THE VILLAGE OF ARCADE, NEW YORK

AND

NOBLE ALLEGANY WINDPARK, LLC

EXHIBIT ___ (JWG-1)

VISUAL RESOURCE ASSESSMENT

115 kV TRANSMISSION LINE

CENTERVILLE TO YORKSHIRE

SARATOGA
ASSOCIATES

CENTERVILLE TO YORKSHIRE 115 KV TRANSMISSION LINE
VISUAL RESOURCE ASSESSMENT

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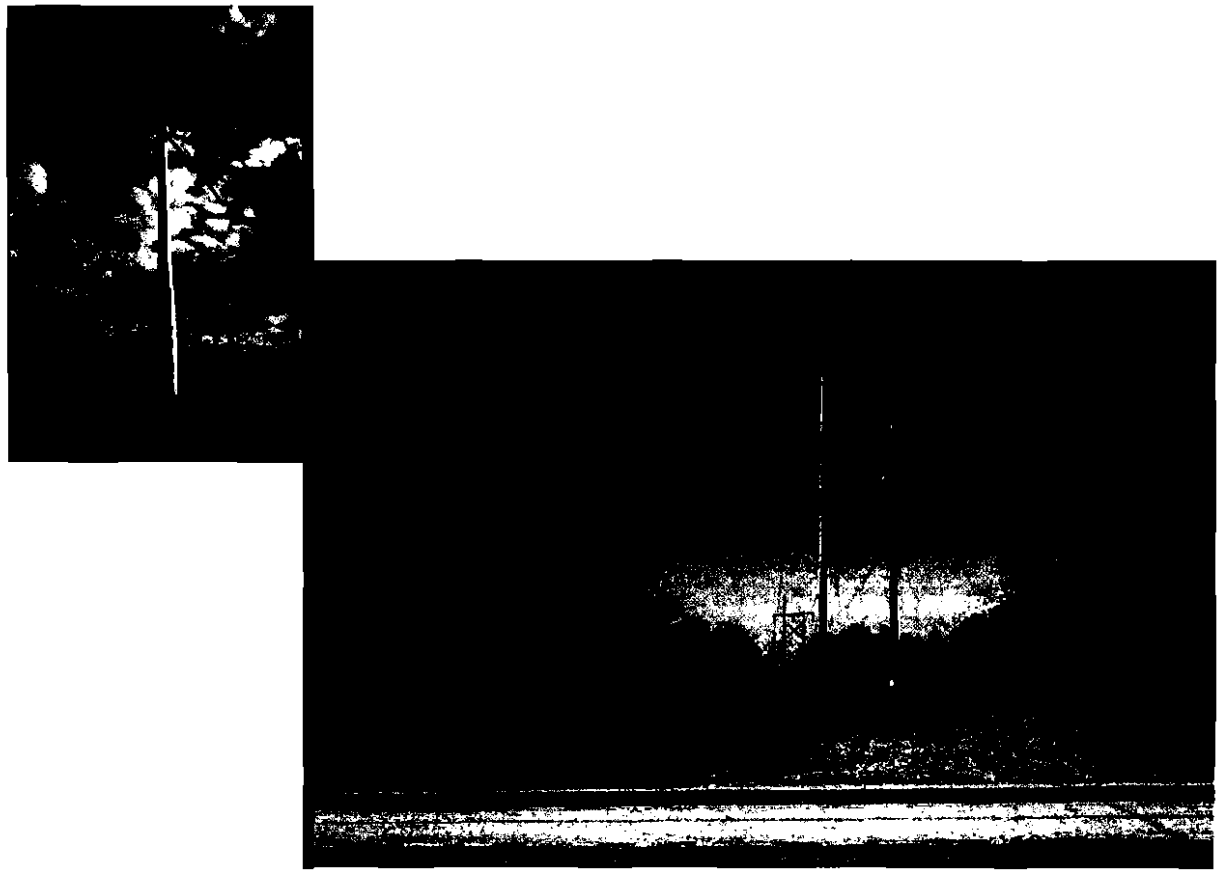

Centerville to Yorkshire115 kV Transmission Line – Visual Resource Assessment

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1.0 INTRODUCTION

Noble Environmental Power, LLC (Noble) and the Village of Arcade are proposing to construct a 115-kilovolt (kV) transmission line approximately 14 miles long through the Village of Arcade and Towns of Arcade, Centerville, Freedom, and Yorkshire in Wyoming, Allegany and Cattaraugus Counties, New York. The transmission line (hereafter referred to as the "Proposed Project" or the "Proposed Transmission Line") will provide the necessary infrastructure to carry the electricity generated by the proposed Noble Allegany Windpark (Towns of Centerville and Rushford, Allegany County) to an existing transmission line owned and operated by National Grid in Cattaraugus County. The Proposed Project will also improve the operation and reliability of the Village of Arcade municipal electric system.

To address issues of potential visual impact, Saratoga Associates, Landscape Architects, Architects, Engineers, and Planners, P.C. (Saratoga) was retained to conduct a detailed Visual Resource Assessment (VRA) of the Proposed Transmission Line. The purpose of this VRA is to identify potential visual and aesthetic impacts and to provide an objective analysis of the visual character of the Proposed Project, using standard accepted methodologies of visual assessment, from which agency officials can make an informed determination of the Proposed Project's visual impact. The VRA was prepared for inclusion in the Article VII Application.

1.1 METHODOLOGY

Consistent with VRA practice, this report evaluates the potential visibility of the Proposed Transmission Line and presents a description of the difference between the visual characteristics of the landscape setting with and without the Proposed Project in place. The methodology implemented is consistent with New York State Department of Environmental Conservation Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC, 2000) (DEC Visual Policy) and State Environmental Quality Review (SEQRA) criteria to minimize impacts on visual resources. This process provides a practical framework to assist decision-makers and the public to understand the potential visual impacts and make an informed judgment about their significance (aesthetic impact).

There are no specific Federal rules, regulations, or policies governing the evaluation of visual resources. However, the methodology employed herein is based on standards and procedures used by the U.S. Department of Agriculture (National Forest Service, 1974, 1995), U.S. Department of the Interior, Bureau of Land Management (USDOI, 1980), U.S. Department of Transportation, Federal Highway Administration (USDOT, 1981), NYS Department of Transportation (NYSDOT, 1988), and the NYS Department of Environmental Conservation (NYSDEC, 2000).

The evaluation performed for the Proposed Project includes both quantitative (how much is seen and from what locations; or visual impact) and qualitative (how it will be perceived; aesthetic impact) aspects of visual assessment.

The visual impact assessment includes the following steps:

- Define the existing landscape character/visual setting to establish the baseline visual condition from which visual change is evaluated;

- Conduct a visibility analysis (viewshed mapping and field investigations) to define the geographic area surrounding the Proposed Transmission Line from which portions of it might be seen;
- Identify sensitive aesthetic resources to establish priority locations from which further analysis of potential visual impact is conducted;
- Select key receptors from which detailed impact analysis is conducted;
- Depict the appearance of the facility upon completion of construction;
- Evaluate the aesthetic effects of the visual change (qualitative analysis) resulting from Proposed Transmission Line, completion and operation, and;
- Identify opportunities for effective mitigation.

Consistent with the DEC Visual Policy, the visual study area for this VRA generally extends to a 5-mile radius from the centerline of the proposed route (hereafter referred to as the "5-mile radius study area" or "study area"). Beyond this distance it is assumed that natural conditions of atmospheric and linear perspective will significantly mitigate most visual impacts. However, site-specific consideration was given to resources of high cultural or scenic importance that are located beyond the typical 5-mile radius.

1.2 Proposed Project Description

The Proposed Transmission Line is located in western New York, approximately 32 miles southeast of Buffalo, 34 miles south of Batavia, and 65 miles southwest of Rochester. The Proposed Transmission Line is generally bound by NYS Route 39 to the north, North Hill Road to the east, Bray and Dow Roads to the south, and McKinstry Road to the west. The Proposed Project includes two new substations, 89 new tangent and angle structures (i.e. transmission towers), and the replacement of 35 structures. An additional circuit will also be installed on the southern side of 63 structures located along Transmission Section 2 (discussed below) utilizing existing Davit arms. Approximately 8.2 miles of the proposed 14-mile transmission route will utilize an existing ROW where structures of different sizes and styles exist.

The route of the Proposed Transmission Line will start at a new substation located in the Town of Centerville. The proposed line will continue in a westward direction where it will terminate at an interconnection with an existing transmission line owned and operated by National Grid in the Town of Yorkshire. The proposed Noble Allegany Windpark will utilize the new substation located within the Town of Centerville.

The route contains some directional changes to minimize environmental impacts, including impacts to wetlands and agricultural land, and to accommodate landowner requests, where feasible. The Proposed Transmission Line will be placed on a variety of structure types (e.g. wooden crossed-braced and monopole structures - see Appendix A for sample of structure styles) with spans between poles averaging between 350-450 feet. While the structures will vary in height from 61 and 92.5 feet, poles will be between 65 and 70 feet high.

Within the Towns of Centerville, Freedom, Arcade and Yorkshire, the transmission structures will be located within a 100-foot Right-of-Way (ROW). Within the Village of Arcade, transmission structures will be located along a new 100-foot ROW and an existing 75-foot ROW. The Proposed Project will be constructed on a combination of Village of Arcade and private land. The Proposed Project will require vegetation clearing along certain portions of new ROW. Newly-cleared ROW will be allowed to return to a partial vegetative state (low scrub/shrub or agricultural crops); however, trees along the ROW will be permanently cleared so as not to interfere with the Proposed Transmission Line once it is in operation.

The Proposed Transmission Line consists of three (3) distinct sections, which are further discussed below:

> Transmission Section 1 – This section is approximately 3.7-miles in length and will connect the proposed Noble Allegany Windpark to the existing 115 kV transmission line being used to deliver electricity generated by the existing Noble Bliss Windpark. This section will consist of 52 tangent and angle structures, and one substation (Centerville substation) located adjacent to Smith Cross Road, north of Dow Road. The structures will be placed within a new 100-foot Right-of-Way (ROW). This section of the Proposed Transmission Line will be owned by Noble.

> Transmission Section 2 – This section, which is approximately 5-miles in length, will utilize 63 existing single tangent poles located within the Noble Bliss Windpark 115 kV transmission line ROW. These poles were designed to accommodate a second circuit. Twelve (12) new angle structures will be constructed to support the circuit originating from Transmission Section 1. This section of the Proposed Transmission Line will extend west along the existing ROW to a new switchyard facility (Freedom substation expansion) that will be located immediately adjacent to the existing Village of Arcade distribution substation (Freedom substation) and switchyard. This section of the Proposed Transmission Line will be owned by Noble.

> Transmission Section 3 – This section, which is approximately 5 miles in length, will combine the utilization of an existing ROW and development of a new ROW, and involves a total of 60 new tangent and angle structures. 35 new tangent and angle structures will be erected within the existing ROW, replacing the 29 structures that presently exist along this segment, and 25 new tangent and angle structures will be introduced along the new ROW.

  In the eastern portion of Transmission Section 3, a new 100-foot ROW will be established between the existing Freedom substation, located northwest of the NYS Route 16 and Bray Road intersection, and the existing Bixby Hill substation, located along Bixby Hill Road in the Village of Arcade. The new facilities at the Freedom substation will include other improvements that will further enhance operational flexibility and reliability of the Village of Arcade municipal electric system.

In the western portion of Transmission Section 3, the existing 75-foot ROW between the Bixby Hill substation and a switchyard facility in the Town of Yorkshire will include the replacement of existing structures. From Bixby Hill, existing/proposed circuits will be placed on new cross-braced structures designed to accommodate both circuits within Arcade's existing ROW. The circuits will travel westward largely along the existing transmission ROW to a switchyard facility, where both circuits will connect with the existing National Grid transmission system in the Town of Yorkshire. The switchyard in the Town of Yorkshire is not part of this Proposed Project. Some deviations to the ROW will be necessary to maintain separation from residences along the existing ROW. The Village of Arcade will own this section of the Proposed Transmission Line.

2.0 LANDSCAPE CHARACTER/VISUAL SETTING

Landscape character is defined by the basic pattern of landform, land use, vegetation, water features, and human development. This descriptive section offers an overview of the intrinsic visual condition of the study area and establishes the baseline condition from which to evaluate visual change.

The study area is predominately rural and largely undeveloped. The Town of Centerville, with a population of only 762, is the smallest town in the study area, while the populations of the largest towns in the study area, Arcade and Yorkshire, are 4,184 and 4,210, respectively. Broad tracts of agricultural land are either actively maintained or brush-covered due to inactivity (fallow fields). Mature deciduous woodlands typically cover steep slopes, hilltops, ravines, stream corridors, and other areas historically unsuitable for agricultural use. Other land cover includes yards, hedgerows, streams, small lakes, and ponds. Undulating hills and ridges rise more than 1,500 feet above Lake Erie, which is located approximately 34 miles to the west of the Proposed Project. These hills are the dominant landscape element and form the visible horizon.

With the exception of the more developed Villages of Arcade and Delevan, and hamlets such as Bliss, Chaffee, Sandusky and Yorkshire, built features typically include low to medium-density single-family residential structures and farmsteads. A moderate amount of commercial development is concentrated between the Village of Arcade's downtown area and the intersection of New York State Routes 16 and 39. Development varies in size from smaller uses (e.g. gas station) to larger freestanding stores (e.g., Tops Supermarket). Associated with this commercial development are parking lots of varying sizes adjacent to the major thoroughfares. Existing industrial uses are also evident within the Village of Arcade along Edwards Street.

2.1 TOPOGRAPHY

The Proposed Transmission Line lies at the northern edge of the Cattaraugus Hills and Appalachian Upland. This topographic feature rises slowly from the relatively flat bottom lands of the bordering Lake Erie and the Southern Ontario Plains, to a series of broad undulating ridge tops with deeply cut generally north-south aligned ravines and valleys. Valleys are numerous and narrow.

Uplands are relatively broad, undulating plateaus with elevations generally ranging between 1,400 feet to 1,700 feet above sea level. Terrain consists largely of undulating hills, ridges and areas of smaller rounded hillocks, often bisected by ravines.

2.2 Vegetation

Dominant tree species within the study area are representative of the northern hardwood zone found throughout much of the Western New York Region. Species include beech, maple, ash, elm and hemlock. In addition to these primarily deciduous climax species, isolated plantings of red and white pine are scattered throughout the study area. Coinciding with the mix of open field and woodlots is a significant amount of secondary growth edge habitat. For the most part, this secondary growth takes the form of hedgerows, wood borders, and old fields.

2.3 Water Features

Water features are not a major component of the visual landscape within the vicinity of the proposed transmission route. The more prominent water resources within the study area include the Clear Creek, Cattaraugus Creek, Wiscoy Creek, Elton Creek, and Lime Lake Outlet. Additional water resources within the study area include Crystal Lake and Paradise Lake. Numerous private farm ponds, scattered wetlands, and small streams are also found in the study area.

2.4 Transportation

The primary roadways that bisect the study area are NYS Routes 16 and 98 (north-south), and NYS Routes 39 (east-west). NYS Route 16 is approximately 79 miles in length and extends from the Pennsylvania state line to downtown Buffalo.[1] NYS Route 98 is approximately 98 miles in length and extends from US Route 219 to the Lake Ontario Parkway in the Town of Carlton.[2] NYS Route 39, which is approximately 99 miles, connects NYS Route 5/US Route 20 in Avon to US Route 20 in Sheridan.[3] These State roadways are typically two-lane asphalt roadways. Several county designated routes and town roads traverse the study area. In addition, there are several seasonal roadways located throughout the study area.

2.5 Population Centers

Community Centers – Within the study area are two (2) villages and numerous hamlets. The larger community centers within the study area include the Villages of Arcade and Delevan.

Village of Arcade – The Village of Arcade, located within the Town of Arcade, is the most populated municipality located within the study area. The Proposed Transmission Line, which utilizes an existing transmission ROW within the village, enters the village from the south at Bixby Hill Road, then crosses southwest, out of the village before re-entering the Village near Steele Avenue and exiting the village to the west, along Southview Drive. The village consists of a downtown area with a modest grid street pattern lined with residential houses, churches, and an assortment of commercial establishments (service facilities and offices). Moderate density

[1] http://www.answers.com
[2] http://www.answers.com
[3] http://www.answers.com

single-family housing may be found throughout the village. Many of the residential roads eventually connect to NYS Routes 39 (Main Street) and 98. Residential dwellings within the village tend to be older and well maintained with mature vegetation lining the roadways. Generally, development density drops sharply as one travels beyond the village's boundary to the north, east or south.

Within the village boundary, retail and commercial development of varying sizes is found along NYS Route 39. Within the village's downtown center, most of the retail stores may be found along Main Street. Further west, outside the downtown area, retail includes a mixture of national/regional chains (e.g. McDonalds and Tops Supermarket) and locally-owned businesses. Industrial and educational uses are evident along Edwards Street (south of NYS Route 39) where uses such as the Genesee Community College – Wyoming Campus, a factory, and an existing substation may be found along Edwards Street.

Activities within the Village of Arcade are generally related to education, small business, local shopping, transportation, and residential uses.

Village of Delevan - The Village of Delevan is located in the Town of Yorkshire, approximately 1.6 miles south of the Proposed Transmission Line route. Roads in this small village are not oriented on a typical grid structure. A number of residential roads within the village connect back to NYS Route 16 (Main Street), County Routes 20/21/74, and Grove Street/Delevan Avenue in a variety of configurations. A mixture of residential and commercial establishments lines these main roadways. Low to moderate density single-family housing is found within the village. Residential dwellings tend to be older and well maintained, with mature vegetation lining many roadways. A number of commercial establishments (service facilities and offices) are found along NYS Route 16 (Main Street). Development density drops sharply as one travels outside the village center, with land-use quickly turning more agricultural.

Activities within the Village of Delevan are generally related to education, small business, local shopping, transportation, and residential uses.

Hamlets - Outside of those community centers identified above, the study area contains a number of hamlets varying in size. These hamlets include, but are not limited to, Bliss, Centerville, Chaffee, East Arcade, Freedom, Sandusky, Sardinia, and Yorkshire. Homes range in quality from well-maintained single-family frame construction to older housing stock in need of repair. The larger hamlets within the study area, such as Bliss, Chaffee, Sandusky, and Yorkshire also offer limited services (e.g. commercial establishments, churches, offices) and, in some instances, recreation opportunities. West of Yorkshire, the intersection of NYS Routes 16 and 39 is commercial-oriented with several chain businesses, including Rite Aid and Burger King, as well as locally owned business. Development density within the hamlets tends to be low to medium.

Generally, activities within the hamlets are related to residential uses, transportation, and small businesses.

Rural Residential Areas – Low-density rural homes (a mix of old and new) and accessory structures (e.g. garages and barns) are often found in roadside locations or are located on isolated lots out of view from local roads. Rural homes range in quality from well-maintained single-family frame construction to older housing stock in need of repair. Mobile housing of varying vintage, located on isolated lots and within parks (e.g. Pioneer Estate) is also a common residence type.

Seasonal homes, camps and cabins appear to be scattered throughout the study area. Most such structures are typically found in remote locations off of local roads and range in quality from well-maintained our-season residences to hunting cabins, mobile homes and recreational trailers.

2.6 Existing Energy and Transmission Structures

There are two existing and operating wind parks within close proximity to the Proposed Transmission Line. These include the Noble Bliss Windpark and the Wethersfield Wind Farm.

Noble Bliss Windpark – The Noble Bliss Windpark is a 67-turbine, 100-megawatt facility located in the Town of Eagle, Wyoming County; a portion of the windpark is located within the Proposed Project's study area. Each turbine consists of a 263-foot tall tubular steel tower, and a 253-foot diameter three-bladed rotor connected to a gearbox and generator. The total turbine height is approximatcly 389 feet to the apex of blade rotation. The windpark was constructed in 2007.

Wethersfield Wind Farm - The 10-unit, 6.6-megawatt Wethersfield Wind Farm facility, located in the Town of Wethersfield, Wyoming County, is outside the study area of the Proposed Project. Each wind turbine consists of a 213-foot tall tubular steel tower, and a 154-foot diameter three-bladed rotor connected to a gearbox and generator. The total turbine height is approximately 290 feet to the apex of blade rotation.[4] The wind farm was constructed in 2000.

