crossroads ventures llc

DRAFT
Environmental Impact Statement

Appendix 17

Wetland Delineation Report

The Belleayre Resort at Catskill Park

FEDERAL WETLAND DELINEATION REPORT

FOR

BELLEAYRE RESORT AT THE CATSKILL PARK

TOWN OF SHANDAKEN, ULSTER COUNTY

TOWN OF MIDDLETOWN, DELAWARE COUNTY

NEW YORK

PREPARED FOR

CROSSROADS VENTURES, LLC
72 ANDREW LANE ROAD
P.O. BOX 267
MT. TREMPER, NY 12457

MARCH 2000

FEDERAL WETLAND DELINEATION REPORT
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PREPARED BY

THE LA GROUP, P.C.
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MARCH 2000

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1.0 Introduction

This report describes the wetlands regulated by the federal government that exist on a variety of parcels located south of New York Route 28 and on either side of Belleayre Mountain Ski Center in the Town of Shandaken, Ulster County, and Middletown, Delaware County, New York. These properties, which cover a total of approximately 1900 acres, are proposed for the development of a recreation-oriented residential development and resort.

To be a federally regulated wetland, an area must meet three criteria: (1) it is underlain by hydric soils, (2) it has vegetation dominated by hydrophytic plants, and (3) its hydrology is typical of wetlands. In delineating the wetland boundaries, we followed the methods of the US Army Corps of Engineers (Environmental Laboratory, 1987).

Personnel of the LA Group, P.C., delineated the wetland boundaries on these properties during a series of visits between September 14 and November 9, 1999. Wetland areas occupying a total of approximately 21.42 acres on the project site were identified.

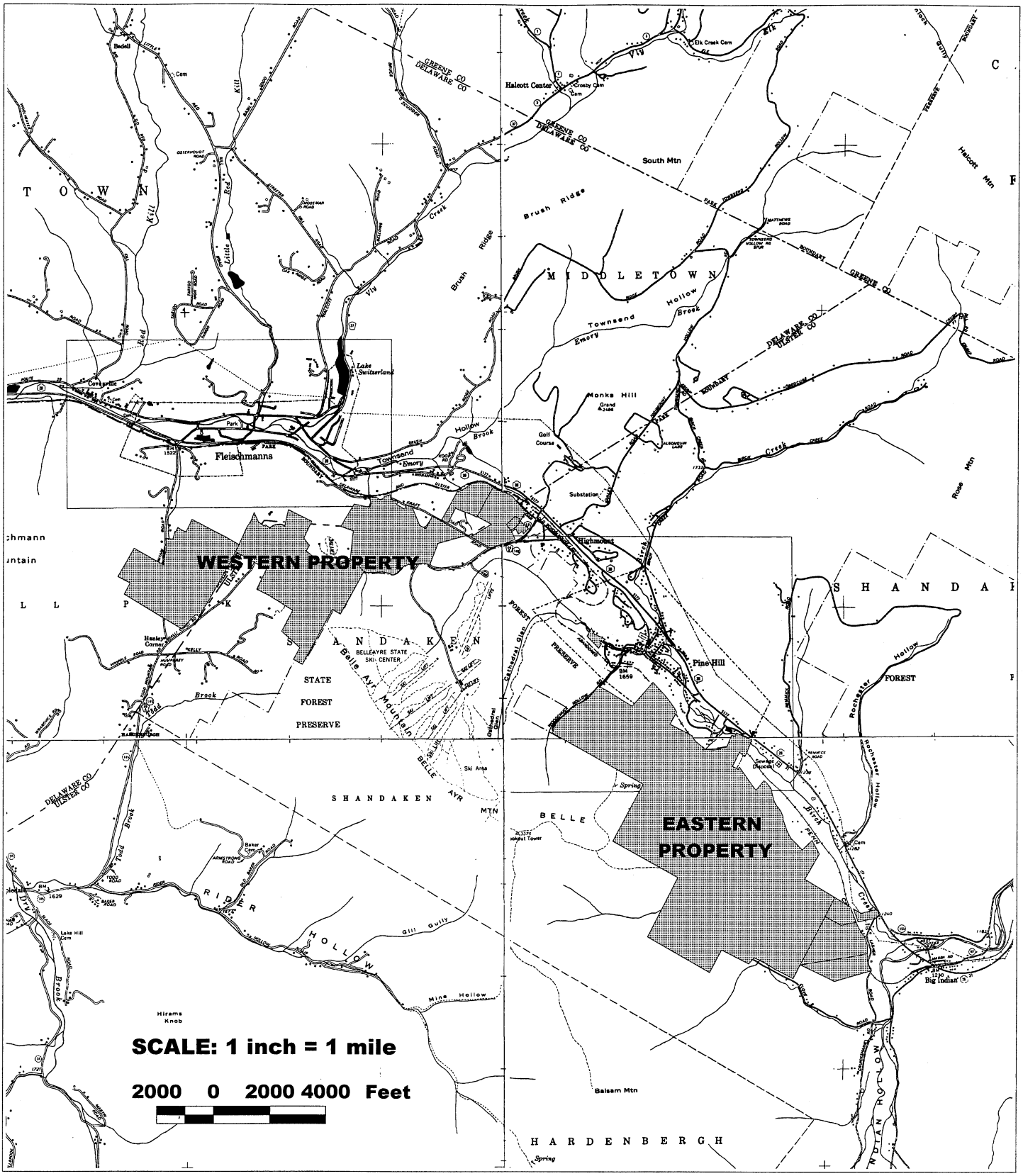
2.0 Site Description

2.1 General

Crossroads Ventures, LLC is proposing to develop a recreation-oriented residential development that would be located south of New York Route 28 in the vicinity of the hamlets of Pine Hill, Ulster County, and Fleischmanns, Delaware County. The project will be spread over two large tracts of land lying adjacent to the eastern and western sides of Belleayre Mountain Ski Center, which is operated by the New York State Department of Environmental Conservation. The location of this development, which is known as "Belleayre Resort at the Catskill Park," is shown on Figure 1, "Site Location Map."

Approximately 1200 acres are located to the east of the ski center and extend from Lost Clove on the east to Woodchuck Hollow on the west. The lands are primarily forested but do contain a few hunting camps as well as one large house known as the Turner Mansion. Existing access points to the property are via Station Road/Woodchuck Hollow Road, via Winding Mountain Road, via Lost Clove Road, and via Lasher Road.

To the west of Belleayre Mountain Ski Center there are about 700 additional acres that are part of the project site. This includes the old Highmount Ski Area, which is on the south side of Galli Curci Road (County Route 49A), and lands between County Route 49A and NYS Route 28.



Belleayre Resort at the Catskill Park
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Site Location Map

Figure 1

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The project site lies on the northwestern edge of the Catskill Peaks ecozone (Andrle and Carroll, 1988). Its topography is mountainous, with slopes ranging from nearly flat to greater than 50 percent, and elevations between 1300 and 3100 feet above mean sea level.

2.2 Vegetation

More than 90% of the site is covered with forest, the majority of which is dominated by hardwood species, mainly sugar maple, beech, yellow birch, black birch, white ash, black cherry, red maple, and hop-hornbeam. Red oak and basswood are often found as scattered individuals, generally at lower elevations. Eastern hemlock is the most common conifer in this forest type, usually occurring in low density. In the ecological communities classification system of the New York Natural Heritage Program (Reschke, 1990), this is identified as beech-maple mesic forest. The second most abundant forest type is hemlock–northern hardwoods forest. This community is characterized by the increased presence of hemlock, which is usually co-dominant with hardwoods such as sugar maple, beech, yellow birch, sweet birch, and red maple.

It appears that on every part of the site, the forest has been cut at one time or another in the past. In many places, it is obvious that the land was used for agriculture (most likely as pasture), then abandoned, allowing natural recolonization of plants to occur. However, non-forested ground now occupies a small proportion of the site. In these areas, which are covered by successional old-field vegetation, herbaceous plants are dominant, and may include common goldenrod, rough goldenrod, tall hairy goldenrod, common milkweed, ground-ivy, hemp-nettle, bush goldenrod, wild strawberry, various grasses, and bouncing-bet. There may also be a few shrubs and small trees, including hawthorn, northern blackberry, and red raspberry.

Wetlands on the project site are usually associated with drainageways which channel runoff and groundwater that has emerged at the surface. These appear to flow intermittently, during times of snowmelt and high runoff from precipitation. Mostly, these are very rocky and the few plants that grow in them are found in small pockets where some soil has accumulated. Usually these linear wetlands are no more than 15 to 25 feet wide and have no woody plants. Typical among the herbaceous plants are pale jewelweed, spotted touch-me-not, fowl manna-grass, sedges, golden saxifrage, and foamflower.

Birch Creek is the largest stream on the site. It flows along the northern edge of the eastern project segment. The stream bed is very rocky, and the riparian wetland consists only of scattered patches of sedges and other wetland plants. In one place on the floodplain of Birch Creek, there is a small patch of shrub swamp dominated by shrub-size black willow and a few herbs, mainly spotted touch-me-not, bulrush, and sensitive fern.

In a few places within the forested parts of the site, there are broad seepy places where hemlock-hardwood swamp vegetation has developed. The dominant trees are hemlock

and at least one or two of the following: yellow birch, red maple, green ash, and American elm. The shrub layer is sparse and is composed of saplings of these trees with a few shrubs such as currant, mountain maple, black elderberry, and witch hazel. Herbs present in the wetland include spotted touch-me-not, pale jewelweed, fowl manna-grass, sedges, soft rush, purple-stemmed aster, flat-top white aster, spinulose wood-fern, sensitive fern, interrupted fern, drooping woodreed, mad-dog skullcap, and foamflower.

A list of all the plant species observed growing on these sites is provided in Table 1, "Flora of the Wetlands and Adjacent Uplands on the Belleayre Resort Site."

2.3 Soils

Site investigations carried out as part of the planning for the Belleayre Resort project included detailed mapping of soils. The soils map is presented in Figures 2a and 2b. Table 2 lists the soils identified on the site, their drainage class, and taxonomic class.

