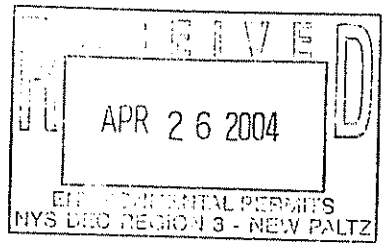

COMMENTS

of the

NATURAL RESOURCES DEFENSE COUNCIL

Concerning the

BELLEAYRE RESORT DEVELOPMENT'S

DRAFT ENVIRONMENTAL IMPACT STATEMENT

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April 23, 2004

Warning: This project will endanger the Catskill Park and New York City water supply and could threaten Governor George Pataki's environmental legacy.

I. INTRODUCTION

The Natural Resources Defense Council, Inc. ("NRDC") is a national non-profit legal and scientific organization active on a wide range of environmental health and natural resources issues. For more than three decades, a major focus of NRDC has been safeguarding the New York environment and the health and the quality of life of people who live here. In addition, NRDC has had a longstanding commitment to drinking water protection both nationally and in the New York region.

NRDC's primary drinking water objective in New York has been to support comprehensive and cost-effective watershed protection measures for the Catskill and Delaware water systems, which provide a billion gallons of water a day to nine million downstate New Yorkers. New York's watershed protection initiative is now at a critical turning point -- threatened primarily by pollution-runoff from mounting suburban development on watershed lands that drain into its 19 unfiltered reservoirs. If New York's watershed protection program succeeds, government officials will have preserved the primary line of defense to prevent pollution from entering its world-class water supply. If the program fails, downstate ratepayers will be forced to spend more than six billion dollars for the construction of filtration facilities for the Catskill and Delaware systems, and the one-time opportunity to safeguard New York's irreplaceable watershed ecosystem will have been lost forever.

The proposed "Belleayre Resort at Catskill Park" that is the subject of this Draft Environmental Impact statement ("Draft EIS or "DEIS") is the largest development proposal in the history of the Catskill region. The project would develop nearly 600 acres of mostly mountainside and mountain ridge land on two parcels totaling 1,960 acres in the heart of the central Catskills. The developer envisions two 18-hole golf courses, two hotels (with a total of 400 rooms), at least 351 additional hotel and housing units, a 21 lot single family residential subdivision, and other commercial facilities with a total of 98 buildings, including two sewage treatment plants.[1]

The site for this proposed development is located completely within New York State's Catskill Park -- 705,000 acres of rolling hills, forested mountains and rural hamlets -- that is celebrating its 100th anniversary this year. Significantly, the land that is slated for development is mostly mountainous terrain that drains into the two largest drinking water reservoirs in the New York region.

The proposed Belleayre development would have multiple and wide- ranging adverse impacts on local ecology and particularly water resources, in addition to other troubling environmental consequences. For example:

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[1] NYSDEC, "Notice of Complete Application, Notice of Acceptance of Draft Environmental Impact Statement" (Nov. 26, 2003) at 1-2.

- The proposed development will "disturb" at least 573 acres of mostly forested lands that now help absorb rainwater and snowmelt that otherwise races from mountain lands into tributaries that feed New York City's Ashokan and Pepacton Reservoirs.

- The proposed development will convert at least 85 acres of former forest and meadowlands into paved surfaces, which will serve as funnels that channel pollution runoff into lower elevation waterways.

- The proposed development will discharge an average of nearly 250,000 gallons a day of treated wastewater into local streams or mountainside irrigation ponds.

- The proposed development will, during its eight-year construction process, remove more than 86,000 trees and 189,000 smaller saplings and bushes.[2]

- The proposed project will either fill or alter almost five acres of wetlands, which are now filtering and serving as collection basins during flood events.

- The proposed project will endanger high quality trout streams with silt and soil from erosion from the massive upland disturbance of more than 1 million cubic yards of fill and soil, undertaken in segments as large as 25 acres at a time.

- The proposed project will jeopardize the current and future local water supply in the nearby village of Pine Hill.

The proposed project will spur secondary growth and development, including hundreds of additional housing units, new support services and new commercial establishments -- threatening to transform the mostly rural area into a more suburbanized landscape, changing the Catskill Park experience and advancing the day that New York City will need to filter its Catskill and Delaware water supplies at a cost to taxpayers of more than six billion dollars.

Turning to legal deficiencies, the Draft EIS prepared for the Belleayre Resort development project, despite its heft, lacks critical data and underlying documentation and is inconsistent with environmental laws including the State Environmental Quality Review Act ("SEQRA").

Among other shortcomings:

- The DEIS fails to adequately explore reasonable smaller-scale alternatives, as required by SEQRA and the scoping document.

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[2] Source: New York City Department of Environmental Protection, telephone conversation with Kurt Rieke (4/22/04).

- The DEIS fails to provide for mitigation of adverse environmental impacts to the extent required by SEQRA in areas such as wetlands, traffic, and stormwater.

- The DEIS constitutes impermissible segmentation by failing to examine the cumulative impacts of the resort project and the planned expansion of the Belleayre Mountain Ski Center.

- The DEIS fails to adequately address secondary growth impacts in the Catskill Park region that are likely to result from the large-scale resort development.

- The DEIS fails to take into account state law requiring an adequate supply of water for a new project, and the adverse and inequitable impact that the use of water by the Belleayre development will have on the nearby Village of Pine Hill.

- The DEIS fails to address the issue of the project's wetlands permit premature issuance by the U.S. Army Corps of Engineers, in violation of federal wetlands law and regulations.

- The DEIS fails in numerous places to use appropriate baseline methodology and provide sufficient data for informed analysis and comment in violation of SEQRA.

- The DEIS is inconsistent with the scoping document in multiple areas.

- The DEIS fails to comply with state stormwater regulations.

In the remainder of these comments, we highlight the adverse impacts from the proposed project (Section I) and key legal deficiencies (Section II) in more detail. We also append, as attachments, "A" through "D," our expert analyses of discrete sections of the DEIS.

In attachment "A", Professor Robert Pitt, the Cudworth Professor of Urban Water Systems and Director of Environmental Engineering Programs at the University of Alabama, critiques the stormwater modeling in the DEIS. He highlights the inappropriate use of the model for characterizing pre-development pollutant discharge conditions, the DEIS's over-optimistic assumptions about the effectiveness of the proposed stormwater detention basins, and the insufficient attention it devotes to snowmelt and trout stream impacts.

In attachment "B", Dr. Paul Mankiewicz, Executive Director of the Gaia Institute, describes the significant negative impacts on streams of erosion likely to

result from the large scale of the construction in segments as large as 25 acres at one time. He also critiques the stormwater management program as resting on faulty assumptions about the behavior of detention basins at the base of the slopes.

In attachment "C", Dr. Walter Knisel, GLEAMS model developer/consultant, illustrates the insufficiency of the modeling data on fertilizers and pesticides to enable an informed critique of the authors' conclusions.

In attachment "D", Dr. John Alschuler, of Hamilton, Rabinovitz & Alschuler, Inc., Policy, Financial and Management Consultants, provides specific examples of various smaller-scale alternatives to the project that would be environmentally preferable and financially viable. And he refutes the applicant's assertion that there exist no financially viable alternatives to the resort as presently proposed.

Unfortunately, due to time constraints, difficulties in accessing the Draft EIS and its appendices, and the large number of substantive technical and legal issues, NRDC's comments are necessarily limited in scope. They do not cover other important issues such as impacts on the Catskill Forest Preserve, local socio-economic impacts, community character, and possible impacts on wildlife and endangered or threatened species. We urge that our comments be read in conjunction with those of our partners in the Catskills Coalition, organized by the Catskill Center for Conservation and Development. We also suggest that those seeking additional information on deficiencies specifically related to water resource and water supply issues, examine what we expect will be detailed submissions from the New York City Department of Environmental Protection and the Office of the New York State Watershed Inspector General. We appreciate the opportunity to submit comments on this audacious project, as well as the State Department of Environmental Conservations' sixty-day extension of the comment period.

In short, NRDC's analysis of the DEIS and review of the four expert reports we obtained convinces us that the Belleayre Resort DEIS is factually flawed and legally deficient. Beyond that we now believe that this project cannot and should not go forward in anything like its current design and that the project sponsors should, after fully reviewing all comments on the DEIS, undertake a full-scale redesign of this project that significantly downsizes its scope and greatly reduces its adverse environmental impacts. Our experts have set forth reasonable alternatives that would be economically viable and that would eliminate mountainside golf course construction and operation. We believe such a lower-scale alternative should be reproposed in a supplemental DEIS.

In taking this position, NRDC restates our commitment to implementing watershed protection in partnership with watershed communities. We believe that it is both possible, and indeed necessary, to have both strong watershed protection programs and a vibrant local economy for watershed residents. Indeed, we have generally applauded the economic development efforts of the Catskill Watershed Corporation, and raised no objections to Dean Gitter's smaller scale commercial and

retail development activities in the Route 28 corridor. It is our sincere hope that the project sponsors will rethink and reshape their proposed Belleayre Resort so that NRDC and all who care about the future of the downstate water supply will be able to praise the new effort as a national model of sustainability and smart growth. Unfortunately, the current proposal is far from that worthwhile and achievable objective.

II. THE PROPOSED BELLEAYRE RESORT DEVELOPMENT PRESENTS NUMEROUS ENVIRONMENTAL AND PUBLIC HEALTH THREATS

A. The Proposed Project will Generate Stormwater Runoff and Mountainside Erosion

Stormwater runoff is a serious, and nettlesome water pollution concern, both in New York State and around the country. According to the U.S. Environmental Protection Agency, stormwater runoff is now the nation's "largest water quality problem."[3] The New York State Department of Environmental Conservation has concluded that "both the quantity and quality of stormwater runoff can be significantly affected by land development."[4] Stormwater runoff problems can occur both during and after project construction. During construction, the clearing and grading of a land parcel causes the hydrology of the site to change. With the loss of trees and vegetation, and the soils bare and compacted, there is nothing to keep "rainfall from being rapidly converted into stormwater runoff."[5] The construction process itself is considered "the most damaging phase of the development cycle for streams and other aquatic resources."[6] For this reason, one of the key principles of effective erosion and sediment controls is to limit the amount of clearing and grading necessary, and to keep the amount of land cleared at one time to an absolute minimum.[7] Steep slopes are particularly sensitive to erosion, and, if possible, construction on them should be avoided altogether.[8]

Completion of construction and site development do not end the problems associated with stormwater. Runoff frequently flows over lawns, roads and other paved surfaces, collecting pollutants and depositing them into streams, lakes and reservoirs. In addition to pesticides, herbicides and automobile-related pollutants, bacteria and other micro-organisms are also transported in stormwater flow. Indeed,

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[3] U.S. Environmental Protection Agency, Fact Sheet EPA841-F-96-004A (undated), "Nonpoint Source Pollution: The Nation's Largest Water Quality Problem."
[4] NYSDEC, "Reducing the Impacts of Stormwater Runoff from New Development (April 1993) at 13.
[5] New York State Department of Environmental Conservation,, "Stormwater Management Design Manual," (October 2001) at 2-1.
[6] Brown, Whitney E., and Deborah S. Caraco, "Muddy Water In - Muddy Water Out," Watershed Protection Techniques (February 1997) at 393.
[7] Id. at 395.
[8] Id. at 397.

an acre of paved surface produces 16 times as much stormwater runoff as an acre of meadow.[9]

Unfortunately, the proposed project, as described in the Draft EIS, presents numerous stormwater runoff problems for the project site and its surrounding environment. The runoff that can be expected to be generated will be particularly severe due to the significant amount of land to be excavated or disturbed at one time, the mountainside and mountain ridge topography, the quality of the local soil and the loss of forest land, among other factors. For example, according to the DEIS, the proposed Belleayre project would "disturb" a total of 529 acres of vegetation, transforming what is now forested acreage into a built environment.[10] The scale of this disturbance is unparalleled. More than one million cubic yards of earth will be excavated and filled.

To make matters worse, the DEIS proposes to disturb up to 25 acres of land in the eastern portion of the proposed project and 25 acres in the western portion at one time, in contravention of the traditional state limit of no more than 5 acres of disturbance at one time. According to Dr. Paul Mankiewicz, an expert on soils and erosion control, "the proposed 25-acre limit for exposed soil is too large by an order of magnitude.[11] This large volume of land alteration will have more severe consequences due to the mountainous topography. Much of the proposed project will be built not on flat land parcels, but on mountainsides and mountain ridges.

Erosion problems will likely be further exacerbated by the thin soils that are found at the project site. According to Dr. Mankiewicz, there is shallow depth to bedrock, which restricts the infiltration capacity of the soils. "Intense storms...could potentially saturate such soils and lead to surface flow and erosion, especially in steep to very steep environments, such as those on each of the development sites."[12]

Moreover, even after the project is completed the threat from stormwater runoff will not have abated. The proposal in its current form would add a total of 85 acres of paved surface such as buildings, parking areas, driveways, cart paths, and roads to the local landscape.[13] In addition to the motor vehicle-related and similar runoff, the two 18-hole golf courses will also generate additional runoff of pesticides, fertilizers and other pollutants. (See discussion in section IIB, below.)

Finally, the project sponsor's efforts, as set forth in the DEIS, to mitigate and minimize the impacts of such widespread land alterations fall short of the mark and are in fact inaccurately calculated. For one thing, stormwater loadings described in the DEIS were inappropriately determined, according to Professor Robert Pitt, who

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[9] Schueler, Thomas R. and Heather K Holland, Editors, The Practice of Watershed Protection, "Why Stormwater Matters" (2000) at 365.

[10] DEIS at xii.

[11] Comments of Paul Mankiewicz at unnumbered page 2.

[12] Id. at unnumbered page 3.