Wyoming County actively promotes the clean energy Wethersfield Wind Farm.[5]

There are a number of transmission ROWs scattered throughout the study area, two of which will be utilized by the Proposed Project. Specifically, as noted above, Transmission Sections 2 and 3 utilize existing ROWs.

Electricity from the existing Bliss Windpark is fed into the grid via a 115 kV transmission line that begins at the Bliss Substation (off of Cadwell Road) and travels approximately 5.5 miles to the Freedom Substation. In all, the 100-foot ROW contains 82 laminated wood, double circuit single pole tangent and angle structures that average about 65 feet tall. Spans between structures average approximately 350 feet. The majority of the structures within this ROW will be utilized for the Proposed Project and is identified as Transmission

[4] http://www.newwindenergy.com
[5] http://www.wyomingcountyny.com

Section 2.

The Village of Arcade owns a 115 kV transmission line ROW that extends from the Bixby Hill substation where it connects with National Grid in the Town of Yorkshire. The 75-foot ROW contains 34 wooden, H-frame tangent and angle structures that average of 60 feet tall between the Bixby Hill and Yorkshire substations. This ROW will be utilized for the Proposed Project and is identified as Transmission Section 3. The Village of Arcade also owns a 115 kV transmission line ROW connecting the Freedom substation and Bixby Hill substation. However, this ROW follows a different route than Transmission Section 3 and is not part of the Proposed Project.

3.0 VISUAL IMPACT ASSESSMENT

3.1 VIEWSHED MAPPING (ZONE OF VISUAL INFLUENCE)

3.1.1 Viewshed Methodology

The first step in identifying potentially affected visual resources is to determine whether or not the Proposed Transmission Line would likely be visible from a given location based upon computer-simulated lines of sight. Viewshed maps are prepared for this purpose. Also known as defining the zone of visual influence, viewshed mapping identifies the geographic areas within which there is a relatively high probability that some portion of the Proposed Transmission Line would be visible.

The overall accuracy of viewshed mapping is dependent upon the number and location of control points (study points representing proposed structures) used in the viewshed calculation. To calculate the maximum area of potential visibility, one control point was established at the high point for 210 structures (includes all proposed structures, the existing Noble Bliss 115 kV line, and takeoff poles within substations). The resulting composite viewshed identifies the geographic area within the 5-mile study radius where some portion of the Proposed Transmission Line is theoretically visible based on the three-dimensional positions of the control points and intervening topography (See Figure 1).

An additional viewshed map was prepared to illustrate the probable screening effect of topography and/or existing mature vegetation. A viewshed modeled with vegetative cover of an assumed height, although not considered absolutely definitive, reasonably delineates those areas within which one would expect the Proposed Project to be substantially screened by intervening topography and/or forest vegetation from those areas that would likely have visibility to at least some part of the Proposed Transmission Line (See Figure 2).

Identified viewshed areas are further analyzed to illustrate the number of structures that may be visible from any given location within the study area, including proposed structures, upgrade/replacement of existing structures, and existing structures that will remain in place. This cumulative degree of visibility is summarized on the map using the following groupings:

- 1-5 structures potentially visible;
- 6-10 structures potentially visible;
- 11-25 structures potentially visible;
- 26-50 structures potentially visible;
- 51-75 structures potentially visible;
- 76-100 structures potentially visible;
- 101-125 structures potentially visible; and
- 126-133 structures potentially visible (based on vegetated viewshed); or
- 126-155 structures potentially visible (based on topographic viewshed).

By themselves, the viewshed maps do not determine how much of each structure is visible above intervening landform or vegetation (e.g., 100%, 50%, 10% etc. of total transmission structure), but rather the area within which there is a relatively high probability (theoretical visibility) that some

portion of one or more transmission structures would be visible. Their primary purpose is to assist in determining the potential visibility of the Proposed Project from the identified visual resources and to reduce the total area of the Study Area to only those areas that have theoretical visibility of any portion of the Proposed Transmission Line.

In this evaluation, ArcGIS 9.2 and ArcGIS Spatial Analyst software were used to generate viewshed areas based on publicly available digital topographic and vegetation data sets. Viewshed maps were created by first importing a digital elevation model (DEM) of the Study Area. This DEM, obtained through the United State Geologic Survey from its National Elevation Dataset, is based on the best available digital elevation data sampled to a 10-meter grid cell resolution. The computer then scanned from each control point to all cells within this, distinguishing between grid cells that would be hidden from view and those that would be visible based solely on topography. A conservative offset of 2 meters was applied to each DEM cell to simulate the height of a human observer. All grid cells within the study area were coded based on the number of Proposed Transmission Line structures that would be visible to a theoretical observer whose eye height is 2 meters above ground level.

Vegetation data was extracted from the National Land Cover Data Set 2001. The NLCD dataset, produced by the Multi-Resolution Land Characteristics Consortium, was developed from a multi-spectral classification of LANDSAT 7 Thematic Mapper (TM) imagery (2001 is the nominal year of image acquisition) sampled to a 30-meter grid cell resolution.[6] The screening effect of vegetation was incorporated by including an additional 40 feet (12.2 meters) of height for those DEM grid cells that are completely forested (according to NLCD dataset) and then repeating the viewshed calculation procedure. Forested areas were then removed from the viewshed to account for areas located within a full forest canopy. Based on field observation, most trees in forested portions of the study area appear to be taller than 40 feet. This height therefore represents a conservative estimate of the effect of vegetative screening.

It is important to note that the NLCD dataset is based on interpretation of forest areas that are clearly distinguishable using multi-spectral satellite imagery. As such, the potential screening value of site-specific vegetative cover such as small hedgerows, street trees and individual trees and other areas of non-forest tree cover may not be represented in the viewshed analysis. Furthermore, the NLCD dataset does not include the screening value of existing structures. This is a particularly important distinction in the populated areas such as the Village of Arcade, Village of Delevan, hamlet of Yorkshire, and other commercial and residential areas where existing structures are likely to provide significant screening of distant views. Where such conditions are found, the viewshed map conservatively overestimates potential visibility of the Proposed Project in areas where it may be substantially screened from view. It is noteworthy that untrained reviewers often misinterpret viewshed maps derived solely from topography as representative of wintertime, or leafless condition, visibility (Figure 1). In fact, deciduous forests provide a substantial visual barrier in all seasons. Since the NLCD dataset generally identifies only larger stands of forest vegetation that is clearly

[6] Thirty-meter resolution is the smallest vegetative grid cell increment commonly available for the Proposed Project region. This resolution provides an appropriate degree of accuracy for development of five-mile viewshed maps given the fairly broad patterns of existing land use in the area, as well as the accuracy of mapped topographic data (i.e., 1:24,000-scale USGS topographic maps with 10-foot contour intervals)

distinguishable using multi-spectral satellite imagery, viewshed maps that include the screening value of existing vegetation are equally representative of both leaf-on and leaf-off conditions (Figure 2). Viewshed analysis derived solely from topography is provided only to assist experienced visual analysts in identifying the maximum potential area within which further investigation is appropriate. Such topography-only viewshed maps are not generally intended or appropriate for public interpretation of presentation. Finally, the viewshed maps indicate locations in the surrounding landscape in which one or more structure highpoints might be visible. These maps do not imply the magnitude of visibility (*i.e.*, how much of each structure is visible), the viewer's distance from each visible structure (which will affect the apparent size of the visible portion of the Proposed Project), or the aesthetic character of what may be seen. Such interpretation is the subject of the next phase of analysis.

3.1.2 Verification of Viewshed Accuracy

To help determine the accuracy of the vegetation data used for viewshed development, the NLCD data set was overlaid on black and white aerial photographs of the study area with 2-foot resolution (2005) and reviewed for consistency. While minor inconsistencies were noted, including areas of recently cleared lands, narrow driveways through vegetative stands, areas of inactive/abandoned agricultural land showing a degree of pioneer species growth and areas of non-forest vegetative cover, the vast majority of woodland areas visible on the satellite image were consistent with the NLCD overlay.

This analysis also confirmed that although the viewshed maps indicate visibility within much of the Village of Arcade's downtown area, there is substantial screening by existing vegetation and structures. This is not part of the NLCD data.

3.1.3 Viewshed Interpretation

Table 1 – Viewshed Coverage Summary indicates the degree of theoretical visibility illustrated on the computer-generated viewshed maps within the 5-mile radius study area.

Table 1 – Viewshed Coverage Summary

	Topography Only Viewshed (Figure 1 – Topographic Viewshed)		Vegetation and Topography Viewshed (Figure 2 - Vegetated Viewshed)	
	Acres	**Percentage of Study Area**	**Acres**	**Percentage of Study Area**
No Structures Visible	54,006	42.0	102,921	80.0
1-5 Structures Visible	4,600	3.5	4,807	3.7
6-10 Structures Visible	6,738	5.3	3,521	2.7
11-25 Structures Visible	17,476	13.7	7,056	5.5
26-50 Structures Visible	20,062	15.6	5,513	4.3
51-75 Structures Visible	10,559	8.2	3,067	2.4
76-100 Structures Visible	9,807	7.6	1,359	1.1
101-125 Structures Visible	3,512	2.7	336	<0.3
126-133 Structures Visible	N/A	N/A	6	<0.01
126-155 Structures Visible	1,826	1.4	N/A	N/A
Total	128,586	100.0	128,586	100.0

*Table 1 and Figure 1 illustrate that one or more structures - including existing as well as proposed structures - are theoretically visible from approximately 58 percent of the 5-mile study radius. However, as discussed above, this unrealistic treeless condition analysis is used only to identify the maximum potential geographic area within which further investigation is appropriate. This viewshed is not representative of the anticipated geographic extent of visibility and is not intended for public interpretation. Acreage is rounded to the nearest whole number

Table 1 and Figure 2 – Vegetated Viewshed illustrates that one or more of the proposed transmission structures will theoretically be visible from approximately 20 percent of the five-mile radius study area, and that approximately 80 percent of the study area will likely have no visibility of any of the structures. Visibility is most common from properties adjacent or in close proximity to the Proposed Transmission Line, as well as areas to the north, west and south. Visibility will also be evident from agricultural uplands with cleared lands and down slope vistas in the direction of the Proposed Transmission Line.

Views of the Proposed Transmission Line from within the Village of Arcade will be available from various locations. Within the center of the village (i.e., downtown area), views appear to be limited due to intervening topography, pockets of vegetation, and structures. Views are more evident on properties in close proximity to the Proposed Transmission Line or where localized structures and vegetation are less likely to provide a visual barrier. Open views of the transmission structures along NYS Route 39, east and west of the village center will be evident.

Intervening topography, vegetation and localized structures will mostly screen views of the proposed structures within the Village of Delevan. Filtered or framed views may be possible through foreground vegetation in isolated locations further north of the village along NYS Route 16 where localized structures and vegetation are less likely to provide a visual barrier. Also, from higher elevations around the village, views may be available; however these views may be at a distance of up to three (3) miles. Overall, visual impacts from the Village of Delevan should be substantially reduced

by screening (e.g. structures and localized vegetation), the relatively long distance between the village and the Proposed Transmission Line, and the generally low/slim profile of the proposed structures.

Views from the hamlets, such as Freedom and Yorkshire are possible in limited locations. Screening (e.g., buildings or other structures and localized vegetation) and distance from the Proposed Transmission Line should substantially reduce visual impacts to the hamlet of Freedom. Depending on viewer location, the hamlet of Yorkshire will have views of the structures in relative close proximity. The generally low/slim profile of the proposed structures will also assist in reducing in potential visual impact.

Views will be significantly limited or completely screened from the opposite side of hills and hillocks, and from ravines. In addition, forest cover will frequently prevent background views from areas of level or slightly elevated topography.

Portions of residential communities will have views of the Proposed Transmission Line. In particular, the Arcade Valley Estates and Pioneer Estate, located in the Towns of Arcade and Yorkshire, respectively, will either have framed views or open views of the proposed structures. Residential vantage points that would be most affected tend to be those in close proximity of the proposed structures. As a viewer moves further away within these communities, structures and vegetation begin to screen views in the direction of the Proposed Transmission Line. Although the proposed structures will be visible from these two particular communities, it should also be mentioned that existing transmission structures (those being replaced along Transmission Segment 3) are currently visible and are also located in close proximity of residential structures.

Aside from the Village of Arcade, the area most directly affected by views of the Proposed Transmission Line will be the agricultural upland just due north of the Proposed Project. The rural areas along the proposed route will experience a high degree of visibility. Residents and visitors will regularly encounter proximate views of the Proposed Transmission Line corridor within the foreground and near-middleground distances (i.e., ½ to 1 ½ miles). However, visibility of Proposed Transmission Line components and vegetative clearing will be greatest within ½ mile of the Proposed Project.

Views of the Proposed Transmission Line will be available from elevated locations along several of the major roadways (i.e., NYS Routes 16, 39, and 98), and many county and local roadways (e.g. East Arcade Road, Bray Road, Savage Road, and Curriers Road). Many of these views may be long distant (background view), fleeting as viewers pass in vehicles, or of small portions of the Proposed Transmission Line. However, due to the structures' slim profile and material, visibility will be minimized.

The Proposed Transmission Line bisects eight (8) roadways including Smith Cross Road, Bray Road, Hiram Road, NYS Route 98, Bixby Hill Road, County Line Road, Old Olean Road, and NYS Route 16. Proposed transmission structures will be located in close proximity and on both sides of these roadways. Viewers within close proximity of the Proposed Transmission Line will also notice that structures will frequently appear and disappear behind intervening foreground landform and vegetation as they move about the study area.

It is important to note that there are often views of existing transmission structures along Transmission Section 2 and a portion of Section 3. The overall appearance of the existing structures along Section 2 will not change significantly (aside from the introduction of an additional circuit and 12 angle structures), while those existing structures being replaced along Section 3 by taller poles will be more noticeable. Some of those locations discussed above that have views of the existing transmission structures include properties adjacent and in the near vicinity of Transmission Sections 2 and 3, NYS Route 39 east and west of the Village of Arcade, and roadways such as Bray Road, Hiram Road, NYS Routes 16, and Bixby Hill Road. In addition, views of the existing Noble Bliss Windpark and Wethersfield Wind Farm are available, particularly the eastern half of the study area.

MAPS PULLED FROM:

Case: 08T 0746

Date: 7.1.08 (of)

Specific:

- ☐ Brief
- ☐ Comment
- ☐ Correspondence
- ☐ Exhibit
- ☐ Order
- ☒ Petition
- ☐ Plan
- ☐ Report

Map # 104+105

3.2 Inventory of Visually Sensitive Resources

3.2.1 Inventory Criteria

Because it is not practical to evaluate every possible location where the Proposed Transmission Line might be visible, it is accepted visual assessment practice to limit detailed evaluation of aesthetic impact to locations generally considered by society, through regulatory designation or policy, to be of cultural and/or aesthetic importance. In rural areas where few resources of statewide significance are likely to be found, it is common practice to expand inventory criteria to include places of local sensitivity or intensity of use.

Resources of national or statewide significance, resources of local interest and other places for analysis were identified though a review of published maps and other paper documents, online research, and extensive windshield survey of publicly accessible locations.

Resources of Statewide Significance - The DEC Visual Policy requires that all aesthetic resources of statewide significance be identified along with any potential adverse effects on those resources from the Proposed Transmission Line. Aesthetic resources of statewide significance may be derived from one or more of the following categories:

- A property on or eligible for inclusion in the National or State Register of Historic Places [16 U.S.C. § 470a et seq., Parks, Recreation, and Historic Preservation Law Section 14.07];
- State Parks [Parks, Recreation, and Historic Preservation Law Section 3.09];
- Urban Cultural Parks [Parks, Recreation, and Historic Preservation Law Section 35.15];
- The State Forest Preserve [NYS Constitution Article XIV], Adirondack and Catskill Parks;
- National Wildlife Refuges [16 U.S.C. 668dd], State Game Refuges, and State Wildlife Management Areas [ECL 11-2105];
- National Natural Landmarks [36 CFR Part 62];
- The National Park System, Recreation Areas, Seashores, and Forests [16 U.S.C. 1c];
- Rivers designated as National or State Wild, Scenic, or Recreational [16 U.S.C. Chapter 28, ECL 15-2701 et seq.];
- A site, area, lake, reservoir, or highway designated or eligible for designation as scenic [ECL Article 49 or DOT equivalent and APA], designated State Highway Roadside;
- Scenic Areas of Statewide Significance [of Article 42 of Executive Law];
- A State or federally designated trail, or one proposed for designation [16 U.S.C. Chapter 27 or equivalent];
- Adirondack Park Scenic Vistas [Adirondack Park Land Use and Development Map];
- State Nature and Historic Preserve Areas [Section 4 of Article XIV of the State Constitution];
- Palisades Park [Palisades Interstate Park Commission]; and

> Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category.

Resources of Local Interest - Places of local sensitivity or intensity of use (based on local context) were also inventoried, even though they may not meet the broader statewide threshold. Aesthetic resources of local interest were generally derived from the following general categories:

> Recreation areas including playgrounds, athletic fields, boat launches, fishing access, campgrounds, picnic areas, ski centers, and other recreational facilities/attractions;

> Areas devoted to the conservation or the preservation of natural environmental features (e.g., reforestation areas/forest preserves, wildlife management areas, open space preserves);

> A bicycling, hiking, ski touring, or snowmobiling trail designated as such by a governmental agency;

> Architectural structures and sites of traditional importance as designated by a governmental agency;

> Parkways, highways, or scenic overlooks and vistas designated as such by a governmental agency;

> Important urban landscape including visual corridors, monuments, sculptures, landscape plantings, and urban green space;

> Important architectural elements and structures representing community style and neighborhood character;

> An interstate highway or other high volume (relative to local conditions) road of regional importance; and

> A passenger railroad or other mass transit route.

> A residential area greater than 50 contiguous acres and with a density of more than one dwelling unit per acre.

Other Places for Analysis - Given the rural character of much of the study area, the inventory of aesthetic resources has been further expanded to be conservatively over-inclusive. In several cases, locations not rising to the threshold of statewide significance or local interest have been included to represent isolated pockets of visibility along sparsely populated rural roadways, most of which were selected based on field observation of open vistas. Although possibly of interest to local residents, such locations are not considered representative of an aesthetically significant place and are, therefore, not typically heavily weighted or obligatory for review in DEC guidelines for the evaluation of aesthetic impact.

3.2.2 Summary Characteristics of Inventoried Resources

Overall Population and Density of Development – The study area encompasses municipalities from four separate counties. This portion of New York State is quite rural with a very small population. The most populated towns in the study area are the Town of Arcade and the Town of Yorkshire, with 4,184 and 4,210 persons, respectively. Nearly half of the population of the Town of Arcade is attributed to the Village of Arcade, which is the larger of two villages in the study area. The least populated town in the study area is the Town of Centerville, which has only 762 residents. Table 2 summarizes these demographics for the municipalities within the study area.

Table 2 – Demographic Summary of Study Area Municipalities* (2000 Census)

Municipality	Population	Population Density[7]	Housing Units[8]
New York State		*402*	
Allegany County	*49,927*	*48*	*24,070*
Centerville (t)	762	22	370
Hume (t)	1,987	52	861
Rushford (t)	1,259	36	1,355
Cattaraugus County	*83,955*	*64*	*38,343*
Farmersville (t)	1,028	22	601
Freedom (t)	2,493	62	982
Yorkshire (t)	4,210	114	1,670
Delevan (v)	1,089	1,066	467
Wyoming County	*43,424*	*73*	*16,834*
Arcade (t)	4,184	89	1,854
Arcade (v)	2,026	810	876
Eagle (t)	1,194	33	512
Erie County	950,265	910	422,512
Sardinia (t)	2,692	53.6	944

[7] Population density is calculated by residents per square mile. Figures are rounded to the nearest whole number
[8] Housing units consists of single/multiple family dwellings and mobile homes

Highway Corridors - Due to its predominately rural agricultural landscape, many roadways within the study area are relatively lightly traveled, although primary roadways experience moderate to heavy volumes along some sections. The primary roadways within the study area are NYS Routes 16, 39 and 98.