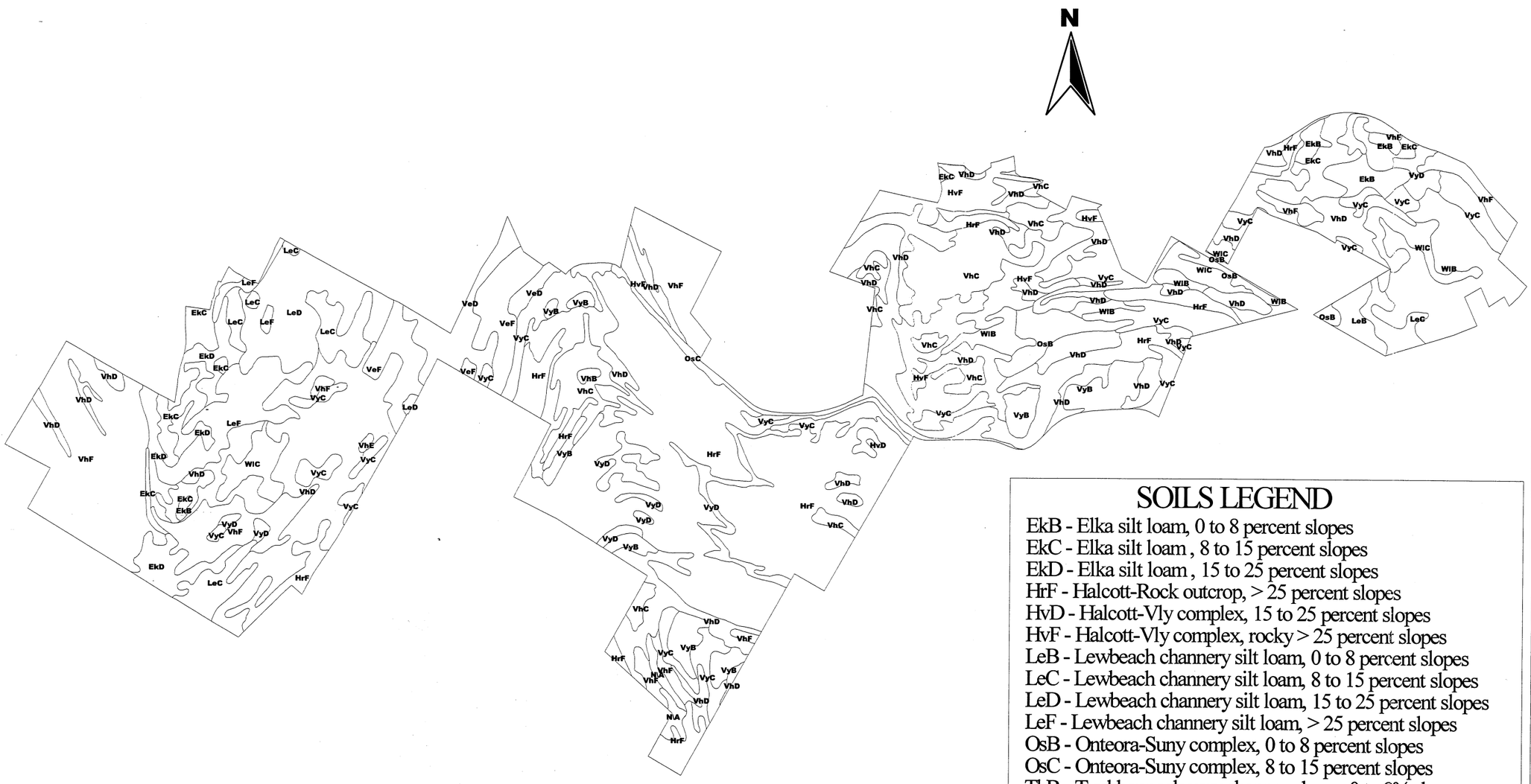
Table 2

Soils of the Belleayre Resort Site

Soil Series and Phase	Drainage Class	Taxonomic Class
Elka silt loam	well drained	Typic Dystrudepts
Halcott	somewhat excessively drained	Lithic Dystrudepts
Lewbeach silt loam	well drained	Typic Fragiudepts
Onteora clayey silt loam	somewhat poorly drained	Aquic Fragiudepts
Suny silt loam	poorly drained	Aeric Epiaquepts
Tunkhannock very channery loam	well drained to somewhat excessively drained	Typic Dystrudepts
Vly channery silt loam	well drained or somewhat excessively drained	Typic Dystrudepts
Willowemoc	moderately well drained	Typic Fragiudepts

Most of these are shallow to moderately deep, very stony soils formed in glacial till derived from red shale and sandstone. In the valley of Birch Creek there is some very gravelly (or channery) glacial outwash, and some gravelly or flaggy outwash fan deposits dropped by small streams where they come off the adjacent steep slopes.

In the wetlands, the soils are somewhat poorly drained Onteora and poorly drained Suny soils. In some of the wetlands, saturation lasts throughout most of the year, and the upper part of the soil has accumulated enough organic matter to be mucky.



SOILS LEGEND

EkB - Elka silt loam, 0 to 8 percent slopes
EkC - Elka silt loam , 8 to 15 percent slopes
EkD - Elka silt loam , 15 to 25 percent slopes
HrF - Halcott-Rock outcrop, > 25 percent slopes
HvD - Halcott-Vly complex, 15 to 25 percent slopes
HvF - Halcott-Vly complex, rocky > 25 percent slopes
LeB - Lewbeach channery silt loam, 0 to 8 percent slopes
LeC - Lewbeach channery silt loam, 8 to 15 percent slopes
LeD - Lewbeach channery silt loam, 15 to 25 percent slopes
LeF - Lewbeach channery silt loam, > 25 percent slopes
OsB - Onteora-Suny complex, 0 to 8 percent slopes
OsC - Onteora-Suny complex, 8 to 15 percent slopes
TkB - Tunkhannock very channery loam, 0 to 8% slopes
TkC - Tunkhannock very channery loam, 8 to 15% slopes
VeD - Vly-Elka complex, 15 to 25 percent slopes
VeF - Vly-Elka complex, > 25 percent slopes
VhB - Vly-Halcott complex, 0 to 8 percent slopes
VhC - Vly-Halcott complex, 8 to 15 percent slopes
VhD - Vly-Halcott complex, 15 to 25 percent slopes
VhF - Vly-Halcott complex, > 25 percent slopes
VyB - Vly channery silt loam, 0 to 8 percent slopes
VyC - Vly channery silt loam, 8 to 15 percent slopes
VyD - Vly channery silt loam, 15 to 25 percent slopes
WlB - Willowemoc channery silt loam, 0 to 8 percent slopes
WlC - Willowemoc channery silt loam, 8 to 15 percent slopes

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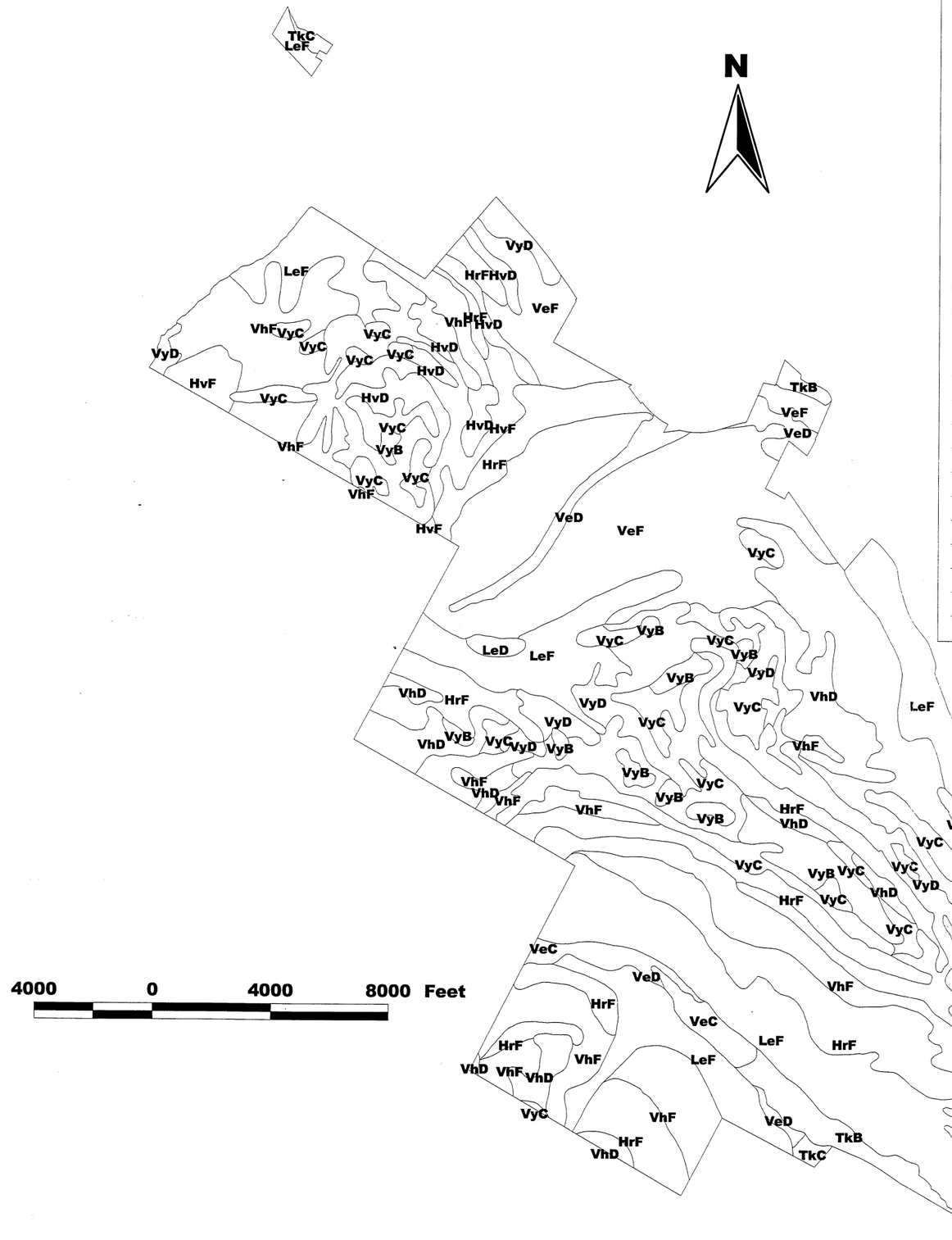
Belleayre Resort at the Catskill Park

Wetland Delineation Report

Soils Map - Western Property

Figure 2a



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VyB - Vly channery silt loam, 0 to 8 percent slopes
VyC - Vly channery silt loam, 8 to 15 percent slopes
VyD - Vly channery silt loam, 15 to 25 percent slopes
WlB - Willowemoc channery silt loam, 0 to 8 percent slopes
WlC - Willowemoc channery silt loam, 8 to 15 percent slopes

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Belleayre Resort at the Catskill Park

Wetland Delineation Report

Soils Map - Eastern Property

Figure 2b

2.4 Hydrology

The project site is located in an area which experiences mean annual precipitation of approximately 45 inches (Andrle and Carroll, 1988) and an average annual runoff of approximately 28 inches (Krug et al., 1990). Both of these figures are significantly higher than the average precipitation in eastern New York. Consequently, the streams on site are well fed and flow for much of the year.

In walking the length of a typical mountainside stream on the project site, it is not unusual to find that a stream which has a flow of good volume dries up completely in its lower reaches. Such an occurrence appears to be due to the stream flowing into an area with a soil marked by a high percentage of boulders, cobbles, and channers. Usually, the stream will reappear at the surface downhill, within a few dozen yards of where it had disappeared. In some cases, there is a visible dry channel between the place where the stream disappears into the ground and the place where it re-emerges, suggesting that some surficial flow occurs there during part of the year.

