

Application for Certificate of Environmental Compatibility and Public Need

Volume 1: Appendix A-F

Application for Certificate of Environmental Compatibility and Public Need

Flat Rock Wind Power
230 kV Electric Transmission Facility

Volume 1: Appendix A-F

Appendix A: Full Scale Drawing of Figure 2-1
Appendix B: List of Participating Landowners
Appendix C: Agency Correspondence
Appendix D: Vegetation and Wildlife Species List
Appendix E: Representative Wetland/Stream Photographs
Appendix F: Visual Impact Assessment

APPENDIX A

APPENDIX B

**230 kV Power Line Easements
Flat Rock Wind Power, LLC**

Appendix B

Power Line Only	Sub-station	Tax Map Parcel No.	Block	Lot	Name	Address	Telephone	Location of Site	Current Zoning Classification
	X	226	1	24.1	Thomas W. Freeman, Jr.	RD2 Box 128 Lowville	376.2873	Rector Rd., Martinsburg	Agricultural
		226	1	17.1	Mr. John S. and Mrs. Carolyn Knollman	RD 2 Box 128 Lowville	376.2873	Rector Rd., Martinsburg	Agricultural
		241	1	4				Rector Rd.	
X		226	1	18	Ernest L. and Rosemary Rook	RD 2, Box 115 Lowville	376.3888	Rector Rd., Martinsburg	Agricultural
X		227	1	31	William B. Matuszczak	3122 Co. Rt. 15, Pulaski NY 13142		West Rd., Martinsburg	Agricultural
		226		19				West Rd., Martinsburg	
X		227	1	22.1	Mr. Ronald F. & Shirley Youngs	RD 2 Box 28 Lowville	376.6096	West Rd., Martinsburg	Agricultural
		227	1	17				West Rd., Martinsburg	
X		227	1	23.1	Mr. James M. Kenealy	RD 2 Box 24A Lowville	376.8191	Bea Arthur Rd., Martinsburg	Agricultural
X		227	1	14.1	Mark A. Karelus	RD 2 Box 27 Lowville	376.6453	Rt. 26, Martinsburg	Agricultural
X		228	1	48.11	Aaron A. & Laurretta M. Widrick	RD 2 Box 33 Lowville	376.2452	Rt. 26, Martinsburg	Agricultural
X		228	1	44.12	Mr. Larry Virkler, Virkler and Sons, Inc.	7513 East State St. Lowville	376.7022	NYS Route 12, Martinsburg	
X		228	1	43.11	Mr. David Lum	RD 2 Box 341, Lowville		NYS Route 12, Martinsburg	Agricultural
X		228	1	33.12	Mrs. Jacqueline Peck	RD 2 Box 349M, Lowville	376.1921	NYS Rt. 12, Martinsburg	Agricultural
X		229	1	21.2				East Martinsburg Rd., Martinsburg	
X		228	1	31	Marks Farm Partnership	RD 2 Box 349M, Lowville	376.1921	NYS Rt. 12, Martinsburg	Agricultural
X		228	1	32				East Martinsburg Rd., Martinsburg	
X		229	1	14				Williams Rd., Martinsburg	
X		229	1	15				Williams Rd., Martinsburg	
X		229	1	16				Williams Rd., Martinsburg	
X		229	1	22				Williams Rd., Martinsburg	
X		244	1	3.1				Williams Rd., Martinsburg	
X		229	2	1.1	Mr. Rodney Angelovich	RD1 Box 426, Glenfield, NY 13343	376.0114	Pine Grove Road, Watson	Residential
X		229	2	5.11				Pine Grove Road, Watson	
X		229	2	29				Pine Grove Road, Watson	
X		229	2	31				Pine Grove Road, Watson	
X		230	1	2.111	Mr. Antonio Bracchi	7 Middle Island Avenue, Medford NY 11763		Chases Lake Rd., Watson	Residential
X		230	1	2.3	Mrs. Mary Bonta	47 Steven Place, Smithtown, NY 11787		Chases Lake, Watson	
X		230	2	5	Mr. Joseph Suiter	6959 Wetmore Road, Glenfield NY 13343	376.6496	Wetmore Road, Watson	Residential
X		230	2	8.2				Wetmore Road, Watson	
X		230	1	10.1	Mrs. Denise Ablan	RD 1 Box 343, Glenfield, NY 13343	376.4653	Wetmore Road, Watson	Residential
X		230	1	8.11				Wetmore Road, Watson	
X	X	230	1	13	Mr. and Mrs. H. Wesley & Nancy R. Bray	7022 Wetmore Road, Glenfield NY 13343	376.4564	Wetmore Road, Watson	Residential
X		230	1	11				Wetmore Road, Watson	

APPENDIX C



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045



September 30, 2002

RECEIVED

OCT - 2 2002

EDR, P.C.

Ms. Tara Seoane
Environmental Design & Research, P.C.
238 West Division Street
Syracuse, NY 13204

Dear Ms. Seoane:

This responds to your letter of September 10, 2002, requesting information on the presence of endangered or threatened species in the vicinity of the proposed 230 kV electric transmission line in the Towns of Martinsburg and Watson, Lewis County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. A compilation of Federally listed and proposed endangered and threatened species in New York is enclosed for your information.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s) as shown on the enclosed map, and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233
(518) 402-8935

Since wetlands may be present, you are advised that National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands

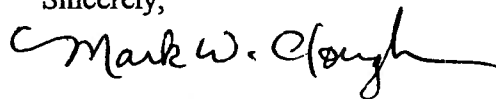
or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s) as shown on the enclosed map.

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely,



Acting For
David A. Stilwell
Field Supervisor

Enclosures

cc: NYSDEC, Watertown, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage Program)
COE, Buffalo, NY

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES IN NEW YORK

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
<u>FISHES</u>			
Sturgeon, shortnose*	<i>Acipenser brevirostrum</i>	E	Hudson River & other Atlantic coastal rivers
<u>REPTILES</u>			
Turtle, bog	<i>Clemmys muhlenbergii</i>	T	Albany, Columbia, Dutchess, Genesee, Orange, Oswego, Putnam, Seneca, Sullivan, Ulster, Wayne, and Westchester Counties
Turtle, green*	<i>Chelonia mydas</i>	T	Oceanic summer visitor coastal waters
Turtle, hawksbill*	<i>Eretmochelys imbricata</i>	E	Oceanic summer visitor coastal waters
Turtle, leatherback*	<i>Dermochelys coriacea</i>	E	Oceanic summer resident coastal waters
Turtle, loggerhead*	<i>Caretta caretta</i>	T	Oceanic summer resident coastal waters
Turtle, Atlantic ridley*	<i>Lepidochelys kempii</i>	E	Oceanic summer resident coastal waters
<u>BIRDS</u>			
Eagle, bald	<i>Haliaeetus leucocephalus</i>	T	Entire state
Plover, piping	<i>Charadrius melodus</i>	E	Great Lakes Watershed Critical Habitat - Eastern Lake Ontario shoreline from Salmon River (Oswego County) to Stony Point (Jefferson County)
Tern, roseate	<i>Sterna dougallii dougallii</i>	T E	Remainder of coastal New York Southeastern coastal portions of state
<u>MAMMALS</u>			
Bat, Indiana	<i>Myotis sodalis</i>	E	Entire state
Cougar, eastern	<i>Felis concolor cougar</i>	E	Entire state - probably extinct
Whale, blue*	<i>Balaenoptera musculus</i>	E	Oceanic
Whale, finback*	<i>Balaenoptera physalus</i>	E	Oceanic
Whale, humpback*	<i>Megaptera novaeangliae</i>	E	Oceanic
Whale, right*	<i>Eubalaena glacialis</i>	E	Oceanic
Whale, sei*	<i>Balaenoptera borealis</i>	E	Oceanic
Whale, sperm*	<i>Physeter catodon</i>	E	Oceanic

Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES IN NEW YORK (Cont'd)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
<u>MOLLUSKS</u>			
Snail, Chittenango ovate amber	<i>Novisuccinea chittenangoensis</i>	T	Madison County
Mussel, dwarf wedge	<i>Alasmidonta heterodon</i>	E	Orange County - lower Neversink River Delaware and Sullivan Counties - Delaware River
<u>BUTTERFLIES</u>			
Butterfly, Karner blue	<i>Lycaeides melissa samuelis</i>	E	Albany, Saratoga, Warren, and Schenectady Counties
<u>PLANTS</u>			
Monkshood, northern wild	<i>Aconitum noveboracense</i>	T	Ulster, Sullivan, and Delaware Counties
Pogonia, small whorled	<i>Isotria medeoloides</i>	T	Entire state
Swamp pink	<i>Helonias bullata</i>	T	Staten Island - presumed extirpated
Gerardia, sandplain	<i>Agalinis acuta</i>	E	Nassau and Suffolk Counties
Fern, American hart's-tongue	<i>Asplenium scolopendrium</i> var. <i>americana</i>	T	Onondaga and Madison Counties
Orchid, eastern prairie fringed	<i>Platanthera leucophea</i>	T	Not relocated in New York
Bulrush, northeastern	<i>Scirpus ancistrochaetus</i>	E	Not relocated in New York
Roseroot, Leedy's	<i>Sedum integrifolium</i> ssp. <i>Leedyi</i>	T	West shore of Seneca Lake
Amaranth, seabeach	<i>Amaranthus pumilus</i>	T	Atlantic coastal plain beaches
Goldenrod, Houghton's	<i>Solidago houghtonii</i>	T	Genesee County

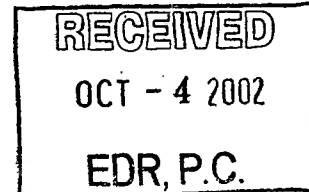
E=endangered T=threatened P=proposed

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925
Website: www.dec.state.ny.us



October 1, 2002

Tara Seoane
Environmental Design & Research
238 West Division Street
Syracuse, NY 13204



Dear Ms. Seoane

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the proposed Flat Rock Wind Power Project, area as indicated on the map you provided, located in the Towns of Martinsburg and Watson, Lewis County.

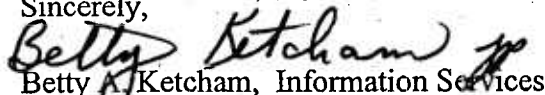
Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

The presence of rare species may result in your project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,


Betty A. Ketcham, Information Services
NY Natural Heritage Program

Encs.

cc: Reg. 6, Wildlife Mgr.
Peter Nye, Endangered Species Unit, 518-402-8859

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 6

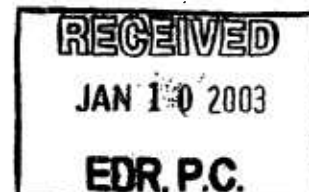
Dulles State Office Building, 317 Washington Street, Watertown, New York 13601-3787

Phone: (315) 785-2245 • FAX: (315) 785-2242

Website: www.dec.state.ny.us



Erin M. Crotty
Commissioner



January 9, 2003

Ms. Diane M. Sullivan
Project Manager
Environmental Design & Research
238 West Division Street
Syracuse, New York 13204

RE: Flat Rock Wind Power Project
EDR Project No. 868
230 kV Service Line

Dear Ms. Sullivan:

Per your recent inquiry, I reviewed the Department's Natural Heritage Program data base with specific regard to the Loggerhead Shrike - *Lanius ludovicianus migrans*. There is an historic reference to the bird species presence in the general area of the Towns of Martinsburg, Highmarket and Turin. The Loggerhead Shrike is listed an endangered species in New York State.

I talked with Len Ollivett, Region 6 Supervisor for the Bureau of Habitat, about the potential impact that construction of the aerial transmission line may have on Loggerhead Shrikes. It is generally believed that loss of suitable habitat is the primary cause in declining numbers of Loggerhead Shrikes. Shrikes require low grass and small shrub habitat with some thorny shrubs and small trees that provide a place for the bird to impale their prey. This unusual behavioral trait, and specific habitat requirements, limit the range of this specie. Transmission lines are often used as perch areas for Loggerhead Shrikes and the general practice of maintaining grassland and small shrub habitats in transmission line right-of-ways could provide suitable shrike habitat in this instance. Therefore, it is not anticipated that construction of the line would have a negative impact on this bird specie.

In reference to water supply aquifers in the transmission line corridor, I discussed the project with Lincoln Fancher, Region 6 Engineering Geologist II. He informed me that the Department, in conjunction with the U.S. Department of Interior Geological Survey, identified areas in the past that have potential for significant water yields in New York State. There are potential sites within the transmission line corridor identified. I am providing you a copy of this information.

Page 2
Diane Sullivan
January 9, 2003

While there are potential aquifers in the project corridor, there are no listed aquifers specifically protected by law at this location. It would be recommended that the developed right-of-way maintenance plan utilize mechanical means for controlling vegetation or herbicides specifically designed to avoid groundwater impacts. Beyond this, the Department would not view construction of the transmission line as having a negative impact to groundwater aquifers.

In closing, if you have any questions regarding this letter, please feel free to call me at your convenience.

Sincerely,



Mark A. Wiggins
Environmental Analyst 1

MAW

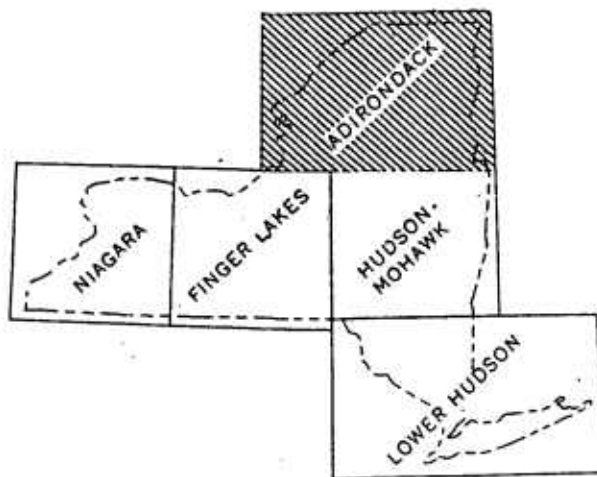
cc: Len Ollivett
Lincoln Fancher
Chris Hogan, Central Office

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

POTENTIAL YIELDS OF WELLS IN UNCONSOLIDATED AQUIFERS
IN UPSTATE NEW YORK--ADIRONDACK SHEET

By
Edward F. Bugliosi and Ruth A. Trudell

REG. 6
SOLID
WASTE
DIVISION



WATER-RESOURCES INVESTIGATIONS REPORT 87-4276



Prepared in cooperation with the
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Albany, New York
1988

PLANT SPECIES LIST

*Bold Denotes those species found on-site

Scientific Name	Common Name
Acer negundo	Boxelder
<i>Acer pennsylvanica</i>	Striped maple
Acer platanoides	Norway maple
Acer rubrum	Red maple
Acer saccharinum	Silver maple
Acer saccharum	Sugar maple
Achillea millefolium	Yarrow
<i>Acorus calamus</i>	Sweetflag
<i>Actaea alba</i>	Doll's eyes
<i>Actaea rubra</i>	Red baneberry
Adiantum pedatum	Maidenhair fern
<i>Agrimonia gryposepala</i>	Agrimony
<i>Agropyron repens</i>	Quackgrass
Agrostis alba	Redtop
<i>Ailanthus altissima</i>	Tree-of-Heaven
<i>Ajuga spp.</i>	Ajuga
Alisma plantago-aquatica	Water-plantain
Alliaria petiolata	Garlic mustard
<i>Allium canadense</i>	Wild garlic
Alnus rugosa	Speckled alder
<i>Amaranthus retroflexus</i>	Pigweed
Ambrosia artemisiifolia	Ragweed
<i>Amelanchier arborea</i>	Downy serviceberry
Amelanchier canadensis	Shadbush
<i>Amphicarpaea bracteata</i>	Hog peanut
<i>Andropogon gerardii</i>	big bluestem
<i>Anemone cylindrica</i>	Thimbleweed
<i>Angelica atropurpurea</i>	Purple-stem angelica
Apocynum cannabinum	Indian hemp
<i>Arabis glabra</i>	Tower mustard
<i>Aralia nudicaulis</i>	Wild sarsaparilla
Arctium minus	Common burdock
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit
<i>Asarum canadense</i>	Wild ginger
Asclepias incarnata	Swamp milkweed
Asclepias syriaca	Common milkweed
<i>Asplenium platyneuron</i>	Ebony Spleenwort
<i>Aster divaricatus</i>	White wood aster