Table 3 – Annual Average Daily Traffic Volumes for Study Area Highways (NYSDOT 2006) [9]

Route	Section	AADT
NYS Route 16	NYS Route 39 to CR 244 Chaffee	9,964
NYS Route 16	CR 224 Chaffee to CR 7 Savage Road	7,912
NYS Route 16	Intersection of CR 20 and CR 73 to NYS Route 39	10,007
NYS Route 16	Erie County Line to NYS Route 39	14,131
NYS Route 16	CR 242 to Intersection of CR 20 and CR 73	6,775
NYS Route 243	Allegany County Line to CR 7E	2,709
NYS Route 243	NYS Route 98 west of Fairview to Allegany County Line	2,981
NYS Route 362	NYS Route 39 to NYS Route 78	1,235
NYS Route 39	NYS Route 98 Arcade to NYS Route 362 Bliss	2,264
NYS Route 39	Cattaraugus County Line to NYS Route 16 Yorkshire	13,239
NYS Route 39	Wyoming County Line to NYS Route 98 Arcade	19,271
NYS Route 39	NYS Route 16 Yorkshire to Wyoming County Line	15,698
NYS Route 39	NYS Route 240 Springville to NYS Route 16	4,492
NYS Route 98	NYS Route 39 to CR 77	2,234
NYS Route 98	Wyoming County Line to NYS Route 39 Arcade	11,687
NYS Route 98	CR 21 Elton Road to NYS Route 243 Farmersville	669
NYS Route 98	NYS Route 39 and NYS Route 98 connector Arcade	14,548
NYS Route 98	NYS Route 243 Farmersville to CR 23 Freedom Road	2,834
NYS Route 98	CR 23 Freedom Road to Wyoming County Line	4,849

NYS Route 16 generally runs north to south in Cattaraugus and Erie Counties. It enters the study area from the Town of Yorkshire on the southern end, and exits from through the Town of Sardinia on the northern end. NYS Route 16 bisects the Village of Delevan and has an average daily traffic volume of 14,131 vehicles at its most-traveled section within the study area, near the Erie/Cattaraugus County line.

NYS Route 39 crosses through the study area from east to west, traveling through three separate counties, a number of hamlets, and the Village of Arcade. It has the highest average traffic volume of any road in the study area, with up to an average of 19,271 vehicles per day at its most heavily traveled section between the Wyoming County Line and its intersection with NYS Route 98 in the Village of Arcade.

NYS Route 98 generally travels from north to south in the study area, crossing through Cattaraugus and Wyoming Counties. Its most heavily traveled sections are within and around the Village of Arcade, and support an average of between 11,687 and 14,548 vehicles per day.

Park, Recreation and Open Space Resources – The study area contains a variety of recreational resources. Popular recreational activities within the study area include hiking, fishing, hunting, camping, biking, and snowmobiling. Other passive outdoor pursuits such as bird watching or a leisurely drive through the rural landscape are also common. There are few State-designated recreational resources within the study area. Some of the more prominent recreational opportunities are discussed below.

[9] http://www.dot.state.ny.us

There are three (3) State Forests within the 5-mile study area. They include:
> Swift Hill State Forest (1,634 acres);
> Lost Nation State Forest (1,350 acres); and
> Cold Creek State Forest (496 acres).

All three (3) of these State Forests are located within Allegany County. With the exception of Swift Hill State Forest, the boundaries for these forests are all contained entirely within the study area's 5-mile radius. Activities on the state lands may include camping, hunting, snowmobiling, horseback/ATV riding, hiking, snowshoeing, cross-country skiing, and nature viewing.

A portion (approximately 8.5 miles) of the Finger Lakes Trail (FLT) is within the study area. The trail follows many roadways and streambeds, and bisects privately owned lands and the Swift Hill State Forest. The FLT enters the study area from the Town of Centerville in the southwestern portion of the study area, and exits just over the Allegany-Cattaraugus County border in the Town of Freedom. The trail is used for hiking, snowshoeing, and, in some instances, cross-country skiing. Regionally, the FLT, excluding secondary trails, is a 563-mile trail runs between the Catskill and Allegheny Mountains. A portion of the FLT trail, including the portion that goes through the study area, is also designated (by the National Park Service) as a part of the North Country National Scenic Trail (NCT). The NCT, although not fully developed, begins at Crown Point, New York and ends at Lake Sakakawea State Park in Riverdale, North Dakota. The length of the trail will eventually be approximately 4,600 miles and span seven states.[10] Within the study area, the NCT is confined to the part of the FLT that runs through the Swift Hill State Forest.

Snowmobile trails may be found throughout the study area whether on public/private land or along roadways/seasonal roads. Snowmobiling is popular activity in Western New York and is likely enjoyed by large numbers of participants within the study area during the winter months. State funded snowmobile trails including, but not limited to, C3 (sections A, B and C), S38, S30, S34, and S31 bisect the study area. These trails are usually funded by the state but maintained by local snowmobile groups, including Tri-County Drifthoppers, Sardinia Sno Surfers, ACFS, and Oatka Snowmobile Club.

A number of fishing access areas governed by the New York State Department of Environmental Conservation are located within the study area, including Lime Lake Outlet and McKinstry Creek, Cattaraugus Creek, and Clear Creek.

Arcade Village Park is the largest municipal park in the immediate vicinity of the study area. The Park provides infrastructure for a wide array of recreational and leisurely activities including picnic areas, baseball fields, a swimming pool, sledding hill, playground, hockey area and an ice skating rink.

There are several county forests located within the study area, all of which are located in Erie County. Lot 1 and Lot 2, as the forests are classified, feature 1,052 acres of predominately hardwood forests and conifer plantations to the north and south of Genesee Road in the Town of Sardinia. Lot 3, which consists of 329 acres of forest and wetlands, is located just due east of Lots 1 and 2. Lot 11 consists of 107 acres of forests and wetlands. Combined, the Erie County forest units offer an array of

[10] http://www.northcountrytrail.org

educational and recreational opportunities ranging from forest management studies, to maple sugaring and trail hiking.

The study area contains numerous municipal parks, recreation areas and open space resources including, but not limited to, the Arcade Kiwanis Mini Park, Manion Park, Delevan Village Park, Sardinia Town Park, Sardinia Town Hall Park, Freedom Town Park, and other small community playgrounds and athletic fields.

Tourism – The study area is not generally known as a tourist destination. However, the Arcade and Attica Railroad may be considered a tourist destination. Train rides usually take place on weekends and at select times from Memorial Day through October and during December. In addition, they also offer themed rides such as Children's Trail Rides, Civil War Reenactment, and Fall Foliage Runs.[11] The surrounding area also offers opportunities for leisurely scenic drives through the countryside, with the Village of Arcade serving as good stopping point.

Cultural Resources - Four (4) sites listed on the State and National Register of Historic Places have been identified within the study area. These include:

- Arcade and Attica Railroad;
- Rider-Hopkins Farm and Olmsted Camp;
- Salem Welsh Church; and
- Arcade Center Farm.

The Salem Welsh Church, Rider-Hopkins Farm and Olmstead Camp, Arcade Center Farm, and Arcade and Attica Railroad are located in the Town of Freedom, Town of Sardinia, and the Town and Village of Arcade, respectively. The State and National Register of Historic Places do not list any properties (within the study area) in the Towns of Eagle, Centerville, Rushford, and Yorkshire. Historically significant properties within the study area that may be eligible will be identified as part of the studies being prepared for the State Historic Preservation Office.

3.2.3 Visibility Evaluation of Inventoried Resources

Each inventoried visual resource was evaluated to determine whether a visual impact might exist. This consisted of reviewing viewshed maps and field observation to determine whether or not individual resources would have a view of the Proposed Transmission Line.

Table 4 lists 75 visual resources located within the five-mile study area and identifies potential visibility of the Proposed Project. The location of these visual resources is referenced by numeric code within Figures 1 and 2.

Of the original 75 visual resources, 34 would likely be screened from the Proposed Transmission Line by either intervening landform or vegetation/structures and are thus eliminated from further study, leaving 41 viewpoints for further consideration.

[11] http://www.arcadeandatticarr.com

Table 4 – Visual Resource Visibility Summary

Key

● *Visibility Indicated*

○ *No Visibility Indicated*

◘ *Filtered View Through Trees Possible (field observed)*

Map ID	Receptor Name	Municipality, County	Inventory Type	Potential Visibility: Theoretical View Indicated by Viewshed - Including Existing Vegetation (Figure 2)	Potential Visibility: Actual View Likely Based on Field Confirmation of Existing Line-of-sight[12]
Cultural Resources					
33	Salem Welsh Church	Freedom, Cattaraugus	**Statewide Significance**	○	○
57	Rider Hopkins Farm and Olmsted Camp	Sardinia, Erie	**Statewide Significance**	○	○
7	Arcade Center Farm	Arcade, Wyoming	**Statewide Significance**	●	○
Tourist Resources					
71	Arcade and Attica Railroad	Arcade, Wyoming	**Statewide Significance**	●	Not Visited[13]
Recreational Resources					
23	Lost Nation State Forest	Centerville, Allegany	**Statewide Significance**	○	○
24	Cold Creek State Forest	Centerville, Allegany	**Statewide Significance**	○	○
27	Swift Hill State Forest	Centerville, Allegany	**Statewide Significance**	○	○
28	Finger Lakes Trail/North Country National Scenic Trail (within Swift Hill State Forest)	Centerville, Allegany	Local Importance	●	●
29	Windy Hills Campground	Centerville, Allegany	Local Importance	○	○
16	Freedom Community Park	Freedom, Cattaraugus	Local Importance	●	○
32	Scouthaven Camp	Freedom, Cattaraugus	Local Importance	○	○
34	Clear Creek DEC Fishing Access	Freedom, Cattaraugus	Local Importance	●	○
35	Clear Creek DEC Fishing Access	Freedom, Cattaraugus	Local Importance	○	○
36	Camp Vick	Freedom, Cattaraugus	Local Importance	○	○
38	Town of Freedom Park	Freedom, Cattaraugus	Local Importance	●	○
43	Turkey Run Golf Course	Freedom, Cattaraugus	Local Importance	●	●
45	Elton Creek DEC Fishing Access	Yorkshire, Cattaraugus	Local Importance	○	○
46	Arrowhead Camping Area	Yorkshire, Cattaraugus	Local Importance	○	○
47	Village of Delevan Park	Yorkshire, Cattaraugus	Local Importance	○	○
50	Lime Lake Outlet DEC Fishing Access	Yorkshire, Cattaraugus	Local Importance	○	○

[12] Field confirmation of potential visibility was conducted on April 3rd and 17th, 2008.

[13] Visibility from passengers' viewpoints within rail cars along the railroad alignment is unconfirmed.

Table 4 – Visual Resource Visibility Summary

Key

● *Visibility Indicated*

○ *No Visibility Indicated*

◘ *Filtered View Through Trees Possible (field observed)*

Map ID	Receptor Name	Municipality, County	Inventory Type	Potential Visibility: Theoretical View Indicated by Viewshed - Including Existing Vegetation (Figure 2)	Potential Visibility: Actual View Likely Based on Field Confirmation of Existing Line-of-sight[12]
58	Cattaraugus Creek DEC Fishing Access	Sardinia, Erie	Local Importance	○	○
60	Erie County Forests 1 and 2	Sardinia, Erie	Local Importance	○	○
62	Erie County Forest 3	Sardinia, Erie	Local Importance	○	○
65	Chaffee Sardinia Town Park	Sardinia, Erie	Local Importance	○	○
66	Manion Park	Sardinia, Erie	Local Importance	○	○
67.1	Rolling Hills Golf Course	Sardinia, Erie	Local Importance	●	Not visited
68	Erie County Forest 11	Sardinia, Erie	Local Importance	○	○
1	Spruce Ridge Country Club	Arcade, Wyoming	Local Importance	●	Not visited
5	Arcade Village Park	Arcade, Wyoming	Local Importance	●	◘
6	Mockingbird Park	Arcade, Wyoming	Local Importance	●	◘
9	Good News Camping	Arcade, Wyoming	Local Importance	○	○
10	Cattaraugus Creek DEC Fishing Access	Arcade, Wyoming	Local Importance	●	○
42	Kiwanis Park	Arcade, Wyoming	Local Importance	●	●
39	Clear Creek DEC Fishing Access	Arcade, Wyoming	Local Importance	●	●
14	Owens Hills Golf Course	Eagle, Wyoming	Local Importance	○	○
21	Rita George Recreation Hall & Playground	Eagle, Wyoming	Local Importance	○	○
22	Wiscoy Creek DEC Fishing Access	Eagle, Wyoming	Local Importance	○	○
Highway Corridors/Roadside Receptors					
25	Dow Road	Centerville, Allegany	Other Places for Analysis	●	●
52	NYS Route 16	Yorkshire, Cattaraugus	Local Importance	●	●
3	NYS Route 39/Main St	Arcade, Wyoming	Local Importance	●	●
8	NYS Route 98	Arcade, Wyoming	Local Importance	●	●
12	NYS Route 39	Arcade, Wyoming	Local Importance	●	●
12.1	Hiram Road	Arcade, Wyoming	Other Places for Analysis	●	●
13	Bray Road	Arcade, Wyoming	Other Places for Analysis	●	●

Table 4 – Visual Resource Visibility Summary

Key

● *Visibility Indicated*

○ *No Visibility Indicated*

◘ *Filtered View Through Trees Possible (field observed)*

Map ID	Receptor Name	Municipality, County	Inventory Type	Potential Visibility: Theoretical View Indicated by Viewshed - Including Existing Vegetation (Figure 2)	Potential Visibility: Actual View Likely Based on Field Confirmation of Existing Line-of-sight[12]
40	NYS Route 98 (Transmission Line Crossing)	Arcade, Wyoming	Local Importance	●	●
70	NYS Route 39	Arcade, Wyoming	Local Importance	●	●
72	Bixby Hill Road	Arcade, Wyoming	Other Places for Analysis	●	●
15	Cadwell Road	Eagle, Wyoming	Other Places for Analysis	●	●
20	NYS Route 362	Eagle, Wyoming	Local Importance	○	○
55.1	Old Olean Road	Yorkshire, Cattaraugus	Other Places for Analysis	●	●
Residential/Community Resources					
26	Hamlet of Centerville	Centerville, Allegany	Local Importance	○	○
30	Hamlet of Fairview	Centerville, Allegany	Local Importance	○	○
31	Hamlet of Freedom	Freedom, Cattaraugus	Local Importance	●	○
37	Hamlet of Sandusky	Freedom, Cattaraugus	Local Importance	○	○
44	Hamlet of Elton	Freedom, Cattaraugus	Local Importance	○	○
61	Hamlet of Shepards Corner	Freedom, Cattaraugus	Local Importance	●	○
48	Delevan Elementary School	Yorkshire, Cattaraugus	Other Places for Analysis	○	○
49	Village of Delevan	Yorkshire, Cattaraugus	Local Importance	●	○
53	Pioneer Estate	Yorkshire, Cattaraugus	Local Importance	●	●
54	Stillmans Corners	Yorkshire, Cattaraugus	Local Importance	●	◘
55	Pioneer Central Middle School and High School	Yorkshire, Cattaraugus	Other Places for Analysis	●	●
56	Hamlet of Yorkshire	Yorkshire, Cattaraugus	Local Importance	●	●
59	Hamlet of Sardinia	Sardinia, Erie	Local Importance	○	○
63	Scott Corners	Sardinia, Erie	Local Importance	○	○
64	Johnstons Corners	Sardinia, Erie	Local Importance	●	○
67	Hamlet of Chaffee	Sardinia, Erie	Local Importance	●	○
2	Arcade Elementary School	Arcade, Wyoming	Other Places for Analysis	●	○
4	Village of Arcade	Arcade, Wyoming	Local Importance	●	●

Table 4 – Visual Resource Visibility Summary

Key

● *Visibility Indicated*

○ *No Visibility Indicated*

◘ *Filtered View Through Trees Possible (field observed)*

Map ID	Receptor Name	Municipality, County	Inventory Type	Potential Visibility: Theoretical View Indicated by Viewshed - Including Existing Vegetation (Figure 2)	Potential Visibility: Actual View Likely Based on Field Confirmation of Existing Line-of-sight[12]
11	Hamlet of East Arcade	Arcade, Wyoming	Local Importance	●	○
41	Village of Arcade - residential	Arcade, Wyoming	Local Importance	○	◘
51	Arcade Valley Estates	Arcade, Wyoming	Local Importance	●	●
69	Genesee Community College at Arcade	Arcade, Wyoming	Other Places for Analysis	●	●
17	Hamlet of Cadwells Corners	Eagle, Wyoming	Local Importance	●	◘
18	Hamlet of Eagle Center	Eagle, Wyoming	Local Importance	○	○
19	Hamlet of Bliss	Eagle, Wyoming	Local Importance	○	○

3.2.4 Select Resources Beyond 5-Miles

In addition to those inventoried resources listed in Table 4, additional resources of Statewide Significance were identified during the research completed for the VRA. Although not all-inclusive, the following resources were identified:

> Letchworth State Park (located approximately 12.8 miles from the Proposed Transmission Line);

> Harwood Lake Multiple Use Area (located approximately 8.5 miles from the Proposed Transmission Line);

> Bush Hill State Forest (located approximately 7.8 miles from the Proposed Transmission Line); and

> Farmersville State Forest (located approximately 5.2 miles from the Proposed Transmission Line).

3.3 Factors Affecting Visual Impact

To bring order to the consideration of visual resources, the inventory of visual resources is organized into four "landscape units". These units – village centers, hamlet centers, rural agricultural, and forest land – manifest within the study area are described below to assist in characterizing the existing landscape features.

3.3.1 Landscape Units

Landscape units are areas with common characteristics of landform, water resources, vegetation, land use, and land use intensity. While a regional landscape may possess diverse features and characteristics, a landscape unit is a relatively homogenous, unified landscape of visual character. Landscape units are established to provide a framework for comparing and prioritizing the differing visual quality and sensitivity of visual resources in the study area. Discrete landscape units were identified through field inventory and air photo interpretation dividing the study area into zones of unique patterns and visual composition. Within the visual resources study area, four distinctive landscape units were defined. These landscape units, their general landscape character, and use are as follows:

Village Centers - The study area contains the Villages of Arcade and Delevan. The villages primarily support residential and commercial activities. Built structures and streets dominate the visual landscape. Each village is centered on a small downtown area based around a Main Street.

Generally, built structures and streets dominate the visual landscape in each of the villages. Trees line many of the roadways (particularly residential roadways). Most buildings are one to three stories tall, including brick and wood frame structures. Building styles are an interesting mix of older architectural styles (e.g. predominately Federal and Late Victorian) interspersed with conventional, more modern, mid- to late-20th century residences. Some of the older buildings are very well maintained or restored while others are in various states of disrepair or alteration. Views are generally short distance and focused along streets (which are typically arranged in a grid/block pattern). Structures and trees generally block most distant views, however, filtered or framed views are possible through foreground vegetation and buildings from the perimeter of the villages. Commercial structures of various size and styles (e.g. multi-use brick buildings in downtown Arcade versus Tops Supermarket located on NYS Route 39) are located along the Main Street corridors. Development density drops sharply as one moves away from the central business district as the Village Centers landscape unit transitions to the Rural Agricultural Landscape Unit.

Views within this landscape unit may be considered to be of moderate visual quality depending on the character and composition of built and natural features within view.

Hamlet Centers - Rural hamlets are characterized by low to medium density clusters of older residential dwellings, and limited to no retail or commercial services. Generally, Hamlet Centers differ from Village Centers in that they are less intensively developed. Buildings are typically one to two stories tall, and include brick commercial blocks and wood frame structures. Buildings styles are a mix of older architectural styles (e.g. Federal, Late Victorian, Italianate) interspersed with more modern utilitarian styles as well as pre-manufactured homes.

A number of rural crossroad hamlets exist within the study area. These areas vary in size but are generally typified by a small group of houses in an otherwise rural area. Most hamlets occur at road intersections, such as that between a state route and county route. Residences (a mix of old and new and of varying maintenance) and accessory structures (barns, garages, etc.) are a main feature of rural hamlets. Places of worship, community buildings and general stores are also common.

Roadside residences and street trees often reinforce axial views along the highway. Views are typically short distance and directed towards the main thoroughfare and adjacent structures. Buildings or other structures and trees generally block most views, however, filtered or framed views beyond the hamlet may exist through foreground vegetation. Development density drops almost immediately as one travels away from the hamlet center; transitioning quickly to the character of the surrounding Rural Agricultural Landscape Unit.

