

BEECH RIDGE WIND FARM –
GREENBRIER COUNTY, WEST VIRGINIA
VISUAL RESOURCE ASSESSMENT

FINAL DRAFT REPORT

OCTOBER 27, 2005

Prepared For:

Invenergy, LLC
3460 Olney-Laytonsville Road, Suite 200
Olney, MD 20832



Invenergy

Beech Ridge Wind Farm Visual Resource Assessment

Table of Contents

Introduction1

Methodology1

 Viewshed Mapping1

 Field Evaluation.....2

 Selection of Viewpoints for Completion of Photo Simulations3

 Photo Simulations4

Analysis4

 Viewshed Mapping4

 Field Evaluation.....5

 Photo Simulations6

Appendices

- Figure 1 - Site Location Map
- Figure 2 - Viewshed Maps
- Figure 3 - Photo Simulations

INTRODUCTION

At the request of Invenergy, LLC (Invenergy), Saratoga Associates Landscape Architects, Architects, Engineers, and Planners, P.C. (Saratoga) was asked to create a series of exhibits in order to illustrate the potential visual impact of a proposed wind farm. This wind farm is known as the Beech Ridge Wind Farm (Project) and is located in northern Greenbrier County, West Virginia (Figure 1). Saratoga completed four (4) viewshed maps, two (2) field evaluations, and five (5) photo simulations. A 20-mile wide Study Area around the proposed site was analyzed.

METHODOLOGY

Below is the methodology used in completing each exhibit.

Viewshed Mapping

The first step in identifying the potential visual impact is to determine the geographic area within which there is a relatively high probability that some portion of the proposed Project would be visible. The potential visibility was determined for each proposed turbine (control point) at its highest point (401.5 feet - tip of blade in upright position) for the entire Study Area. In this evaluation 124 control points were established based upon the location and height of each turbine. The resulting composite viewshed map identifies where any portion of the wind farm may be visible within the Study Area. All viewshed maps created for this Project indicate a range of how many turbines may be visible from a particular location.

The viewshed map (Figure 2: Sheet 1 of 4) was prepared illustrating the probable screening effect caused by topography and existing mature vegetation. The viewshed, although not considered absolutely definitive, acceptably identifies the geographic area within which one would expect the project to be screened. An additional map illustrating this information was also prepared for a 5-mile area (Figure 2: Sheet 2 of 4). This map was produced using the same data for the 20-mile Study Area and depicts potential visibility on a regional scale.

In order to assist in evaluating potential nighttime visibility, Saratoga completed a viewshed map using the approximate height (275 feet) of the FAA required strobe lights (Figure 2: Sheet 3 of 4) as the control point. Although only one-third (approximately) of the turbines will have FAA lighting, this viewshed map incorporates each turbine and illustrates how many light sources may be visible. In addition, a map illustrating this information was also prepared for a 5-mile area (Figure 2: Sheet 4 of 4). Again, this map was produced using the same data for the 20-mile Study Area and depicts potential visibility on a regional scale.

By itself, viewshed maps do not determine the degree of visual impact, but rather identify the geographic area within which there is a relatively high probability that some portion of the proposed project would be visible. Their primary purpose is to assist in determining the potential visibility of the proposed project from various locations throughout the Study Area and from which further analysis is needed.

To construct each viewshed map, publicly available digital topographic and vegetation data sets were acquired by Saratoga and analyzed using ArcView 3D Analyst and ArcGIS software. Viewshed overlays were created by first importing a digital elevation model (DEM) of the Study Area. This DEM, obtained from the United State Geological Survey (U.S.G.S.), is based on 1:24,000-scale U.S.G.S. 7.5' topographic quadrangle maps (10-foot contour intervals) and is accurate to a 10-meter grid cell resolution. The GIS then scanned 360 degrees across this DEM from each control point, distinguishing between grid cells that would be hidden from view and those that would be visible based solely on topography. Areas of the surrounding landscape were identified where each control point would be visible; areas in shadow would not be visible.

Vegetation data was extracted from the Multi Resolution Land Characteristics (MRLC) data set, also obtained through the U.S.G.S. The MRLC data set, produced by the U.S.G.S. EROS Data Center as part of the MRLC Consortium, was developed from Thematic Mapper (TM) LandSat imagery (1992) and is accurate to a 30-meter grid cell resolution. The screening effect of vegetation was then incorporated by adding 40 feet in height to DEM grid cells that are completely forested (according to MRLC data set) and repeating the calculation procedure. Based on field observation, most trees in forested portions of the Study Area are significantly taller than 40 feet. This height thus represents a conservative estimate of the effect of vegetative screening.

It is important to note that the MRLC dataset is based on interpretation of forest areas that are clearly distinguishable from infrared satellite imagery. As such, the potential screening value of site-specific vegetative cover such as small hedgerows and individual trees, and other areas of non-forest tree cover may not be represented in the viewshed maps. It also does not take into account recent deforestation activities and the potential screening value of existing man-made structures (e.g. homes, silos, commercial structures, etc.). With these conditions, the viewshed maps generally are conservative in indicating potential Project visibility in areas where the project may be substantially screened from view. Moreover, the viewshed maps indicate locations in the surrounding landscape in which one or more high points of the proposed Project might be visible. The maps do not imply the magnitude of visibility (i.e., how much of each turbine is visible) or the character of what may be seen.

Field Evaluation

A field reconnaissance was performed, by Saratoga, on August 10-11, 2005 and September 19, 2005 in order to evaluate the accuracy of the viewshed maps, and to identify and photograph potential locations where simulations would best illustrate the project. Once on-site, it was confirmed that topography and existing vegetation screened much of the Project from surrounding areas. Field assessments revealed few locations where a significant number of turbines may clearly be visible with little or no obstructions (absence of screening caused by intervening landform, vegetation, or structures).

During each field review, numerous roadways were traveled and highpoints were visited in order to find representative open views of the Project. The importance placed on the search for open views does not mean that there are not limited or intermittent views of the Project. Opportunities to photograph the Project site during ideal atmospheric conditions (i.e. sunny, clear long distance viewing) were limited by

meteorological conditions typical during the months of May through August [an average of 3.93” of precipitation fell per month (Weather.com)]. Generally, hazy and cloudy conditions prevailed. Weather for each day during the field review consisted of temperatures in the 80’s and 90’s; relatively clear skies, and somewhat hazy conditions typical of summer.

During the September 19, 2005 field evaluation, photographs were taken from 13 publicly accessible locations (see Figure 1). All photos were taken using a digital SLR Canon Rebel EOS with an appropriate lens setting (e.g. 50 mm) that replicates the cone of vision of human eyesight. Specific data was collected at each location including, GPS coordinates (using a Garmin eTrex Legend unit), viewer angle, date/time, and specific viewpoint location information. Views toward the Project site were determined by uploading the latitude and longitude of select mountain high points (i.e. Bee Knob, Blue Knob, Cold Knob, Ellis Knob and Jobs Knob) into the GPS unit, then utilizing its navigation tool. The navigation tool shows the direction towards selected highpoints.