[13] DEIS at 2-38

created the stormwater model used in the DEIS.[14] Similarly, the impacts of runoff from pesticides and fertilizers from the proposed golf courses were also not projected accurately, since once again, the pollution modeling was inadequate (according to the scientist responsible for developing the golf course runoff model utilized in the DEIS). Even worse, because of the large volumes of runoff expected, "a detention basin designed to capture runoff from a 25-acre parcel of land would itself need to disturb an estimated two to four acres of land."[15]

B. The Proposed Project's Two 18-Hole Mountainside Golf Courses Pose Unacceptable Pollution Threats

Golf course construction and operation are environmentally troublesome land uses. Potential environmental effects from golf courses include leaching and runoff of nutrients and pesticides, soil erosion and sediment loss during construction, and degradation of surface waters receiving runoff. In many instances, chemical application rates at golf courses can "rival and even exceed those used in intensive agriculture".[16] In particular, nitrogen and phosphorus, used in fertilizers, can eventually flow from golf courses into water sources and stimulate growth of algae.[17] There are also long-standing concerns about the impacts of golf course generated pesticides on the health of nearby waterways and the species that inhabit them.

The proposed Belleayre resort, as described in the DEIS, however, includes plans for the construction of not one but two 18-hole golf courses. To make matters worse, both golf courses are proposed for high elevations, making their construction and operation all the more problematic from a pollution-generating perspective. The Big Indian golf course, on the parcel to the east of Belleayre Mountain, will range in altitude from 1,990 feet to 2,740 feet. It will bet set along the ridge of a plateau where slopes range from 5.7% to 22%.

The steep slopes in the area, combined with thin soils, threaten runoff conditions once the area's forest cover is removed. In Maryland, for example, recognizing the negative impacts of golf courses, the Department of Environment Protection and Resource Management developed guidelines for new golf course construction. Among the provisions is a requirement for a four-foot thick "mantle" of soil below the green's underdrain system.[18]

The DEIS discussion of golf course fertilizers, pesticides and fungicides is also deficient. Despite its size, the DEIS fails to adequately explain how these two golf courses will be constructed in a way that minimizes environmental impacts,

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[14] Dr. Pitt was the principal author of the WinSLAMM model which is one of the nation's leading computer models for understanding and predicting stormwater flows and pollutants.

[15] Comments of Dr. Paul Mankiewicz at unnumbered page 3.

[16] Thomas R. Schueler and Heather K. Holland , "The Project of Watershed Retention", "Minimizing the Impact of Golf Courses on Streams" at 673 (2000).

[17] DEIS Appendix 15 at 14.

[18] Schueler and Holland at 673.

particularly stormwater runoff. In addition, it is impossible determine whether the modeling for golf course pollution runoff was accurately calculated since the DEIS fails to include adequate input and output data to allow evaluation of model use. (See statement of Dr. Walter Knisel appended to these comments as Attachment "C.")

Another golf-course related problem that the DEIS skims over is the impact of stormwater runoff and snowmelt during winter months when soils may well be frozen. The DEIS indicates that it is the project sponsor's intent to irrigate even after November 30 (through the winter months) and calls this practice "desirable." While such practices may be desirable from a golf course maintenance standpoint, irrigation efforts over frozen soils increase the likelihood that pollutants will be carried down the mountain in runoff. This is further evidence of why mountainside golf course construction and operation is inconsistent with the protection of vulnerable trout streams that are tributaries to unfiltered drinking water reservoirs.

C. The Proposed Project will Destroy Wetlands

Wetlands are "among the most productive ecosystems in the world, comparable to rain forests and coral reefs."[19] Wetlands perform numerous valuable functions, especially in watershed regions. They slow erosion and act as sponges to soak up stormwater runoff, capturing contaminants that would otherwise wash into reservoirs or their tributaries. In addition, wetlands play a critical role in storing water, thereby reducing the effect of flooding on both property and water quality. In New York's West-of-Hudson Catskill and Delaware watersheds, wetlands are relatively scarce -- the 12,000 acres of wetlands amount to just over one percent of total watershed lands -- making their protection all the more important.

The proposed project, however, will adversely affect critical wetlands on the project site. According to the DEIS, nearly five acres of wetlands will be disturbed -- 1.57 acres of wetlands will be filled and 2.84 acres will be cleared of vegetation.[20] The wetlands to be filled will allow for at least 13 road crossings and golf cart paths. The wetlands to be stripped of vegetation will allow for golf ball overfly.

While the DEIS places emphasis on the impact to non-isolated wetlands, that distinction is relevant only to federal government jurisdiction over the wetlands, rather than to their ecological benefit. Scientific evidence shows that isolated wetlands play a critical ecological role in water storage and release, as well as maintaining regional biodiversity of plant and animal life.[21] The proposed alteration

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[19] U.S. Environmental Protection Agency, et al., "Clean Water Action Plan" (March 4, 1999) at 19.

[20] DEIS, App. 17A Preconstruction Notification, Tab. 5,19.

[21] *See* U.S. Fish and Wildlife Service, geographically isolated Wetlands: A preliminary assessment of their characteristics and status in selected areas of the United States 2 (March 2002); *see also* Raymond D. Semlitch and J. Russell Bodie, *Are Small Isolated Wetlands Expendable?* Conservation biology, Vol. 12, No. 5, 1129, 1130-33 (Oct. 1998).

of nearly five acres of wetland habitat in a fragile mountain ecosystem constitutes a serious and irreversible environmental impact.

Moreover, it is likely that the DEIS understates the impact to wetlands from the proposed project. Indeed, the U.S. Fish and Wildlife Service ("FWS") has expressed serious reservations about the proposed project's impact on wetlands and wildlife.[22] First, FWS expressed concern that the project sponsor did not fully document all watercourses, and the possible impact that construction and post-construction disruption might have on surface flow to downslope wetlands and streams. Second, FWS noted that the project may impact groundwater resources in a manner that would diminish surface water flow quantities. Third, FWS warned that the proposed mountainside blasting and application of insecticides and herbicides on the golf course could negatively impact water quality. Fourth, FWS stated that the project sponsor did not consider the impacts on wetlands and wildlife from the project's potential secondary impacts. Finally, FWS rejected the DEIS' proposed reliance on preservation of existing wetlands as adequate mitigation.[23]

D. The Proposed Project will Increase Sewage Discharges in New York's Unfiltered Watershed

Domestic wastewater contains "substantial concentrations of pathogenic microorganisms"[24] which represent a significant threat to public health should they find their way into public water supplies. In the Catskill/Delaware watershed, almost all wastewater from the region is discharged either directly into streams that flow into reservoirs or into the subsurface, where it can eventually reach the reservoirs.[25]

The proposed Belleayre Resort development will be the largest single generator of wastewater in Ulster and Delaware Counties. According to the DEIS, the Big Indian (eastern) portion of the proposed development will produce an average of 108,465 gallons per day of wastewater, with a maximum loading of 216,930 gallons per day. Sewage treated at an on-site plant will be discharged either into Birch Creek, a sensitive trout-spawning stream, or into golf course irrigation ponds.[26] The development on the western portion of the project site will generate, according to the DEIS, an average of about 140,435 gallons a day, with a maximum loading of 280,870 gallons per day.[27] Effluent from this second on-site sewage plant will also flow into golf course irrigation ponds during the warmer months of the year, where it

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[22] Letter from David Stilwell, Field Supervisore, U.S. Fish and Wildlife Service, to Colonel John B. O'Dowd, District Engineer, New York District U.S. Army Corps of Engineers (July 11, 2003).
[23] Id.
[24] National Academy of Sciences, National Research Council, Watershed Management for Portable Water Supply (2000) at 170.
[25] Id at 19.
[26] DEIS at 2-27
[27] DEIS at 2-29

will be stored until needed. If the treated sewage is not needed for irrigation, it will be discharged into an unnamed tributary of Emory Brook.

Unfortunately, Birch Creek and Emory Brook are poorly suited to receive large amounts of treated sewage. Birch Creek and Emory Brook are located in the headwaters of the Ashokan and Pepacton reservoirs, respectively, and are classified as trout streams. Both have very low flows during the summer and, at times, become intermittent. Although NYSDEC has prepared draft SPDES permits for these discharges, it seems possible that, on occasion, the only flow in these streams would be treated sewage.

E. The Proposed Project will Pollute Local Trout Streams

Local trout streams are extremely important to the ecology and economy of the Catskill region. They are the habitat and water source for a wide variety of species and often are spawning grounds for trout. They connect with and supply fresh water to two major downstream reservoirs and they offer significant recreational opportunities for the many sport fishing enthusiasts who visit the region every year.

Within the immediate area of the proposed Belleayre Resort development, there are world-class streams that may be adversely impacted by the proposed development. According to the DEIS, Birch Creek, Lost Clove Brook and the brooks in Giggle Hollow and Woodchuck Hollow all support trout populations. Birch Creek and Giggle Hollow Brook are considered even more valuable because they are also trout spawning streams.[28]

Small streams like these are extremely vulnerable to manmade changes in the watershed. They "respond dramatically and rapidly to disturbances to their riparian areas and are most sensitive to changes in riparian vegetation in the surrounding watershed."[29] And the widespread blasting, excavation, rebuilding of the landscape, and creation of 85 acres of new impervious surfaces can be expected to have significant adverse effects. Sediment is a particular problem for such streams, warns a National Academy of Sciences panel; it can not only fill in stream channels, "but it can degrade habitat by reducing the amount of light that reaches stream bottoms and [by] covering spawning beds and submerged vegetation."[30] Trout "have little or no tolerance for higher water temperatures, pollution, increased dissolved gases, and other problems often associated with humankind's encroachment", warns Trout Unlimited.[31] They are often the first species to disappear when waters are polluted.[32]

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[28] Appendix 2: Permit application for Stream Disturbance and Water Quality Certification at 10.
[29] Doppelt, Bob et al. Entering the Watershed: A New Approach to Save America's River Ecosystems (1993) at 11.
[30] National Research Council, "New Strategies for America's Watersheds" (1999) at 77.
[31] www.tu.org/conservation/trout101.asp
[32] NYSDEC, "The Trout of New York" (www.dec.state.ny.us/website/dfwmr/fish/fishspecs/trouttxt.html)

The proposed Belleayre Resort development threatens to adversely affect these sensitive streams. Accordingly to the DEIS, the proposed wastewater treatment plant serving Big Indian will discharge into Birch Creek, when not discharging into irrigation ponds.[33] (A further insult will be the digging out of a section of the south bank of Birch Creek to install the outfall.)[34] The proposed wastewater treatment plant serving the Wildacres Resort will discharge into an unnamed tributary to Emory Brook, an intermittent stream, when not discharging into irrigation ponds.

According to stormwater expert, Dr. Robert Pitt, "nearby trout streams that have portions of their watersheds on the project site, ...will be affected by the proposed project runoff to a greater extent than the more distant water supply reservoirs." "Specific threats to these streams will be construction site erosion material, increased runoff temperatures, increased flow rates and flow volumes, and contaminated snowmelt, along with pollutant discharges from the project stormwater."[35]

F. The Proposed Project Threatens to Adversely Affect Local Water Supplies

The proposed Belleayre Resort development, as currently envisioned, would place an unprecedented demand on local water supply. For the Big Indian (eastern) portion of the proposed development, the applicant estimates average water demand to be 114,817 gallons a day, with maximum daily demand to be over 189,448 gallons per day.[36] For the western portion of the proposed development, the applicant estimates average water delivered to be 136,635 gallons a day, with maximum daily demand to be over 225,448 gallons per day.[37] Unfortunately, it is unclear from the DEIS that the applicant can meet these water demands with current holdings and without adversely impacting the water supplies of surrounding communities.

For starters, the DEIS fails to convincingly establish that the proposed project has an adequate water supply. For the Big Indian portion of the proposed development, the project sponsor would rely on two sources to meet its daily water needs -- Rosenthal Well, as the primary source, and Crystal Spring ("Silo A"), as a backup source.[38] The DEIS claims that Rosenthal Well 2 has a capacity of 118,080 gallons per day and that Silo A has had a capacity of 99,792 gallons a day during drought periods.[39] But both of these projected numbers are suspect. As is set forth in more detail in the expert affidavit of Paul Rubin, attached to the comments of the Catskill Heritage Alliance, the project sponsor's projected estimate for the water flow

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[33] Cite
[34] DEIS at 3-23
[35] Comments of Dr. Robert Pitt at 4; see attachment "A."
[36] DEIS at 2-19, 2-20. Both figures represent a reduction of 20% from the projected calculations, based upon an allowed credit for water conservation devices. Id.
[37] DEIS at 2-22
[38] DEIS at 2-20, 3-42
[39] DEIS at 2-21, DEIS, Water Supply Reports, Approx 7, 9-10.

from Silo A is critically flawed.[40] There are also problems with the projected flow from Rosenthal Well 2.[41]

Since the applicant's analysis for Silo A relies on faulty comparison data (from the USGS gauging station) and since its analysis for Silo A over-estimates flow and bases its calculations on periods that were insufficiently dry, the DEIS fails to demonstrate that the eastern portion of the proposed project has an adequate supply of water.

An additional problem with the DEIS discussion of water supply for the Big Indian portion of the proposed Belleayre Resort development is the impact of the applicant's water plan on the nearby hamlet of Pine Hill. In short, the use of Silo A as a backup supply of water for the Belleayre resort may leave the hamlet of Pine Hill, which has historically used Silo A as a backup supply of water, with insufficient water during drought conditions and is likely to have a negative impact on future growth of the hamlet of Pine Hill. [42] As is the case for so many other water quality issues, the DEIS failed to take the requisite "hard look" at this issue.

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[40] For one thing, the estimate for Silo A's flow was based upon figures from the Allaben USGS gauging station, even though there are important geologic and hydrologic differences between the two sources. In addition, the figures used by the applicant overestimates the flow rate from the USGS gauging station itself. See Statement from Paul A. Rubin, attached to the comments filed in this proceeding by the Catskill Heritage Alliance.

[41] The applicant acknowledges that there is a hydrological connection between Rosenthal Well 2 and Rosenthal Well 1, and that, with simultaneously pumping, Rosenthal Well 2 would meet only lower long-term average daily potable demand without negatively impacting neighboring water supplies and surface water bodies. This number is lower than the project sponsor's estimates of average daily maximum demand. Moreover, the projected water flows from Rosenthal Well 2 do not fully reflect likely flows during drought periods. The applicant's projections for Rosenthal Well 2 flow during drought conditions were taken during a second level drought; the flow rates remain untested for the two more severe levels of droughts demonstrated an adequate source of water supply for the resort due to over-generous estimates of flow and measurements during period that were insufficiently dry. See statement from Paul A. Rubin, id.