The hamlets of Bliss, Centerville, Chaffee, Freedom, Sandusky, Sardinia, and Yorkshire are representative of this landscape unit.

Views found within the Hamlet Centers landscape unit may be considered to be of moderate visual quality depending on the character and composition of built and natural features within view.

Rural Agricultural - This landscape unit is predominantly a patchwork of open land, including working cropland/pastures and a succession of old fields transected by property-line hedgerows and interspersed with woodlots. The terrain itself consists of relatively level topography with gentle low-lying hills and small rounded hillocks. Within this Unit, population densities are very low and structures are sparsely located. Uses are predominantly agricultural and very low-density residential. Minor areas of commercial use are occasionally found along the roadside. Building stock consists primarily of permanent homes and manufactured housing, along with accessory structures (barns, garages, sheds, etc.). Structures are of varying vintage and quality. Poorly maintained or dilapidated structures and properties are not uncommon sights.

Views within the Rural Agricultural landscape unit are often short distance, contained by foreground vegetation and surrounding mountains. However, distant vistas are common from higher elevations across down-slope agricultural lands. Narrow and curving roads often provide an interesting series of short views of the rural landscape, but also force drivers to direct their attention to the road rather than

the adjacent scenery. Some local residents and visitors may regard the aesthetic character of this landscape unit as an attractive and pastoral setting; others may view it as a working landscape, similar in character with much of rural western New York.

Views within the Rural Agricultural landscape unit may be considered of moderate visual quality.

Forest Land – Forest cover dominates large areas throughout the study area. In addition to privately owned forested land, the study area contains three State Forests (Lost Nation State Forest, Cold Creek State Forest, and Swift Hill State Forest) and four county forests (Erie County Forest Units 1-3 and 11). Vegetation is predominantly mature second growth deciduous woodland with occasional stands of evergreen cover. The state and county lands may include unimproved roads and trails that are commonly used for hiking, snowshoeing, nature viewing, snowmobiling, horseback riding, and in some instances may be used for cross-country skiing.[14] Hunting is also permitted on State owned property.

Within this landscape unit, dense forest typically prevents distant vistas. However, views beyond the immediate foreground may occur in discrete hillside locations where openings in the forest cover permit. Filtered views through woodland vegetation may also be available during leaf-off seasons.

Views found within the Forest Land landscape unit may be considered to be of moderate to high visual quality depending on the character and composition of built and natural features within view.

3.3.2 Viewer/User Groups

Viewers engaged in different activities while in the same landscape unit are likely to perceive their surroundings differently. The description of viewer groups is provided to assist in understanding the sensitivity and probable reaction of potential observers to visual change resulting from the Proposed Transmission Line.

Local Residents and Workers - These individuals would view the Proposed Transmission Line from homes, businesses, and local roads. Except when involved in local travel, such viewers are likely to be stationary and could have frequent and/or prolonged views of the Proposed Project. They know the local landscape and may be sensitive to changes in particular views to which they are accustomed or which may be important to them. Conversely, the sensitivity of an individual observer to a specific view may be diminished over time due to repeated exposure.

Through Travelers - Commuters and through travelers would view the Proposed Transmission Line from major highways. These viewers are typically moving and focusing on the road in front of them. Consequently, their views of the proposed facility may be peripheral, intermittent, and/or of relatively brief duration. Given a general unfamiliarity or infrequent exposure to the regional or local landscape,

[14] Activities may vary depending on resource.

travelers are likely to have a lower degree of sensitivity to visual change than would local residents and workers.

Recreational Users - This group generally includes year-round and seasonal residents involved in outdoor recreational activities, as well as visitors who come to the area specifically to enjoy the recreational, and scenic resources and open spaces of the Western New York region.

The sensitivity of recreational users to visual quality is variable; but to many, visual quality is an important and integral part of the recreational experience. The presence of the Proposed Transmission Line may diminish the aesthetic experience for those who believe the rural landscape should be preserved for agricultural, open space and similar uses. Such viewers will likely have high sensitivity to the visual quality and landscape character, regardless of the frequency of duration of their exposure to the Proposed Project.

While the scenic quality of the region is an important aspect of the recreational experience for most visitors, viewers will also be cognizant of various foreground details and developments and other visually proximate activities. Visitors and recreational users currently view existing low-density roadside residential and commercial uses of varying aesthetic quality, as well as utility infrastructure, occasional hilltop communications towers and the existing Wethersfield Wind Farm and Bliss Windpark.

Greater numbers of recreational users will be present in the region when the weather is appropriate for the recreational activity (e.g., clear as compared to overcast, rainy days or snow-covered conditions versus warm weather). In addition, more recreational users will be present on weekends and holidays than on weekdays.

Tourists – Generally, these individuals come to the area specifically to enjoy the recreational and scenic resources. Most tourists and seasonal residents would have high sensitivity to the visual quality and landscape character, regardless of the frequency or duration of their exposure to the Proposed Transmission Line. This group may view the proposed facility while passing by the Proposed Project on major transportation corridors if traveling the area for the purpose of enjoying the scenic landscape, and, notably may be present specifically to visit the Wethersfield Wind Farm or Bliss Windpark.

3.3.3 Distance Zones

Distance affects the apparent size and degree of contrast between an object and its surroundings and can be discussed in terms of zones, such as foreground, middleground and background. Distance zones established by the U.S. Forest Service and reiterated by the NYSDEC Visual Policy are used in this VRA. A description of each distance zone is provided below to assist in understanding the effect of distance on potential visual impacts.

Foreground (0-1/2 mile) - At a foreground distance, viewers typically have a very high recognition of detail. Cognitively, in the foreground zone, human scale is an important factor in judging spatial relationships and the relative size of objects. From this distance, the sense of form, line, color and

textural contrast with the surrounding landscape is highest. The visual impact of the Proposed Project is likely to be considered the greatest at a foreground distance.

Middleground (1/2 mile to 3 miles) - This is the distance where elements begin to visually merge or join. Colors and textures become somewhat muted by distance, but are still identifiable. Visual detail is reduced, although distinct patterns may still be evident. Viewers from middle-ground distances characteristically recognize surface features such as tree stands, building clusters and small landforms. Scale is perceived in terms of identifiable features of development patterns. From this distance, the contrast of color and texture are identified more in terms of the regional context than by the immediate surroundings.

Background (3-5 miles to horizon) - At this distance, landscape elements lose detail and become less distinct. Atmospheric perspective[15] changes colors to blue-grays, while surface characteristics are lost. Visual emphasis is on the outline or edge of one landmass or water resource against another with a strong skyline element.

[15] Atmospheric Perspective: Even on the clearest of days, the sky is not entirely transparent because of the presence of atmospheric particulate matter. The light scattering effect of these particles causes a reduction in the intensity of colors and the contrast between light and dark as the distance of objects from the observer increases. Contrast depends upon the position of the sun and the reflectance of the object, among other items. The net effect is that objects appear "washed out" over great distances.

3.3.4 Duration/Frequency/Circumstances of View

The analysis of a viewer's experience must include the distinction between stationary and moving observers. The length of time and the circumstances under which a view is encountered is influential in characterizing the importance of a particular view.

Stationary Views - Stationary views are experienced from fixed viewpoints. Fixed viewpoints include residential neighborhoods, recreational facilities, historic resources and other culturally important locations. Characteristically, stationary views offer sufficient time, either from a single observation or repeated exposure, to interpret and understand the physical surroundings. For this reason, stationary viewers have a higher potential for understanding the elements of a view than do moving viewers.

Stationary views can be further divided to consider the effect of short-term and long-term exposure. Sites of long-term exposure include any location where a stationary observer is likely to be visually impacted on a regular basis, such as from a place of residence. Sites of short-term exposure include locations where a stationary observer is only visiting, such as recreational facilities. Although the duration of visual impact remains at the discretion of the individual observer, short-term impacts are less likely to be repeated for a single observer on a regular basis.

Moving Views - Moving views are those experienced in passing, such as from moving vehicles, where the time available for a viewer to cognitively experience a particular view is limited. Such viewers are typically proceeding along a defined path through highly complex stimuli. As the tendency of automobile occupants is to focus down the road, the actual time a viewer is able to focus on individual elements of the surrounding landscape may be a fraction of the total available view time. Obviously, a driver is most affected by driving requirements of focusing on the road itself and immediate roadside.

Conversely, the greater the contrast of an element within the existing landscape, the greater the potential for viewer attention, even if viewed for only a moment by a moving viewer. Billboards along a rural highway, designed to attract attention and recognition, are an example of this condition. Furthermore, an element is more likely to be perceived in greater detail by local residents and regular commuters to whom it is experienced on a daily basis than it is to passers-by.

3.3.5 Summary of Affected Resources

As listed in Table 4, of the original 74 inventoried visual resources, 34 would likely be screened from the Proposed Transmission Line by either intervening landform or vegetation/structures and are thus eliminated from further study. Table 5 summarizes the factors affecting visual impact (landscape unit, viewer group, distance zone and duration/frequency/circumstances of view) described above for each visual resource determined to have a potential view of the Proposed Project.

Table 5 – Visual Resource Impact Summary

Map ID	Receptor Name	Municipality, County	Inventory Type	Factors Affecting Visual Impact: Number of Structures Visible (see Figure 2)	Landscape Unit	Viewer/User Group(s)	Distance Zone (nearest structure)	Moving/ Stationary
1	Spruce Ridge Country Club	Arcade, Wyoming	Local Importance	92	Rural Ag.	Recreational	Middleground	Stationary
2	Arcade Elementary School	Arcade, Wyoming	Other Places for Analysis	85	Village Center	Local residents/workers	Middleground	Stationary
3	NYS Route 39/Main St	Arcade, Wyoming	Local Importance	47	Village Center	Travelers, Local residents/workers	Foreground	Moving
4	Village of Arcade	Arcade, Wyoming	Local Importance	37	Village Center	Travelers, Local residents/workers	Foreground	Stationary
5	Arcade Village Park	Arcade, Wyoming	Local Importance	21	Village Center	Recreational	Middleground	Stationary
6	Mockingbird Park	Arcade, Wyoming	Local Importance	9	Village Center	Recreational	Middleground	Stationary
7	Arcade Center Farm	Arcade, Wyoming	**Statewide Significance**	10	Rural Ag.	Travelers, Tourists, Local residents/workers	Middleground	Stationary
8	NYS Route 98	Arcade, Wyoming	Local Importance	97	Rural Ag.	Travelers, Local residents/workers	Background	Moving
9	Good News Camping	Arcade, Wyoming	Local Importance	0	Rural Ag.	Recreational	Middleground	Stationary
10	Cattaraugus Creek DEC Fishing Access	Arcade, Wyoming	Local Importance	22	Rural Ag.	Recreational	Middleground	Stationary
11	Hamlet of East Arcade	Arcade, Wyoming	Local Importance	15	Hamlet Center	Travelers, Local residents/workers	Middleground	Stationary
12	NYS Route 39	Arcade, Wyoming	Local Importance	69	Rural Ag.	Travelers, Local residents/workers	Foreground	Moving
12.1	Hiram Road	Arcade, Wyoming	Other Places for Analysis	9	Rural Ag.	Local residents/workers	Foreground	Moving
13	Bray Road	Arcade, Wyoming	Other Places for Analysis	20	Rural Ag.	Local residents/workers	Foreground	Moving
14	Owens Hills Golf Course	Eagle, Wyoming	Local Importance	0	Rural Ag.	Recreational	Middleground	Stationary
15	Cadwell Road	Eagle, Wyoming	Other Places for Analysis	20	Rural Ag.	Local residents/workers	Foreground	Moving
16	Freedom Community Park	Freedom, Cattaraugus	Local Importance	5	Hamlet Center	Recreational	Middleground	Stationary
17	Hamlet of Cadwells Corners	Eagle, Wyoming	Local Importance	23	Hamlet Center	Travelers, Local residents/workers	Middleground	Stationary
18	Hamlet of Eagle Center	Eagle, Wyoming	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
19	Hamlet of Bliss	Eagle, Wyoming	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
20	NYS Route 362	Eagle, Wyoming	Local Importance	0	Rural Ag.	Travelers, Local residents/workers	Background	Moving
21	Rita George Recreation Hall & Playground	Eagle, Wyoming	Local Importance	0	Hamlet Center	Recreational	Background	Stationary
22	Wiscoy Creek DEC Fishing Access	Eagle, Wyoming	Local Importance	0	Rural Ag.	Recreational	Background	Stationary
23	Lost Nation State Forest	Centerville, Allegany	**Statewide Significance**	0	Forest Land	Recreational	Middleground	Stationary
24	Cold Creek State Forest	Centerville, Allegany	**Statewide Significance**	0	Forest Land	Recreational	Background	Stationary
25	Dow Road	Centerville, Allegany	Other Places for Analysis	5	Rural Ag.	Local residents/workers	Foreground	Moving
26	Hamlet of Centerville	Centerville, Allegany	Local Importance	0	Hamlet Center	Travelers, Local	Middleground	Stationary

Table 5 – Visual Resource Impact Summary

Map ID	Receptor Name	Municipality, County	Inventory Type	Number of Structures Visible (see Figure 2)	Landscape Unit	Factors Affecting Visual Impact: Viewer/User Group(s)	Factors Affecting Visual Impact: Distance Zone (nearest structure)	Factors Affecting Visual Impact: Moving/ Stationary
						residents/workers		
27	Swift Hill State Forest	Centerville, Allegany	**Statewide Significance**	0	Forest Land	Recreational	Middleground	Stationary
28	Finger Lakes Trail/North Country National Scenic Trail (within Swift Hill State Forest)	Centerville, Allegany	Local Importance	5	Rural Ag.	Recreational	Background	Stationary
29	Windy Hills Campground	Centerville, Allegany	Local Importance	0	Rural Ag.	Recreational	Background	Stationary
30	Hamlet of Fairview	Centerville, Allegany	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
31	Hamlet of Freedom	Freedom, Cattaraugus	Local Importance	8	Hamlet Center	Travelers, Local residents/workers	Middleground	Stationary
32	Scouthaven Camp	Freedom, Cattaraugus	Local Importance	0	Rural Ag.	Recreational	Background	Stationary
33	Salem Welsh Church	Freedom, Cattaraugus	**Statewide Significance**	0	Rural Ag.	Local residents/workers	Middleground	Stationary
34	Clear Creek DEC Fishing Access	Freedom, Cattaraugus	Local Importance	8	Rural Ag.	Recreational	Background	Stationary
35	Clear Creek DEC Fishing Access	Freedom, Cattaraugus	Local Importance	0	Rural Ag.	Recreational	Middleground	Stationary
36	Camp Vick	Freedom, Cattaraugus	Local Importance	0	Rural Ag.	Recreational	Background	Stationary
37	Hamlet of Sandusky	Freedom, Cattaraugus	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Middleground	Stationary
38	Town of Freedom Park	Freedom, Cattaraugus	Local Importance	10	Hamlet Center	Recreational	Middleground	Stationary
39	Clear Creek DEC Fishing Access	Arcade, Wyoming	Local Importance	22	Rural Ag.	Recreational	Foreground	Stationary
40	NYS Route 98 (Transmission Line Crossing)	Arcade, Wyoming	Local Importance	14	Rural Ag.	Travelers, Local residents/workers	Foreground	Moving
41	Village of Arcade - Residential	Arcade, Wyoming	Local Importance	0	Village Center	Local residents/workers	Foreground	Stationary
42	Kiwanis Park	Arcade, Wyoming	Local Importance	5	Village Center	Recreational	Foreground	Stationary
43	Turkey Run Golf Course	Freedom, Cattaraugus	Local Importance	1	Rural Ag.	Recreational	Foreground	Stationary
44	Hamlet of Elton	Freedom, Cattaraugus	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
45	Elton Creek DEC Fishing Access	Yorkshire, Cattaraugus	Local Importance	0	Rural Ag.	Recreational	Background	Stationary
46	Arrowhead Camping Area	Yorkshire, Cattaraugus	Local Importance	0	Rural Ag.	Recreational	Background	Stationary
47	Village of Delevan Park	Yorkshire, Cattaraugus	Local Importance	0	Village Center	Recreational	Middleground	Stationary
48	Delevan Central School	Yorkshire, Cattaraugus	Other Places for Analysis	0	Village Center	Local residents/workers	Middleground	Stationary
49	Village of Develan	Yorkshire, Cattaraugus	Local Importance	2	Village Center	Travelers, Local residents/workers	Middleground	Stationary
50	Lime Lake Outlet DEC Fishing Access	Yorkshire, Cattaraugus	Local Importance	0	Village Center	Recreational	Middleground	Stationary
51	Arcade Valley Estates	Arcade, Wyoming	Local Importance	24	Hamlet Center	Local residents/workers	Middleground	Stationary
52	NYS Route 16	Yorkshire, Cattaraugus	Local Importance	17	Rural Ag	Travelers, Local residents/workers	Foreground	Moving
53	Pioneer Estate	Yorkshire, Cattaraugus	Local Importance	6	Rural Ag	Local residents/workers	Foreground	Stationary
54	Stillmans Corners	Yorkshire, Cattaraugus	Local Importance	5	Rural Ag.	Travelers, Local residents/workers	Middleground	Stationary

Table 5 – Visual Resource Impact Summary

Map ID	Receptor Name	Municipality, County	Inventory Type	Number of Structures Visible (see Figure 2)	Factors Affecting Visual Impact: Landscape Unit	Viewer/User Group(s)	Distance Zone (nearest structure)	Moving/ Stationary
55	Pioneer Central Middle School and High School	Yorkshire, Cattaraugus	Other Places for Analysis	32	Hamlet Center	Local residents/workers	Foreground	Stationary
55.1	Old Olean Road	Yorkshire, Cattaraugus	Other Places for Analysis	11	Hamlet Center	Local residents/workers	Foreground	Stationary
56	Hamlet of Yorkshire	Yorkshire, Cattaraugus	Local Importance	27	Hamlet Center	Travelers, Local residents/workers	Foreground	Stationary
57	Rider Hopkins Farm and Olmsted Camp	Sardinia, Erie	**Statewide Significance**	0	Rural Ag.	Local residents/workers	Middleground	Stationary
58	Cattaraugus Creek DEC Fishing Area	Sardinia, Erie	Local Importance	0	Rural Ag.	Recreational	Middleground	Stationary
59	Hamlet of Sardinia	Sardinia, Erie	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Middleground	Stationary
60	Erie County Forests 1 and 2	Sardinia, Erie	Local Importance	0	Forest Land	Recreational	Background	Stationary
61	Hamlet of Shepards Corner	Freedom, Cattaraugus	Local Importance	11	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
62	Erie County Forest 3	Sardinia, Erie	Local Importance	0	Forest Land	Recreational	Background	Stationary
63	Scott Corners	Sardinia, Erie	Local Importance	0	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
64	Johnstons Corners	Sardinia, Erie	Local Importance	79	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
65	Chaffee Sardinia Town Park	Sardinia, Erie	Local Importance	0	Rural Ag.	Recreational	Middleground	Stationary
66	Manion Park	Sardinia, Erie	Local Importance	0	Hamlet Center	Recreational	Middleground	Stationary
67	Hamlet of Chaffee	Sardinia, Erie	Local Importance	22	Hamlet Center	Travelers, Local residents/workers	Background	Stationary
67.1	Rolling Hills Golf Course	Sardinia, Erie	Local Importance	2	Rural Ag.	Recreational	Background	Stationary
68	Erie County Forest 11	Sardinia, Erie	Local Importance	0	Forest Land	Recreational	Background	Stationary
69	Genesee Community College at Arcade	Arcade, Wyoming	Other Places for Analysis	41	Village Center	Local residents/workers	Foreground	Stationary
70	NYS Route 39	Arcade, Wyoming	Local Importance	48	Village Center	Travelers, Local residents/workers	Foreground	Moving
71	Arcade and Attica Railroad	Arcade, Wyoming	**Statewide Significance**	61	Village Center	Travelers, Tourists, Local residents/workers	Foreground	Stationary/ Moving
72	Bixby Hill Road	Arcade, Wyoming	Other Places for Analysis	62	Rural Ag.	Local residents/workers	Foreground	Moving

3.4 Degree of Proposed Project Visibility

3.4.1 Field Observation and Photography

On April 3rd and 17th, 2008, a field crew drove public roads and visited most of the potentially affected visual resources (as determined through viewshed mapping) to document existing visibility in the direction of the Proposed Project. Photographs were taken from affected visual resources throughout the study area. All photographs were taken using a 6.3 or 12.2-mega pixel digital camera with a lens setting of approximately 50mm to simulate normal human eyesight relative to scale. The location selected for each photograph was judged by the field observer to be the most unobstructed vantage point. To the degree possible, photographs were taken at a time of day when the sun was to the back of the photographer to minimize the effect of glare within the camera's field of view and to maximize visible contrast of the landscape being photographed.