Locations photographed during the field evaluation are identified below.

VP #	Receptor Name
1 and 2	County Route 17 – East of Williamsburg
3	Trout Road – Williamsburg Medical Center
4	Intersection of County Routes 9 and 10
5	Cold Knob
6	County Route 4/5 – Lewisburg
7	Ann Avenue
8	US Route 60 – Sweet Grass Village
9	US Route 60 – North of I-64
10	Intersection of US 60 and County Route 60/12
11 and 12	County Route 223 – South of Highway 39/55
13	Droop Mountain Battlefield State Park

Selection of Viewpoints for Completion of Photo Simulations

As a result of the field evaluations, five (5) locations were chosen for photo simulations. These locations are identified below.

VP #	Receptor name	Approx. distance from nearest turbine	Direction of view
1	County Route 17 – East of Williamsburg	21,314 feet/4.0 miles	Northwest
4	Intersection of County Routes 9 and 10	17,200 feet/3.3 miles	Northwest
10	Intersection of US 60 and County Route 60/12	62,972 feet/12.0 miles	North
11	County Route 223 – South of Highway 39/55	18,375 feet/3.5 miles	Southwest
13	Droop Mountain Battlefield State Park	39,150 feet/7.4 miles	Southwest

Photo Simulations

Views of the Project site were photographically documented from the selected locations identified above. Photographs were taken with a digital SLR camera using a lens setting to simulate normal human eyesight. As previously mentioned, the location of each photograph was recorded using a handheld GPS unit to assure accuracy in setting camera locations for subsequent photographic simulation.

A photo simulation of the proposed Project was prepared from five (5) locations (Figure 1). Photo simulations were developed by superimposing a rendering of a three-dimensional computer model of the proposed Project and existing terrain into the base photograph taken from each corresponding location (Figure 3). The three-dimensional computer model was developed in *Autodesk Architectural Desktop* and *Autodesk Viz (Viz) software*.

Simulated perspectives (*Viz* camera views) were matched to the corresponding base photograph for each simulated view by matching the X, Y and Z coordinates of the field camera position (as recorded by GPS) and the focal length of the camera lens used. The camera's target position was set on known points (e.g. Cold Knob) or by using a compass angle. The horizon of the model was matched to the horizon of the base condition photograph which was displayed as a "viewport background" within the *Viz* camera viewport.

The proposed condition model was rendered at the same output size/digital resolution (3072x2048 pixels) as the base photograph, and using the base photograph as a "*Viz* background environment map." The three-dimensional model was rendered using sunlight settings approximating the date and time of day the base photograph was taken. To the extent practicable, the hazy conditions experienced were replicated using the *Viz* fog tool and incorporated into the photo simulation. Consequently, the scale, alignment, and location of the visible elements provide an adequate representation of the Project. The rendered view was then superimposed into a digital version of the base photograph using *Adobe Photoshop* software for post-production editing (e.g. color correction, fine tuning of model). Mitigation measures and limited tree clearing were not illustrated in the simulations.

ANALYSIS

The following is an analysis of the illustrations that were completed by following the methodology described above.

Viewshed Mapping

After reviewing the prepared viewshed maps, it was concluded that the overall visibility of the proposed Project is minor. Generally, there is little visibility of the Project within 5-miles with a slight increase of visibility between approximately 7 and 18 miles. Within 5-miles of the proposed Project, most visibility occurs in the Trout and Williamsburg area.

Scattered throughout the viewshed, there are a few small pockets of potential visibility, with a minor concentration of potential views of the Project towards the south and southeast of the Project site. This area of concentration tends to follow portions of roadways (e.g. US 219) and adjacent open fields (e.g. agricultural land). However, here the visibility of the Project is expected to be minor.

There are many contributing factors that could cause the number of potential views of the proposed Project to be lessened or even eliminated. These factors include, but are not limited to:

- > Road orientation (i.e. horizontal alignment), and configuration (e.g. “S” curves);
- > Road speeds;
- > Concentration of drivers on road conditions;
- > On-site activities (e.g. farming operations, participating in an active recreational activity) and the concentration to perform such activity;
- > Distance between viewer and turbine(s);
- > Atmospheric conditions; and
- > The slender form and color of the turbine.

In addition, it is important to recognize that the viewshed map does not distinguish the visibility of an entire turbine versus the top 6 inches of a blade. Therefore, the map exaggerates the geographic extent of true visibility.

Field Evaluation

As previously mentioned, once on-site, it was evident that the topography and existing vegetation screened much of the proposed Project from the surrounding area. Between the efforts of Saratoga and Invenergy, the Study Area was visited a number of times throughout 2004 and 2005. These visits resulted in the identification of only a few publicly accessible locations with the potential to afford views of the entire Project without at least some obstruction.

Field reviews revealed that views of the proposed Project would be limited confirming the discussion and characterizations of the viewshed analysis. Generally, potential opportunities to view the Project were confirmed to exist on the eastern half of the Study Area. These locations include, but are not limited to, the Trout/Williamsburg area, Droop Mountain Battlefield State Park overlook (views of the Project were confined to the overlook), County Route 223 overlook, segments of US 219 and US 60, and north and west of Lewisburg. Except for the County Route 223 and the Droop Mountain Battlefield State Park overlooks, views of the Project site were limited.

Although the Project would be visible from other locations, visibility from the western half of the Study Area appears to be extremely limited. Potential views in this area were fleeting and often screened.

While evaluating the Study Area, Saratoga noted that many County Routes were very narrow, winding and, in many locations enclosed by mature vegetation. For the motoring public it will be hard to gaze towards the project due to the concentration needed to navigate the curving roadways. While this is especially true for those unfamiliar with the roadways (e.g. tourists), it is also true for experienced

travelers (e.g. residents, commuters). In addition, distance and atmospheric conditions (e.g. haze, fog, rain) will further reduce visibility of the Project for all categories of observers.

Photo Simulations

As previously mentioned, Saratoga searched for the most open, unobstructed views of the Project site. These were limited, but nevertheless occurred and were located. Saratoga constructed simulations of the proposed Project from five (5) locations with unobstructed views of the Project site. Only one opportunity to view a significant portion of the Project was discovered - most views contained only a limited number of turbines. In addition to simulating the proposed Project with unobstructed views, viewpoint locations at varying distances were also selected in order to illustrate the affect of distances and atmospheric conditions. A brief description of the simulated views of the Project is provided below.

