



# Historic Resources Effects Analysis

## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Prepared for:

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NYS DPS Case 17-F-0182

NYSOPRHP Project Review Number 17PR06371

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## 1.0 INTRODUCTION

### 1.1 Purpose of the Investigation

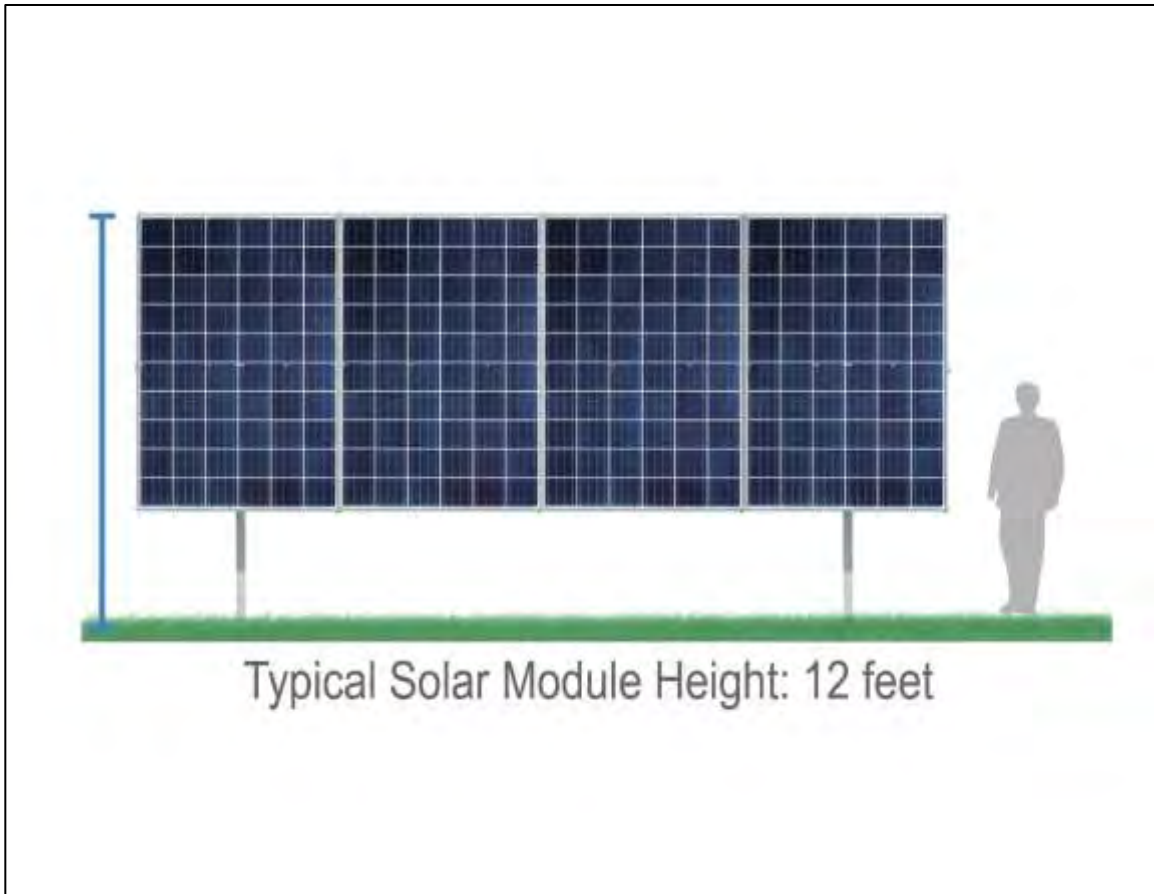
On behalf of Mohawk Solar LLC (“Mohawk Solar” or the “Applicant”), a wholly-owned subsidiary of Avangrid Renewables, LLC (“Avangrid”), Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) prepared this historic resources effects analysis for Mohawk Solar, a proposed utility-scale solar project (or, the Facility), located in the Towns of Canajoharie and Minden, Montgomery County, New York (see Figure 1). The purpose of the effects analysis is to evaluate the Facility’s potential effect on historic resources listed in or eligible for listing in the State and National Register of Historic Places (S/NRHP). The information included in this effects analysis is intended to assist the Department of Public Service (DPS), the New York State Office of Parks, Recreation and Historic Preservation/State Historic Preservation Office (NYSOPRHP/SHPO), and other interested agencies and parties in their review of the proposed Facility in accordance with Article 10 (Certification of Major Electrical Generating Facilities) of the New York State Public Service Law, as well as Section 14.09 of the New York State Parks, Recreation, and Historic Preservation Law and/or Section 106 of the National Historic Preservation Act, as applicable. Please note that this report addresses only historic architectural resources; information concerning the Facility’s potential effect on archaeological resources is being provided to NYSOPRHP/SHPO under separate cover.

The following terms are used throughout this document to describe the proposed project:

<u>Facility:</u>	Collectively refers to all components of the proposed project, including PV panels and support structures, inverters, access roads, buried and above ground collection lines, a gen-tie line, a substation, and staging areas.
<u>Facility Site:</u>	Those parcels currently under, or being pursued, for lease (or other real property interests) with the Applicant for the location of all Facility components. The Facility Site totals approximately 2,361 acres.
<u>Historic Resources</u>	The area within five miles of all Facility components, as well as additional areas defined as a result of agency and stakeholder correspondence (described in Section 1.3 of this report).
<u>Study Area:</u>	

### 1.2 Facility Location and Description

Mohawk Solar LLC, a wholly-owned subsidiary of Avangrid Renewables, LLC, is proposing to construct Mohawk Solar (or, the Facility), a 90.5-megawatt photovoltaic (“PV”) solar energy generating project located within the Towns of Canajoharie and Minden in Montgomery County, New York (see Figure 1). The Facility will be sited on approximately 2,361 acres of leased private land within the Facility Site, which consists primarily of agricultural land. The proposed components of the Facility are illustrated in Figure 2 and summarized briefly below:



Inset 1. Height comparison of a typical PV panel and the average person.

- 37 arrays of photovoltaic (PV) panels. These arrays are sited throughout the Facility in individual areas that would be enclosed by chain link fencing, and range in size from 1.5 to 63 acres. In total, the PV arrays total approximately 530 acres within the approximately 2,360-acre Facility Site. The PV arrays will produce direct current (DC) electricity and will be mounted on single-axis tracking structures that will follow the sun throughout the day. The height of the panels will vary as the structures tilt to follow the sun throughout the day, but the typical maximum height of the structures when at their tallest position will be approximately 11 feet (note the height will be variable given undulations in the existing terrain) (see Inset 1, above).
- A medium voltage collection system that will deliver power from the PV panels to the collection substation. The collection system includes approximately 18 miles of electrical cable that will be installed entirely underground buried at a minimum depth of 48 inches (4 feet) and will be installed via an excavated trench or a plow.
- The Facility includes approximately 710 inverters that have a rated output voltage of 600 AC volts.

- Approximately 50 100-kilovolt-ampere (kVA) transformers placed throughout the Facility (internal to the panel arrays) to convert DC electricity to alternating current (AC) electricity.
- A collection substation where the Facility's electrical output voltage will be combined, and its voltage increased to the transmission line voltage of 115 kV via step-up transformers.
- A point-of-interconnection (POI) switching station (or POI switchyard), where the electricity will be injected into the existing bulk transmission system for delivery to homes and businesses; the collection substation and POI switchyard are located adjacent to one another and will be enclosed with chain link fence.
- A generation tie line (gen-tie) that will connect the collection substation to the POI switchyard. The gen-tie will be constructed as an overhead line carried on 12 pole structures with an anticipated height of 65 feet over a distance over 200 feet between the collection and POI substations.
- Internal infrastructure including access/maintenance roads, which will be approximately 30 miles long (approximately 24 miles of grass maintenance roads and approximately 6 miles of gravel access roads) and 20 feet wide. Access roads will be comprised of 8-inch deep stone underlain by woven geotextile fabric.
- All PV arrays will be enclosed by chain link fence (required for safety and security purposes). The Facility includes approximately 27 miles of fencing around PV panels, which will stand 8.5 feet in height in the Town of Minden and 8.0 feet in height in the Town Canajoharie. Fencing will be made of aluminum-coated steel chain-link and will include two driving gates and one human gate.
- The substations will be enclosed by an 8.0-foot chain link fence that will include three stands of barbed wire (required for safety and security purposes). Fencing will be made of aluminum-coated steel and will include a driving and human gate.
- One temporary laydown area for equipment staging during construction, which will cover approximately 8 acres to accommodate larger project storage containers, components, and parking for construction workers.
- Perimeter plantings to screen/soften views of the Facility from adjacent roads and residences (see Inset 2).
- An operations and maintenance (O&M) building, which will be centrally located in the Facility Site and will cover approximately 2 acres. The O&M building will house permanent staff offices and store maintenance equipment and supplies.



Inset 2. Representative schematic drawing of proposed visual mitigation planting plan.

The proposed Facility layout is depicted on Figure 2.

### 1.3 Historic Resources Study Area and Area of Potential Effect (APE)

Per the definition set forth in 16 NYCRR § 1000.24(ar), the visual study area to be used for analysis of major electric generating facilities is defined as “an area generally related to the nature of the technology and the setting of the proposed site. For large facilities or wind power facilities with components spread across a rural landscape, the study area shall generally include the area within a radius of at least five miles from all generating facility components, interconnections and related facilities and alternative location sites. For facilities in areas of significant resource concerns, the size of a study area shall be configured to address specific features or resource issues.”

#### Historic Resources Study Area

Per the requirements set forth in set forth in 16 NYCRR § 1000.24(ar) (see above), the Historic Resources Study Area is defined as the area within five miles of the Facility. In addition, as requested in review correspondence from the DPS, the Historic Resources Study Area was expanded to include “selected areas extending beyond that radius for one mile along the Route 20 Scenic Byway corridor travelling west towards East Springfield and for one mile along Route 67 North towards the Fulton County line” (DPS, 2019). The Historic Resources Study Area, which includes these areas requested by DPS, is shown on Figure 3.

#### Area of Potential Effect (APE)

The proposed Facility would be a significant new feature in the visual landscape. Although the viewshed analysis indicates potential visibility of Facility structures up to five miles away, the visual effect of the panels will be most apparent in the areas immediately adjacent to the Facility (i.e., within less than one mile of Facility components). However, a solar generating facility does not have any prominently visible components. The tallest components of the generating portion of the proposed Facility will be the collection and POI substations, which are anticipated to be 55 feet high, with narrow lighting masts of up to 65 feet in height. The PV panels and inverter equipment are not expected to be more than 11 feet above grade (less than a single-story residence). The PV panels are organized in arrays that vary between 1.5 to 63 acres, which in total occupy approximately 530 acres within the approximately 2,360-acre Facility Site. These panel arrays will introduce a new, prominent element into the visual landscape and therefore will

affect the visual character of the setting associated with historic properties (as described in Section 3.3 of this Historic Resources Effects Analysis).

The APE for Direct Effects for the Facility is defined as all areas where potential soil disturbance (or other direct, physical impacts) is anticipated during construction of the Facility. The actual extent of soil disturbance associated with the Facility is anticipated to be significantly less than 530 acres<sup>1</sup>. As described above, the proposed PV panels are mounted on racks with a small footprint (in terms of soil disturbance), typically consisting of small I-beam posts driven into the ground. No buildings or structure will be removed to construct the Facility and no direct impacts to historic properties are anticipated as part of Facility construction or operation.

The APE for Indirect Effects on historic resources includes those areas where the Facility may result in indirect effects on cultural resources, such as visual or auditory effects. The Facility's potential indirect effect on historic resources would be a change (resulting from the introduction of PV panels or other Facility components) in the property's setting. This could theoretically consist of auditory and/or visual effects; however, solar facilities produce minimal noise (see Hessler 2019), so auditory effects resulting from the proposed Facility are not considered a significant type of impact to the setting of historic resources. Therefore, potential visual effects associated with the proposed Facility are the most significant consideration for defining an APE for Indirect Effects. To ensure that potential visual effects on regional visually sensitive historic resources are adequately considered, NYSOPRHP/SHPO requested as part of ongoing consultation for the Facility that a Historic Resources Study Area be established for assessing indirect (visual) effects of the Facility (see Figure 3).

#### Methodology to Determine the APE for Indirect Effects

To determine the areas where the Facility would potentially be visible (and, therefore, the APE for Indirect Effects), a topographic viewshed map for the proposed solar panels was prepared using 1) a 2-meter resolution bare earth digital elevation model ("DEM") derived from the 2014 United States Geological Survey (USGS) and 2007 Federal Emergency Management Agency's ("FEMA") Light Detection and Ranging ("lidar") data for Schoharie, Montgomery, and Fulton Counties, New York; 2) sample points representing solar panel locations; 3) an assumed maximum solar panel height of 11 feet; 4) an assumed viewer height of 6 feet; and 5) ESRI ArcGIS® software with the Spatial Analyst extension. Because the specific layout of solar panels is in the design phase, sample points representing solar panels were placed 200 feet apart in a grid pattern throughout all developable areas within the Facility Site.

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<sup>1</sup> Please note that this report addresses only historic architectural resources; information concerning the Facility's potential effect on archaeological resources is being provided to NYSOPRHP under separate cover; see the Phase IB Archaeological Survey Report for the Mohawk Solar Project (EDR, 2019a).

The ArcGIS program defines the viewshed (using topography only) by reading every cell of the bare earth (or ground surface) DEM data and assigning a value based upon the existence of a direct, unobstructed line of sight to solar panel sample point location/elevation coordinates from observation points throughout the Historic Resources Study Area. The resulting topographic viewshed map defines the maximum area from which any solar panel sample point could potentially be seen within the study area (i.e., ignoring the screening effects of existing vegetation and built structures). Because the screening provided by vegetation and buildings is not considered in this stage of the analysis, the topographic viewshed represents a "worst case" assessment of potential Facility visibility. This "worst case" assessment significantly overstates the actual anticipated visibility of the Facility, but accurately indicates areas where the Project will definitely be screened from view (i.e., due to topography).

In addition, a second-level analysis was conducted to incorporate the screening effect of structures and vegetation by using the USGS and FEMA 2007-2014 lidar datasets. A two-meter resolution digital surface model ("DSM") of the Historic Resources Study Area was created from these lidar data, which includes the elevations of buildings, trees, and other objects large enough to be resolved by lidar technology. Transmission lines that were reflected in these lidar data were removed from the resulting DSM to avoid introducing artificial screening features to the analysis. Additionally, relatively small woodlots and hedgerows that may potentially be cleared during construction of the Facility were removed from the resulting DSM to reflect the bare-earth elevation in these locations. This modified DSM was then used as a base layer for the viewshed analysis, as described above. Once the viewshed analysis was completed, a conditional statement was used to set solar panel visibility to zero in locations where the DSM elevation exceeded the bare earth elevation by six feet or more. This was done for two reasons; 1) because in locations where trees or structures are present in the DSM, the viewshed would reflect visibility from the vantage point of standing on the tree top or building roof, which is not the intent of this analysis and 2) to reflect the fact that ground-level vantage points within buildings or areas of vegetation exceeding six feet in height will generally be screened from views of the Facility.

Because it accounts for the screening provided by structures and trees, this second-level analysis is a more accurate representation of probable Facility visibility. However, it is worth noting that because certain characteristics of the Facility and the study area that may influence visibility (e.g., color, atmospheric/weather conditions, distance from viewer) are not taken into consideration in the viewshed analyses, being located within the DSM viewshed does not necessarily equate to actual Facility visibility. This viewshed analysis is presented in Figures 3 and 4.

Topographic and DSM viewshed maps also were prepared for the two Facility substations and the associated above-ground gen-tie line poles. The tallest proposed component of the substation are narrow lightning masts, with a maximum height of 65 feet. The precise location of these structures is not known at this time, so the analysis was run based on representative points at each corner of both Facility substation footprints, each with an assigned height of 65

feet. Additionally, sample points at a height of 65 feet were also included at the proposed locations of all above-ground gen-tie poles. All other data sources and assumptions used in the substation and gen-tie viewshed analysis are as described above for the solar panel viewshed analysis.

The viewshed analysis presented in the report is based on the current Facility design as presented in the Facility's Article 10 Application. The viewshed analysis defines the areas where there would be potential visibility of the Facility, and therefore defines the APE for Indirect Effects.

#### 1.4 Summary of NYSOPRHP/SHPO Correspondence

The Applicant has engaged in ongoing consultation with NYSOPRHP/SHPO in order to evaluate the Facility's potential effect on historic resources listed or eligible for listing in the S/NRHP. Previous NYSOPRHP/SHPO correspondence associated with the Facility has included the following<sup>2</sup>:

- On August 9, 2017, the Applicant and EDR met with NYSOPRHP/SHPO staff at NYSOPRHP offices in Waterford, NY. During the meeting, EDR and the Applicant described the proposed Mohawk Solar Facility and discussed an appropriate approach to cultural resources studies in support of the Article 10 Application. During the meeting, NYSOPRHP/SHPO recommended that special consideration be given to the significance of and impacts upon traditional agricultural landscapes and scenic vistas within the Historic Resources Study Area and APE.
- A *Phase 1A Historic Architectural Resources Survey Work Plan* (EDR, 2017a) was submitted to NYSOPRHP/SHPO via the CRIS website on October 23, 2017.
- On October 26, 2017, NYSOPRHP/SHPO provided a response via the Cultural Resource Information System (CRIS) website to the *Phase 1A Historic Architectural Survey Work Plan*, which concurred with the historic resources survey methodology and APE proposed by EDR (Mackey, 2017).
- An historic resources survey for the Facility was conducted in accordance with the *Phase 1A Historic Architectural Resources Survey Work Plan* developed in consultation with and approved by NYSOPRHP/SHPO staff in late 2017.
- An *Historic Architectural Resources Survey* report (EDR, 2018) summarizing the findings of this survey was submitted to NYSOPRHP/SHPO via the Cultural Resources Information System (CRIS) website on February 28, 2018.

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<sup>2</sup> The Applicant conducted additional consultation (i.e., in addition to what is summarized here) with NYSOPRHP/SHPO staff specific to archaeological resources, which is summarized in the Phase IB Archaeological Survey Report for the Mohawk Solar Project (EDR, 2019a).



- On March 27<sup>th</sup>, 2018, NYSOPRHP/SHPO responded requesting additional information in the form of additional photographs for four potentially historic properties in the Town of Canajoharie (Mackey, 2018).
- On April 10<sup>th</sup>, 2018, EDR provided a response to the March 27<sup>th</sup> SHPO information request by uploading additional photographs for the properties in question (Roblee, 2018).
- On May 9<sup>th</sup>, 2018, NYSOPRHP/SHPO provided a response to the results and recommendations of the *Historic Architectural Resources Survey*, which included final determinations of eligibility for the S/NRHP, included as part of Appendix A (Davey, 2018). Of the 74 resources identified by EDR as part of the historic resources survey, NYSOPRHP/SHPO determined the following regarding historic properties located within the APE for Indirect (visual) Effects (as defined at the time the survey was conducted<sup>3</sup>):
  - There are 12 extant properties listed on the S/NRHP; two properties previously listed on the S/NRHP were found to be no longer extant.
  - A total of 19 historic properties were determined to be S/NRHP-eligible, including a NYSOPRHP/SHPO-determined S/NRHP-eligible rural historic district, and 14 properties were found to be not eligible for the S/NRHP.
  - The S/NRHP eligibility of two previously identified historic cemeteries is undetermined due to lack of public access.

Subsequent to the May 9<sup>th</sup>, 2018 correspondence from NYSOPRHP/SHPO cited above, a revised Facility layout was submitted to EDR by the Applicant. This resulted in a slightly reduced Historic Resources Study Area, which excluded two historic properties identified in the *Historic Architectural Resources Survey* (EDR, 2018) and determined by NYSOPRHP/SHPO to be S/NRHP-eligible. Consequently, the number of S/NRHP-eligible properties in the Historic Resources Study Area is 22.

A copy of all NYSOPRHP/SHPO correspondence received in response to the *Historic Architectural Resources Survey* is included as Appendix A.

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<sup>3</sup> The historic resources survey included all areas with potential visibility of the Facility per the results of GIS-based viewshed analysis based on a preliminary layout of the Facility at the time the survey was conducted. The Facility layout has been reduced since that time; therefore, the surveyed area exceeds the areas of predicted visibility based on the current Facility layout.

## 2.0 HISTORIC RESOURCES WITHIN THE APE FOR INDIRECT EFFECTS

### 2.1 Summary of Historic Resources Survey

EDR conducted a historic resources survey for the APE for Indirect (Visual) Effects, the results of which were compiled in an *Historic Architectural Resources Survey* report (EDR, 2018). A total of 74 resources were inventoried as part of the historic resources survey. The results of the survey are as follows:

- Twelve properties located within the APE for Indirect Effects are listed on the S/NRHP: the John Lehman House (11NR06246), the John Smith Farm (11NR06276), the Kilts Farmstead (08NR05913), the Jacob Nellis Farmhouse (90NR01556), the Nelliston School (02NR04989), Palatine Church (90NR01539), the Reformed Dutch Church of Stone Arabia (90NR01541), the Teepee (11NR06217), Trinity Lutheran Church and Cemetery (04NR05323), the Daniel Van Wie Farmstead (10NR06181), the Walrath-Van Horne House (90NR01558), and the Lindsey Patent Rural Historic District (95NR00877).
- Two S/NRHP-listed properties located within the Historic Resources Study Area but outside of the APE for Indirect Effects, the Webster-Wagner House (90NR01561) and Palatine Bridge Freight House (90NR01560), were observed during the field survey by EDR to be no longer extant.
- There were 21 previously identified properties whose S/NRHP eligibility was undetermined. In addition, EDR identified 19 properties within the APE that were not previously surveyed.
- One previously-identified property (the Springfield Patent Historic District [USN 07721.000649]), determined by NYSOPRHP/SHPO to be S/NRHP-eligible was recommended by EDR to be S/NRHP-eligible.
- Of the 21 previously identified properties whose S/NRHP eligibility was undetermined, five properties were recommended by EDR to be S/NRHP-eligible and 14 properties were recommended to be not NRHP-eligible. The potential S/NRHP eligibility of two historic cemeteries could not be determined due to location on private property without obvious public access.
- 19 newly identified individual properties were recommended by EDR to be S/NRHP-eligible.
- No new potentially S/NRHP-eligible historic districts were identified by EDR.
- EDR recommended that two historic cemeteries that were not visible from the public-right-of-way, Yerding Cemetery in the Town of Canajoharie, and Dunkel Cemetery in the Town of Minden, be further examined for NRHP eligibility.

On May 9<sup>th</sup>, 2018, NYSOPRHP/SHPO provided a response to the results and recommendations of the *Historic Architectural Resources Survey* report (EDR, 2018), which included final determinations of eligibility for the S/NRHP. Of the 74 resources identified by EDR as part of the historic resources survey, NYSOPRHP/SHPO determined the

following regarding historic properties located within the APE for Indirect Effects (as defined at the time the survey was conducted<sup>4</sup>):

- 12 extant properties listed on the S/NRHP are located within the APE for indirect effects, and two properties previously listed on the S/NRHP were found to be no longer extant.
- A total of 24 properties recommended by EDR to be S/NRHP-eligible were determined by NYSOPRHP/SHPO to be S/NRHP-eligible.<sup>5</sup>
- In addition, one property recommended by EDR to be S/NRHP-eligible was determined by NYSOPRHP/SHPO to be not S/NRHP-eligible.
- A total of 14 properties recommended by EDR to be not S/NRHP-eligible were determined by NYSOPRHP/SHPO to be not S/NRHP-eligible.
- The S/NRHP eligibility of two previously identified historic properties (cemeteries) remains undetermined by NYSOPRHP/SHPO due to lack of public access.

