



# Revised Visual Impact Assessment

**Permit Application No.  
23-00054**

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## **FLAT CREEK SOLAR**

Towns of Root and Canajoharie, New York

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## ATTACHMENTS

Attachment 1: Site Plan\*

Attachment 2: Facility Maps

Attachment 3: Facility Photolog

Revised Attachment 4: Photo-Simulations and Line of Sight Profiles

Attachment 5: Outreach Correspondence

Revised Attachment 6: Contrast Rating

Revised Attachment 7: Visual Impact Minimization and Mitigation Plan

Plan 7A. Landscape Plan\*

Plan 7B. Collection Substation, POI Switchyard, and POI Transmission Structures:  
Plan & Profile Drawings and Lighting Plan\*

Plan 7C. Revised Glare Analysis

*\* An abbreviated version of this plan has been provided. Information not critical to the assessment of visual impacts has been removed. Complete plans are provided in the 94-c application in the following locations:*

- *Site Plan – Exhibit 5, Appendix 5-1*
- *Landscape Plan – Exhibit 5, Appendix 5-1*
- *Collection Substation, POI Switchyard, and POI Transmission Structures: Plan & Profile Drawings and Lighting Plan – Exhibit 5, Appendix 5-2*

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## ACRONYM LIST

3D	Three-Dimensional
AADT	Annual Average Daily Traffic
AC	Alternating Current
ASL	Above Sea Level
BLM	Bureau of Land Management
CAD	Computer-aided design
DC	Direct Current
DOE	Department of Energy
FAA	Federal Aviation Administration
GIS	Geographic Information Systems
GNIS	Geographic Names Information System
HDD	Horizontal Directional Drilling
kV	Kilovolt
LiDAR	Light Detection and Ranging
LOS	Line-of-Sight
LSZ	Landscape Similarity Zones
MCD	Minor Civil Division
MPH	Miles Per Hour
MW	Megawatt
NESC	National Electrical Safety Code
NLCD	National Land Cover Dataset
NPS	National Park Service
NRHP	National Register of Historic Places
NYCRR	New York Codes, Rules and Regulations
NY5	New York State Highway 5
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
O&M	Operations and Maintenance
OPRHP	Office of Parks, Recreation and Historic Preservation
ORES	Office of Renewable Energy Siting
OSHA	Occupational Safety and Health Administration
PEJA	Potential Environment Justice Area
PEP	Population Estimates Program
POI	Point of Interconnection
PV	Photovoltaic
SGHAT	Solar Glare Hazard Analysis Tool
SHPO	State Historic Preservation Office
SRHP	State Register of Historic Places
USDA	United States Department of Agriculture
USDOI	United States Department of the Interior
USGS	United States Geological Survey
VIA	Visual Impact Assessment (see Appendix 8-1)
VIMMP	Visual Impact Minimization and Mitigation Plan
VP	Viewpoint
VSA	Visual Study Area



## 1.0 INTRODUCTION

Flat Creek Solar NY LLC, (mentioned throughout the application as the “Applicant”, or “Flat Creek”), is proposing to develop and construct the Flat Creek Solar Facility (Facility), a proposed 300-megawatt (MW) photovoltaic (PV) utility-scale solar facility located in the Towns of Canajoharie and Root, Montgomery County, New York (see Attachment 1, Site Plan, and Attachment 2, Figure 1, Site Location Map). The Applicant is submitting an application to the Office of Renewable Energy Siting and Electric Transmission (ORES) for a permit pursuant to Chapter XVIII Title 16 of New York Codes, Rules and Regulations (NYCRR) Part 1100 (Subparts 1100-1 – 1100-15) (Article VIII). In accordance with the regulatory standards of Exhibit 8 in Article VIII, TRC has prepared and presented herein a Visual Impact Assessment (VIA) of the Facility. The purpose of the VIA is to facilitate a comprehensive review concerning the potential extent and significance of visual change associated with the proposed Facility.

### 1.1 Regulatory Requirement and Methodology

As mentioned, the VIA herein was produced in accordance with the requirements of Exhibit 8 of 16 NYCRR Section 1100.2.9 to assess the extent and significance of Facility visibility. The established framework for developing the VIA includes, but is not limited to, the identification of visually sensitive resources, visibility viewshed mapping, photographic simulations (also known as "visual simulations", "photographic overlaps", or "simulated views"; referred to herein as "photo-simulations" or "simulations") and proposed visual mitigation. Within the context of the Exhibit 8 requirements, this VIA shall address the following criteria:

- The character and visual quality of the existing landscape,
- The visibility of the facility (aboveground elements),
- The appearance of the facility (photo-simulations) from key locations,
- The nature and degree of visual change resulting from construction and operation of the Facility,
- Identification of aesthetic resources, as well as those anticipated to experience Facility visibility,
- Assessment of the related operational effects of the facility, and
- Consistency review in the assessment of visual impacts per the requirements of adopted local laws or ordinances.

By addressing the above requirements, the VIA provides both a quantitative and qualitative assessment. The analyses, methodologies, and conclusions of the VIA collectively provide a

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thorough investigation of potential Facility visibility, presenting agencies and the public with an understanding of potential visual impact and the relative significance or insignificance of visual impact. The visual study area (VSA) is established as a two-mile radius around the fence perimeter of the proposed Facility in accordance with 16 NYCRR Section 1100.2.9.