Viewpoint #1: County Route 17 0- East of Williamsburg

This is a northwest view from a cemetery located approximately 21,314 feet (4.0 miles) from the closest proposed turbine. Less than 10% (approximately) of the proposed Project is visible from this viewpoint. The view contains Nunly Mountain, open fields, structures (e.g. homes, barns, etc.), evidence of logging operations, and groupings of mature trees and established hedgerows. This is a fairly typical view of the proposed Project site, where available, and it demonstrates that topography and vegetation help screen the majority of the proposed Project from the casual observer.

However, as the simulation illustrates there is a potential to view a small number of proposed turbines. These turbines generally follow the ridgeline of Nunly Mountain and, may therefore, draw the attention of some viewers. However, their visual dominance in the landscape is reduced by the distance between them and the viewer. In addition, the visual proximity of foreground vegetation and vertical elements (e.g. fence posts) also compete for viewer attention.

This simulation shows how impacts are reduced due to their color, slender form and layout (avoidance of concentration of turbines in one area). In addition, atmospheric conditions also serve to reduce the visibility of the proposed turbines.

Viewpoint #4: Intersection of County Routes 9 and 10

This is a northwest view from the intersection of two County Routes located approximately 17,200 feet (3.3 miles) from the closest proposed turbine. Less than 13% (approximately) of the proposed Project is visible from this viewpoint. The view contains Cold Knob and associated ridgeline, open fields, structures (e.g. homes, barns, silos, etc.), and groupings of mature trees and established hedgerows. Similar to Viewpoint #1, this is a fairly typical view of the proposed Project site, where available.

The simulation illustrates that there is a potential to view a small number of proposed turbines. These turbines generally follow the ridgeline of Cold Knob Mountain and may therefore draw the attention of a viewer. Similar to Viewpoint #1, the proposed turbines, while skylined,

nevertheless, have competing foreground elements (e.g. vegetation and fence posts) that draw the attention of observers.

Topography and vegetation help screen the majority of the proposed Project from the viewer. As is most often the case, the potential impact of the turbines visible in the simulation is reduced due to color, their slender form and layout (avoidance of concentration of turbines in one area). Turbines located below the ridgeline are less noticeable due to the darker and patterned background, when compared to those that break the ridgeline. In addition, atmospheric conditions can also reduce the visibility of the proposed turbines.

Viewpoint #10: Intersection of US 60 and County Route 60/12

This is a northerly view from the intersection of US 60 and County Route 60/12 located approximately 62,972 feet (12.0 miles) from the closest proposed turbine. Less than 10% (approximately) of the proposed Project is visible from this viewpoint. The view contains various landforms (e.g. Miller Ridge), open fields, structures (e.g. homes, barns, silos, etc.), and groupings of mature trees and established hedgerows visible from this location. This is an example of long distance views of the proposed Project site, where available.

The simulation illustrates that from this location there is a potential to view a small number of proposed turbines generally located west of Miller Ridge. They appear as faint, light colored vertical elements. Without prior knowledge of where to look and what to look for, it is likely that most viewers would not be significantly impacted by the view of the proposed Project; the visual impact of the turbines are substantially reduced by the optical effects of size and atmospheric perspective.

Viewpoint #11: County Route 223 – South of Highway 39/55

This is a southwest view overlooking the Project site from just off of County Route 223. This location is approximately 18,375 feet (3.5 miles) from the closest proposed turbine. Approximately 70% of the proposed Project is visible from this viewpoint. The view contains numerous ridgelines and mountaintops, open fields, groupings of mature trees and established hedgerows, large vegetated forests, and remnants of past logging activities (e.g. clear-cutting of forested areas). This is one of the few locations where a high number of proposed turbines may be visible. It should be mentioned that although this location offers a panoramic and scenic view of the Project site, it lacks vehicular access and is not identified as publicly accessible.

The turbines depicted in the simulation are generally located above Sugartree Bench Mountain and appear as faint, light colored vertical elements. The simulation illustrates that there is a potential to view a significant number of proposed turbines from the location selected. From here, those turbines located below the ridgeline are less noticeable due to the darker and patterned background, especially when compared to those that break the ridgeline. Those that break ridgeline also follow the contours of the landform and therefore, act in concert with the linearity and verticality of the ridgeline.

From this location topography and vegetation screen the base of the majority of turbines. This overlook effect serves to diminish the visual dominance of the turbines. In addition, the potential impact of those turbines visible in the simulation is further reduced by their color, slender form, and in this instance atmospheric condition.

Viewpoint #13: Droop Mountain Battlefield State Park

This is a southwest view overlooking the Project site from an overlook on the Droop Mountain Battlefield State Park. This location is approximately 39,150 feet (7.4 miles) from the closest proposed turbine. Less than 7% (approximately) of the proposed Project is visible from this viewpoint. This view contains various ridgelines and mountains, and dense vegetated forests. The view of the Project is confined to an overlook that is accessible via a walking trail. Although there is a panoramic and scenic view towards the Project site, there are relatively few proposed turbines visible from this location.

Those turbines located below the ridgeline are less noticeable due to the darker and patterned background, especially when compared to those that break the ridgeline. Similarly to Viewpoint #11 those turbines that break ridgelines follow the contours of the landform and do not conflict with their linearity. Although it is likely that the turbines will draw the attention of viewers, the distance to the viewer reduces their apparent size and visual clarity.

