is not collaborating for the development of the WMSC project, he wished Mr. Wilcock luck. Mr. Woods also stated that Windham Mountain has reviewed the DEIS and wishes to reserve the ability to comment on the project in the future.

Alan Higgins, Trucking Company

Mr. Higgins stated that he believes that WMSC is an environmentally sensitive project that should be supported due to the resulting construction and operation jobs that will be generated for local people.

Joe Damrath, NYCDEP

Mr. Damrath read a prepared statement. He stated that DEP has numerous concerns regarding the DEIS. He read a description of the project and stated that the project is located within the Schoharie Watershed which provides 1 billion gallons of water a day to 8 million people in NYC and 1 million people in upstate NY. DEP's role is to protect water quality which DEP has the authority to do so pursuant to Watershed Rules.

DEP has conducted a review of the stormwater and wastewater collection aspects of the DEIS. DEP will fully participate in the SEQR process and will submit written comments. The Lead Agency must take a hard look at the project and ensure that there will be no impacts to environment. As an Involved Agency, DEP wishes to engage in an ongoing dialogue with the Lead Agency to ensure that mitigations are appropriate and adequate.

DEP has identified impacts to water resources in the DEIS. Erosion and sediment control is required for 160 acres of disturbance. There will be water quality impacts associated with the loss of forested cover and change in drainage patterns. The introduction of impervious surfaces will exacerbate erosion that is prevalent due to the site soil types. Groundwater recharge impacts have been identified. An increase in the volume of stormwater offsite has been identified and the DEIS does not address these impacts to water resources.

DEP has reviewed the proposed sanitary sewer system and identified an impact in that trenches dug to install the collection system could drain groundwater. This aspect of the project should be coordinated with the stormwater plan. The sanitary sewer system should meet town or other appropriate standards, and management and ownership of system should be defined in the EIS.

DEP also identified secondary impacts to water quality. DEP commented that 10% full time occupancy is not conservative. The DEIS should evaluate secondary impacts based on 100% full time residential use and 100% occupancy because the project does not include a restriction on full time occupation. Because of this, the number of school children, traffic generated, highway impacts and wastewater treatment demands are underestimated in the DEIS.

Mr. Damrath stated that DEP will file detailed written comments prior to deadline.

Tom Poelker

Mr. Poelker asked who requested that the comments were read at the hearing?

Joe Damrath

Mr. Damrath stated that he was speaking for the agency.

Tom Poelker

Mr. Poelker stated that DEPs comments were overstepping jurisdiction their jurisdiction, many not having to do with water quality impacts such as the number of school children that the project might generate.

Joe Damrath

Mr. Damrath stated that any part of the DEIS can be reviewed by anyone. The DEPs comments were prepared by many on staff.

Tom Poelker

Mr. Poelker stated that DEP's comments are not based on water quality impacts but an anti growth agenda.

Joe Damrath

Mr. Damrath stated that he personally did not want the DEP comments to be read at the hearing to be specific because the comments are out of context. He stated that the full written comments will be directed towards water quality protection. Further, Mr. Damrath agreed that the comments regarding the Windham School District were inappropriate.

Tom Poelker

Mr. Poelker agreed that the comments regarding the school district were highly inappropriate. He questioned if these comments were prepared by DEP lawyers, the commissioner or the mayor?

Joe Damrath

Mr. Damrath stated that many on staff at DEP conducted separate reviews of the DEIS including aspects of secondary growth that can affect water quality. However, the comments regarding the school district is not a water quality impact.

Tom Poelker

Mr. Poelker stated that development projects are subject to undue scrutiny by DEP when DEP should be focused on addressing flooding in the watershed which is a much more significant problem and environmental impact.

Carl Gonzalez, Councilman Town of Windham

Councilman Gonzalez stated that the community is challenged by the sour economy and impact from last year's flooding, so the project is welcome. However, aside from taxes, he questioned what other benefits will the community realize?

Kevin Franke – response

Mr. Franke noted that, in addition to taxes, the project will contribute its fair share towards the consolidation of the town water system and that the project provides an opportunity for the Town to make consolidation of the water system a reality. To summarize, Mr. Franke stated that the project will make a fair share contribution to the water system consolidation project and major additional tax revenue.

Ray Olsen

Mr. Olsen requested that the Town Attorney review Article 2 of the NYS Constitution which provides that agencies may not interfere with any other local government. He stated that DEP is acting in conflict with the State Constitution. He further questioned on what authority the DEP can issue its comments.

Dick Jordan, Brainard Ridge, Enclave, etc.

Mr. Jordan stated that development projects in the Town of Windham generate significant tax revenues. He stated that the Enclave is located on 2.5 to 3 acres of land and Whisper Creek generates is located a 2 acre on parcel and together these developments generate more than one million dollars in taxes. The WMSC project will generate significant taxes with little demand for services.

Stacy Post, Town of Windham Police Dept.

Chief Post inquired as to whether the project will increase need for police officers, would the community be gated and will private security be provided?

Tom Wilcock – response

Mr. Wilcock stated that while there will be a degree of private security provided on site, there will be some increase in the police force workload as a result of the project.

Hearing no additional comments, a motion to close public hearing was made by Chairwoman Maureen Anshanslan, seconded by Board Member David Weiman and adopted by unanimous voice vote at 8:37 PM.