A table summarizing these updated eligibility determinations is included as part of Table 1.

Subsequent to the completion and submission of the *Historic Architectural Resources Survey* report (EDR, 2018) a *Historic Resources Survey of Western Montgomery County* (Ravage, 2018) was completed to document and assess the historic resources within the Towns of Canajoharie, Minden, Palatine, Root, and St. Johnsville that are found outside of the incorporated municipal (i.e., village) boundaries. The survey reviewed the historic overland and waterway transportation routes and the legacy of agricultural use on vegetation patterns in relation to the farms and hamlets in western Montgomery County. The survey identified nine rural areas which may be potentially eligible for listing on the S/NRHP. Of these nine areas, Stone Arabia Patent (USN 05748.000142), and Bowman's Creek (USN 05743.000023) are represented on the CRIS website but have no formal S/NRHP eligibility determination (Ravage, 2018). These districts are enumerated in Table 1 of this report and are depicted on Figure 4.

## 2.2 Visual Setting of Historic Resources within the Historic Resources Study Area and APE

The Facility is proposed in a rural part of Montgomery County south and west of the population center of Canajoharie and south of the corridor of development along the New York State Thruway and Mohawk River. The setting of the

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<sup>4</sup> The historic resources survey included all areas with potential visibility of the Facility per the results of GIS-based viewshed analysis based on a preliminary layout of the Facility at the time the survey was conducted. The Facility layout has been reduced since that time; therefore, the surveyed area exceeds the areas of predicted visibility based on the current Facility layout.

<sup>5</sup> As noted in Section 1.4, layout changes subsequent to the submission of the Historic Architectural Resources Survey reduced the total number of S/NRHP-eligible properties within the Historic Resources Study Area to 22.

Historic Resources Study Area is characterized by gently rolling topography and consists of hay, corn, and soy bean fields, as well as fallow fields and pastures, scattered residential development along area roadways, and moderately sized tracts of undeveloped second-growth forest intermixed with the fields (see Inset 3).

As described in Section 1.4, NYSOPRHP/SHPO requested that the historic resources studies for the Mohawk Solar Facility consider potential effects to agricultural landscapes and scenic vistas. The spatial organization of roadways, municipal boundaries, and property lines within the Historic Resources Study Area reflect historic spatial relationships, some dating from the Colonial-period organization of land patents in the region. The patchwork of agricultural fields, successional fields, woodlots, hedgerows, farmstead clusters of residences and agricultural buildings, and roads/transportation routes all contribute to the character of the setting. The strong sense of place embodied in this rural setting is reflected by the number of S/NRHP-listed and -eligible rural historic districts in the study area. Furthermore, these types of landscape settings are identified as important local assets in planning documents prepared by municipal authorities and non-profit groups, with regard to preserving either the economic viability of farming or the aesthetic value of the open landscape in the region, or both:

- The *Town of Palatine Comprehensive Plan* was prepared in 1998 by the Town of Palatine Planning Board to provide a “coherent vision of the future” for the Town of Palatine. Similar to the county plans and the *Town of Minden Comprehensive Plan*, this document focuses first and foremost on measures that may encourage and maintain the agricultural industry of the town. Goal Number Three of the plan is to “Preserve the Town’s Rural Character and Open Spaces.” To that end, the plan recommends limiting light industrial and commercial development as close to built-up areas as possible (Town of Palatine, 1998).
- The *Western Montgomery County Local Waterfront Revitalization Program* was prepared in 2005 to establish a vision and create policies with which to guide development along the waterfront. A significant portion of this document includes measures designed to protect the character of the visual resources in Western Montgomery County in general and not specific to the waterfront areas. Policy 13 (p.28) recommends the protection of historic resources and landscapes and avoiding incompatible uses (Carlson, 2005).
- The *Mohawk River Basin Action Agenda* was prepared in 2010 to provide a framework for planning and management of the environmental and cultural resources of the Mohawk River Watershed, supported by five thematic goals. Goal Five, “Working Landscapes, land use and Open Space” includes a reference to “protect and enhance open space and rural development patterns and provide for the sustainable use and protection of resources.” The section elaborates on Goal Five mentions that one of the advantages of open spaces are “scenic views.” Actions prescribed to protect these open spaces and viable agricultural land are to encourage the development of land trusts, further planning and local legislation to regulate use, and marketing open spaces to tourists and agri-business (NYSDEC, 2010).

- The *Mohawk Valley Regional Economic Development Council 2012 Action Plan* was prepared in 2012 by the Mohawk Valley Regional Economic Development Council (MVREDC) in pursuit of the grant-funding program set forth by New York Governor Andrew Cuomo. The plan focused mainly on building on existing businesses or constructing new facilities for education and commerce. There was no mention of the preservation of open spaces or visual character, and none of the recommended projects were related (MVREDC, 2012).
- The 2012 Town of Minden Comprehensive Plan was prepared in 2012 to update a previous plan completed in 1999 based on community input and newly re-evaluated information on local resources. In the section on Long Term Goals, the plan gives priority to the careful management of the landscape. Goal Number One is “To Protect and Maintain the Town of Minden’s Agricultural Industry and lands,” and Number Two is “Maintain and Enhance the Aesthetics of the Town.” A further elaboration of the plan’s goals specifically states that the Town of Minden wants to “preserve Rural character, open spaces, the small town feeling with friendly people and a strong sense of community” and wants to “preserve natural beauty and scenic views.” The town wants to eliminate “negative views.” The document is broken into sections that address the topics referenced in the goals and offers recommendations. The section on Rural and Small Town Character provides a robust set of recommendations for zoning amendments and regulations to preserve the open spaces and scenic character of the Town of Minden. While this section seems to primarily focus on future housing subdivisions, there is sufficient flexibility in the language to account for other types of projects. The plan recommends the Town of Minden require a visual impact analysis for new projects. It also recommends improving visual quality and scenic vistas, using language adapted from the 2005 Western Montgomery County Local Waterfront Revitalization Program (Town of Minden, 2012).
- The *Mohawk Valley Regional Sustainability Plan* was completed in 2013 by a consortium led by the Otsego County Planning Department. This plan was funded by the New York State Energy Research and Development Authority. While this plan doesn’t engage in any direct or explicit discussions about preserving the visual character of the region, it does indirectly refer to certain aspects. Goal 3 under Land Use and Livable Communities (LULC) states, “Identify, preserve, and Protect Lands Suitable for viable agriculture.” Overall, the plan focuses on sustainability training and economic revitalization through programs such as Brownfield Opportunity Areas (BOA) and promotion of homeownership (Otsego County, et al., 2013).
- The results of the *Erie Canalway National Heritage Corridor Visitor Research* were released in February of 2018. This research study was conducted with over 1,000 participants inside and outside of New York State. The study found that “scenic beauty” was among the top associations with region for New York State residents as well as outsiders (Level 7, 2018).
- The *Montgomery County Agricultural and Farmland Protection Plan*, in draft form as of February 2018. The plan was drafted by Environmental Design and Research (EDR) in 2017 to develop a framework to strengthen and preserve agriculture in Montgomery County, and served to update an earlier plan from 1999. One of the

economic development measures discussed in the plan is the preservation of open space, which is argued to cost the county less than residential areas. Regulations to control open spaces is recommended. The report reviews the various land use policies and comprehensive plans of the towns within Montgomery County. The Towns of Canajoharie and Minden are “Right-to-Farm” municipalities that do not allow any local law to “unreasonably restrict” farm operations. The Town of Palatine is currently drafting its own Comprehensive Plan which is investigating “Right-to-Farm” law. The preservation of open spaces is mainly concerned with economic development in the context of this planning document, and no explicit reference is made to scenic views or visual character, except when referencing the earlier 1999 plan (EDR, 2017b).

Within the overall setting of the Historic Resources Study Area there are a few areas of particular historic significance with regard to their rural landscapes. Significant rural historic landscapes are integral to the S/NRHP-listed Lindesay Patent Historic District (95NR00877), located approximately 4.9 miles from the Facility, and the S/NRHP-eligible Springfield Patent Historic District (USN 07721.000649), located approximately 3.8 miles from the Facility, each consisting of traditional historic farmsteads and rural landscapes, open agricultural fields, and panoramic views of the hills and valleys in the Historic Resources Study Area. Most of Montgomery County's lot divisions and transportation routes retain their original form and alignment established during the Colonial period when the land was organized into patents (Ravage, 2018).

Agricultural landscapes are common throughout the Historic Resources Study Area. The Mennonite and Amish populations of Montgomery County continue to maintain their farmsteads using traditional methods, and utilize nineteenth-century farmhouse residences and agricultural buildings. Hedgerows and field stone walls are used in both traditional and modern agricultural properties to mark crop field or property boundaries, as they have been for centuries. The traditional use of established hedgerows and agricultural practices contributes to the historic rural character of the landscape within the Historic Resources Study Area (see Insets 3 and 4).



**Inset 3. Representative Photograph of Visual Setting of an Agricultural Landscape within the Historic Resources Study Area.**  
View to the northeast along Clinton Road (County Route 80), within the Historic Resources Study Area. This view includes the patchwork of farm fields and hedgerows that characterize a traditional agricultural landscape.



**Inset 4. Representative Photograph of a hedgerow within the Historic Resources Study Area.**  
View to the south toward a hedgerow on County Route 86 (Marshville Road), northwest of State Route 80 (Clinton Road). This photograph illustrates the character of established hedgerows within the Historic Resources Study Area.



Scenic vistas are also a feature of the Historic Resources Study Area, where the undulating topography of the landscape provide open, panoramic views. The Historic Resources Study Area consists of elevated farmland at the center, surrounded by a ring of lowlands and river valleys. Beyond these lower elevations, the landscape rises in elevation, so that the roads and highways that cross the Facility Site and the Historic Resources Study Area offer open/panoramic views and scenic vistas of the surrounding landscape. Above the lowlands and river valleys, multiple levels of topography are visible to the horizon, and the countryside appears as an expansive patchwork of agricultural fields, with some smaller constituent elements such as farm buildings and hedgerows visible (see Inset 5).



**Inset 5. Representative Photograph of a Scenic Vista within the Historic Resources Study Area.**

View to the southwest toward the Facility from State Route 10 (Ephrata Road). This photograph shows the expansive views to the horizon and successive levels of topography that characterize Scenic Vistas in the Historic Resources Study Area.

In addition to the rural resources and landscapes, there are four S/NRHP-listed historic districts within more developed contexts in the several villages located in the Historic Resources Study Area:

- Fort Plain Historic District (12NR06342), Village of Fort Plain – Approximately 0.9-mile from Facility
- Canajoharie Historic District (14NR06580), Village of Canajoharie – Approximately 1.2 miles from Facility
- Nelliston Historic District (90NR01557), Village of Nelliston – Approximately 1.2 miles from Facility

- Sharon Springs Historic District (94NR00627), Village of Sharon Springs – Approximately 4.4 miles from Facility

These village districts consist largely of nineteenth-century residential and commercial structures, with some significant late-eighteenth century properties. The concentrated areas of settlement in which these village historic districts are located are located in the low land of the Mohawk Valley, and are generally shielded from views of the Facility Site by intervening topography (see Inset 6).



**Inset 6. Representative Photograph of Visual Setting of a Village Historic District within the Historic Resources Study Area.**  
Upper Left: View to the southeast of the Fort Plain Historic District (12NR06342) toward the facility. This representative photograph illustrates the concentration of buildings and intervening topography which prevent views of the Facility.

## 3.0 HISTORIC RESOURCES EFFECTS ANALYSIS

### 3.1 Summary of Visual Impact Assessment

16 NYCRR § 1001.24 (Exhibit 24: Visual Impacts) describes the necessary components of a visual impact assessment (VIA) that must be conducted as part of the Article 10 application. The VIA must include “identification of visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), cumulative visual impact analysis, and proposed visual impact mitigation”. In addition, 16 NYCRR § 1001.24 requires that “the applicant shall confer with municipal planning representatives, DPS, DEC, OPRHP, and where appropriate, APA in its selection of important or representative viewpoints” (Article 10, Exhibit 24, Part 1001.24[b][4])<sup>6</sup>.

The VIA prepared for the Mohawk Solar Facility (EDR, 2019b) includes an evaluation of the potential visibility of the Facility based on viewshed analysis, field verification, and preparation of representative visual simulations. The visual simulations (included in the VIA report and as Appendix B of this HREA report) provide representative views of the potential visual effect of the Facility from a variety of distances and settings within the Historic Resources Study Area (see Figure 4 for results of viewshed analyses and locations of simulated viewpoints; see Section 3.3 for a discussion of these simulations that address potential effects to historic resources).

Field review conducted as part of the VIA confirmed that the area with greatest potential Facility visibility occurs from the roads and open agricultural areas immediately adjacent to the Facility (i.e. within 0.5-mile or less). Forested areas, including a state forest and several designated trails, offer the least opportunity for open views of the Facility. Field review also indicated the Facility will generally be partially screened from most locations in city, village, and hamlet settings by structures and trees. However, partial views of PV panels and the Facility may be available from some open areas, and along US Route 20 in the Towns of Springfield and Cherry Valley, Otsego County.

### 3.2 Potential Effect on Historic Resources

The Facility's potential effect on a given historic property would be a change (resulting from the introduction of PV panels) in the property's setting. As it pertains to historic properties, *setting* is defined as “the physical environment of a historic property” and is one of seven aspects of a property's *integrity*, which refers to the “ability of a property to convey its significance” (NPS, 1990:44-45). The other aspects of integrity include location, design, materials, workmanship, feeling, and association (NPS, 1990). The potential effect resulting from the introduction of PV panels into the visual setting for any historic or architecturally significant property is dependent on a number of factors including distance, visual dominance, orientation of views, viewer context and activity, and the types and density of modern

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<sup>6</sup> Note: “DPS” is the New York State Department of Public Service, “DEC” is the New York State Department of Environmental Conservation, “OPRHP” is the New York State Office of Parks, Recreation, and Historic Preservation, and “APA” is the Adirondack Park Agency.

features in the existing view (such as buildings/residences, overhead electrical transmission lines, cellular towers, billboards, highways, and silos).

The Federal Regulations entitled “Protection of Historic Resources” (36 CFR 800) include in Section 800.5(2) a discussion of potential adverse effects on historic resources. The following types of effects apply to the Mohawk Solar project:

“Adverse effects on historic properties include but are not limited to: [items i-iii do not apply]; (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features; [items vi-vii do not apply]” (CFR, 2004b).

The implementing regulations for New York State Parks, Recreation and Historic Preservation Law, Section 14.09 (9NYCRR §428.7) state:

- a. In determining whether an undertaking will have an adverse impact on eligible or register property, the commissioner shall consider whether the undertaking is likely to cause:
  1. destruction or alteration of all or part of the property;
  2. isolation or alteration of the property's environment;
  3. introduction of visual, audible or atmospheric elements which are out of character with the property or alter its setting;
  4. neglect of the property resulting in its deterioration or destruction.

It is also of note that according to the NYSDEC Visual Policy, simple visibility of the Facility from any of the viewing locations does not imply detrimental effect to the beauty or structure. The policy specifically states “Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic effects 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 declaration of significance. Instead, a project by virtue of its siting in a visual proximity to an inventoried resource may lead staff to conclude that there may be a significant impact” (NYSDEC, 2000).

### **3.3 Visibility of the Facility from Historic Resources**

The potential visibility of the Facility from historic resources (including those that are no longer standing) within the APE for Indirect Effects (considering screening provided by topography and mapped forest vegetation) and distance from each historic resource to the Facility perimeter fence line (the Facility component closest to the road) is listed in Table 1 and depicted in Figures 4 and 5. As described in Section 3.1, the potential visibility and impact of the proposed Facility is evaluated in the VIA prepared for the Facility (EDR, 2019b). In addition, the updated Facility layout described in Section 2.1 reduced the number of historic resources located within the APE relative to the slightly larger layout and corresponding APE that was evaluated during the Historic Resources Survey. The potential visual screening provided by mapped forest vegetation within the Historic Resources Study Area, which provides a conservative prediction of areas from which the Facility will not be visible, is depicted on Figure 4.

Table 1. Visibility of the Facility from Historic Properties within the Historic Resources Study Area.

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
01	14NR06559	Statewide	New York State Erie Barge Canal	Statewide	Montgomery	National Historic Landmark District	National Historic Landmark District	1.3	No	No
03	90NR01542	7214 State Route 5	Fort Klock, a fortified homestead, circa 1750.	Village of St. Johnsville	Montgomery	National Historic Landmark	National Historic Landmark	4.7	No	No
20	12NR06342	Village of Fort Plain	Fort Plain Historic District	Village of Fort Plain	Montgomery	S/NRHP-Listed Resource (District)	S/NRHP-Listed Resource (District)	0.9	No	No
37	14NR06580	Village of Canajoharie	Canajoharie Historic District	Village of Canajoharie	Montgomery	S/NRHP-Listed Resource (District)	S/NRHP-Listed Resource (District)	1.2	No	No
21	90NR01548	41 River Street	United State Post Office – Fort Plain	Town of Minden	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.3	No	No
22	90NR01557	Prospect, River, Railroad and Berthoud Streets	Nelliston Historic District	Village of Nelliston	Montgomery	S/NRHP-Listed Resource (District)	S/NRHP-Listed Resource (District)	1.5	No	No
31	02NR05009	Southern terminus of Frey Drive	Frey House, a two-story stone, Greek Revival residence with an associated lime kiln and cemetery	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.6	No	No
35	05NR05465	17 Otsego Street	Bragdon-Lipe House, a two-story Italianate style residence with cupola	Town of Canajoharie	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.7	No	No
34	02NR01895	3 Otsego Street	West Hill School, a three-and-one-half-story stone educational building	Town of Canajoharie	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.8	No	No
36	90NR01525	42 Moyer Street	Van Alstyne House, one-story	Town of Canajoharie	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.8	No	No

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
			stone Dutch Colonial style residence							
11	02NR04989	10 Stone Arabia Street	Nelliston School, a two-story brick school house	Town of Nelliston	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.8	No	No
33	90NR01547	50 West Main Street	United States Post Office - Canajoharie	Town of Canajoharie	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.8	No	No
10	90NR01555	13 West Main Street (State Route 5)	Lasher Davis House, a one-and-one-half-story vernacular residence	Town of Nelliston	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.8	No	No
13	90NR01556	56 Nellis Street	Jacob Nellis Farmhouse, one-and-a-half-story Greek Revival residence	Town of Nelliston	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.8	Yes	No
23	90NR01554	6176 State Route 5	Peter Ehle House, a two-story stone Greek Revival residence	Town of Nelliston	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.9	No	No
12	90NR01559	Eastern terminus of Nellis Street	Waterman-Gramps House, a one-and-one-half stone Greek Revival residence	Town of Nelliston	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	1.9	No	No
09	90NR01558	6483 West Main Street	Walrath-Van Horne House, a two-and-one-half-story Greek Revival residence with an historic	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	2.0	No	No



Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
			Mansart roof addition							
64	01NR01836	611 Latimer Hill Road	Ames Academy Building, a two-story stone educational building	Town of Canajoharie	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	2.7	No	No
15	04NR05323	5426 -5430 State Route 10	Trinity Lutheran Church and Cemetery, a one-story Federal style religious building with central bell tower and associated cemetery	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	3.7	Yes	No
06	90NR01539	146 Old Mill Road	Palatine Church, a one-story stone religious building with a gambrel roof and central bell tower	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	3.7	Yes	No
51	10NR06181	269 Brower Rd	Van Wie Farmstead	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	3.8	Yes	Yes
02	11NR06276	1059 State Route 80	John Smith Farm, an historic farmstead consisting of a two-story Greek Revival residence and eight agricultural buildings	Town of Minden	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	3.9	Yes	No

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
14	90NR01541	5414 State Route 10	Reformed Dutch Church of Stone Arabia, a stone Georgian style religious building with a central belfry	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	4.2	Yes	Yes
68	11NR06217	7632 US Route 20	The Teepee, wood-framed teepee sheathed in galvanized steel	Town of Cherry Valley	Otsego	S/NRHP-Listed Resource	S/NRHP-Listed Resource	4.2	Yes	Yes
54	00NR01676	2009 Clinton Road (County Route 80)	Windfall Dutch Barn, an historic wood-framed barn	Town of Minden	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	4.4	No	No
71	94NR00627	Village of Sharon Springs	Sharon Springs Historic District	Town of Sharon	Schoharie	S/NRHP-Listed Resource (District)	S/NRHP-Listed Resource (District)	4.4	Yes	Yes
08	08NR05913	172 Kilts Road	Kilts Farmstead, an historic farmstead consisting of a one-and-one-half-story Greek Revival residence and five associated buildings and a cemetery	Town of Palatine	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	4.7	Yes	Yes
52	90NR01534	4934 State Route 5	Montgomery County Poor Farm, an historic public charity complex consisting of several Colonial	Town of Fonda	Montgomery	S/NRHP-Listed Resource	S/NRHP-Listed Resource	4.9	No	No

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			Revival residences of two-and-one-half-stories each and nine associated buildings							
56	95NR00877	Western Portion of the Town of Cherry Valley	Lindesay Patent Historic District	Town of Cherry Valley	Otsego	S/NRHP-Listed Resource (District)	S/NRHP-Listed Resource (District)	4.9	Yes	No
72	90NR02688	192 Main Street	American Hotel, a three-and-one-half-story Greek Revival hotel	Town of Sharon	Schoharie	S/NRHP-Listed Resource	S/NRHP-Listed Resource	5.1	No	No
59	05702.000152	122 G. Bowerman Road	Farmstead consisting of a two-story Greek Revival residence and two barns	Town of Canajoharie	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	0.0	Yes	No
62	05702.000154	462 Dygert Road	Farmstead consisting of a one-and-one-half-story Greek Revival residence and five agricultural structures on a traditional rural landscape	Town of Canajoharie	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	0.5	No	No
19	05706.000159	620 Freysbush Road	Freysbush United Methodist Church and Cemetery (circa 1817)	Town of Minden	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	0.9	No	No

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
63	05702.000155	2055 Sprout Brook Road (State route 163)	Farmstead consisting of a one-and-one-half-story Greek Revival residence and two historic barns	Town of Canajoharie	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	1.0	No	No
24	05708.000246	351 Groff Road	Farmstead with two-story Italianate brick residence	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	2.6	Yes	No
07	05708.000005	6710 State Route 5	Fort Wagner, a one-and-on-half-story stone Colonial house with a nineteenth-century vernacular addition	Town of Nelliston	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	2.9	No	No
69	09514.000029	254 Buel Road	Farm complex consisting of a one-and-one-half-story Greek Revival residence and three agricultural buildings	Town of Sharon	Schoharie	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.1	No	Yes
65	05702.000156	771 Latimer Hill Road (cemetery located on Old Sharon Road [County Route 94])	Approximately 0.39-acre cemetery with an estimated nine headstones, established 1794 (Old Baptist Church Cemetery)	Town of Canajoharie	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.3	No	No