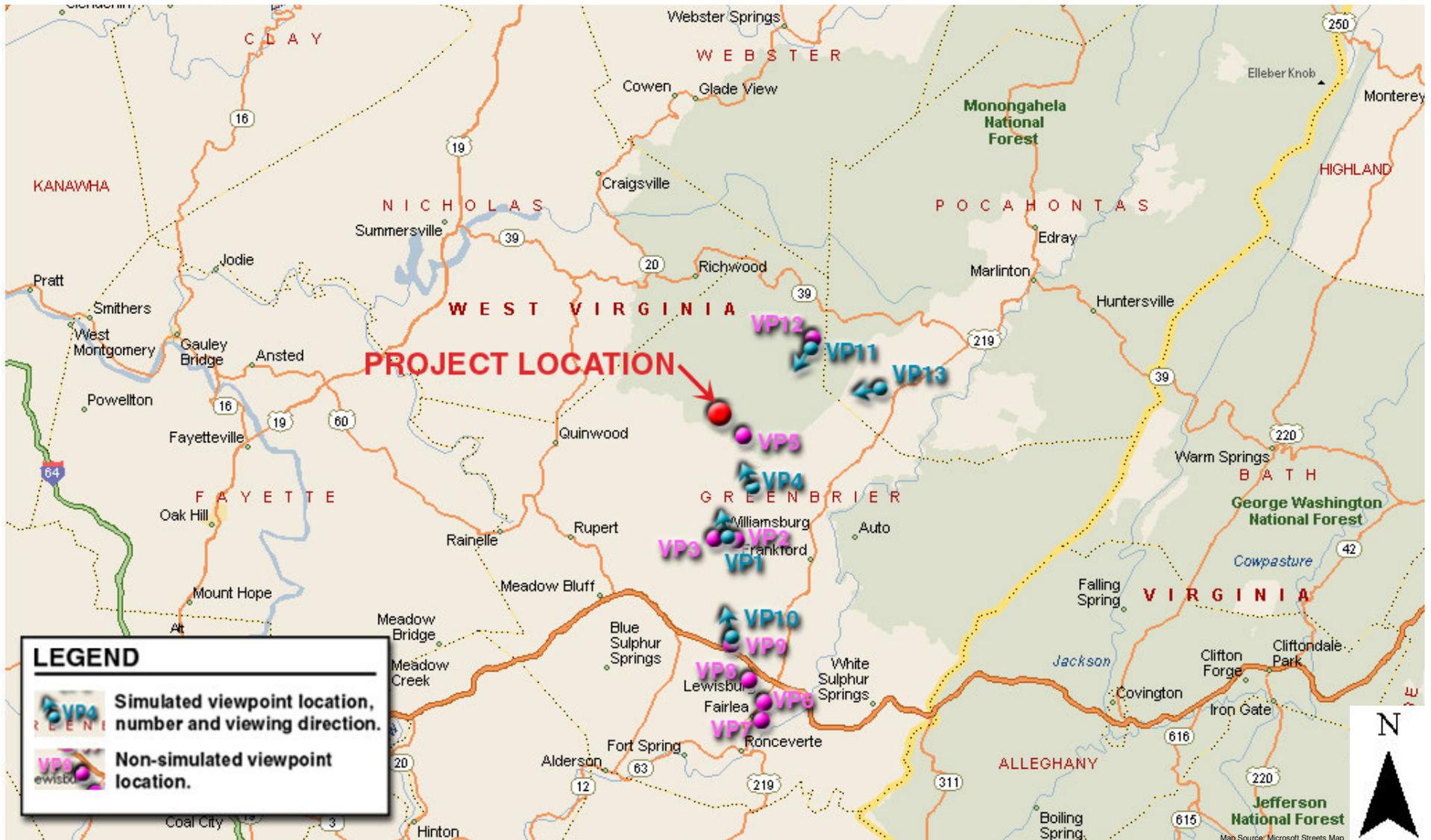
Topography (e.g. Jacox Knob) and vegetation screen the majority of the Project site from the viewer. In addition, the potential impact of those turbines that are shown in the simulation is further reduced by their color and slender form.

Combined, these simulations depict both typical views and those locations with a potential to view a large number of turbines. Generally, the following can be concluded:

1. With few exceptions only a small portion (less than 15%) of the proposed Project will be seen from most views even those that are most open;
2. The vertical form of the turbines are similar to existing landscape elements (e.g. silos, utility poles, fence posts, building edges);
3. From most locations vegetation and topography screen a significant portion of the proposed Project;
4. Turbine form, color, and layout reduce the potential visual impact;
5. The optical effects of distance reduce the visibility and dominance of the proposed turbines; and
6. The effects of past, current and future logging operations detract from the aesthetic value of existing views.

Appendices

**Figure 1:
Site Location Map**



Notes: Project location represents the center of the proposed project. For location of individual turbine locations and 20-mile Study Area, please refer to Viewshed Maps.

SCALE: N.T.S.

SARATOGA
ASSOCIATES

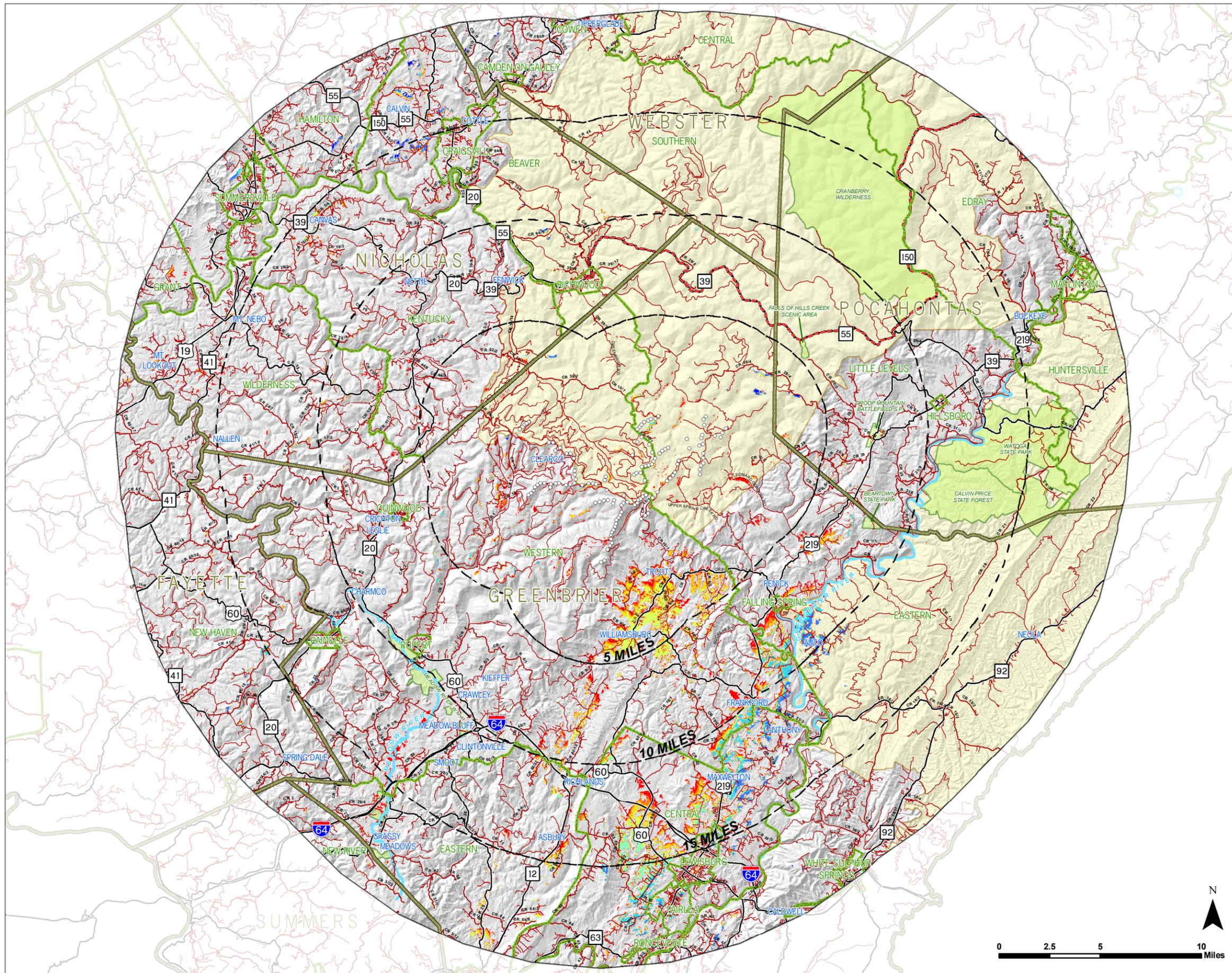
Invenergy

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Figure 1
Site Location Map
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment

**Figure 2:
Viewshed Maps**



BEECH RIDGE WINDFARM BLADE TIP VIEWSHED (401.5' HEIGHT)

Maximum Turbine Layout (124 WTG)
Figure 2: Sheet 1 of 4

KEY

TURBINES VISIBLE (401.5' HEIGHT)

- 1 - 10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-75
- 76-100
- 101-124
- WIND TURBINE LOCATIONS
- 20 MILE STUDY AREA
- MUNICIPAL BOUNDARIES
- COUNTY BOUNDARIES
- STATE/FED. HWYS, MAJOR COUNTY RTS
- COUNTY ROUTES
- LOCAL ROADS
- HIGHLAND NATIONAL SCENIC HIGHWAY
- MAJOR RIVERS
- SCENIC AND RECREATIONAL RESOURCES
- MONONGAHELA NATIONAL FOREST

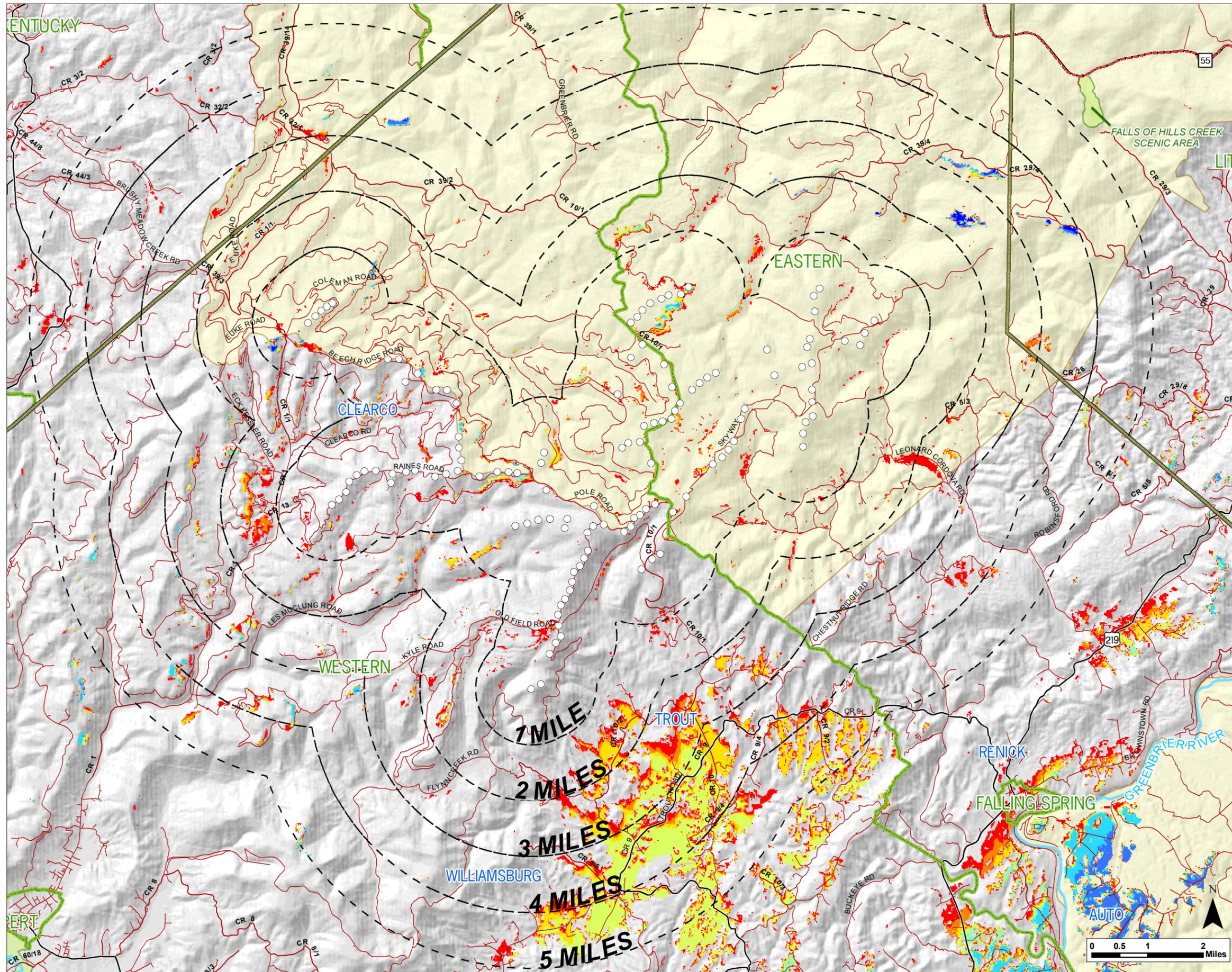
PROJECT # 05042.10M
Copyright © 2005 Saratoga Associates. All Rights Reserved.
This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or Inad surveys are required.

File Location: S:\GIS\05042\Wiewshed - Topo Only.mxd

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.
BOSTON > NEW YORK > SARATOGA SPRINGS

Invenergy



BEECH RIDGE WINDFARM BLADE TIP VIEWSHED (401.5' HEIGHT)

Maximum Turbine Layout (124 WTG)
Figure 2: Sheet 2 of 4

KEY

TURBINES VISIBLE (401.5' HEIGHT)

- 1 - 10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-75
- 76-100
- 101-124
- WIND TURBINE LOCATIONS
- MUNICIPAL BOUNDARIES
- COUNTY BOUNDARIES
- STATE/FED. HWYS, MAJOR COUNTY RTS
- COUNTY ROUTES
- LOCAL ROADS
- MAJOR RIVERS
- SCENIC AND RECREATIONAL RESOURCES
- MONONGAHELA NATIONAL FOREST

PROJECT # 05042.10M
Copyright © 2005 Saratoga Associates. All Rights Reserved.