<i>Aster dumosus</i>	Bushy aster
<i>Aster ericoides</i>	Heath aster
<i>Aster lanceolatus</i>	Tall white aster
<i>Aster lateriflorus</i>	Calico aster
<i>Aster novae-angliae</i>	New England aster
<i>Aster novae-belgii</i>	New York aster
<i>Aster prenanthoides</i>	Crooked-stem aster
<i>Aster umbellatus</i>	Flat-top white aster
<i>Aster vimineus</i>	Small white aster
<i>Athyrium filix-femina</i>	Lady-fern
<i>Berberis thunbergii</i>	Japanese barberry
<i>Berberis vulgaris</i>	Barberry
<i>Betula alleghaniensis</i>	Yellow birch
<i>Betula lenta</i>	Sweet birch
<i>Betula papyrifera</i>	Paper birch
<i>Betula populifolia</i>	Gray birch
<i>Bidens</i> spp.	Beggar's-tick
<i>Boehmeria cylindrica</i>	False nettle
<i>Brassica rapa</i>	Field mustard
<i>Bromus inermis</i>	Smooth brome
<i>Calamagrostis canadensis</i>	Bluejoint grass
<i>Caltha palustris</i>	Marsh marigold
<i>Calystegia sepium</i>	Hedge-bindweed
<i>Cardamine concatenata</i>	Cut-leaf toothwort
<i>Cardamine diphylla</i>	Two-leaved toothwort
<i>Carex bromoides</i>	Sedge
<i>Carex crinita</i>	Sedge
<i>Carex interior</i>	Sedge
<i>Carex lacustris</i>	Lake sedge
<i>Carex lurida</i>	Sedge
<i>Carex pennsylvanica</i>	Pennsylvania sedge
<i>Carex scopiaria</i>	Sedge
<i>Carex</i> spp.	Sedge
<i>Carex stricta</i>	Sedge
<i>Carex tribuloides</i>	Sedge
<i>Carex vulpinoidea</i>	Sedge
<i>Carpinus caroliniana</i>	Ironwood
<i>Carya cordiformis</i>	Bitternut hickory
<i>Carya glabra</i>	Pignut
<i>Carya ovata</i>	Shagbark hickory
<i>Catalpa ovata</i>	Chinese catalpa
<i>Caulophyllum thalictroides</i>	Blue cohosh
<i>Celastrus orbicalatus</i>	Oriental bittersweet
<i>Celastrus scandens</i>	Bittersweet

<i>Centaurea maculosa</i>	Spotted knapweed
<i>Chamaedaphne calyculata</i>	Leather leaf
<i>Chelidonium majus</i>	Celandine
<i>Chelone glabra</i>	White turtlehead
Chenopodium album	Lamb's quarters
Chichorium intybus	Chickory
Chrysanthemum leucanthemum	Oxeye daisy
<i>Circaea quadrisulcata</i>	Enchanter's nightshade
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium discolor</i>	Field thistle
Cirsium vulgare	Bull-thistle
<i>Clematis virginiana</i>	Virgin's-bower
<i>Comptonia peregrina</i>	Sweet fern
<i>Convallaria majalis</i>	Lily-of-the-valley
<i>Cornus americana</i>	hazelnut
Cornus amomum	Silky dogwood
<i>Cornus canadensis</i>	Bunchberry
<i>Cornus cornuta</i>	hazelnut
<i>Cornus florida</i>	Flowering dogwood
Cornus foemina	Gray dogwood
<i>Cornus sericea</i>	dogwood
Cornus stolonifera	Redosier dogwood
<i>Coronilla varia</i>	Crown vetch
<i>Corylus americana</i>	Hazelnut
<i>Corylus cornuta</i>	Beaked filbert
Crataegus spp.	Hawthorn
<i>Cynanchum nigrum</i>	Black Swallow wort
<i>Cynoglossum officinale</i>	Hound's-tongue
Dactylis glomerata	Orchard grass
Daucus carota	Queen Anne's lace
<i>Dianthus armeria</i>	Deptford pink
Dipsacus sylvestris	Teasel
Dryopteris spp.	Wood fern
<i>Dulichium arundinaceum</i>	Three-way sedge
<i>Echinocystis lobata</i>	Wild cucumber
Epifagus virginiana	Beech-drops
Epilobium spp.	Willow-herb
Equisetum arvense	Field horsetail
<i>Erigeron philadelphicus</i>	Daisy fleabane
<i>Erigeron pulchellus</i>	Robin plantain
<i>Erysimum cheiranthoides</i>	Wormseed mustard
<i>Erythronium americanum</i>	Yellow troutlily
Eupatorium maculatum	Joe pye-weed
Eupatorium perfoliatum	Boneset

Eupatorium rugosum

Euphorbia esula

Euthamia graminifolia

Fagus grandifolia

Fragaria virginiana

Fraxinus americana

Fraxinus nigra

Fraxinus pennsylvanica

Galeopsis tetrahit

Galium spp.

Gaylussacia baccata

Geranium maculatum

Geranium robertianum

Geum canadense

Glechoma hederacea

Glyceria melicaria

Hamamelis virginiana

Hedera helix

Helianthus species

Helianthus tuberosus

Hepatica nobilis

Heracleum lahatum

Hesperis matronalis

Hieracium pilosella

Hydrophyllum virginianum

Hypericum mutilum

Hypericum perforatum

Ilex verticillata

Impatiens capensis

Iris pseudoacorus

Iris versicolor

Juglans nigra

Juglans cinera

Juncus effusus

Juncus tenuis

Juniperis spp.

Juniperus virginiana

Lamium amplexicaule

Leersia oryzoides

Lespedeza capitata

Lespedeza hirta

Lespedeza procumbens

Ligustrum spp.

Linaria vulgaris

White snakeroot

Leafy spurge

Flat-top goldenrod

American beech

Wild strawberry

White ash

Black ash

Green ash

Hemp nettle

Bedstraw

Huckleberry

Wild geranium

Herb robert

Avens

Ground ivy

Slender mannagrass

Witch-hazel

English ivy

Sunflower

Jerusalem artichoke

Hepatica

Cow parsnip

Dame's rocket

Mouse-ear hawkweed

Virginia waterleaf

Dwarf St. Johnswort

St. John's-wort

Winterberry

Spotted jewelweed

Yellow iris

Blue-flag iris

Black walnut

Butternut

Soft rush

Slender rush

Juniper

Eastern red cedar

Henbit

Rice cutgrass

bush clover

bush clover

bush clover.

Privet

Butter-and-eggs

<i>Lindera benzoin</i>	Spicebush
<i>Liriodendron tulipifera</i>	Tuliptree
<i>Lobelia inflata</i>	Indian-tobacco
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera spp</i>	Bush honeysuckles
<i>Lonicera tatarica</i>	Tartarian honeysuckle
<i>Lotus corniculata</i>	Bird's-foot trefoil
<i>Lupinus perennis</i>	Blue lupine
<i>Lycopodium spp.</i>	Clubmoss/groundpine
<i>Lycopus americana</i>	Water-horehounds
<i>Lycopus uniflorus</i>	Oneflower bugleweed
<i>Lysimachia nummularia</i>	Moneywort
<i>Lysimachia terrestris</i>	loosestrife
<i>Lysimachia thrysiflora</i>	loosestrife
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Maianthemum canadensis</i>	Wild lily-of-the-valley
<i>Malus spp.</i>	Apple
<i>Malaxis bayardii</i>	Bayard's malaxis
<i>Matteuccia struthiopteris</i>	Ostrich fern
<i>Medicago sativa</i>	Alfalfa
<i>Melilotus alba</i>	White sweet clover
<i>Melilotus offinalis</i>	Yellow sweet clover
<i>Mentha spicata</i>	Spearmint
<i>Monarda fistulosa</i>	Wild bergamot
<i>Morus spp.</i>	Mulberry
<i>Myosotis laxa</i>	Forget-me-nots
<i>Nasturtium officinale</i>	Watercress
<i>Nemophanthus mucronatus</i>	Mountain holly
<i>Nuphar luteum</i>	Pond lily
<i>Nymphaea odorata</i>	Water lily
<i>Oenothera biennis</i>	Common evening primrose
<i>Onoclea sensibilis</i>	Sensitive fern
<i>Osmunda cinnamomea</i>	Cinnamon fern
<i>Osmunda regalis</i>	Royal fern
<i>Ostrya virginiana</i>	Hop hornbeam
<i>Oxalis spp.</i>	Yellow sorrel
<i>Parthenocisus quinquefolia</i>	Virginiana creeper
<i>Pastinaca sativa</i>	Wild parsnip
<i>Penstamon digitalis</i>	Beard tongue
<i>Phalaris arundinacea</i>	Reed canary grass
<i>Phleum pratense</i>	Timothy
<i>Phragmites australis</i>	Common reed
<i>Phytolacca americana</i>	Pokeweed
<i>Picea abies</i>	Norway spruce

<i>Picea glauca</i>	White spruce
<i>Picea pungens</i>	Colorado blue spruce
<i>Pilea pumila</i>	Clear weed
<i>Pinus nigra</i>	Austrian pine
<i>Pinus resinosa</i>	Red pine
<i>Pinus rigida</i>	Pitch Pine
<i>Pinus strobus</i>	White pine
<i>Pinus sylvestris</i>	Scotch pine
<i>Plantago lanceolata</i>	English plantain
<i>Plantago major</i>	Common plantain
<i>Platanus occidentalis</i>	Sycamore
<i>Poa paludigina</i>	
<i>Poa palustris</i>	Fowl bluegrass
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Poaceae</i>	Grasses
<i>Podophyllum peltatum</i>	Mayapple
<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Polygonum pennsylvanicum</i>	Pennsylvania smartweed, Pinkweed
<i>Polygonum persicaria</i>	Lady's thumb
<i>Polygonum sagittatum</i>	Tearthumb
<i>Polygonum virginianum</i>	Jumpseed
<i>Polypodium virginianum</i>	Common polypody
<i>Polystichum acrostichoides</i>	Christmas fern
<i>Populus balsamifera</i>	Balsam poplar
<i>Populus deltoides</i>	Eastern cottonwood
<i>Populus grandidentata</i>	Bigtooth aspen
<i>Populus tremuloides</i>	Trembling aspen
<i>Potentilla simplex</i>	Old-field cinquefoil
<i>Prunella vulgaris</i>	Heal-all
<i>Prunus pensylvanica</i>	Pin cherry
<i>Prunus serotina</i>	Black cherry
<i>Prunus virginiana</i>	Choke cherry
<i>Pteridium aquilinum</i>	Bracken fern
<i>Pyrus communis</i>	Pear
<i>Quercus alba</i>	White oak
<i>Quercus bicolor</i>	Swamp white oak
<i>Quercus coccinea</i>	Scarlet oak
<i>Quercus illicifolia</i>	Scrub Oak
<i>Quercus palustris</i>	Pin oak
<i>Quercus prinoids</i>	Scrub Oak
<i>Quercus rubra</i>	Northern red oak
<i>Quercus velutina</i>	Black oak
<i>Ranunculus acris</i>	Tall buttercup
<i>Ranunculus hispidus</i>	Swamp buttercup

Ranunculus trichophyllus

Rhamnus cathartica

Rhus typhina

Ribes spp.

Robinia pseudo-acacia

Rosa eglanteria

Rosa multiflora

Rubus allegheniensis

Rubus alumnus

Rubus flagellarus

Rubus idaeus

Rubus occidentalis

Rubus odoratus

Rubus pubescens

Rudbeckia hirta

Rumex crispus

Sagittaria latifolia

Salix babylonica

Salix bebbiana

Salix nigra

Salix species

Sambucus canadensis

Sanguinaria canadensis

Sassafras albidum

Schizachyrium scoparium

Scirpus atrovirens

Scirpus cyperinus

Scirpus tabernaemontanii

Scirpus validus

Secale spp.

Senecio aureus

Setaria spp.

Sisyrinchium montanum

Smilacina racemosa

Solanum carolinense

Solanum dulcamera

Solidago altissima

Solidago canadensis

Solidago flexicaulis

Solidago gigantea

Solidago juncea

Solidago rugosa

Sorghastrum nutans

Sparganium americanum

White water buttercup

Common buckthorn

Staghorn sumac

Gooseberry

Black locust

Sweet briar

Multiflora rose

Allegheny blackberry

Blackberry

Dewberry

Red raspberry

Black raspberry

Pink thimbleberry

Dwarfed blackberry

Black-eyed susan

Curly dock

Common arrowhead

Weeping willow

Bebb willow

Black willow

Willow

Common elder

Bloodroot

Sassafras

little bluestem

Green bulrush

Wool grass

bulrush

Soft-stemmed bulrush

Perennial rye

Golden ragwort

Foxtail

Blue-eyed grass

False Solomon's seal

Horse nettle

Bittersweet nightshade

Tall goldenrod

Canada goldenrod

Zigzag goldenrod

Late goldenrod

Early goldenrod

Wrinkled (rough-stemmed) goldenrod

Indian grass

Bur-reed

<i>Sphagnum fallax</i>	Sphagnum moss
<i>Spiraea alba</i>	Meadowsweet
<i>Spiraea latifolia</i>	Meadowsweet
<i>Staphylea trifolia</i>	American Bladdernut
<i>Symplocarpus foetidus</i>	Skunk cabbage
<i>Syringa spp.</i>	Lilac
<i>Taraxacum officinale</i>	Dandelion
<i>Taxus spp.</i>	Yew
<i>Thalictrum polygamum</i>	Tall meadowrue
<i>Tiarella cordifolia</i>	Foamflower
<i>Tilia americana</i>	Basswood
<i>Toxicodendron radicans</i>	Poison ivy
<i>Trientalis borealis</i>	Star flower
<i>Trifolium aureum</i>	Palmate hop-clover
<i>Trifolium pratense</i>	Red clover
<i>Trifolium repens</i>	White clover
<i>Trillium erectum</i>	Red trillium
<i>Trillium grandiflorum</i>	White trillium
<i>Trillium underlatum</i>	painted trillium
<i>Tsuga canadensis</i>	Hemlock
<i>Tussilago farfara</i>	Coltsfoot
<i>Typha angustifolia</i>	Narrow-leaf cattail
<i>Typha latifolia</i>	Broad-leaf cattail
<i>Ulmus americana</i>	American elm
<i>Urtica doica</i>	Stinging nettle
<i>Urtica gracilis</i>	Slender nettle
<i>Vaccinium angustifolium</i>	Lowbush blueberry
<i>Vaccinium corymbosum</i>	Highbush blueberry
<i>Vaccinium pallidum</i>	blueberry
<i>Verbascum thapsus</i>	Mullein
<i>Verbena hastata</i>	Blue vervain
<i>Verbena urticifolia</i>	White vervain
<i>Viburnum acerifolium</i>	Mapleleaf viburnum
<i>Viburnum cassinoides</i>	Wild raisin
<i>Viburnum lentago</i>	Nannyberry
<i>Viburnum recognitum</i>	Arrowwood
<i>Vicia angustifolia</i>	Narrow-leaved vetch
<i>Vicia cracca</i>	Cow vetch
<i>Vicia sativa</i>	Common vetch
<i>Vinca minor</i>	Myrtle
<i>Viola sororia</i>	Marsh blue violet
<i>Vitis aestivalis</i>	Wild grape
<i>Vitis riparia</i>	Riverbank grape
<i>Zanthoxylum americanum</i>	Prickly ash

Zea mays
Zizania aquatica
Zizia aurea

Corn
Wild rice
Golden alexanders

WILDLIFE SPECIES LIST

Common NameScientific NameBird Species**Grebes**

pied-billed grebe

Pedicipedidae*Podilymbus podiceps***Hérons, Bitterns**

- * great blue heron
- * green heron (green-backed)*
- American bittern
- black-crowned night heron
- great egret

Ardeidae

Ardea herodias
Butorides striatus
Botaurus lentiginosus
Nycticorax nycticorax
Casmerodius albus

Waterfowl

- * Canada goose*
- * mallard
- ** American black duck
- blue-winged teal
- * wood duck*
- hooded merganser
- common merganser*
- red-breasted merganser
- green winged teal
- ring-necked duck

Anatidae

Branta canadensis
Anas platyrhynchos
Anas rubripes
Anas discors
Aix sponsa
Lophodytes cacullatus
Mergus merganser
Mergus serrator
Anas crecca
Aythya collaris