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
45	05708.000247	5650 Ephrata Road (State Route 10)	Two-story Federal/Greek Revival residence	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.5	Yes	Yes
46	05708.000248	5409 Ephrata Road (State Route 10)	One-story stone hop house. Sign over door, "Hop House Circa 1860"	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.7	Yes	No
67	05702.000052	North west corner of Blaine Road (County Route 91) and Mapletown Road (County Route 92)	Approximately one-acre cemetery with an estimated 250 headstones, circa 1800 (Mapletown Cemetery)	Town of Canajoharie	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.7	No	No
49	N/A	McKinley Road (County Route 42) between Caswell Road (County Route 45) and Brower Road)	Historic farm landscape with fieldstone walls	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.8	Yes	No
70	09514.000030	130 Zeller Road	Two-and-one-half-story Italianate farm residence	Town of Sharon	Schoharie	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.8	No	No
53	07721.000649	Eastern portion of the Town of Springfield	Springfield Patent Historic District	Town of Springfield	Otsego	S/NRHP-Eligible District (NYSOPRHP Determined)	S/NRHP-Eligible District (NYSOPRHP Determined)	3.8	Yes	No
05	05710.000003	6968 State Route 5	General Cochran Farm, an historic farmstead consisting of a two-story Federal	Town of St. Johnsville	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	3.9	No	No

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			style farm residence and twelve associated barns and residences							
18	05708.000245	5474 Ephrata Road	Two-story Italianate stone residence	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	4.0	Yes	No
50	05708.000250	3651 McKinley Road (County Route 42)	Two-story Italianate farm residence with barn	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	4.3	Yes	Yes
47	05708.000249	265 Dillenback Road (County Route 43)	Two-and-one-half-story Second Empire residence	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	4.4	Yes	No
16	05708.000003	844 Hickory Hill Road (County Route 33)	Brower House, a one-and-a-half-story fieldstone residence and farmstead with cemetery	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	4.8	No	No
04	05708.000135	643 New Turnpike Road (State Route 67)	Farmstead with one-and-one-half-story Greek Revival residence	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	5.0	No	No
55	07703.000138	433 Salt Springville Road	Two-story Italianate residence	Town of Cherry Valley	Otsego	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	5.1	Yes	No
17	05708.000244	937 Hickory Hill Road (County Route 33)	Approximately 25-square-foot cemetery with an estimated 5 headstones, circa	Town of Palatine	Montgomery	S/NRHP-Eligible (EDR Recommended)	S/NRHP-Eligible (NYSOPRHP Determined)	5.2	Yes	No

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
			1863 (Sitterly Cemetery)							
41	05706.000160	152 Marshville Road (County Route 86)	Approximately 0.2-acre cemetery with an estimated 30 headstones (Dunkel Cemetery)	Town of Minden	Montgomery	NRHP Eligibility Unknown	NRHP Eligibility Undetermined	0.1	Yes	No
43	05702.000151	139 Clinton Road (County Route 80)	Approximately 0.1-acre cemetery (Yerding Cemetery)	Town of Canajoharie	Montgomery	NRHP Eligibility Unknown	NRHP Eligibility Undetermined	0.2	Yes	Yes
N/A	05743.000023	Bowman's Creek	West Ames Road (County Route 88) from Cherry Valley Road (County Route 82) to Johnson Street	Town of Canajoharie	Montgomery	N/A	NRHP Eligibility Undetermined	0.8	Yes	No
N/A	05748.000142	Stone Arabia Patent	Eastern portion of the Town of Palatine	Town of Palatine	Montgomery	N/A	NRHP Eligibility Undetermined	1.8	Yes	Yes
42	05702.000011	560 Clinton Road (County Route 80)	Farm complex consisting of a two-story foursquare plan residence and two agricultural buildings	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.1	No	No
44	05702.000027	616 Clinton Road (County Route 80)	Two-story vernacular residence with a bungalow-style addition	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.1	No	No



Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
57	05702.000145	852 Clinton Road (County Route 80)	Michalak Farm, farm complex consisting of a two-story Italianate residence and six agricultural buildings	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.2	No	No
60	05702.000153	6806 Ames Road (State Route 10)	Marshville Evangelical Church, a one-story church with a steep side-gable roof and a central bell tower	Town of Canajoharie	Montgomery	S/NRHP-Eligible (EDR Recommended)	Not NRHP-Eligible (NYSOPRHP Determined)	0.2	No	No
39	05702.000018	520 Clinton Road (Country Route 80)	Farm complex consisting of a two-story brick Greek Revival residence with ell, and three agricultural buildings	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.3	No	Yes
40	05702.000021	486 Clinton Road (County Route 80)	Farm complex consisting of a two-story Italianate residence, two mobile homes, three agricultural buildings and two garages	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.3	Yes	Yes

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
61	05702.000013	181 McEwan Road	Two-story Italianate residence with side addition	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.4	No	Yes
38	05702.000073	424 Clinton Road (County Route 80)	Farm complex consisting of a two-story Italianate residence, a one-story modular home, and six agricultural buildings	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.5	No	No
58	05702.000029	918 Clinton Road (County Route 80)	Production Credit Farm, a two-story federal style brick residence	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	0.5	No	No
30	05708.000236	110 W Skyline Drive	Two-and-a-half-story Colonial Revival residence	Town of Palatine	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	2.6	Yes	No
25	05708.000237	105 Trailer Street	One-story modular home	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	2.7	Yes	No
26	05708.000238	107 Trailer Street	One-story modular home	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	2.7	Yes	No
29	05708.000241	127 Trailer Street	One-story modular home	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	2.7	Yes	No

Survey ID	NYSOPRHP Unique Site Number (USN)	Address	Name and/or Description	Municipality	County	S/NRHP Eligibility Recommendation (EDR)	S/NRHP Eligibility Determination (NYSOPRHP)	Distance from Facility Fence (Miles)	PV Panel Visibility (Located in viewshed)	Substations and gen-tie pole Visibility (Located in viewshed)
28	05708.000240	113 Trailer Street	One-story modular home	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	2.7	Yes	No
27	05708.000239	109 Trailer Street	One-story modular home	Town of Canajoharie	Montgomery	Not S/NRHP-Eligible (EDR Recommended)	Not S/NRHP-Eligible (NYSOPRHP Determined)	2.7	Yes	No
32	90NR01561	40 East Grand Street	Webster-Wagner House, a two-and-one-half-story Queen Anne residence (DEMOLISHED)	Town of Palatine	Montgomery	Resource No Longer Extant	Resource No Longer Extant	2.2	No	No
48	90NR01560	East Grand Street (State Route 5) east of Bridge Street	Palatine Bridge Freight House, a one-story stone railroad freight house (DEMOLISHED)	Town of Palatine	Montgomery	Resource No Longer Extant	Resource No Longer Extant	2.3	No	No

Based on the viewshed analysis prepared for the current Facility layout, potential visibility of the Facility from historic properties within the Historic Resources Study Area is summarized as follows:

- There are 52 historic properties (i.e., properties listed on or determined to be eligible for listing on the S/NRHP) located within the Historic Resources Study Area. Of these, 31 will not have views of the Facility. The remaining 21 historic properties (which include 10 S/NRHP-listed and 11 S/NRHP-eligible properties) are located within the APE for Indirect Effects, i.e., there are 21 historic properties that will have potential views of the Facility.
- There are 10 S/NRHP-listed properties that are anticipated to have views of the PV panel arrays (from some portion of the property), and four are anticipated to have views of the substations and gen-tie poles. These S/NRHP-listed properties with potential visibility of the Facility are located between 1.8 to 5.1 miles from the Facility fence.
- Of the 22 properties determined by NYSOPRHP/SHPO to be eligible for listing on the S/NRHP, 11 are anticipated to have views of the PV panel arrays, and three are anticipated to have views of the substations and gen-tie poles.
- The closest property eligible for listing on the S/NRHP is 122 G. Bowerman Road (USN 05702.000152), which is located on a parcel that is hosting a PV array, and is the only S/NRHP-eligible property located within the Facility Site.
- The remaining S/NRHP-eligible properties with Facility visibility are located between 2.6 to 5.2 miles away from the Facility.

It is worth noting that 18 S/NRHP-listed resources and 2 National Historic Landmarks located within five miles of the Facility were determined to have no potential visibility of any Facility components.

### **3.4 Visual Effects Analysis**

A set of 9 visual simulations were prepared for the Facility's VIA report (prepared as part of the Article 10 process). These simulations provide representative views of the proposed Facility from a variety of landscape settings, directions, and viewing distances from within the Historic Resources Study Area. Although these simulations do not necessarily represent the views of or from specific historic properties, the simulations do provide representative depictions of the Facility's potential visual effect on the individual historic properties and setting within the Historic Resources Study Area.

These viewpoints were selected based upon the following criteria:

- They provide open views of proposed PV Panels (as indicated by field verification).
- They illustrate Facility visibility from sensitive resources identified by local stakeholders and state agencies.
- They illustrate typical views of the Facility.
- They illustrate typical views of the proposed Facility that will be available to representative viewer/user groups within the visual study area (and Historic Resources Study Area).
- They illustrate typical views of different numbers of PV Panels, from a variety of viewer distances, and under different lighting/sky conditions, to illustrate the range of visual change that will occur with the Facility in place.
- The photos obtained from the viewpoints display good composition, lighting, and exposure.

Locational details and the criteria for selection of each simulation viewpoint are summarized in Table 2. Simulation viewpoint locations are indicated on Figure 4.

**Table 2. Viewpoints Selected for Simulation**

Viewpoint Number	Location and/or Visually Sensitive Resource	Viewer Group Represented	Viewing Distance <sup>1</sup>	View Orientation <sup>2</sup>
16	County Road 86, Town of Canajoharie	Local Residents	0.1	WNW
24	Nestle Road, Town of Canajoharie	Local Residents	0.1	E
26	H Jones Road, Town of Canajoharie	Local Residents, Through Travelers/Commuters	0.4	N
28	Seebers Lane, Town of Canajoharie	Local Residents	0.3	SW
32	State Route 10, Town of Palatine	Local Residents, Through Travelers/Commuters	3.1	SW
82	United States Highway 20, Town of Cherry Valley	Through Travelers/Commuters, Tourist/Recreational User	4.3	N
130	County Route 86 (Marshville Road), Town of Canajoharie	Local Resident	0.1	WNW
153	Nestle Road, Town of Minden	Local Residents	0.04	WNW
154	State Route 163, Town of Minden	Local Residents, Through Travelers/Commuters	0.1	SSW

<sup>1</sup>Distance from viewpoint to nearest visible PV Panel (in miles)

<sup>2</sup>N = North, S = South, E = East, W = West

In addition, the simulations include vegetation designed as part of a conceptual planting plan, which is described in Section 5.1.1 of the VIA. The conceptual planting plan design was developed through a thorough and innovative process that started by outlining the following focus areas and goals:

- Propose locations that mitigate potential glare;
- Adhere to local solar guidelines;
- Maintain/enhance the mosaic patchwork found throughout the existing landscape and the Mohawk Valley;
- Take design and material cues from the surrounding landscape;

- Maintain open roadsides and vistas;
- Maintain existing vegetation/hedgerows where feasible;
- Soften the fence line of the panel arrays so that it blends into the existing vegetative conditions; and
- Install native, noninvasive species that double as ecological benefactors.

The simulations that best represent the potential visual effect on historic resources within the Historic Resources Study Area are included as insets in the discussion below. These simulations focus on agrarian landscapes (Viewpoints 130 and 24) and scenic vistas (Viewpoints 28 and 82), two major characteristics of the visual setting within the Historic Resources Study Area. The evaluation of the Facility's potential visual effect at each of these locations is summarized below. Full size images of all of the simulations prepared for the VIA are included as Appendix B.

#### 3.4.1 *Agricultural Landscapes*

Agricultural landscapes are an integral part of the visual setting within the Historic Resources Study Area and were identified as areas of special consideration by NYSOPRHP/SHPO in analyzing potential visual effects (see Section 1.4). The patterns of agricultural land use are expressed in the long-established hedgerows and field boundaries which characterize the visual setting. Agricultural landscapes within the Historic Resources Study Area usually include one or more of the following elements:

- a patchwork of rectilinear farm fields and open spaces;
- farmhouses and agricultural support buildings with deep setbacks;
- residences partially obscured by trees or other vegetation;
- traditional boundary markers such as stone walls, post fences, or hedgerows; and
- an overall color palette made up largely of natural colors.

Viewpoint 130 is located on County Route 86 (Marshville Road) east of the S/NRHP-eligible property at 122 G. Bowerman Road (USN 05702.000152) within the Town of Canajoharie (see Inset 7). The view is representative of an agricultural landscape identified by NYSOPRHP/SHPO as a locally significant and sensitive cultural resource, as noted in Section 1.3. The proposed Facility will be located immediately to the east of 122 G. Bowerman Road in an open agricultural field.



Inset 7. Existing view to the west toward the proposed Facility Site. The S/NRHP-eligible property at 122 G. Bowerman Road is seen in the background (Viewpoint 130).

In this view, the open agricultural field in the foreground contributes to the historic setting of 122 G. Bowerman Road, as the green space provides a natural setback from the County Route 86 (Marshville Road). The two-story vernacular farm house is visible in the background behind a hedgerow. Late autumn conditions provide slightly higher visibility of the field and property. The two-lane country road and wood telephone poles to the right of the image are not out of place in this rural context, and there is no other modern infrastructure visible in this view.



**Inset 8. Simulation of the proposed Facility, view to the northeast from south of the intersection of Nestle Road and County Route 80 (Viewpoint 130).**

With the proposed Facility in place (see Inset 8) the PV panel array appears as a thick black line placed in between the viewer and the historic property at 122 G. Bowerman Road. The first story of the farm house is hidden by the Facility and the ancillary buildings are no longer perceptible. However, from this distance these structures are already partially obscured by intervening hedgerows and vegetation. The depth of the set back of the PV panels from the road minimizes the disruption of open green space, which maintains the natural color palette of the rural landscape. During summer conditions, full leaf coverage on the trees in the foreground and throughout the image would further obscure the view of the Facility. Overall, there is a noticeable effect on the visual setting of this historic property, although it is reduced by some mitigating factors including setbacks, preservation of natural colors and landscape, and the natural screening provided by existing vegetation. In addition, as part of the proposed planting plan for the Facility, a row of deciduous and non-deciduous trees and native shrubs are spaced intermittently along the roadside, helping to break up the view with natural colors and shapes.





**Inset 9. Existing view to the east from Nestle Road, north of G. Jones Road (Viewpoint 24).**

Viewpoint 24 looks east toward the Facility from Nestle Road in the Town of Canajoharie. This view shows primarily open agricultural fields delineated by small hedgerows, a patchwork of alternating crop sections, and livestock, and is representative of historic agricultural landscapes within the Historic Resources Study Area (see Inset 2). A post-and-wire fence runs along the roadside. In the background, rows of trees and collection line towers can be seen spread across the horizon. The open sky and the open expanse of natural landscape evokes the traditional rural setting. The autumn (leaf-off) conditions do not substantially increase or decrease visibility at this distance from the trees. The color palette is predominantly natural tones of green and yellows on the ground and azure and white in the sky above. The red barns that are visible in the far background at either side of the image are not out of place in the scene.



Inset 10. Simulation of the proposed Facility, with planned vegetative screening (Viewpoint 24).

With the Facility in place, there is a change in the landscape and visual setting. Portions of the horizon are no longer visible (due to the lower elevation of the viewer relative to topography in the view), with the exception of the forested hillside far off in the background. The presence of the PV panel array and perimeter chain-link fencing changes the overall color palette by introducing white, silver, and blue-gray. The PV panels are grouped together and appear as a single mass to the viewer. The introduction of modern structures substantially alters the historic character of this agricultural landscape. The screening between the viewer and the PV panels provided by the proposed planting plan reduces the visual effect of the PV arrays to the landscape by creating a light and natural intervening element. However, the introduction of vegetation in this arrangement deviates from the open character of the agricultural landscape created by open fields of crops and/or mowed grass.

The proposed Facility would have an effect on the visual setting of agricultural properties and landscapes within the Historic Resources Study Area. To viewers in the immediate vicinity of the Facility (i.e. less than 0.5-mile), some portions of the formerly open spaces and fields would now contain dense arrangements of modern solar infrastructure with partial intervening vegetative screening. From locations where the Facility is visible and in close proximity to the viewer, the changed (metallic) color palette and the angular/inorganic shapes of the PV panel arrays would alter the historic character of agricultural landscape.

### 3.4.2 Scenic Vistas

Scenic vistas are an important component of the visual setting within the Historic Resources Study Area and were also identified as areas of special consideration by NYSOPRHP/SHPO in analyzing potential visual effects (see Section 1.4). The open fields and clear views to the horizon are the result of clearing and maintenance of the land for agricultural use. Scenic vistas within the Historic Resources Study Area usually include at least one of the following elements:

- Long-distance views of large expanses of land and open space;
- Unobstructed views of the horizon and far-off land forms such as mountains and forests;
- Multiple levels of topography visible across a wide expanse; and
- The aggregation of smaller elements such as fence lines, collections of farm buildings, and hedgerows which contribute to the overall character of the rural landscape.



Inset 11. Existing view looking southwest from Seebers Road toward the Facility Site (Viewpoint 28).

Viewpoint 28 is located along Seebers Lane in the Town of Canajoharie, looking southwest (see Inset 11). The view depicts an open agricultural field with minimal visual intrusions. A tractor path rises out of the creek bed in the foreground and over the crest of the hill at the horizon. Trees and forested areas rise slightly above the horizon, and distant mountains provide a scenic backdrop for the entire scene. The sky is light blue with white cloud cover and adds to the openness and depth of the farm landscape. Two small hedgerows are visible at either side of the image mid-ground. Post-and-wire fencing is fixed at intervals on the landscape, creating open geometric shapes evocative of an historic farm. The distances in this image make it representative of both agricultural landscapes and scenic vistas within the Historic Resources Study Area.



Inset 12. With the Facility in place, PV panels occupy a large section of the agricultural field, coalescing along the horizon to the center and right. (Viewpoint 28).

With the Facility in place (Inset 12), the PV panels are visible along the horizon line and appear as a relatively thin, continuous black mass. The arrangement at the horizon and out of the agricultural fields helps to retain the sense of open space and the overall color pallet. The appearance of the horizon line is not significantly altered by the Facility from this perspective. The shape of the horizon is still relatively flat, and the distant mountains are still visible. The orientation of the PV panels toward the sun in the simulation hides the reflective surface from the viewer, which reduces the visual impact by not introducing the metallic blue panel faces into the natural color scheme. Rather, the dark line of the horizon appears thickened but does not intrude upon the overall forms in the image. Consideration of leaf-on or leaf-off conditions are not relevant in this view given the lack of trees and shrub vegetation on the landscape.



Inset 13. Existing view to the north from US Route 20 near the S/NRHP-listed property, The Teepee (Viewpoint 82).

Viewpoint 82 is a view looking north from the S/NRHP-listed property The Teepee (11NR06217) located at 7632 US Route 20 in the Town of Cherry Valley, Otsego County. The view depicts winter (leaf-off) conditions at the Facility Site viewed from a distance of approximately 4 miles. The view is characterized by white expanses with intermittent dark brown or black forested areas and thin hedgerows breaking up the landscape. Four distinct levels of topography extend to the horizon, which is faint due the shrouding of a winter haze. The wintertime color palette is largely monochromatic, with the white sky and snowy fields broken only by dark brown and black shapes of the hedgerows and forested areas. The typical flat appearance of the agricultural fields and natural elements all contribute to the sweeping views that characterize the scenic vistas identified by NYSOPRHP/SHPO as of specific interest (see Section 1.4).





Inset 14. Simulation of the Facility Site with the PV panels in place (Viewpoint 82). (Facility highlighted in green for emphasis)

With the Facility in place, there is little or no perceptible change to the historic vista. The Facility Site is located on the third hilltop from the foreground, approximately 4.3 miles from the viewer. Under these conditions and at this distance, the PV panel arrays are indistinguishable from the dark forested areas from this perspective under these conditions but are shown here as light green “wireframe renderings” to show the effects of screening.

The proposed Facility’s visual effect on scenic vistas within the Historic Resources Study Area will be very dependent on distance. In longer distance views, due to the low profile of the PV panels and the mitigating effect of distance, it would be difficult to visually differentiate the PV panels, which would appear as a black mass similar to the forested areas viewed from a distance. There would be no perceptible change to the views to the horizon or mountains, the ability to see successive levels of topography, or the aggregate of landscape elements collectively making up to landscape. However, from closer distances where the materials and form of the PV arrays are apparent, the effect would be as described previously for agricultural landscapes.

### 3.4.3 Visual Effect of the Facility on Historic Resources

Based on sites visits conducted during the historic resources surveys and review of the visual simulations prepared as part of the VIA for the Facility, the potential effect of the Facility on the visual setting associated with historic resources

is dependent on a number of factors including the distance to the Facility, the number of visible PV panels, the extent to which the Facility is screened or partially screened by buildings, trees, or other objects, and the amount of existing visual clutter and/or modern intrusions in the view. The introduction of modern interventions such as chain-link perimeter fencing into a formerly open agricultural space would have a potential impact on the visual character or setting of adjacent resources.

The introduction of large-scale PV panel arrays would occupy portions of the traditionally open fields that contribute to the historic character of the visual setting of historic properties which have been determined to be significant NYSOPRHP/SHPO (see Section 1.4). The analysis of the Facility's potential visual effects on the historic setting of the rural landscape takes into account the effect of the Facility on agricultural landscapes and scenic vistas, as illustrated in visual simulations from representative viewpoints. In addition, the analysis accounts for the historical spatial organization of the landscape established by the original Colonial-era patents, evidenced in contemporary transportation patterns, the overall structure of the patchwork of agricultural lands, and clustered arrangements of buildings in the rural landscape. While the transportation patterns and the established boundaries of individual farm fields would not be altered, the density of objects within the open spaces of the landscape would increase with the construction of the Facility. In some areas, the change from open expanses of natural green fields to clusters of modern, metallic, rectilinear PV panels would be quite noticeable. Given the specific topography of the Historic Resources Study Area, the Facility is likely to have an effect on the visual setting of locations in the within 0.5-mile of Facility components, and little to no effect on the setting of properties located greater than 0.5-mile from the Facility, from which a viewer would have difficulty perceiving the Facility.

There are 52 historic properties (i.e., properties listed on or determined to be eligible for listing on the S/NRHP) located within the Historic Resources Study Area. These include 18 S/NRHP-listed resources, 11 S/NRHP-eligible resources, and 2 National Historic Landmarks located within five miles of the Facility, which were determined to have no potential visibility of any Facility components. The remaining 21 historic properties (which include 10 S/NRHP-listed and 11 S/NRHP-eligible properties) are located within the APE for Indirect Effects, i.e., there are 21 historic properties that will have potential views of the Facility. All but one of these 21 properties are all located between 1.8 to 5.2 miles away.

The historic property located closest to the Facility is 122 G. Bowerman Road (USN 05702.000152), which has been determined to be eligible for listing on the S/NRHP and is located less than 150 feet from the Facility perimeter fence. The potential effect of the Facility on this property is described above in in Section 3.4.1 (see Insets 7 and 8). It is worth noting that the property is currently an active family farm, as in the case of the S/NRHP-listed Jacob Nellis Farmhouse described below. The remaining S/NRHP-eligible properties with potential visibility of the Facility are located at distances of over 2.5 miles from the Facility fence, which would minimize/mitigate the visual impact of the Facility.