[42] After the removal of Silo A from its historic use as a back-up source of water supply for Pine Hill, the potable water source for Pine Hill consists of Bonnie View Springs and Depot 'Station' Road Spring. DEIS, App x7, Water Supply Reports, 13. The demand of current Pine Hill customers averaged 75,407 gallons per day in 2001, and the re-issued permit provides the Pine Hill Water Company (PHWC) with an excess capacity of 135,593 gallons per day. Accordingly to the DEIS, Bonnie View Srping's low flow for the monitoring period was measured in August 2001 as 122,400 gpd, and the low flow of Station Road Spring was measured at that same time as 40,320 gpd Id. But there are serious questions as to whether these projections are accurate. As noted above, for example, the applicant did not test flow rates for the two most severe levels of drought and no assessment of historic drought conditions in the area has been conducted. See statement of Paul Rubin, ibid. Furthermore, the applicant has not fully analyzed potential insufficiency of the Station Road well as a backup source due to the hydrological connection with Bonnie View Springs Pine Hill Well #1 as there has been no simultaneous test of their capacity. See statement of Andrew Habib. There are also discrepancies in the flow figures reported, which makes them unreliable. In addition, the applicant does not provide an estimate of future growth of demand for water in Pine Hill, based on current indications of revitalization. If Pine Hill were to offer the types of tourism services formerly available in the hamlet, the total maximum daily demand, both residential and non-residential, in a revitalized Pine Hill would equal 352,636 gallons. Therefore, allowing the Belleayre project to go forward with the identified sources of water supply might stifle current and future revitalization efforts and create a serious drought risk for the Pine Hill community.

G. The Proposed Project will Add Traffic Congestion to Rural Catskill Roads

The major roadway in the vicinity of the proposed Belleayre Resort project is Route 28. In the project corridor, except for a small stretch immediately surrounding the entrance to the state's Belleayre Ski Center, Route 28 is a two-lane roadway. Route 28 is also the area's transportation lifeline. And in recent years, traffic along Route 28 has continued to increase. It is not uncommon for motorists to encounter both slow-moving traffic and delays in making turns on to and off of Route 28 during peak periods, especially on the stretch of Route 28 to the east of the proposed Belleayre Resort, heading toward Kingston and the New York State Thruway.

The proposed Belleayre Resort development will generate additional traffic, as will planned expansion to the Belleayre Ski Center. Will this additional traffic, combined with traffic from the Belleayre Ski Center and other traffic generated by secondary growth from the resort, result in further congestion and delays on Route 28, perhaps even necessitating an expensive and unwanted Route 28 roadway widening? It is impossible to tell from the DEIS. The project sponsor's DEIS and Traffic Impact Study estimates that the resort project will only generate 139 peak hour trips on a typical winter weekend, and 347 peak hour trips during maximum peak hours in the winter season.[43] This would, the sponsors argue, amount to an extra 3 to 4 vehicles per minute on the two-lane Route 28 during peak hours.[44]

But the DEIS and its traffic Impact Study contain numerous flaws, which are set forth in detail in the statements of traffic engineer Brian Ketcham, submitted as part of this docket. We briefly identify four of the many errors which render the DEIS projects in this area seriously deficient. First, the DEIS calculations for background traffic levels are based upon estimates for 2008 (with a three percent annual growth rate), even though the project may not be complete until 2014.[45] By 2014, background traffic numbers may have doubled, primarily due to the increase in ski center visits over the years, with the planned expansion of the Ski Center. Second, the date chosen by the consultants to represent the worse case traffic figures, Martin Luther King Jr. weekend, has not been the date of highest attendance at the Ski Center. Third, the DEIS estimates that 40% of trips to and from the golf courses on peak days and 80% of trips to and from the Ski Center on peak days will be on shuttle buses, but provides no explanation for such estimates.[46] Fourth, the DEIS does not

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[43] DEIS at 2-40, 2-41
[44] DEIS at Exec. Summary, xiv

[45] Brian T. Ketcham, Traffic Impacts of the Belleayre Resort at Catskill Park: Preliminary Comments on the Belleayre Resort at Catskills Park DEIS, Jan. 10, 2004, 1.
[46] DEIS at 3-123

discuss the impact of truck traffic on Route 28 congestion levels during the eight year construction period.

In sum, the Draft EIS has failed to demonstrate that traffic from the proposed Belleayre Resort and the secondary growth that it generates will not become a significant adverse local impact.

III. THE DEIS FOR THE PROPOSED BELLEAYRE RESORT DEVELOPMENT IS LEGALLY DEFICIENT.

a. Failure to Adequately Explore Alternatives

A central requirement of the state environmental review processes is that the EIS include a discussion of all reasonable alternatives to the project as proposed. The SEQRA statute mandates that an EIS "shall describe the proposed action and reasonable alternatives to the action."[47] The DEC regulations require an EIS to provide a "description and evaluation of the range of reasonable alternatives to the action that are feasible, considering the objectives and capabilities of the project sponsor. The description and evaluation of each alternative should be at a level of detail sufficient to permit a comparative assessment of the alternatives discussed."[48] Such alternatives discussion can include projects of a different scale or magnitude as well as alternative designs.[49]

If the EIS fails to sufficiently describe alternatives, the agency may be unable to make the requisite determination that "consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable."[50] The discussion of alternatives should enable the agency to conduct a cost/benefit analysis: "(t)he purpose of requiring inclusion of reasonable alternatives to a proposed project is to aid the public and governmental bodies in assessing the relative costs and benefits of the proposal."[51] The applicant must submit financial information to substantiate an assertion that a small-size project is economically unfeasible.[52]

After review of the Draft EIS, NRDC finds that the applicant has failed to satisfy this cornerstone requirement of state environmental law. In particular, the EIS

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[47] Environmental Quality Review Act, N.Y. Environmental Conservation Law 8-0109(4) (2003). See also ECL 8-0109(2)(d) (EIS must include "alternatives to the proposed action"): ECL 8-0109 (one of the primary purposes of an EIS is to "suggest alternatives to such an action so as to form the basis for a decision whether or not to undertake or approve such action").

[48] 6 N.Y.C.R.R. 617.9(b)(5)(v) (emphasis added). Another section of the DEC regulations stipulates that the EIS should "evaluate all reasonable alternatives." 7 N.Y.C.R.R. 617.9(b)(1)

[49] 6 N.Y.C.R.R. 617.9(b)(5)(v).

[50] 6 N.Y.C.R.R. 617.11©(d)(5) (LEXIS through 2004).

[51] *Webster Assocs V. Town of Webster*, 59 N.Y.2d 220, 228 (1983)

[52] *Brookville Taxpayers Assn. V. Town of Oyster Bay*, N.Y.L.J. May 8, 1985 (Sup. Ct. Nassau Co.).

fails to explore reasonable alternatives of smaller scale developments more compatible with watershed protection objectives and community character. As noted above, HR&A President John Altschuler in his expert submission attached to these comments has identified four lower build alternatives that are "would mitigate many of the expected adverse environmental impacts while providing both a recreational and economic asset to the region".[53] Not one of these alternatives, nor any similar alternative was evaluated in the DEIS.

b. Inconsistency with the 1997 Watershed Agreement

The DEIS fails to establish that disapproval of the Belleayre Resort development in its current form would violate the 1997 Watershed Memorandum of Agreement ("MOA"). In fact, the DEIS seems to mention the MOA only in passing, in a background section on local and regional land use and comprehensive plans.[54]

The 1997 Watershed Agreement did indeed recognize that "the goals of drinking water protection and economic vitality within watershed community are not inconsistent" and that it was the intent of the signatores "to cooperate in the development and implementation of a watershed protection program that maintains and enhances the quality of the N.Y.C. drinking water supply system and the economic vitality and social character of the watershed communities."[55] The agreement also made nearly 60 million dollars of New York City funds available, to be used by the watershed-based Catskill Watershed Corporation for "responsible, environmentally sensitive economic development projects in the West of Hudson communities."[56]

But nothing in the 145-page agreement authorizes or requires that any particular development proposal be advanced, let alone one that is the size and scale of the Belleayre Resort, as proposed. Moreover, the entire thrust of the agreement is to support "environmentally sensitive" economic development projects.[57] The U.S. Environmental Protection Agency, a signatory to the M.O.A. and federal oversight agency for the New York City water supply, has stated: [T]he size and scope of this project are significantly greater than anticipated by EPA when we agreed to the City's revised Watershed Rules and Regulations and signed the MOA."[58] As the New York City Department of Environmental Protection concluded in its comments on the Belleayre Resort proposal, support for the concept of environmentally-sensitive development in the watershed "does not mean that every proposed project meets this

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[53] Comments of John Alschuler, at 4.
[54] See DEIS at 1-12, 1-13.
[55] New York City Watershed Memorandum of Agreement (Jan. 21, 1997) at 2, #6
[56] Id. at 84, #135.
[57] Id.
[58] Letter from Walter Mugdan, Director, Division of Environmental Planning and Protection to N.Y.S.D.E.C. Deputy Regional Permit Administrator, Alexander Ciesluk, dated March 23, 2004 at 1.

standard, or that legitimate concerns about a project contradict the spirit of the MOA".[59]

The DEIS wholly fails to demonstrate that approval of the proposed project is required or mandated by the 1997 Memorandum of Agreement.

c. Insufficient Mitigation of Adverse Environmental Impacts

Sufficient mitigation of adverse environmental impacts is also required in order for an EIS to be approved. SEQRA requires that an agency find that negative environmental impacts are mitigated or avoided "to the maximum extent practicable" and that the project is "consistent with social, economic and other essential considerations."[60] The DEC regulations require that an EIS provide "a description of mitigation measures,"[61] and "those adverse environmental impacts that cannot be avoided or adequately mitigated if the proposed action is implemented."[62] Previously, DEC has rejected environmental impact statements that failed to adequately discuss mitigation.[63]

In numerous areas, the Draft EIS fails to provide for adequate mitigation to minimize adverse environmental impacts. For example, re: wetlands, the applicant proposes no mitigation for the wetlands that will be filled, cleared of vegetation or incorporated into the golf course beyond preservation of some of the existing wetlands on the proposed resort's land. Nor does the DEIS discuss wetland replacement through the creation of new wetlands or propose alternative layouts of the resort and golf course that would mitigate the impact on wetlands. In relation to traffic, the project sponsor's main proposals for mitigation is the addition of several turn lanes and the adoption of a shuttle bus service.[64] However, the sponsor does not analyze any traffic or air quality impacts associated with running busses every ten minutes nor provide data to prove the assertion in the DEIS that the service will eliminate most of the trips the resort and the ski center. Time does not allow for a full catalogue of the numerous missed opportunities for mitigation. But as the comments of others will no doubt demonstrate, they are abundant.

d. Segmentation and Failure to Examine Cumulative Impacts

Segmentation of the environmental review process is impermissible under law. New York's Environmental Conservation Law states: "It is the intent of the legislature that, to the maximum extent feasible, a comprehensive project review

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[59] N.Y.C.D.E.P. "Comments on the Draft Environmental Impact Statement...for the Proposed Belleayre Resort at Catskill Park Project" (dated April 22, 2004) at 1.
[60] E.C.L. 8-0109(1), (8).
[61] 6 N.Y.C.R.R. 617.9(b)(5)(iv).
[62] 6 N.Y.C.R.R. 617.9(b)(5)(iii)(b).
[63] *See e.g. In re Payramid Crossgates Co.*, DEC Comm'r Decision, 1981 WL 142251 at *5 (June 25, 1981) (rejecting an EIS that proposed mitigation measures but failed to recommend a specific measure).
[64] DEIS, 2-40, 2-42.

approach shall replace separate and individual permit application reviews."[65] DEC's regulations implementing SEQRA define segmentation as "the division of the environmental review of an action such that various activities or stages are addressed under this Part as though they were independent, unrelated activities, needing individual determinations of significance."[66] In determining environmental impact, the lead agency must take into consideration "reasonably related long-term, short-term, direct, indirect and cumulative impacts, including other simultaneous or subsequent actions which are: (i) included in any long-range plan of which the action under consideration is a part; (ii) likely to be undertaken as a result thereof, or (iii) dependent thereon."[67] The courts have struck down draft environmental impact statements when they failed to consider the project in relation to a larger development plan for the area.[68]

NRDC's review of the DEIS has found that there is inadequate consideration of the cumulative impact of the proposed project together with the planned expansion of the Belleayre Mountain Ski Center. The project sponsor's assessment of the needs for the project in the region, acknowledges that there will be a significant increase in visitors to the ski center in the coming years: "The Lodging bureau of the Ski Center estimates that there is a current shortfall of 500 hotel rooms to accommodate present volumes and this shortfall will rise to 1,000 hotel rooms when current skier targets are achieved."[69] The sponsor further indicates that the ski center has the capacity to increase the numbers of visitors by 50 percent without an expansion; if there's new investment in the center, there could be a 400 percent increase.[70]

In addition, the DEIS advances its intention to contribute to the overall plan for the ski center and the likelihood that the project will enhance its future growth: "The Belleayre Resort at Catskill Park has been conceived and planned to serve as a major contributor to the ambient circumstances which will enable Belleayre Mountain Ski Center – and the region – to reach its full potential."[71] However, despite all of these indications that the project was intentionally planned to take advantage of the planned expansion of the ski center, the estimates of environmental impact do not fully take into account the combined effect of the Belleayre Resort project and the Ski Center expansion on Belleayre ridge or the surrounding community. Indeed, as discussed in the traffic section above, the background growth rate of traffic is

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[65] ECL 70-0103(5).
[66] 6 N.Y.C.R.R § 617.2(gg).
[67] 6 N.Y.C.R.R. § 617.7(c)(2).
[68] *See e.g. Sun Co. V. City of Syracuse Indus. Dev. Agency*, 625 N.Y.S.2d 371, 379 (1995); (annulling environmental review approval when an agency failed to consider cumulative impacts the larger development plan for the area), *appeal dismissal by* 631 N.Y.S.d 603; Westbury *v. Department of Transp.*, 75 N.Y.2d 62, 69-70 (1989)(holding that SEQRA mandates joint consideration of two different projects when they shared a common purpose and were dependent on each other even though they were not part of a formalized plan).
[69] DEIS, 1-7
[70] DEIS, 1-18.
[71] DEIS, 1-18.

estimated at only three percent. Without a full discussion of the expected cumulative impact of these two projects, the DEIS must be considered incomplete.