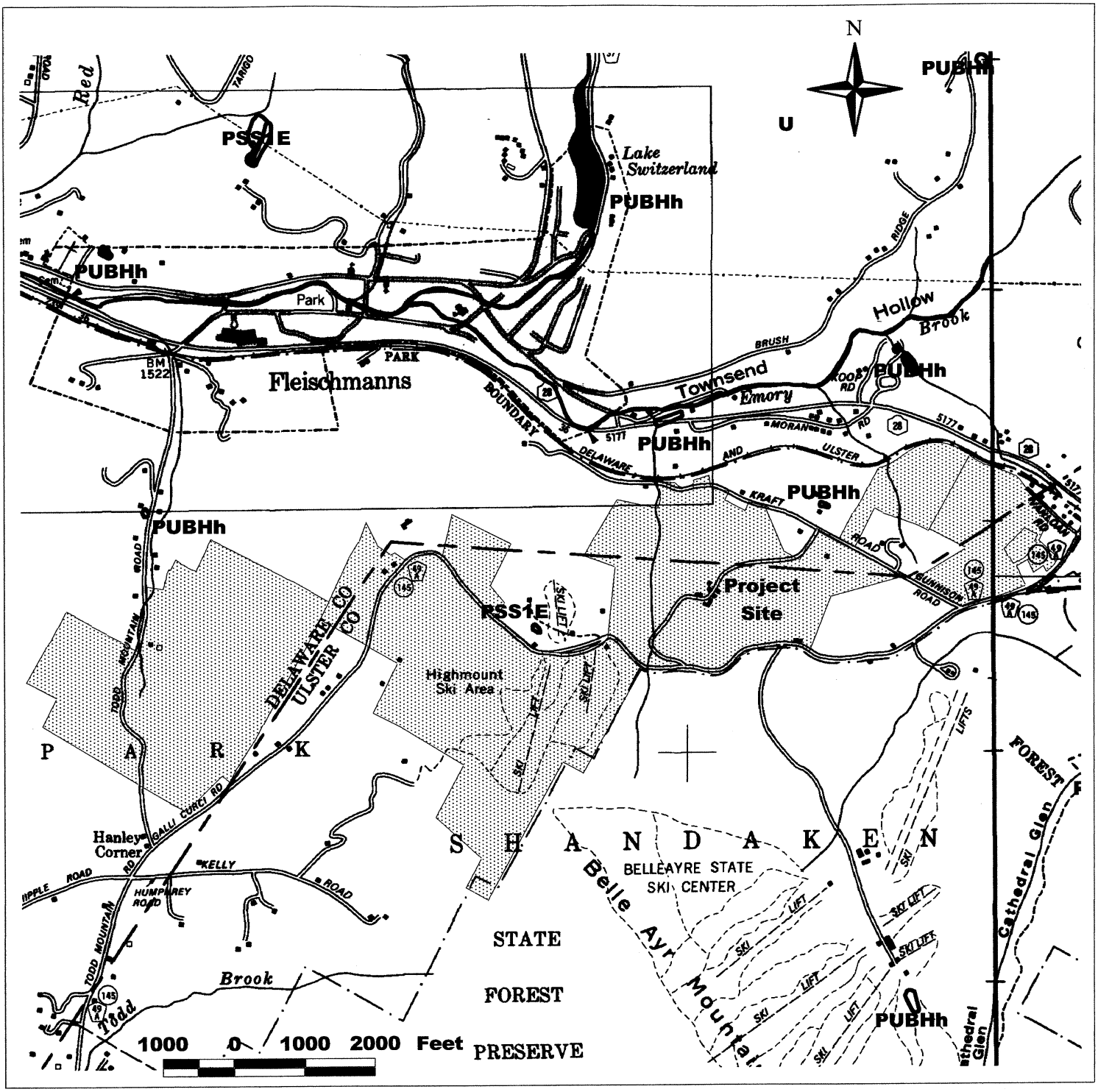
Associated with many of these streams, often at their heads, are broad, seepy areas where groundwater is discharged. These places usually have a good growth of wetland plants, and a surface soil horizon high in organic matter.

The New York State Department of Environmental Conservation (NYSDEC) has not mapped any wetlands on or adjacent to the project site. However, a number of the streams on site are mapped by NYSDEC as regulated streams. In the western part of the project site, this includes a tributary of Bush Kill (index no. D-70-80-10), which runs near and parallel to Todd Mountain Rd., and a tributary of Emory Brook (index no. D-70-80-12-2), which has its headwaters just east of the Highmount Ski Area. Both of these are class B streams; B(T) water standards apply to the former and B standards to the latter. In the eastern project section, regulated streams of class B and standards B(T) are Birch Creek and its tributary, Giggle Hollow Brook (index nos. H-171-52 and H-171-52-3), and Lost Clove Brook (index no. H-171-53). There is also a non-regulated tributary of class D and standards D which is the stream in Woodchuck Hollow (index no. H-171-52-4-1).

The National Wetlands Inventory maps for the project area are provided in Figures 3a and 3b. Except for on-site streams, these maps indicate no wetlands occurring on the site.

3.0 Delineation Methods

The wetland delineation on the project site was performed using the routine wetland determination method (Environmental Laboratory, 1987). A soil scientist and wetland biologists of the LA Group, P.C. delineated the wetland boundaries between September 14 and November 9, 1999. Wetland identification and delineation activities were confined to areas where development activities are planned.



1:24,000 scale
(1 inch = 2,000 feet)

Belleayre Resort at the Catskill Park
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National Wetlands Inventory Map
Western Property

Figure 3a

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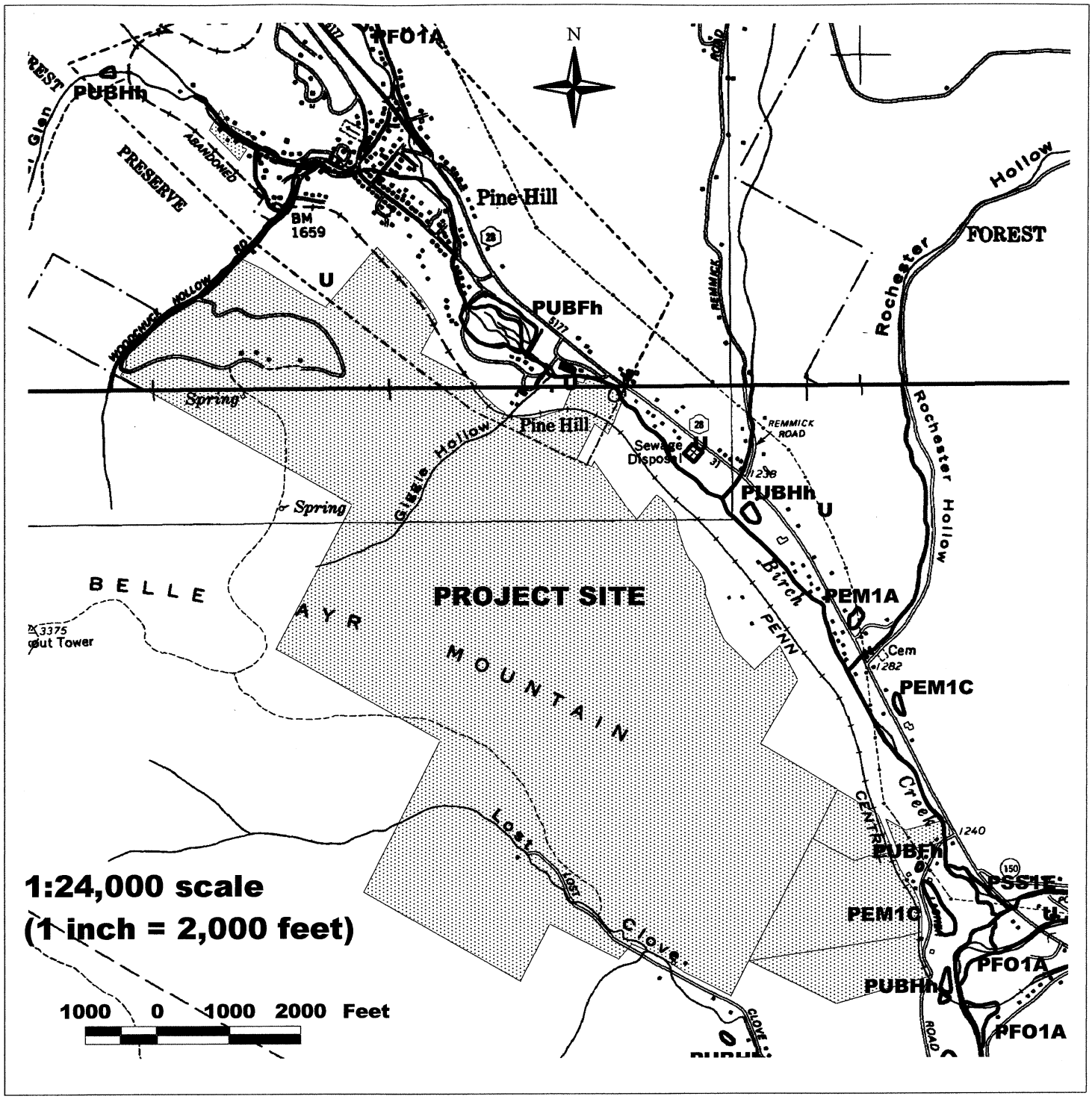

Belleayre Resort at the Catskill Park
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National Wetlands Inventory Map
Eastern Property

Figure 3b

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Positions of the wetland boundaries were determined through observation of changes in slope, vegetation changes, and changes in soil characteristics. To mark points on the wetland boundaries, pieces of plastic flagging tape were tied to trees and shrubs at intervals of 20 to 80 feet. Each flag was marked with an identification number. The positions of the flags were surveyed and mapped, and are shown on Sheets 1, 2, 3, and 4. These maps are marked to indicate parts of the property lying outside of the areas where wetland delineations were performed.

At several locations, the characteristics of the soil, vegetation, and hydrology on both sides of the wetland boundary were recorded. The wetland indicator categories of the dominant plants, which are those listed by Reed (1988), were used to determine whether the vegetation is hydrophytic.

These sample plot data are presented in Appendix A "Wetland Determination Summary Forms." The locations of these sampling points are identified by the number of the nearest wetland boundary flag. For example, sample plot A-2-U is located on the upland side of the wetland boundary line near flag A-2; the wetland plot is A-2-W. Photographs of the wetlands and uplands at some of these sampling points are presented in Appendix B, "Photographs of the Belleayre Resort Site."

4.0 Delineated Wetlands

A total of 21.42 acres of this site were found to meet the criteria for classification as wetland regulated by the Federal government. There are 32 separate areas of wetland (see Sheets 1, 2, 3, and 4). Tables 3 and 4 identify the parcels, the wetland lines found on each parcel, and the area of the wetlands. Below are more detailed descriptions of the wetlands.

4.1 Wetlands in the Western Project Section

Lands on either side of Todd Mountain Road. All of the wetlands in this area are associated with streams or seepy drainageways coming down the surrounding hillsides. Many of these are intermittently flowing rocky stream beds with very little wetland vegetation. In other places, the drainageway is at least several yards wide and has a more or less permanent flow of water, or constant saturation of the soil to near the surface. In such places the plants present include *Glyceria striata, G. melicaria, Carex crinita, C. lurida, Myosoton aquaticum, Epilobium coloratum, Scirpus cyperinus, Aster puniceus, Onoclea sensibilis, Juncus effusus,* and *Polygonum sagittatum.* Areas such as this are found in the wetlands bounded by lines AB, AC, AD, AE, AF, AG, AI, AK, AM, AN, AO, and AP.

Because of the variability of the substrate crossed by these drainageways, the relative proportions of surficial and sub-surface flow can vary along the length of a stream. In

walking along a stream with good flow, It is not unusual to suddenly find its flow reduced to a trickle, or completely disappear in an area of bouldery ground, only to reappear with voluminous flow a number of yards down the hill.

Todd Mountain Road runs along a small permanent stream, the headwaters of which are bounded by lines AB and AC. This area includes both narrow, rocky stream bed and wider, seepy areas with wetland herbs and shrubs. Small wetland patches bounded by lines AM and AN are the upper parts of small tributaries that are connected to wetland AB/AC by culverts under Todd Mountain Road. A seepy drainageway bounded by line AE also could be considered a tributary, but its connection is underground.

In the lower part of wetland AB/AC and in the small segment bounded by line AH, it becomes a narrow, rocky stream channel with a small amount of wetland vegetation. From here, the stream flows north into an adjoining property, then crosses back into the project site. This northern segment of the stream is bounded by line AJ and parts of line AI.

Most of line AI follows the edge of a wetland and intermittent stream that flows into the stream along the road. There is a small area of shrub-dominated wetland in the lower part of the area delimited by line AI. The predominant shrubs are *Viburnum recognitum,* and *Spiraea alba.* Above this area, line AI bounds a rocky, intermittent stream.

Wetlands bounded by lines AD, AF/AG, and AK also appear to act as tributaries to the stream along Todd Mountain Rd., but with subsurface connections. These are mainly rocky, intermittent streams with some seepy wetland segments. In the lower (western) part of the wetland AK, where it runs along an electric powerline right-of-way, the shrubs *Viburnum recognitum, Spiraea alba* and *Cornus foemina* are abundant.