American Vultures

- ** turkey vulture

Cathartidae*Cathartes aura***Hawks**

- Bald eagle
- osprey
- sharp-shinned hawk*
- ** Cooper's hawk*
- * red-tailed hawk*
- ** American kestrel
- * northern harrier
- northern goshawk
- * red-shouldered hawk
- ** broad-winged hawk

Accipitridae

Haliaeetus leucocephalus
Pandion haliaetus
Accipiter striatus
Accipiter cooperii
Buteo jamaicensis
Falco sparverius
Circus cyaneus
Accipiter gentilis
Buteo lineatus
Buteo platypterus

Grouse

- * ruffed grouse

Tetraonidae*Bonasa umbellus***Quail**

ring-necked pheasant

Phasianidae*Phasianus colchicus***Turkeys*****Meleagrididae***

Common Name	Scientific Name
* wild turkey	<i>Meleagris gallopavo</i>
Rails	Rallidae
Virginia rail	<i>Rallus limicola</i>
** sora rail	<i>Porzana carolina</i>
common moorhen	<i>Gallinula chloropus</i>
American coot	<i>Fulica americana</i>
Plovers	Charadriidae
** killdeer*	<i>Charadrius vociferus</i>
Sandpipers	Scolopacidae
** spotted sandpiper*	<i>Actitis macularia</i>
American woodcock	<i>Philohela minor</i>
** common snipe	<i>Gallinago gallinago</i>
solitary sandpiper	<i>Tringa solitaria</i>
upland sandpiper	<i>Bartramia longicauda</i>
Gulls, Terns	Laridae
herring gull	<i>Larus argentatus</i>
ring-billed gull*	<i>Larus delawarensis</i>
Pigeons, Doves	Columbidae
* rock dove*	<i>Columba livia</i>
* mourning dove*	<i>Zenaida macroura</i>
Cuckoos	Cuculidae
** yellow-billed cuckoo	<i>Coccyzus americanus</i>
** black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>
Typical Owls	Strigidae
** eastern screech owl*	<i>Otus asio</i>
** great horned owl*	<i>Bubo virginianus</i>
** barred owl	<i>Strix varia</i>
Goat Suckers	Caprimulgidae
common nighthawk	<i>Chordeiles minor</i>
** whip-poor-will	<i>Caprimulgus vociferus</i>
Swifts	Apodidae
** chimney swift*	<i>Chaetura pelagica</i>
Hummingbirds	Trochilidae
** ruby-throated hummingbird	<i>Archilochus colubris</i>
Kingfishers	Alcedinidae
** belted kingfisher*	<i>Ceryle alcyon</i>
Woodpeckers	Picidae
* northern flicker*	<i>Colaptes auratus</i>
** pileated woodpecker*	<i>Dryocopus pileatus</i>

Common Name	Scientific Name
** red-bellied woodpecker*	<i>Melanerpes carolinus</i>
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
** hairy woodpecker*	<i>Picoides villosus</i>
* downy woodpecker*	<i>Picoides pubescens</i>
** yellow-bellied sapsucker	<i>Sphyrapicus varius</i>
Flycatchers	Tyrannidae
** eastern kingbird*	<i>Tyrannus tyrannus</i>
** great crested flycatcher*	<i>Myiarchus crinitus</i>
** eastern phoebe	<i>Sayornis phoebe</i>
** willow flycatcher	<i>Epidonax traillii</i>
* least flycatcher*	<i>Epidonax minimus</i>
** alder flycatcher	<i>Epidonax alnorum</i>
eastern wood-pewee	<i>Contopus virens</i>
olive-sided flycatcher	<i>Nuttallornis borealis</i>
yellow-bellied flycatcher	<i>Empidonax flaviventris</i>
Larks	Alaudidae
** horned lark	<i>Eremophila alpestris</i>
Swallows	Hirundinidae
** purple martin	<i>Progne subis</i>
** bank swallow	<i>Riparia riparia</i>
** tree swallow	<i>Tachycineta bicolor</i>
** barn swallow*	<i>Hirundo rustica</i>
northern rough-winged swallow*	<i>Stelgidopteryx serripennis</i>
cliff swallow	<i>Hirundo pyrrhonotta</i>
Jays, Crows	Corvidae
* blue jay*	<i>Cyanocitta cristata</i>
* American crow*	<i>Corvus brachyrhynchos</i>
fish crow	<i>Corvus ossifragus</i>
Titmice	Paridae
* black-capped chickadee*	<i>Parus atricapillus</i>
** tufted titmouse*	<i>Parus bicolor</i>
Nuthatches	Sittidae
** white-breasted nuthatch*	<i>Sitta carolinensis</i>
** red-breasted nuthatch*	<i>Sitta canadensis</i>
Creepers	Certhiidae
brown creeper*	<i>Certhia americana</i>
Wrens	Troglodytidae
Carolina wren	<i>Thryothorus ludovicianus</i>
* marsh wren	<i>Cistothorus palustris</i>
** house wren	<i>Troglodytes aedon</i>
** winter wren	<i>Troglodytes troglodytes</i>
Mimic Thrushes	Mimidae

Common Name	Scientific Name
** northern mockingbird	<i>Mimus polyglottos</i>
* gray catbird*	<i>Dumetella carolinensis</i>
** brown thrasher*	<i>Toxostoma rufum</i>
Thrushes	Turdidae
* American robin*	<i>Turdus migratorius</i>
** wood thrush*	<i>Hylocichla mustelina</i>
** veery*	<i>Catharus fuscescens</i>
** hermit thrush*	<i>Catharus guttatus</i>
* eastern bluebird	<i>Sialia sialis</i>
gray-cheeked thrush*	<i>Catharus minimus</i>
swainson's thrush*	<i>Catharus ustulatus</i>
Kinglets	Sylviidae
blue-gray gnatcatcher*	<i>Poliophtila caerulea</i>
** golden-crowned kinglet*	<i>Regulus satrapa</i>
ruby-crowned kinglet*	<i>Regulus calendula</i>
Waxwings	Bombycillidae
* cedar waxwing*	<i>Bombycilla cedrorum</i>
Starlings	Sturnidae
* European starling	<i>Sturnus vulgaris</i>
Vireos	Vireonidae
solitary vireo*	<i>Vireo solitarius</i>
** red-eyed vireo*	<i>Vireo olivaceus</i>
yellow-throated vireo*	<i>Vireo flavifrons</i>
** warbling vireo*	<i>Vireo gilvus</i>
Philadelphia vireo*	<i>Vireo philadelphicus</i>
White-eyed vireo	<i>Vireo griseus</i>
** blue-headed vireo	<i>Vireo solitarius</i>
Wood Warblers	Parulidae
** black and white warbler	<i>Mniotilta varia</i>
blue-winged warbler	<i>Vermivora pinus</i>
golden-winged warbler	<i>Vermivora chrysoptera</i>
Brewster's warbler	<i>Vermivora pinus</i> x <i>V. chrysoptera</i>
Lawrence's warbler	<i>Vermivora chrysoptera</i> x <i>V. pinus</i>
** Nashville warbler	<i>Vermivora ruficapilla</i>
** yellow warbler*	<i>Dendroica petechia</i>
** magnolia warbler	<i>Dendroica magnolia</i>
** black-throated blue warbler	<i>Dendroica caerulescens</i>
** chestnut-sided warbler	<i>Dendroica pensylvanica</i>
** yellow-rumped warbler	<i>Dendroica coronata</i>
** black-throated green warbler	<i>Dendroica virens</i>
** blackburnian warbler	<i>Dendroica fusca</i>
** pine warbler	<i>Dendroica pinus</i>
** ovenbird	<i>Seiurus aurocapillus</i>
northern waterthrush	<i>Seiurus noveboracensis</i>
** Louisiana waterthrush	<i>Seiurus motacilla</i>

Common Name	Scientific Name
** mourning warbler	<i>Oporornis philadelphia</i>
** common yellowthroat	<i>Geothlypis trichas</i>
** Canada warbler	<i>Wilsonia canadensis</i>
yellow-breasted chat	<i>Icteria virens</i>
** American redstart	<i>Setophaga ruticila</i>
prairie warbler	<i>Dendroica discolor</i>
Tennessee warbler	<i>Vermivora peregrina</i>
orange-crowned warbler	<i>Vermivora celata</i>
bay-breasted warbler	<i>Dendroica castanea</i>
northern parula warbler	<i>Parula americana</i>
Cape May warbler	<i>Dendroica tigrina</i>
yellow-throated warbler	<i>Dendroica dominica</i>
palm warbler	<i>Dendroica palmarum</i>
blackpoll warbler	<i>Dendroica striata</i>
hooded warbler	<i>Wilsonia citrina</i>
Kentucky warbler	<i>Oporornis formosus</i>
Wilson's warbler	<i>Wilsonia pusilla</i>
cerulean warbler	<i>Dendroica cerulea</i>
worm-eating warbler	<i>Helmitheros vermivorus</i>
connecticut warbler	<i>Oporornis agilis</i>
Weaver Finches	Ploceidae
* house sparrow*	<i>Passer domesticus</i>
Blackbirds	Icteridae
* bobolink	<i>Dolichonyx oryzivorus</i>
** eastern meadowlark	<i>Sturnella magna</i>
* red-winged blackbird*	<i>Agelaius phoeniceus</i>
orchard oriole	<i>Icterus spurius</i>
** Baltimore oriole*	<i>Icterus galbula</i>
* common grackle*	<i>Quiscalus quiscula</i>
* brown-headed cowbird*	<i>Molothrus ater</i>
Tanagers	Thraupidae
** scarlet tanager*	<i>Piranga olivacea</i>
Finches	Fringillidae
* northern cardinal*	<i>Cardinalis cardinalis</i>
** rose-breasted grosbeak*	<i>Pheucticus ludovicianus</i>
** indigo bunting*	<i>Passerina cyanea</i>
** house finch*	<i>Carpodacus mexicanus</i>
** purple finch	<i>Carpodacus purpureus</i>
** American goldfinch*	<i>Carduelis tristis</i>
** pine siskin*	<i>Carduelis pinus</i>
** rufous-sided towhee*	<i>Pipilo erythrophthalmus</i>
** savannah sparrow	<i>Passerculus sandwichensis</i>
grasshopper sparrow	<i>Ammodramus honslowii</i>
Henslow's sparrow	<i>Ammodramus savannarum</i>
** vesper sparrow	<i>Pooecetes gramineus</i>
** dark-eyed junco*	<i>Junco hyemalis</i>
** snow bunting*	<i>Plectrophenax nivalis</i>

Common Name	Scientific Name
** chipping sparrow*	<i>Spizella passerina</i>
* field sparrow*	<i>Spizella pusilla</i>
* swamp sparrow*	<i>Melospiza georgiana</i>
* song sparrow*	<i>Melospiza melodia</i>
** white-throated sparrow*	<i>Zonotrichia albicollis</i>
Lincoln's sparrow*	<i>Melospiza lincolnii</i>
White-crowned sparrow*	<i>Zonotrichia leucophrys</i>

Mammal Species

Opossums	Didelphiidae
** opossum*	<i>Didelphis virginiana</i>
Shrews	Soricidae
smoky shrew	<i>Sorex fumeus</i>
masked shrew	<i>Sorex cinereus</i>
** shorttail shrew	<i>Blarina brevicauda</i>
least shrew	<i>Cryptotis parva</i>
Moles	Talpidae
eastern mole	<i>Scalopus aquaticus</i>
** star-nose mole	<i>Condylura cristata</i>
hairytail mole	<i>Parascalops breweri</i>
Plainnose Bats	Vespertilionidae
eastern pipistrel	<i>Pipistrellus subflavus</i>
big brown bat	<i>Eptesicus fuscus</i>
hoary bat	<i>Lasiurus cinereus</i>
red bat	<i>Lasiurus borealis</i>
** little brown myotis	<i>Myotis lucifugus</i>
Keen myotis	<i>Myotis keenii</i>
silver-haired bat	<i>Lasionycteris noctivagans</i>
Raccoons	Procyonidae
* raccoon*	<i>Procyon lotor</i>
Weasels	Mustelidae
shorttail weasel	<i>Mustela erminea</i>
longtail weasel	<i>Mustela frenata</i>
** mink	<i>Mustela vison</i>
** striped skunk	<i>Mephitis mephitis</i>
Dogs, Wolves, Foxes	Canidae
* coyote	<i>Canis latrans</i>
** red fox*	<i>Vulpes vulpes</i>
** gray fox	<i>Urocyon cinereoargenteus</i>
Cats	Felidae
bobcat	<i>Felis rufus</i>
Squirrels	Sciuridae

Common Name	Scientific Name
* woodchuck*	<i>Marmota monax</i>
* eastern chipmunk*	<i>Tamias striatus</i>
* eastern gray squirrel*	<i>Sciurus carolinensis</i>
* red squirrel	<i>Tamiasciurus hudsonicus</i>
** southern flying squirrel	<i>Glaucomys volans</i>
Beaver	Castoridae
* beaver*	<i>Castor canadensis</i>
Mice, Rats, Lemmings, Voles	Cricetidae
** deer mouse	<i>Peromyscus maniculatus</i>
** white-footed mouse	<i>Peromyscus leucopus</i>
** meadow vole	<i>Microtus pennsylvanicus</i>
** muskrat	<i>Ondatra zibethicus</i>
Old World Rats & Mice	Muridae
** Norway rat	<i>Rattus norvegicus</i>
** house mouse	<i>Mus musculus</i>
Jumping Mice	Zapeoidae
** meadow jumping mouse	<i>Zapus hudsonicus</i>
woodland jumping mouse	<i>Napaeozapus insignis</i>
Hares, Rabbits	Leporidae
* eastern cottontail	<i>Sylvilagus floridanus</i>
Deer	Cervidae
* whitetail deer*	<i>Odocoileus virginianus</i>
Bears	Ursidae
** black bear	<i>Ursus americanus</i>

Reptile and Amphibian Species

Box and Water Turtles	Emydidae
** midland painted turtle	<i>Chrysemys picta marginata</i>
wood turtle	<i>Clemmys insculpta</i>
eastern box turtle*	<i>Terapene carolina carolina</i>
Snapping Turtles	Chelydridae
** common snapping turtle	<i>Chelydra serpentina</i>
Musk and Mud Turtles	Kinosternidae
stinkpot	<i>Sternotherus odoratus</i>
Colubrids	Colubridae
northern water snake	<i>Natrix sipedon sipedon</i>
northern brown snake	<i>Storeria dekayi dekayi</i>
** eastern garter snake	<i>Thamnophis sirtalis sirtalis</i>

Common Name	Scientific Name
northern red-bellied snake	<i>Storeria o. occipitomaculata</i>
** eastern milk snake	<i>Lampropeltis triangulum triangulum</i>
** black rat snake	<i>Elaphe obsoleta</i>
northern ringneck snake	<i>Diadophis punctatus edwardsi</i>
northern black racer	<i>Coluber constrictor constrictor</i>
smooth green snake	<i>Liochlorophis vernalis</i>
Pit Vipers	Viperidae
timber rattlesnake	<i>Crotalus horridus</i>
northern copperhead	<i>Agkistrodon contortrix mokasen</i>
Mole Salamanders	Ambystomatidae
blue-spotted salamander	<i>Ambystoma laterale</i>
Jefferson's salamander	<i>Ambystoma jeffersonianum</i>
spotted salamander	<i>Ambystoma maculatum</i>
Skinks	Scincidae
Five-lined skink	<i>Eumeces fasciatus</i>
Newts	
** red-spotted newt	<i>Notophthalmus viridescens</i>
Lungless Salamanders	Plethodontidae
** red-backed salamander	<i>Plethodon cinereus cinereus</i>
northern two-lined salamander	<i>Eurycea bislineata bislineata</i>
slimy salamander	<i>Plethodon glutinosus</i>
northern dusky salamander	<i>Desmognathus fuscus</i>
Allegheny dusky salamander	<i>Desmognathus ochrophaeus</i>
northern spring salamander	<i>Gyrinophilus porphyriticus</i>
Toads	Bufo
** American toad	<i>Bufo americanus</i>
Fowlers toad	<i>Bufo woodhousei fowleri</i>
eastern spadefoot toad	<i>Scaphiopus holbrooki holbrooki</i>
Tree Frogs	Hylidae
** spring peeper	<i>Hyla crucifer</i>
** gray treefrog	<i>Hyla versicolor</i>
northern spring peeper	<i>Pseudacris crucifer</i>
True Frogs	Ranidae
** wood frog	<i>Rana sylvatica</i>
** pickerel frog	<i>Rana palustris</i>
northern leopard frog	<i>Rana pipiens</i>
** green frog	<i>Rana clamitans melanota</i>
** bull frog	<i>Rana catesbeiana</i>
mink frog	<i>Rana septentrionalis</i>
Fish Species	
Pikes	Esocidae