The precise coordinates of each photo location were recorded in the field using a handheld global positioning system (GPS) unit.

To determine the direction of the Proposed Project from each photo location, the precise coordinates of each structure were pre-programmed into the GPS as a "waypoint." The GPS waypoint direction indicator (arrow pointing along calculated bearing) was used to determine the appropriate bearing for the camera, so that a desired structure, or sections of the Proposed Transmission Line would be generally centered or visible within the field of view of each photograph.

3.4.2 Photo Simulations

Selection of Key Receptors for Photo Simulation - To demonstrate how the Proposed Transmission Line will appear within the study area from a variety of representative locations, eleven (11) photo simulations were prepared. The locations were generally within one mile of the Proposed Project, as visibility of the slender transmission structures would be the greatest. The specific locations of these simulations were chosen for their relevance to the factors affecting visual impact (viewer/user groups, landscape units, distance zones, duration/frequency and circumstances of view discussed above). Table 6 lists the key receptors selected for photo simulation.

Table 6 – Key Receptors/Locations Selected for Photo Simulation

Map ID	Receptor Name
12.1	Hiram Road
13	Bray Road
25	Dow Road
39	Clear Creek DEC Fishing Access
40	NYS Route 98 (Transmission Line Crossing)
51	Arcade Valley Estates
52	NYS Route 16
53	Pioneer Estate
55	Pioneer Central Middle School and High School
55.1	Old Olean Road
70	NYS Route 39

In some instances, views selected for photo simulations favored viewpoints along roadways with generally open views, as the visibility of the Proposed Project will most frequently affect local residents during daily travel along local roads. The number of viewers will vary depending upon the type of road (local, county or state).

All photo simulations are presented in Appendix A.

Photo Simulation Methodology - A photo simulation of the Proposed Project was prepared from each of the seven representative receptor locations. Photo simulations were developed by superimposing a rendering of a three-dimensional computer model of the Proposed Transmission Line into the base photograph taken from each corresponding visual resource (see section 3.4.1). The three-dimensional computer model was developed in *Autodesk Architectural Desktop, Land Development Desktop* and *Autodesk Viz* (Viz) software.

Simulated perspectives (camera views) were then matched to the corresponding base photograph for each simulated view by replicating the precise UTM coordinates of the field camera position (as recorded by GPS) and the focal length of the camera lens used (50mm). Precisely matching these parameters assures scale accuracy between the base photograph and the subsequent simulated view. The camera's target position was set to match the bearing of the corresponding existing condition photograph as recorded in the field. With the existing conditions photograph displayed as a "viewport background," minor camera adjustments were made (horizontal and vertical positioning, and camera roll) to align the horizon in the background photograph with the corresponding features of the 3D model.

The appearance of the structures is based on details provided by the Applicants. The heights of the structures generally range from 61 to 92.5 feet; the majority of the structures are less than 80 feet. Details of the structures are contained in Appendix A (Figure A1).

The proposed condition model was rendered using the base photograph as a "Viz background environment map." The 3D model was rendered using sunlight settings approximating the date and time of day the base photograph was taken. To the extent practicable, and to the extent necessary to reveal impacts, design details of the proposed transmission structures were built into the 3D model and incorporated into the photo simulation. Consequently, the scale, alignment, elevations and location of the visible elements of the proposed facilities are true to the conceptual design. The rendered view was then opened using *Adobe Photoshop 7.0* software for post-production editing (e.g., airbrush out the portion of transmission structures that fall below foreground topography and vegetation).

Arms Length Rule - The photo simulations contained in Appendix A have been printed using an 11"x17" page format. At this image size, the page should be held at approximately arms length[16] so that the scene will appear at the correct scale. Viewing the image closer would make the scene appear too large and viewing the image from greater distance would make the scene appear too small compared to what an observer would actually see in the field.

For viewing photo simulations at other page sizes (e.g., computer monitor, Proposed Projected image or other hard copy output) the viewing distance/page width ratio is approximately 1.5/1. For example,

[16] Viewing distance is calculated based a 39.6-degree field-of-view for the 50mm camera lens used, and the 15.5" wide image presented in Appendix A. "Arm's length" is assumed to be approximately 22.5 inches from the eye. Arm's length varies for individual viewers.

if the simulation were viewed on a 42-inch wide poster size enlargement, the correct viewing distance would be approximately 63 inches; or 5 ¼ feet.

Field Viewing - The photo simulations present an accurate depiction of the appearance suitable for general understanding of the degree and character of Proposed Project visibility. However, these images are a two-dimensional representation of a three-dimensional landscape. The human eye is capable of recognizing a greater level of detail than can be illustrated in a two-dimensional image. Agency decision-makers and interested parties may benefit from viewing the photo simulations in the field from any or all of the simulated vantage points. In this manner, observers can directly compare the level of detail visible in the base photograph with actual field observed conditions.

3.5 Character of Proposed Project Visibility

3.5.1 Compatibility with Regional Landscape Patterns

The visual character of a landscape is defined by the patterns, forms and scale relationships created by lines, colors, and textures. Some patterns dominate while others are subordinate. The qualitative impact of a Proposed Project is the effect the development has on these patterns, and by corollary on, the visual character of the regional landscape.

Existing Landscape - The visible patterns (form, line, color, and texture) found within the Proposed Project region can best be described as representative of the agricultural landscape typical of the region. Given the rural nature of the study area, visible colors are natural, muted shades of green, brown, gray, and other earth tones. When viewed from a distance, vegetated hillsides maintain a rather uniform and unbroken blending of colors, which tend to fade with hazing of varying atmospheric conditions. The often steep, rolling topography also creates a sinuous naturalistic form. The landscape also consists of a network of existing transmission lines and corresponding structures along Transmission Sections 2 and 3, as well as existing turbines.

The following describes the compatibility of the Proposed Transmission Line with regional landscape patterns within which it is contained and viewed. This evaluation is graphically depicted in the photographic simulations provided in Appendix A.

Form - The form of the regional landscape essentially consists of gently rolling upland with sinuous hills rising above clearly defined and often steep sided valleys. The woodland edge of agricultural fields commonly creates a brief vertical offset in this sinuous landscape form.

Although much of the 14-mile proposed transmission corridor utilizes existing ROWs, with existing transmission structures, the Proposed Project will require an additional 89 thin vertical structures, and involves replacing 35 of the existing transmission structures with modified structures. The introduction or modification of these structures may create an obvious disruption or enhance current disruptions of the rolling agricultural landscape of the study area. The larger structures along Transmission Section 3 will have a larger form and will be more noticeable. These structures would be more evident with closer views.

Line – The existing landscape maintains a sinuous curvilinear line formed by the rolling hills along the horizon. Few situations will expose the viewer to witness the proposed structures break the horizon. The structures will break the tree line when viewers are at a lower elevation looking up towards the structures.

Although much of the 14-mile proposed transmission corridor contains existing transmission structures, the Proposed Project will introduce 89 additional structures that will add or enhance distinct vertical elements into the landscape, and will modify 35 existing structures. When visible, the cables will also introduce a horizontal line in the landscape as well. These lines are thin and would be visible only at relatively close distances. Transmission Section 1 as well as part of Section 3 will require the

clearing of vegetation. The clearing will create vertical lines and breaks in continuous vegetation stands and thereby increase visibility along the Proposed Transmission Line corridor. These clearings may be seen at greater distances.

Color –The neutral brown wood color utilized for the majority of the proposed structures will most often be viewed against an adjacent landform or vegetation. Under these conditions the structures would be highly compatible with the hue, saturation and brightness (or dullness) of the background landform and distant elements of the natural landscape. It should be noted that over a period of time, the brown wood poles will begin to fade and become gray in appearance. In addition to the wood poles, gray steel poles will be used in select locations. These poles are not as compatible with the landscape as the other wooden poles. Overall, color contrast will further decrease with increasing distance and/or periods of increased atmospheric haze or precipitation.

Texture – The structures will be made primarily from natural material (i.e. wood) and have been specifically selected, instead of skeletal (or lattice) frame towers, to minimize textural contrast and provide a more simple form. Where required, a limited number of steel poles will be used. These smooth metallic structures will not blend in as easy within the natural landscape.

Scale/Spatial Dominance – Generally, the proposed transmission structures will be of similar scale to the existing 115 kV transmission line that extends from the Noble Bliss substation to the Freedom substation, as well the 115 kV transmission route from the Bixby Hill substation to the National Grid owned substation in the Town of Yorkshire. The Proposed Project is not perceived as a highly dominant visual element.

3.5.2 Visual Character during the Construction Period

Construction of the Proposed Transmission Line will require use of mobile cranes and other large construction vehicles. Components will be delivered in sections via large semi-trucks. However, the construction period is expected to be relatively short. As such, construction related visual impacts will be brief and are not expected to result in adverse prolonged visual impact to area residents or visitors.

3.6 Cumulative Analysis

Noble is proposing to develop a wind-powered generating facility consisting of 67 turbines with a capacity of approximately 100.5 megawatts (MW) in the Towns of Centerville and Rushford, Allegany County, New York. Generally, the turbines extend east from the Allegany/Cattaraugus County line to west of Hume and Centerville Roads, and from south of Washburn Road to north of New York State Route 243.

Depending on final turbine selection, the turbine towers will be approximately 263 feet tall from ground to nacelle (hub). The towers will be approximately 16 feet wide at the base and eight (8) feet wide at the top. Each of the three turbine blades will be 123 feet in length with the apex of blade rotation reaching approximately 389 feet above ground elevation (blade tip height). The cumulative analysis was based on a blade tip height of 393 feet (worst-case).

3.6.1 Cumulative Viewshed

Extended Viewshed Area – Figure 3 – Vegetated Cumulative Viewshed, illustrates the cumulative theoretical visibility of both the Proposed Transmission Line and the proposed Noble Allegany Windpark within the 5-mile radius study area used throughout this VRA. The windpark is located in the Towns of Centerville and Rushford, Allegany County. Table 7 summarizes the degree of cumulative visual impact.

Table 7 – Viewshed Coverage Summary

(Figure 3 – Vegetated Cumulative Viewshed)

	Vegetation and Topography Viewshed[17]	
	Acres	**Percentage of Study Area**
No Structures or Turbines Potentially Visible	100,654	78.3
Only Structures Potentially Visible	5,363	4.2%
Only Turbines Potentially Visible	12,365	9.6%
Both Structures and Turbines Potentially Visible	10,203	7.9%
Total	128,586	100%

As identified in Table 7, with the introduction of both the Proposed Transmission Line and the proposed windpark, one or more structures will be theoretically visible from approximately 21.7 percent of the five-mile radius study area. Of that 21.7 percent of the study area (27,931acres), 4.2 percent (5,363 acres) is attributed to the Proposed Transmission Line structures alone, while 9.6 percent of the viewshed (12,365 acres) will be affected by wind turbines alone (i.e., the proposed windpark), and 7.9 percent (10,203 acres) will be affected by both the Proposed Transmission Line and the proposed wind park. In addition, two cumulative simulations were completed illustrating the Proposed Transmission Line and the proposed windpark. These may be found in Appendix A.

[17] Mature vegetation height of 40' was used for the viewsheds.

MAPS PULLED FROM:

Case: 08.T.0746

Date: 7.1.08 (of)

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- ☐ Plan
- ☐ Report

Map # 106

4.0 MITIGATION

As recognized by DEC Policy DEP-00-2, mitigation measures to reduce potential visual impacts include efforts undertaken during the planning and design stage of Proposed Project development[18] and those implemented during construction and operation.[19] Mitigation strategies that have already been or which will be evaluated or undertaken by the Applicant include the following:

4.1 PROFESSIONAL DESIGN AND SITING

Screening

Generally, the Proposed Transmission Line will not result in significant visual impacts, although portions of the Proposed Project will be visible from several viewpoints of local importance or other places for analysis, as well as portions of the Arcade and Attica Railroad. If it is determined that screening is justified in localized areas, especially where new structures will be constructed, it may be necessary to obtain consent of the landowner along the identified segment of the alignment to introduce screening in the most effective location. Screening may be more effective on property adjacent to the leased area, rather than within the ROW itself, as it would be closer to the viewer, thus more effective in blocking an unwanted view.

Examples of screening that may be undertaken include:

- Supplemental plant material may be considered in order to screen views of the Proposed Project for those property owners that are highly sensitive to the visual appearance of the Proposed Project. It is anticipated that this would be limited to properties adjacent or in immediate proximity to the Proposed Project.
- Plant material can be considered around the new substations.

Proposed Project Siting/Relocation

Sensitive siting of a Proposed Project is among the most effective strategies to avoid or reduce visual impacts. The Applicant has already taken siting into consideration, and has proposed an alignment, and substation locations, which, for the most part, are substantially set back from sensitive receptors, including roadways. The applicant is also utilizing existing substation locations, where possible.

Where the Proposed Transmission Line does cross roadways, it does so at a perpendicular or roughly perpendicular angle, so as to reduce the visual exposure time for people traveling by car, foot, or bicycle along public roadways.

Vegetation clearing should be kept to a minimum, however it should not impede operation.

[18] This category is referred to as "Professional Design and Siting" in the DEC Visual Policy.

[19] The DEC Visual Policy specifies "Maintenance" as a distinct visual impact mitigation category. As described in this section, "maintenance" of transmission lines is essentially related to vegetation management practices, and includes the extent of clearing undertaken during construction as well as ongoing vegetation management practices.

Camouflage/Disguise

> By utilizing wooden poles or laminated wooden poles, the color and materials of the majority of the transmission structures (not including substations) will be compatible with the surrounding landscape.

Low Profile/Downsizing

> Where possible, the shortest possible structure should be used.

Alternate Technologies

> The use of wooden or laminated poles should be considered in visually sensitive areas. Laminated poles, especially on angle structures, will assist in minimizing the presence of guy wires and unkempt vegetation at the base of such wires during the operational phase of the Proposed Project.

Non-specular Materials

> Many of the proposed poles will be wooden or laminated, and therefore will not be reflective. Although the proposed substations involve metallic equipment and structures these elements are either sufficiently removed from sensitive receptors or placed within an existing substation and does not warrant painting of metallic surfaces.

Lighting

> No lighting is anticipated. If lighting is necessary around the substation/switchyard shields should be used in order to reduce light trespass on adjacent land.

4.2 Maintenance

Vegetation management practices have the potential to be an important role in visual mitigation of transmission corridors both during the construction and operational phases of the Proposed Project. As noted above, the Applicant has already reduced visual impacts to a large degree by siting the transmission corridor primarily along areas that are currently cleared (i.e., in active agricultural use or existing cleared ROW), where possible. A good deal of the 14-mile stretch of the Proposed Transmission Line will utilize existing cleared ROW. During construction, the minimal width necessary for equipment access will be cleared, and areas will be restored to allow the continuation of agricultural uses where present, or will be allowed to regenerate to a scrub/shrub type of vegetation. Vegetation will be periodically maintained in this (scrub/shrub or cropland) state; however trees will not be allowed to mature. A vegetation management plan will be developed to identify the methodology (including frequency, seasonal timing, and equipment use) to be used to periodically maintain vegetation within the ROW and along ROW access roads.

Decommissioning

> Should the Proposed Transmission Line, substations, and associated structures no longer be necessary, the associated structures will be removed. Disturbed areas should be allowed to become re-established as natural or cultivated vegetation.

5.0 SUMMARY AND DISCUSSION OF POTENTIAL VISUAL IMPACT

Viewshed Summary

The vegetated viewshed map indicates that one or more of the proposed transmission structures are theoretically visible from approximately 20 percent of the five-mile radius study area. Approximately 80 percent of the study area will likely have no visibility of any of the structures. Visibility is most common to the north, west and in relative close proximity to the south of the Proposed Transmission Line. Visibility will be most evident in close proximity of the proposed route as well as the agricultural uplands from cleared lands with down slope vistas in the direction of the Proposed Transmission Line.

Views of the Proposed Transmission Line from within the Village of Arcade will be available from various locations. Within the center of the village, views appear to be limited due to intervening topography, vegetation, and structures. However, views are more evident on properties in close proximity to the Proposed Transmission Line route or where localized structures and vegetation are less likely to provide a visual barrier.

It is anticipated that intervening topography, vegetation and localized structures will screen views from the Village of Delevan. Filtered or framed views may be possible through foreground vegetation in isolated locations further north of the Village along NYS Route 16 where localized structures and vegetation are less likely to provide a visual barrier. Views may also be possible from higher elevations around the Village from a distance of up to three (3) miles.

Views from the hamlets of Freedom and Yorkshire are also possible. Screening (e.g. intervening buildings/structures and localized vegetation) and distance from the Proposed Transmission Line should substantially reduce visual impacts to the hamlet of Freedom. The generally low/slim profile of the Proposed Project components will also assist in reducing in potential visual impact.

Portions of residential communities, such as the Arcade Valley Estates and Pioneer Estate, may also have views of the Proposed Transmission Line. Residents may experience either close-up framed views or open views of proposed structures. Those residential structures that would be most affected tend to be those in close proximity of the proposed structures. As a viewer moves further away, within these communities, structures and vegetation begin to screen views in the direction of the Proposed Transmission Line. It should also be noted that existing transmission structures (those being replaced along Transmission Segment 3) are currently located in close proximity of residential structures.

Views of the Proposed Transmission Line will be available from elevated locations along several of the major roadways (i.e., NYS Routes 16, 39, and 98), and many county and local roadways (e.g. East Arcade Road, Bray Road, Savage Road, and Curriers Road). Many of these views may be long distant (background view), fleeting as viewers pass in vehicles, or of small portions of the Proposed Transmission Line. However, due to the structures' low profile and material, visibility will be minimized.

The proposed route will also bisect eight (8) roadways (Smith Cross Road, Bray Road, Hiram Road, NYS Route 98, Bixby Hill Road, County Line Road, Old Olean Road, and NYS Route 16). Transmission structures will be located in close proximity and on both sides of these roadways. Viewers within close proximity of the Proposed Transmission Line will also notice that structures will frequently appear and disappear behind intervening foreground landform and vegetation as they move about the Proposed Project area.

It is also important to note that within this area, there are often views of existing transmission structures, the Noble Bliss Windpark, and the Wethersfield Wind Farm.

Impact on Visual Resources

Resources of Statewide Significance – Based on the viewshed analysis, it was determined that the Lost Nation State Forest, Cold Creek State Forest, Swift Hill State Forest, the Salem Welsh Church and the Rider Hopkins and Olmsted Camp will not have visibility of the Proposed Project. However, the viewshed does show that the Arcade Center Farm and the Arcade and Attica Railroad have potential visibility. It is anticipated that the Arcade Center Farm will not be impacted due to intervening vegetation or structures. The Arcade and Attica Railroad has the potential for visibility, mostly north of NYS Route 39 and west of NYS Route 98, however visibility will be redueed due to distance and orientation of the train. It should be noted that although the viewshed maps show the section of railroad south of NYS Route 39 as being historic, all tourist related activities occur north of NYS Route 39.

The NYSDEC visual Policy states,

> *"Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place. Proposed large facilities by themselves should not be a trigger for a declaration of significance. Instead, a project by virtue of its siting in visual proximity to an inventoried resource may lead staff to conclude that there may be a significant impact."*

Based on this definition, it is reasonable to conclude that simple visibility of the Proposed Transmission Line from resources of statewide significance does not result in detrimental effect on the perceived beauty of the place or structure; nor will the Proposed Project cause the diminishment of public enjoyment and appreciation of an inventoried resource, or impair the character or quality of such a place.

Resources of Local Interest – Portions of the Proposed Transmission Line will be visible from places of local interest that do not meet the broader statewide threshold for visual significance. Most commonly affected are roadside views along various state and county highways.