E. Failure to Adequately Address Secondary Growth Impacts

DEC regulations mandate consideration of environmental impacts that might result from "the creation of a material demand for other actions" causing environmental harm.[72] Furthermore, the regulations specifically require consideration of "any growth-inducing aspects of the proposed action" where applicable and significant."[73] Failure to adequately considering secondary growth impacts constitutes grounds for invalidation of an agency's approval.[74] [75]

The DEIS minimizes the likelihood of secondary growth impacts resulting from the proposed project to a far greater extent than seems reasonable based on the size and scale of the proposed resort. First, the applicant's conclusion that any increase in residential development from the new project is negligible seems flawed. The DEIS anticipates that there will be 2,113 person-years of employees over an eight year period of construction plus additional jobs resulting from indirect employment.[76] The DEIS further anticipates that there will be 542 full-time resort employees and 330 seasonal and part-time employees.[77] The applicant's conclusion that there is likely to be little impact in demand for new housing or rental units is based on the assumption that the vast majority of the workforce will come from the area.[78] However, the applicant has presented little evidence to indicate that the construction-related and resort jobs are those for which local residents are well-suited.

Indeed, the US Environmental Protection Agency concludes that "The DEIS has not provided a substantial basis for its conclusion that commercial and residential development resulting from this project will be negligible."[79] And according to RKG Associates, who performed an analysis of induced residential growth, completion of the Belleayre Resort as currently envisioned could add as many as 158 housing units to the primary market area over the next ten years and an additional 160 units in outlying communities of the secondary market area. This would potentially double the rate of housing growth experienced over the last census decade in the project corridor.[80]

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[72] 6 N.Y.C.R.R. 617.7(c)(1)(x).

[73] 6 N.Y.C.R.R. 617.9(b)(5)(iii)(d)

[74] For example, a zoning decision of a town board was struck down for failure to consider the impacts of the future development likely to result from that decision.

[75] *Kirk-Astor Drive Neighborhood Ass'n v. Town Bd.* 106 A.D.2d 868, 869 (1948).

[76] DEIS at 3-197.

[77] DEIS at 3-199.

[78] DEIS at 7-13 to 7-14.

[79] Letter from Walter Mugdan, Director, Division of Environmental Planning and Protection, US EPA, to Alexander Ciesluk, DEC, at 2 (March 23, 2004).

[80] New York City Environmental Protection, *Comments on the Draft Environmental Impact Statement for the Proposed Belleayre Resort at Catskill Park Project*, April 22, 2004 at 48.

In addition, the applicant indicates that additional commercial development is unlikely because of the environmental and regulatory obstacles facing the proposed project.[81] However, if this project does go forward in its present bloated configuration, it will signal to others interested in commercial development in the area that these processes are surmountable.

Finally, the developer's "Corridor Spending Analysis Model" showed a 19 percent increase in general merchandise sales, a 10 percent increase in food store sales, a 40 percent increase in automobile service sales, a 22 percent increase in eating and drinking sales, and a 12 percent increase in amusement and recreation spending, if the resort proposal is completed.[82] Based on these dramatic increases in area spending, the applicant's conclusion that project is unlikely to result in additional commercial development in the area[83] seems unlikely, particularly in the areas of general merchandise sales, automobile service stations and eating and drinking establishments.

F. Insufficient Water Supply and Inequitable Effect on Local Water Supply in Violation of State Law

The DEIS does not adequately address issues related to water supply permits in connection with the Belleayre Project, as required by law. "Under SEQRA it is clear that agencies have to take into account any need for a water supply permit in their environmental review."[84]

In this case, the DEIS fails to explore whether the applicants' request for a water supply satisfies state law. State law requires that in granting a water supply permit, DEC must determine whether the proposed project is "justified by the public necessity,...whether the supply will be adequate..., (and) whether the project is just and equitable to all affected municipalities and their inhabitants and in particular with regard to their present and future needs for sources of water supply."[85]

The implementing regulations emphasize that the water supply must be adequate,[86] just and equitable,[87] and necessary.[88] A public water supply using groundwater is adequate if "[t]he total developed ground water source capacity . . . equal[s] or exceed[s] the design maximum day demand and equal[s] or exceed[s] the

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[81] DEIS at 7-2.
[82] DEIS at 7-5 to 7-6.
[83] DEIS at 7-6 to 7-8.
[84] Gerrard, Ruzow and Weinberg, Environmental Impact Review in New York, Vol. 2 Sections 8.06(8) at 8-42.1 (2003).
[85] ECL, 15-1503(2).
[86] 6 N.Y.C.R.R. 601.6(b)(4)
[87] 6 N.Y.C.R.R. 601.6(b)(6)
[88] 6 N.Y.C.R.R. 601.6(b)(1)

design average day demand with the largest producing well out of service."[89] The just and equitable requirement "typically considers the environmental impact of the choices and requires DEC to ensure that an adequate water supply will be available to the surrounding residents"[90] The requirement that the use of the water supply be justified by the public necessity enables inquiry as to whether there is another necessary use for that supply in that locale.[91]

Based on NRDC's review of the DEIS and the expert hydrological evaluation attached to the comments of the Catskill Heritage Alliance, NRDC finds that the Belleayre resort project does not meet these requirements for a water permit. First, Crossroads Ventures has failed to demonstrate that the water supply proposed for the resort project will be adequate to meet the needs of the project. Specifically, due to the described methodological deficiencies, the applicant has not documented sustained yields of all the wells (and particularly Rosenthal Well #1 and Rosenthal Well #2) and of the Crystal Spring-Silo A, proposed as a backup source of potable water supply in the DEIS, during severe drought conditions. Second, the applicant has not demonstrated the projects use of the water is just and equitable to the surrounding community. In particular, the applicant has underestimated the adverse hydrological impacts of the water uses proposed to the DEIS; failed to fully evaluate the possibility of interconnected wells and the effects of additional large withdrawals on the aquifer. The sponsor has also not fully assessed and mitigated the impacts of depleting stream flows, especially on fish and fish breeding, and not fully taken into consideration the present and future competing water needs of both the hamlet of Pine Hill and the Belleayre Ski Center.

The DEIS fails to explore these significant adverse impacts on the water supply of Pine Hill. To comply with SEQRA the applicant should be required to complete a full and thorough analysis demonstrating whether the project will negatively impact the Pine Hill water supply needs to be conducted, before the project can go forward. Indeed, a New York Supreme Court in Albany County mandated according in an earlier litigation relating to this issue: "*Most importantly,* any potential environmental impacts of the proposed Resort on the Pine Hill's water supply will have to be fully addressed during the Resort SEQRA review".[92] Additionally, the applicant has not shown that the project's water use is necessary. And as the previous discussion of project alternatives demonstrates, there are a number of less water-intensive project alternatives that would provide a reasonable

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[89] 10 NYCRR Appx. 5-A § 3.2.1.1.

[90] *Town of Poughkeepsie v. Zagata*, 245 A.D.2d 672, 674 (1997), *appeal denied* 91 N.Y.2d 809 (1998)

[91] *Cf. Ton-Da-Lay, Ltd. V. Diamond*, 44 A.D.2d 430, 436 (1974); *Saratoga Water Servs. V. Zagata*, 247 A.D.2d 788,790 (1998) ("(A) determination as to the public necessity of a proposed project requires a consideration of the importance of the water supply source proposed and the public's need for it. *See also Town of Hempstead v. Flacke*, 82A.D.2d 183, 189-90 (Upholding DEC Commissoner's denial of a permit to deepen a well because the communities' need for potable water outweighed the intended use of the water for use of a shopping center's air conditioning system).

[92] *Pine Hill Water District Coalition, Inc. v. N.Y. State Department of Env. Conservation*, Index. No. 7343-02, Feb. 14, 2003 (Sup. Ct. Albany Co.).

economic return on investment, be more beneficial to the region as a whole and better conserve the area's invaluable natural resources.

G. Failure to Comply with Federal Law relating to Issuance of a Wetlands Permit

The DEIS also fails to consider the project's inconsistency with federal wetlands law. Where actions that are subject to SEQRA involve permits under federal statutes, "SEQRA compliance must include consideration by the lead agency of the conformity of the action with federal law."[93] In this instance, NRDC maintains that issuance of a federal wetlands permit for this project by the United States Army Corps of Engineers ("Corps") violated federal wetlands laws and regulations, due to its failure to consider the views of the United States Fish and Wildlife Service. Under the Federal Clear Water Act, the Secretary of the Corps is authorized to issue general permits on a nationwide basis if "the Secretary determines that the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effects on the environment."[94] Before controlling or modifying any body of water, the Corps is required to consult with the U.S. Fish and Wildlife Service.[95] In order to assist the Corps in making this determination, the Director of the U.S. Fish and Wildlife Service is required to submit written comments on permit applications or proposed general permits to the Secretary.[96] The Corps is required to "give full consideration to the views of (the U.S. Fish and Wildlife Service and National Marine Fisheries Service) on fish and wildlife matters in deciding on the issuance, denial, or conditioning of individual or general permits."[97]

The Corps acted contrary to these provisions when it approved issuance of Nationwide Permit Number 14 on July 18, 2003.[98] The Corps issued the permit despite a recommendation to the contrary they received from the FWS in a letter dated July 11, 2003 as described above. Based on their review of the document and a site visit, the FWS determined that there would be more than minimal cumulative impacts to wetlands. They recommended that the Corps look at the impacts to all wetlands on the project site, rather than solely jurisdictional wetlands and application be evaluated as an individual permit. They also questioned the mitigation: according to the FWS, Crossroad's commitment to preserve several acres of wetlands through deed

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[93] Gerrard, Ruzow and Weinberg, Environmental Impact Review in New York, Vol. 2, Section 8.05 and 8-20 (2003).

[94] 33 U.S.C. 1344(e)(1) (2000); *see also* 33 C.F.R. 322.2(f) (2003) (a general permit can be issued on a nationwide or regional basis "if activities are substantially similar in nature and cause only minimal individual and cumulative impacts").

[95] 33 C.F.R. 320.3(e)

[96] 33 C.F.R. 320.3(e).

[97] 33 C.F.R. 320.4(c) (2003).

[98] The letter is located in the DEIS, App'x 6.

restrictions is not an accepted means of wetlands replacement.[99] In addition, because no mitigation was proposed for the 2.5 acres of wetlands that would be cleared to accommodate golf ball overfly, there would be a net loss of wetlands. The FWS further maintained that the controversial nature of the Belleayre Project, including the opposition of various organizations and citizens, justified full public interest review. The Corps letter approving nationwide permit issuance to Crossroads Ventures for the Belleayre Resort projects does not respond to any of these major concerns. And the DEIS is deficient in its failure to explore and analyze this issue.

H. Failure to Use Appropriate Baseline Methodology and Provide Sufficient Data for Analysis

An additional legal deficiency of the DEIS is its failure to use appropriate baseline methodology or to provide sufficient information to enable proper analysis of its modeling data.

In describing the "environmental setting" of the proposed action, the document should provide quantitative information to support its conclusions whenever possible.[100] *Environmental Impact Review* cautions that "(p)recise and timely data are especially important for critical and controversial issues, as they will come under the closest scrutiny and may have the most important effect on the final actions of the decisionmakers."[101] Another consideration is whether the appropriate geographic scope is used for review of the project in relation to primary and secondary impact areas.[102] The times of observation should also be varied to ensure all necessary data is gathered.[103] Additionally, the chosen build year should generally

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[99] This criticism is consistent with the Memorandum of Agreement between the Corps and EPA, which prefers replacement or restoration as methods of compensatory mitigation. The agreement provides that: "Simple purchase or "preservation" of existing wetlands resources may in only exceptional circumstances be accepted as compensatory mitigation." Memorandums of Agreement (MOA); Clean Water Act Section 404(b)(1) Guidelines; Corection, 55 Fed. Reg. 9210 (March 12, 1990); *see also* U.S. Army Corps of Engineers, Regulatory Guidance Letter, Dec. 24, 2002, Guidance on Compensatory Mitigation Projects for Aquatic Resource Impacts Under the Corps Regulatory Program Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899, 4 ("Protection/Maintenance (Preservation): The removal of a threat to, or preventing the decline of, wetlands, by an action on or near a wetland. This term includes the purchase of land or easements...Preservation does not result in a gain of wetland acres and will be used only in exceptional circumstances.")

[100] DEC, The SEQR Handbook at B-32 (1983).

[101] Michael B. Gerrard, et al., *Environmental Impact Review in New York* 5-41 to 5-42(2003) (hereinafter *Environmental Impact Review*).

[102] *Id.* at 5-42.