Common Name	Scientific Name
chain pickerel	<i>Esox niger</i>
** northern pike*	<i>Esox lucis</i>
Sunfishes	Centrarchidae
** smallmouth bass*	<i>Micropterus dolomieu</i>
** largemouth bass	<i>Micropterus salmoides</i>
redbreast sunfish	<i>Lepomis auritus</i>
** pumpkinseed*	<i>Lepomis gibbosus</i>
** rock bass*	<i>Ambloplites rupestris</i>
Bullhead/Catfishes	Ictaluridae
** brown bullhead	<i>Ameiurus nebulosus</i>
stonecat	<i>Norturus flavus</i>
marginated madtom	<i>Noturus insignis</i>
trout perch	<i>Percopsis omiscomaycus</i>
Suckers	Catostomidae
** white sucker	<i>Catostomus commersoni</i>
creek chubsucker	<i>Erimyzon oblongus</i>
** northern hogsucker	<i>Hypentelium nigricans</i>
Sculpins	Cothidae
mottled sculpin	<i>Cottus bairdii</i>
slimy sculpin	<i>Cottus cognatus</i>
Perches	Percidae
** Johnnie darter	<i>Etheostoma nigrum</i>
** fantail darter	<i>Etheostoma flabellare</i>
tessellated darter	<i>Etheostoma olmstedii</i>
yellow perch	<i>Perca flavescens</i>
blackside darter	<i>Percina maculata</i>
shield darter	<i>Percina peltata</i>
Carps and Minnows	Cyprinidae
lake chub	<i>Couesius plumbeus</i>
carp*	<i>Cyprinus carpio</i>
fall fish	<i>Semotilus corporalis</i>
** creek chub	<i>Semotilus atromaculatus</i>
blacknose dace	<i>Rhinichthys atratulus</i>
longnose dace	<i>Rhinichthys cataractae</i>
cutlips minnow	<i>Exoglossum maxillingua</i>
common shiner	<i>Luxilus cornutus</i>
comely shiner	<i>Notropis amoenus</i>
satinfin shiner	<i>Cyrinella analostana</i>
spottail shiner	<i>Notropis hudsonicus</i>
central stone roller	<i>Campstoma anomalum</i>
river chub	<i>Nocomis micropogon</i>
bluntnose minnow	<i>Pimephales notatus</i>
redside dace	<i>Clinostomus elongatus</i>
golden shiner	<i>Notemigonus crysoleucas</i>

Common Name	Scientific Name
Trout	<i>Salmonidae</i>
** brown trout	<i>Salmo trutta</i>
** brook trout	<i>Salvelinus fontinalis</i>
rainbow trout	<i>Oncorhynchus mykiss</i>
Invertebrates	
mourning cloak	<i>Nymphalis antiopa</i>
question mark	<i>Polygonia interrogationis</i>
water strider	<i>Gerridae</i>
crane fly	<i>Tipulidae</i>
scud	<i>Amphipoda</i>

* Observed T-line and Wetland Field Work, 2002

** Reported or should be present based on habitat and range

Visual Impact Assessment

Flat Rock Wind Power Project

Proposed 230 kV Electric Transmission Line

**Towns of Martinsburg and Watson
Lewis County, New York**

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Date: January 2003

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INTRODUCTION

Environmental Design & Research, P.C. (EDR) was retained by Flat Rock Wind Power, LLC (FRWP) to undertake an analysis of the potential visibility and visual impact of a proposed 10.3(+/-) mile 230 kV transmission line in the Towns of Martinsburg and Watson, Lewis County, New York (see Figure 1). This visual impact assessment (VIA) was prepared in support of the Article VII Application for the project, which is being completed by EDR on the behalf of FRWP. The analysis undertaken by EDR is designed to address the following questions:

- From what locations could the proposed transmission line potentially be seen?
- What sensitive receptors might have views of the proposed transmission line?
- What will the proposed transmission line look like?
- What is the potential visual impact of the project?

This study was prepared in accordance with 16 NYCCR §86.5 (b)(2)(i), (ii), and (8), and addresses those questions stated above through viewshed analysis, line-of-sight cross section analysis, field evaluation, and computer-assisted visual simulations.

PROJECT DESCRIPTION

Project/Project Site Description

The proposed transmission line will connect the proposed Flat Rock Wind Power Generating Facility located in the Towns of Martinsburg, Lowville and Harrisburg to the existing 230 kV Niagara Mohawk Adirondack Line in the Town of Watson. This connection will involve the construction of a 230 kV substation off of Rector Road, within the Flat Rock Wind Power project site, an approximately 10.3(+/-) mile long above-ground 230 kV transmission line, and a 230 kV interconnection facility adjacent to the existing 230 kV Adirondack Line. The proposed line will generally be carried on a series of single circuit wooden "H" frame structures. Angle structures will either be 3-pole, guyed wooden structures or Corten steel monopoles (see Appendix A). Proposed structures will range in height from 65 to 100 feet. The proposed transmission line will be built within a 200 foot wide right-of-way (ROW). A 100 foot wide corridor within the ROW will be cleared of tall-growing trees and maintained in low-growing vegetation (herbaceous and shrub species).

The route of the proposed transmission line is generally the most direct connection of the two interconnect points that could be achieved consistent with 1) protection of sensitive resources (such as wetlands and agricultural fields) and 2) desired location as dictated by involved landowners. Because FRWP does not have the power of eminent domain, location of the proposed line must be agreed upon by the individual landowners along the route. Avoidance of non-participating landowner's property and the locational requirements of participating landowners resulted in a route that generally follows the edges of fields and woodlots and includes numerous angle points. For descriptive purposes, the proposed project has been broken into three segments. These segments consist of 1) the Rector Road substation to NYS Route 12; 2) NYS Route 12 to Pine Grove Road; and 3) Pine Grove Road to the existing 230 kV Adirondack Line (see Figure 2).

The first segment of the proposed line will originate at a newly constructed 230 kV substation (the Rector Road Substation), located off of Rector Road on the east side of the Flat Rock Wind Power project site, northwest of the intersection with Swernicki Road. The substation will be approximately 0.75 acre in size, enclosed by a chain link fence, and surfaced with crushed stone. It will include transformers, breakers, switches, relays, meters and associated equipment. The tallest structures within the new substation will be galvanized pylons approximately 65 feet tall. The substation will be connected to Rector Road by a new gravel access road approximately 2,500 feet in length and 20 feet wide. From the substation, the proposed transmission line will traverse the eastern edge of the Tug Hill Plateau for a distance of approximately 5.3 miles. Topography in this area is a series of relatively steep slopes and flatter terraces that descend to the Black River Valley. Elevation drops from 1,630 feet to 770 feet as one proceeds from west to east. Land use in this section is dominated by agricultural land (row crops, hay and pasture), but also includes areas of successional old field/shrubland, several small to medium sized deciduous woodlots, wooded ravines and wetlands. Road crossings along this segment include Rector Road, West Road (County Route 29) and NYS Route 26/12D.

The second segment of the proposed route generally heads in a northeasterly direction from State Route 12 to Pine Grove Road (County Route 39). This section of the proposed corridor traverses approximately 2.9 miles of relatively flat terrain dominated by active agricultural land uses, including the large Marks Farm dairy operation. A few pockets of forested wetland and two steep slopes with upland forest also occur within this segment. Portions of this segment of the line are within the Black River floodplain, and the line traverses an approximately 210 foot wide section of the Black River. Road crossings along this segment include State Route 12 and East Martinsburg Road (County Route 22).

The third segment of the proposed route heads in an easterly direction from Pine Grove Road to the 230 kV Adirondack Line, where a new substation (Chases Lake Road Interconnection Facility) will be constructed east of Wetmore Road. This section of the proposed corridor traverses approximately 2.2 miles of relatively hilly terrain ranging in elevation from approximately 770 feet to 1,140 feet as one proceeds from west to east. Land use along this segment includes a small area of agricultural land at the west end, but is dominated by mixed deciduous/coniferous forestland interspersed with areas of scrub-shrub and forest wetland. The proposed substation site is also located in forestland adjacent to the cleared ROW for the New York Power Authority (NYPA) Massena-Marcy 765 kV Transmission Line. The Chases Lake Road Interconnection Facility will be approximately 0.80 acre in size, enclosed by a chain link fence and surfaced with crushed stone. Similar to the Rector Road Substation, it will include breakers, switches, relays, meters and associated equipment. The tallest structures within the new substation will be approximately 65 feet tall. The substation will be connected to Wetmore Road by a new gravel access road approximately 1,350 feet in length and 20 feet wide.

EXISTING VISUAL CHARACTER

Physiographic/Visual Setting

In accordance with New York State Department of Public Service (DPS) regulations, (NYSDPS, 1995), the area within 3 miles, on either side of the proposed transmission line, was defined as the visual study area. Landscape character within this area is defined by the basic pattern of existing landform, vegetation, land use and water features. These various elements of the landscape are described below.

Landform and Vegetation

The proposed project is located in the Tug Hill Plateau, Black River Valley and Western Adirondack Transition Zone physiographic regions of New York State (Reschke, 1990). The Tug Hill area is distinguished by its elevated, but relatively level to gently rolling topography. The eastern edge of the Tug Hill is characterized by a series of steep slopes and plateaus that step down to the Black River Valley. This step-like topography limits long distance views along the eastern edge of the plateau and the western side of the adjacent Black River Valley. The valley itself is characterized by relatively level flood plain topography for a distance of approximately 2.5 miles. The eastern portion of the line gently rises into the Western Adirondack Transition Zone, which is characterized by dissected rolling hills. Elevations within the study area range from approximately 770 feet to 1,630 feet above sea level. Steep slopes occur primarily on the eastern edge of the Tug Hill Plateau, on both sides of the Black River Valley and within ravines along area streams.

Vegetation in the region is characterized by a roughly 60:40 mix of open fields and forest. Open land dominates the western and central portions of the study area, while forestland dominates the eastern portion. Larger more contiguous areas of forest occur in the Adirondacks east of the study area and in the central Tug Hill area immediately west and southwest of the study area. Open fields within the study area are dominated by active cropland and pasture, but also include some successional old fields and shrubland. Open land generally occurs on the more level or gently sloping areas within the study area. Forest vegetation is primarily deciduous (northern hardwoods) mixed with some conifers (white pine and hemlock). Forestland dominates the eastern portion of the proposed transmission corridor, from Pine Grove Road to the 230 kV Adirondack Line. Elsewhere along the proposed route, forest vegetation occurs in smaller blocks and corridors within wooded wetlands, woodlots, hedgerows, on steep slopes and along stream banks.

Land Use

Land use throughout the study area is primarily agricultural and low density residential land, interspersed with small, well defined hamlets. Rural portions of the area are dominated by open land (agricultural and undeveloped), farms and scattered residences. These areas are typically included in agricultural, rural residential and forest zoning districts within the local municipalities. Dairy farming is the dominant agricultural use in the area, and contributes significantly to its bucolic character and the open views that are available from many locations. One large, high-intensity dairy operation (Marks Farm) is located just east of Route 12 along the proposed transmission line route. This farm (and some others within the study area) could be characterized as industrial agriculture. Higher density residential and commercial development is concentrated in the Village of Lowville, in small hamlets such as Martinsburg, Watson and Glendale and along major roads such as NYS Route 12. Lowville is the residential, commercial and governmental hub of the area. It includes numerous older, but generally well-maintained homes along streets that are typically lined with mature trees. The Village includes County facilities, a main commercial district along State Street and Lowville Academy (public school), along with businesses and industries around the Village perimeter. The hamlets within the study area are relatively small, well-defined components of a primarily rural/agricultural landscape. Outside of the Village of Lowville, commercial and industrial uses within the study area are generally limited to small rural businesses, a few rock/gravel quarries and communication facilities (e.g. radio towers/antennas).

Water Features

Water features within the study area include the Black River, Independence River, Otter Creek, Mill Creek, Cobb Creek, Harvey Creek, Hodge Creek, Atwater Creek, Whetstone Creek, Roaring Brook, Chases Lake and scattered wetlands and ponds. With the exception of the Black River, Independence River and Chases Lake, water features within the study area are fairly small and are generally not major aesthetic features in the landscape. Several significant waterfalls occur on the creeks within the study area as they drop off the Tug Hill Plateau, including Whittaker Falls on Roaring Brook. However, with a few exceptions where the falls are visible from adjacent roads, even these water features are not highly visible components of the landscape. Due to their occurrence within largely forested valleys or ravines, water features within the study area are generally only visible at bridge and culvert crossings, or if accessed by foot. The major water feature in the region is the Black River, which passes through the east/central portion of the study area. Within this area the river occurs in a broad flood plain that is primarily in active agricultural use. The river itself has a wide, meandering channel with steep tree-lined banks. The Black River is generally deep with a gentle gradient, but does have a moderate to swift current. It is a popular canoeing and fishing destination for local residents. Except at bridge crossings, views to and from the river are limited by its steep banks and the almost continuous band of trees and brush that runs along its shoreline.

Visually Sensitive Resources

The visual study area includes five structures listed on the State and National Register of Historic Places, one State-designated scenic byway (NYSDOT, not dated), a portion of the Adirondack Park, State Forest Preserve Land and two State Forests outside the Forest Preserve. All of these are considered aesthetic resources of statewide significance, as defined by New York State Department of Environmental Conservation (NYSDEC) program policy DEP-00-2 (NYSDEC, 2000). Other areas of statewide significance, including State Parks, Urban Cultural Parks, State Wildlife Management Areas, National Wildlife Refuges, National Natural Landmarks, National Recreation Areas, National Seashores, designated Wild, Scenic or Recreational Rivers, or designated Scenic Areas of Statewide Significance, are lacking within the study area (NYSOPRHP, 1997; NYSDOT, not dated; ECL Article 15 Title 27; NYSDOS, 1993). The Tug Hill State Wildlife Management Area (WMA) and Whetstone Gulf State Park are located outside of the study area to the west and south respectively. Review of existing data also failed to reveal the presence of any State Nature or Historic Preserve Areas, or Bond Act Properties purchased under the Exceptional Scenic Beauty or Open Space category. Along with areas of statewide significance, the study area also includes several additional resources, such as local parks and areas of more intensive land use, that could be considered visually sensitive from a local perspective (see Figure 3). Visually sensitive resources within the study area are described in the following section.

Park and Recreational Facilities

The study area includes several park and recreational facilities, including Whittaker Falls Park and a portion of the Adirondack Park. As its name implies, the distinctive feature of Whittaker Falls is a gorge and waterfall on Roaring Brook. Whittaker Falls Park is maintained by the William H. Bush Trust. The park is open to the public and provides opportunities for hiking, picnicking and overnight camping. No use figures are available for this park.

A small portion of the six million acre Adirondack Park is included within the eastern portion of the study area. The Park boundary is approximately 1.8 miles from the proposed Chases Lake Interconnection Facility at the eastern end of the line. The Park is a patchwork of public and private lands that provides numerous recreational opportunities including hiking, skiing, camping, boating, hunting and fishing. The portion of the Adirondack Park within the study area includes parts of the Independence River Wild Forest Unit. This 76,000+ acre area is characterized by low rolling hills that are solidly wooded with mature deciduous and coniferous trees. Recreational opportunities in this area include canoeing, fishing, hunting, horseback riding, camping and snowmobiling.

Areas of public land within the study area that are administered by the NYSDEC include portions of four State Forest units, and the Beach's Bridge Boat Launch. State Forest land within the study area includes portions of the 8,077 acre Grant Powell State Forest in the western portion of the study area, the 13,789 acre Lesser Wilderness State Forest in the southern portion of the study area, and two parcels of State Forest Preserve land (outside of the Adirondack Park boundary) in the eastern portion of the study area. This Forest Preserve land includes the Otter Creek Horse Trail System, which provides over 60 miles of equestrian trails and associated support facilities for horseback riders. Recreational activities that occur on State Forest land include hunting, trapping, fishing, hiking, horseback riding, bird watching and snowmobiling. The Beach's Bridge Boat Launch is located on the Number Four Road (County Route 26) east of Lowville. It provides a hard surface boat launch ramp on the Black River and parking for approximately 10 cars and trailers.