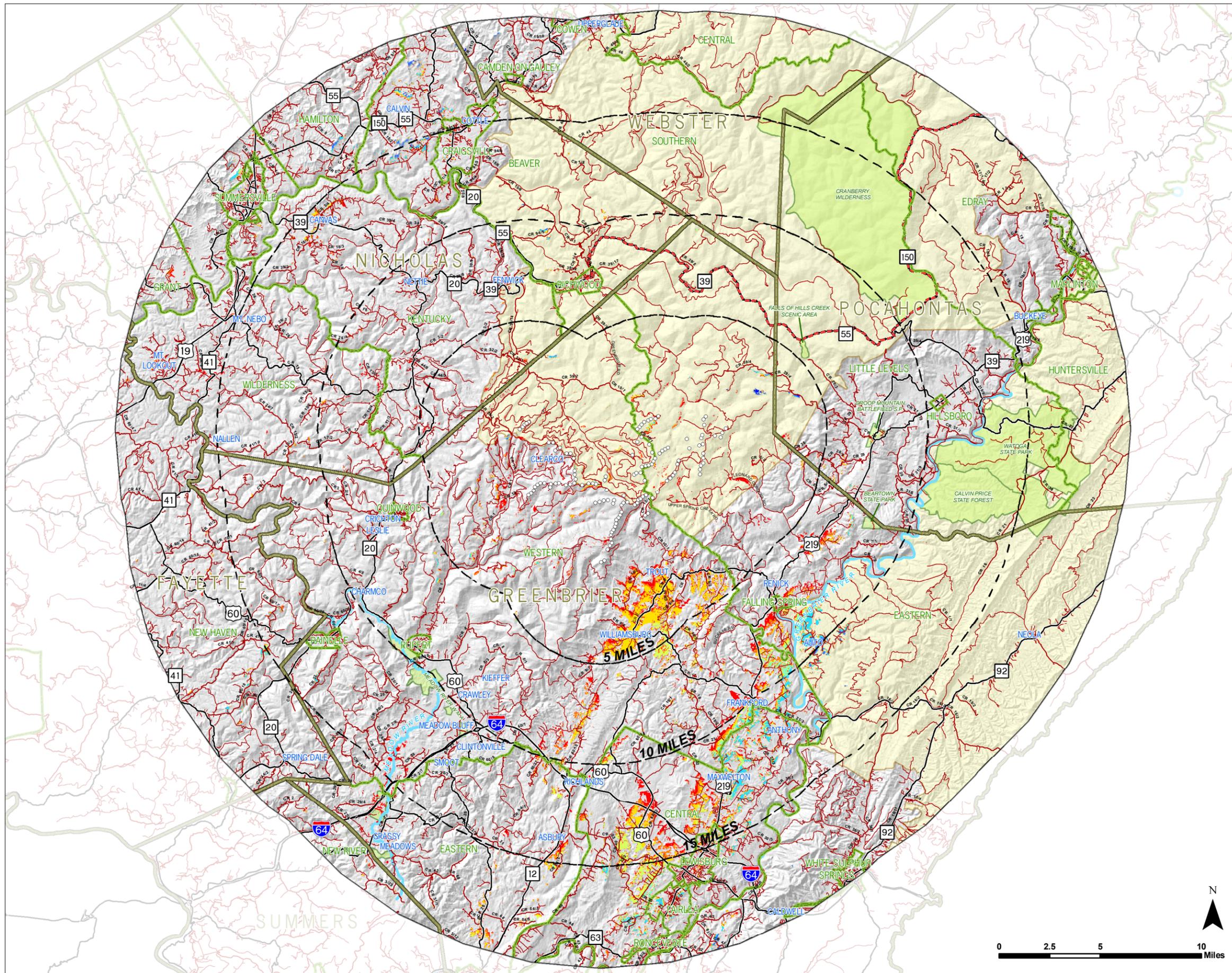
This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or Inad surveys are required.

File Location: S:\GIS\05042\Alt Interval Viewshed - Vegetated.mxd

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.
BOSTON > NEW YORK > SARATOGA SPRINGS

Invenergy



BEECH RIDGE WINDFARM HUB HEIGHT VIEWSHED (275' HEIGHT)

Maximum Turbine Layout (124 WTG)
Figure 2: Sheet 3 of 4

KEY

TURBINES VISIBLE (275' HEIGHT)

- 1 - 10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-75
- 76-100
- 101-124
- WIND TURBINE LOCATIONS
- 20 MILE STUDY AREA
- MUNICIPAL BOUNDARIES
- COUNTY BOUNDARIES
- STATE/FED. HWYS, MAJOR COUNTY RTS
- COUNTY ROUTES
- LOCAL ROADS
- HIGHLAND NATIONAL SCENIC HIGHWAY
- MAJOR RIVERS
- SCENIC AND RECREATIONAL RESOURCES
- MONONGAHELA NATIONAL FOREST

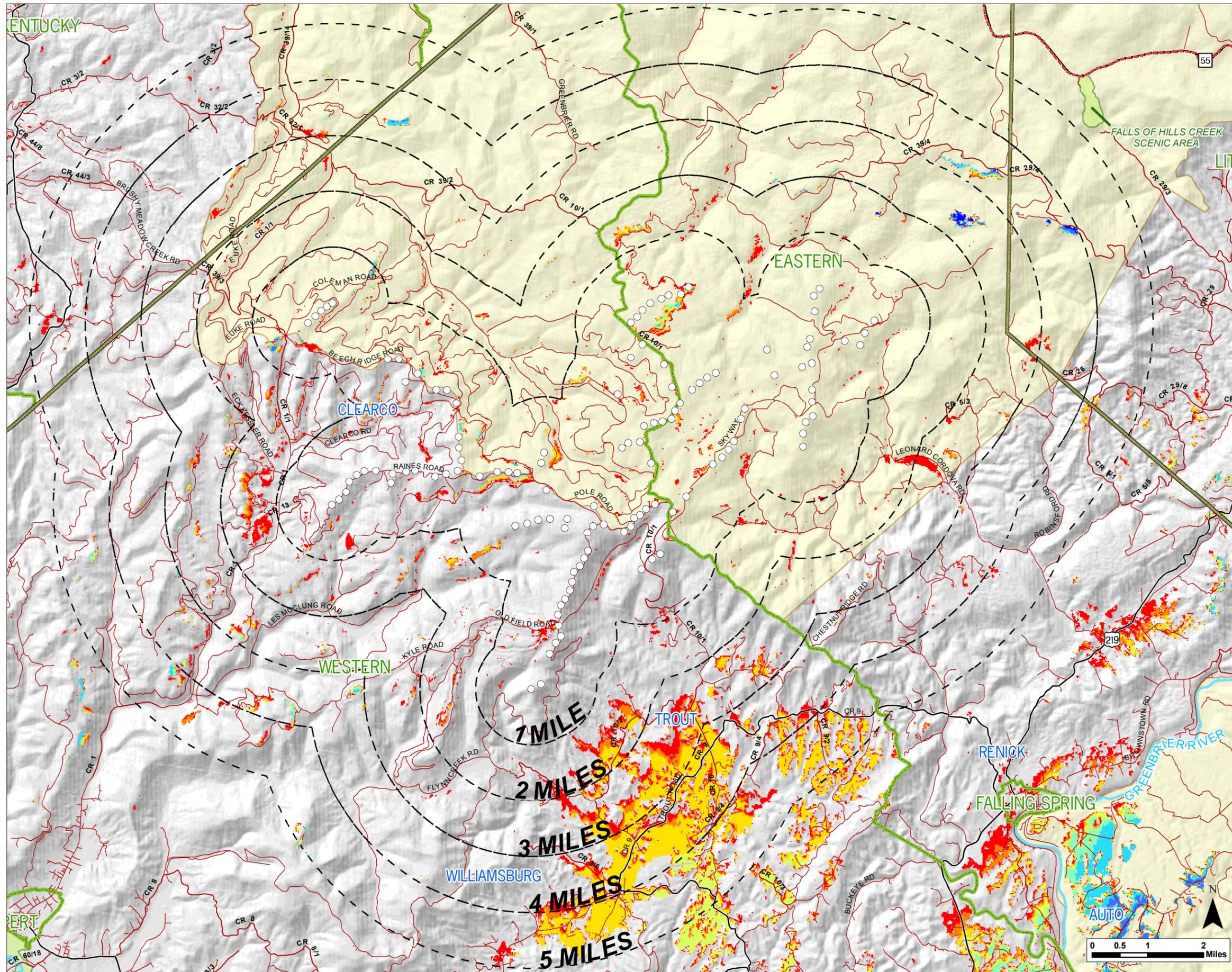
PROJECT # 05042.10M
Copyright © 2005 Saratoga Associates. All Rights Reserved.
This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or Inad surveys are required.