The S/NRHP-listed resource located nearest to the Facility in an area of potential visibility is the Jacob Nellis Farmhouse (90NR01556), located approximately 1.8 miles from the Facility fence. At this distance, the Facility would appear on the opposite (south) side of the Mohawk River as a dense black cluster of geometric shapes in an agricultural field, surrounded by a faint, white fence. Viewshed mapping suggests that visibility from this property exists only on a small portion (1%) of the 27.7-acre parcel and not actually at or near the actual S/NRHP-listed structure. The Jacob Nellis Farmhouse is currently used as a functioning family farm, with modern farming equipment and infrastructure a constant element in its daily operations, as it has been since its original construction. Were the Facility to stand out visually from this property, it would not be inconsistent with the modern function and technology ever-present on site. The remaining S/NRHP-listed properties with potential visibility are located at distances of over 3.5 miles away, which minimizes the potential visual impact of the Facility.

In addition, a conceptual visual mitigation planting plan was developed as part of the VIA for the Facility to minimize and mitigate the Facility's visual effects. While the planting modules were not designed to completely screen views of the proposed Facility, the introduction of native tree and shrub mixes interspersed with pollinator plants along the roadsides adjacent to the Facility will present natural forms and colors to divert attention from the modern materials and inorganic forms of the PV panel arrays.

#### 3.4.4 Substations and Overhead Gen-Tie Poles

The potential visual effect of the Facility's proposed substations and gen-tie poles was not explicitly addressed in the *Historic Architectural Resources Survey* (EDR, 2018). However, the VIA (EDR, 2019) prepared for the Facility, which was completed as part of the Article 10 application and summarized in Exhibit 24, does address visibility and visual effect of the substations and gen-tie poles. The S/NRHP-listed and S/NRHP-eligible historic properties identified in the *Historic Resources Survey* are included as a category of visually sensitive sites that are considered in the VIA (see Section 3.6 and Figure 5 in the VIA report). In addition, the VIA includes a discussion (included below) and viewshed maps (VIA Figure 8: Sheet 2) that address the potential visibility and visual effect of the substation and overhead gen-tie poles:

##### *Substation and Overhead Gen-Tie Poles Viewshed*

Potential visibility... of the overhead gen-tie line poles and collection and point-of-interconnect substations, based on the tallest proposed structures and topography alone, indicates that some portion of the substation and/or poles could be visible from approximately 27.8% of the 5-mile study area. Visibility is limited by regions of low topographic relief stemming from the Mohawk River valley and valleys of associated tributaries. While the eastern portion of the visual study area features the highest concentration of tracts of visibility, visibility is effectively eliminated within the Mohawk River valley and surrounding area. Similarly, the areas surrounding Otsquago Creek, Bowman's Creek, and the western portion of



Canajoharie Creek are not predicted to have visibility of the substation based on topography alone. The largest area of potential visibility extends from the proposed substation location between the northern portion of Canajoharie Creek and Flat Creek.

When vegetation is factored into the analysis, potential visibility of the proposed substations and/or gen-tie poles is further reduced to approximately 5.6% of the 5-mile study area. Views from the remaining 94.5% of the study area are screened by the combination of topography and forest vegetation. Remaining areas of potential substation visibility include the area adjacent to the proposed station, elevated areas surrounding U.S. Route 20, and the region north of the Village of Palatine Bridge. Visibility of the substation and gen-tie poles is effectively limited to the eastern portion of the visual study area, with the exception of hilltops along the southwestern border of the study area which are predicted to have views of the proposed station (EDR, 2019).

There are four S/NRHP-listed and three S/NRHP-eligible properties with potential substation/gen-tie visibility located within the Historic Resources Study Area (see Table 1). However, it is worth noting that the S/NRHP-listed properties with potential substation/gen-tie visibility are located between 3.8 and 4.7 miles from the perimeter fence, and the S/NRHP-eligible properties with potential substation and gen-tie visibility are located between 3.5 and 4.3 miles from the Facility perimeter fence (within which the substations and gen-tie are located). At these distances it would be difficult to perceive the narrow lighting masts which are the tallest elements of the substations (see Section 1.2). In addition, potential visibility of the substations and gen-tie line from S/NRHP-listed historic properties was primarily limited to portions of land inside the parcel boundary rather than from the main historic structure.

The location of S/NRHP-listed and S/NRHP-eligible historic properties and areas of visibility for the substations and gen-tie poles are depicted on Figure 5. A line of sight visibility diagram of the substations is included as Appendix C.

### **3.5 Noise Effects Analysis**

Compared to all other types of power generation facilities, the potential for any kind of adverse auditory effect from a PV solar energy facility is minimal to non-existent. Moreover, such facilities have the unique characteristic of only operating during daylight hours when ambient noise is higher. Any possible concerns about the sound emissions from a solar project are largely confined to the step-up transformer in the new substation, electrical inverters within the various solar panel fields and some short-lived activities during construction. There are no vibration issues associated with the operation of such a facility.

The potential auditory effect of the Facility was studied in the *Existing Conditions Background Sound Surveys and Noise Impact Assessment* (Hessler, 2019) and described in Exhibit 19 of the Article 10 application. Field surveys were conducted during both winter and summer conditions to establish existing levels of background noise at the nearest residence to the Facility substation. The existing background noise level was then compared to the anticipated noise

levels of construction and operation of the proposed Facility in order to gauge audibility relative to the natural environment. Sound levels are calculated using A-weighted decibels (dBA), an expression of the relative loudness of sounds in air as perceived by human hearing.

The step-up transformer in the new substation had a calculated sound level of 32 dBA at the nearest residence, which is extremely quiet, and likely not audible. The electrical inverters had a calculated sound level of 26 dBA at the nearest residence, which is also most likely inaudible. By comparison, the current ambient noise levels in the Historic Resources Study Area average between 28 dBA in winter and 35 dBA in summer. Higher levels of noise up to approximately 85 dBA are anticipated to be generated during Facility construction, but this will be similar in duration and volume to levels reached during the construction of a private residence (Hessler, 2019). Based on this analysis, it is unlikely that there will be any auditory effects on historic resources within the Historic Resources Study Area.

## 4.0 SUMMARY AND CONCLUSIONS

### 4.1 Summary of Facility's Potential Effect on Historic Resources and Setting

Per Section 14.09 of the New York State Parks, Recreation, and Historic Preservation Law, the “introduction of visual, audible, or atmospheric elements which are out of character with [a historic property] or alter its setting” needs to be considered when determining whether an undertaking will have an adverse impact on historic resources (9NYCRR §428.7). Construction of the Facility will not require the demolition or physical alteration of any buildings or other potential historic resources. No direct physical impacts to historic resources listed in or determined eligible for the S/NRHP will occur as a result of construction of the Facility. The Facility's potential effect on historic resources would be a change (resulting from the introduction of PV panel arrays) in the setting associated with a given historic resource. It is also worth noting that visual setting may or may not be an important factor contributing to a given property's historical significance.

### 4.2 Conclusion and Recommendations

Based on the viewshed analysis prepared for the current Facility layout, potential visibility of the Facility from historic properties within the Historic Resources Study Area is summarized as follows:

- There are 52 historic properties (i.e., properties listed on or determined to be eligible for listing on the S/NRHP) located within the Historic Resources Study Area. Of these, 31 (18 S/NRHP-listed resources, 11 S/NRHP-eligible resources, and 2 National Historic Landmarks) will not have views of the Facility. The remaining 21 historic properties (which include 10 S/NRHP-listed and 11 S/NRHP-eligible properties) are located within the APE for Indirect Effects (i.e., there are 21 historic properties that will have potential views of the Facility).
- There are 10 S/NRHP-listed properties that are anticipated to have views of the PV panel arrays (from some portion of the property), and four are anticipated to have views of the substations and gen-tie poles. These S/NRHP-listed properties with potential visibility of the Facility are located between 1.8 to 5.1 miles from the Facility fence.
- Of the 22 properties determined by NYSOPRHP/SHPO to be eligible for listing on the S/NRHP, 11 are anticipated to have views of the PV panel arrays, and three are anticipated to have views of the substations and gen-tie poles.
- The closest property eligible for listing on the S/NRHP is 122 G. Bowerman Road (USN 05702.000152), which is located on a parcel that is hosting a PV array, and is the only S/NRHP-eligible property located within the Facility Site.
- The remaining S/NRHP-eligible properties with Facility visibility are located between 2.6 to 5.2 miles away from the Facility.

The potential effect of the Facility on the historic resources and setting within the Historic Resources Study Area dependent on a number of factors including the distance to the Facility, the number of visible PV panels, the extent to which the Facility is screened or partially screened by buildings, trees, or other objects, and the amount of existing visual clutter and/or modern intrusions in the view. Generally speaking, the potential effect would be the greatest for properties immediately adjacent to the Facility (i.e. less than 0.1-mile), while the effect would be diminished at greater distances (i.e. over 2.0 miles). There is only one formally identified S/NRHP-eligible historic property, 122 G. Bowerman Road (USN 05702.000152), located approximately 150 feet from the perimeter fence for the Facility. The effects of distance effectively minimize the potential visual effect of the Facility from the other formally identified historic structures/properties with the Historic Resources Study Area.

Relative to historic properties, the potential visual effect of the Facility is therefore limited to the overall effect on the traditional agricultural landscape that serves as the setting for historic properties in the region. The introduction of modern interventions such as arrays of PV panels enclosed in chain-link perimeter fencing in the formerly open agricultural space will alter the historic character of the visual setting. To help minimize these effects, the Applicant has developed a visual mitigation planting plan, using native species and mimicking the character of successional fields in the study area, which will provide a visual buffer of natural vegetation forms and colors between the Facility and the viewer.

There is not anticipated to be any auditory effect from the Facility on historic resources located within the Historic Resources Study Area.

The Applicant anticipates that ongoing consultation with NYSOPRHP/SHPO/SHPO (and other applicable consulting parties) regarding potential visual and auditory impacts of the Facility on aboveground historic resources will continue through the Article 10 process and that NYSOPRHP's/SHPO's evaluation regarding potential effects and/or identification of any required mitigation will be determined as part of the U.S. Army Corps of Engineers review of the Facility under Section 106 of the National Historic Preservation Act. Section 106 review would be triggered by submission of a Joint Application for Permit, which is anticipated to occur following the submission of the Article 10 Application.

## 5.0 REFERENCES

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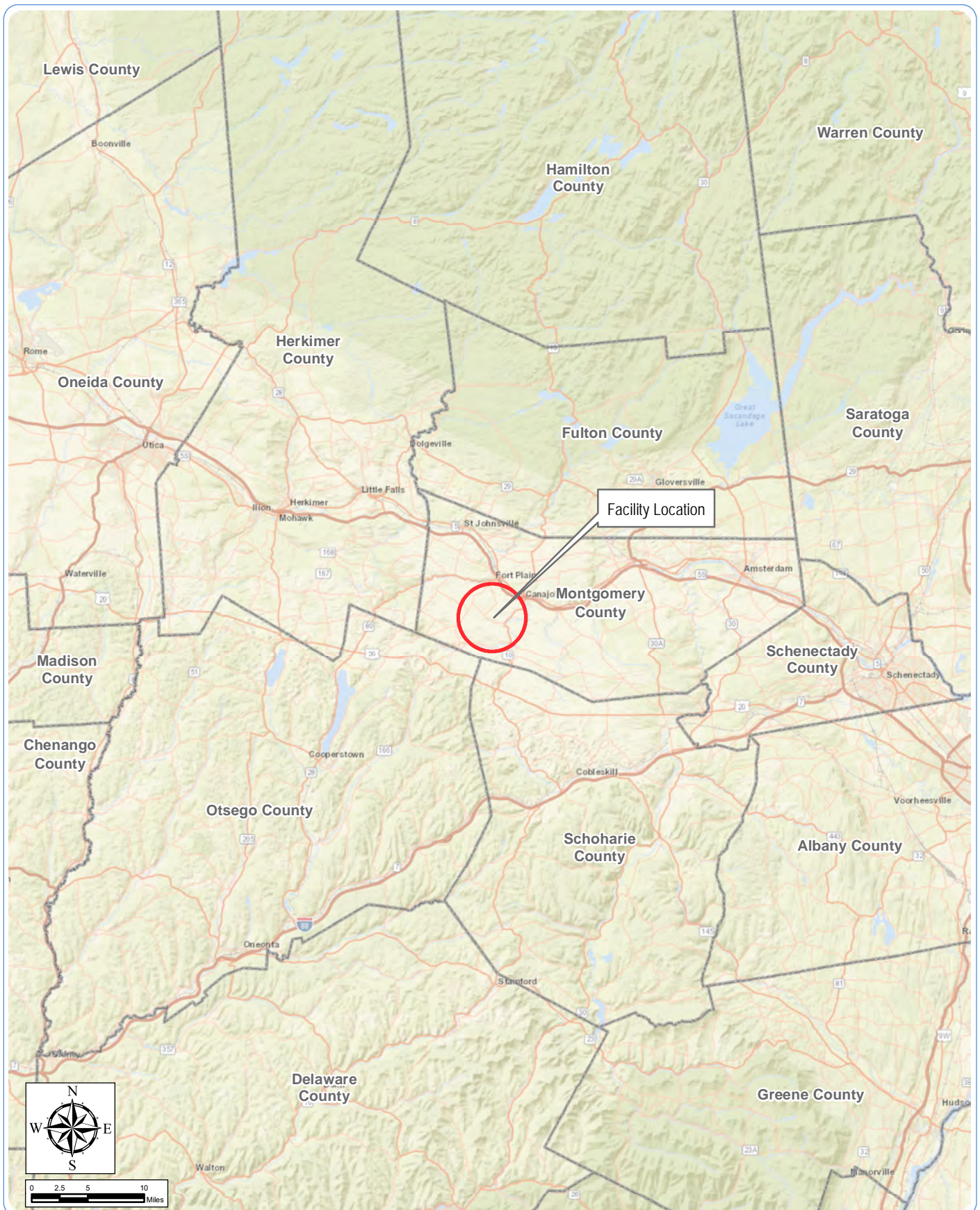
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## Figures





## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

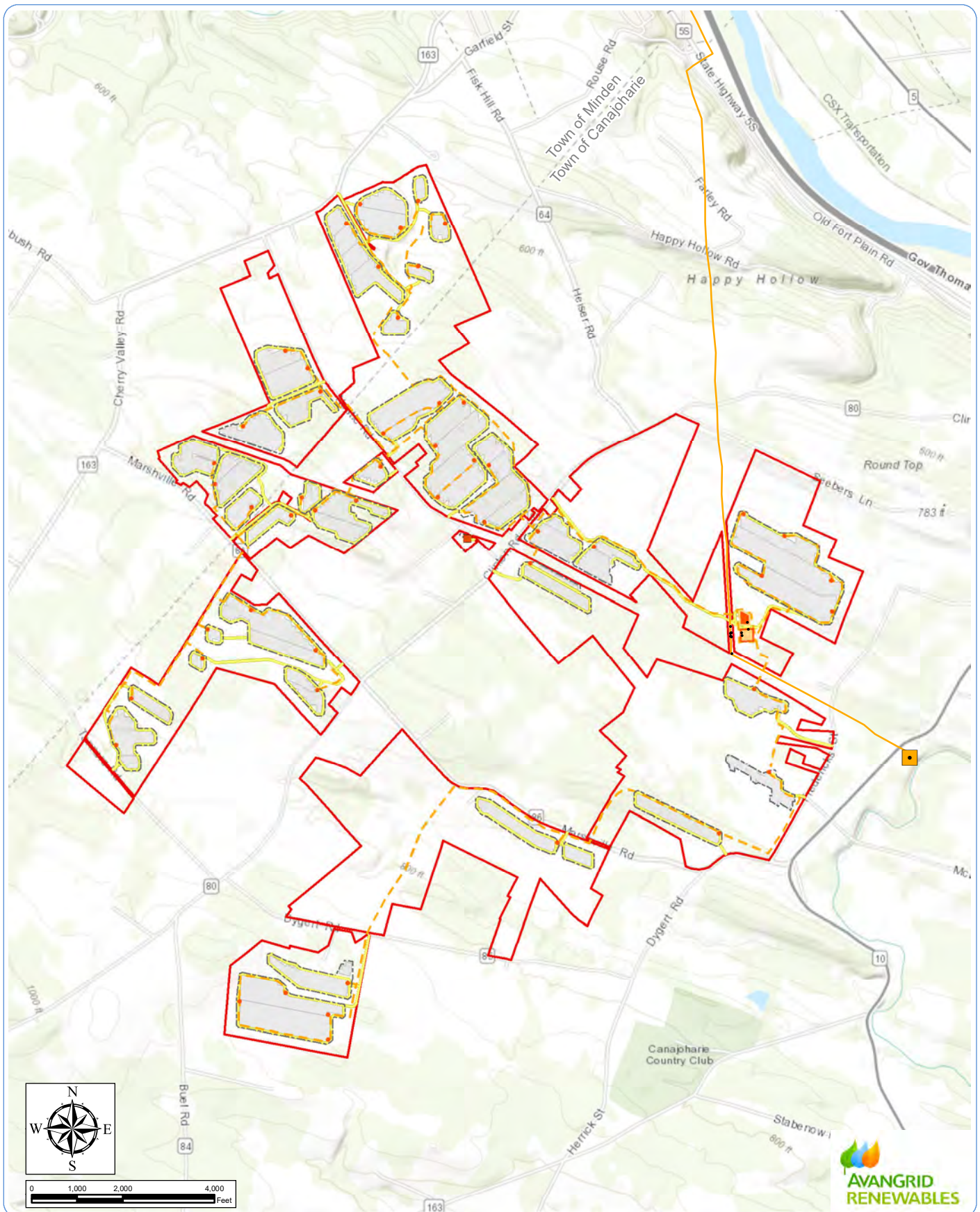
### Historic Resources Effects Analysis

Figure 1: Regional Facility Location

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service. 2. This map was generated in ArcMap on April 30, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.







## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

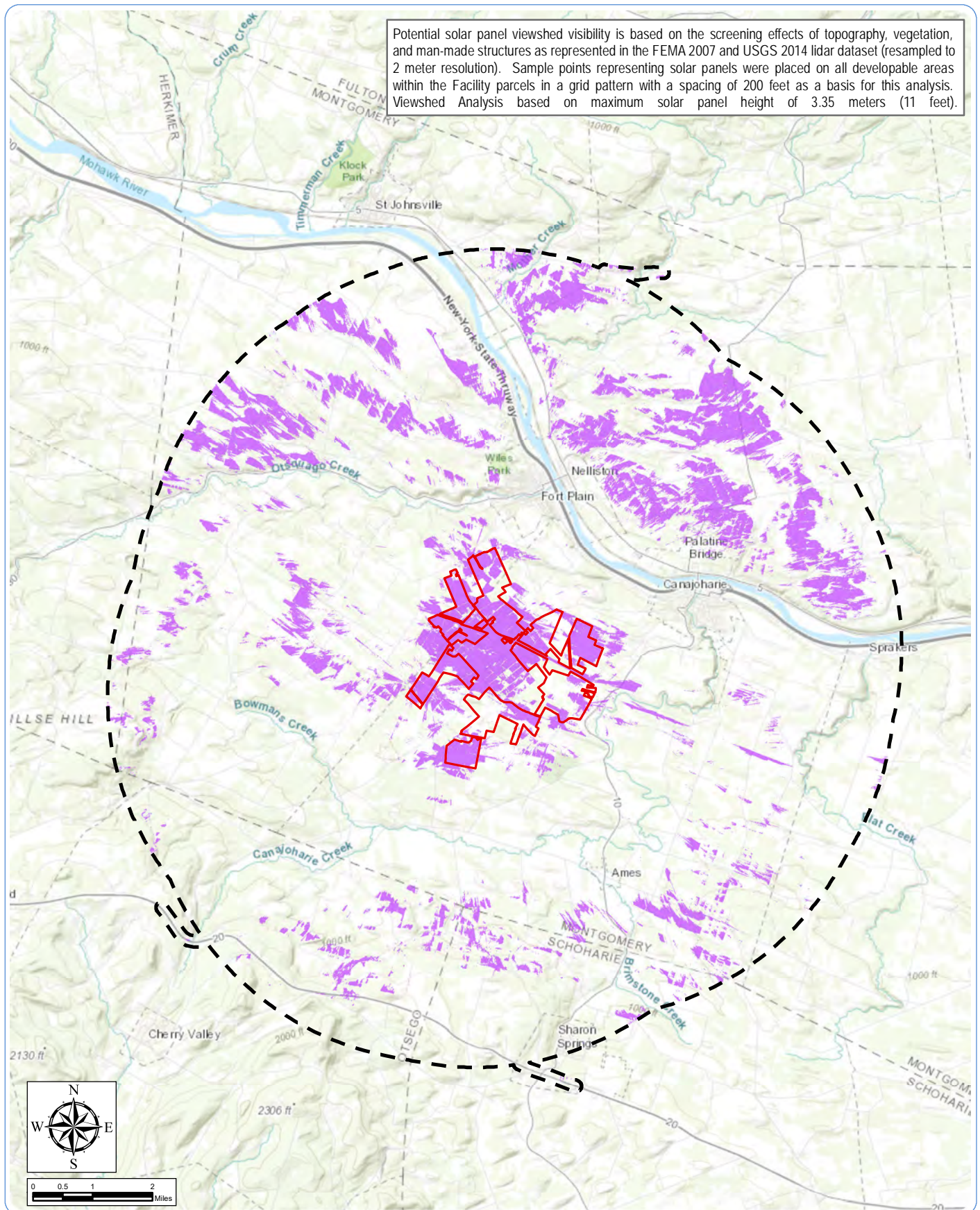
### Historic Resources Effects Analysis

Figure 2: Proposed Facility Layout

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service. 2. This map was generated in ArcMap on April 30, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Gen-Tie Pole
- Transformer
- O&M Building
- Existing Substation
- Existing St. Johnsville-Marshalville 115-kV Line
- Fence Line
- - - Buried Collection Line
- Access Road
- PV Panel Array
- Collection Substation
- POI Substation
- Facility Site





## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

### Historic Resources Effects Analysis

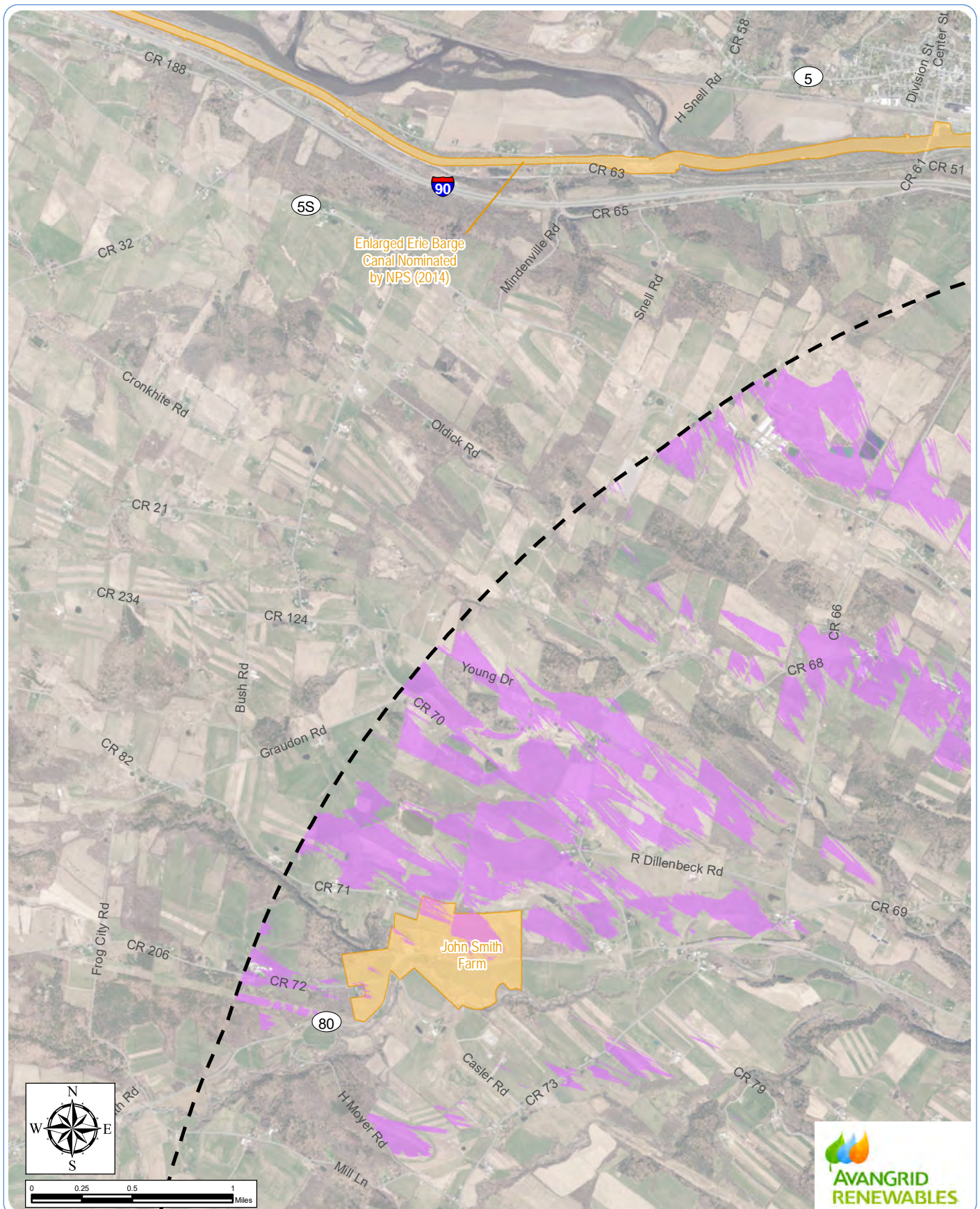
Figure 3: Area of Potential Effect for Indirect (Visual) Effects

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service. 2. This map was generated in ArcMap on April 30, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- Area of Potential Effect (APE) for Indirect (Visual) Effects
- Facility Site
- Historic Resources Study Area







## Mohawk Solar

Towns of Canajoharie and Minden,  
Montgomery County, New York

### Historic Resources Effects Analysis

Figure 4: Historic Resources Effects Analysis

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service.  
2. This map was generated in ArcMap on May 7, 2019. 3. This is a color  
graphic. Reproduction in grayscale may misrepresent the data.