[103] *Environmental Impact Review* provided several examples of the type of data that should be collected. For example, traffic noise should not only surveyed at peak times but also after midnight to determine impact on sleep disturbance. *Id.* at 5-44. Biological surveys should be conducted during several seasons and surveys for fish life should take place at different periods in time. *Id.*

the year that it is expected that construction will be completed and the project fully occupied.[104]

Furthermore, the DEIS must include sufficient data to enable informed analysis and comment.[105] Such analysis is critical to enable the achievement of one of the key objectives of the DEIS process, which is to provide the agency with critical information regarding the environmental impacts of the proposed project: "One of the purposes of an EIS is to inform the public and public agencies as early as possible about proposed actions that might significantly affect the quality of the environment and to solicit comments which will assist the lead agency in arriving at an informed and responsible decision."[106]

In numerous places throughout the DEIS, the applicant has failed to conform to this requirement. For example, there are serious flaws in the modeling of stormwater impacts, including the failure of the applicant to provide the modeling inputs to analyze the conclusions drawn in the DEIS, as is documented in the comments of Professor Pitt in Attachment "A" Furthermore, the underlying data to explain the analysis of the impacts of pesticides, fertilizers, and herbicides from the golf course on water quality is not provided, which does not enable verification of the accuracy of the DEIS' assessment, as discussed by Dr. Walter Knisel in Attachment "C." Additionally, as discussed in the traffic section above, Brian Ketcham's comments demonstrate serious flaws in the methodology of the applicant's traffic study -- in particular, the use of a build year during which construction will still be taking place when there is only partial occupancy of the resort and when background traffic rates will not have risen to the full extent envisioned following expansion of the Belleayre Ski Center. In yet another example, the developer does not explain the methodology used in reaching the conclusion that the proposed resort will have no impact on community character.[107] In addition, the developer acknowledges that the studies of the economic benefits and growth inducing effects were conducted prior to the events of September 11th,[108] but fails to analyze the impact that this dramatic event could have on the conclusions reached in the DEIS in those areas.

Due to serious methodological flaws in the DEIS on these matters and others, the applicant should be required to conduct additional studies and make new data inputs publicly available.

I. Inconsistency with the Scoping Department

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[104] *Id.* at 5-48, 7-164.
[105] *See Akpan v. Koch*, 555 N.Y.S.2d 16,22 (1990); *Jackson v. N.Y. State Urban Development Corp.*, 67 N.Y.2d 400, 422-23 (1986)
[106] *Brookville Taxpayers Assn. V. Town of Oyster Bay,* N.Y.L.J. 16, May 8, 1985 (Sup. Ct. Nassau Co.).
[107] DEIS at xvi.
[108] DEIS at 1-18 to 1-19.

The DEIS is also legally deficient due to inconsistencies with the scooping document. Through the optional scooping process, the lead agency "identifies the significant adverse impacts related to the proposed action that are to be addressed in the draft EIS including the content and level of detail of the analysis, the range of alternatives, the mitigation measures needed and the identification of nonrelevant issues."[109] In determining whether a DEIS is complete, the agency is required to compare the DEIS with the scooping document: "The lead agency will use the final written scope, if any, and the standards contained in this section to determine whether to accept the draft EIS as adequate with respect to its scope and content for the purpose of commencing public review."[110]

Based on NRDC's review of the DEIS, it is evident that the DEIS differs in a number of substantial ways from the scooping document. Requirements of the scooping document that were left out or discussed in a very insubstantial manner include the following:

- 1.3.1 - State management options for Belleayre resort;
- 1.3.2 - Information on investor protection, details of a proposed build out, management categories, employment aspects, training programs;
- 1.3.3 - The project in relation to the economic development strategy for the region;
- 1.3.4 - Improved wastewater management opportunities;
- 2.2.7 - Road maintenance activities, particularly winter maintenance;
- 2.3.1 - Quantifying effects of the proposed construction schedule on traffic generation, water use, wastewater disposal and solid waste management and the routing of construction vehicles;
- 2.3.2 - Blasting Management Plan;[111]
- 2.4 - Inclusion in IPM plan of an analysis of using treated wastewater effluent for golf course irrigation and potential effects on human health and water qualify;
- 3.2 - Discussion of reducing golf course fertilizer requirements as a result of using treated effluent;

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[109] 6 N.Y.C.R.R. 617.2(af).

[110] Pages 3-8 to 3-9 of the DEIS describe some proposed mitigation measures for blasting, but no comprehensive plan is propsed.

[111] Pages 3-8 to 3-9 of the DEIS describe some proposed mitigation measures for blasting, but no comprehensive plan is proposed.

- 3.5.2 - Impacts to wetland hydrology as a result of changes in vegetation cover, erosion and sedimentation, irrigation and other factors;[112]

- 3.5.2 - Potential impacts to wetlands as a result of golf course management practices analyzed in the IPM plan;

- 3.5.3 - Qualitative analysis to determine the post-construction carrying capacity of the site for various wildlife species;

- 3.5.3 - Impacts to aquatic and semi-aquatic species as a result of surface water and wetland impacts, sediment and erosion control, hydrological changes, construction of ponds and water qualify impacts;[113]

- 3.6 Soils - Evaluation the characteristics of the soils for their development potential for golf course fairways, building locations, roadways and parking areas and underground utilities;

- 3.8.2 - Discussion of the relationship of this project to other development projects in the area, under construction or under review;

- 3.8.2 - Discussion of the potential impact of the project on the former Ulster and Delaware Railroad;

- 3.8.2 - Discussion of the project's compatibility with the existing character of the surrounding lands;

- 3.8.4 - Evaluation of the community costs of the projects;[114]

- 6.0 - Discussion of the impact on the consumption of capacity of surface waters to accept sewage affluent;

- 7.0 - Evaluation of additional traffic, stormwater and wastewater that could accompany potential development;

- 7.0 - Discussion of effects on Belleayre Mountain Ski Center, Forest Lands, and the added visitors to Forest preserve land; and

- Sections 8 and 9 were not included.

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[112] There was only minimal discussion of this, primarily dismissing the possibility.

[113] The exception to this is the discussion of the impacts on waterfowl.

[114] The DEIS advanced the argument on p. 3-218 that the benefits of the proposed project would exceed the costs but did not demonstrate this assertion by quantifying the costs.

J. Non-compliance with Storm Water Regulations

The EPA requires that developers apply for a State Pollutant Discharge Elimination System (SPDES) permit for storm water discharge if construction activity will disturb more than five acres of land.[115] New York implemented this regulation through general permit guidelines that became effective in 2003.[116] Any disturbance of more than five acres at a time requires the DEC's prior written approval.[117] New York State DEC has not yet granted this approval and the DEIS provides no factual basis for any such grant in the future.

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[115] 40 C.F.R. 122.26(b)(14)(x) (2003).

[116] New York State Department of Environmental Conservation, SPDES General Permit for Stormweater Discharges from Construction Activity, Permit No. GP-02-01, iv (Jan. 2003) ("this permit may apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(14)(x)...involving solid disturbances of five (5) acres or more.").

[117] *Id* at 11 (referencing the New York State Guidelines for Urban Erosion and Sediment Control).

Memo from: Robert Pitt, Environmental Engineer, 2137 Farley Rd Birmingham, AL 35226 (rpittal@charter.net)

To: Robin E. Marx D.V.M., Natural Resources Defense Council, 40 W. 20th Street New York, NY 10011 (RMarx@nrdc.org)

Date: **April 16, 2004**

Subject: Review of stormwater elements of Belleayre Resort draft EIS

This letter contains my comments pertaining to the use of the WinSLAMM model and related stormwater issues, as part of the Draft Environmental Impact Statement for the Belleayre Resort at Catskill Park. At your request, I reviewed the CDs containing the report and supporting appendices and the WinSLAMM files, along with a set of full-sized engineering drawings. Although I specifically reviewed sections of the draft EIS concerning the use of the WinSLAMM model, I also examined other sections pertaining to stormwater issues.

I am the Cudworth Professor of Urban Water Systems and Director of Environmental Engineering Programs at the University of Alabama. I currently teach classes in urban water resources, stressing the integration of hydrology and water quality issues. Prior to coming to Tuscaloosa three years ago, I was at the University of Alabama at Birmingham for 14 years, and previously was a senior engineer with industry and government for 16 years. My Ph.D. is from the University of Wisconsin-Madison, my MSCE from California State University, San Jose, and my BS from Humboldt State University in Arcata, California.

I have been active in stormwater research for most of my professional career, having conducted research for the U.S. Environmental Protection Agency, the National Science Foundation, Environment Canada, many state and local agencies, and some industries. I have published numerous reports and papers, including several books. I am also the principal author of the Source Loading and Management Model (SLAMM), amongst other programs. The SLAMM Model has become one of the nation's leading computer models for understanding and predicting stormwater flows and pollutants. I am a Registered Engineer in the state of Wisconsin, and am a Diplomate of the American Academy of Environmental Engineers.

In the following sections, I identify major problem areas or questions with the draft EIS relating to stormwater control.

A. Problems With DEIS Application of WinSLAMM Model

My biggest concern found during the review of this draft EIS and its appendices was the applicant's use of the WinSLAMM model to characterize pre-development conditions relating to stormwater runoff at the project site. WinSLAMM was designed to predict stormwater flows and pollutant characteristics after site development, and was never intended for characterizing pre-development pollutant discharge conditions.

ATTACHMENT "A"

In the case of the Belleayre site, the pre-development conditions are almost exclusively heavily wooded areas, undergoing some logging. The "undeveloped" or "open space" conditions in WinSLAMM, however, were meant for small areas of open space in otherwise developed urban land uses. The parameter files supplied with WinSLAMM, and used for this evaluation, were calibrated and verified for urban areas, including small undeveloped parcels in otherwise urban areas. To my knowledge, the model has never been used to evaluate pre-development runoff and pollutant discharge conditions for large forested areas. Moreover, there is no indication that the model results for the pre-development conditions were compared to the existing local water quality and flow measurement data, or that the WinSLAMM files were modified to reflect these local conditions. As with all stormwater models, WinSLAMM needs to be correctly calibrated and verified. As far as I could tell from my review of the draft EIS and Appendix 10A, the WinSLAMM parameter files appeared to be unmodified from those distributed with the program and therefore not applicable for undeveloped forested land.

A second and related problem in the draft EIS and Appendix 10A also concerns stormwater modeling for the project. Neither the draft EIS nor the appendix adequately describe the data or assumptions used as input for the model to calculate stormwater runoff. I therefore reviewed each input file to see how the parameter files were used and how the sites were described in the program. The source of rainfall data was the Tannersville9094 file. I assume this represents local rainfall conditions for the 1990 to 1994 period. Using a local rain file for an extended period is extremely important when running the program, second only to describing the watershed areas correctly. However, all of the other parameter files used (e.g., Bham.ppd, which describes pollutant probability distribution based on conditions in Birmingham, Alabama, and delivery prr, which is used to predict the volume of rainfall that will be translated to runoff) were the general "default" files supplied with the program. We have found these files to be generally useful when there are limited local data available and for preliminary analyses. However, good modeling practice requires that they be modified to reflect local conditions, by undergoing a basic calibration and verification process, especially for important projects and when absolute pollutant discharge estimates are needed.

Obviously, it is not possible to calibrate a model based upon future conditions that do not yet exist. But regional data for similar conditions as expected in the future should be used for important projects. However, without the use of local data for calibration and verification of the model, the accuracy of the calculations made by the WinSLAMM model is jeopardized. With careful calibration and verification of WinSLAMM using a moderate amount of local data, typical errors of pollutant discharge calculations are usually within 25% of measured values. Additional calibration data can usually reduce these errors even more. To be sure, pollutant reduction estimates associated with stormwater controls can be reasonably calculated using the default parameter files and local rain and site data, as was used in this project. However, without the use of local calibration and verification data (although using appropriate local rainfall data and accurate site descriptions), while post-development runoff volume estimates are usually within 25% of measured values, errors in the pollutant discharge estimates can be much greater.

B. Other Concerns Regarding Projected Stormwater Flow

Another concern I have relates to what may be overly optimistic assumptions concerning the effectiveness of the proposed series of stormwater detention basins. The project sponsor suggests, on page 10 of Appendix 10A, that the model results for post-development conditions "can be considered to be conservative in the amount of pollutant reduction it shows... because the proposed detention basins in some cases will occur in series, which is a situation that the WinSLAMM model cannot simulate." I disagree with this statement because when ponds are in series, only the single largest pond will be effective for the removal of particulate pollutants. Downstream smaller ponds will not be able to remove any of the particulates discharged from upstream larger ponds. In fact, the discharged water from these upper ponds will adversely affect the performance of the lower ponds.

I turn briefly to the issue of the volume of runoff from these ponds. On pages 2 and 3 of Appendix 10A, there is a description of the reductions in stormwater runoff volume associated with pond use. But the ponds will not reduce the runoff volumes unless evaporation or seepage also occurs. The draft EIS projects a 29% reduction in stormwater flow, a figure that seems large for volume losses, especially as the attachment states that the ponds will be lined, thus precluding infiltration. There is insufficient information in the draft EIS to reconstruct this analysis. The approach and data used to arrive at these conclusions need to be explained in the final documents.

I have a third concern related to the assumptions made on the efficacy of stormwater control devices. I question whether the micropool extended detention ponds, planned for the site, will provide 80% suspended solids and 40% phosphorus removal. I feel that these removal rates are overly optimistic, compared to available performance data in the ASCE/EPA Best Management Practices database. Are there local data supporting these high removal rates? And why weren't the most up-to-date data used?

Finally, the DEIS and appendices relating to stormwater runoff do not adequately describe the protocols for maintenance of stormwater controls and water quality testing. These important activities should be fully described. For example, the documents do not discuss the schedule for water quality testing and what will be done if the results indicate poor stormwater control. Equally important is the schedule for maintaining stormwater controls. How often will maintenance and inspection occur? What about after significant weather events? There should be a detailed maintenance plan and a guarantee that maintenance will be performed in perpetuity.

C. Concerns Regarding Runoff from Snowmelt

I next turn to a series of problems with the draft EIS and supporting documents (i.e., Section 5 of Appendix 10A) relating to the management of pollution runoff from snowmelt. Studies from the Upper Midwest and Great Lakes areas have found that pollution loads from snowmelt can exceed pollution loads from mild weather stormwater events for many constituents. Therefore, it is likely that pollution loadings from snowmelt at the project site would be similarly elevated. The draft EIS documents fail to take these increases into account. A related problem with snowmelt is that it is usually more difficult to control snowmelt with detention ponds due to the finer particle sizes in the snowmelt water. As discussed in the draft EIS, the stormwater ponds for snowmelt normally have to be sized larger than ponds for stormwater runoff. The proposed

storage volumes listed in the draft EIS seem to be adequate, but water quality concerns regarding the increased snowmelt loads after development have not been addressed in the draft EIS. Even with runoff controls, the discharges of pollutants from the stormwater and snowmelt will be greater after development than before development. The runoff controls hopefully will reduce the increases, but it is very unlikely that they will reduce these to pre-development levels.