Views were found along portions of NYS Routes 16, 39, and 98 within the study area. Several county and town roads (e.g. Bray Road, Hiram Road, and Bixby Hill Road) will also have intermittent views of the Proposed Transmission Line at varying distance. Drivers along Bray Road will view a number

of proposed structures from Transmission Section 1, adjacent to the roadway. Most local parks and recreational facilities, residential neighborhoods in the hamlets and villages where the prevalence of mature street trees and site landscaping combined with significant topographical changes, one and two story residential, and in some cases commercial structures substantially limit or screen distant views.

Portions of residential communities may have views of the Proposed Transmission Line. In particular the Arcade Valley Estates and Pioneer Estate, located in the Towns of Arcade and Yorkshire, respectively, will have either close-up framed views or open views of proposed structures. In both situations, existing H-frame structures are currently visible. However, the structures proposed for Transmission Section 3 are taller and will be more noticeable. The residences that would be most affected will be those in close proximity of the proposed structures.

The Pioneer Central Middle and High Schools, located in the Town of Yorkshire will have views of close proximity. Currently, H-frame transmission structures line the south property line so visibility is common. However, the structures proposed for Transmission Section 3 are taller than the existing ones. While visibility will not be new to the school, the new structures will be noticeable.

While tourist facilities (i.e. Arcade and Attica Railroad) will be affected by the Proposed Transmission Line, numerous state, county and local roads will have views of the Proposed Project across agricultural lands. The impact upon visitors driving through the study area is primarily dependent upon the duration of one's view of the Proposed Project while driving along local road corridors.

Character of View

Typical views are characterized by patchwork of undeveloped woodland interspersed with working farmland surrounded by rolling hills, deeply cut ravines and valleys. While such pastoral views are common throughout the region, most residents and visitors would agree that the agricultural uplands and valleys within the study area are of moderate to high visual quality.

The views toward Transmission Section 2 as well as portions of Section 3, currently contains transmission structures. These views are generally representative of the views that will be experienced with the addition of the Proposed Project, as the proposed transmission structures will not vary greatly from current structures in appearance. An existing ROW will be utilized for Transmission Section 2 and a portion of Transmission Section 3; the majority of the existing structures will be utilized along Transmission Section 2. However, the Proposed Transmission Line will also require some distinctive additions and alterations that will affect the current character of view. The introduction of new angle structures in Section 2 and larger poles, proposed west of the Bixby Hill substation, in Section 3 will be more noticeable. To a lesser extent the new circuit along Transmission Section 2 will be noticeable, particularly when viewed from close proximity.

When visible, the well-defined vertical form of the new transmission structures on the horizon will introduce a distinct perpendicular element into the landscape. This will be more apparent when the viewer is in close proximity to the Proposed Transmission Line. The Proposed Project will also create the need for additional clear-cutting along currently vegetated sections of the proposed route.

Affected Viewers

The study area is predominately rural and largely undeveloped. The most populated towns in the study area are the Town of Arcade and the Town of Yorkshire, with 4,184 and 4,210 persons, respectively. Generally, roadways within the study area are relatively lightly traveled. However, sections of NYS Routes 16, 39, and 98 may receive higher volume of traffic. The busiest section of roadway is NYS Route 39, between the Wyoming County Line and NYS Route 98 in Arcade. This section of highway has an average annual daily traffic (AADT) volume of 19,271 vehicles between the Wyoming County Line and NYS Route 98. While the Proposed Transmission Line will be frequently visible to local residents, workers and through travelers, the total number of potentially affected viewers within the study area is relatively small when compared to other regions of New York State.

Overall, the number of recreational users affected by the Proposed Transmission Line will also be relatively small. Hunters and snowmobilers on private lands will likely view the Proposed Transmission Line across open agricultural fields.

Cumulative Impact

With the introduction of both the Proposed Transmission Line and the proposed Noble Allegany Windpark, one or more structures will be theoretically visible from approximately 21.7 percent of the five-mile radius study area. Of that 21.7 percent of the study area (27,931 acres), only 4.2 percent (5,363 acres) is attributed to the Proposed Transmission Line structures alone, while 9.6 percent of the viewshed (12,365 acres) will be affected by wind turbines alone (i.e., the proposed windpark), and 7.9 percent (10,203 acres) will be affected by both the Proposed Transmission Line and the proposed windpark. Overall, the cumulative impact appears to be relatively minor.

Visual Impact Conclusion

The U.S. Department of Energy and New York State Public Service Commission have mandated that renewable energy sources, such as wind parks, will provide an increasing percentage of the nation's electricity in the coming years. Meaningful development of renewable wind energy will reduce reliance on fossil fuel combustion and nuclear fission facilities and result in reduction in air pollutants and greenhouse gasses. The Proposed Transmission Line will connect a proposed Noble windpark to an existing National Grid transmission line. This essential means of delivering electricity from the proposed windpark to consumers will, in a small part, assist in meeting this ambitious federal and state objective to provide an environmentally friendly and renewable energy source to help meet the growing energy needs for New York State residents and business.

It is not anticipated that the Proposed Project will significantly affect the community's overall visual or aesthetic characteristics, as much of the Proposed Project is consistent with the existing visual character. Approximately 8.2 miles of the proposed 14-mile route contain existing transmission structures of varying sizes and styles. However, the proposed cross-braced structures along Transmission Section 3 will be taller and more noticeable due to the extra 10 to 25 feet in height, when compared to the existing structures along this portion of the route. The use of mitigation techniques will help to minimize adverse visual impact associated with the Proposed Transmission Line.

Glossary[20]

Aesthetic impact: Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a Proposed Project proposal, should not be a threshold for decision-making. Instead a Proposed Project, by virtue of its visibility, must clearly interfere with or reduce the public's enjoyment and/or appreciation of the appearance of an inventoried resource (e.g. cooling tower plume blocks a view from a State Park overlook).

Aesthetically significant place: A formally designated place visited by recreationists and others for the express purpose of enjoying its beauty. For example, millions of people visit Niagara Falls on an annual basis. They come from around the country and even from around the world. By these measurements, one can make the case that Niagara Falls (a designated State Park) is an aesthetic resource of national significance. Similarly, a resource that is visited by large numbers who come from across the state probably has statewide significance. A place visited primarily by people whose place of origin is local generally is generally of local significance. Unvisited places either have no significance or are "no trespass" places.

Aesthetic Quality: There is a difference between the quality of a resource and its significance level. The quality of the resource has to do with its component parts and their arrangement. The arrangement of the component parts is referred to as composition. The quality of the resource and the significance level are generally, though not always, correlated.

Atmospheric perspective: Even on the clearest of days, the sky is not entirely transparent because of the presence of atmospheric particulate matter. The light scattering effect of these particles causes atmospheric or aerial perspective, the second important form of perspective. In this form of perspective there is a reduction in the intensity of colors and the contrast between light and dark as the distance of objects from the observer increases. Contrast depends upon the position of the sun and the reflectance of the object, among other items. The net effect is that objects appear "washed out" over great distances.

Control Points: The two end points of a line-of-sight. One end is always the elevation of an observer's eyes at a place of interest (e.g. a high point in a State Park) and the other end is always an elevation of a Proposed Project component of interest (e.g. top of a stack of a combustion facility or the finished grade of a landfill).

Line-of-sight profile: A profile is a graphic depiction of the depressions and elevations one would encounter walking along a straight path between two selected locations. A straight line depicting the path of light received by the eye of an imaginary viewer standing on the path and looking towards a predetermined spot along that path constitutes a line-of-sight. The locations along the path where the viewer stands and looks are the control points of the line-of- sight profile.

Scientific Perspective: Scientific, linear, or size perspective is the reduction in the apparent size of objects as the distance from the observer increases. An object appears smaller and smaller as an observer moves further and further from it. At some distance, depending upon the size and degree of contrast between the object and its surroundings, the object may not be a point of interest for most people. At this hypothetical distance it can be argued that the object has little impact on the composition of the landscape of which it is a tiny part. Eventually, at even greater distances, the human eye is incapable of seeing the object at all.

Viewshed: A map that shows the geographic area from which a proposed action may be seen is a viewshed.

[20] NYSDEC Visual Policy (2000) pp. 9-11.

Visual Assessments: Analytical techniques that employ viewsheds, and/or line-of-sight profiles, and descriptions of aesthetic resources, to determine the impact of development upon aesthetic resources; and potential mitigation strategies to avoid, eliminate or reduce impacts on those resources.

Visual impact: Visual impact occurs when the mitigating effects of perspective do not reduce the visibility of an object to insignificant levels. Beauty plays no role in this concept. A visual impact may also be considered in the context of contrast. For instance, all other things being equal, a blue object seen against an orange background has greater visual impact than a blue object seen against the same colored blue background. Again, beauty plays no role in this concept.

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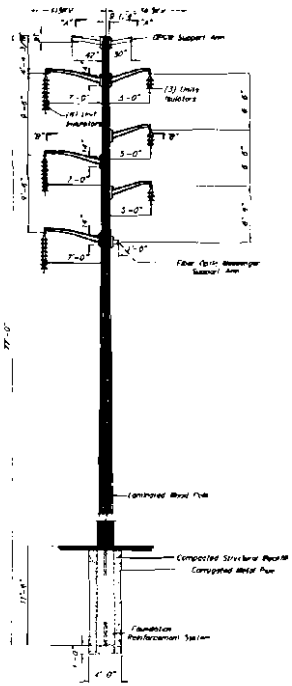
Appendix A
Exhibits



Transmission Section 1—Typical Tangent Structure (Double Circuit)
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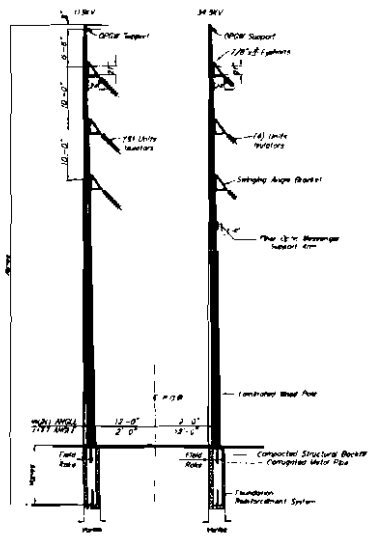

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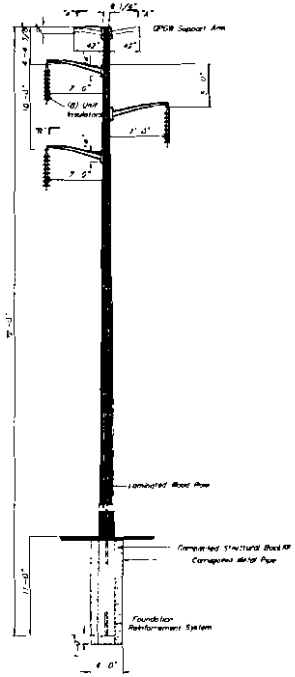

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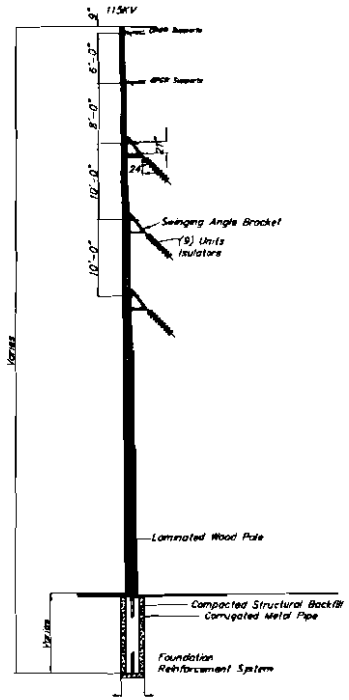
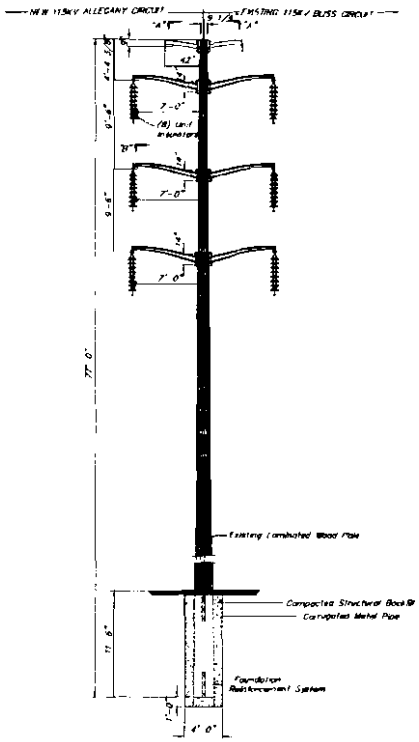


Transmission Section 1—Typical Angle Structure (Single Circuit)
Scale: Not to Scale

Note: Structure details for Transmission Sections 1 and 2 were provided by Careba Power Engineers, PC.

FIGURE A1-a

Samples of Proposed Transmission Structures
Village of Arcade and Towns of Arcade, Centerville, Freedom, and Yorkshire



Transmission Section 2—Existing Tangent Structure
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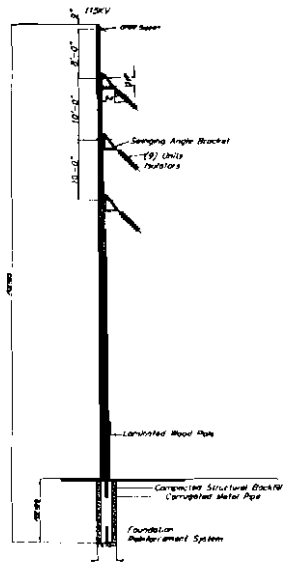

Transmission Section 2—Typical Angle Structure (Single Circuit)
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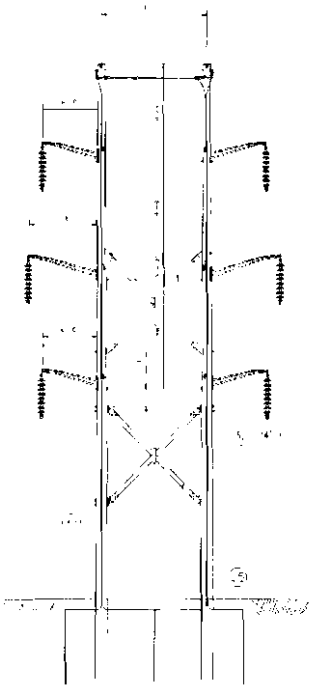

Transmission Section 3—Typical Tangent Structure (Double Circuit)
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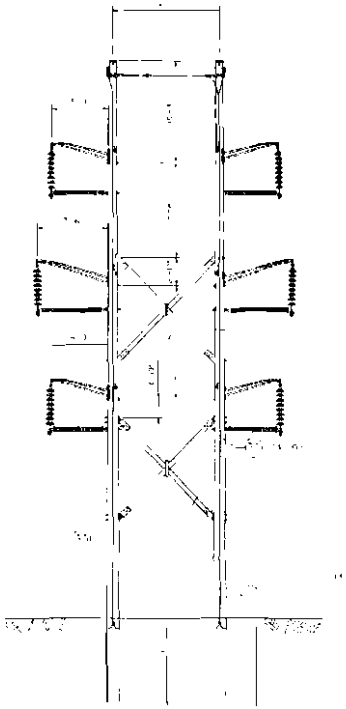


Transmission Section 3—Typical Angle Structure (Double Circuit)
Scale: Not to Scale

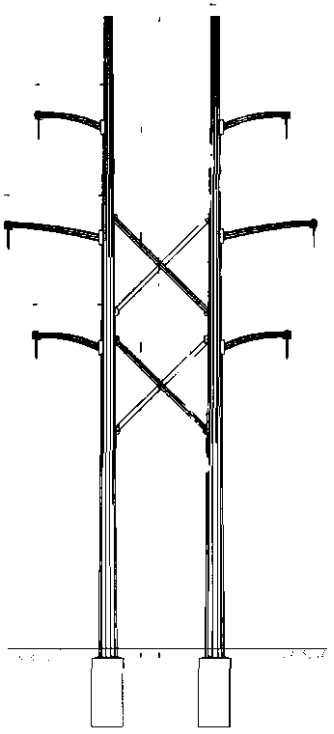
Note. Structure details for Transmission Sections 1 and 2 were provided by Careba Power Engineers, PC. Structure details for Trensmission Section 3 were provided by R G Venderweil Engineers, Inc.

FIGURE A1-b

Samples of Proposed Transmission Structures
Village of Arcade and Towns of Arcade, Centerville, Freedom, and Yorkshire

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES



Transmission Section 3—Typical Steel Deadend Structure (Double Circuit)
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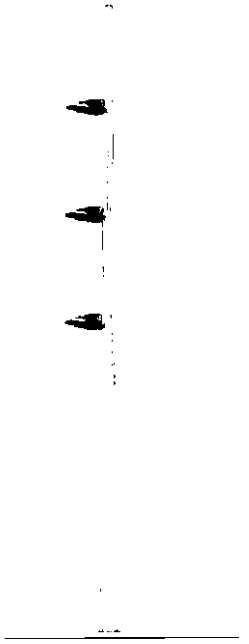
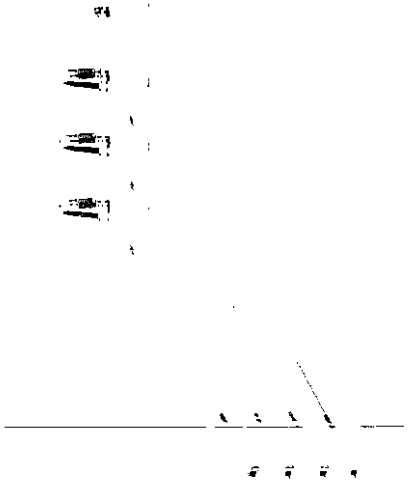
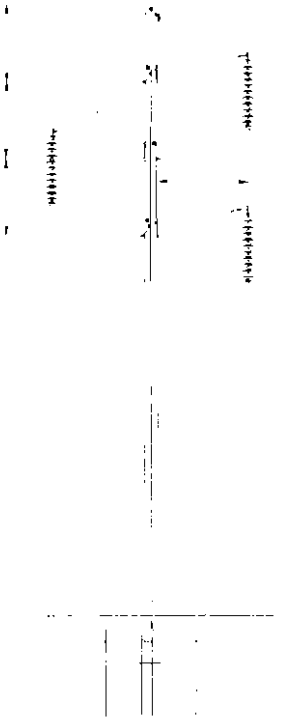


Transmission Section 3—Typical Deadend Pulloff Structure (Single Circuit)
Scale. Not to Scale



Transmission Section 3—Typical Deadend Pulloff Angle Structure (Single Circuit)
Scale Not to Scale



Transmission Section 3—Typical Tangent Structure (Single Circuit)
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Note: Structure details for Transmission Section 3 were provided by R.G. Venderweil Engineers, Inc.