The upper end of the wetland bounded by line AL is a broad, seepy area with a somewhat swampy forest of *Acer rubrum, Fraxinus pennsylvanica, Amelanchier* sp., and *Populus tremuloides,* with a shrub and tree layer including *Spiraea alba, Onoclea sensibilis, Osmunda claytoniana, Glyceria striata, Euthamia graminifolia,* and *Athyrium filix-femina.* Drainage from this area flows into a channel at its western end, but dissipates into the substratum.

Similarly, two small wetlands on the southern edge of this property, bounded by lines AO and AP, are seepy areas with wetland herbs. At their lower ends, drainage apparently seeps back into the ground.

The uplands on the Adelstein property are covered with forests dominated by sugar maple with lesser amounts of black cherry, yellow birch, red maple, white ash, beech, hop-hornbeam, paper birch, bigtooth aspen, and quaking aspen. In the north-central part of the parcel, just west of wetland AL, there is an open area with scattered young red maples and sugar maples, few shrubs such as common juniper, and a well-developed herbaceous

layer with hair fescue, Canada goldenrod, rough goldenrod, flat-top fragrant goldenrod, and pearly everlasting.

Highmount Ski Area (lines HA/HB, HC, and HD). Wetland lines HA and HB define a wetland area on the edge of one of the ski slopes of the Highmount ski resort, which has not been in operation for several years. This wetland lies along the east side of the main ski slope with the chair lift. At its upper end there is a spring house, from which a small stream flows. Line HA begins at the spring house, follows the east side of the stream to a point where the stream enters a culvert under the ski trail, then goes up the west side of the stream a short distance. Line HB begins at the spring house, goes down the west side of the stream, but then departs from the stream edge to bound an area of ferns and sedges in the adjacent ski slope. The last and lowermost flag, HB-8, connects to the last flag on line HA, HA-12. The part of the wetland that lies in the ski slope is dominated by herbs, including sensitive fern, wild chervil, fringed sedge, giant goldenrod, flat-top fragrant goldenrod, interrupted fern, and lady fern. There is also some red raspberry and black elderberry in the wetland. The upland vegetation of the adjacent ski slope is also dominated by herbs, mainly strawberry, Canada bluegrass, dotted St. John's-wort, crooked-stem aster, white goldenrod, black-eyed Susan, and old-field cinquefoil.

A similar wetland, bounded by line HC, lies along a lower part of the stream that passes through wetland HA/HB, near the base of the chair lift. It includes a portion of seepy hillside that was cut to create the proper grade for the lift, and which is covered by plants such as fringed sedge, soft rush, jointed rush, and flat-top fragrant goldenrod, and young shrubs of pussy willow and white spiraea.

Line HD is similar to lines HA and HB in that it delimits a wetland associated with a drainage channel on the edge of a ski slope. This area appears to be a novice ski slope located in the northwestern corner of the Highmount property. The wetland vegetation is largely confined to the drainage channel and is composed mainly of sedges (*Carex* spp.), *Euthamia graminifolia, Solidago gigantea, Agrostis alba, Epilobium coloratum,* and *Anthriscus sylvestris.*

Stream and Wetlands associated with M and N line. This water of the United States begins as a stream entering the site from a culvert under Ulster County Route 49A. Flags M-1 and N-1 start the line at the east and west sides of the culvert respectively. At this location the stream corridor is approximately 20 feet wide (top of bank to top of bank), with the water in the stream being 6 inches to 1 foot deep. There is no wetland vegetation in the stream, and the vegetation adjacent to the stream is upland forest dominated by sugar maples. At N-12 the line extends around a wetland pocket adjacent to an old spring house, and continues to N-23 where it rejoins the stream corridor. A data sheet was prepared for this wetland pocket. The M line continues downslope past an area of hemlock and hay-scented fern. The area was checked and did not have indicators of wetland hydrology or dominance by wetland plants. At flag M-27, the line continues around a wetland pocket, and a data sheet was prepared for this area as well. As the

stream continues downslope, the stream corridor becomes wider, steeper and deeper, and more dominated by hemlocks on the stream banks. Another wetland pocket was flagged at N-32 through N-39. The lines ended at flags M-43 and N-50 where the stream entered a property off the project site.

Wetlands bounded by lines H and I. In the vicinity of the Wildacres Motel, there are two patches of wetland covered by swamp vegetation with *Tsuga canadensis, Fraxinus pennsylvanica, Acer rubrum, Betula alleghaniensis, Impatiens capensis, Cinna latifolia, Glyceria striata, Carex stricta, C. lurida, Aster umbellatus, A. puniceus,* and *Juncus effusus.* The shrub layer is very sparse and consists mainly of young tree saplings, and there were only a few patches of standing water. Wetland H includes a drainage ditch that borders three sides of the motel building, and a small stream which flows into the stream channel that is bounded by lines Y and Z.

Stream east of the Wildacres Hotel (Lines K/L and Y/Z). This water course is fed by wetland H/I. Its upper segment, south of the entrance road to the hotel is bounded by lines Y (8 flags) and Z (9 flags). North of the access road, the stream is not very well defined, and has the appearance of an overflow channel. The surrounding upland vegetation is forested, with the trees and saplings dominated by black cherry, sugar maple, American elm, and American beech. There was little herbaceous vegetation. Downslope from the starting point, the line ended at flags L-19 and K-18, where the stream flow disappeared into the flaggy soil, and there was no longer any identifiable channel.

Stream between Skene Ave. and railroad tracks (lines Q and R). This rocky stream flows over large boulders and what appears to be ledges of bedrock. The adjacent upland vegetation in this area is dominated more by hemlocks, although many of the trees had been felled on the east side of the stream. Downstream, the line ends at Q-13 and R-14, where the stream exits the property through a culvert under the old railroad bed.

Stream on north side of Skene Ave. (Gunnison Rd.) (line HN). This parcel is mostly covered with hardwood forest dominated by sugar maple, red oak, red maple, beech, hemlock, black cherry, trembling aspen, bigtooth aspen, and shadbush. Wetland line HN bounds a small stream in the western corner of this parcel, next to Gunnison Rd. This appears to be the headwaters of the same stream as is bounded by lines Q and R. It includes a small amount of seepy ground with *Spiraea alba, Glyceria striata, Anthriscus sylvestris, Geum* sp., *Lysimachia ciliata, Mentha* X *piperita,* and *Epilobium coloratum.*

Table 3

Summary of Wetland Areas Delineated in the Western Property

Parcel Name	Wetland lines present	Area of wetlands (acres)
Western part of site, near Todd Mountain Road	**AB/AC** – wetland	1.73
	AD – wetland/ watercourse	0.58
	AE – wetland	0.30
	AF/AG – wetland/ watercourse	1.46
	AH – wetland	0.01
	AI/AJ – wetland/ stream system	1.58
	AK – wetland parallel to AI	0.64
	AL – wetland	1.85
	AM – wetland	0.04
	AN – wetland	0.02
	AO – wetland	0.08
	AP – wetland	0.03
Central part, to west of Wildacres Hotel, including Highmount Ski Area parcel	**M/N** – stream and seepy areas in western part of Wildacres	3.59
	HA/HB – wetland	0.10
	HC – wetland	0.06
	HD – drainage ditch	0.08
Area East of Wildacres Hotel	**H** - forested wetland	0.38
	I – forested wetland	1.26
	K/L and Y/Z – stream draining wetlands H and I	0.64
	Q/R – rocky streamcourse	0.54
	HN – seepy stream headwaters	0.13
	Total acreage	**15.10**

4.2 Wetlands in the Eastern Project Section

Wetlands A and B/C. Wetland A is a narrow drainageway occupied by an intermittent stream that begins in a spring hole at the base of a small scarp, then runs downhill a few hundred feet, eventually disappearing into the rocky substratum. Among the few plants found in this wetland were *Impatiens capensis, Chrysosplenium americanum, Tiarella cordifolia, Rumex obtusifolius,* and unidentified grasses. The surrounding upland is a hardwood forest of *Acer saccharum, Fraxinus americana, Fagus grandifolia, Ostrya virginiana, Betula alleghaniensis,* and some *Tsuga canadensis.* Wetland B/C lies a short distance downslope, and has similar vegetation, but with the addition of ferns, including

Onoclea sensibilis and *Dryopteris spinulosa.* Its uppermost portion is bounded by a berm that suggests a long-ago attempt to create a small pond with a dam. The lower portion is an intermittent drainageway that loses its definition as the water seeps into the soil.

Wetland D/E/F. Wetland boundary lines D, E, and F define wetlands along Birch Creek, near the Belleayre Mountain Day Use Area. All of line E and parts of lines D and F run along the top of the banks of Birch Creek. There is little wetland vegetation associated with Birch Creek, except for some patches of tussock sedge and a few wetland trees such as green ash and American elm. Both lines D and F begin along Birch Creek, but then they turn up a small tributary channel that drains a small wetland of several acres. A large part of this wetland has a dense shrub/sapling layer of *Salix nigra* and a herbaceous layer of *Impatiens capensis, Onoclea sensibilis, Scirpus microcarpus,* and *Myosotis scorpioides.* This wetland lies on a floodplain terrace of Birch Creek, and on its north side is a moderately steep slope covered with an upland forest of hemlock, sugar maple, yellow birch, sweet birch, and American hornbeam. Also on the floodplain, and adjacent to the wetland's east side, is upland with old field vegetation composed of *Parthenocissus quinquefolia, Solidago rugosa, Glechoma hederacea, Asclepias syriaca, Euthamia graminifolia, Galeopsis tetrahit, Saponaria officinalis, Fragaria virginiana,* and *Thalictrum* sp., along with scattered trees and shrubs, including *Crataegus* sp., *Berberis thunbergii, Acer saccharum,* and *Fraxinus pennsylvanica.*

Wetland G. A short distance from wetland line D is a small wetland which has a moderately open vegetation with plants as such as *Fraxinus pennsylvanica, Berberis thunbergii, Glechoma hederacea, Athyrium filix-femina, Glyceria striata,* and *Rubus pubescens.* Hemlock hardwood forest borders this wetland on the north, and the old-field area described above lies to its south.

Giggle Hollow Brook (BH, BG, and BI lines). Line BH-1 to BH-20 delineates the top of bank of Giggle Hollow Brook on the northwest side of the stream from the property line approximately 1,000 feet northward and downstream. On the southeast side of the stream a line BG (19 flags) was established; it connects to line BI (5 flags) on the same site. The delineation could be continued both upstream and downstream from the segment defined by these lines. However, this delineation was confined to the most likely location for a road crossing of the stream. The stream in this area has very steep sideslopes, and is on a steep gradient. The upland woods surrounding the stream are dominated by beech, yellow birch, sugar maple, and striped maple.

Wetland BK. This is a small wetland pocket, probably created as a result of excavation adjacent to an access road, which created a depression which fills with water from a nearby seep. The wetland can be characterized as wet meadow surrounded by upland beech and sugar maple forest. There are 6 flags on with this wetland boundary, and a field data sheet has been prepared for this area (see Appendix A, page A-17).

Stream bounded by lines BJ, BL, and BM lines. The upper end of this stream is located next to an access road, about 100 feet northeast of wetland BK. In its upper reaches, where it has a very steep gradient and is deeply eroded, the stream banks are approximately 6 feet high and the channel is 4 feet wide and. The BL line (36 flags) and the BJ line (32 flags) follow the stream downslope to a location where it crosses under the access road again near a switchback. The BM line (14 flags) bounds a small upland island between two channels of the stream.

Stream bounded by lines BN and BO. The stream bounded by lines BL and BJ continues downslope after crossing under the access road at a culvert. Between the culvert and the property line of the project site, there are 10 flags on line BN and 9 flags on line BO. Because the property line was not apparent in the field, the boundary was delineated about 150 feet into the adjacent property. At this point, the channel ends because the water disappears into the very flaggy soil on the lower part of the hillside.