Other park and recreational facilities within the study area include portions of the Lewis County snowmobile trail system (primarily on seasonally-maintained roads in the western and southern portions of the study area) and local parks such as Veterans Memorial Park and Bostwick Field in the Village of Lowville and the community playground in the hamlet of Martinsburg. The Lewis County Fairgrounds, along with school athletic fields and playgrounds also occur in the Village of Lowville.

Cultural Resources

A Phase 1 Cultural Resources Survey undertaken by the project cultural resource consultants (John Miner Associates or JMA) identified 10 previously recorded archaeological sites, within or just outside the study area. The archaeological field survey revealed only one actual archaeological site along the route. This site included the burned remains of an agricultural out-building in the vicinity of Structure 13, which JMA determined was not archaeologically or historically significant.

JMA also identified 79 significant individual historic and/or architectural resources and one potential historic district within the study area. The vast majority of these are located in and around the Village of Lowville and the hamlets of Martinsburg and West Martinsburg. These resources include five sites listed on the State and National Register of Historic Places, an additional six structures and a historic district in downtown Lowville that have been determined eligible for listing on the Register by the New York State Office of Parks Recreation and Historic Preservation (OPRHP). Of the 79 individual historic properties and one historic district, 58 properties and a portion of the district are located within the project's visual "Area of Potential Effect" (APE), as determined by viewshed mapping (Heaton, et al., 2003). Of the 58 individual properties, four have been listed or determined eligible for listing on the National Register. In the opinion of JMA, 12 of the remaining structures appear to satisfy National and State Register of Historic Places eligibility criteria (although final determination must be made by the OPRHP). Of these 16 properties, only five are within 1.0 mile of the proposed transmission line. Significant historic sites identified by JMA are

described briefly below. Detailed descriptions are included in the Phase 1 Cultural Resources Survey (Heaton, et al., 2003)

The locations of structures/sites within the study area that are currently listed on the State and National Register of Historic Places are illustrated in Figure 3. These structures and their approximate distance from the nearest section of the proposed line are as follows:

<i>Site</i>	<i>Distance from Transmission Line</i>
Lewis County Fairgrounds, Lowville	2.75 miles
Bateman Hotel, Lowville	2.1 miles
Franklin B. Hough House, Lowville	2.2 miles
Methodist Episcopal Church, West Martinsburg	0.25 miles
Martinsburg Town Hall, Martinsburg	1.3 miles

The Lewis County Fairgrounds are located on Bostwick Street at the north end of the Village of Lowville. Historically significant components of the fairgrounds include the grandstand, racetrack and antique building. The fair lays claim to being the longest continually operated county fair in New York State, and is used by the public during the Lewis County Fair, high school football games and other events (J. McHugh, pers. comm.). The Bateman Hotel is located at 7574 South State Street in the downtown commercial district of the Village of Lowville. It is a prominent and architecturally distinctive building that played a pivotal role in the economy of Lowville throughout the late nineteenth and early twentieth centuries. The Franklin B. Hough house is located at 29 Collins Street in Lowville. Built between 1860 and 1861, the house is historically significant for its association with Dr. Franklin B. Hough who is best known for founding a national concern with forestry and natural resource conservation, including laying the framework for establishment of the U.S. Forest Service. The Bateman Hotel and Franklin B. Hough house are in private ownership and generally not visited by the public as historic attractions.

The Martinsburg Town Hall, located on Main Street (NYS Route 26/12D) in the hamlet of Martinsburg, was the original Lewis County Courthouse. Built in 1812, it is the county's oldest public building and is considered historically significant in the areas of architecture, settlement, social history, and government/politics. The West Martinsburg Methodist Episcopal Church is located on West Martinsburg Road at the eastern end of the hamlet of West Martinsburg. The church is considered architecturally significant as a rare surviving example of vernacular religious architecture and decorative arts of the nineteenth and early twentieth centuries. The West Martinsburg Methodist Episcopal Church and the Martinsburg Town Hall are open to the public, but not as historic attractions. Therefore, no visitation numbers are available for these sites.

According to the Phase 1 Cultural Resources Survey, only the Martinsburg Town Hall, West Martinsburg Episcopal Methodist Church and Lewis County Fairgrounds are within the project's APE.

Properties within the study area that have been determined by the OPRHP to be eligible for listing on the State and National Register of Historic Places include the Village of Lowville Historic District, Bostwick Hall, Apartment Building 5, the Kellogg Block and the Lowville Free Library in the Village of Lowville. A farmstead on Tiffany Road, southwest of the hamlet of Martinsburg (Structure 586) has also been determined by the OPRHP to be eligible for Register listing. Of these structures, only Structure 586 is within the project's APE.

Additional properties, on which no determination of Register eligibility has been made, but which are within the project's APE and, in the opinion of JMA appear eligible for listing on the National Register, include the following:

- Property 127a – West Martinsburg Town Hall
- Property 131 – Foote's Market and Four Seasons Bed and Breakfast
- Property 216 – Martinsburg Cemetery
- Property 225c – Old County Clerk's Office
- Property 230a – Former First Lewis County Bank
- Property 231b – General Walter Martin House
- Property 234 – Greek Revival house
- Property 235c – Greek Revival house
- Property 257 – Mid-nineteenth-century farm complex
- Property 604 – Former schoolhouse
- Property 614 – Mid-nineteenth-century vernacular house
- Property 685b – Pine Grove Community Church

Descriptions of these properties, their location and distance from the proposed line are indicated in the Phase 1 Cultural Resources Survey (Heaton, et al. 2003). In the opinion of JMA, only five significant properties within one mile of the proposed line could be impacted by the project. These include Property 138 (West Martinsburg Methodist Episcopal Church), Property 127a (West Martinsburg Town Hall), Property 131 (Foote's Market), Property 604 (Former Schoolhouse) and Property 685b (Pine Grove Community Church).

Areas of Intensive Land Use

The study area also includes several areas that could be considered visually sensitive due to the fairly intensive land use they receive (see Figure 3). Along with the Village and hamlets mentioned previously, several major roads traverse the study area, including NYS Routes 12, 26/12D, 177 and 812 and County Highways 22, 26, 29, 30, 32, 37, 39 and 41. The State highways are generally the most heavily traveled roads in the study area. According to the New York State Department of Transportation (NYSDOT), 1999 and 2000 traffic counts indicated average annual daily traffic of between 2,500 and 12,700 vehicles on various portions of NYS Route 12 within the study area and daily traffic of between 2,500 and 1,100 on various stretches of NYS Route 26/12D (NYSDOT, 2000). Traffic counts for County highways were not available.

The Black River Trail is a New York State-designated scenic byway that includes NYS Route 12 south of the Village of Lowville and Route 812 from the village north. This is a 111 mile scenic road that connects the Cities of Rome and Ogdensburg. Approximately 8.5 miles of the Black River Trail occur within the visual study area, including the proposed transmission line crossing of Route 12.

Landscape Similarity Zones

The area within a 3-mile radius of the proposed transmission line is characterized by a mix of active and reverting agricultural land, forestland, rural residential development, the Village of Lowville and several small hamlets. Within this study area, five distinct landscape similarity zones were defined. These zones, their general landscape character, land use and potential views of the proposed transmission line are described below:

Zone 1. Upland Agricultural Zone

This zone makes up the majority of the study area. It includes the Tug Hill Plateau and the eastern edge of the plateau as it descends to the Black River Valley. A small area of similar character also occurs on the east side of the study area in the vicinity of Pine Grove Road and Number Four Road. This zone is characterized by a mix of open and forested land, level to steeply sloping topography with scattered farms and rural residences. The landscape is dominated by active agricultural fields, but also includes numerous hedgerows, woodlots, successional old fields and wetlands. Land use is primarily residential and farm-oriented, along with local travel and outdoor recreation (e.g. hunting and snowmobiling). Isolated areas of industrial/commercial use (e.g. communication towers, rural businesses) also occur within this zone, and major roads within this zone (e.g. State Routes 12 and 26/12D and West Road) are used by local travelers going to and from the Lowville area. Due to the abundance of open fields, foreground (<0.5 mile) views of the project will be available in and around proposed road crossings within this zone. A few mid-ground (0.5-3.5 miles) and background views (>3.5 miles) will also be available. However, such views are much more limited due to the screening effect of topography (ridges and steep slopes) and vegetation (woodlots and hedgerows). Certain areas along Route 26/12D within this zone offer the only unobstructed views of the transmission line route across the Black River Valley.

Zone 2. Valley Agricultural Zone

This zone is a broad corridor of level river bottom land in the central/eastern portion of the study area. It is characterized by large, flat crop fields with thinly scattered farms and residences. The Black River meanders through this area and is characterized by a gentle gradient, numerous oxbows and steep well-defined banks. The river banks are lined with mature trees and understory brush in most places, so views to and from the river are very limited. The dominant activity in this area is farming and local travel along the roads that cross the flats (e.g. Route 812, East Martinsburg Road and Number Four Road). The Black River is used for recreational boating and fishing, but views of the proposed transmission line will only be available near the crossing location. Elsewhere, views from the river will be very limited due to its steep banks and shoreline vegetation. Where views of the project are available elsewhere within this zone, they will generally be from roads, at foreground distances across open agricultural fields. Viewers will primarily be farmers and local drivers. The largest number of viewers will be travelers on State Route 12, which defines the western edge of this zone. Midground and background views will generally be limited or screened due to intervening vegetation and/or angles in the transmission line.

Zone 3. Rural/Forested Zone

Areas in the eastern and far western portion of the study area are dominated by forestland. Forests in these areas are characterized by second growth deciduous and mixed deciduous/coniferous forest, along with planted conifer stands. These upland forest areas are interspersed with wooded wetlands and successional communities. The eastern portion of the study area (from Pine Grove Road east) is fairly solidly wooded and includes State Forest Preserve land and the Adirondack Park. The Otter Creek Horse Trails occur in this area, along with several local roads (Wetmore Road, Chases Lake Road, etc.). These trails and roads are generally lined by tall trees that severely limit outward views, other than along the road/trail corridors. In this area, the only place the proposed line will be visible is at or near its crossing of Wetmore Road. The far western portion of the study area includes local roads (many of which are seasonally-maintained gravel roads) that are typically lined or fully enclosed by trees. Many of these roads serve as snowmobile trails in the winter and provide

recreational access to State Forest land and the Tug Hill WMA. Long distance views in this area are uncommon and the proposed project will typically be fully screened by trees within this portion of the zone.

Zone 4. Village Zone

This area includes the Village of Lowville. It is characterized by medium to high density residential development, with commercial establishments (office and service facilities) along the main roads, and various governmental, educational and commercial establishments in the central State Street area. Buildings in the central Village area include homes, churches, stores, and government offices, which tend to be of an older/traditional architectural style. As previously mentioned, several historic structures occur within the Village and a significant portion of the Village appears eligible for designation as a historic district (Heaton, et al., 2003). Many of the structures in the Village are constructed of brick and local stone, and the streets are typically lined with mature trees. Also included in this zone are the perimeter areas of the Village, which are characterized by newer residences, commercial development (e.g. shopping centers, gas stations, convenience store and restaurants), the County Fairgrounds, and local industries (AMF, Kraft Foods, etc.). This zone is characterized by typical village-oriented user activities (residential, shopping, employment, local travel) that occur in vehicles and on foot. Cultural and recreational activities are associated with the fairgrounds, Veterans Park, Bostwick Field and Lowville Academy. Views in the Village are generally focused inward, toward streets and adjacent buildings. Outward views are typically blocked by existing vegetation and structures. Field review suggests that views of the proposed transmission line will not be available from the Village due to screening and the effects of distance.

Zone 5. Hamlet Zone

Areas within this zone are characterized by small nodes of moderate density frontage development along local highways, often at the intersection of two or more major roads. Examples include Martinsburg, West Martinsburg, East Martinsburg, Glenfield, Watson and Bushes Landing. Houses in these areas are primarily old, but include a mix of traditional and more modern architectural styles, with spacing similar to that in a village setting. However, they also tend to have larger backyards and may border on active or inactive agricultural land and/or woodlots. Occasional commercial establishments, churches, and historic structures (e.g. Martinsburg Town Hall, West Martinsburg Methodist Episcopal Church) are found in some of these areas. Activities are primarily associated with residential use and local travel, although some small scale commercial businesses and agricultural activity also occur in these areas. Views within this zone are typically focused on the highway and adjacent structures, although outward views across yards and adjacent fields are also available. Long distance views are typically at least partially obscured by foreground street trees and midground ridgelines and hedgerows. Field review suggests that the project will not be visible from any of the hamlets, other than West Martinsburg. Screened foreground and midground views of the line may be available from the backyards of homes along the southern edge of this hamlet.

Viewer/User Groups

Four categories of viewer/user groups were identified within the study area. These include the following:

1. Commuters and through-travelers, who will pass through the study area on Routes 12, 26/12D, West Road, Pine Grove Road and other local roads on their way to work or

other destinations, both within and outside the study area. Although the project will generally be well screened from area highways, portions of these roads at or near the proposed line crossings will offer travelers clear, largely unobstructed, foreground views of the line as they pass beneath it in their automobiles. The most open and/or prolonged views of the line will be in the vicinity of the Route 12 and Route 26/12D crossings. However, even in these areas screening provided by roadside vegetation will limit most open views to the immediate vicinity of the line crossings. In addition, because the line crossings are in almost all cases perpendicular to the highways, views along the proposed transmission line corridor will generally be peripheral and fleeting. Sensitivity of this viewer group is also generally low, as through travelers are typically destination-oriented and focused on the road rather than the surrounding scenery.

2. Local residents, who will see the proposed transmission line from their farms, homes, yards, and local roads. The vast majority of local residents (especially in the hamlet and Village locations) will not have views of the proposed transmission line. Views from most homes within the study area will be distant, or fully screened by existing topography, vegetation and/or structures. However, this group also includes those individuals living on Route 26, West Road, Rector Road, and Pine Grove Road (generally within 0.25 mile of the proposed transmission line crossings), who will have unobscured foreground views of portions of the line.
3. Business Employees, who work at local business, primarily in the commercial and industrial portions of Lowville. Except while traveling to and from their places of employment, their views of the project will generally be nonexistent due to the distance of most local businesses from the line. Views from places of employment are generally out of windows. Because most commercial and industrial businesses in the area are located in one to two story structures, adjacent buildings and trees typically screen views toward the project site. Significant exceptions include the employees of Marks Farm and other farm workers who are working outdoors and have unobscured views of the line. However, even in these instances, business employees are typically focused on their job responsibilities rather than observing the outdoor scenery.
4. Tourists and recreational users, who are in the area for the purpose of experiencing scenic or recreational resources located in and adjacent to the study area (e.g. the Black River, Whetstone Gulf State Park, State Forest land, horse trails, snowmobile trails, etc.). Most tourists and recreational users will have high sensitivity to visual quality and landscape character, regardless of the frequency or duration of their exposure to the proposed facility. However, some, such as snowmobilers and hunters, are more likely to be focused on the recreational activity they are engaged in rather than observing the scenery. Recreational users may see the transmission line from foreground locations while passing under the line on various local roads or on the Black River. However, most recreational areas/facilities are located at midground and background distances from the proposed line, where views will generally be well screened by trees or topography (e.g. on State Forest land, designated snowmobile trails, or in the gorge at Whetstone Gulf State Park).

VISUAL IMPACT ANALYSIS

The visual impact assessment (VIA) procedures used for this study are based on visual impact assessment methodologies developed by the New York State Department of Transportation (1988), U.S. Department of the Interior, Bureau of Land Management (1980), U.S. Department of Agriculture, National Forest Service (1974), the U.S. Department of

Transportation, Federal Highway Administration (1981), the U.S. Army Corps of Engineers (Smarden, et al., 1988) and the New York State Department of Environmental Conservation (not dated). The specific techniques used in this study and the results of the VIA are described below.

Project Visibility

An analysis of potential project visibility was undertaken to identify those locations where there is a relatively high probability that the proposed transmission line will be visible. This analysis includes identifying potentially visible areas based on viewshed mapping, line-of-sight cross section analysis, and field verification.