FIGURE A1-c

Samples of Proposed Transmission Structures
Village of Arcade and Towns of Arcade, Centerville, Freedom, and Yorkshire

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

MAPS PULLED FROM:

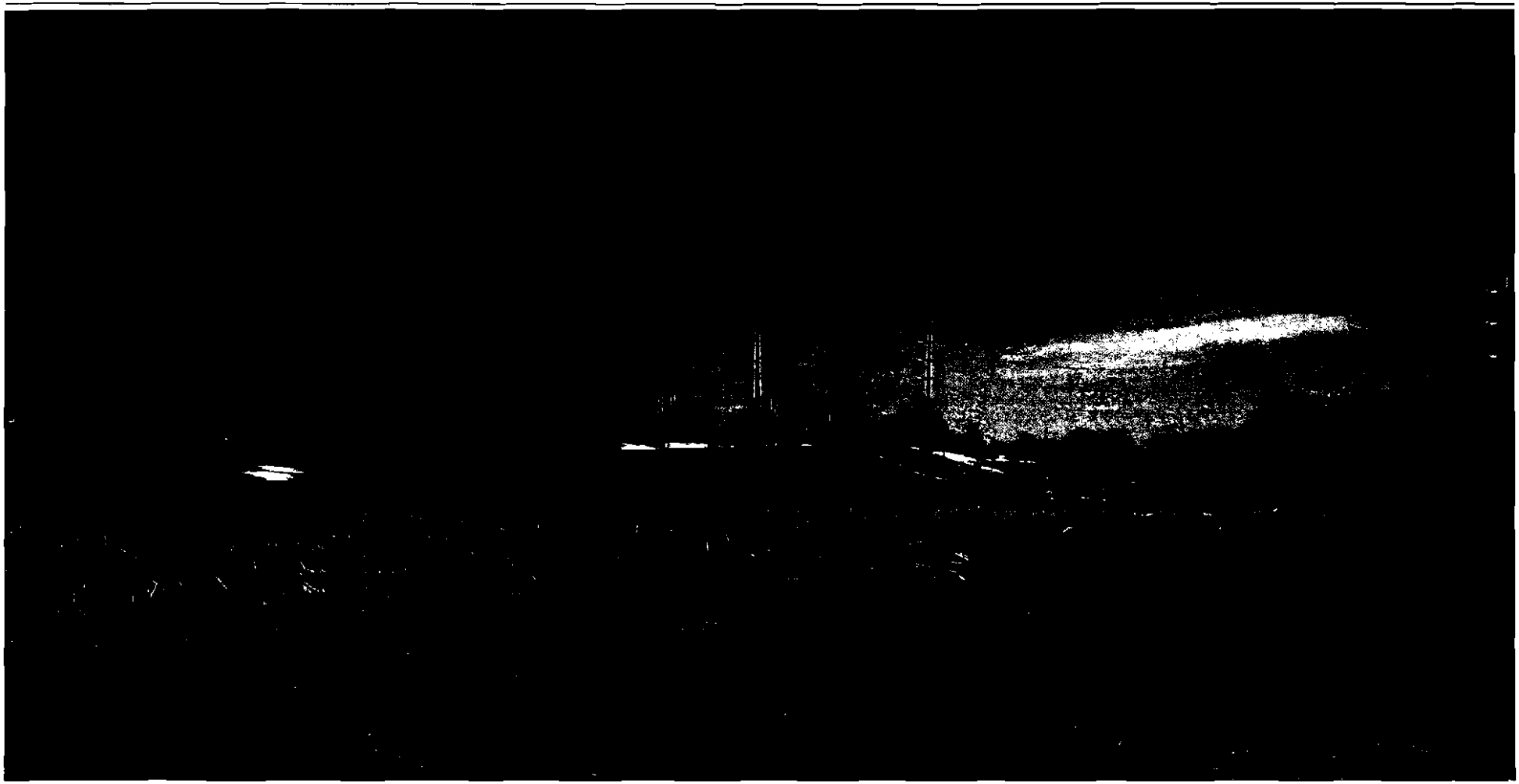
Case: 08T0746

Date: 7.1.08 (of)

Specific:

- ☐ Brief
- ☐ Comment
- ☐ Correspondence
- ☐ Exhibit
- ☐ Order
- ☒ Petition
- ☐ Plan
- ☐ Report

Map # 107



Existing Condition

FIGURE A3-a

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

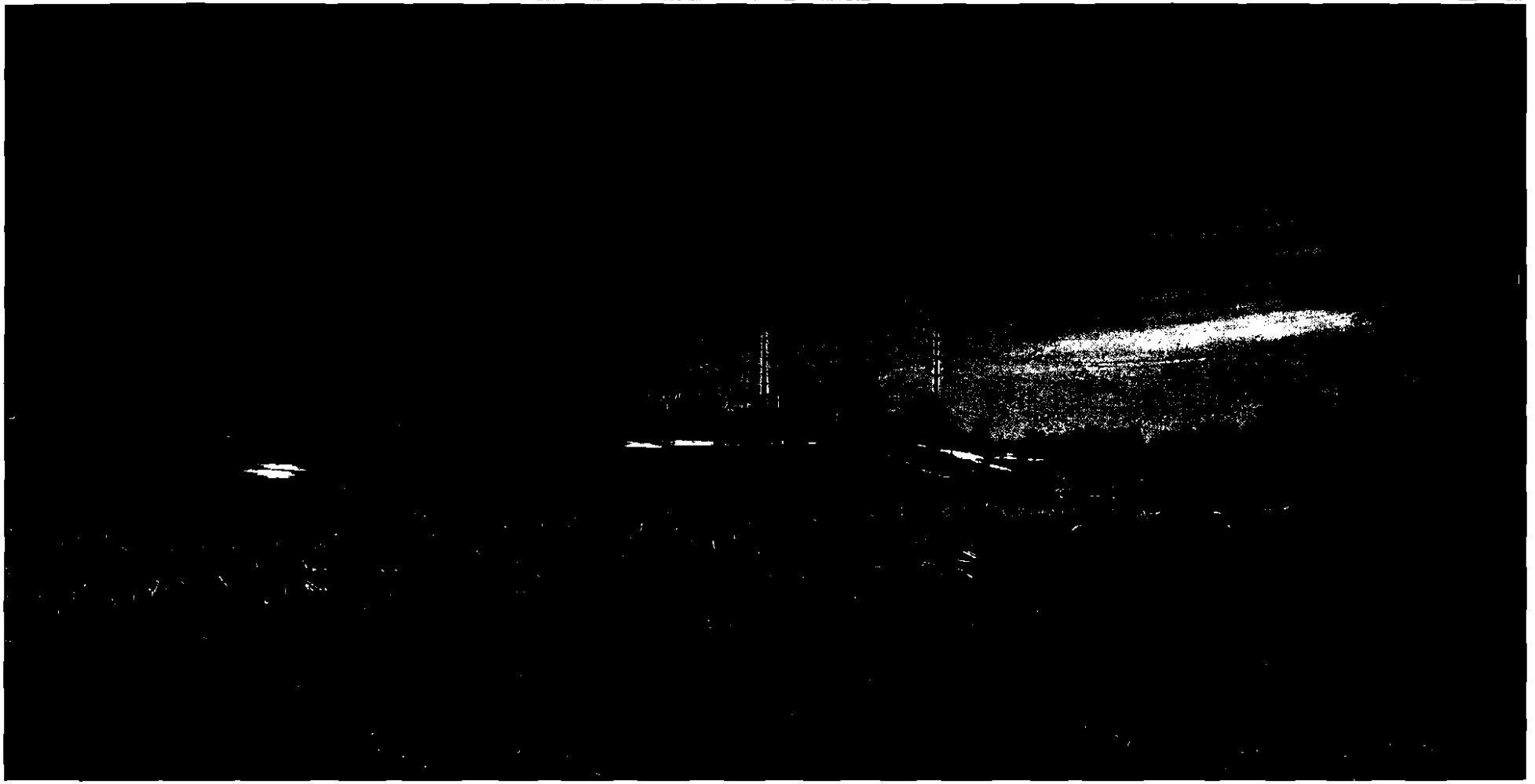


Photo Simulation

FIGURE A3-b

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Existing Condition

FIGURE A3-c

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A3-d

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Existing Condition

FIGURE A3-e

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Noble ENVIRONMENTAL POWER

Village of Arcade

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A3-f

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Existing Condition

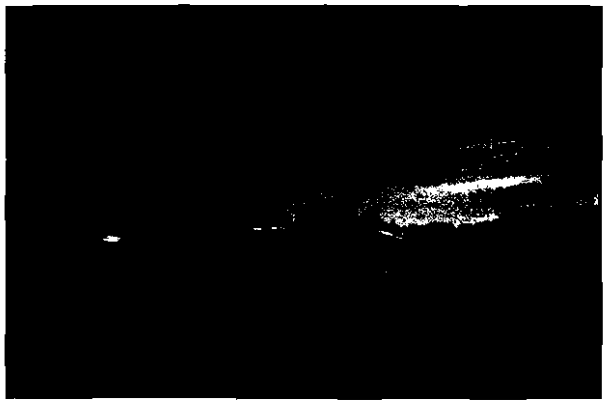


Photo Simulation

Noble ENVIRONMENTAL POWER

Village of Arcade

SARATOGA ASSOCIATES

FIGURE A3-g

Photo Simulation
VP#12.1—Hiram Road
Town of Arcade
Transmission Section 2

Existing Condition

FIGURE A4-a

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A4-b

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Existing Condition

FIGURE A4-c

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A4-d

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Existing Condition

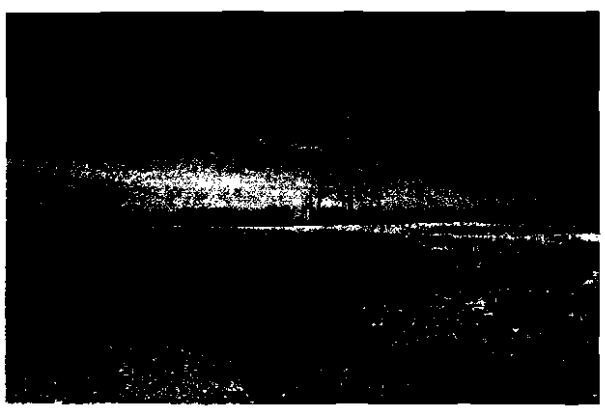


Photo Simulation

FIGURE A4-e

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Existing Condition

FIGURE A5-a

Photo Simulation
VP#25—Dow Road
Town of Centerville
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A5-b

Photo Simulation
VP#25—Dow Road
Town of Centerville
Transmission Section 1

Existing Condition

FIGURE A6-a

Photo Simulation
VP#39—Clear Creek DEC Fishing Access
Town of Arcade
Transmission Section 2

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

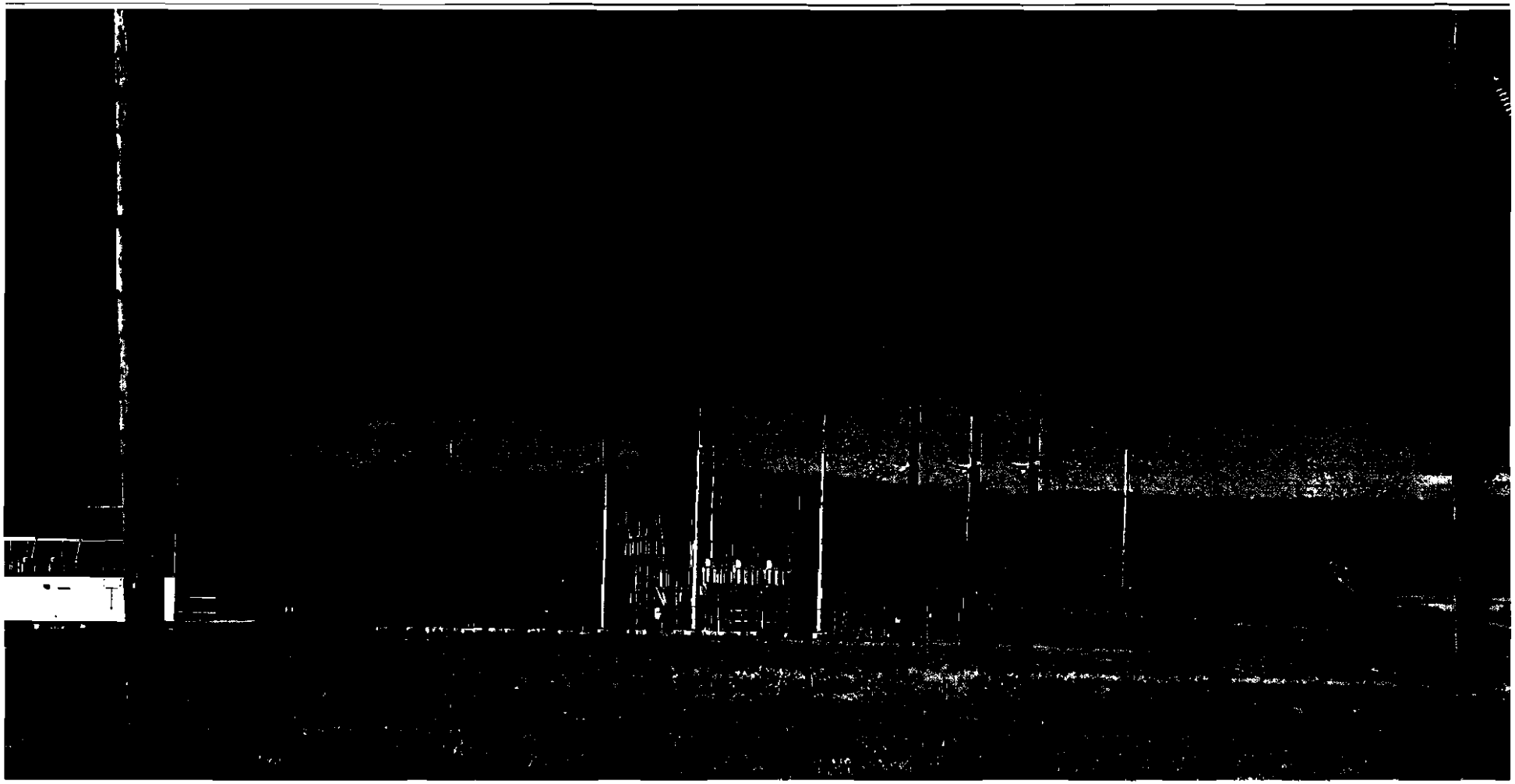
Photo Simulation

FIGURE A6-b

Photo Simulation
VP#39—Clear Creek DEC Fishing Access
Town of Arcade
Transmission Section 2

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES



Existing Condition

FIGURE A7-a

Photo Simulation
VP#40—NYS Route 98 (Transmission Line Crossing)
Town of Arcade
Transmission Sections 2 and 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

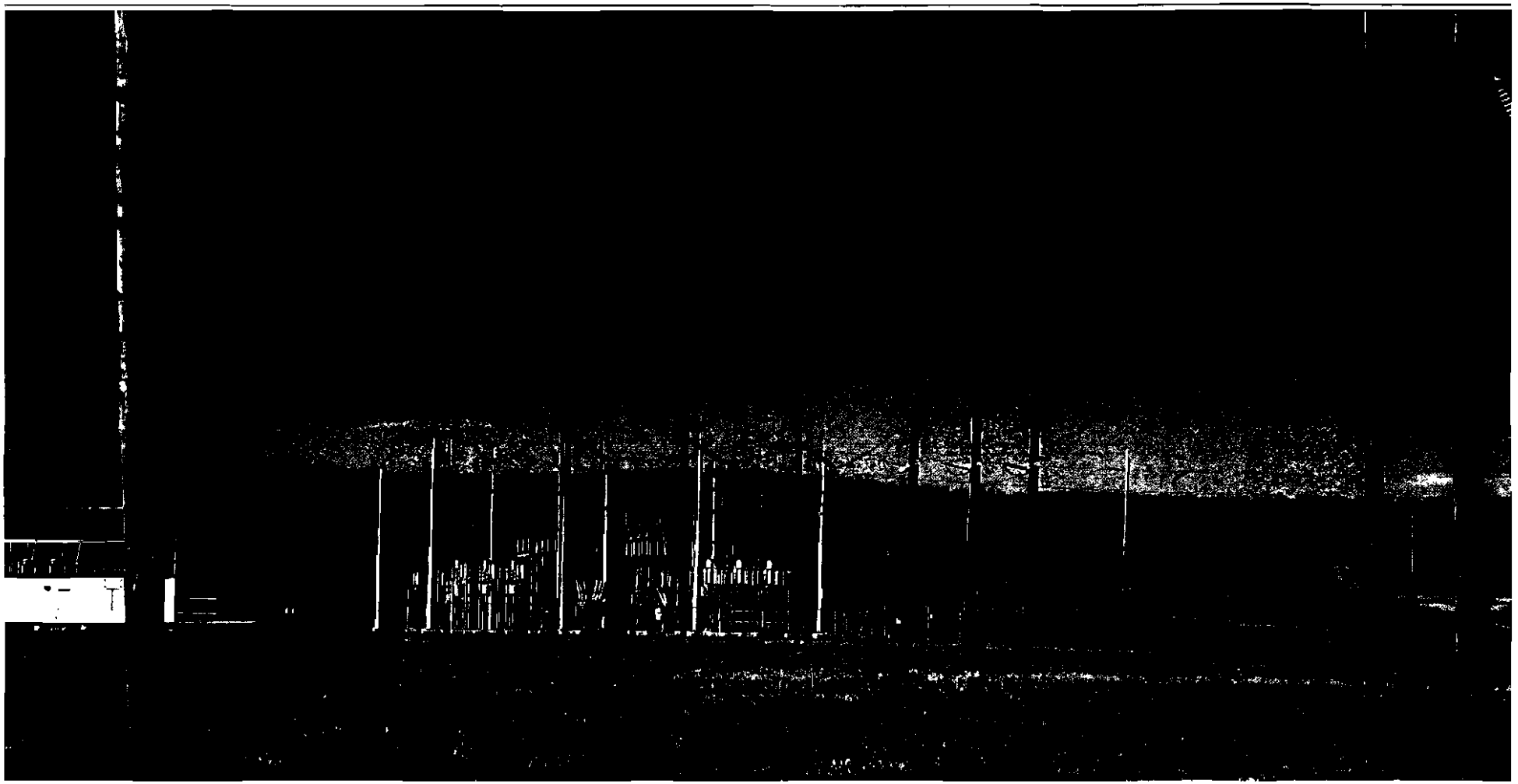


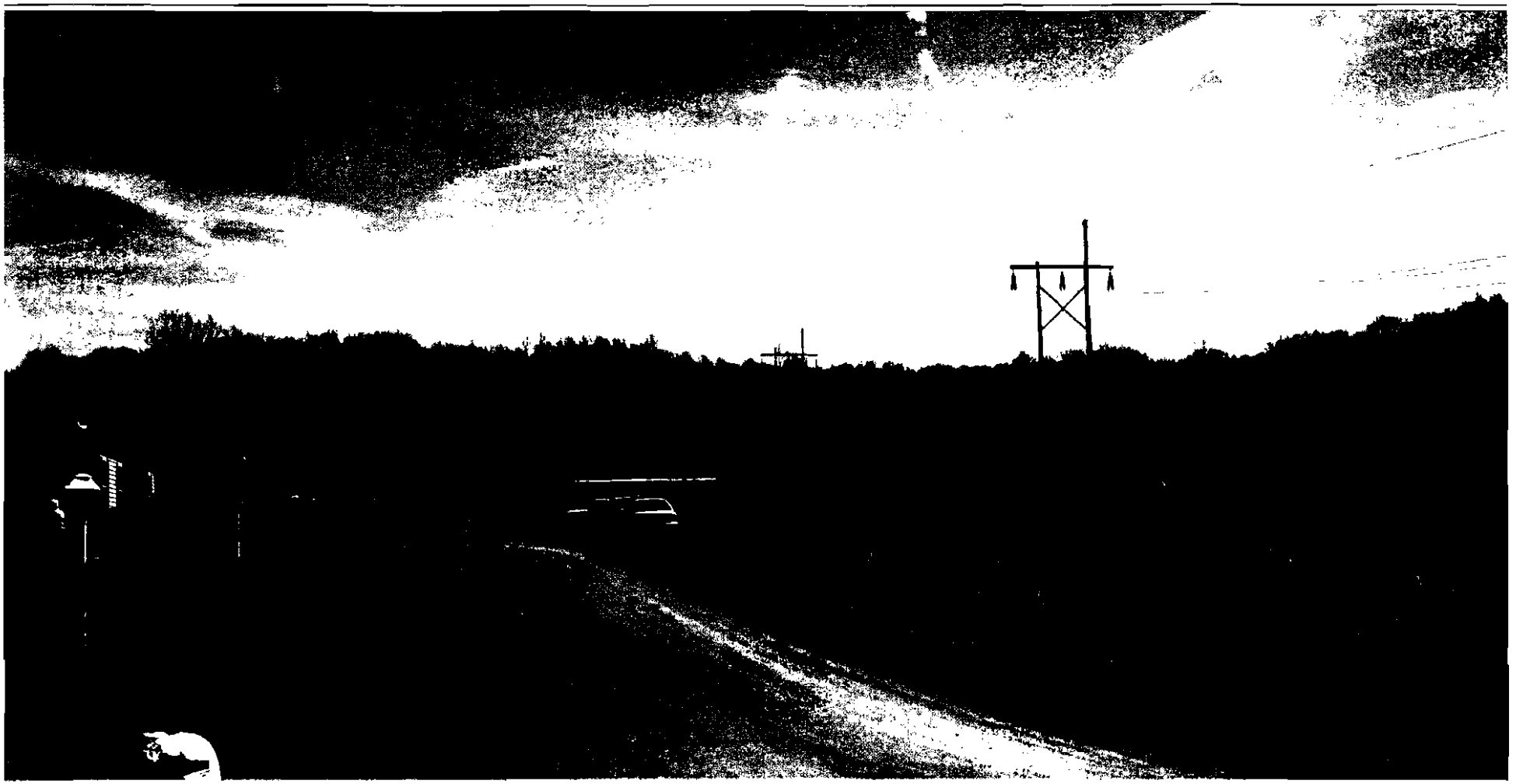
Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A7-b