Table 4

Summary of Wetland Areas Delineated in the Eastern Property

Parcel Name	Wetland lines present	Area of wetlands
Area West of Giggle Hollow	**A** – Intermittent stream course	0.05
	B/C – Intermittent stream course/wetland	0.14
Giggle Hollow and Eastward	**D/E/F** – Birch Creek Adjacent to Route 28, Near Belleayre Day Use Area.	0.95
	G – Wetland on Birch Creek Floodplain	0.09
	BG/BH/BI – West and East Sides of Giggle Hollow Brook	1.23
	BK – Small wetland pocket next to access road	0.04
	BJ/BL/BM	1.08
	and BN/BO – Wetland and stream course near access road.	0.39
	BQ/BR – Wetland near Lasher Road	2.26
	BV/BW/BX/BY – Birch Creek at Lasher Road bridge.	0.10
	Total acreage	**6.33**

Wetland between Lasher Road and Railroad Tracks (Lines BQ and BR). At the eastern end of the property is this wet meadow and wetland shrub area surrounded by upland old field. A small ditch or watercourse runs through the wetland area. The wetland is delineated by lines BR (13 flags) and BQ (19 flags).

Birch Creek at Lasher Road Bridge (Lines BV, B W, BX, and BY). The top of the bank of Birch Creek was located by the surveyor at this location to define the streamcourse.

There is no significant amount of wetland vegetation at this location; most of the 0.10 acre indicated in Table 4 is occupied by the waters of Birch Creek.

5.0 References

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TABLE 1
FLORA OF THE WETLANDS AND UPLANDS OF THE BELLEAYRE RESORT SITE

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Trees		
Acer platanoides	Norway maple	FACU
Acer rubrum	red maple	FAC
Acer saccharum	sugar maple	FACU-
Betula alleghaniensis	yellow birch	FAC
Betula lenta	sweet birch	FACU
Betula papyrifera	paper birch	FACU
Betula populifolia	gray birch	FAC
Carpinus caroliniana	American hornbeam	FAC
Carya ovata	shag-bark hickory	FACU
Fagus grandifolia	American beech	FACU
Fraxinus americana	white ash	FACU
Fraxinus pennsylvanica	green ash	FACW
Malus sylvestris	wild apple	NL
Ostrya virginiana	eastern hop-hornbeam	FACU-
Picea abies	Norway spruce	NL
Picea rubens	red spruce	FACU
Pinus resinosa	red pine	FACU
Pinus strobus	white pine	FACU
Populus grandidentata	bigtooth aspen	FACU-
Populus tremuloides	quaking aspen	FACU
Prunus pensylvanica	fire cherry	FACU-
Prunus serotina	black cherry	FACU
Quercus rubra	northern red oak	FACU-
Salix nigra	black willow	FACW+
Tilia americana	American basswood	FACU
Tsuga canadensis	hemlock	FACU
Ulmus americana	American elm	FACW-
Shrubs and Vines		
Acer pensylvanicum	striped maple	FACU
Acer spicatum	mountain maple	FACU-
Amelanchier sp.	shadbush	FAC
Berberis thunbergii	Japanese barberry	FACU
Cornus florida	flowering dogwood	FACU-
Cornus foemina	stiff dogwood	FACW

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Shrubs and Vines (continued)		
Corylus americana	American hazel-nut	FACU-
Crataegus sp.	hawthorn	---
Diervilla lonicera	bush honeysuckle	NL
Hamamelis virginiana	American witch-hazel	FACU+
Juniperus communis	common juniper	NL
Lonicera tatarica	tartarian honeysuckle	FACU
Rhus hirta	staghorn sumac	NL
Ribes sp.	currant	---
Rosa canina	dog rose	NL
Rubus allegheniensis	old-field blackberry	FACU-
Rubus idaeus	common red raspberry	FAC-
Rubus odoratus	pink thimbleberry	NL
Salix discolor	pussy willow	FACW
Sambucus canadensis	American elder	FACW
Spiraea alba	narrow-leaf meadow-sweet	FACW+
Spiraea tomentosa	steeple-bush	FACW-
Viburnum lantanoides	hobble-bush	FACU
Viburnum recognitum	northern arrow-wood	FACW-
Herbaceous plants, Low Woody Plants		
Achillea millefolium	common yarrow	FACU
Actaea pachypoda	white baneberry	NL
Ageratina altissima	white snakeroot	FACU-
Alliaria petiolata	garlic mustard	FACU-
Anaphalis margaritacea	pearly everlasting	NL
Anthriscus sylvestris	wild chervil	NL
Aralia nudicaulis	wild sarsaparilla	FACU
Arisaema triphyllum	swamp jack-in-the-pulpit	FACW-
Asarum canadense	wild ginger	FACU-
Asclepias syriaca	common milkweed	FACU-
Aster acuminatus	mountain aster	FACU+
Aster divaricatus	white wood aster	NL
Aster prenanthoides	crooked-stem aster	FAC
Aster puniceus	swamp aster	OBL
Aster umbellatus	flat-top white aster	FACW
Athyrium filix-femina	subarctic lady fern	FAC
Athyrium thelypteroides	silvery lady fern	FAC
Brachyelytrum erectum	bearded shorthusk	NL
Carex crinita	fringed sedge	OBL

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Herbaceous plants, Low Woody Plants (continued)		
Carex debilis	white-edge sedge	FAC
Carex lurida	sallow sedge	OBL
Carex platyphylla	broad-leaf sedge	NL
Carex scoparia	pointed broom-sedge	FACW
Carex stricta	tussock-sedge	OBL
Caulophyllum thalictroides	blue cohosh	NL
Chrysosplenium americanum	American golden-saxifrage	OBL
Cinna latifolia	slender wood-reedgrass	FACW
Dactylis glomerata	orchard grass	FACU
Dalibarda repens	Robin-run-away	FAC
Dennstaedtia punctilobula	hay-scented fern	NL
Dryopteris marginalis	marginal shield-fern	FACU-
Dryopteris spinulosa	spinulose woodfern	FAC+
Epilobium coloratum	purple-leaf willow-herb	FACW+
Epipactis helleborine	helleborine	FACU
Euthamia graminifolia	flat-top fragrant goldenrod	FAC
Festuca filiformis	hair fescue	NL
Festuca obtusa	nodding fescue	FACU
Fragaria virginiana	Virginia strawberry	FACU
Galeopsis tetrahit	hemp-nettle	NL
Galium mollugo	white bedstraw	NL
Geranium robertianum	herb-Robert	NL
Geum sp.	avens	---
Glechoma hederacea	ground-ivy	FACU
Glyceria melicaria	melic manna grass	OBL
Glyceria striata	fowl manna grass	OBL
Hypericum punctatum	dotted St. John's-wort	FAC-
Impatiens capensis	spotted touch-me-not	FACW
Impatiens pallida	pale touch-me-not	FACW
Juncus acuminatus	taper-tip rush	OBL
Juncus effusus	soft rush	FACW+
Laportea canadensis	Canada wood-nettle	FAC
Lycopodium annotinum	stiff clubmoss	FAC
Lycopodium clavatum	running pine	FAC
Lycopodium complanatum (*L. digitatum*)	trailing clubmoss	FACU-
Lycopodium lucidulum	shining clubmoss	FACW-
Lycopodium obscurum	tree clubmoss	FACU
Lycopus virginicus	Virginia bugleweed	OBL

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Herbaceous plants, Low Woody Plants (continued)		
Lysimachia ciliata	fringed loosestrife	FACW
Lythrum salicaria	purple loosestrife	FACW+
Maianthemum canadense	wild lily-of-the-valley	FAC-
Mentha X *piperita*	peppermint	FACW+
Mitchella repens	partridge-berry	FACU
Myosotis scorpioides	true forget-me-not	OBL
Myosoton aquaticum	giant chickweed	FACW
Oenothera biennis	common evening-primrose	FACU-
Onoclea sensibilis	sensitive fern	FACW
Osmunda cinnamomea	cinnamon fern	FACW
Osmunda claytoniana	interrupted fern	FAC
Oxalis montana	white woodsorrel	FAC-
Parthenocissus quinquefolia	Virginia creeper	FACU
Poa compressa	Canada bluegrass	FACU
Polygonatum pubescens	Solomon's seal	NL
Polygonum cuspidatum	Japanese knotweed	FACU-
Polygonum sagittatum	arrow-leaf tear-thumb	OBL
Polypodium virginianum	common polypody	NL
Polystichum achrostichoides	Christmas fern	FACU-
Potentilla simplex	old field cinquefoil	FACU-
Prunella vulgaris	heal-all	FACU+
Ranunculus sp.	buttercup	---
Rubus pubescens	dwarf blackberry	FACW
Rudbeckia sp.	black-eyed Susan	---
Rumex obtusifolius	bitter dock	FACU-
Sanicula canadensis	sanicle	UPL
Saponaria officinalis	bouncing-bet	FACU-
Scirpus microcarpus	small-fruit bulrush	OBL
Scutellaria lateriflora	blue skullcap	FACW+
Senecio aureus	golden ragwort	FACW
Smilacina racemosa	false-Solomon's-seal	FACU-
Solidago bicolor	white goldenrod	NL
Solidago caesia	wreath goldenrod	FACU
Solidago canadensis	Canada goldenrod	FACU
Solidago flexicaulis	zig-zag goldenrod	FACU
Solidago gigantea	giant goldenrod	FACW
Solidago nemoralis	rough goldenrod	NL
Solidago rugosa	wrinkled goldenrod	FAC
Thalictrum sp.	meadow-rue	---
Thelypteris noveboracensis	New York fern	FAC

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Herbaceous plants, Low Woody Plants (continued)		
Tiarella cordifolia	heart-leaf foamflower	FAC-
Trientalis borealis	American starflower	FAC
Trillium sp.	trillium	---
Veronica officinalis	common speedwell	FACU-
Viola sp.	violet	---

[1] Scientific and common names and wetland indicator categories are from Reed (1988) and Tiner et al. (1995).

[2] indicator category codes:
OBL = Obligate Wetland
FACW = Facultative Wetland
FAC = Facultative
FACU = Facultative Upland
NL = not listed
A + or a - appended to an indicator category code indicates a somewhat greater (+) or lesser (-) tendency to be found in wetlands.

Appendix A

Wetland Determination Summary Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Wildacres	Date: September 23, 1999
Applicant/Owner: Crossroads Ventures	County: Ulster
Investigator: Barbara B. Beall and Roger J. Case	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: Wetlands
Is the site significantly disturbed (Atypical Situation)? ___ Yes X No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: M-27-W
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Betula alleghaniensis*	tree	FAC	9.		
2. *Onoclea sensibilis*	herb	FACW	10.		
3. *Anthriscus sylvestris*	herb	NL	11.		
4. *Impatiens* sp.	herb	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75%

Remarks: Area dominated by wetland plants.

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 (in.)

Depth to Free Water in Pit: ___ (in.)

Depth to Saturated Soil: surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- X Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: soil saturated throughout area.