▲ NRHP-Eligible Resource (NYSOPRHP Determined)

○ NRHP Eligibility Undetermined

\* Resource No Longer Extant

■ NRHP-Listed Resource

■ NRHP-Eligible District  
(NYSOPRHP Determined)

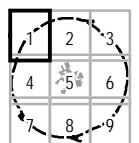
■ NRHP Eligibility Undetermined  
Historic District

● Simulation Viewpoint Location

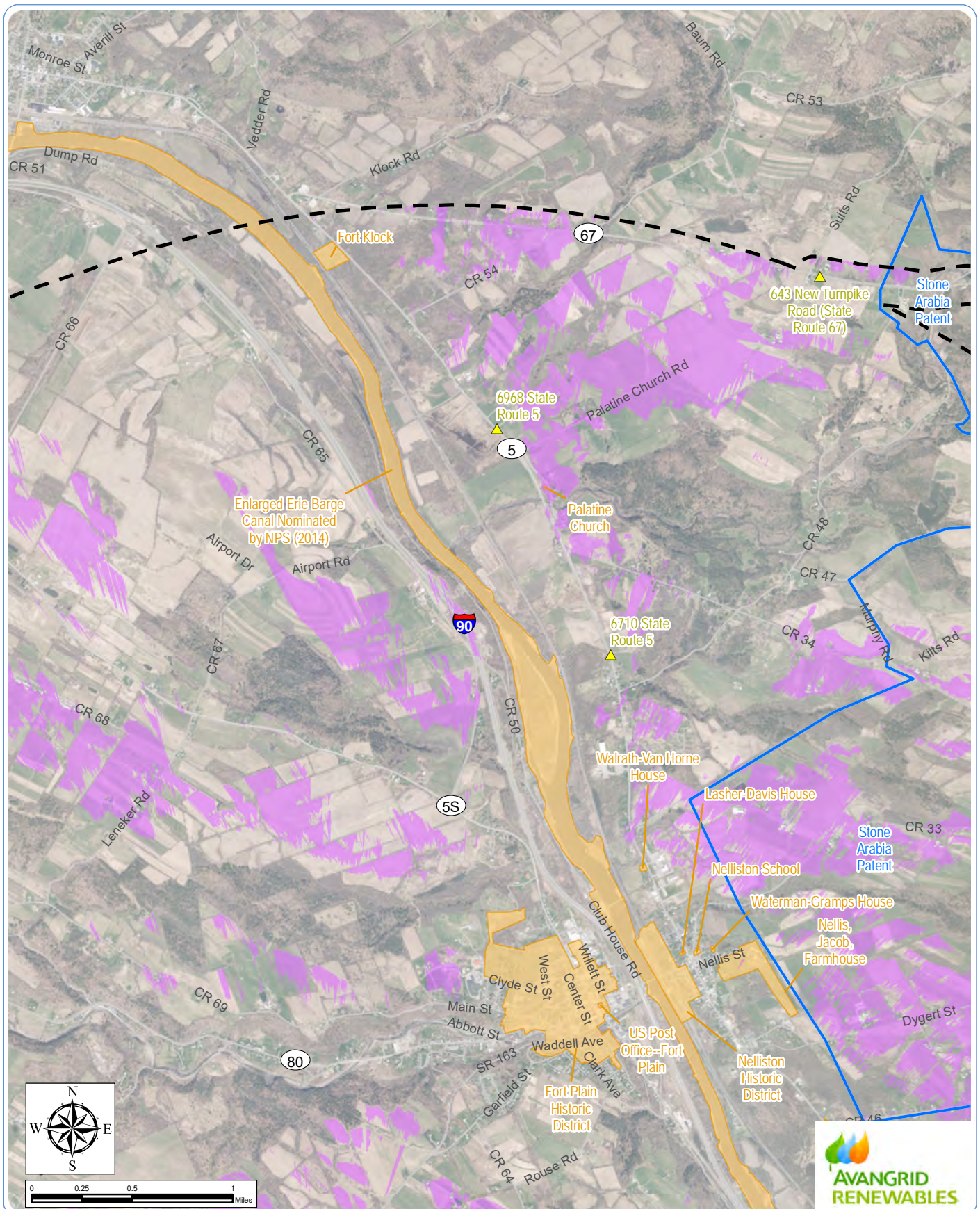
■ Area of Potential Effect (APE)  
for Indirect (Visual) Effects

■ Facility Site

■ Historic Resources Study Area







## Mohawk Solar

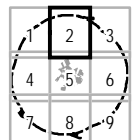
Towns of Canajoharie and Minden,  
Montgomery County, New York

### Historic Resources Effects Analysis

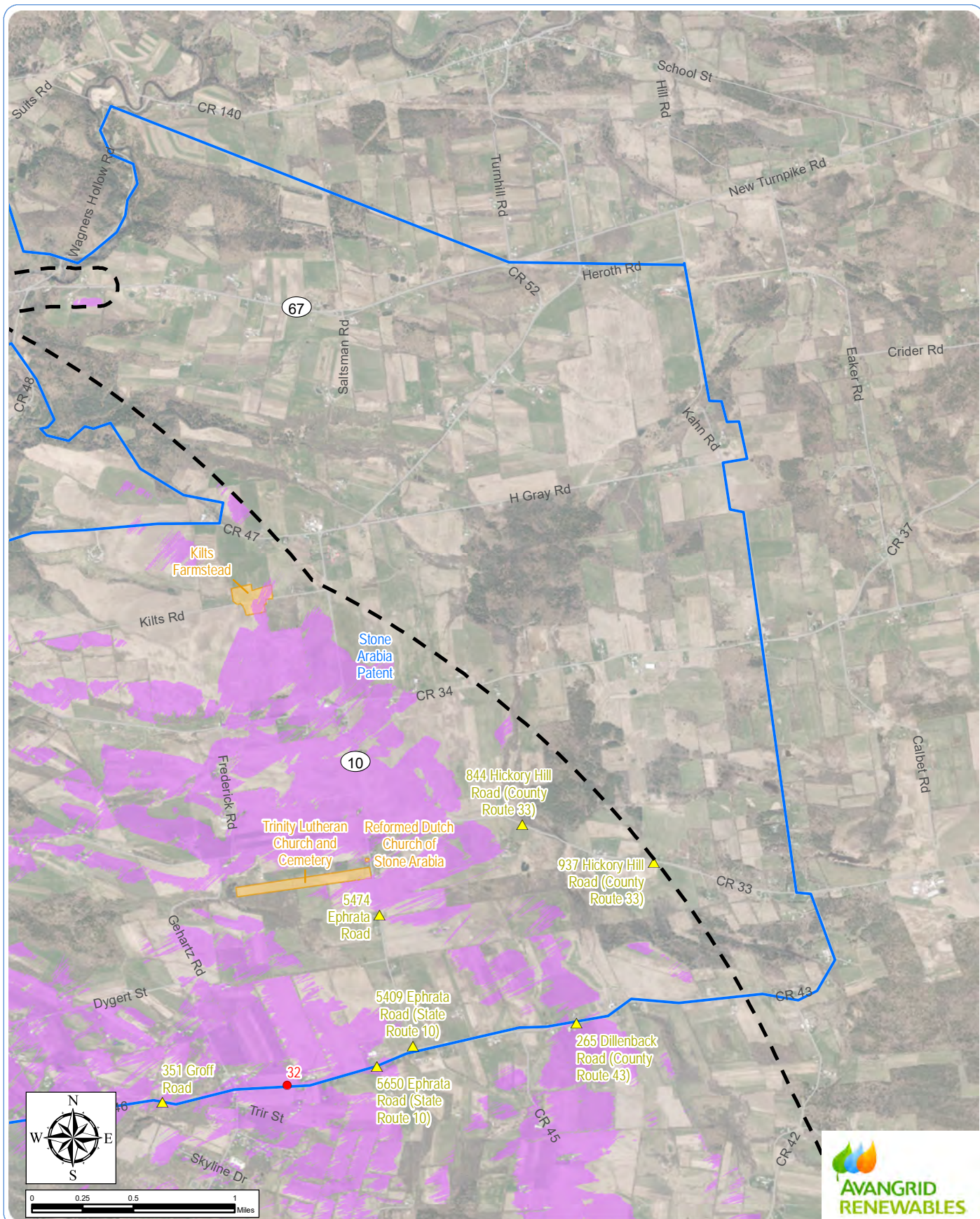
Figure 4: Historic Resources Effects Analysis

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- \* Resource No Longer Extant
- NRHP-Listed Resource
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- NRHP Eligibility Undetermined
- Historic District
- Simulation Viewpoint Location
- Area of Potential Effect (APE) for Indirect (Visual) Effects
- Facility Site
- Historic Resources Study Area







## Mohawk Solar

Towns of Canajoharie and Minden,  
Montgomery County, New York

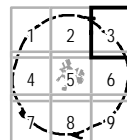
### Historic Resources Effects Analysis

Figure 4: Historic Resources Effects Analysis

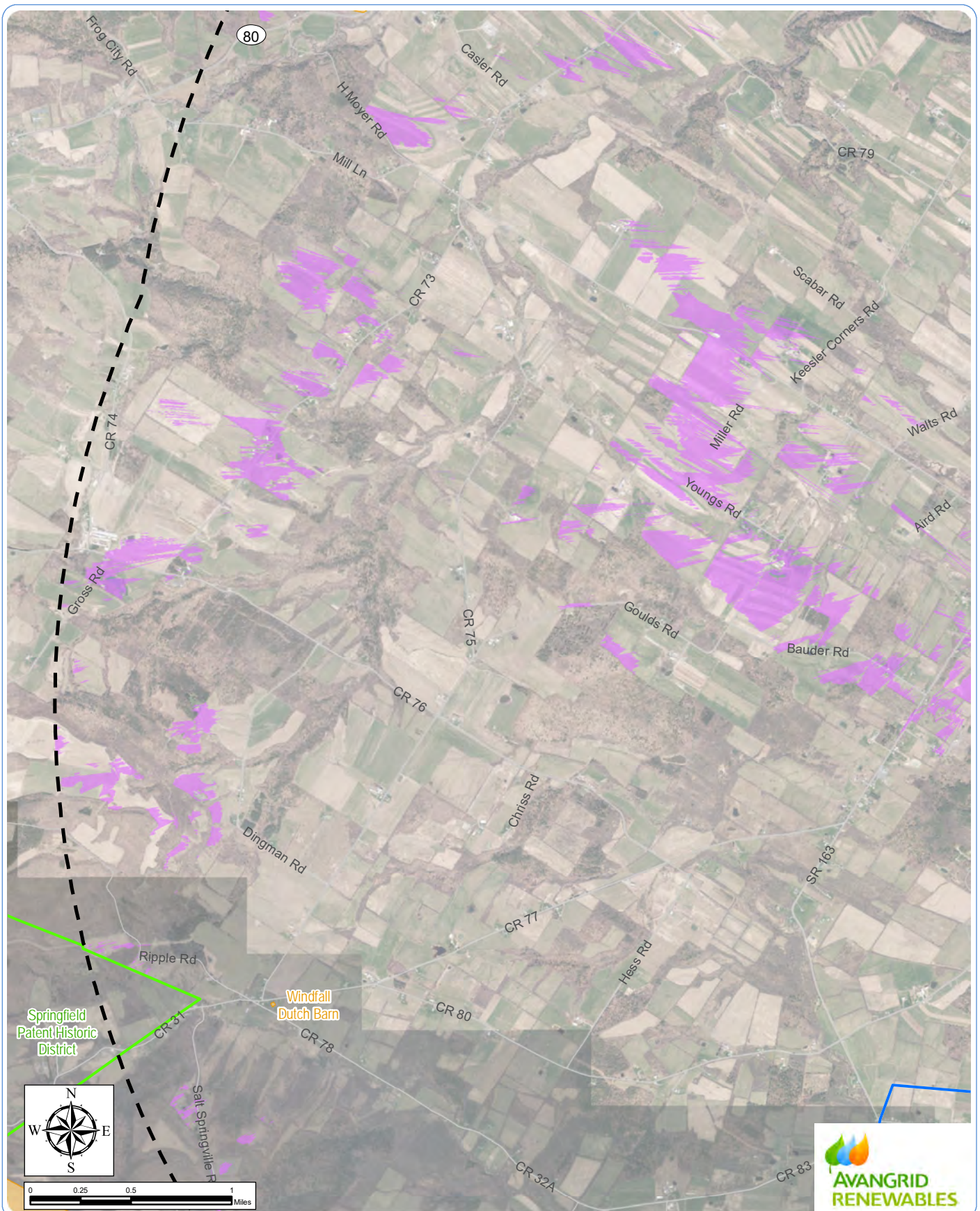
Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service.  
2. This map was generated in ArcMap on May 7, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- ▲ NRHP-Eligible Resource (NYSOPRHP Determined)
- NRHP Eligibility Undetermined
- \* Resource No Longer Extant
- NRHP-Listed Resource
- NRHP-Eligible District (NYSOPRHP Determined)
- NRHP Eligibility Undetermined
- Historic District

- Simulation Viewpoint Location
- Area of Potential Effect (APE) for Indirect (Visual) Effects
- Facility Site
- Historic Resources Study Area







## Mohawk Solar

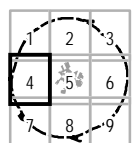
Towns of Canajoharie and Minden,  
Montgomery County, New York

### Historic Resources Effects Analysis

Figure 4: Historic Resources Effects Analysis

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service.  
2. This map was generated in ArcMap on May 7, 2019. 3. This is a color  
graphic. Reproduction in grayscale may misrepresent the data.

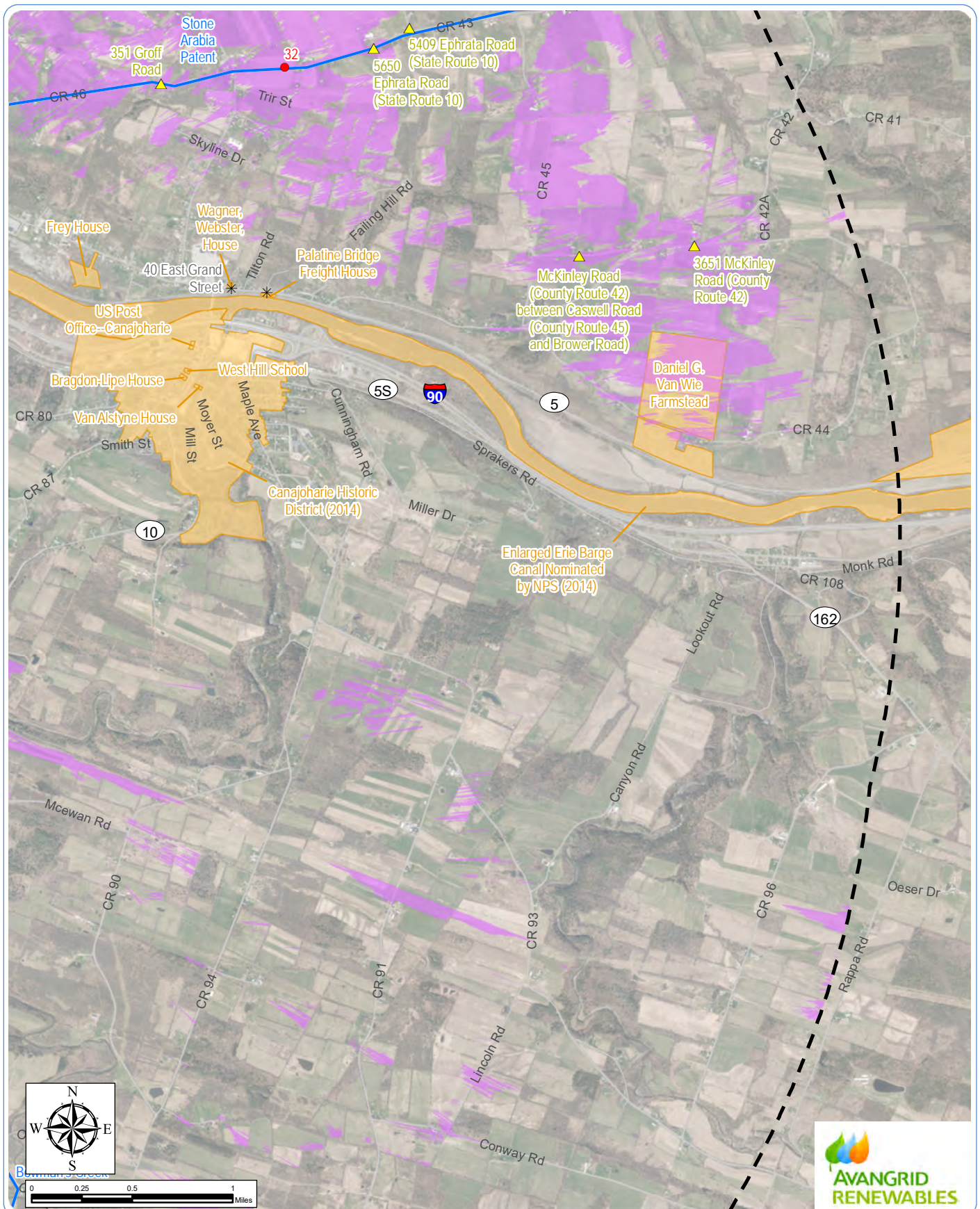
- ▲ NRHP-Eligible Resource (NYSOPRHP Determined)
- NRHP Eligibility Undetermined
- \* Resource No Longer Extant
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- Historic District
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- Area of Potential Effect (APE) for Indirect (Visual) Effects
- Facility Site
- Historic Resources Study Area









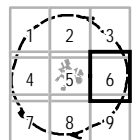


**Mohawk Solar**  
Towns of Canajoharie and Minden,  
Montgomery County, New York

**Historic Resources Effects Analysis**  
Figure 4: Historic Resources Effects Analysis

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service.  
2. This map was generated in ArcMap on May 7, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

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- NRHP Eligibility Undetermined
- \* Resource No Longer Extant
- NRHP-Listed Resource
- NRHP-Eligible District (NYSOPRHP Determined)
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- Area of Potential Effect (APE) for Indirect (Visual) Effects
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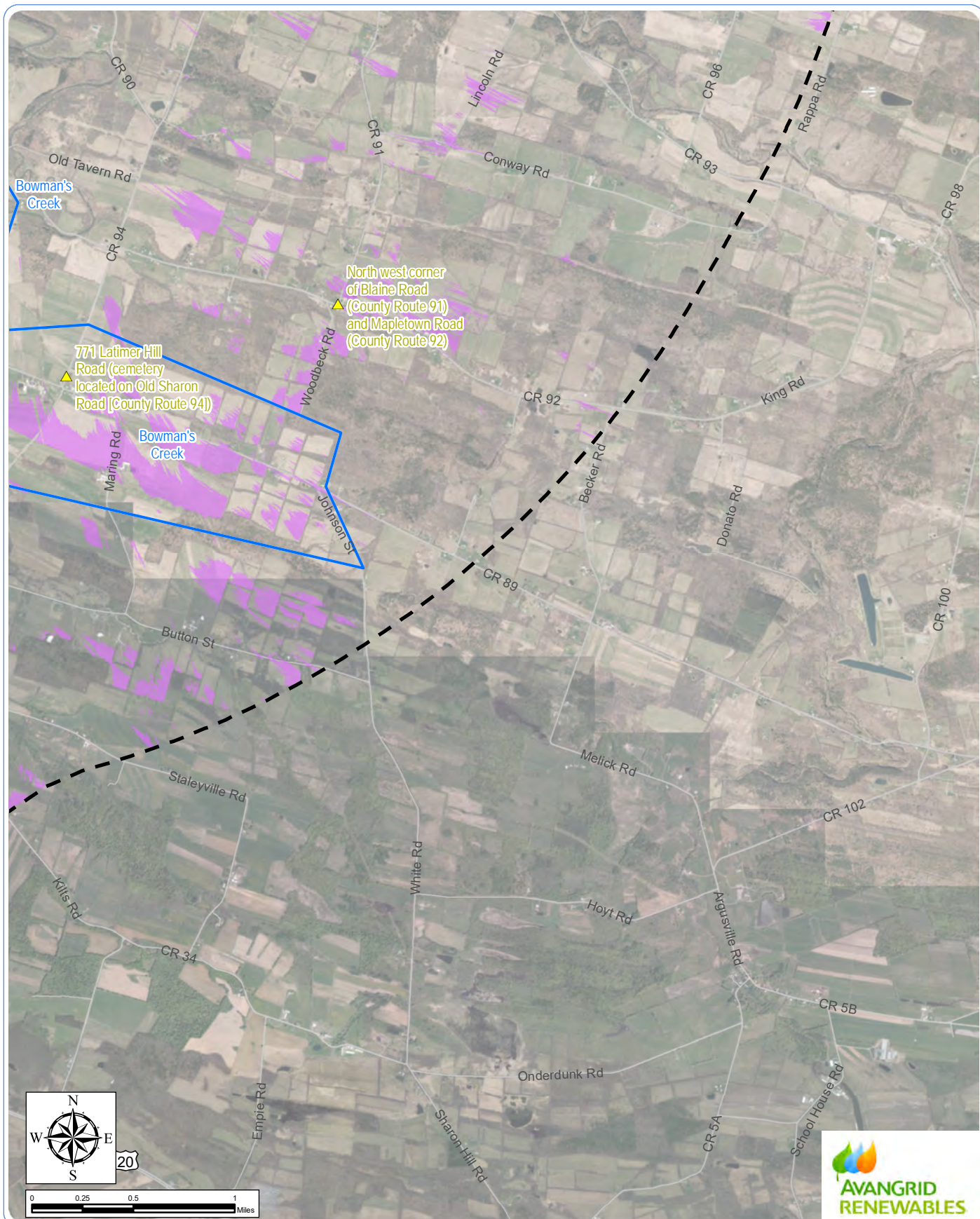