Photo Simulation
VP#40—NYS Route 98 (Transmission Line Crossing)
Town of Arcade
Transmission Sections 2 and 3



Existing Condition

FIGURE A8-a

Photo Simulation
VP#51—Arcade Valley Estates
Town of Arcade
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

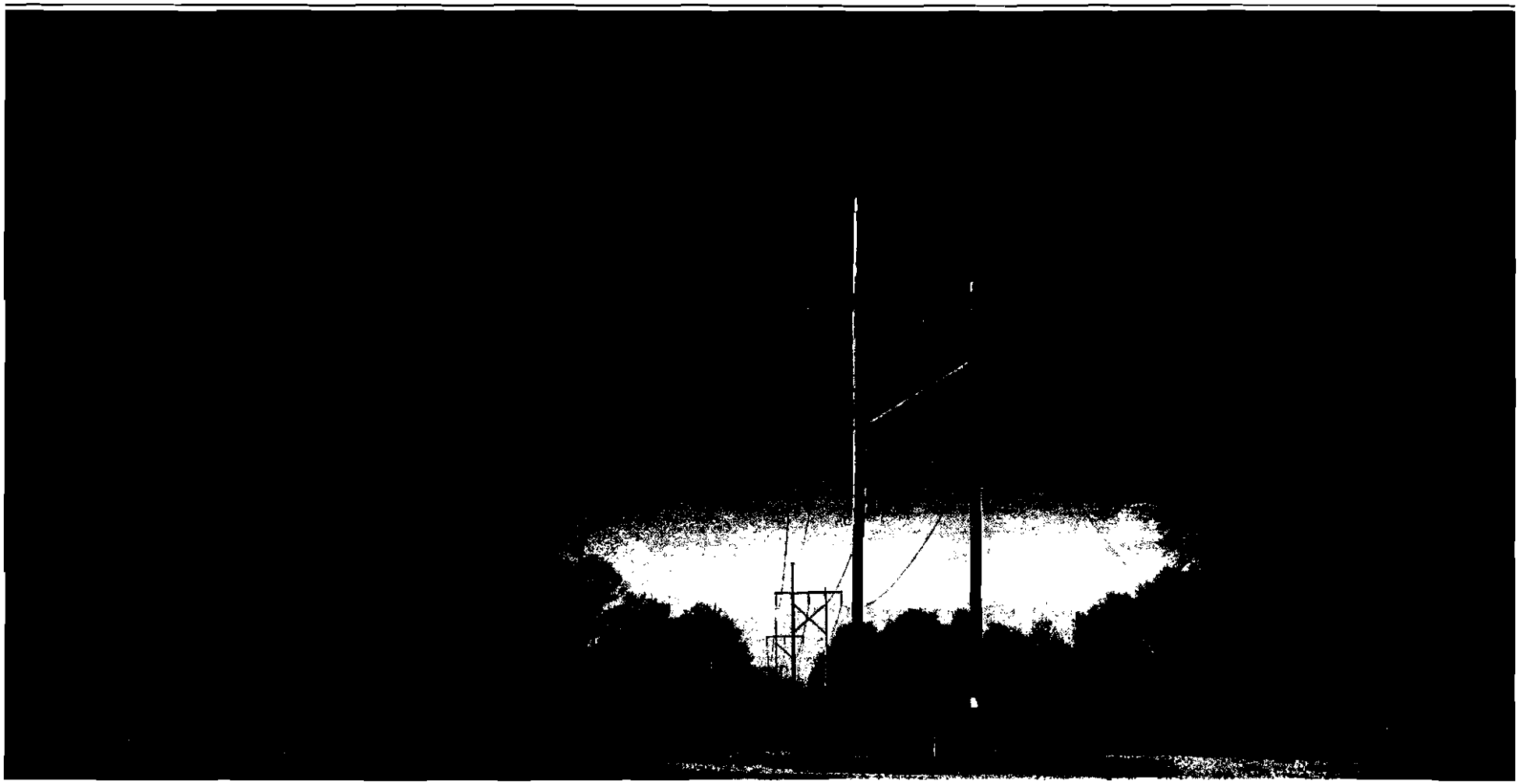
Photo Simulation

FIGURE A8-b

Photo Simulation
VP#51—Arcade Valley Estates
Town of Arcade
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES



Existing Condition

FIGURE A9-a

Photo Simulation
VP#52—NYS Route 16
Town of Yorkshire
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A9-b

Photo Simulation
VP#52—NYS Route 16
Town of Yorkshire
Transmission Section 3

Existing Condition

FIGURE A10-a

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

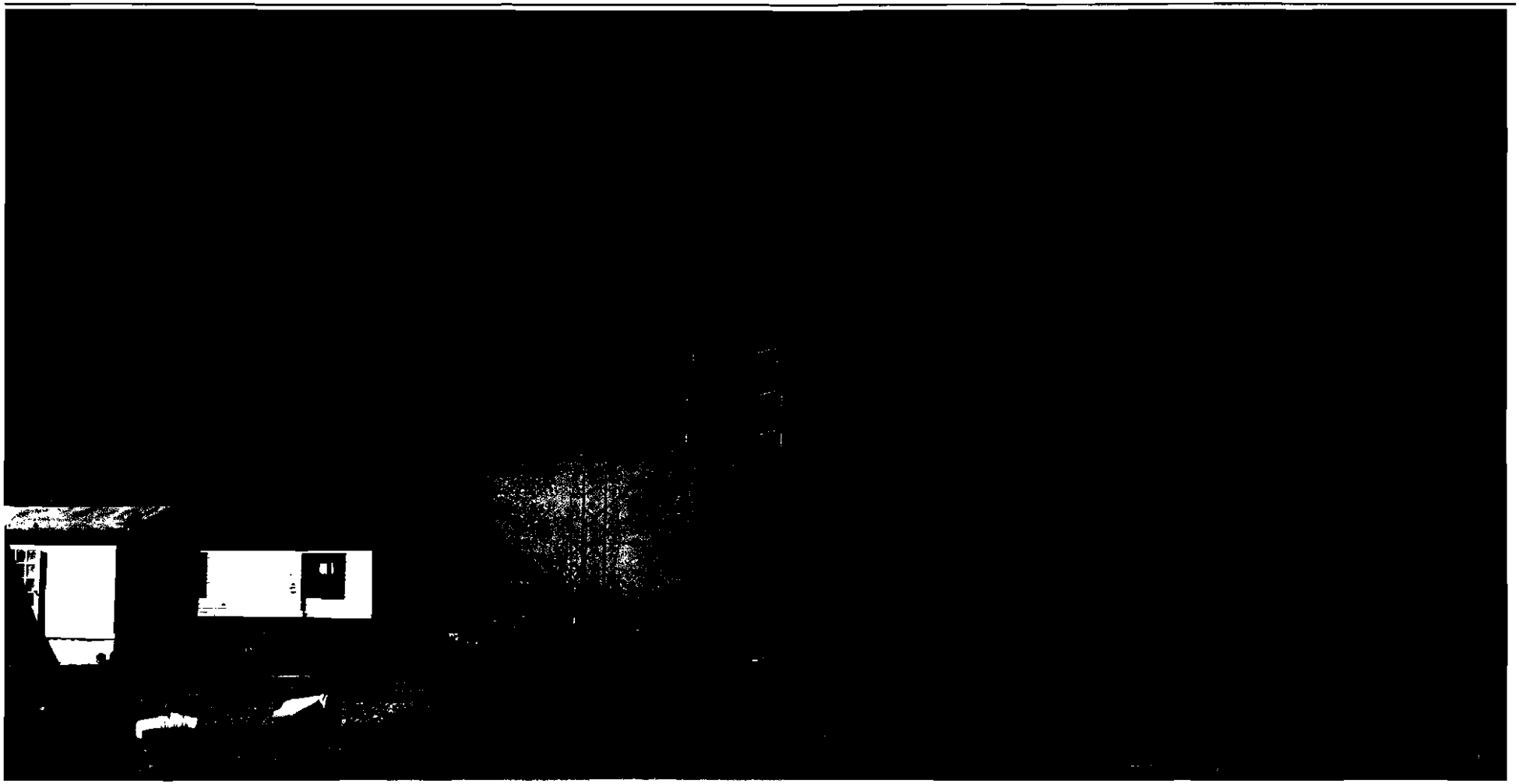


Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A10-b

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3

Existing Condition

FIGURE A10-c

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

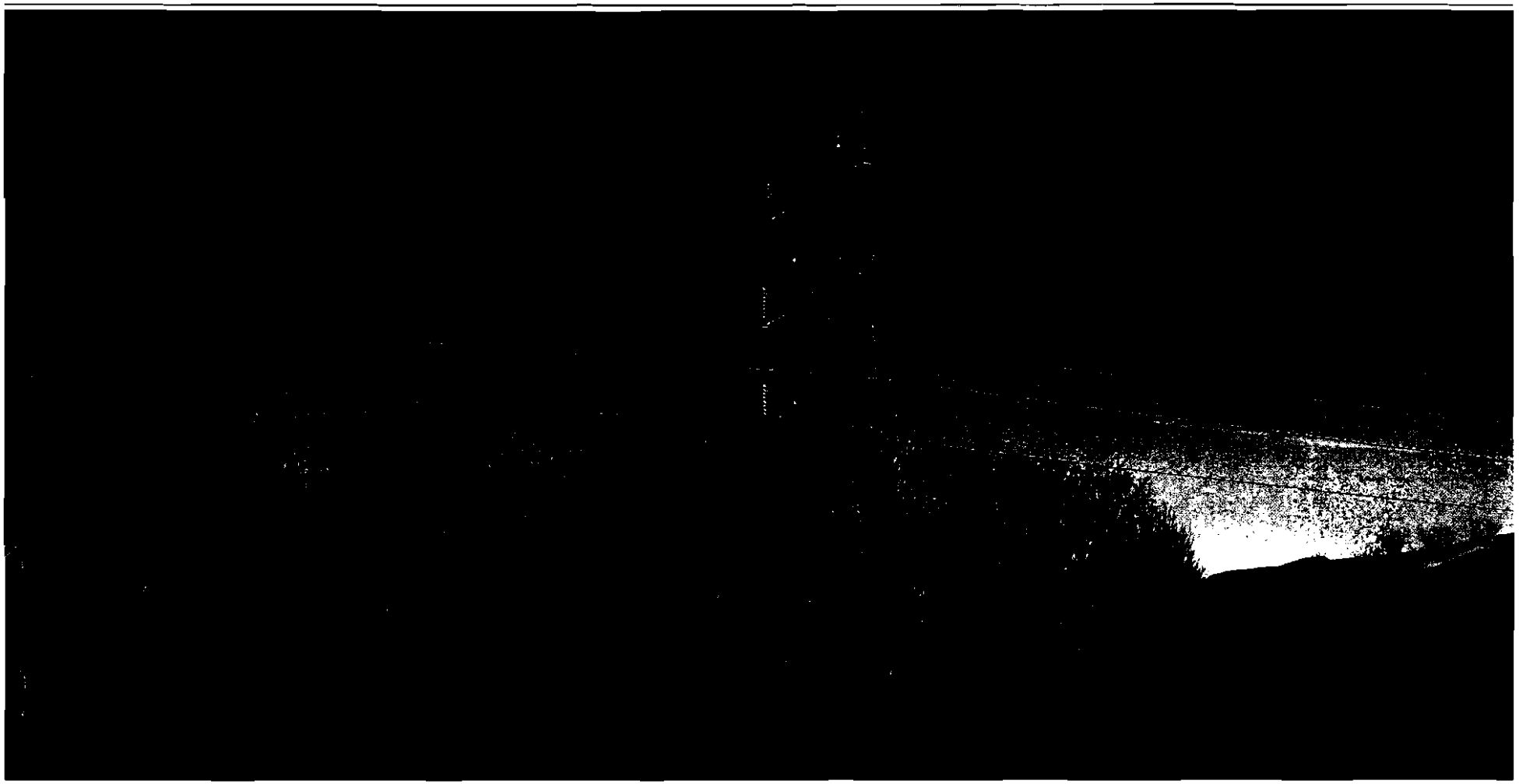


Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A10-d

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3

Existing Condition

FIGURE A10-e

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

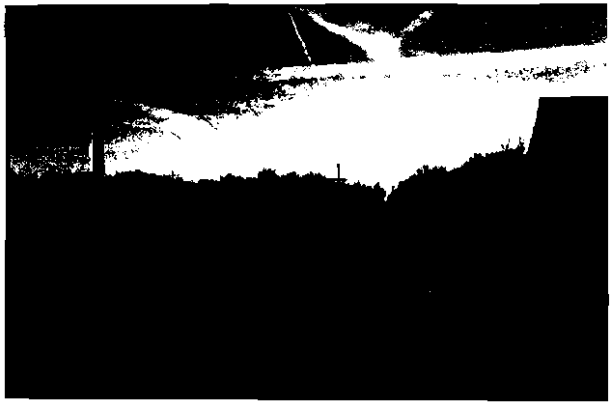
Noble ENVIRONMENTAL POWER

SARATOGA ASSOCIATES

Village of Arcade

FIGURE A10-f

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3



Description Here

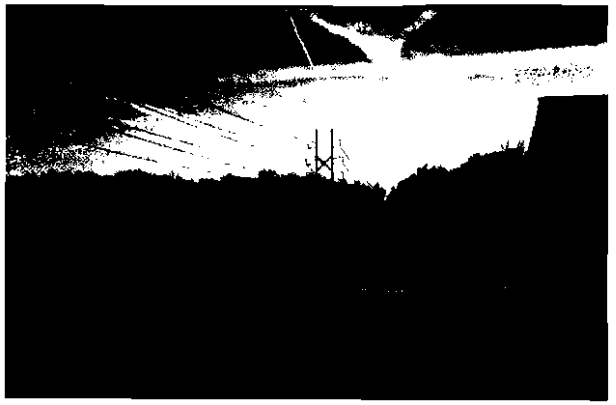


Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A10-g

Photo Simulation
VP#53—Pioneer Estate
Town of Yorkshire
Transmission Section 3

Existing Condition

FIGURE A11-a

Photo Simulation
VP#55 1—Old Olean Road
Town of Yorkshire
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A11-b

Photo Simulation
VP#55.1—Old Olean Road
Town of Yorkshire
Transmission Section 3

Existing Condition

FIGURE A12-a

Photo Simulation
VP#55—Pioneer Central Middle School and High School
Town of Yorkshire
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A12-b

Photo Simulation
VP#55—Pioneer Central Middle School and High School
Town of Yorkshire
Transmission Section 3

Existing Condition

FIGURE A13-a

Photo Simulation
VP#70—NYS Route 39
Village of Arcade
Transmission Section 3

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A13-b

Photo Simulation
VP#70—NYS Route 39
Village of Arcade
Transmission Section 3

MAPS PULLED FROM:

Case: 08.T.0746

Date: 7.1.08 (of)

Specific:

- ☐ Brief
- ☐ Comment
- ☐ Correspondence
- ☐ Exhibit
- ☐ Order
- ☒ Petition
- ☐ Plan
- ☐ Report

Map # 108

Existing Condition

FIGURE A15-a

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

FIGURE A15-b

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Existing Condition

FIGURE A15-c

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation (Including Proposed Noble Allegany Windpark)

FIGURE A15-d

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Existing Condition

Photo Simulation

FIGURE A15-e

Photo Simulation
VP#13—Bray Road
Town of Arcade
Transmission Section 1

Existing Condition

FIGURE A16-a

Photo Simulation
VP#25—Dow Road
Town of Centerville
Transmission Section 1

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

Photo Simulation

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A16-b

Photo Simulation
VP#25—Dow Road
Town of Centerville
Transmission Section 1

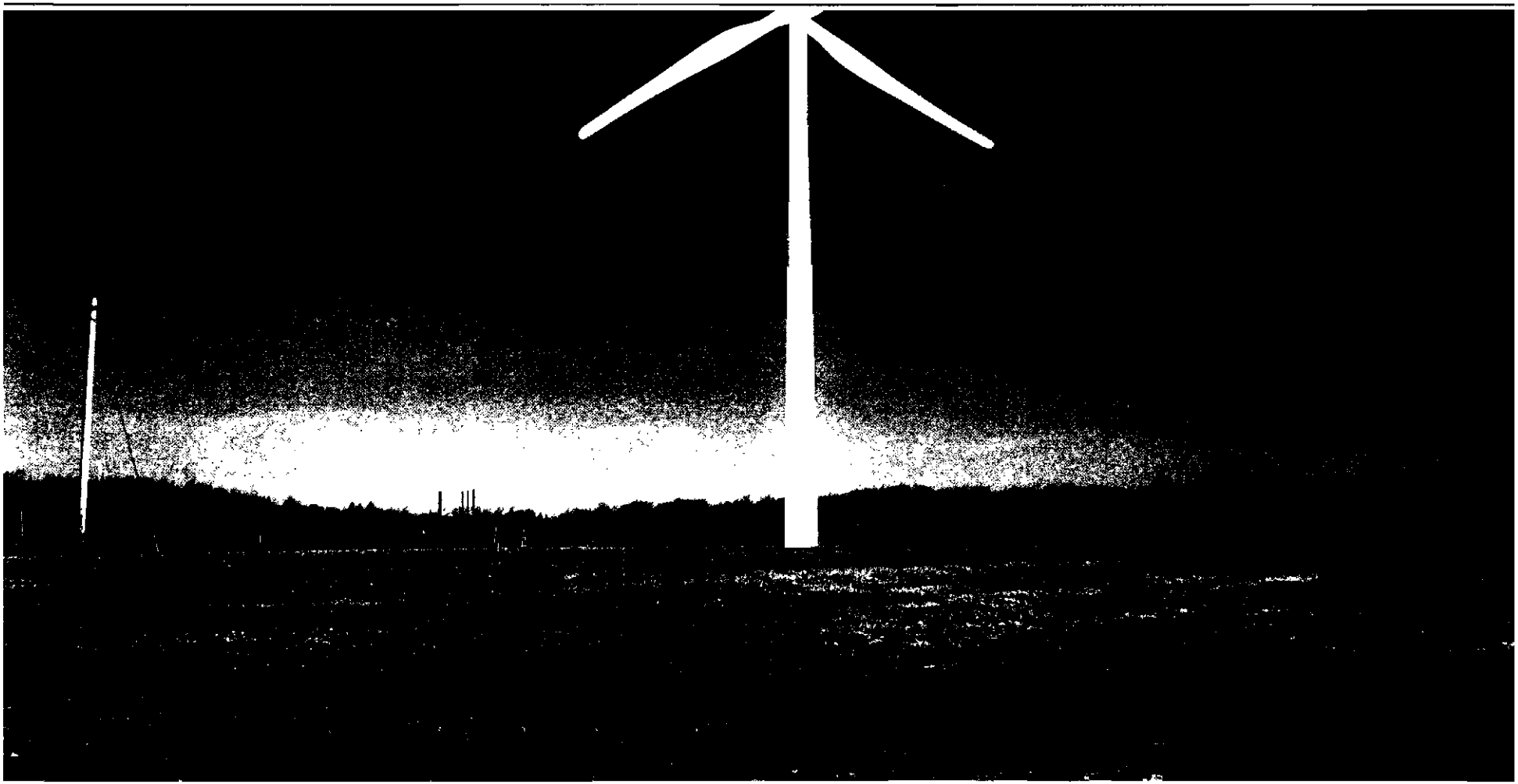


Photo Simulation (Including Proposed Noble Allegany Windpark)

Noble ENVIRONMENTAL POWER **Village of Arcade**

SARATOGA ASSOCIATES

FIGURE A16-c

Photo Simulation
VP#25—Dow Road
Town of Centerville
Transmission Section 1