Viewshed Analysis

Six 3-mile radius viewsheds were mapped for selected transmission structures on the proposed line (Structures 1, 19, 30, 40, 51 and 76). These structures were selected because their height, or proposed location suggest they could be some of the most visible structures along the proposed route. Digital Elevation Model (DEM) data was obtained from the USGS (7.5 minute and 1:250,000 scale) and a computer program called MicroDEM+[®] was used to define the viewshed. The analysis was based on individual tower height (ranging from 75 to 100 feet) above ground level. The MicroDEM+[®] program defines the viewshed by running elevational cross sections every 0.25°, in a 360° circle through the study area. It samples elevational points every one-meter along the section lines. The resulting viewshed maps define the area from which the top of the proposed towers could potentially be seen from ground level vantagepoints within the study area. By overlaying the viewshed maps for each of the individual structures, potential visibility of the entire line can be approximated (see Figure 4). It should be noted that the viewshed analysis is based on topography only, and does not take the screening effect of vegetation or built structures into account. It also does not consider the mass of a structure and is based on maximum structure height (i.e. the very top of the proposed towers). It thus presents a "worst case" assessment of potential tower visibility. It should also be noted that viewshed accuracy is directly related to the accuracy of the USGS DEM data used in the analysis.

The composite viewshed map (Figure 4) suggests that some portion of the project has the potential to be visible throughout most of the study area. This is not surprising, given the number of proposed transmission towers and the abundance of relatively level plateau and river valley land within the study area. However, because of the series of ridges and steep slopes along the proposed route, few, if any, locations offer unscreened views of large portions of the line. Areas indicated by the viewshed analysis as being fully screened by topography include the back sides of the more prominent hills and ridges in the area and the valleys associated with various rivers and streams. Topography provides significant screening in the western and eastern portions of the study area, while the central portion offers relatively little topographic screening. The viewshed map also indicates that views of the project are fully screened from Chases Lake, Whittaker Falls Park, the southwestern portion of the Village of Lowville, most of the hamlet of Martinsburg, 21 of 79 historic sites, and almost all of the land within the Adirondack Park.

Cross Section Analysis

To more accurately account for the screening effect of vegetation within the study area, four representative line-of-sight cross sections were cut through the study area. Cross section locations were chosen to be representative of the various physiographic, vegetative and land use characteristics that occur within the study area. They were also selected to include

visually sensitive areas, such as parks, historic sites, residential areas and roads. The cross sections are based on forest vegetation and topography as mapped on the 7.5 minute USGS quadrangle maps and 1994-1999 aerial orthophotos. For the purposes of this analysis, a uniform 40 foot tree height was assumed. A 10 fold vertical exaggeration was used to increase the accuracy of the analysis.

As the cross sections illustrate, vegetation and topography will be very effective in screening proposed transmission line structures in the eastern and western portions of the study area (see Figure 5). Steep topography and/or forest vegetation will screen views of the line from Chases Lake, Whittaker Falls Park, the Black and Independence Rivers, areas of State Forest and the Adirondack Park. The population centers of Lowville and Martinsburg, along with the historic/cultural resources found in these areas will also be significantly screened by topography and vegetation as well as existing structures. Cross section analysis suggests that the only places where the project will be largely unscreened are areas of level plateau and river valley dominated by open fields (e.g. Black River Valley and open fields between West Road and Route 26/12D).

Field Verification

On October 24 and 30, 2002, two EDR staff members visited the study area to document and identify potential views of the proposed transmission line. In order to assist in the identification of the proposed tower locations, all towers were located and staked by surveyors prior to this exercise. The purpose of this field investigation was to document potential project visibility based on actual field conditions, and to obtain photographs and locational data for subsequent computer-generated visual simulations. Generally, weather on both days was clear and visibility remained good (i.e. limited haze, and no low clouds or fog) throughout the day.

Cultural resources, areas of intensive land use, recreational facilities, and road crossings were visited in order to document potential viewpoints from which the proposed transmission line could and could not be seen. Photos were taken from 61 representative viewpoints within the study area using a Pentax 35 mm camera and a Nikon D-100 digital camera, both with a 50 mm lens setting to simulate normal human eyesight, relative to scale. To aid in the identification of the proposed towers, each photograph contains on-site structures (e.g. silos, barns, and telephone poles) or 36-inch diameter balloons that were placed at or near the proposed tower locations. The time and location of each photo were noted on field maps and data sheets, and at each site it was determined whether the proposed transmission line would or would not be visible. This determination was based on the visibility of known reference points in the vicinity of the proposed line, including balloons and existing overhead transmission and distribution lines (including the Niagara Mohawk 115kV Taylorville-Boonville line, which is very similar in size to the proposed line). Global positioning satellite (GPS) readings were also taken at each viewpoint to document photo and reference point locations.

Field verification and photo documentation indicated that the actual visibility of the proposed transmission line will be more limited than either the viewshed map or cross section analysis would suggest. This is primarily due to the screening effect of existing vegetation and structures not considered in the previous analyses (e.g. landscape plantings, hedgerows, ancillary structures), as well as the slender profile of the proposed towers and the visibility-reducing effects of distance (e.g. hazing, loss of color contrast, scale reduction). The latter were demonstrated by the limited visibility of the Taylorville-Boonville line at distances over one mile.

Areas of visibility were concentrated at proposed road crossings, where land use was dominated by open agricultural fields. These conditions occur at a relatively limited number of sites within the study area, and are particularly rare in the eastern portion of the study area where the landscape is dominated by forestland. Views of the line will be available from portions of Rector Road, West Road, B. Arthur Road, Route 26/12D, Route 12, East Martinsburg Road, Williams Road, Pine Grove Road and Wetmore Road. It will also be visible from houses fronting on these roads, although views beyond 0.25 mile away will be rare. Due to street-side trees and hills, it is anticipated that the transmission line will be screened along significant portions of each road. The only long distance views of the proposed line and/or ROW will be from portions of Rector Road and Route 26/12D looking east, from one open area on Wetmore Road looking northeast, and from a portion of the Number Four Road between Lowville and Watson looking southwest. The line will be visible from the Black River, but because of the meandering course of the river and the screening effect of shoreline vegetation views will be limited to within approximately 0.25 mile of the crossing location. The proposed transmission line will not be seen from the majority of sensitive sites within the visual study area. Field review confirmed a lack of visibility from historic sites in the hamlet of Martinsburg and the Village of Lowville. Views will also not be available from the Adirondack Park, Chases Lake, the Independence River, the Beaches Bridge boat launch, State Forest land, Whittaker Falls Park, the Village of Lowville, or any of the hamlets within the study area other than West Martinsburg.

Portions of the proposed transmission line may be visible from the West Martinsburg Episcopal Methodist Church, which is listed on the State and National Register of Historic Places. JMA also identified four additional structures located within 1.0 mile of the proposed line that appear to be Register-eligible and could have views of the project. These include the Property 127a (West Martinsburg Town Hall), Property 131 (Foote's Market), Property 604 (former schoolhouse) and Property 685b (Pine Grove Community Church). However, follow-up field review conducted by EDR on January 17, 2003 revealed that views will be fully screened by vegetation and topography from Property 604 and Property 685b. Views to the line will also be significantly, if not fully, screened from Property 127a and Property 131 by existing trees and structures in the hamlet of West Martinsburg (see Viewpoints 63-66 in Appendix B). It should also be noted that two new structures built in the open field behind the West Martinsburg Episcopal Methodist Church will serve to further screen views of the line.

Selected Viewpoints and Simulations

Eight viewpoints were selected to show representative views of the proposed project from various distances and directions. Because distant visibility of the line is limited (due to structure size and screening), all of the selected viewpoints are within the foreground distance zone (i.e. less than 0.5 mile). Viewpoints were also selected to include each of the identified viewer/user groups and landscape similarity zones within the study area. The selected viewpoints show the full range of visual change that will occur with the project in place. The locations of these viewpoints are shown in Figure 6, and include the following:

- Viewpoint 2 - From West Road, looking northwest.
- Viewpoint 3 - From West Martinsburg Episcopal Methodist Church, looking southeast.
- Viewpoint 4 - From field east of Route 26/12D, looking east across Black River Valley.
- Viewpoint 5 - From Route 26, looking east.

Viewpoint 8 - From Route 12, looking southeast.

Viewpoint 22 - From Route 12, looking northwest.

Viewpoint 27 - From the Black River, looking south.

Viewpoint 28 - From Pine Grove Road, looking northeast.

These viewpoints are illustrated in the existing conditions photographs in Figures 7-14. Computer-assisted visual simulations of the same views following completion of the proposed transmission line are also included in these figures. These simulations were created by building a computer model of the proposed towers visible within each view and placing the model in the proper location in each photograph. AutoCAD 2000® and 3D Studio Max® software was used to assure that each simulation is accurate in terms of proposed layout, color, scale, lighting and viewer perspective from each viewpoint.

Analysis of Existing Viewpoints and Potential Project Visibility

Viewpoint 2 (Figure 7)

Existing View

Viewpoint 2 is from West Road, outside the hamlet of West Martinsburg. The viewpoint is approximately 1,600 feet (0.3 mile) south of the proposed transmission line crossing of West Road, and offers open views across pasture land to the east. An abandoned brick farmhouse that may have historic significance (S. Goode, pers. comm.) is located on the west side of the road in this view. This view is typical of those available from roads in the plateau areas within the Upland Agricultural landscape similarity zone. Topography is relatively level and vegetation is characterized by open agricultural fields and hedgerows. Views such as this will be available to local travelers and residents whose homes front on the highway. The flat open fields to the east of this viewpoint offer one of the most open/unobscured views of the proposed transmission line route within the western portion of the study area.

Proposed Project

With the transmission line in place, two angle structures (Structures 13 and 14; one a steel pole and the other a 3-pole wood structure) are clearly visible, along with the overhead conductors which span almost the entire view. The structures are not significantly taller than the trees and other structures in this view, and do not appear out of place along a rural road. Although the structures' vertical line is consistent with other vertical elements in the view (utility poles, signs, buildings and silos), it does contrast with the sky and the strong horizontal landscape features in the view (including field edges, hedgerows and roof lines). The mix of transmission structure types and materials (single steel pole versus 3-pole wood structure), and the complexity of the conductor transition between the structures attracts attention and creates visual clutter. The strong horizontal line created by the conductors does not contrast with other strong horizontal elements in the view, but does attract attention by running perpendicular, rather than parallel, to the road corridor. Because the line in this area is traversing open agricultural land, the visual effects of right-of-way clearing (e.g. within the hedgerow) are minimal.

Viewpoint 3 (Figure 8)

Existing View

This viewpoint is from the northeast side of the historic West Martinsburg Episcopal Methodist Church in the hamlet of West Martinsburg. This is the most open view toward the proposed line from the church property, which is the only National Register-listed site with any potential view of the project. Views from all other sides of the property are completely screened by the church and/or foreground vegetation directly behind it. This viewpoint is approximately 1,350 feet (0.25 mile) northwest of the line. Along with illustrating views from the historic church, it is also typical of the types of views that may be available from the sideyards and backyards of rural residences near the line (in the Upland Agricultural and Hamlet landscape similarity zones).

Proposed Project

As illustrated in the simulation, the proposed line is almost completely screened in this viewpoint by foreground and midground trees. Only the very top of Tower 17 and a small section of conductor (approximately 3,500 feet away) is visible above the midground hedgerow. Although visibility will increase during the dormant season, the proposed line will still be significantly screened by tree branches, none of which will be removed as a result of project construction. More open views may be available from nearby yards, and two other historic structures located in West Martinsburg (West Martinsburg Town Hall and Footes Market). However field review suggests that open views toward the line will be very limited from the hamlet due to the screening effect of street trees, backyard vegetation, and built structures. Only portions of a limited number of transmission structures (1-2) will potentially be visible from West Martinsburg. These structures may be visible between buildings and trees and will appear relatively small.

Viewpoint 4 (Figure 9)

Existing View

This viewpoint is representative of the most open, long distance views of the project that will be available within the study area. It is located in open agricultural land east of Route 26/12D, and includes an expansive view of the Black River Valley and the Adirondack foothills to the east. Topography descends to the valley, and then is fairly level before rising in the background. Vegetation is a mix of open agricultural land and forested woodlots, although forest vegetation appears dominant in this view. Strong horizontal lines (field edges and the horizon line) dominate the view. Similar, although less expansive, views are available from portions of Route 26/12D north of the proposed line crossing (see Figure 10). This viewpoint is located approximately 500 feet north of the proposed line, but looks over the proposed route across the Black River Valley. It is representative of long distance views a few farmers, local residents and travelers on Route 26/12D may see in certain areas of the Upland Agricultural landscape similarity zone. Although only the overhead conductor is visible in this view, an existing Niagara Mohawk 115 kV transmission line is a dominant foreground feature in this area.

Proposed Project

With the project in place the character of this view remains largely unchanged. Portions of the line that are visible within the simulation are located at midground and background distances (i.e. over 0.5 mile). The panoramic character of this view tends to reduce the perceived scale of the structures and many are obscured by existing vegetation and topography. Structure visibility is also reduced due to the superior position of the viewer, which prevents the towers from breaking the horizon line and being seen against the sky.

Because of the numerous angles in the line, the uneven topography, and limited amount of forest clearing that will be involved, the cleared ROW is not obvious, even in this most open of views. Some clearing is visible in the forested eastern portion of the line. This clearing contrasts with the existing massing of trees and fields, but its impact is reduced by the curving alignment and the effects of distance. Although visibility of the cleared ROW in the background may increase during the winter (when snow is on the ground), at this distance the transmission line structures will be barely visible and the curving ROW should not read as a linear utility corridor.

Viewpoint 5 (Figure 10)

Existing View

This viewpoint is from NYS Route 26/12D, immediately (200 feet) northwest of the proposed transmission line crossing. It is typical of views along this highway which traverses the eastern slope of the Tug Hill Plateau. Route 26 is a fairly heavily used state highway and offers the most open long distance views across the Black River Valley. Land use in this area is dominated by rolling agricultural land with scattered farms and rural residences. The view includes strong horizontal elements, such as the road edge, foreground and background horizon lines, as well as overhead utility lines. Views such as this will be available to through travelers, local drivers and residents. The Niagara Mohawk 115 kV transmission line runs parallel to Route 26/12D in this area and is visible from this viewpoint.

Proposed Project

With the proposed project in place, three transmission structures (Structures 28-30) become obvious new elements in the landscape and tend to dominate the view. Because of their proximity to the viewer, (350 - 1,800 feet) they appear large and somewhat out of scale with existing vegetation. It should be noted that because the proposed line must cross over the existing 115 kV line, Structure 30 (the 3-pole dead end) is one of the tallest wood pole towers on the proposed line (95 feet). The vertical line of the structures contrasts with the rolling landform and the existing horizontal lines in the view (field edges, tree lines, horizon, etc.). The transmission line also reduces the openness of the view and contrasts strongly with the sky. However, the conductors follow the diagonal line of the foreground vegetation, and the slim/transparent character of the structures reduces their visual impact. The presence of roadside utility lines and the existing transmission line in this view also reduce the contrast created by the proposed line. This is especially true for the existing 115 kV line, as both it and the proposed line are carried on wood pole H frame structures. Such structures are not out of character in a typical rural roadside view. Because the proposed line will run along the edge of agricultural fields in this area, visual impacts associated with ROW clearing will be minimal.

Viewpoint 8 (Figure 11)

Existing View

This viewpoint is from the south-bound shoulder of NYS Route 12, approximately 1.5 miles southeast of the Village of Lowville. Route 12 is the most heavily used highway in the study area, and is a state-designed scenic byway (Black River Trail). In this area (approximately 1,100 feet northwest of the proposed transmission line crossing), the road is lined with residences (trailers and modular homes), commercial businesses and undeveloped but disturbed land (former gravel quarry). Views are oriented along the highway corridor and are dominated by the roadway itself. Roadside trees (a mix of coniferous and deciduous) and

hills to the west screen views perpendicular to the highway, and also screen views along the highway corridor from adjacent homes and businesses.