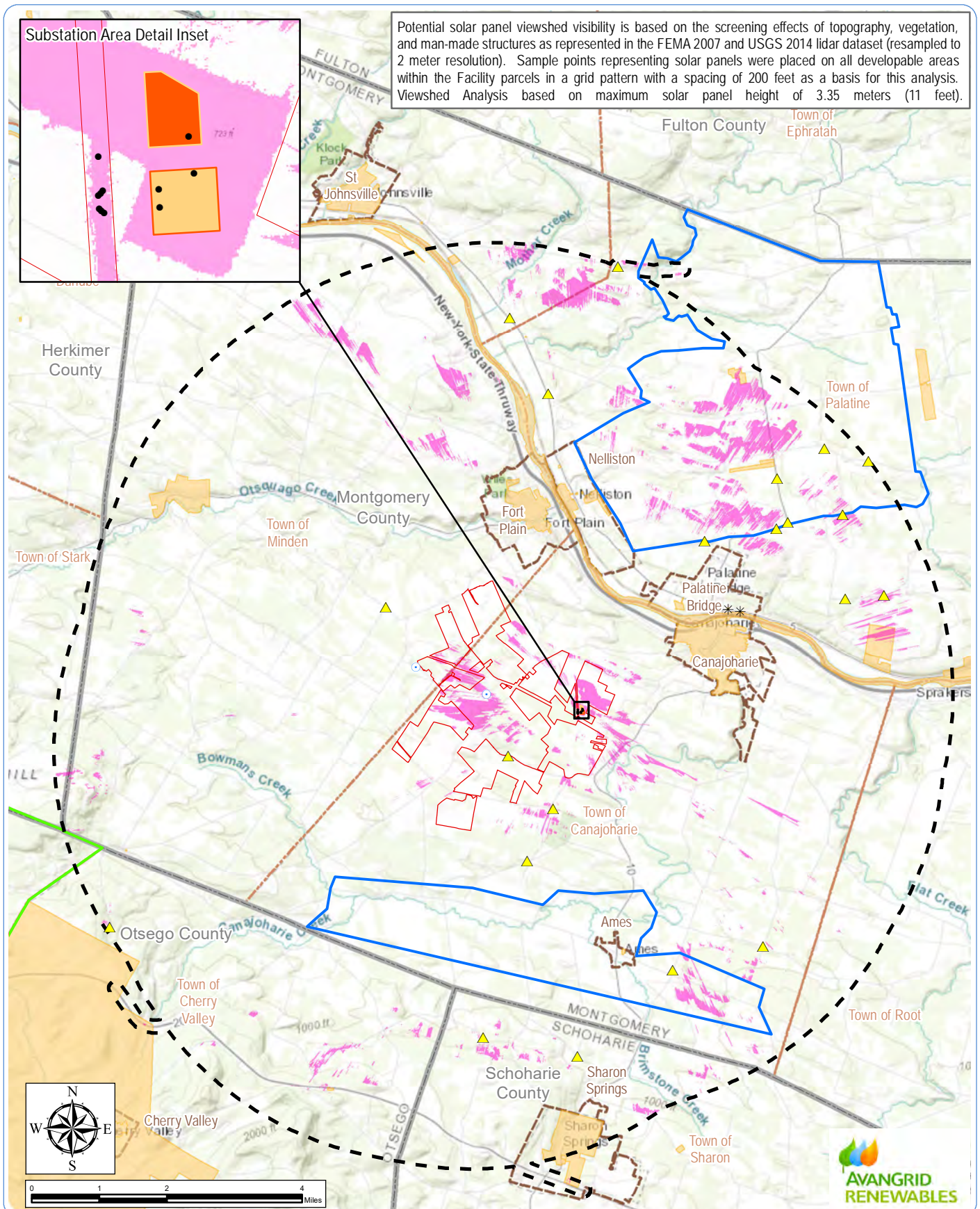












## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

### Historic Resources Effects Analysis

Figure 5: Substation/Gen-Tie Viewshed Results

Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service. 2. This map was generated in ArcMap on April 30, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

## Appendix A: NYSOPRHP Correspondence



## Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO  
Governor

ROSE HARVEY  
Commissioner

May 7, 2018

Mr. Joe Green  
Community Energy Solar  
3 Radnor Corporate Center  
100 Matsonford Road  
Radnor, PA 19087

Re: PSC  
Mohawk Solar Project  
Towns of Canajoharie and Minden, Montgomery County, NY  
17PR06371/ 17-F-0182

Dear Mr. Green:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential impacts that must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6NYCRR Part 617).

We have reviewed your submission dated April 10, 2018 for the Mohawk Solar Project. Based upon our review of the "Historic Architectural Resources Survey" (February 2018), OPRHP concurs with the eligibility recommendations of this report with the exception of the Marshville Evangelical Church, 6808 Ames Road in Canajoharie which does not appear to meet the National Register criteria.

We look forward to our continued consultation as the Historic Resource Effects Analysis report, as identified in the Work Plan, is completed.

Documentation requested in this letter should be provided via our Cultural Resource Information System (CRIS) at [www.nysparks.com/shpo/online-tools/](http://www.nysparks.com/shpo/online-tools/). Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project". You will need this project number and your e-mail address.

If you have any questions, I can be reached at (518) 268-2164.

Sincerely,

Weston Davey  
Historic Site Restoration Coordinator  
[weston.davey@parks.ny.gov](mailto:weston.davey@parks.ny.gov)

via e-mail only

**Division for Historic Preservation**

## Appendix B: Visual Simulations (PV Panels)



# Marshville Road | Canajoharie

## View Location Information:

Location: County Route 86 (Marshville Road)  
Town: Canajoharie  
County: Montgomery  
Direction of View: West-Northwest  
Camera Elevation: 845 feet  
Position: 42.8870106177° N, 74.6445526251° W  
Landscape Similarity Zone: Rural Uplands  
Viewer Type: Local Resident  
Sensitive Site: N/A  
Distance To Nearest Facility Component: 0.1 miles  
Distance Zone: Foreground

## Photograph Information:

Date: 10/27/2017  
Time: 2:18 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 35.8mm  
Focal Length (35 mm equivalent): 54.8mm  
Field of View: 36.3°

## Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

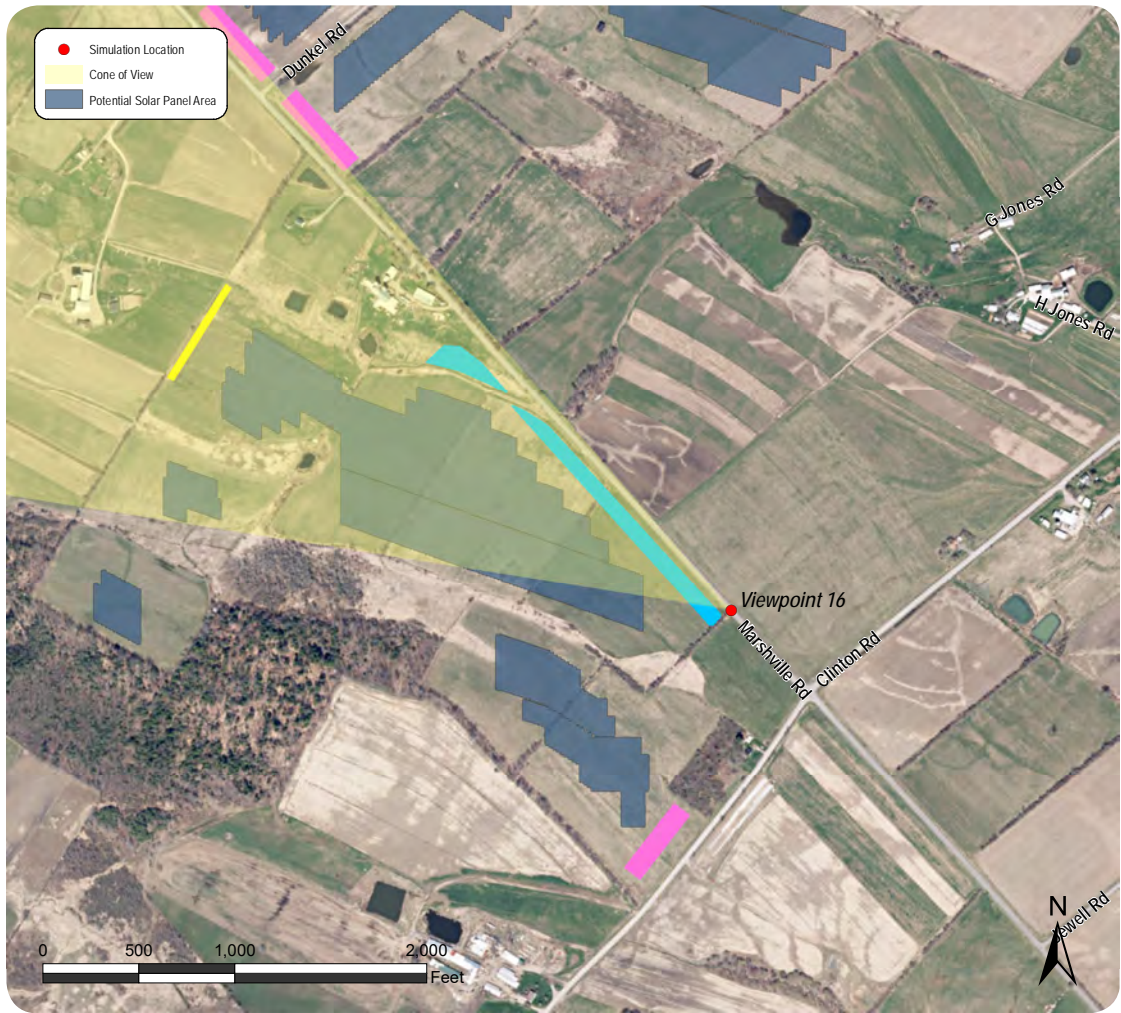
## Mitigation Planting Module:

Module 2 - Roadside Enhancement B

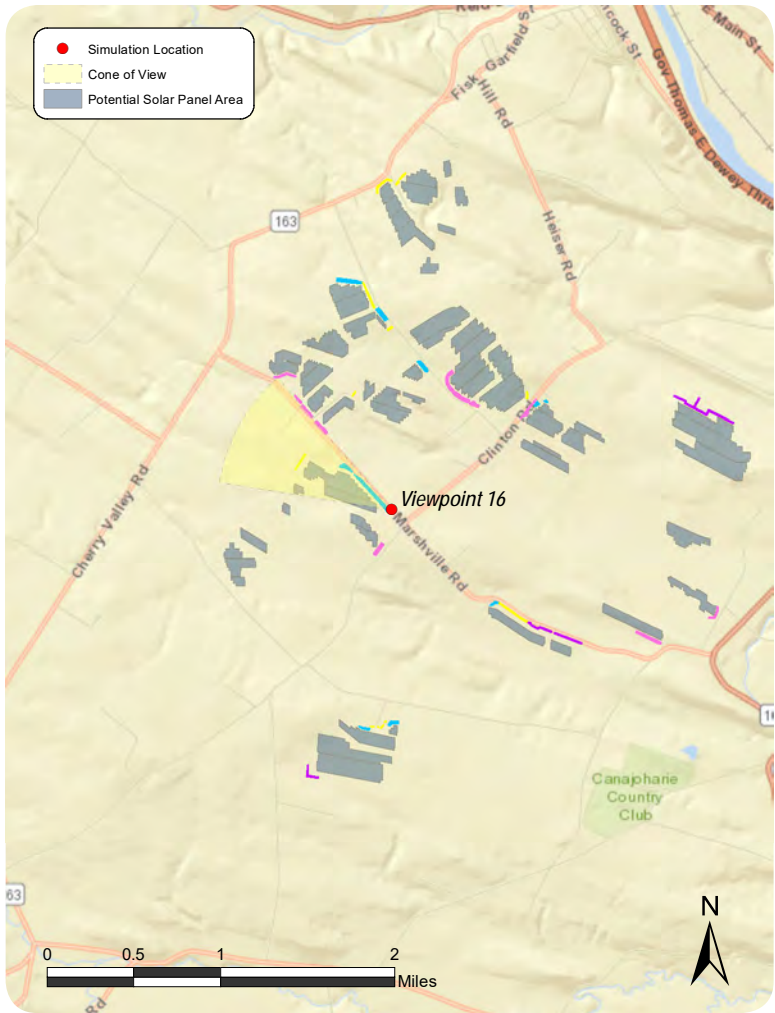
## Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

## Viewpoint Location



## Viewpoint Context



Context Photo: View to the Southwest



Context Photo: View to the West



Simulation Photo: View to the West-Northwest



Context Photo: View to the Northwest

## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 16



Existing Conditions













Nestle Road | Canajoharie

View Location Information:

Location: Nestle Road  
Town: Canajoharie  
County: Montgomery  
Direction of View: East-Southeast  
Camera Elevation: 715 feet  
Position: 42.8975064864° N, 74.6390269697° W  
Landscape Similarity Zone: Rural Uplands  
Viewer Type: Local Resident  
Sensitive Site: N/A  
Distance To Nearest Facility Component: 0.1 miles  
Distance Zone: Foreground

Photograph Information:

Date: 10/27/2017  
Time: 3:01 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 35.6mm  
Focal Length (35 mm equivalent): 54.8mm  
Field of View: 36.3°

Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

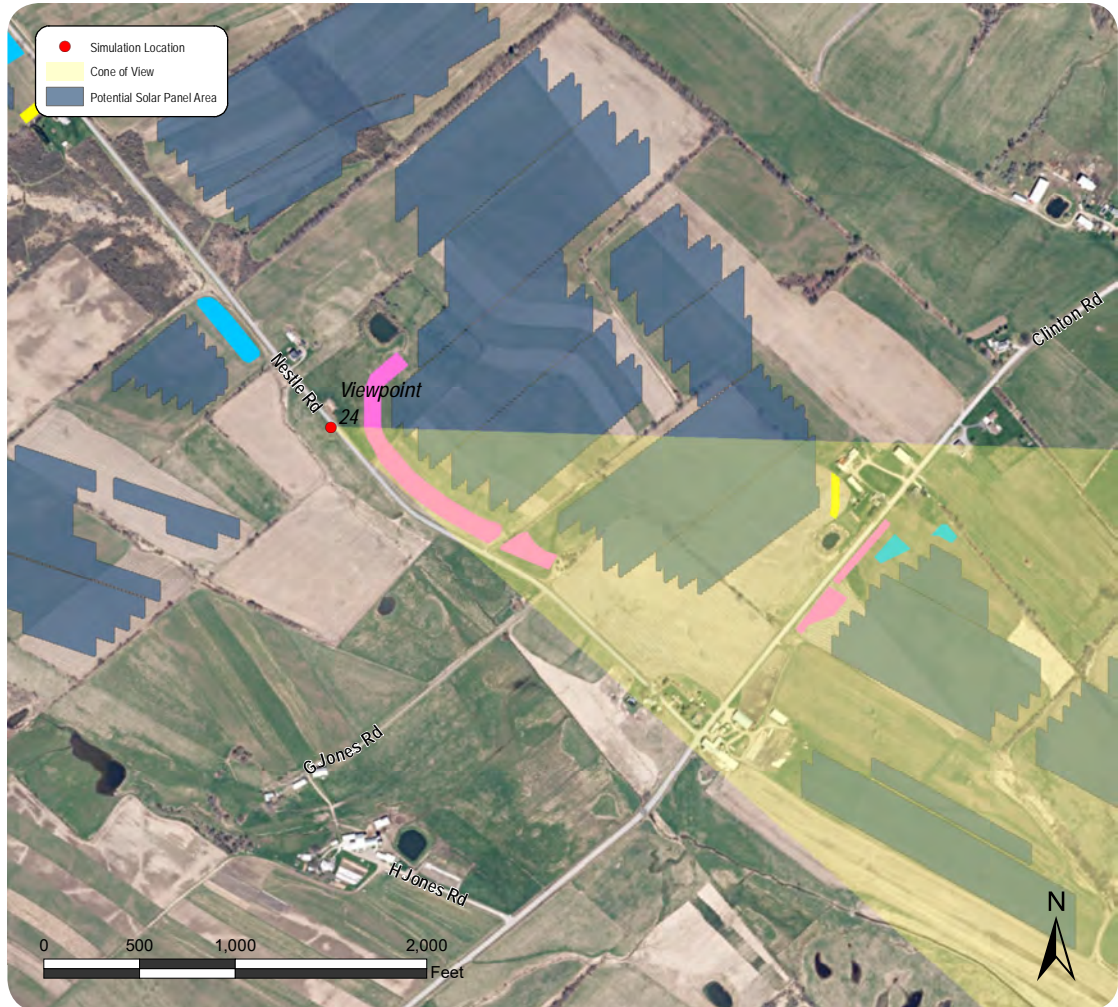
Mitigation Planting Module:

Module 1 - Roadside Enhancement A

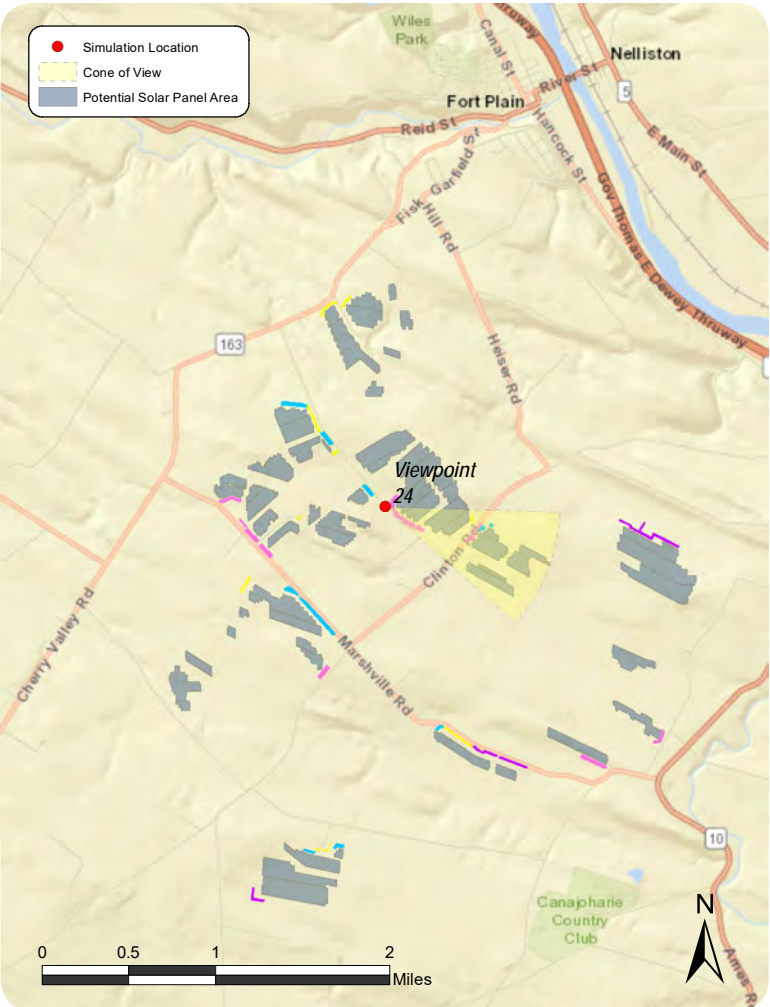
Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

Viewpoint Location



Viewpoint Context



Context Photo: View to the Northeast



Context Photo: View to the East-Northeast



Simulation Photo: View to the East-Southeast



Context Photo: View to the Southeast

Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 24



Existing Conditions













# H Jones Road | Canajoharie

## View Location Information:

**Location:** H. Jones Road (At intersection with Clinton Road)  
**Town:** Canajoharie  
**County:** Montgomery  
**Direction of View:** Northeast  
**Camera Elevation:** 725 feet  
**Position:** 42.8906051758° N, 74.6359148869° W  
**Landscape Similarity Zone:** Rural Uplands  
**Viewer Type:** Local Resident, Commuter/Through Traveler  
**Sensitive Site:** N/A  
**Distance To Nearest Facility Component:** 0.4 miles  
**Distance Zone:** Middle ground

## Photograph Information:

**Date:** 10/27/2017  
**Time:** 3:10 PM  
**Camera Make/Model:** Nikon D7100  
**Focal Length:** 36mm  
**Focal Length (35 mm equivalent):** 54.5mm  
**Field of View:** 36.5°

## Project Information:

**Racking Type:** Single Axis Tracker  
**Max Panel Height From Ground:** 11 feet  
**Total Buildable Area:** 532 acres

## Mitigation Planting Module:

Module 1 - Roadside Enhancement A, Module 2  
- Roadside Enhancement B, Module 4 - Adjacent  
Resource/Resident

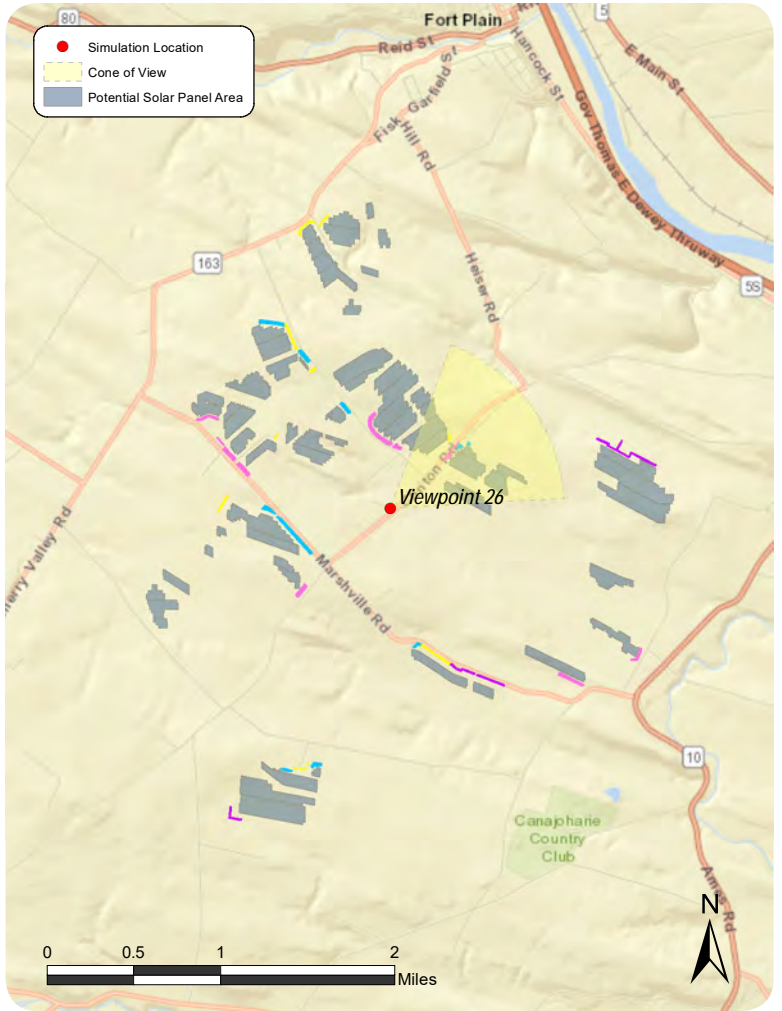
## Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