SITE: Wildacres
DATE: September 23, 1999
PLOT ID: M-27-W

SOILS

Map Unit Name (Series and Phase): Ontusia
Drainage Class: somewhat poorly drained
Taxonomy (Subgroup): Aeric Fragiaquept
Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	10YR 3/2			channery silt loam
5-8	E	10YR 6/2	10YR 4/2		channery silt loam
8-12	B	10YR 4/3	7.5YR 5/6		silt loam

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Identified as a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? X Yes ___ No
Wetland Hydrology Present? X Yes ___ No
Hydric Soils Present? X Yes ___ No

Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Site had indicators of wetland vegetation, wetland hydrology and wetland soils.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Wildacres	Date: September 23, 199
Applicant/Owner: Crossroads Ventures	County: Ulster
Investigator: Barbara B. Beall and Roger J. Case	State: New York

Do Normal Circumstances exist on the site?	X Yes	___ No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)?	___ Yes	X No	Transect ID:
Is the area a potential Problem Area?	___ Yes	X No	Plot ID: M-27-U
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Betula alleghaniensis*	tree	FAC	9.		
2. *Fagus grandifolia*	tree	FACU	10.		
3. *Tsuga canadensis*	tree	FACU	11.		
4. *Tilia americana*	tree	FACU	12.		
5. *Polystichum achrostichoides*	herb	FACU-	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 20%

Remarks: Area not dominated by wetland plants.

HYDROLOGY

___ Recorded Data (Describe in Remarks):	Wetland Hydrology Indicators:
___ Stream, Lake, or Tide Gauge	Primary Indicators:
___ Aerial Photographs	___ Inundated
___ Other	___ Saturated in Upper 12 inches
___ No Recorded Data Available	___ Water Marks
	___ Drift Lines
	___ Sediment Deposits
Field Observations:	___ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: ___ (in.)	___ Oxidized root channels in upper 12 inches
	___ Water-Stained Leaves
Depth to Free Water in Pit: ___ (in.)	___ Local Soil Survey Data
	___ FAC-Neutral Test
Depth to Saturated Soil: ___ (in.)	___ Other (Explain in Remarks)

Remarks: No indicators of wetland hydrology.

SITE: Wildacres
DATE: September 23, 1999
PLOT ID: M-27-U

SOILS

Map Unit Name (Series and Phase): Vly
Drainage Class: Well drain/excessively drain
Taxonomy (Subgroup): Typic Dystrudepts
Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	2.5YR 3/2			channery silt loam
2-11	B	2.5YR 4/4			channery silt loam

Hydric Soil Indicators: None

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Determined to not be a hydric soil according to Roger Case

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks: Area did not have indicators of hydric soil, wetland vegetation or wetland hydrology.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Highmount	Date: Oct. 25, 1999
Applicant/Owner: Crossroads Ventures	County: Ulster
Investigator: Richard P. Futyma and Roger J. Case	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: wetland
Is the site significantly disturbed (Atypical Situation)? ___ Yes X No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: HB-5-W
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Sambucus canadensis*	shrub	FACW	9.		
2. *Rubus idaeus*	shrub	FAC-	10.		
3. *Anthriscus sylvestris*	herb	NL	11.		
4. *Onoclea sensibilis*	herb	FACW	12.		
5. *Carex crinita*	herb	OBL	13.		
6. *Euthamia graminifolia*	herb	FAC	14.		
7. *Solidago gigantea*	herb	FACW	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 71%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

- Depth of Surface Water: none (in.)
- Depth to Free Water in Pit: 0 (in.)
- Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- X FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: This is a seepy area along a stream that runs on the edge of a ski slope.

SITE: Highmount
DATE: October 25, 1999
PLOT ID: HB-5-W

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class: _____

Taxonomy (Subgroup): Orthent, wet, scalped Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-20	Cg	5YR 3/2			gravelly silt loam, very stony

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is a disturbed soil on a ski slope, which appears to have had its upper part removed. It is a very wet soil and appears to have hydric tendencies.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? X Yes ___ No
Wetland Hydrology Present? X Yes ___ No
Hydric Soils Present? (X) Yes ___ No

Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks:

Photo 9

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Highmount	Date: Oct. 25, 1999
Applicant/Owner: Crossroads Ventures	County: Ulster
Investigator: Richard P. Futyma and Roger J. Case	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: upland
Is the site significantly disturbed (Atypical Situation)? ___ Yes X No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: HB-5-U
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Fragaria virginiana*	herb	FACU	9.		
2. *Hypericum punctatum*	herb	FAC-	10.		
3. *Poa compressa*	herb	FACU	11.		
4. *Solidago bicolor*	herb	NL	12.		
5. *Aster prenanthoides*	herb	FAC	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: >20 (in.)

Depth to Saturated Soil: >20 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: There is no evidence of wetland hydrology.

SITE: Highmount
DATE: Oct. 25, 1999
PLOT ID: HB-5-U

SOILS

Map Unit Name (Series and Phase): _____ Drainage Class: moderately well drained

Taxonomy (Subgroup): Udorthent, smoothed Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-20	C	5YR 4/4			gravelly silt loam, stony

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 5, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma and Roger J. Case	State: New York

Do Normal Circumstances exist on the site?	X Yes	___ No	Community ID: wetland
Is the site significantly disturbed (Atypical Situation)?	___ Yes	X No	Transect ID:
Is the area a potential Problem Area?	___ Yes	X No	Plot ID: AB-8-W
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Myosoton aquaticum*	herb	FACW	9.		
2. *Glyceria striata*	herb	OBL	10.		
3. *Epilobium coloratum*	herb	FACW+	11.		
4. *Carex crinita*	herb	OBL	12.		
5. *Carex lurida*	herb	OBL	13.		
6. *Euthamia graminifolia*	herb	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

- Depth of Surface Water: none (in.)
- Depth to Free Water in Pit: 0 (in.)
- Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: This location is a wide spot in a drainage channel, in which the soil is saturated or slightly inundated.

SITE: Adelstein
DATE: Nov. 5, 1999
PLOT ID: AB-8-W

SOILS

Map Unit Name
(Series and Phase): Tor silt loam
Drainage Class: very poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts
Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 4/2			silt loam
3-10	Cg	5YR 5/2			gravelly silt loam
10+					bedrock ledge

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
_X_ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? _X_ Yes ___ No
Wetland Hydrology Present? _X_ Yes ___ No
Hydric Soils Present? _X_ Yes ___ No

Is this Sampling Point Within a Wetland? _X_ Yes ___ No

Remarks:

Appendix B, Photo 7.
(Photo 12 on roll)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 5, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma and Roger J. Case	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: upland
Is the site significantly disturbed (Atypical Situation)? ___ Yes X No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: AB-8-U
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Populus tremuloides*	tree	FACU	9. *Solidago canadensis*	Herb	FACU
2. *Acer rubrum*	tree	FAC	10.		
3. *Malus sylvestris*	tree	NL	11.		
4. *Fraxinus americana*	sapling	FACU	12.		
5. *Ostrya virginiana*	sapling	FACU-	13.		
6. *Fagus grandifolia*	sapling	FACU	14.		
7. *Geum* sp.	herb	unknown	15.		
8. *Fragaria virginiana*	herb	FACU	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 11%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: >10 (in.)

Depth to Saturated Soil: >10 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: There is no evidence of wetland hydrology.

SITE: Adelstein
DATE: Nov. 5 1999
PLOT ID: AB-8-U

SOILS

Map Unit Name
(Series and Phase): Vly silt loam
Drainage Class: well drained
Taxonomy (Subgroup): Typic Dystrudepts
Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	10YR 3/3			silt loam
4-10	Bw	5YR 5/4			flaggy silt loam, with many large flagstones
10+					refusal – too stony

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: No hydric soil characteristics.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks:

Appendix B, Photo 8.
(Photo 11 on roll)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov . 5, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma and Roger J. Case	State: New York

Do Normal Circumstances exist on the site?	X Yes	___ No	Community ID: wetland
Is the site significantly disturbed (Atypical Situation)?	___ Yes	X No	Transect ID:
Is the area a potential Problem Area?	___ Yes	X No	Plot ID: AE-9-W
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9.		
2. *Onoclea sensibilis*	herb	FACW	10.		
3. *Carex* sp.	herb	unknown	11.		
4. *Osmunda cinnamomea*	herb	FACW	12.		
5. *Solidago canadensis*	herb	FACU	13.		
6. *Euthamia graminifolia*	herb	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 67%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: 8 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Adelstein
DATE: Nov. 5, 1999
PLOT ID: AE-9-W

SOILS

Map Unit Name
(Series and Phase): Onteora
Drainage Class: poorly drained

Taxonomy (Subgroup): Aquic Fragiudepts
Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	Ap	5YR 3/2			fine sandy loam
2-10	Bg	7.5YR 3/2			flaggy fine sandy loam
10+					refusal; flagstones too abundant to dig

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
_X_ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Onteora is a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? _X_ Yes ___ No
Wetland Hydrology Present? _X_ Yes ___ No
Hydric Soils Present? _X_ Yes ___ No

Is this Sampling Point Within a Wetland? _X_ Yes ___ No

Remarks:

Photo 13

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 5, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma and Roger J. Case	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: upland
Is the site significantly disturbed (Atypical Situation)? ___ Yes X No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: AE-9-U
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU	9. *Dennstaedtia punctilobula*	herb	NL
2. *Acer rubrum*	tree	FAC	10.		
3. *Amelanchier* sp.	tree	FAC	11.		
4. *Acer saccharum*	sapling	FACU	12.		
5. *Acer rubrum*	sapling	FAC	13.		
6. *Fagus grandifolia*	sapling	FACU	14.		
7. *Polystichum achrostichoides*	herb	FACU-	15.		
8. *Solidago caesia*	herb	FACU	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: >10 (in.)

Depth to Saturated Soil: >10 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: There is no evidence of wetland hydrology.

SITE: Adelstein
DATE: Nov. 5, 1999
PLOT ID: AE-9-U

SOILS

Map Unit Name (Series and Phase): Vly
Drainage Class: well drained
Taxonomy (Subgroup): Typic Dystrudepts
Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	Ap	7.5YR 3/2			fibrous root layer
1-8	Bw	5YR 4/4			flaggy silt loam
8+					refusal; boulders and flagstones abundant

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: No hydric soil characteristics.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks:

Photo 14

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 5, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma and Roger J. Case	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: wetland
Is the site significantly disturbed (Atypical Situation)? ___ Yes X No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: AD-1-W
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Glyceria melicaria*	herb	OBL	9.		
2. *Onoclea sensibilis*	herb	FACW	10.		
3. *Solidago canadensis*	herb.	FACU	11.		
4. *Carex crinita*	herb	OBL	12.		
5. *Acer rubrum*	sapling	FAC	13.		
6. *Ulmus americana*	sapling	FACW-	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 83%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: 5 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- X FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SITE: Adelstein
DATE: Nov. 5, 1999
PLOT ID: AD-1-W

SOILS

Map Unit Name (Series and Phase): Suny
Drainage Class: poorly drained
Taxonomy (Subgroup): Aeric Fragiaquepts
Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 3/2			silt loam with fibrous roots
3-16	Bg	5YR 5/2	10YR 5/4	few, fine, distinct	flaggy silt loam
			7.5YR 7/1	few	
16-					firm, dense layer

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
_X_ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
_X_ Listed on Local Hydric Soils List
_X_ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? _X_ Yes ___ No
Wetland Hydrology Present? _X_ Yes ___ No
Hydric Soils Present? _X_ Yes ___ No

Is this Sampling Point Within a Wetland? _X_ Yes ___ No

Remarks:

Appendix B, Photo 9.
(Photo 15 on roll)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 5, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma and Roger J. Case	State: New York

Do Normal Circumstances exist on the site?	X Yes	___ No	Community ID: upland
Is the site significantly disturbed (Atypical Situation)?	X Yes	___ No	Transect ID:
Is the area a potential Problem Area?	___ Yes	X No	Plot ID: AD-1-U
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU	9.		
2. *Betula alleghaniensis*	tree	FAC	10.		
3. *Hamamelis virginiana*	shrub	FACU+	11.		
4. *Quercus rubra*	sapling	FACU-	12.		
5. *Ostrya virginiana*	sapling	FACU-	13.		
6. *Dryopteris spinulosa*	herb	FAC+	14.		
7. *Dennstaedtia punctilobula*	herb	NL	15.		
8. *Polystichum achrostichoides*	herb	FACU-	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 25%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: >16 (in.)