Proposed Project

The view from this location is changed with the addition of the proposed transmission line. The new steel pole (Structure 40) contrasts in color and scale with existing features in the landscape. The overhead lines interrupt long distance views toward the hills in the background and contrast with existing lines in the view by running perpendicular to the road corridor. The utilitarian character of the line also contrasts with residential land use in the area, and the cumulative effect of this line and the existing overhead lines creates visual clutter. However, the new conductors do follow the existing tree line and the vertical structure mirrors the vertical edge of the adjacent tree mass. Because of the orientation of the line, only a single structure is visible, and clearing associated with the proposed ROW is barely noticeable. In addition, contrast presented by the new line is limited by the existing overhead utility line which crosses the highway twice in this view. The proposed transmission line is also not significantly out of scale with the existing vegetation in this view, and viewer sensitivity in this location is likely to be relatively low.

Viewpoint 22 (Figure 12)

Existing View

This viewpoint is located approximately 3,800 feet (0.7 mile) southeast of the proposed line crossing on Route 12, near the intersection with East Martinsburg Road. This area is characterized by wooded slopes to the west and flat, open agricultural fields to the east. The large Marks Farm dairy operation (and associated buildings and equipment) is located immediately east of this viewpoint. Buildings associated with the farm completely block views of the proposed transmission line route from a historic cemetery located on Williams Road to the southeast of Viewpoint 22. This view is typical of the more open views along Route 12, where the Upland Agricultural landscape similarity zone transitions to the Valley Agricultural landscape similarity zone in the Black River Valley. An abundance of active agricultural fields and flat topography in this area provide fairly open views to the east. However, these views are interrupted by scattered woodlots, wooded wetlands and hedgerows.

Proposed Project

Portions of five separate transmission line structures (Structures 39-43) are visible in the simulation from this viewpoint following project completion. These structures range from 0.3 to 0.8 mile from the viewer at this location. Four of these five structures are single steel poles. The narrow profile of these structures minimizes tower visibility and the required width of ROW clearing in this area. Their dark brown color minimizes contrasts with the vegetation that forms a backdrop in this view. The location of much of the line along field edges is consistent with land form and vegetation massing in this area, and also serves to reduce required tree clearing. The vertical line and height of the proposed structures are fairly consistent with the existing trees and roadside utility poles. The new conductors add some visual clutter, but this effect is limited by the organized appearance of the line and the uniformity in structure type. The horizontal line of the conductors also parallels the existing tree tops and field edges and is similar to the existing overhead lines. Overall, the project does not appear out of character in this view.

Viewpoint 27 (Figure 13)

Existing View

This view is from the west shore of the Black River, approximately 1,100 feet upstream of the proposed transmission line crossing. The view is dominated by open water and illustrates the typical extent of screening provided by shoreline trees and shrubs. Because of this vegetation, views out from the river are very limited. Views along the river corridor are also limited by this vegetation, along with the numerous curves and meanders in the river channel. As illustrated in this view, surrounding topography is flat and little can be seen beyond the river shoreline. This view is typical of the type of view that is available to boaters, fisherman and other recreational users of the river.

Proposed Project

With the proposed project in place, a single transmission line structure (Structure 57) is visible from this viewpoint, along with a short section of overhead conductor. The vertical line and man-made character of the tower contrasts strongly with the organic/irregular form of the river channel and shoreline vegetation. The presence of the line also suggests an obvious change in land use that would not be viewed positively by recreational users of the river. However, clearing of shoreline vegetation on the ROW will be very limited and difficult to perceive from most locations on the river. Bends in the river and shoreline vegetation that will remain (especially on the east bank in this view) will effectively screen views of the line beyond the actual river crossing. The tower is somewhat out of scale with the shoreline trees and contrasts with the strong horizontal components of the surrounding flood plain. On the other hand, the conductors are relatively fine and therefore have limited visibility. Their horizontal line is also consistent with the horizontal lines created by the water surface and the adjacent flood plain. Although recreational users of the river in this area may have high sensitivity to visual change, other man-made crossings and features already exist in the area (e.g. bridges) and the proposed line will only be visible along approximately 0.5 mile of the river corridor.

Viewpoint 28 (Figure 14)

Existing View

This viewpoint is on Pine Grove Road, approximately 500 feet south of the proposed transmission line crossing. Pine Grove Road is the transition area between the open Valley Agricultural landscape similarity zone to the west and the wooded Rural/Forested landscape similarity zone to the east. This view to the northeast includes an area of open pastureland that rises to a forested background ridge. This view is one of the most open views along Pine Grove Road and within the Rural/Forested landscape similarity zone. Elsewhere in this area, forest and roadside vegetation severely limit any views outside the road corridor and its immediate surroundings. Views off of Wetmore Road (the only other proposed line crossing in this landscape similarity zone) are completely enclosed by forest vegetation.

Proposed Project

As illustrated in this simulation, with the proposed project in place, three new transmission line structures (Structures 62-64) can be seen. An additional three structures would be visible at this road crossing; one on the east side of Pine Grove Road and two on the opposite side of the road. Because of viewer proximity (approximately 0.25 mile from Structure 62), the structures appear as significant new additions to the landscape. However, visual impacts are limited by the slim, transparent character of the structures, and by their

color and scale, which are compatible with the midground and background trees. The overhead conductors barely break the tree line and follow the line of the vegetation and landform in this view. Although ROW clearing creates an unnatural straight line, siting of the line in open pasture has minimized required clearing and avoided the creation of an obvious linear corridor. Open views such as this will be of short duration, and the transmission line appears compatible with the agricultural land use that dominates this view.

Visual Impact Rating

An in-house panel of three EDR landscape architects was asked to rate the proposed project in terms of its contrast with existing components of the landscape. On December 23, 2002, digital images of the before and after photos in Figures 7-14 were projected on a screen and evaluated by the panel. The project's contrast with existing vegetation, landform, land use, water resources, and user activity was then rated on a scale of 1 (completely compatible) to 5 (strong contrast). Copies of the rating forms are included in Appendix C. For each viewpoint, these scores were added and averaged to provide an overall contrast rating. Each panel member's overall score for each viewpoint was then added and averaged to get a final composite rating for each viewpoint. The results of this evaluation are presented in Table 2.

As this table shows, the panel rated the project's overall visual contrast with existing conditions in the range of 1.0 to 3.2 (fully compatible to moderate contrast). Highest contrast was indicated for Viewpoints 8 and 27. Viewpoint 27 (the Black River) received the highest scores due to the obvious change in land use and the strong contrast in line and form presented by the transmission line (i.e. it is the only man-made feature in the view). The higher score also reflects the potential sensitivity of recreational users of the river to visual change. Viewpoint 8 also received high scores, primarily due to a perceived change in land use character and the visual clutter created by adding the new line to the existing roadside utility line (which crosses the highway twice in this view). Adverse effects were noted in these and other viewpoints due to scale contrast between the proposed line and existing vegetation and visual clutter associated with mixing structure types/materials (e.g. steel poles and wood poles) within a view and associated changes in the direction/ configuration of the conductors. However, none of the composite scores for any of the viewpoints exceeded 2.7 (between minimal and moderate contrast). The lack of higher scores appears to be related to the limited visibility and relatively modest size of project components, along with the line's apparent compatibility with rural roadside views and minimal impact on sensitive resources and viewer groups. The scoring of individual views appears to be strongly correlated with distance and amount of screening. In general, distant views of the project (e.g. Viewpoint 3 and 4) presented minimal impact due to vegetation screening, the slender form of the transmission structures, their natural color and the reduction in perceived scale with distance. Foreground vegetation, midground ridges, and /or a backdrop of trees obscure most longer distance views. While contrast with existing landscape elements was maximized in foreground views, affected viewers will generally be limited to those within 0.25 mile of proposed road crossings. Thus the project will impact only a very small portion of the overall visual study area.

Conclusions

The VIA for the Flat Rock Wind Power Project allows the following conclusions to be drawn:

1. Viewshed mapping, cross section analysis and field verification indicate that the project will be potentially visible from various locations within the study area. These locations tend to be in the vicinity of proposed road crossings. Areas offering the highest visibility

and/or most distant views generally occur in open agricultural settings. Because the route includes numerous angle points and crosses areas with uneven topography and only limited areas of forest cover, long distance views of the line will only be available from small portions of Rector Road, Route 26/12D of Number Four Road and Wetmore Road where open views across open plateaus and valleys are available.

2. Other than from the Black River and certain portions of the State and County highways within the study area (including one designated scenic byway), few visually sensitive resources or areas of intensive land use will be adversely impacted by the project. Visual impacts to viewers on the Black River and area roads are likely to be limited, as views of the line will generally be fleeting and restricted to an area within 0.25 mile of the proposed crossings. In addition, drivers being destination/task-oriented, will generally not be concentrating on the road rather than the project. The project will not be visible from four sites listed on the State and National Register of Historic Places (Martinsburg Town Hall, Lewis County Fairgrounds, Bateman Hotel and Franklin B. Hough house), nor will it be visible from the Adirondack Park, Whittaker Falls Park, areas of State Forest land, Chases Lake, the Independence River, the Beaches Bridge Boat Launch, the Village of Lowville, or any of the hamlets within the study area other than West Martinsburg. At the one Register-listed historic site where the project will be visible (West Martinsburg Methodist Episcopal Church), views will be almost completely screened by existing structures and foreground trees. From four other historic structures that JMA indicated could be affected by the project, field review indicates that views will be fully screened from Property 604 (former schoolhouse) and Property 685b (Pine Grove Community Church). Views to the line will also be significantly, if not fully screened from Property 127a (West Martinsburg Town Hall) and Property 131 (Foote's Market) by existing trees and structures in the hamlet of West Martinsburg.
3. Simulations of the proposed project indicate that the visibility and visual impact of the transmission line will be variable based on distance, the extent of visual screening and existing land use and viewer characteristics. In general, midground and background views (i.e. these over 0.5 mile) will be very limited, and present limited visual contrast or adverse visual impact. The towers in these views are difficult to perceive, and because the line crosses only limited areas of forest, the visible effect of ROW clearing will be minimal. Foreground views (i.e. under 0.5 mile) will generally present the greatest visual impact, but based on rating panel review, this impact will still be minimal to moderate. These views will for the most part be limited to travelers at the proposed road crossings and a relatively small number of residents living within 0.25 mile of the crossing.
4. Field review indicates that the proposed Chases Lake Interconnection Facility will be well screened from nearby roads by existing topography and forest vegetation. The Rector Road Substation is located over 1,500 feet from the nearest residence. This, in concert with the relatively low height of the equipment in the substations, should minimize their visual impact.
5. Evaluation by an in-house panel of landscape architects suggests that the project's overall impact on the visual/aesthetic character of the area should not be significant. This is largely attributable to the screening provided by existing vegetation, topography and structures, which limit expansive views of the project. The limited height of the transmission line structures, their slimness/transparency and their compatibility with existing landscape features also serve to minimize adverse impact. In addition, certain mitigation measures (illustrated in the simulations) also served to minimize visual impact. These included:

- Use of H frame structures which maintained a low structure height while at the same time allowing greater span length, which reduced the total number of structures.
 - Use of wood and Corten steel in the transmission structures to minimize color and texture contrast with existing landscape features.
 - Siting along field edges and through open agricultural land that minimized required ROW clearing.
 - Numerous angles in the line, which prevented the creation of cleared linear corridors and limited the extent of visibility down the ROW.
 - Use of existing field roads for tower access and specification of wood pole towers in most locations to minimize the need for permanent access roads.
6. In the opinion of JMA, historic properties within 0.5 miles of the project, with views of the project, will not be subjected to significant adverse visual effects. Beyond 0.5 miles, the mitigating effects of distance and the project design features described above significantly reduce project visibility and do not result in the introduction of new visual elements of sufficient scale and mass to meaningfully compromise the present integrity of setting that may be associated with historic properties beyond that distance.
7. Additional mitigation options are limited, given the lack of flexibility in terms of corridor routing and structure height. However, based the rating panel's comments on this project, the following recommendations are provided:
- Utilize non-specular conductor to minimize glare and reflection from the line.
 - Keep clearing of forested areas to a minimum and maintain low-growing woody vegetation on the cleared ROW.
 - Maintain, to the extent practicable, screening buffers of woody vegetation at road crossings and at the Black River crossing.
 - Although not visible in any of the viewpoints selected for simulation, evaluate visibility of the new substations upon completion and provide screen plantings if necessary.
 - If possible, utilize the same structure types and materials within foreground views (e.g. all steel monopoles, or all wood H frames) rather than mixing contrasting structures.

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Tables and Figures

Table 1. Visually Sensitive Sites and Areas of Intensive Land Use within 3 Mile Radius Study Area.

Site	Viewpoints
State & County Highways	
State Route 12 (Black River Trail Scenic Byway)	8, 9, 10, 11, 17, 22, 44
State Route 26/12D	5, 6, 7, 16
State Route 177	-
State Route 812	61
West Road (Co. Rte 29)	2
Pine Grove Rd (Co. Rte 39)	12, 28
East Martinsburg Road (Co. Rte 22)	10, 23
Number Four Road (Co. Rte 26)	29, 30, 31, 32, 34, 55, 56
Glendale Road (Co. Rte 32)	15
Snell Road (Co. Rte 37)	32
Blue Street (Co. Rte 41)	46
Cemetery Road (Co. Rte 30)	-
West Martinsburg Road (Co. Rte. 31)	
Major Water Bodies	
Black River	14, 27, 31
Chases Lake	49
Independence River	50
Parks & Recreational Areas	
Whittaker Falls Park	15
Beach's Bridge Boat Launch on the Black River	31
Adirondack Park	51
State Forest Land	48, 51
Villages and Hamlets	
Village of Lowville	17, 18, 57, 58, 59, 60, 62
Hamlet of West Martinsburg	3
Hamlet of Martinsburg	16
Hamlet of Watson	32
Hamlet of Bushes Landing	56
Hamlet of Glenfield	14
Historic Sites	
Bateman Hotel, Lowville	17
Franklin B. Hough House, Lowville	18
Lewis County Fairgrounds	60, 62
Methodist Episcopal Church of West Martinsburg	3
Martinsburg Town Hall	16

Table 2. Visual Contrast Rating

Viewpoint #	Individual Overall Scores			Composite Score
	JCG	DBC	WPF	
2	2.0	2.0	2.5	2.2
3	1.0	1.0	1.0	1.0
4	1.25	2.25	1.25	1.6
5	2.25	2.25	2.25	2.25
8	2.75	2.5	2.25	2.5
22	1.5	2.25	2.25	2.0
27	2.6	3.2	2.4	2.7
28	1.5	2.5	1.75	1.9

Appendix C

Visual Impact Assessment Rating Forms

Flat Rock Power Visual Assessment

Panel Member: David Crandall

Date: 12/23/02

Viewpoint #: 2

Viewpoint Description: ^{West of} Entering W. Martinsburg, flat open land w/ random farms along road, overhead utilities along road, with clusters of vegetation.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	1	line of veg. is horizontal & conductors are horizontal, conductors contrast w/ sky.
Land Use	3	Exist. utilities are visible & in scale w/ new lines.
Land Form	1	Land form is flat horizontal plane. Horizontal line of conductors reinforces horizontal poles contrast w/ this line.
Viewer Activity	3	Utility systems exist, and would have longest time of impact on workday field.
Water	0	NA
Total	8	
Average Score	2	

Overall Aesthetic Impact:

~~A~~ overall increase in visual clutter is caused by diff. pole type, conductor configuration, insulators, & sagging conductors between steel & wood poles.

(Stacked vs horiz.)

Flat Rock Power Visual Assessment

Panel Member: D. Crandall
Date: 12/26/02

Viewpoint #: 3

Viewpoint Description: From W. Martinsburg Church looking over agric.
fields, flat land form overall w/ small undulations.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	1	line barely visible & horizon. same as veg.
Land Use	1	no impact
Land Form	1	
Viewer Activity	1	
Water	NA	
Total	4	
Average Score	1	

Overall Aesthetic Impact:

Visibility is extremely low NO significant
impact

Flat Rock Power Visual Assessment

Panel Member: D. Crandall

Date: 12/26/02

Viewpoint #: 4

Viewpoint Description: From farmers field ^{under exist. transmission line} looking east
over river valley

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	Clearing in background visible, & creates new pattern to veg. massing. Facility visibility minimal.
Land Use	2	Viewer is sensitized to presence of facility due to line overhead. Facility visibility is minimal.
Land Form	1	No impact
Viewer Activity	2	Assumes minimal impact due to distance & low level of visibility.
Water	1	No apparent impact on the visual quality of the River.
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

Scale ^{space} and distance from viewer are ^{primary} mitigating elements. Offsets in route selection contribute to low impact by avoiding loud unnatural lines in the landscape.