## Viewpoint Location



## Viewpoint Context



Context Photo: View to the North



Simulation Photo: View to the Northeast



Simulation Photo: View to the East-Northeast



Context Photo: View to the East

## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 26



## Existing Conditions





## Simulation: Mitigation Year 1





## Simulation: Mitigation 5-7 Years





# Seebers Lane | Canajoharie

## View Location Information:

Location: Seebers Lane  
Town: Canajoharie  
County: Montgomery  
Direction of View: South-Southwest  
Camera Elevation: 742 feet  
Position: 42.8986583358° N, 74.6077849649° W  
Landscape Similarity Zone: Rural Uplands  
Viewer Type: Local Resident  
Sensitive Site: N/A  
Distance To Nearest Facility Component: 0.3 miles  
Distance Zone: Foreground

## Photograph Information:

Date: 10/27/2017  
Time: 3:19 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 35.4mm  
Focal Length (35 mm equivalent): 53.6mm  
Field of View: 37.1°

## Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

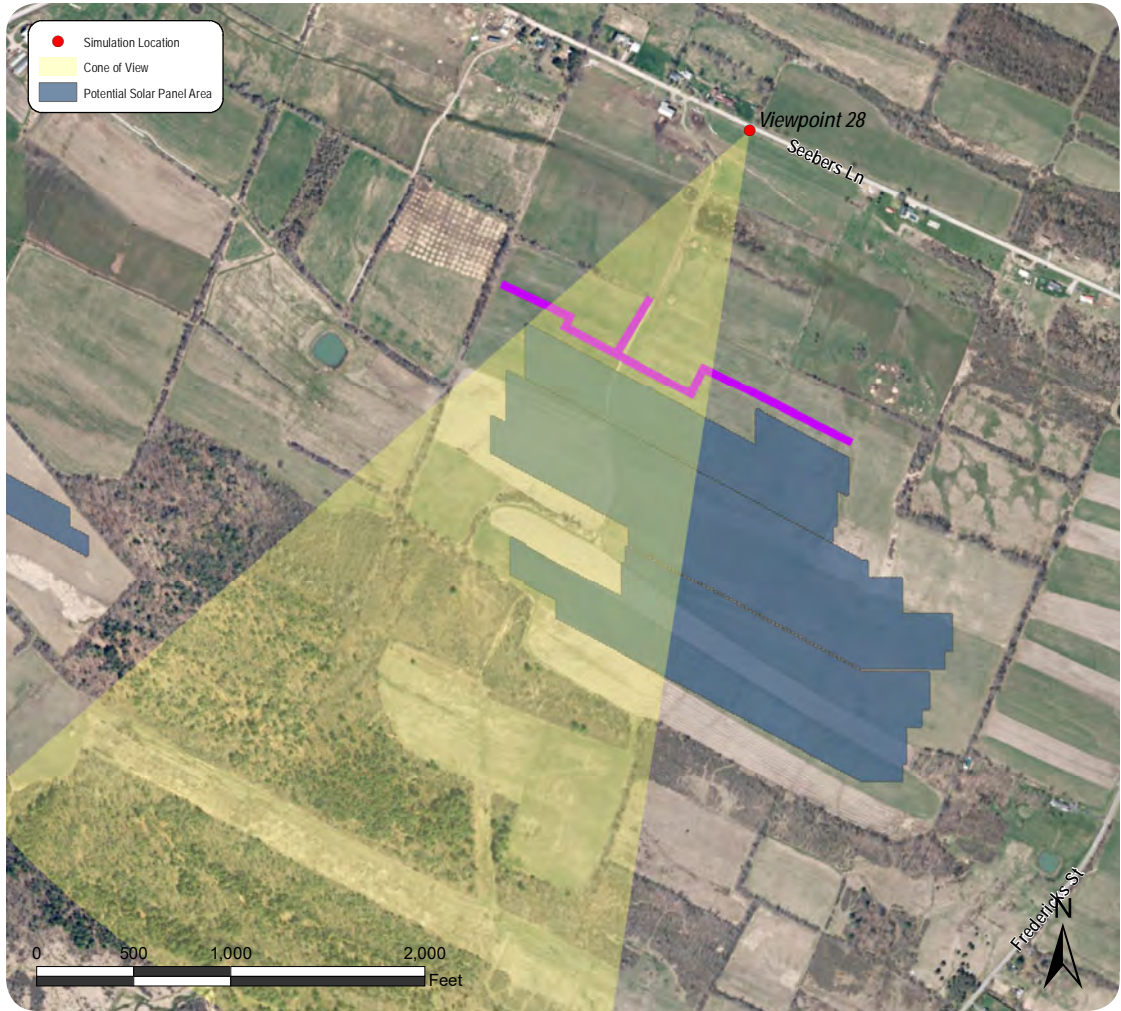
## Mitigation Planting Module:

Hedgerow in-Fill

## Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

## Viewpoint Location



## Viewpoint Context



Context Photo: View to the Southeast



Context Photo: View to the South



Simulation Photo: View to the Southwest



Context Photo: View to the West-Southwest

## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 28



Existing Conditions





Simulation: Mitigation Year 1





Simulation: Mitigation 5-7 Years





New York State Route 10 | Palatine

View Location Information:

Location: State Route 10 (Ephratah Road)  
Town: Palatine  
County: Montgomery  
Direction of View: Southwest  
Camera Elevation: 753 feet  
Latitude: 42.9266268573° N, 74.5639956626° W  
Landscape Similarity Zone: Rural Uplands  
Viewer Type: Local Residents, Commuter/Through Traveler  
Sensitive Site: State Route 10  
Distance To Nearest Facility Component: 3.1 miles  
Distance Zone: Middle ground

Photograph Information:

Date: 10/27/2017  
Time: 3:56 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 35.6mm  
Focal Length (35 mm equivalent): 54.5mm  
Field of View: 36.5°

Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

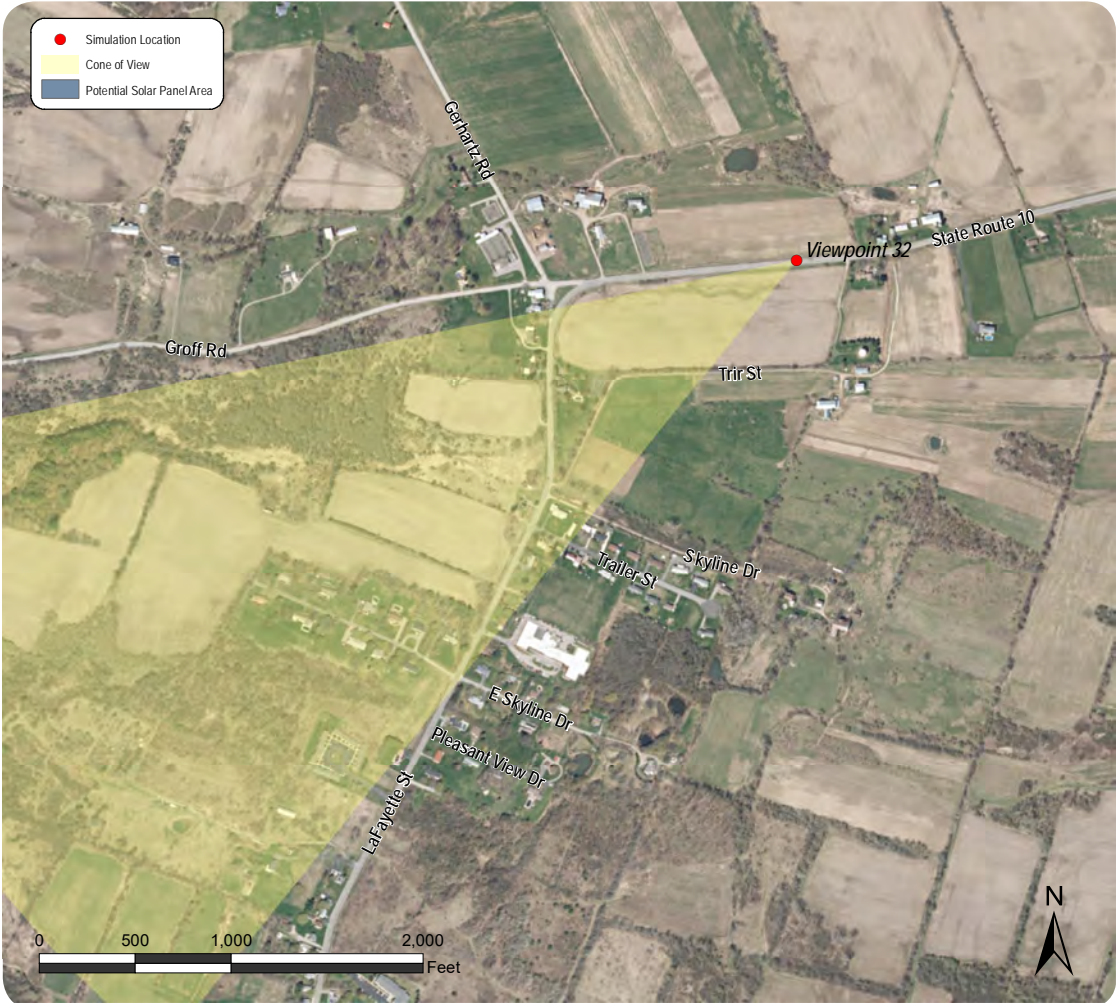
Mitigation Planting Module:

NA

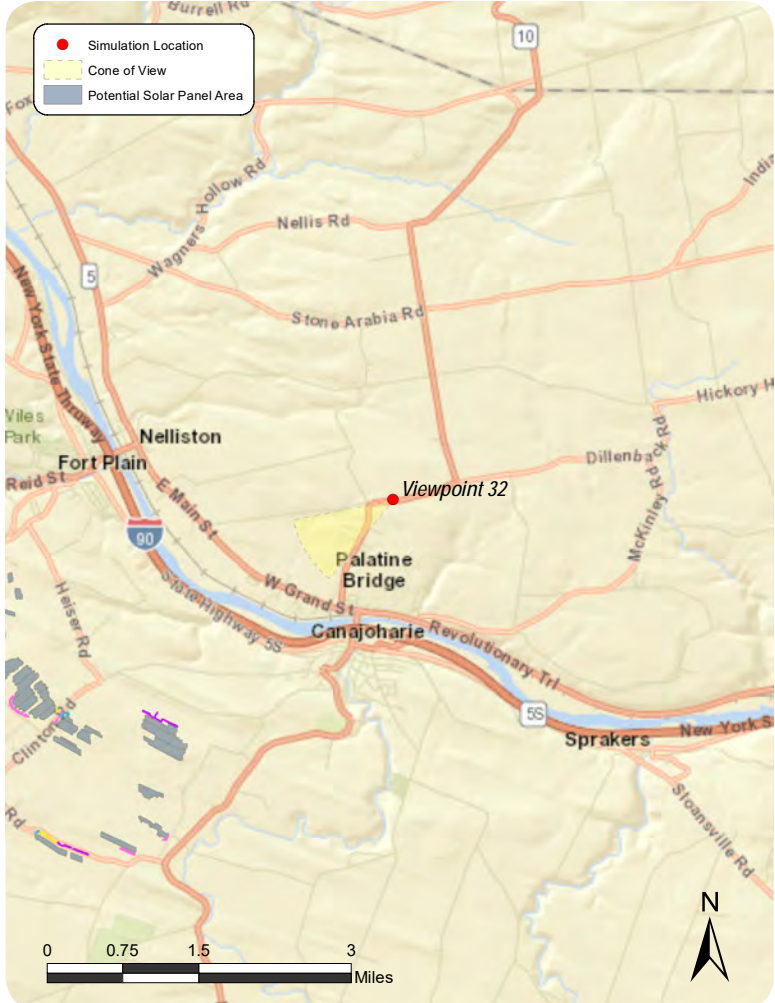
Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

Viewpoint Location



Viewpoint Context



Context Photo: View to the South



Context Photo: View to the South-Southwest



Simulation Photo: View to the Southwest



Context Photo: View to the West

Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 32











Route 20 Scenic Byway, West Bound | Cherry Valley

View Location Information:

Location: Route 20 Scenic Byway (US Route 20)  
Town: Cherry Valley  
County: Otsego  
Direction of View: North  
Camera Elevation: 1539 feet  
Position: 42.8082053446°N, 74.6849422312°W  
Landscape Similarity Zone: Transportation Corridor  
Viewer Type: Commuter/Through Traveler, Tourist/  
Recreational User  
Sensitive Site: Route 20 Scenic Byway, The Tepee (NRHP-  
listed site)  
Distance To Nearest Facility Component: 4.3 miles  
Distance Zone: Background

Photograph Information:

Date: 11/21/2017  
Time: 11:09 AM  
Camera Make/Model: Nikon D7100  
Focal Length: 36.2mm  
Focal Length (35 mm equivalent): 55.5mm  
Field of View: 35.9°

Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

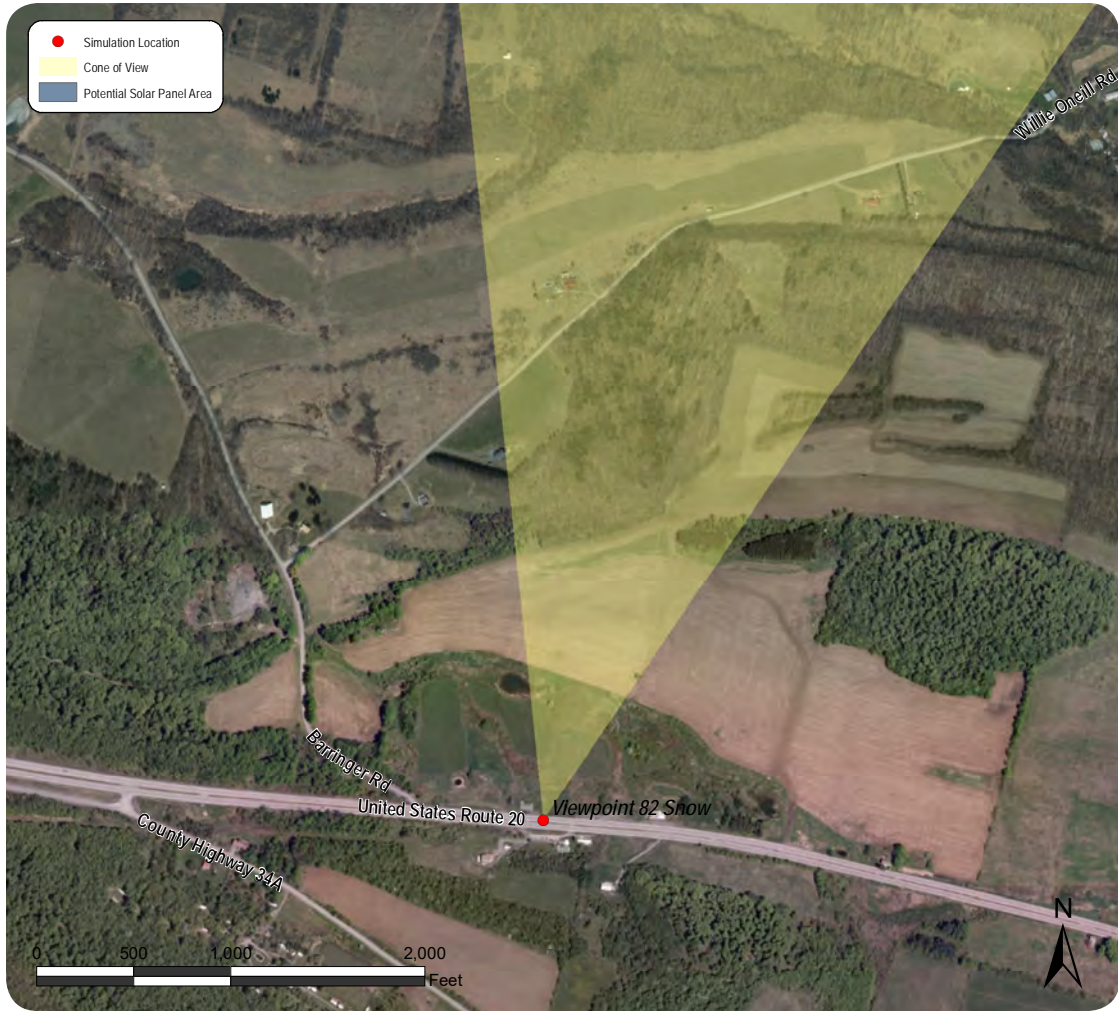
Mitigation Planting Module:

NA

Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

Viewpoint Location



Viewpoint Context



Context Photo: View to the West



Context Photo: View to the Northwest



Simulation Photo: View to the North



Context Photo: View to the Northeast

Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 82





Existing Conditions









Route 20 Scenic Byway, East Bound | Cherry Valley

View Location Information:

Location: Route 20 Scenic Byway (US Route 20)  
Town: Cherry Valley  
County: Otsego  
Direction of View: North  
Camera Elevation: 1546 feet  
Latitude: 42.8079456378° N, 74.6848259888° W  
Landscape Similarity Zone: Transportation Corridor  
Viewer Type: Commuter/Through Traveler, Tourist/  
Recreational User  
Sensitive Site: Route 20 Scenic Byway, The Tepee (NRHP-  
listed site)  
Distance To Nearest Facility Component: 4.3 miles  
Distance Zone: Background

Photograph Information:

Date: 02/26/2019  
Time: 4:47 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 36.0mm  
Focal Length (35 mm Equivalent): 55.3mm  
Field of View: 36.1°

Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

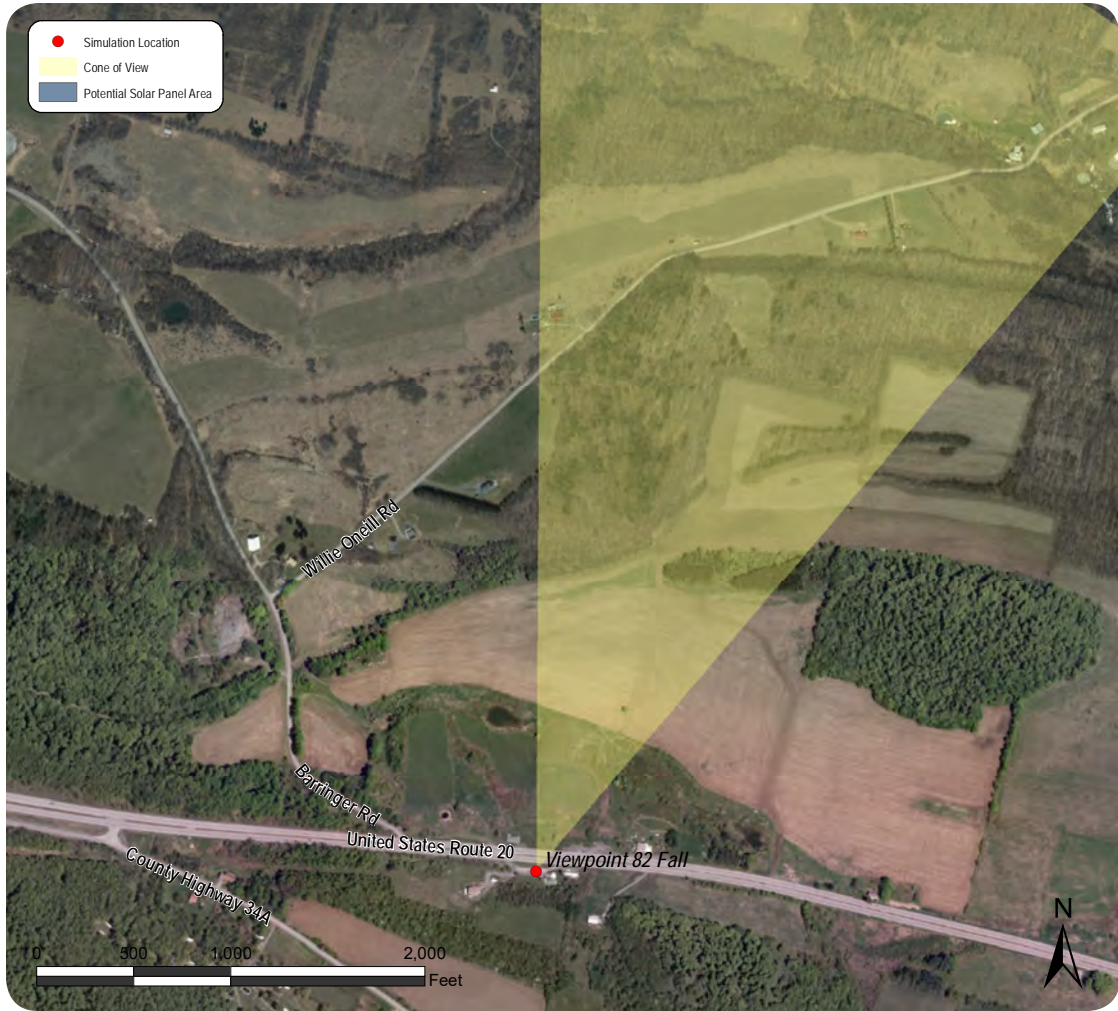
Mitigation Planting Module:

NA

Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

Viewpoint Location



Viewpoint Context



Context Photo: View to the West



Context Photo: View to the Northwest



Simulation Photo: View to the North



Context Photo: View to the Northeast

Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 82



Existing Conditions









# Marshville Road | Canajoharie

## View Location Information:

Location: Marshville Road

Town: Canajoharie

County: Montgomery

Direction of View: West-Northwest

Camera Elevation: 732 feet

Latitude: 42.8778051109° N, 74.6290359312° W

Landscape Similarity Zone: Rural Uplands

Viewer Type: Local Resident

Sensitive Site: NRHP-Eligible 122 G Bowerman Road (USN 05702.000152)