File Location: S:\GIS\05042\Wiewshed - Topo Only.mxd

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.
BOSTON > NEW YORK > SARATOGA SPRINGS

Invenergy



BEECH RIDGE WINDFARM HUB HEIGHT VIEWSHED (275' HEIGHT)

Maximum Turbine Layout (124 WTG)
Figure 2: Sheet 4 of 4

KEY

TURBINES VISIBLE (275' HEIGHT)

- 1 - 10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-75
- 76-100
- 101-124

- WIND TURBINE LOCATIONS
- MUNICIPAL BOUNDARIES
- COUNTY BOUNDARIES
- STATE/FED. HWYS, MAJOR COUNTY RTS
- COUNTY ROUTES
- LOCAL ROADS
- MAJOR RIVERS
- SCENIC AND RECREATIONAL RESOURCES
- MONONGAHELA NATIONAL FOREST

PROJECT # 05042.10M
Copyright © 2005 Saratoga Associates. All Rights Reserved.
This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or Inad surveys are required.

File Location: S:\GIS\05042\Alt Interval Viewshed - Vegetated_275Ht.mxd

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.
BOSTON > NEW YORK > SARATOGA SPRINGS

Invenergy

**Figure 3:
Photo Simulations**



Existing Condition

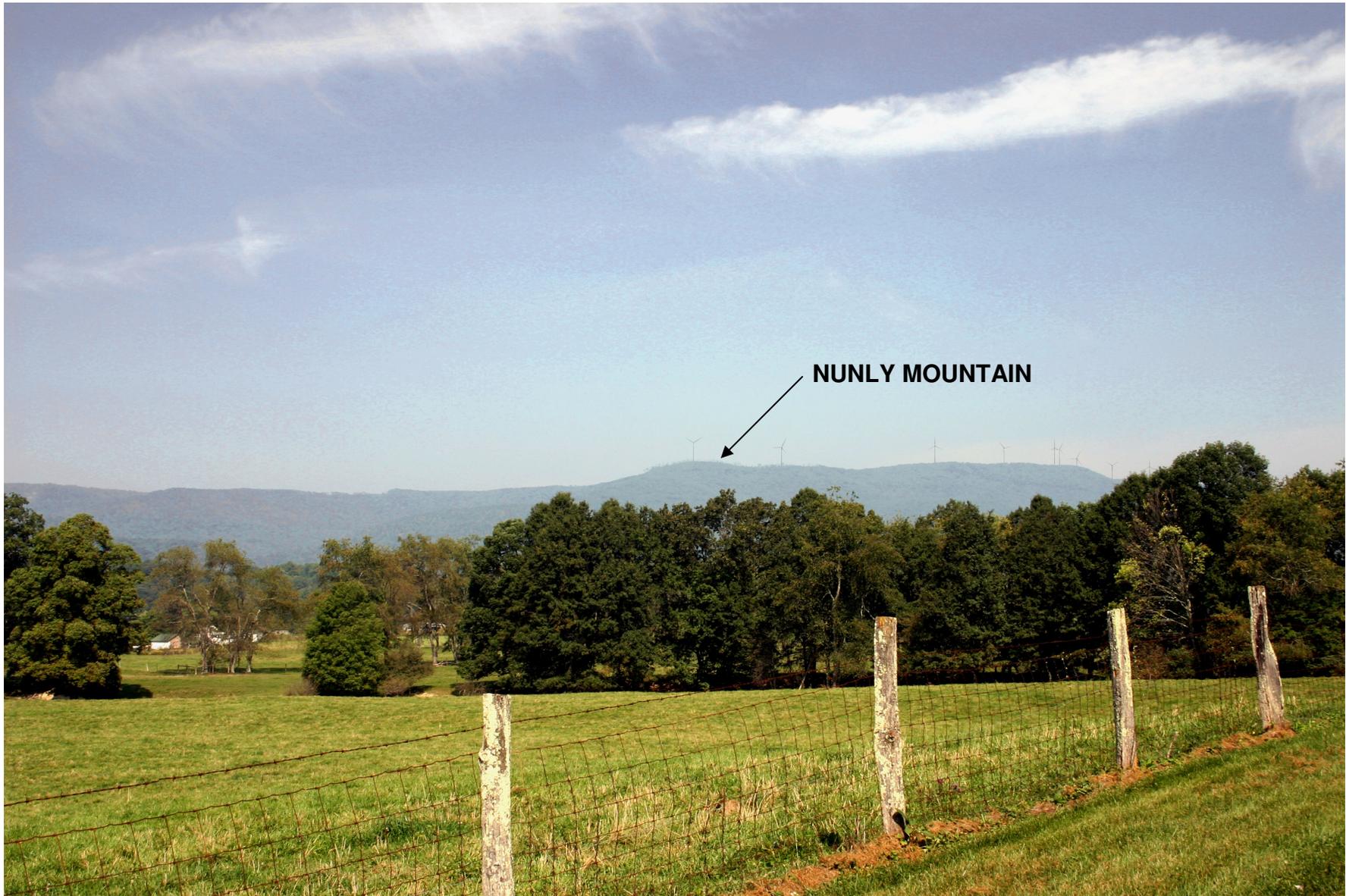
Note: Photo taken on September 19, 2005 at approximately 10:35 a.m.