Another problem with stormwater ponds located in cold climates is that during snowmelt, the flow has a tendency to travel under the ice and scour out sediments. The draft EIS, however, does not include plans for modifying pond operation during cold weather, such as lowering water levels during the winter, so that snowmelt runoff can flow across the top of the ice during initial portions of the melt periods.

D. Trout Stream Impacts and Stormwater Mitigation

Table 3-2 lists a number of nearby trout streams that have portions of their watersheds on the project site. These small nearby streams will be affected by the proposed project runoff to a greater extent than the more distant water supply reservoirs, but they receive little attention in the DEIS. The amount of the proposed development in the drainage areas for these streams, along with stormwater control features that will specifically protect these streams, needs to be described. Specific threats to these streams will be construction site erosion material, increased runoff temperatures, increased flow rates and flow volumes, and contaminated snowmelt, along with pollutant discharges from the project stormwater.

An important stormwater control option that is not adequately mentioned is the use of bioretention areas near the buildings and parking areas. These have been shown to be quite effective in controlling runoff temperature (while ponds usually contribute to temperature problems), and are usually less expensive and more effective than porous pavement. They can also be nicely integrated into the site landscaping. While the proposed "green roofs" are interesting, they are not well documented in the region of the site. Bioretention facilities are therefore also recommended as a back-up system to the proposed green roofs.

E. Other Concerns with the DEIS' Stormwater Sections

I conclude this report by identifying some of the small technical and labeling errors I found in the draft EIS documents that suggested a lack of attention to detail in their preparation.

- On page 9 of Appendix 10A, the "street delivery files" are defined incorrectly. They are not the particle size files (those are the *.cpz files). The *.std files reflect the limited energy associated with most rains in moving washed-off street dirt during rain events through the drainage systems.

- On page 11, there is some confusion as to the particle sizes of clay and colloids. Clay is defined as containing particles of less than 2 µm. Some of the clay in the runoff would

therefore likely be retained on the 0.45 μm filters used for the particulate solids (SS) analyses. Most colloids, however, would pass through the filter. Also on page 11, Total Kjeldahl Nitrogen (TKN) is defined as the sum of nitrates and nitrites. TKN is properly defined as the sum of organic nitrogen and ammonia.

- Section 10.7 is not labeled as such (it is the attached material to the appendix).

- On page 13 of Appendix 10A, it is noted that Total Kjeldahl Nitrogen (TKN) decreases with development. In fact, the calculated TKN increases with development, but not by much (from 1.74 to 1.89 mg/L).

- The CP-18 sheet, which should have explained project stormwater control designs in detail, is very generic and does not provide specific design information for this project.

- Table 2-3. The planted roof areas will be unique, especially for the size proposed. But the draft EIS fails to provide any data for similar installations in the proposed project area, or to identify design features that will be used to ensure their success for the harsh winter conditions.

- On page 3-34 there is a discussion of percolation tests performed at the proposed detention basin locations. These small-scale infiltration tests are suitable for initial investigations, but small tests usually greatly over-predict the actual infiltration capabilities. Large-scale tests should be conducted to insure that the proposed detention basins will actually achieve the design specifications for the high infiltration rates expected.

- Pg 3-49. There is a lack of performance data for micropool extended ponds. The ASCE/BMP database, the most comprehensive survey of pollutant removal by best management practices, shows highly inconsistent performance for micropool extended detention ponds such as those proposed in the draft EIS. The ASCE/BMP database lists pollutant removals ranging from about 0 to 65% for suspended solids. Higher levels of performance are associated with large pool areas and when the influent pollutant concentrations are high. Thus it is unlikely that the proposed stormwater ponds will remove the levels of phosphorus and suspended solids as predicted in the draft EIS.

- In Tables 3-4 to 3-7 (Appendix 18), it is not clear if the existing water quality data are only for dry weather, or if wet weather events are also represented. Generally, it seems that these background data represent reasonably good conditions (the min. for DO at one site is low and the fecal coliform maximums are periodically high, for example). Background conditions for wet weather should also have been included.

If you have any questions pertaining to these comments, please contact me.

The Gaia Institute
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April 23, 2004

Alexander Ciesluk, Jr.
Deputy Regional Permit Administrator, NYSDEC
21 South Putt Corners Road
New Paltz, NY 12561-1620

Re: The Belleayre Resort at Catskill Park

Dear Mr. Ciesluk:

We are submitting these comments as consultants to the Natural Resources Defense Council on the Draft Environmental Impact Statement for the Belleayre Resort at Catskill Park. In particular, our study reviewed four areas of water resources, as stated below.

The Gaia Institute is a 501(c)3 not-for-profit corporation. Focused on environmental research and development, education and design, our work is centered on the restoration and ecological re-engineering of natural systems to protect and enhance environmental quality. The work of the Gaia Institute couples ecological engineering and restoration with the integration of human communities in natural systems. While much environmental engineering has the worthy aim of minimizing harm, the Gaia Institute explores, through research and development, design and construction, how human activities and waste products can be treated to increase ecological productivity, biodiversity, environmental quality, and economic well being. The purpose of the Gaia Institute is to test through demonstration the means by which the ecological components of backyards, communities, towns and cities, as well as watersheds and estuaries, can be enhanced through integrated wastes-into-resources technologies.

We have extensive experience working in the NYC watershed, both East and West of the Hudson. As pioneers in the study of soil infiltration and the interaction of vegetation and soil systems in the rhizosphere, we have worked with natural systems to enhance the capture of rain water, including runoff from buildings and other infrastructure. To apprehend the interaction of precipitation and natural systems and landscapes, methods utilized are grounded in an examination of water budgets, and the flows within the components of a system. In this context, it is expected that precipitation falling on the forests and slopes of the area under design for the Belleayre Resort presently follows pathways and routes which predominantly entrain the great majority of this precipitation as groundwater. This is the process which, according to the USGS study cited below, and many others, preserves and enhances water quality and quantity. If disturbed, and if the pathways which presently move water into the water table are not restored,

ATTACHMENT "B"

it is expected that consequent negative effects will inevitably follow[1]. This brief investigation attempts to identify the scale and extent of some of these consequences.

Prior experience in golf course and housing construction on steep slopes has provided us with direct experience in the erosive effects of such development projects. The Gaia Institute was retained by the Pine Tree Lakes Homeowners Association in a complaint against Great Expectations and Pinecrest Associates filed because of severe sedimentation problems associated with housing, infrastructure, and golf course construction. Documentation of sediment deposits, clay and/or colloidal suspension in Pine Tree Lake following storm events demonstrated persistent negative impacts on water quality and habitat in the lake and watershed following construction in 1997 and 1998. Large area construction impacts on steep slopes mobilized tons of sediment and suspended clays which negatively impacted wetlands, feeder streams, and the lake within this watershed.

The Belleayre Resort at Catskill Park is a 573-acre development planned for construction in western Ulster and eastern Delaware counties near the Belleayre Mountain Ski Center. This four season project includes 400 rooms in two hotels, two 18-hole golf courses, detached hotel lodging units, and 1,387 acres of open space with hiking and nature trails. The East of Belleayre Big Indian Resort and Spa, Big Indian Country Club and Golf Course, and Belleayre Highlands, is located within the New York City Ashokan Reservoir watershed, about 20 miles from that waterbody, and would be served by central water (provided by an on-site well) and central wastewater treatment, with effluent discharge to Birch Creek and/or a golf course irrigation system. The West of Belleayre area includes Wildacres Resort, Highmont Golf Course, and Highmont Estates, is located 14 miles from the Pepacton Reservoir, and would be served by central water (provided by the Village of Fleischmanns water system) and central wastewater treatment, with effluent discharged to an unnamed tributary of Emory Brook and/or golf course irrigation.

Under the present approach, there are four areas of concern.

1. **Construction Scale**

The proposed 25-acre limit for exposed soil at any one time is too large by an order of magnitude. This is because, in scalar terms, half the precipitation from two-year storm over a 25-acre site is equal to one and a third million gallons of water. By the same approach, if the export coefficient of the construction site approaches one half, runoff from a ten-year storm would be half of the six inches of precipitation over a 25-acre site, equaling two million gallons of water.

Even over a 24 hour period, such quantities of water piped into receiving streams would amount to cubic feet per second, increasing velocity and scour potential. Were such a storm to occur in an intense period of a few hours, discharges could approach ten or more cubic feet per second, exacerbating scour in the receiving waters and the potential discharge of sediment including clays and colloids into the drinking water supply.

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[1] Effects of Residential and Agricultural Land Uses on the Chemical Quality of Baseflow of Small Streams in the Croton Watershed Southeastern New York. USGS. Dept. of the Interior. WRIR 99-4173. March 20000

Because of the scale of construction, it is likely that this approach would be more destructive than the simple quantity of acreage disturbed, since any management practices to capture and detain the quantities of water produced as runoff from the construction and final site design would themselves need to be large enough to accept quantities of input water. For example, in order to capture water from a two-year storm, a detention basin designed to capture runoff from a 25-acre parcel of land would itself need to disturb an estimated two to four acres of land. If this analysis includes disturbance involved in conduit construction and placement, this two to four acre estimate could become much larger. It is critical to realize that this region has the highest rainfall in the State of New York. This suggests that this region deserves special status in that it provides the best opportunity for water catchment and storage in the entire New York City watershed. Development in this critical landscape therefore threatens both the quality and quantity of the New York City water supply.

This scale of excavation may also affect construction monitoring, since a 25-acre site 200 feet wide would be more than one mile long. In times of severe storms, it may not be possible for one certified stormwater monitor to cover such an expanse. No explanation is given as to why it is necessary to expose such a large expanse of soil at one time. This large scale excavation appears to be directly at odds with the bulleted erosion control/sediment control program which appears on page 5 of Appendix 11 of the DEIS which states that:

- Land disturbance is divided into small compartments (Phases, Subphases, and Subcatchments) that can be rapidly constructed and stabilized, and
- The erosion control program dictates the construction sequencing

Construction at the scale of 25 acres, one million square feet, on a steep slope, must dictate complementary large scale stormwater catchment, erosion and sediment control measures, creating large scale disturbances to mitigate potential damage to receiving water bodies downgradient.

2. Mitigation Scale Required by Construction Scale

This scale of construction means that if a specific 25-acre track was 200 feet wide, it would be more than one mile long, requiring pipes or swales of which themselves would need to be at least a major fraction of a mile in length in order to direct the water to the catchment. By similar reasoning, a 400 feet wide, 25-acre construction track would be more than a half mile in length, requiring similar lengths of stormwater conveyance infrastructure, and the landscape disturbance which goes with it.

3. Soil Types and Water Holding and Processing Capacities

Development of the upland zone in Ulster and Delaware Counties is constrained by the underlying soils. In the case of what are termed Lackawanna soils in the Ulster County Soil Survey, severe restrictions for golf course fairway construction is indicated. An additional problem with the Lackawanna series is low permeability, which, in itself, greatly increases the likelihood of runoff, and the erosion generated by overland flow.

Permeable soils in the same region have, in general, shallow depth to bedrock, at times restricting infiltration capacities. Intense storms of an inch per hour could potentially saturate such soils and lead to surface flow and erosion, especially in steep to very steep environments, such as those on each of the development sites. Severe restrictions for turf grass installation exist for a major fraction of soil coverage on these two planned construction sites.

Due to the region's permeable soils, the plan to use sod is likely to be ineffective in mitigating erosion problems, and, on soils, which are presently permeable, is likely to diminish permeability, since turf grass sod contains fewer macropores for soil infiltration than developed soils in forested landscapes. As noted above, sod together with the stormwater conveyance and discharge infrastructure will diminish the groundwater contribution to the local streams, diminishing high quality base flow input to the neighboring trout streams. The USGS study in the Croton Watershed of groundwater contribution to high quality inputs cited above corroborates this point.

4. **The Entire Stormwater Mitigation Program Relies on Retention Basins and Involves Direct Discharge into Waterbodies at the Base of the Slopes**

Regional hydrology relies on water capture and recharge of the aquifers, which feed the tributaries of the Pepacton and Ashokan Reservoirs. Since 500 to 600 acres in each development would be disturbed by golf course, hotel, structure and infrastructure construction, because of the dependence of detention ponds and discharge with no apparent focus on infiltration or groundwater recharge, it is to be expected that hundreds of acre feet of water would be diverted from groundwater storage and natural, biogeochemical filtration annually. For each 500 acres impacted by construction and stormwater conveyance out of groundwater, about two million gallons of groundwater would be lost, or about 20 million gallons for a foot of water over each 500 acres so impacted.

The entire stormwater management program appears to hinge on the behavior of detention basins at the base of the slopes. This strategy does not retain water, but discharges it from the system in the course of each storm. In effect this displaces resource water downstream, negatively impacting the stored groundwater.

Limited time has been available to review the DEIS materials since it includes three CDs, together with detailed maps and drawings. Time constraints also did not allow a site visit. To date, there is no indication that the proposed development will be managed in a manner which is sustainable given its location within the watershed which supplies drinking water for nine million New Yorkers. It is therefore our intention to continue this study through the FEIS phase of this project, as well as through the review of the NYC DEP Stormwater Pollution Prevention Plan.

Paul S. Mankiewicz, Ph.D.
Executive Director
The Gaia Institute

Subject: Fertilizer and Pesticide Risk Assessment, Draft Environmental Impact Statement, The Belleayre Resort at Catskill Park, NY, Revised November 2002

A review of the subject DEIS was made as requested by Dr. Robin Marx, NRDC. The purpose of the review was to ascertain if sufficient information is included in the report to determine if the GLEAMS model was properly applied for the conclusions drawn by the authors.

Without actual model parameter files, it is impossible to make a concrete decision on whether the model was validly applied. Selection of some parameter values is somewhat subjective and this writer is not experienced in the geographical area of concern. Information gleaned from the DEIS for the different models, i.e. soils, site topography/model representation, fertilizer and pesticide application data, might indicate adequate GLEAMS application, but limited data make a firm conclusion impossible. Sample output was shown only for the plant nutrient (fertilizer) component, but not for the hydrology and pesticide components of the model. And despite the fact that three fertilizer scenarios were outlined, the sample GLEAMS output did not correspond to any of them.