Distance To Nearest Facility Component: 0.1 miles

Distance Zone: Foreground

## Photograph Information:

Date: 11/21/2017

Time: 3:11 PM

Camera Make/Model: Nikon D7100

Focal Length: 36.2mm

Focal Length (35 mm Equivalent): 55.5mm

Field of View: 35.9°

## Project Information:

Racking Type: Single Axis Tracker

Max Panel Height From Ground: 11 feet

Total Buildable Area: 532 acres

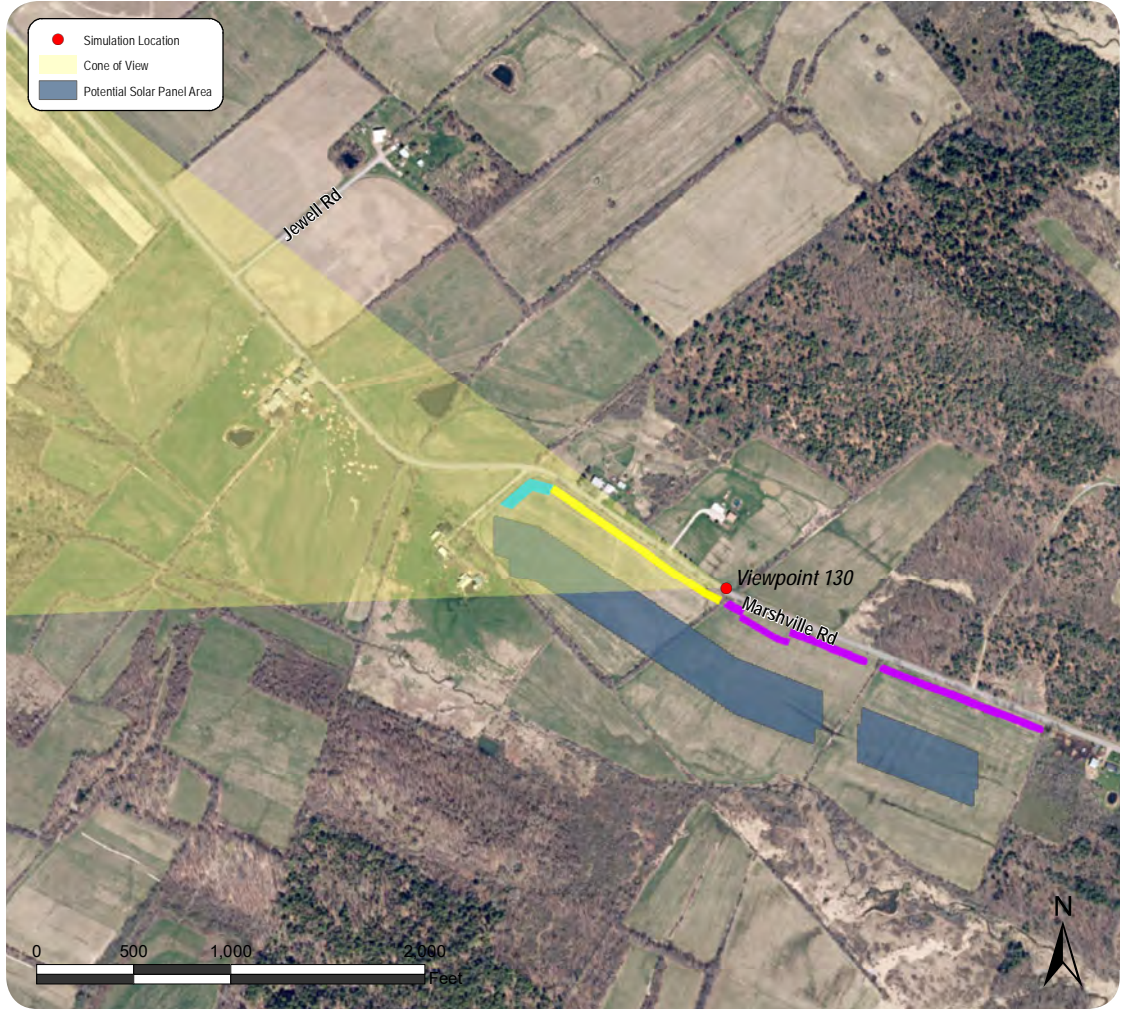
## Mitigation Planting Module:

Hedgerow In-Fill (in simulations - map reflects updated module layouts)

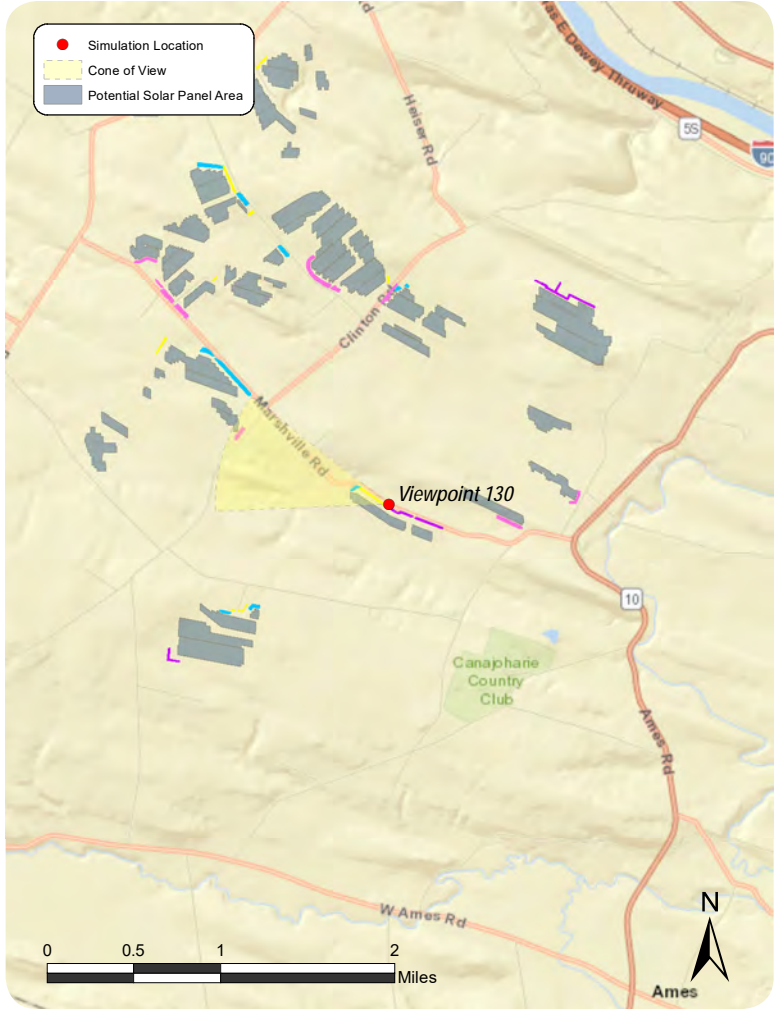
### Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

## Viewpoint Location



## Viewpoint Context



Context Photo: View to the West-Southwest



Context Photo: View to the West



Simulation Photo: View to the West-Northwest



Context Photo: View to the North

### Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 130



Existing Conditions





Simulation: Mitigation Year 1





Simulation: Mitigation 5-7 Years





Nestle Road School House | Minden

View Location Information:

Location: State Route 163  
Town: Minden  
County: Montgomery  
Direction of View: West-Northwest  
Camera Elevation: 791 feet  
Position: 42.9041465769° N, 74.6461982493° W  
Landscape Similarity Zone: Rural Uplands  
Viewer Type: Local Resident  
Sensitive Site: Nestle Road Amish School House  
Distance To Nearest Facility Component: 0.04 miles  
Distance Zone: Foreground

Photograph Information:

Date: 09/24/2018  
Time: 1:05 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 35.1mm  
Focal Length (35 mm equivalent): 53.7mm  
Field of View: 37.0°

Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

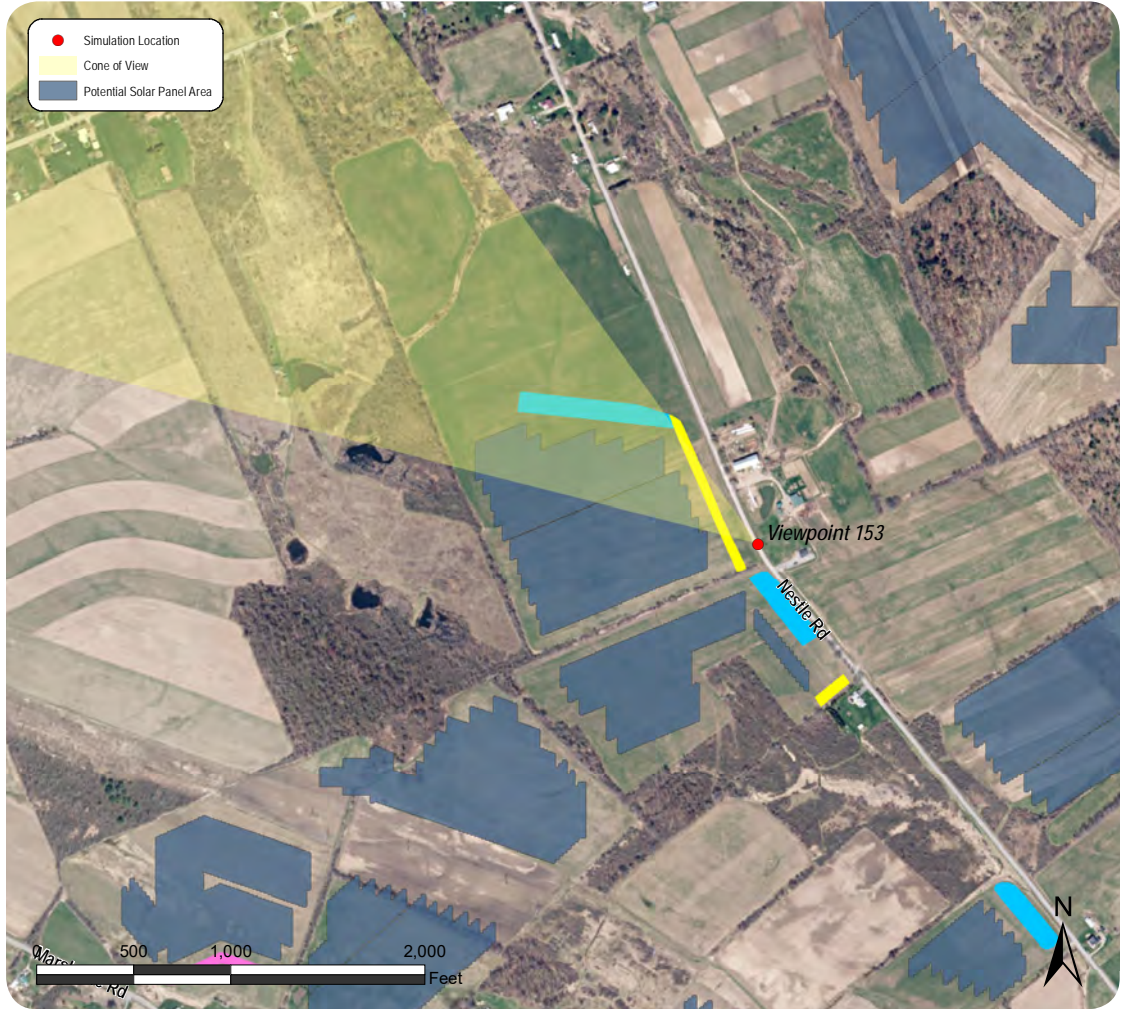
Mitigation Planting Module:

Adjacent Resource/Residence

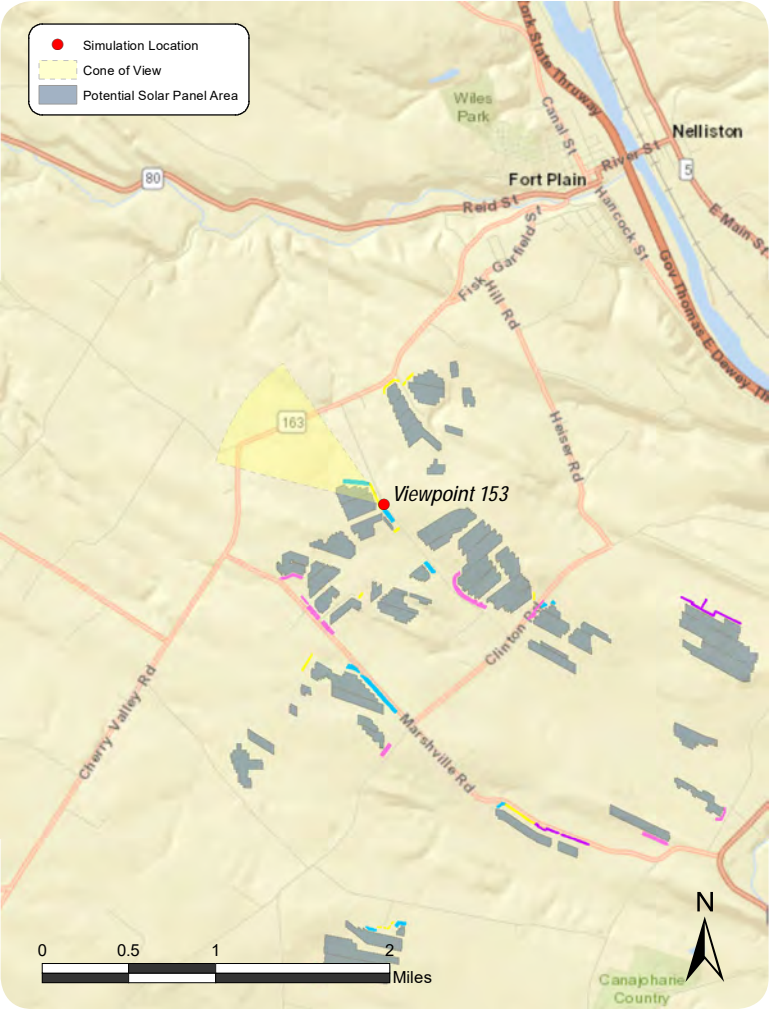
Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

Viewpoint Location



Viewpoint Context



Context Photo: View to the West-Southwest



Context Photo: View to the West



Simulation Photo: View to the Northwest



Context Photo: View to the North-Northwest

Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 153





Existing Conditions













# State Route 163 | Minden

## View Location Information:

Location: State Route 163 (Cherry Valley Road)  
Town: Minden  
County: Montgomery  
Direction of View: South-Southwest  
Camera Elevation: 648.3 feet  
Latitude: 42.9156712918°N, 74.6448958777°W  
Landscape Similarity Zone: Rural Uplands  
Viewer Type: Local Resident, Commuter/Through Traveler  
Sensitive Site: State Route 163  
Distance To Nearest Facility Component: 0.1 miles  
Distance Zone: Foreground

## Photograph Information:

Date: 02/26/2019  
Time: 4:27 PM  
Camera Make/Model: Nikon D7100  
Focal Length: 35.1mm  
Focal Length (35 mm equivalent): 53.7mm  
Field of View: 37.0°

## Project Information:

Racking Type: Single Axis Tracker  
Max Panel Height From Ground: 11 feet  
Total Buildable Area: 532 acres

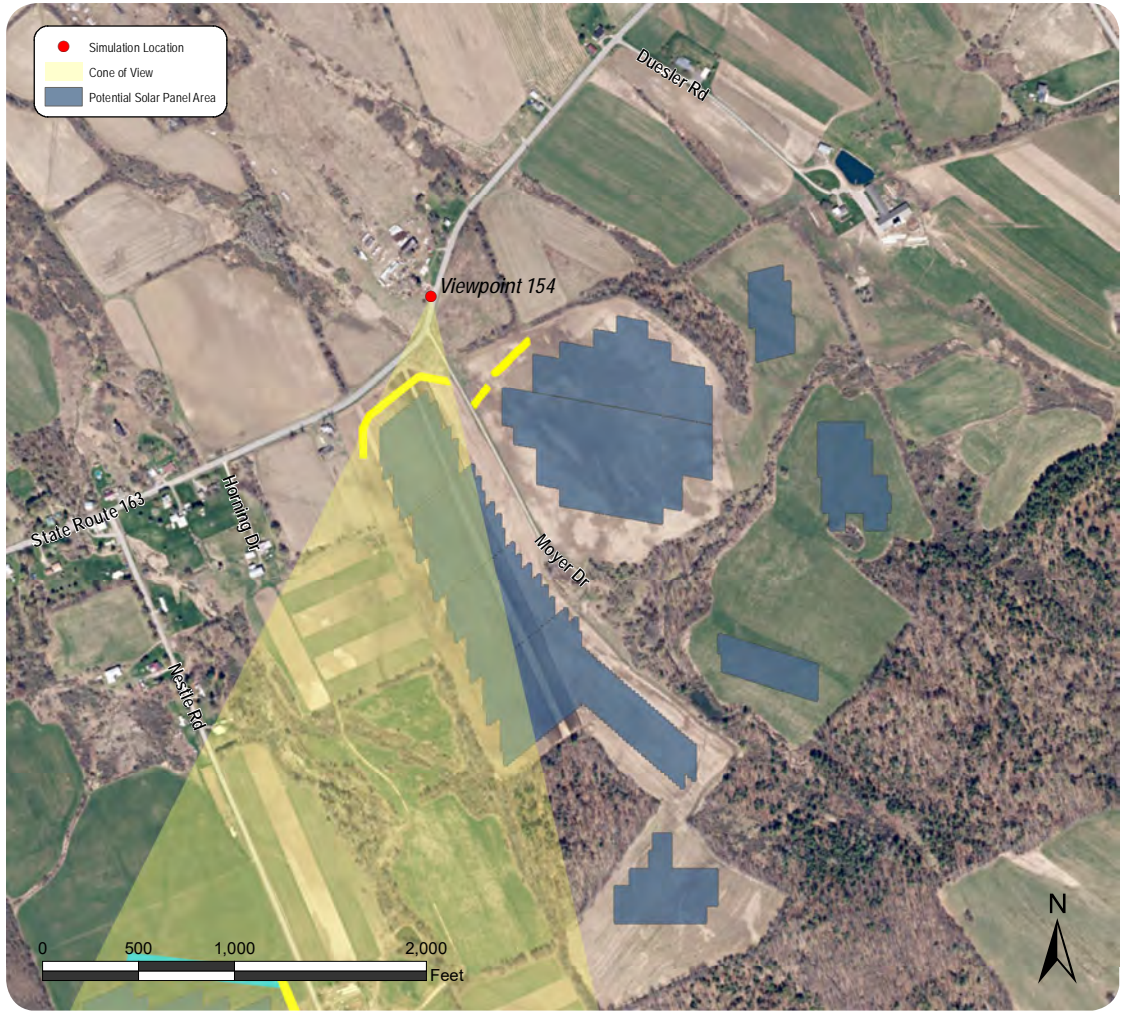
## Mitigation Planting Module:

Adjacent Resource/Residence

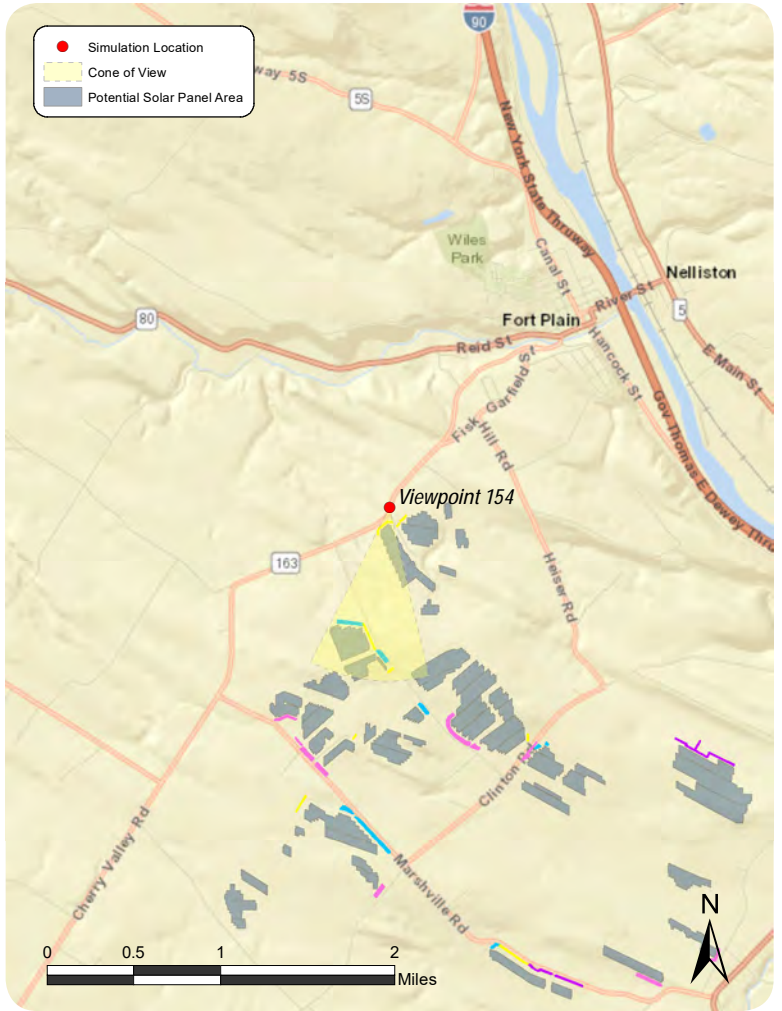
## Conceptual Planting Module

- Module 1 - Roadside Enhancement A
- Module 2 - Roadside Enhancement B
- Module 3 - Hedgerow In-Fill
- Module 4 - Adjacent Resource/Residence

## Viewpoint Location



## Viewpoint Context



Context Photo: View to the East



Context Photo: View to the Southeast



Simulation Photo: View to the South-Southwest



Context Photo: View to the West-Southwest

## Mohawk Solar

Towns of Canajoharie and Minden, Montgomery County, New York

Historic Resources Effects Analysis | Appendix B: Context Sheet - Viewpoint 154



Existing Conditions







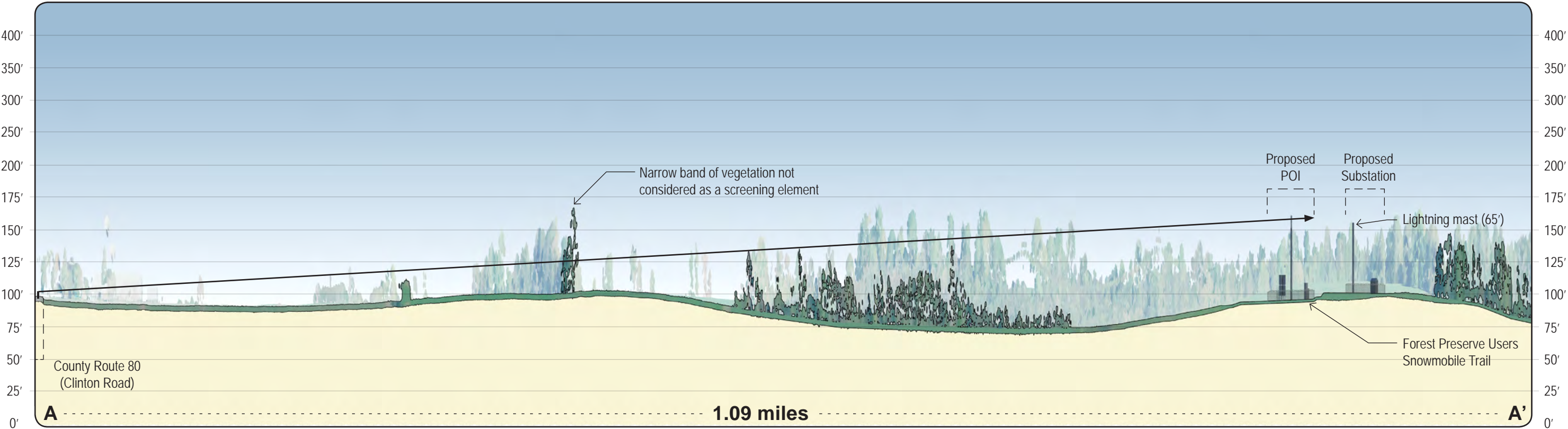






## Appendix C: Substation Line of Sight – from Clinton Road

Substation Line-of-Sight A - A' County Road 80 (Clinton Road)



Substation line-of-sight based on lidar data. Vertical scale includes a five times exaggeration.