Flat Rock Power Visual Assessment

Panel Member: D. Crandall
 Date: 12/26/02

Viewpoint #: 5
 Viewpoint Description: Rte 26 looking southeast, w/ utility
lines parallel to road. Treeline in foreground diagonally
crosses view

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Line follows diagonal line of foreground
Land Use	2	Exist. utilities/transmission part of exist
Land Form	2	Line follows land form, but vertical line of poles contrast w/ flat rolling line of landform
Viewer Activity	3	Presence of other utilities minimizes impact
Water <u>SKy</u>	<u>water NA</u>	Conductors color contrasts w/ SKy in background
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

Utility is visible due to scale, delicate/transparent
Nature of facility reduces its impact

user is already conditioned due to other utilities in view

Flat Rock Power Visual Assessment

Panel Member: D. Crandall
 Date: 12/26/02

Viewpoint #: 8

Viewpoint Description: From Rte. 12 looking south, random residential, commercial structures. Overhead utilities present

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	Steel pole vertical line consistent w/ vertical edge of tree tops. Horiz. line of conductors follows tree line massing
Land Use	2	Presence of existing utilities reduces impact of new line
Land Form	2	Horizontal line of utility compatible w/ horiz. line of land
Viewer Activity	3	utilitarian aspect of facility in contrast w/ residential aspect of
Water	NA	
Total	10	
Average Score	2.5	

Overall Aesthetic Impact:

Presence of existi. utilities in view ^{begins to} cause viewer to utilities. However utilities begin to dominate view over veg. & land use.

Flat Rock Power Visual Assessment

Panel Member: D. Crandall

Date: 12/26/02

Viewpoint #: 22

Viewpoint Description: Rte 12 looking north, hillside to west

of rte 12, floodplain (flat) to east, large tree massing
in background w/ open agricultural fields in midground

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Facility follows tree line both vertically & horiz. reducing impact. Darker poles against veg. less impact.
Land Use	2	Utilities already exist in corridor.
Land Form	2	Route of facility follows landform reducing impact.
Viewer Activity	3	Commercial use of area, farm activity competing for attention.
Water	NA	
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

Darker color for steel poles is preferable since
majority of pole is against veg.

Flat Rock Power Visual Assessment

Panel Member: D. Crandall
 Date: 12/26/02

Viewpoint #: 27

Viewpoint Description: Viewpoint looking up river looking south
river is linear curving east, irregular skyline due
to mixed veg. (size & species) along river edge. Area clear of
clutter.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	line of poles (rigid) contrasts w/ irregular forms of exist veg.
Land Use	4	use contrast with leisure/passive use of this viewpoint.
Land Form	3	vertical line of poles contrast w/ horiz line of land.
Viewer Activity	4	Viewer activity is passive in nature from this viewpoint.
Water	2	No impact on water except as a detractor.
Total	16	
Average Score	3.2	

Overall Aesthetic Impact:

Perpendicular crossing of river minimizes impact
on recreational use of river.

Flat Rock Power Visual Assessment

Panel Member: D. Crandall

Date: 12/26/02

Viewpoint #: 28

Viewpoint Description: Pinegrove rd., looking NE through pasture

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	If ground plain veg. can be preserved impact would reduce. Removal creates rigid, geometric line for veg. edge.
Land Use	3	
Land Form	2	Flat/gently rolling land form is followed by facility.
Viewer Activity	2	View is of short duration for automobile users. Facility is extension of road utilities but
Water	NA	should be consider in contrast to agricultural/natural character of area
Total	10	
Average Score	2.5	

Overall Aesthetic Impact:

Utility does introduce a contrasting element into the rural landscape, yet texture/transparency/delicacy of facility minimizes its impact.

Flat Rock Power Visual Assessment

Panel Member: JoAnne Gagliano

Date: 12/23/02

Viewpoint #: 2

Viewpoint Description: The view is comprised of a county road way through an agricultural area (barns, fencing, dairy cattle pasture) with large vegetation (hedge row) in background. Overhead utilities run along roadside.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	It appears that the existing vegetation remains and hedgerows are still strong.
Land Use	1	Farming is not effected by the addition of transmission line.
Land Form	2	Flat lands are not impacted visually by addition of overheads + poles.
Viewer Activity	3	Since there were overhead power lines it isn't foreign, the part that stands out is the S-curves + steel pole.
Water	NA	
Total	8	
Average Score	2	

Overall Aesthetic Impact:

The impact is insignificant since this is a view that could be seen anywhere on a farm road. The only part that draws attention are the S curve sagging conductors.

Flat Rock Power Visual Assessment

Panel Member: Jo Anne Gagliano

Date: 12/23/02

Viewpoint #: 3

Viewpoint Description: The view is taken from Church yard

toward farmland. There is a shed and equipment
in the view along with vegetation hedgerows

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	1	Pdes may be more visible in dormant times?
Land Use	1	
Land Form	1	
Viewer Activity	1	
Water	NA	
Total	4	
Average Score	1	

Overall Aesthetic Impact:

The static wire can barely be seen within the hedge-
row, there is no impact.

Flat Rock Power Visual Assessment

Panel Member: Jo Anne Gagliano

Date: 12/23/02

Viewpoint #: 4

Viewpoint Description: The view is taken from a farmers field

under existing transmission line. There is a wide open
panorama of agricultural fields, forested areas, river valley
and hills. The foreground, mid ground, background and
Visual Impact Sky is clear and very visible

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Some R.O.W. clearing
Land Use	1	
Land Form	1	
Viewer Activity	1	
Water	NA	
Total	5	
Average Score	1.25	

Overall Aesthetic Impact:

The power project is basically undetectable, the
only part that is somewhat visible is the R.O.W.
clearing that has been done in a seemingly serpentine
orientation which contrasts with the massing of existing
trees and open fields. This might be done more
randomly and be unnoticeable

Flat Rock Power Visual Assessment

Panel Member: JoAnne Bagliano

Date: 12/23/02

Viewpoint #: 5

Viewpoint Description: The view is comprised of a state highway with a view into an agricultural field with hedgerows of vegetation. There are existing transmission lines in the background and overhead utility lines along highway.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	NO loss in vegetation
Land Use	1	NO loss in ag. land
Land Form	2	Silhouette of horizon somewhat compromised by H-frames.
Viewer Activity	4	Loss of open view to horizon, with H-frames
Water	NA	
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

The view is compromised by H-frames occupying so much of view foreground and mid ground. The sagging lines take away the feeling of openness and depth. The existing lines are so far in the distance that they diminish yet proposed are now a strong visible part of the view.

Flat Rock Power Visual Assessment

Panel Member: Jo Anne Bagliano

Date: 12/23/02

Viewpoint #: 8

Viewpoint Description: The view is composed of Rt 12 with
overhead utilities on both sides of road, road side
swales, small structures-(homes & businesses) with view
of adirondack park horizon.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Lines break up form of vegetation massing.
Land Use	3	The perception of power lines may to have an impact on residential.
Land Form	2	Can't appreciate long view to hills with so much clutter in environment.
Viewer Activity	4	Overpowering amount of utility structures, obscures views.
Water	NA	
Total	11	
Average Score	2.75	

Overall Aesthetic Impact:

The sky is full of overhead lines, large steel pole,
overhead wires. The steel poles color + size make
it appear large as compared to other poles. The
view is impacted with clutter, especially since this
view has a view to the background hills.

Flat Rock Power Visual Assessment

Panel Member: JoAnne Gagliano

Date: 12/23/02

Viewpoint #: 22

Viewpoint Description: The view is comprised of Rt 12 along
agricultural land and a wooded slope. There are
existing utility lines and poles along road which cross
over to both sides.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Poles dwarf hedgerow. Maybe some clearing loss
Land Use	1	No loss in use
Land Form	1	NO Landform perception change.
Viewer Activity	2	More poles but lines are clean not obscuring
Water	NA	
Total	6	
Average Score	1.5	

Overall Aesthetic Impact:

The impact is not very significant due to the
existence of existing poles + lines and the poles
appear at regular intervals, not creating clutter
or chaos.

Flat Rock Power Visual Assessment

Panel Member: Jo Anne Gagliano

Date: 12/23/02

Viewpoint #: 27

Viewpoint Description: The view is comprised of a picturesque view of the reflective Black River with steep banks and heavily vegetated edges.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Some clearing
Land Use	1	No loss in use
Land Form	1	No loss in use
Viewer Activity	4	View compromised by H-frame for recreational users
Water	5	Not in character
Total	13	
Average Score	2.6	

Overall Aesthetic Impact:

The impact is significant for this view since the H-frame is in contrast with this organic meandering water body.

Flat Rock Power Visual Assessment

Panel Member: Jo Anne Gagliano

Date: 12/23/02

Viewpoint #: 28

Viewpoint Description: The view is comprised of a cow pasture
with a barb wire fence surrounded by vegetation which
includes evergreens.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Some clearing necessary
Land Use	1	No loss in pasture land.
Land Form	1	The H-frames actually accentuate uphill rise.
Viewer Activity	2	H-Frame + overhead lines reced
Water	NA	
Total	6	
Average Score	1.5	

Overall Aesthetic Impact:

The impact is small on this view, the lines in foreground
blend into tree line and the H-frames start to
diminish as they move away.

Flat Rock Power Visual Assessment

Panel Member: P. FRITZ

Date: 12.23.02

Viewpoint #: 2

Viewpoint Description: West Road (County Road) - Agricultural

setting with rural traffic character. Sparsely populated area with

farmhouse and farm complex frontages throughout.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	metal pole int. and color contrasts hedgerow. Level of conductors contrast vegetation plane.
Land Use	2	Land use does not appear to be effected by transmission line.
Land Form	2	Land is flat and conductors run parallel with land form.
Viewer Activity	3	Conductors more visible b/c they do not run parallel with road.
Water	N/A	
Total	10	
Average Score	2.5	

Overall Aesthetic Impact:

Conductors are somewhat prominent because they do not run
parallel with rural road. Impact is minimized because the
conductors appear to run parallel with existing hedgerows/
vegetation. The steel pole is most contrasting element because of its significant
and foreign material. Complexity of transition between two
pole types is somewhat disconcerting and seems to create clutter
at the corner transition. Conductors interrupt clear views to
the horizon and rural/cultural
characteristics (i.e. farmstead / ag land).

Flat Rock Power Visual Assessment

Panel Member: P. FRITZ

Date: 12.23.02

Viewpoint #: 3

Viewpoint Description: View from ^{County} Road towards ^{the} east. Agricultural

fields and hedgerows are visible.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	1	
Land Use	1	
Land Form	1	
Viewer Activity	1	
Water	N/A	
Total	4	
Average Score	1	

Overall Aesthetic Impact:

The structure wire is barely visible. Impact is very minimal ^{and} does little to contrast existing conditions. Poles are not visible with leaf out - likely not visible with leaf-off.

Flat Rock Power Visual Assessment

Panel Member: P. RIZ

Date: 12.23.02

Viewpoint #: 4

Viewpoint Description: Location in a Ag. field along the alignment
of the proposed project toward the east on Adirondacks,

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	Minimal change or contrast, but change at opposite hill where South Marsh woodland is slightly visible
Land Use	1	minimal change and minimal impact
Land Form	1	
Viewer Activity	1	
Water	N/A	
Total	5	
Average Score	1.25	

Overall Aesthetic Impact:

Change is barely perceptible. Poles are barely visible. Clearing
at slope in back ground is slightly visible and appears to create
the greatest impact from this viewpoint because of contrast
with adjacent to woodland. No major changes to foreground or
middleground.

Flat Rock Power Visual Assessment

Panel Member:

Date: 12.23.02

Viewpoint #: 5

Viewpoint Description: State highway with relatively heavy traffic -
view toward farm field in southeast direction. Adjacent electric
lines along road and an existing transmission also visible.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	minimal impact on vegetation although height of poles contrasts w/ veg.
Land Use	2	wood poles contrast hedgerow and farm field but location minimizes impact on land use
Land Form	2	line form does not change
Viewer Activity	2	Existing transmission structure and utility lines lessen the intrusive character of the new conductor
Water	NA	
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

The overall aesthetic impact is minimal. The alignment of the poles /
H-fans along the hedgerows helps lessen the contrast of the structures
and the landscape. Character of poles in the rural setting is acceptable
because similar structures already exist in the area. Different pole
structures create some curiosity and attract the eye versus
consistent structure forms.

Flat Rock Power Visual Assessment

Panel Member: P. FRITZ

Date: 12.23.02

Viewpoint #: 8

Viewpoint Description: Out of Louisville with view toward the

south. Small houses setback from the highway Rt. 12 -

the Black Power Trail. Easily city line along the highway is visible.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	monopole is foreign object and ht. contrasts ht. of vegetation.
Land Use	2	Rural character minimally impacted by monopole.
Land Form	1	monopole does not affect flat landscape.
Viewer Activity	3	Lines run perpendicular to rd. at contrast existing lines in the landscape.
Water	N/A	
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

Altitude and direction of conductor lines visually contrasts the alignment of the road and existing utility lines. Weight of conductors is more prominent than existing utility lines. The location of the lines in a vertical format increases impact. If two lines were side by side the impact may lessen. Impact may be insignificant as user group is more focused on the road at this viewpoint.

Flat Rock Power Visual Assessment

Panel Member: P. FRITZ

Date: 12.23.02

Viewpoint #: 22

Viewpoint Description: Route 12 with views toward open agricultural

land and woodland on adjacent slope. Rural character dominates

Viewpoint.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	3	Scale of monopoles contrasts existing vegetation.
Land Use	2	minimal impact on rural character.
Land Form	1	No major impacts from introduction of monopoles.
Viewer Activity	3	more clutter is visible with monopoles + conductors.
Water	N/A	
Total	9	
Average Score	2.25	

Overall Aesthetic Impact:

Scale of monopoles significantly contrasts the existing man-made +
natural features. New structures clutter the rural character of the
viewpoint. Light color of poles brings forward the visibility
of the closest two poles. Conductors less significant in this view, location
of poles along edge of woods helps minimize impact.

Flat Rock Power Visual Assessment

Panel Member: P. FRITZ

Date: 12.23.02

Viewpoint #: 27

Viewpoint Description: View from river at rural land. Edge

of river is woodland, brush, and farmlands. View is in
southern direction.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	2	ht. of wood poles contrasts adjacent vegetation. Scale at structure of poles has ^{minimal} contrast.
Land Use	3	View all natural. New poles only adjacent man-made features.
Land Form	1	Little or no change to existing landscape.
Viewer Activity	3	hiker or boat user may be negatively affected by man-made features.
Water	3	ht. of poles would create a reflection on the adjacent river.
Total	12	
Average Score	2.4	

Overall Aesthetic Impact:

ht. of poles and location of structure cut back in the
River creates most significant contrast to existing landscape.
Poles have greater height than existing vegetation. Location
of pole at midpoint of river bend focuses the users
attention to the pole. Direction of conductors also
contrasts the form and direction of the river and line
created by the river. Overall view is ~~not~~ minimally impacted

Flat Rock Power Visual Assessment

Panel Member: P. FETZ

Date: 12.23.02

Viewpoint #: 28

Viewpoint Description: County highway - view northeast of pasture and woodland.

Visual Impact

Rate the project's contrast with existing conditions on a scale of 1 (completely compatible) to 5 (strong contrast). Under comments, explain the reason for rating focussing on the elements of line, scale, color, texture and form. Then provide your overall assessment of the project's aesthetic impact from this viewpoint.

Landscape Component	Contrast	Comments
Vegetation	<u>3</u>	<u>Clearing of vegetation at ground plane seems unnecessary. Loss is significant.</u> Pole ht. contrasts ex. veg.
Land Use	<u>2</u>	<u>Rural Agriculture Character minimally impacted.</u>
Land Form	<u>1</u>	<u>Little change to landform.</u>
Viewer Activity	<u>1</u>	<u>Character of landscape relatively unchanged to road/vehicle use group</u>
Water	<u>N/A</u>	
Total	<u>7</u>	
Average Score	<u>1.75</u>	

Overall Aesthetic Impact:

Clearing of vegetation appears to eliminate significant trees that, if they remained, would help lessen the scale impact of the h-frame poles. Location of poles adjacent to woodland helps to minimize visibility of the poles. Most significant change is conductor lines running perpendicular to road alignment.