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 1 of 10
Photo Simulation: VP#1 — CR 17—East of Williamsburg
October 27, 2005



NUNLY MOUNTAIN

Note: The closest turbine is approximately 4.0 miles from the viewer.

Simulation

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 2 of 10
Photo Simulation: VP#1 — CR 17—East of Williamsburg
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment



Existing Condition

Note: Photo taken on September 19, 2005 at approximately 11:00 a.m.

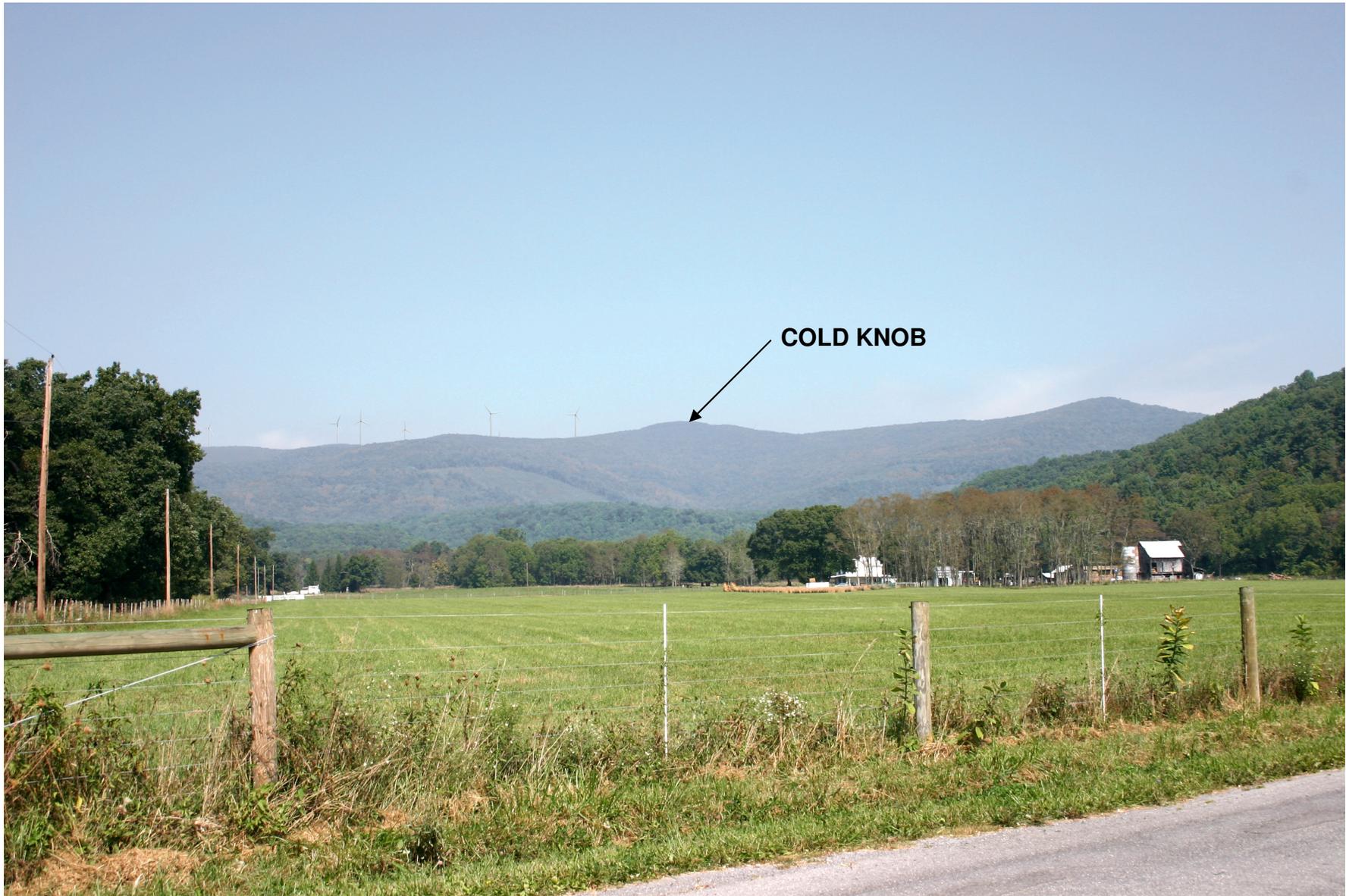
SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 3 of 10
Photo Simulation: VP#4 — Intersection of CR 9 and 10
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment



COLD KNOB

Simulation

Note: The closest turbine is approximately 3.3 miles from the viewer.

SARATOGA
ASSOCIATES

Invenergy

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Figure 3: Sheet 4 of 10
Photo Simulation: VP#4 — Intersection of CR 9 and 10
October 27, 2005



Existing Condition

Note: Photo taken on September 19, 2005 at approximately 2:00 p.m.

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 5 of 10
Photo Simulation: VP#10 — Intersection of US 60 and County Route 60/12
October 27, 2005



MILLER RIDGE

Note: The closest turbine is approximately 12.0 miles from the viewer.

Simulation

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 6 of 10
Photo Simulation: VP#10 — Intersection of US 60 and County Route 60/12
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment



Existing Condition

Note: Photo taken on September 19, 2005 at approximately 3:25 p.m.

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 7 of 10
Photo Simulation: VP#11 — County Route 223—South of Highway 39/55
October 27, 2005



SUGARTREE BENCH MOUNTAIN

Note: The closest turbine is approximately 3.5 miles from the viewer.

Simulation

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 8 of 10
Photo Simulation: VP#11 — County Route 223—South of Highway 39/55
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment



Existing Condition

Note: Photo taken on September 19, 2005 at approximately 4:10 p.m.

SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Invenergy

Figure 3: Sheet 9 of 10
Photo Simulation: VP#13 — Droop Mountain Battlefield State Park
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment



JACOX KNOB

Simulation

Note: The closest turbine is approximately 7.4 miles from the viewer.

SARATOGA
ASSOCIATES

Invenergy

Landscape Architects, Architects,
Engineers, and Planners, P.C.

Figure 3: Sheet 10 of 10
Photo Simulation: VP#13 — Droop Mountain Battlefield State Park
October 27, 2005

Beech Ridge Wind Farm — Visual Resource Assessment