Some parameter values were not specified in the report, i.e. soil horizon thickness and effective rooting depths. It would be helpful if the DEIS gave the respective soil textural classification in addition to the series names, i.e. Vly silt loam, for all soils. Likewise, it is not known from the DEIS if all soil series were modeled. It was not stated if topsoil would be stockpiled during construction of greens and fairways to be used on the golf course, or if soil material with different physical and chemical characteristics would be imported from elsewhere. Soil fill characteristics were not included on porosity, degree of compaction, etc. No indication is given if porosity values used in the LEACHM model are for "as is" conditions or those following long-term settled conditions from overburden compaction or for the existing residual soil in situ.

There is no information in the DEIS about nitrogen and phosphorus losses for the natural "as is" condition before construction. This is essential in determining the impact of constructing the golf courses. There is some nitrogen in rainfall and native phosphorus in the soil in the natural condition, but what is the increase due to golf course construction/management?

From my 50 years experience in hydrology and water quality research and modeling, I do not agree with the authors' use of the highest rainfall year as being the worst case. Certain sequences and timing of rainfall events in a lower rainfall year can cause significantly more pesticide leaching than the highest rainfall year. High rainfall years may result in considerable dilution of leached pesticides and result in lower pesticide losses. A given mass of soluble pesticide or fertilizer available in the soil may be removed with large volumes of runoff and percolation water, or removed by smaller volumes of runoff and percolation. Highest concentrations of pesticide leaching and runoff would result from smaller volumes of percolate/runoff water. This is the very reason the GLEAMS developers made provisions to simulate up to 50 years in a single model run using the rotation or continuous crop feature and examine the number of exceedances of threshold values such as LC_{50}. Will there be one exceedance in 50 years? Or does one exceedance occur every year? Because the DEIS only modeled one year, these questions were not answered.

The DEIS used the LEACHM model for pesticide leaching and the GLEAMS model for pesticide runoff. These independent simulations may be all right, but GLEAMS can give both runoff losses and leaching losses simultaneously. The authors' applications are dealers' choice, but there is only a given amount of pesticide available for runoff and for leaching. Runoff and leaching occur simultaneously. The DEIS's applications says there is no runoff, and that LEACHM will give the worst case leaching losses. Then they turn around and use GLEAMS to determine pesticide runoff losses which are properly partitioned between runoff and percolation.

The DEIS does not discuss harvesting (clipping) the golf course fairway. If grass is clipped and removed, nitrogen and phosphorus are transported out of the system. If clippings are not removed, there is a biomass accumulation with recycling of nitrogen and phosphorus which is included in the GLEAMS model. This may be discussed in other parts of the DEIS, but it does have long-term effects.

ATTACHMENT "C"

There is one falsehood in the DEIS: GLEAMS was developed by the USDA-ARS and University of Georgia, not USEPA.

In summary, the DEIS must be more specific to give soil textures for each of the series, and show the results for all soils represented. If all soils on the site have the same textural classification, this should be stated in the DEIS to explain why only one soil is represented. A sandy loam soil would give different results from the silt loam soil used in model application. Also, all conditions represented in the modeling should be given so the reader will know exactly what they did. That is, are they modeling the soils *in situ* (as they are now), reconstructed/replaced soils from the site, or reconstructed soils brought in from off-site? If soils will be brought in what are the characteristics of those soils? Model applications must be made for several years (3 to 10) to give a range of climate, i.e. rainfall and snow accumulations, to ascertain the long-term interactions of soils, climate and management.

Prepared April 20, 2004

Walter G. Knisel, Ph.D.
GLEAMS Developer/Consultant (Retired)
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HR&A

HAMILTON, RABINOVITZ & ALSCHULER, INC.
Policy, Financial & Management Consultants

April 22, 2004

Mr. Eric Goldstein
Urban Program Co-Director
Natural Resources Defense Council
40 West 20th Street
New York, NY 10011

Dear Eric:

Hamilton, Rabinovitz, & Alschuler has extensive experience in the analysis of the Catskills regional economy and is pleased to provide assistance to the Natural Resources Defense Council in the review process of the Bellayre Resort EIS.

The natural environment of the Catskills region is the core economic asset that provides the region with a long-term economic competitive advantage. It is therefore critical to explore environmentally sound economic development that emphasizes area's natural resource-based economy to create and sustain businesses that support the region without compromising opportunities for the future. After careful review of the Bellayre Resort EIS materials, we concluded that there is a sound rationale for the exploration of reasonable smaller-scale alternatives. Specifically, alternative programs that are less-capital intensive with a reduced risk profile and that can provide fair risk-adjusted returns to investors deserve careful exploration.

Please find the attached statement that presents our professional opinion on this matter. Do not hesitate to contact me or my associate, Meegan Massagli (extension 232) with any questions.

Sincerely,

John H. Alschuler Jr.

ATTACHMENT "D"

HR&A
HAMILTON, RABINOVITZ & ALSCHULER, INC.
Policy, Financial & Management Consultants

BELLAYRE RESORT EIS REVIEW PROCESS – ALTERNATIVES ASSESSMENT

THE PROPOSED DEVELOPMENT PROGRAM

The Applicant has proposed a program for the development of 573 acres from a total assemblage of 1,960 acres owned by the Applicant located in Delaware and Ulster Counties of New York State. The project program consists of two major venues, which will center on affiliation with national hospitality brands:

- "Big Indian" – a 5-star, 150-room hotel/spa, 183 detached lodging units, country club with an 18-hole golf course – on land on eastern side of the Bellayre Mountain Ski Center
- "Wildacres" – a 4-star, 250-room hotel/spa, 168 detached lodging units, golf club with an 18-hole golf course – on land on the western side of Bellayre Mountain Ski Center

TESTED FEASIBILITY OF PROPOSED DEVELOPMENT PROGRAM

As part of meeting the Draft EIS requirements, the Applicant commissioned a series of studies that analyzed the economic feasibility of the proposed program as well as various alternatives based on different combinations of the key components of the proposed program (all of which maintain the critical assumption that the development centers on an affiliation with a major national hospitality brand), including:

1) Big Indian Hotel/spa, country club, Wildacres hotel/spa, golf club
2) Big Indian Hotel/spa, country club, Wildacres Hotel/spa
3) Big Indian Hotel/spa, Wildacres hotel/spa, golf club
4) Big Indian only
5) Wildacres only
6) Detached lodging units evaluated separately, under assumption that hotel/spas are constructed first

The studies determined that the only logical and economically feasible approach to the development of the subject property calls for construction of both hotels and country clubs, both 18-hole golf courses, and both of the detached lodging unit communities. This assertion requires further consideration.

SUSTAINING THE NATURAL ENVIRONMENT AND THE ECONOMY – A CAREFUL BALANCE

The subject site is located in a watershed area that not only provides water to more than 9 million people, but also provides a marketable amenity of pristine wilderness that attracts people and investment. The natural environment is the region's core economic asset and long-term competitive advantage. It is therefore imperative that its protection be balanced with the growth of commercial, agricultural and residential uses in the region. Consequently, it is critical to explore environmentally

sound economic development that emphasizes area's natural resource-based economy to create and sustain businesses that support the region without compromising opportunities for the future.

Environmental Impact of the Proposed Development Program

The proposed development, in its current form, will result in the production of mountainside runoff and erosion from golf course resort construction and operation and spawn secondary growth in the project vicinity and Route 28 corridor. These repercussions are intensified by the magnitude of the proposed program and are likely to threaten the region's best long term economic asset -- its rural character and environmental amenities.

An EIS requires that the applicant provide a description and evaluation of the range of reasonable and feasible alternatives to the proposed development. The alternatives may specifically explore developments of alternate sites and or scale or magnitude. In view of the quality of the Applicant's site, its location, the extensive proposed development program, and the assessments of alternatives as described above, **HR&A believes that there remain alternatives that have the potential to more effectively mitigate the impact to the environment, while maintaining economic feasibility that warrant careful examination prior to the completion of this EIS process.** Specifically, the assertion that advancing only a portion of the project would not be economically feasible has not been fully explored.

Lower-Risk Alternatives:

Reduced Intensity of Capital Investment and Land Use

The cost to the environment and ultimately the region's economy, of the two resorts is potentially far greater than the incremental benefit to the Applicant and its investors. Reducing the risk profile of a project can allow for exploration of a broader range of alternatives that may allow for less intense land use. Since each distinct element or component of a development project establishes its own risk profile and adds incrementally to the initial capital costs for infrastructure, and consequently increases the required return, reducing the scope of a project to include fewer elements could produce appropriate risk-adjusted returns for an investor. A lower-risk alternative might consider some combination of the following:

- Reduced up-front capital investment and development costs, such as construction of utilities infrastructure (water, sewer and electricity), and pedestrian and vehicular networks;
- A mix of alternative recreational amenities that will individually and therefore collectively produce higher contribution to profit margin;
- A smaller-scale development and facilities;
- Fewer components included in the overall program;
- Less varied components of the program (i.e., a focus on creation of a residential community only)
- Amenities and attractions that are smaller in scale and intensity of land use and more complementary to/harmonious with existing environment;
- Development of a reduced portion of the site; or

- Construction of higher density on a smaller area, providing fewer, larger, highly amenitized lots to enhance lot yields and exploiting economies of scale for infrastructure costs;

A compelling alternative to the proposed program that incorporates many of the above points is a full development of the only the western parcel (the Wildacres golf club, hotel and detached lodging units). This alternative should be carefully assessed for the following reasons:

- **Potential for acceptable returns by including the detached units.**
  According to the Applicant's consultant (HVS), while the calculated expected return for Scenario 1 (development of the entire program on east and west parcels) was the highest at 14.7% and Scenario 5 (development of only the Wildacres golf club and resort) produced an expected IRR of 10.7%, both are marginal returns. The consultant's report further stated that Scenario 1 would require the stronger yields associated with the detached lodging units to counterbalance the risk of investment in the hotel and country club components. Given the strong expected returns produced by the detached lodging units component, it is reasonable to expect that a program that includes the development of Wildacres in its entirety, including the detached lodging units could produce an acceptable risk-adjusted return, and is worth careful consideration.

- **Decreased infrastructure cost and less impact on environment**
  The two components of the Applicant's program involve two very different parcels of land, the development of which have varied implications for the environment. The western parcel is already partially developed with existing infrastructure and its runoff flows to the less-threatened Pepacton reservoir. The eastern parcel is undeveloped forestland and runoff from development there would flow to the more sensitive water body, Esopus Creek. Limiting the development to the western parcel would decrease infrastructure investment costs, risks, and the overall environmental impact.

Within this context, there are several reasonable alternative development schemes that effectively mix the characteristics above and could achieve a more desirable balance between economic viability and environmental impact. Alternatives might include:

- **The Wildacres Alternative**
  Based on the discussion above, the first alternative that should be explored is a program of development for only the western parcel of the site, comprised of the 'Wildacres' component, with the detached units. The inclusion of the detached units in the analysis may counterbalance the risk associated with the hotel/spa and golf amenities. Further, under this alternative, the eastern portion of the property could be sold to New York City or State or fully protected as forest lands, with conservation easements.

- **The Reduced Scale Residential Alternative**
  An all-residential development of a reduced scale that capitalizes on the remaining land by selling either to a public entity or to individual owners or by setting it aside as a preserve as an amenity to the development. This program could include a residential community centered on a single golf club and selling the remaining portion of the site for profit to a public entity that

would create a nature preserve. Alternatively, this could entail a residential community developed on both the eastern and western sides of the site, with no golf club.

- **The Natural Amenity Alternative**
  A destination development focused on alternative outdoor activities or recreational attractions that take advantage of the natural amenity of the unique pristine wilderness of upstate New York and require less environmental impact than a golf course. This could take the form of a program for a hotel/spa resort that offers an equestrian center, mountain biking and hiking trails or yoga retreat, offering a combination of amenities that would contribute a higher profit margin than a golf course.

- **The Single Golf Course (on western parcel) Alternative**
  A mixed vacation and residential development that capitalizes on shared amenities such as a single golf course on the western parcel of the site, club and possibly a golf school, with a nature preserve, developed over possibly a smaller site assemblage.

Successful examples include:

- Spring Island, South Carolina, a recreational community development that began with plans for 5,500 dwelling units and two golf courses later successfully reduced to 500 units and one golf course with a 1,200-acre nature preserve. It follows a no- and low-impact land and habitat management philosophy that emphasizes economic viability, community livability and environmental sensitivity.
- The Reserve, Indian Wells, California, a 21-hole golf course community on 620 acres, with 245 for-sale lots, all designed to have a minimal impact on the natural habitat, marketed to people who want a simple lifestyle based on harmony with nature.
- The Fairmont Sonoma Mission Inn and Spa, in Sonoma, California which focuses on the natural hot springs of the area and drawing on the California Wine Country experience.

CONCLUSION

While the Applicant has presented its definition of the recreational and economic benefits of the proposed program for Bellayre Resort at Catskill Park, like all capital-intensive projects, the proposed program carries a significant risk profile. Since the subject assemblage of land offers numerous and varied opportunities for development, HR&A believes careful attention should be paid to the exploration of additional alternatives that are less capital-intensive and therefore provide risk-adjusted returns that are fair and rational. Selection of a program such as the alternatives suggested above would mitigate many of the expected adverse environmental impacts while providing both a recreational and economic asset to the region.

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April 19, 2004

Alexander Ciesluk, Jr.
Deputy Regional Permit Administrator
NYSDEC
21 South Putt Corners Road
New Paltz, NY 12561-1620

Dear Mr. Ciesluk,

I submit the following comments on behalf of Riverkeeper, Inc. My comments focus on the economic analysis portion of the DEIS for the proposed Belleayre Resort development. I have worked in the fields of economic analysis and econometric modeling and forecasting for 30 years. I received my B.A. in economics from The Johns Hopkins University and my M.A. and Ph.D. in economics from the University of Maryland. I have applied economic analysis and modeling techniques in a variety of industries and applications both here and abroad. Several of my former positions include Chief Economist, New York Metropolitan Transportation Authority and Consultant and Account Manager, Chase Econometrics/Interactive Data Corporation.