Depth to Saturated Soil: >16 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: No evidence of wetland hydrology.

SITE: Adelstein
DATE: Nov. 5, 1999
PLOT ID: AD-1-U

SOILS

Map Unit Name
(Series and Phase): Vly silt loam
Drainage Class: well drained
Taxonomy (Subgroup): Typic Dystrudepts
Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	5YR 3/2			flaggy silt loam
5-16	Bw	2.5Y 4/4		none	very channery silt loam
16+					refusal; bedrock?

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks:

Appendix B, Photo 10.
(Photo 16 on roll)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein		Date: Nov. 9, 1999
Applicant/Owner: Crossroads Ventures		County: Delaware
Investigator: Richard P. Futyma		State: New York
Do Normal Circumstances exist on the site?	X Yes ___ No	Community ID: wetland
Is the site significantly disturbed (Atypical Situation)?	X Yes ___ No	Transect ID:
Is the area a potential Problem Area?	___ Yes X No	Plot ID: AK-14-W
(If needed, explain on reverse.)		

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9.		
2. *Acer rubrum*	sapling	FAC	10.		
3. *Spiraea alba*	shrub	FACW+	11.		
4. *Rubus allegheniensis*	shrub	FACU-	12.		
5. *Euthamia graminifolia*	herb	FAC	13.		
6. *Glyceria striata*	herb	OBL	14.		
7. *Aster puniceus*	herb	OBL	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 86%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: 3 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Adelstein
DATE: Nov. 9, 1999
PLOT ID: AK-14-W

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class: _____

Taxonomy (Subgroup): _____ Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	7.5YR 3/2			gravelly, cobbly coarse silt loam
5-9	Bg	5YR 3/2			same
9+					too stony to dig

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
_X_ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	_X_ Yes	___ No	
Wetland Hydrology Present?	_X_ Yes	___ No	
Hydric Soils Present?	_X_ Yes	___ No	Is this Sampling Point Within a Wetland? _X_ Yes ___ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 9, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: upland
Is the site significantly disturbed (Atypical Situation)? X Yes ___ No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: AK-14-U
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU	9. *Carex* sp.	herb	unknown
2. *Acer rubrum*	tree	FAC	10.		
3. *Prunus serotina*	tree	FACU	11.		
4. *Acer saccharum*	sapling	FACU	12.		
5. *Fagus grandifolia*	sapling	FACU	13.		
6. *Ostrya virginiana*	sapling	FACU-	14.		
7. *Polystichum acrostichoides*	herb	FACU	15.		
8. *Dryopteris spinulosa*	herb	FAC+	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 22%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: >12 (in.)

Depth to Saturated Soil: >12 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: No evidence of wetland hydrology.

SITE: Adelstein
DATE: Nov. 9, 1999
PLOT ID: AK-14-U

SOILS

Map Unit Name (Series and Phase): _____ Drainage Class: _____

Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-0					leaf litter
0-5		7.5YR 3/2		none	gravelly silt loam with cobbles and
		4			boulders
5-12		7.5YR 4/			silt loam
12+					too stony to dig

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 9, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma	State: New York
Do Normal Circumstances exist on the site? X Yes ___ No	Community ID: wetland
Is the site significantly disturbed (Atypical Situation)? X Yes ___ No	Transect ID:
Is the area a potential Problem Area? ___ Yes X No	Plot ID: AL-26-W
(If needed, explain on reverse.)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9. *Aster prenanthoides*	herb	FAC
2. *Fraxinus pennsylvanica*	tree	FACW	10. *Alliaria petiolata*	herb	FACU-
3. *Malus sylvestris*	tree	NL	11.		
4. *Crataegus* sp.	sapling	unknown	12.		
5. *Acer rubrum*	sapling	FAC	13.		
6. *Fraxinus pennsylvanica*	sapling	FACW	14.		
7. *Cornus foemina*	shrub	FAC	15.		
8. *Euthamia graminifolia*	herb	FAC	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 70%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 1 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: This test hole was about 4 feet from the edge of a small stream.

SITE: Adelstein
DATE: Nov. 8, 1999
PLOT ID: AL-26-W

SOILS

Map Unit Name
(Series and Phase): Onteora clayey silt loam
Drainage Class: somewhat poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts
Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		5YR 3/3			clayey silt loam
6-14		5YR 4/3			same

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This soil does not have a chroma of 2 or less, but the parent material is very red, and the fact that it is in a drainageway suggests that this is a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? X Yes ___ No
Wetland Hydrology Present? X Yes ___ No
Hydric Soils Present? X Yes ___ No

Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks:

Photo 19

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Adelstein	Date: Nov. 9, 1999
Applicant/Owner: Crossroads Ventures	County: Delaware
Investigator: Richard P. Futyma	State: New York

Do Normal Circumstances exist on the site?	X Yes	___ No	Community ID: upland
Is the site significantly disturbed (Atypical Situation)?	X Yes	___ No	Transect ID:
Is the area a potential Problem Area?	___ Yes	X No	Plot ID: AL-26-U
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9.		
2. *Acer saccharum*	tree	FACU	10.		
3. *Quercus velutina*	tree	NL	11.		
4. *Ostrya virginiana*	sapling	FACU-	12.		
5. *Acer rubrum*	sapling	FAC	13.		
6. *Fraxinus americana*	sapling	FACU	14.		
7. *Carex platyphylla*	herb	NL	15.		
8. *Prunella vulgaris*	herb	FACU+	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 25%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: >10 (in.)

Depth to Saturated Soil: >10 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ___ Oxidized root channels in upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: There was no evidence of wetland hydrology

SITE: Adelstein
DATE: Nov. 9, 1999
PLOT ID: AL-26-U

SOILS

Map Unit Name
(Series and Phase): Willowemoc silt loam
Drainage Class: Moderately well drained
Taxonomy (Subgroup): Typic Fragiudepts
Field Observations
Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth Inches	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A	5YR 3/2			channery silt loam, somewhat organic
3-10	B	5YR 3/3			silt loam
10+					too stony to dig

Hydric Soil Indicators:

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes _X_ No
Wetland Hydrology Present? ___ Yes _X_ No
Hydric Soils Present? ___ Yes _X_ No

Is this Sampling Point Within a Wetland? ___Yes _X_ No

Remarks:

Photo 20

Appendix B

Photographs of the Belleayre Resort Site

Photo 1. The wetland at boundary flag A-2 is a narrow, shallow drainageway that flows intermittently. It is discernible as the area of moss-covered rocks in the center of this view. The few plants in this area include *Impatiens capensis, Chrysosplenium americanum,* and *Tiarella cordifolia.* Adjacent uplands are dominated by *Acer saccharum, Fraxinus americana, Ostrya virginiana and* Acer pensylvanicum. (Photographed 9/14/99).

Photo 2. Near boundary flag B-1, the wetland is a small basin at the head of a rocky drainageway. The sparse vegetation includes *Impatiens capensis, Chrysosplenium americanum, Onoclea sensibilis,* and *Dryopteris spinulosa* . (Photographed 9/14/99.)

Photo 3. Wetland D, on the floodplain of Birch Creek (flag D-25) has a shrub swamp of *Salix nigra, Myosotis scorpioides, Scirpus microcarpus, Impatiens* sp., and *Onoclea sensibilis*. The soil was saturated to the surface. (Photographed 9/15/99.)

Photo 4. The upland near wetland boundary flag D-25 is a steep slope with *Tsuga canadensis , Acer saccharum, Betula alleghaniensis, B. lenta, Carpinus carolina, Dryopteris spinulosa, D. marginalis,* and *Thelypteris noveboracensis.* (Photographed 9/15/99.)

Photo 5. The wetland near flag H-1has open, herb-dominated areas with *Impatiens capensis, cinna latifolia, Glyceria striata, Carex stricta, C. lurida,* and *Juncus effusus*. On the edges are trees, mainly *Tsuga canadensis* and *Betula alleghaniensis*. (Photographed 9/15/99.)

Photo 6. The upland next to boundary flag H-1 is a forest of *Tsuga canadensis, Betula alleghaniensis,* and *Acer saccharum,* with a shrub layer of *Viburnum lantanoides* and *T. canadensis* saplings. The herb layer is composed mainly of *Dryopteris spinulosa, Oxalis montana,* and *Acer pensylvanicum* seedlings. (Photographed 9/15/99.)

Photo 7. At flag AB-8, the wetland is a broad, seepy area dominated by herbs such as *Euthamia graminifolia, Myosoton aquaticum, Glyceria striata, Carex lurida, C. crinita, Epilobium coloratum,* and *Scirpus cyperinus*. (Photographed 11/5/99.)

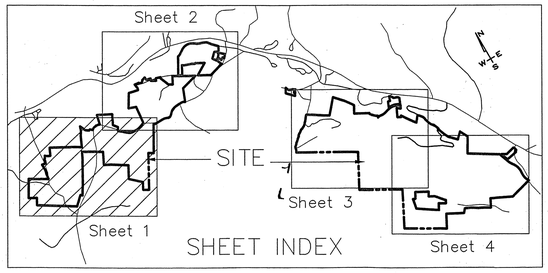
Photo 8. The upland near flag AB-8 is a young forest of tree- and sapling-size *Populus tremuloides, Acer rubrum, Malus sylvestris, Fraxinus americana, Ostrya virginiana,* and *Fagus grandifolia*. The herb layer has *Solidago canadensis, Fragaria virginiana,* and *Geum* sp. (Photographed 11/5/99.)

Photo 9. At the head of the wetland drainageway bounded by line AD is a seepy area with herbs, mainly *Glyceria melicaria, Onoclea sensibilis, Solidago canadensis,* and *Carex crinita.* There are a few saplings of *Acer rubrum* and *Ulmus americana.* (Photographed Nov. 5, 1999.)

Photo 10. The upland forest near boundary flag AD-1 has *Acer saccharum, Betula alleghaniensis, Quercus rubra, Ostrya virginiana, Hamamelis virginiana, Dryopteris spinulosa, Dennstaedtia punctilobula* , and *Polystichum achrostichoides.* Photographed 11/5/99.

Photo 11. View of the rocky stream bounded by lines Q and R, at its lower end, where it enters a culvert under the old railroad tracks. The stream has steep banks and little wetland vegetation. (Photographed Sept. 23, 1999).

Photo 12. The upper reaches of the stream shown in Photo 12, looking upstream near flag HN-25. This part of the stream is more seepy, with wetland plants such as *Glyceria striata, Anthriscus sylvestris, Mentha* X *piperita,* and *Impatiens* sp. (Photographed 10/28/99.)



NOTE:
Wetland boundaries were delineated by Barbara B. Beall, Roger J. Case and Richard P. Futyma of the LA Group, P.C., between September 14 and September 8, 2000.