There are serious deficiencies in the economic impact analysis presented in the DEIS, which cause the results to be biased toward the developer. I address six areas of concern in this letter.

- Updated and additional publicly available data do not support the base line economic conditions and conclusions presented in the DEIS.
- The model used for the impact analysis is insufficient to accurately estimate the local and regional economic impacts of the proposed development.
- In this case of large scale tourism development, multiplier analysis produces biased, overly optimistic estimates of the economic impact.
- The potential for adverse economic impact on the locality is not sufficiently addressed.
- The DEIS choice and analysis of comparables appear to have little relevance to the proposed project.
- The analysis of secondary development is incomplete.

1. **Base Line Economic Conditions - Income and Employment**

The current economic conditions described in the DEIS are not presented clearly and there are additional publicly available economic data that contradict some of the conclusions and trends presented in the DEIS.

Income, labor force and employment growth are stronger than stated in the DEIS.

- Personal income in the area appears to be increasing, but the DEIS states otherwise. The DEIS states that "the 2000 average household income in the study area, approximately $39,524, decreased in real terms by 2.8% between 1990 and 2000." Data from the NYS Department of Labor (DOL) show that real per capita personal income increased during the same period by 11%, 10.7% and 1.9% in Delaware, Greene and Ulster Counties, respectively.

- The DEIS states that "average household income in the study area is less than that for all the individual counties, about $7,500 less than the tri-county region, and $26,600 less than New York State overall." The fact that the study area has a greater number of second homes (implying a relatively higher level of affluence), indicates that the effective income is higher than indicated by publicly available data. Income is generally reported at the location of one's primary residence, as is labor force status.

- Employment and employed labor force in the area have a more positive outlook than indicated by the DEIS. First, note that Table 2-5 on Page 2-5 of Appendix 26 is titled "Employment Trends 1980-1999." I believe that this table is incorrectly titled as it is showing Employed Labor Force rather than Employment (which usually refers to number of jobs). While this table shows Employed Labor Force to have declined by 4.8% in Delaware County from 1990 to 1999, data from NYS DOL shows an increase of 4.1% from 1999 to 2003. Likewise, the Table in the DEIS shows an increase of only 2.5% in employed labor force from 1990 to 1999 in Greene County, but NYS DOL data show a growth of 7.7% for the period from 1999 to 2003. Finally, in Ulster County, the DEIS shows a decline of 3.4% for the period 1990 to 1999, but NYS DOL data show an increase of 2.8% for the period from 1999 to 2003.

- Total Labor Force for the period 1999 through 2003 increased by 3.8%, 6.8% and 3.6% for Delaware, Greene and Ulster Counties, respectively. This is much stronger growth than shown for the period 1990 to 1999 in the DEIS (-4.6%, 2.8% and -3.5%).

- The number of jobs in each of the three counties has increased in recent years. From 1999 to 2003, employment (number of jobs) in non-agricultural establishments increased by 4.7%, 7.4%, and 2.5% in Delaware, Greene and Ulster Counties, respectively. The DEIS shows employment changes (primarily declines) for some sectors, but only for the period ending in 1997, not reflecting

significant events and possible changes in the economy that have occurred since then.

2. Impact Model Used for the Analysis is Insufficient

For the purposes of impact analysis in this DEIS, RIMS II multipliers were used. The project was separated into two phases, a construction phase and an operational phase. Neither the details on the inputs used for the RIMS II model nor the actual multipliers were provided in the DEIS. The RIMS II model results are not sufficient for impact analysis of the Belleayre Resort development.

- RIMS II is a static input-output (I/O) model, based primarily on national I/O tables which do not allow impacts to be analyzed over time. Clearly the actual impacts of such a project will be felt over time. The economic impact analysis for such a large development should estimate the impacts over time (10 to 20 years for construction and operation). In addition, RIMS II should be supplemented with models more specific to the region. Reference is made to local market research data and interviews with businesses, but it does not appear that these local data were used in modeling and estimating the economic effects.

- Static I/O models tend to assume linear production and consumption functions, implicitly assuming that household spending increases directly with income and there are no economies or diseconomies of scale. With increased income, there are, in fact, increased leakages away from local spending and into saving and investment and purchase of travel and luxury goods. In addition, such models tend to assume the existence of nearly perfect supply elasticity in all sectors and the absence of supply constraints. There is little allowance made for the inability of any local sector to supply the required products. They also assume that relative prices are constant. Dynamic econometric type models are better able to capture these effects.

- The use of the REMI Policy Insight Model, which is a combination of a dynamic structural econometric model and an I/O model and is widely used to estimate economic development impacts, would be a step in the right direction. By combining input-output analysis with regional econometric modeling, it allows region-specific analysis over time as well as multiplier impact analysis at a detailed region-specific level. Even REMI, however, is likely to result in overly optimistic economic impacts for this particular tourism development.

3. Multipliers and Impacts are Exaggerated for this Type of Development

Due to the location of the proposed development, the type of development and various sources of leakages, the multipliers and the estimated impacts are exaggerated for this proposed development.

- If most goods and services are produced and sold locally, the multiplier would be relatively high. In isolated, rural, or country areas (such as the Catskills) multipliers tend to be lower. Specific regional modeling is essential for accurate

estimates of economic impact of this development. . Brian Archer, in Tourism Multipliers: the State of the Art, discusses the problems with using both static I/O models generally and standard multiplier analysis for relatively small economies.

- There are a number of leakages that occur in the multiplier effect, and they are particularly significant with "up market", large-scale tourism developments. Note that the standard I/O tables and industry-level data effectively are based on average tourism businesses. At an "up market" resort, visitors may demand a higher standard of products than are currently available in the local area and the resort is likely to "import" these into the area in large quantities.

- The impact on employment is exaggerated. While the DEIS states that the new employees of the Belleayre development are expected to be primarily local residents, it is not certain that this would be the case or that this would help the local economy. If currently unemployed local area residents are hired by the resort, then the economic benefit to the region and the state will be relatively strong. Note that in many cases, the unemployed will require relatively more training than those currently holding comparable jobs, so the employer may be less likely to hire the unemployed. To the extent that members of the current employed labor force are hired, the economic benefit to the region will be negligible as this would imply simply a switching of jobs (negligible additional income entering the economy).

- The DEIS states "it is reasonable to assume that the Resort management would make every effort to hire for all positions from within this two-county region." They are referring to Delaware and Ulster Counties. The Emerson Inn & Spa, another development near Belleayre in the Catskill region, was initiated by the same developer proposing the Belleayre Resort. The Emerson Inn & Spa appears to make an effort to hire staff outside of the region, and in fact, outside of the country. An online review of the Emerson Inn states "The well-trained English-speaking staff is from all over the world – Belgium, England, France, Germany, Hungary, Ireland, Romania, Scotland, South Africa and Wales." This international hiring practice will not diminish local unemployment, and a large portion of the wages will not be spent locally, resulting in little stimulus to the local economy.

- The investor group will reap the greatest profits and these profits are unlikely to stay in the locality.

- A large-scale resort is more likely to import in large-scale, including both imports of materials and equipment for construction and consumer goods.

- The construction phase will produce little economic stimulus to the region. The DEIS states that "the economic effects from construction of the proposed project would, to a large extent, not be localized, but would occur throughout the regional economy in southern New York State." The local benefit will clearly be minimal

and it is possible that even southern New York State will not derive the bulk of the benefit. There are many specialty construction trades required for this development that will have to be imported into the region and possibly even into Southern New York State. Construction workers who are not local residents may work and even live in the area temporarily, but will not spend much money in the area, taking most of their wages to their own locality.

- The development as proposed at Belleayre is similar to an "all inclusive" resort where visitors stay in the one resort for recreation, food, drink and accommodation. Large "all-in" resorts do not tend to help the localities. They do not bring a significant multiplier impact outside of the resort. Tourists visiting a self-contained resort buy all food and entertainment on site, but the adverse effects are felt by the community outside of the resort (traffic, water pollution, air pollution, etc.).

A report on the economic impacts of tourism, issued by the United Nations Environment Programme, Division of Technology, Industry and Economics, states "local businesses often see their chances to earn income from tourists severely reduced by the creation of 'all inclusive' vacation resorts. When tourists remain for their entire stay at the same resort, which provides everything they need and where they will make all their expenditures, not much opportunity is left for local people to profit from tourism."

A survey by the Organization of American States concluded that "all inclusives generate the largest amount of revenue but their impact on the economy is smaller per dollar of revenue than other accommodation subsectors."

The development of all inclusive resorts, therefore, results in a smaller multiplier effect on the local economies than the average tourism development. Unfortunately, industry sector analysis does not separate out types of resort accommodation, so the multiplier is exaggerated for this analysis. The six RIMS II industry sectors used for the DEIS analysis do not generally reflect "all inclusive" resorts, but independent, separate businesses, such as recreation clubs, retail establishments, eating and drinking establishments, etc. In other words, the RIMS II results presented in the DEIS are more realistically reflecting the effect of development in separate, smaller-scale tourism-related businesses in the area. The impact from the larger proposed "all in" resort would be much smaller.

In a study by Slee, Farr and Snowden and quoted in an August 2002 briefing to Scottish Parliament, produced for the Enterprise and Lifelong Learning Committee, comparisons were made between impacts on development of "hard" versus "soft" tourism. Hard tourism includes large hotels and timeshares. Soft tourism includes farms, forests, small hotels and guest houses. The study concluded that money received by tourists in the hard sector was not retained within the region; tourist spending in the soft sector is more likely to circulate within the local economy,

thereby producing a multiplier effect. Small businesses in the "soft" sector are more likely to be embedded in the community.

Tourism development which encourages visitors to stay in local hotels, partake in local recreation and frequent local eating and drinking establishments will have a substantial multiplier effect on a region and the I/O models are more accurate in estimating the impact of this type of tourism development.

4. Adverse Effects

The potential for adverse economic impacts is not sufficiently addressed.

- Diversification of an economy is desired for long-term economic strength. Introducing a large development that would far exceed the size of any other business in the area would result in a very low level of business diversification in the economy, which is risky. Jost Krippendorf, in The Holiday Makers: Understanding the Impact of Leisure & Travel, emphasizes that "over reliance on any single economic activity is dangerous and in the case of the tourist trade, the risk is even greater." He further states that "under no circumstances should a development relying solely on tourism be allowed. A maximally diversified economic structure must be strived for in tourist destination areas." In the case of the Catskills, this implies that forestry, handicrafts, small-scale industry and non-tourist services must be promoted as well.

- Tourism, if done properly, can have a considerable impact on employment and income in a locality, but Krippendorf emphasizes the reverse side of the coin, seldom mentioned: "jobs in tourism are mostly unattractive, working conditions are hard, the hours are irregular, there is seasonal overload, overtime is more or less compulsory and one is at the mercy of the guest. Earnings are below average. The range of professional and training possibilities is limited. Many jobs are unskilled and considered socially inferior, for example the work behind the scenes such as in the kitchen or cleaning. Tourism-related occupations therefore enjoy very little prestige, especially in developed countries."

- If there is an impact on local businesses resulting from increased demand for their goods and services, prices will rise, and local residents whose incomes do not rise, particularly the unemployed, retirees and others on fixed incomes, may be adversely affected by the price increases.

- A large influx of tourists may drastically alter the community and potentially degrade it if crime increases and/or potential business owners invest or potential employees come to the area in the hope of high growth. If the development does not have a strong positive economic impact, then unemployment, poverty levels and failed businesses increase.

- Development on a large scale relative to other local businesses can be detrimental to a community in the longer run if not in the short run. If the development fails,

the community gains a failed business, loss of tax revenue, and is forced to take over certain public services that the developer promised to cover. If the development is successful (resulting in strong visitation and spending at the resort and in the community), the successful new business may request tax breaks from the locality, or put pressure on the local communities to take over services such as road maintenance, fire protection, etc. Further, if the development is successful, the cost of living and real estate prices may increase in the surrounding area, driving out lower income residents (some of whom have lived in the area for generations) and changing the economic climate of the region.

- The economic benefits of large scale tourism development will go disproportionately to elite groups (the investors) which does not help the local economy.

5. Comparables

- The "comparables" portion of the analysis provides insufficient information. There is little, if any, quantitative information on the physical and fiscal impacts of the comparable developments. The revenue and tax impacts on the localities and the state are not addressed for two of the comparables, nor are the impacts on local roads, utilities and public services.

- I question the choice of some of the comparables. Mount Greylock is not yet built, so comparable impacts are difficult to examine. I believe that Gore Mountain is primarily for day visitors, as there are no residential facilities.

6. Secondary Development

The secondary development portion of the study indicates that there will be no significant secondary development, either commercial or residential.

- This portion of the analysis is not complete. Public expenditures on police, fire and schools and costs of new and maintenance of existing infrastructure to the localities are not addressed.

- A proper analysis of secondary development should be more extensive and should estimate the likely impacts over time (perhaps for approximately 10 to 15 years required for development and marketing.) Detailed projections of supply and demand over time, separately for commercial and residential development, and labor force should be estimated. In addition, government revenue and expenditures and property values should be projected for the same time period. Finally, alternative scenarios of secondary development should be estimated, ranging from "worst case" to "best case."

In conclusion, the economic analysis presented in the DEIS is not comprehensive and the economic impacts are overly optimistic. Serious adverse effects are ignored, the multipliers are exaggerated, the base line economic data and trends are in question, and the impact model used is inappropriate for the proposed development.

The development of small-scale resorts/hotels, which are more likely to purchase supplies locally and whose visitors are more likely to frequent local establishments, is expected to realize a larger local impact from each tourist dollar spent.

A resort development on a significantly smaller scale than the one proposed would result in greater economic benefit to the area and at the same time reduce the risk of the potentially adverse economic effects. A smaller resort project (not a full-service resort), that would require visitors to spend in community businesses, would result in greater growth of existing businesses and allow currently unemployed persons to be hired by both the smaller businesses and the new development.

Best regards,

Jannette M. Barth, Ph.D.