TOTAL WETLANDS AREA ON PROJECT SITE: 24.07 ACRES

WESTERN PORTION PROJECT SITE 718 ACRES

Legend

- Wetland Flag
- Wetland

GRID

GRAPHIC SCALE : 1 inch = 200 ft. (IN FEET)
200 0 100 200 400 800

MATCH LINE SHEET 2

SEE INSET FOR DETAIL

PROPERTY LINE

77910 SF
27,986 SF
70419 SF
25091 SF
63469 SF
519 SF
15240 SF
1868 SF
13218 SF
1024 SF
3285 SF
1486 SF
3774 SF
6,294 SF
6,271 SF
4296 SF

TODD MOUNTAIN ROAD
GALLUPS CREEK ROAD

INSET MAP WETLANDS 12, 13,14, 15

AUGUST 14 , 2001
Prepared for: the LA group
Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.
BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION
WETLANDS BOUNDARY MAP – WETLANDS 12 thru 15
TOWN OF MIDDLETOWN, COUNTY OF DELAWARE
TOWN OF SHANDAKEN, COUNTY OF ULSTER
SCALE : 1" = 100'

Map Sheet 1

Wetland ID Number and Boundary lines	area (sq. ft.)	acreage	Is this an isolated wetland?
(1) AB/AC	75,240	1.73	no
(2) AD	25,081	0.58	no
(3) AE	13,218	0.30	yes
(4) AF/AG/AI/AJ	133,888	3.07	no
(5) AH	519	0.01	no
(6) AK	27,986	0.64	no
(7) AL	77,910	1.79	yes
(8) AM	1,866	0.04	no
(9) AN	1,024	0.02	no
(10) AO	3,285	0.08	yes
(11) AP	1,488	0.03	yes
(12) HA/HB	4,296	0.10	no
(13) HC	3,294	0.08	no
(14) HD	3,774	0.09	no
(15) HE	6,271	0.14	no
Map Sheet 1 Total	379,140	8.70	
isolated wetland total	82,683	1.90	
non-isolated wetland total	296,457	6.81	

Revision	Date	Comments
1	3/2/00	Additions Per LA Group
2	12/19/00	Additions Per LA Group
3	1/8/01	Revisions Per LA Group
4	3/21/01	Revisions Per LA Group

5 8/7/01 REVISIONS AS PER LA GROUP

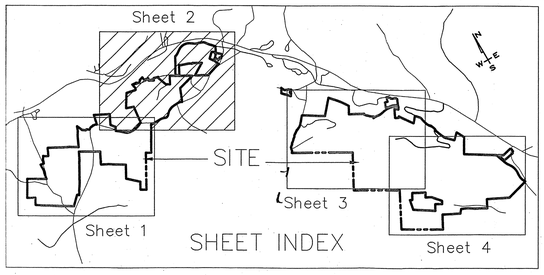
BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION REPORT
WETLANDS BOUNDARY MAP
WESTERN PROPERTY, HIGHMOUNT AREA
TOWN OF MIDDLETOWN, COUNTY OF DELAWARE
TOWN OF SHANDAKEN, COUNTY OF ULSTER

SHEET 1 OF 4

FEBRUARY 18, 2000

Prepared for: CROSSROADS VENTURES, LLC

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.



NOTE:
Wetland boundaries were delineated by Barbara B. Beall, Roger J. Case and Richard P. Futyma of the LA Group, P.C., between September 14 and MAY 26, 2000.

TOTAL WETLANDS AREA ON PROJECT SITE : 24.07 ACRES

WESTERN PORTION PROJECT SITE 718 ACRES

Legend

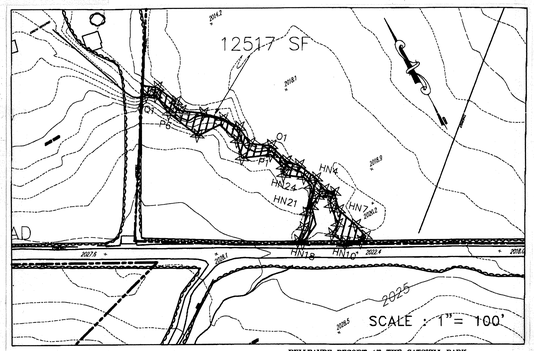
Wetland Flag

Wetland

GRAPHIC SCALE : 1 inch = 200 ft. (IN FEET)

200 0 100 200 400 800

WETLAND 24 INSET



AUGUST 14 , 2001

Prepared for: The LA group

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.

BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION
WETLANDS BOUNDARY MAP - WETLAND LINES HN , O , P and Q
TOWN OF MIDDLETOWN, COUNTY OF DELAWARE
TOWN OF SHANDAKEN, COUNTY OF ULSTER

NYS ROUTE 28

PROPERTY LINE

23 2391 SF

PROPERTY LINE

12517 SF

24 SEE INSET FOR DETAIL

GUNNISON ROAD

COUNTY ROUTE 49A

21 24276 SF

2653 SF

22 54891 SF

20

19 16661 SF

158490 SF 16

17 18213 SF

9787 SF 18

MATCH LINE SHEET 3

Map Sheet 2

Wetland ID Number and Boundary lines	area (sq. ft.)	acreage	Is this an isolated wetland?
(16) M/N	158,490	3.64	no
(17) CA	16,213	0.37	yes
(18) CB/CC	9,787	0.22	yes
(19) H	16,661	0.38	yes
(20) I	54,891	1.26	yes
(21) K/L	24,276	0.56	yes
(22) Y/Z	2,653	0.06	yes
(23) Q/R	23,391	0.54	no
(24) HN/O/P	12,517	0.29	no
Map sheet 2 total	318,879	7.32	
isolated wetland total	124,481	2.86	
non-isolated wetland total	194,398	4.46	

BELLEAYRE RESORT AT
THE CATSKILL PARK
WETLAND DELINEATION
REPORT
WETLANDS BOUNDARY MAP
WESTERN PROPERTY, WILDACRES AREA
TOWN OF MIDDLETOWN, COUNTY OF DELAWARE
TOWN OF SHANDAKEN, COUNTY OF ULSTER

FEBRUARY 18, 2000

Revision	Date	Comments
1	3/2/00	Additions Per LA Group
2	12/19/00	Additions Per LA Group
3	1/8/01	Revisions Per LA Group
4	3/21/01	Revisions Per LA Group

5 8/7/01 REVISIONS AS PER LA GROUP

Prepared for: CROSSROADS VENTURES, LLC

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.

SEE INSERT

PROPERTY LINE

BOUNDARY OF PROJECT AREA

NORTHERN BOUNDARY OF PROJECT AREA

10414 SF

14409 SF

EXISTING ROADWAY

STATE TRAIL

SEE INSET FOR DETAIL

7518 SF

2038 SF

AREA EXCLUDED FROM WETLAND DELINEATION

NO DEVELOPMENT PRESENTLY PROPOSED

139 acres

NY ROUTE 28

3774 SF

62108 SF

1044 SF

55561 SF

1763 SF

57925 SF

Total area of Eastern Property: 1,242 acres

Total area excluded from wetland delineation: 465 acres

MATCH LINE SHEET 4

INSERT

OUT PARCEL

AREA EXCLUDED FROM WETLAND DELINEATION

NO DEVELOPMENT PRESENTLY PROPOSED

40 acres

14409 SF

Map Sheet 3

Wetland ID Number and Boundary lines	area (sq. ft.)	acreage	Is this an isolated wetland?
(23) A	2,038	0.05	yes
(26) B/C	7,518	0.17	yes
(27) Woodchuck Hollow	24,823	0.57	no
(28) D/E/F	63,155	1.45	no
(29) G	3,774	0.09	yes
(32) BG/BH	57,925	1.33	no
Map Sheet 3 Total	159,233	3.66	
isolated wetland total	13,330	0.31	
non-isolated wetland total	145,903	3.35	

WETLAND 25 AND 26 INSET

SCALE : 1"= 100'

AUGUST 14 , 2001

Prepared for: the LA group

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.

BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION
WETLANDS BOUNDARY MAP – WETLANDS 25 and 26
TOWN OF MIDDLETOWN, COUNTY OF DELAWARE
TOWN OF SHANDAKEN, COUNTY OF ULSTER

SHEET INDEX

Sheet 1 | Sheet 2 | Sheet 3 | Sheet 4 | SITE

Revision	Date	Comments
1	3/2/00	Additions Per LA Group
2	12/19/00	Additions Per LA Group
3	1/8/01	Revisions Per LA Group
4	3/21/01	Revisions Per LA Group

5 8/7/01 REVISIONS AS PER LA GROUP

6 11/2/01 REVISIONS AS PER LA GROUP

Legend

Wetland Flag

Wetland

BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION REPORT
WETLANDS BOUNDARY MAP
EASTERN PROPERTY, SOUTH LODGE AREA
TOWN OF SHANDAKEN, COUNTY OF ULSTER

GRAPHIC SCALE : 1 inch = 200 ft. (IN FEET)

SHEET 3 OF 4

NOTE:
Wetland boundaries were delineated by Barbara B. Beall, Roger J. Case and Richard P. Futyma of the LA Group, P.C., between September 14 and November 9, 1999.

TOTAL WETLANDS AREA ON PROJECT SITE : 24.07 ACRES

FEBRUARY 18, 2000

Prepared for: CROSSROADS VENTURES, LLC

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.

WETLAND 30 INSET

29683 SF

68811 SF

RAILROAD RIGHT OF WAY IS WITHIN PROJECT AREA BUT IS NOT OWNED BY

SCALE : 1"= 100'

MATCH LINE SHEET 3

Legend

Wetland Flag

Wetland

35 22290 SF

34 55561 SF

33 1763 SF

4461 SF

31

29683 SF SEE INSET FOR DETAIL

30

68811 SF

RAILROAD RIGHT OF WAY IS WITHIN PROJECT AREA BUT IS NOT OWNED BY CROSSROADS VENTURES, LLC

NYS ROUTE 28

PROPERTY LINE

EXISTING LOGGING TRAILS

VIEW

OAK

BOULDER FIELD

BOUNDARY OF PROJECT AREA

STATE TRAIL

OUT PARCEL

AREA EXCLUDED FROM WETLAND DELINEATION

NO DEVELOPMENT PRESENTLY PROPOSED

286 acres

LOST CLOVE ROAD

Total area of Eastern Property: 1,242 acres

Total area excluded from wetland delineation: 465 acres

AUGUST 14 , 2001

Prepared for: the LA group

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.

BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION
WETLANDS BOUNDARY MAP - WETLAND LINES BR and BQ
TOWN OF MIDDLETOWN, COUNTY OF DELAWARE
TOWN OF SHANDAKEN, COUNTY OF ULSTER

Map Sheet 4

Wetland ID Number and Boundary lines	area (sq. ft.)	acreage	Is this an isolated wetland?
(30) BQ/BR	98,494	2.26	no
(31) BV/BX	13,161	0.30	no
(33) BK	1,763	0.04	yes
(34) BJ/BL/BM	55,561	1.28	yes
(35) BN/BO	22,290	0.51	yes
Map Sheet 4 Total	191,269	4.39	
isolated wetland total	1,763	0.04	
non-isolated wetland total	189,506	4.35	

Project Area Totals

	acreage
total of isolated wetlands	5.10
total of non-isolated wetlands	18.97
Total acreage of all wetlands	24.07

NOTE:
Wetland boundaries were delineated by Barbara B. Beall, Roger J. Case and Richard P. Futyma of the LA Group, P.C., between September 14 and November 9, 1999.
TOTAL WETLANDS AREA : 24.07 ACRES

Revision	Date	Comments
1	3/2/00	Additions Per LA Group
2	12/19/00	Additions Per LA Group
3	1/8/01	Revisions Per LA Group
4	3/21/01	Revisions Per LA Group
5	8/7/01	REVISIONS AS PER LA GROUP
6	11/2/01	REVISIONS AS PER LA GROUP

BELLEAYRE RESORT AT THE CATSKILL PARK
WETLAND DELINEATION REPORT
WETLANDS BOUNDARY MAP
EASTERN PROPERTY, BELLEAYRE HIGHLANDS AREA
TOWN OF SHANDAKEN, COUNTY OF ULSTER

SHEET 4 OF 4

GRAPHIC SCALE : 1 inch = 200 ft. (IN FEET)

0 100 200 400 800

FEBRUARY 18, 2000

Prepared for: CROSSROADS VENTURES, LLC

Prepared by: RETTEW ENGINEERING & SURVEYING, P.C.

Sheet 2

SITE

Sheet 3

Sheet 1

Sheet 4

SHEET INDEX