## **1.2 Consistency Review for the Assessment of Visual Impacts Pursuant to the Requirements of Adopted Local Laws or Ordinances**

16 NYCRR Section 1100.2.9 (4) requires the Applicant to consult with municipal planning representatives, ORES, and other state agencies where appropriate for the selection of important or representative viewpoints. In addition to this viewpoint selection criterion, there are several other selection criteria that are also applicable as outlined in Section 7.3.2 – Viewpoint Selection for Photo-Simulations. The Applicant conducted outreach and consultation efforts through many forms of communication to deliver information and solicit feedback from the Towns throughout the development of the Facility. The outreach and consultation process included in-person meetings with Facility landowners, Town and County elected officials, and other municipal officers and employees and interest groups to provide stakeholders with a sound understanding of the Facility and to understand stakeholder positions regarding the Facility. These meetings provided the Applicant with the opportunity to learn stakeholders' interests and obtain suggestions on how to interact with the community. For more information regarding the Applicant's public engagement efforts, please see Section 2(b) of Exhibit 2.

On February 8, 2024, the Applicant distributed the Flat Creek Visual Outreach Packet to visual stakeholders such as ORES, OPRHP, Montgomery County, Towns of Mohawk, Root, Canajoharie, and Palatine. In this packet, preliminary information about potential Facility visibility was provided at that time. The packet included visibility mapping results, a Facility photolog of photographic locations, and a preliminary inventory of aesthetic resources. A letter attached to the packet provided written information about the studies and solicited stakeholder feedback on the recommended photo locations for possible preparation of photo-simulations. The letter also solicited stakeholder recommendation for appending additional aesthetic resources to the resource inventory. Responses to the Flat Creek Visual Outreach Packet are documented in Attachment 5.

The Applicant also conducted a meeting with the Town of Canajoharie and Root, on February 31, 2024, and March 20, 2024, respectively. This meeting was organized to discuss the Facility and Flat Creek Visual Outreach Packet.

As mentioned, the Facility is proposed to be sited within the Towns of Canajoharie and Root, Montgomery County. To the degree the laws are applicable to the assessment of visual impacts, they are provided and discussed as follows.

### **Montgomery County**

Montgomery County Local Law 3 of 2021 designates certain County roadways as scenic byways. The local law pertains specifically to the standards for scenic byways under County jurisdiction

(Section 1-5 of County Law), including guidelines for the maintenance of these byways by the County (Section 6 of County Law). The guidelines direct the County on how to maintain roadside views, vegetation and road grades.

*Response: The Applicant is seeking a waiver of this provision to the extent it is applicable to the Facility. See Exhibit 24 for more information.*

### **Town of Canajoharie Solar Collector Systems Law (Local Law No. 2 of 2024)**

**§8(B)(2)(e)(ii), (vii) and (viii)** - Any Overlay Districts, including the Critical Environmental and Scenic Resources Overlay Districts applicable to the project site. Trails located on the site that are part of the Statewide Snowmobile Trail System. Historic sites listed on the National and/or State Register of Historic Places, or those Eligible for listing, within the site and those within a 1-air mile radius of the site.

*Response: As indicated and described in Section 6.0, an aesthetic resource inventory (see Table 4) was prepared in conformance with 19 NYCRR Section 900-2.9 (b)(4)(ii) and Section 900-2.9 (a). These regulations satisfy and exceed the town requirements.*

**§8(B)(5)(d) Glare** - Solar Panels shall be placed and arranged such that reflected solar radiation or glare shall not be directed onto adjacent buildings, properties, or roadways. All Solar Panels shall have anti-reflective coating(s). The applicant shall demonstrate that any glare produced does not have significant adverse impact on neighboring properties or roadways. The Planning Board may require submission of a Glare Study.

*Response: There are no glare impacts predicted within the Town of Canajoharie.*

**§8(B)(5)(e)** - Lighting of the Solar Energy Equipment/Systems shall be limited to that minimally required for safety and operational purposes and shall be reasonably shielded and downcast from abutting properties (dark sky compliant).

*Response: The lighting design for the collection substation and POI switchyard have been designed to minimize light creep beyond the substations' footprints while ensuring compliance with the standards established by the National Electrical Safety Code (NESC) and Occupational Safety and Health Administration (OSHA). For more information regarding the Lighting Plan, see Section 11.13 as well as Revised Attachment 7.*

**§8(5)(m)(i)** - Conduct a visual assessment of the visual impacts of the Solar Energy Equipment/System on public roadways, historic resources, scenic resources, important corridors, adjacent properties, and other sensitive receptors as may be identified pursuant to the application requirements and overlays, maps, and/or as identified by the Planning Board. The visual assessment shall generally conform to the most current NYSDEC policy on Assessing and Mitigating Visual and Aesthetic Impacts (Visual Policy). At a minimum, a line-of-sight profile analysis shall be provided. Depending upon the scope and potential significance of the visual impacts, additional impact analyses, including for example a digital viewshed report, may be required to be submitted by the Applicant. The Planning Board may waive or modify the requirements set forth in this section for Solar Energy Equipment/System with a Facility Area smaller than 10 acres.

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*Response: As outlined in Section 1.1, the Applicant prepared a comprehensive VIA according to procedural requirements of Article VIII. These requirements exceed and are more substantive in nature than the NYS DEC Visual Policy, which is an advisory document for when DEC is lead agency under SEQR processes.*

**§8(5)(m)(ii)** - Submit a screening & landscaping plan, prepared by a licensed landscape architect, to show adequate measures to screen through landscaping, grading, or other means so that views of Solar Panels and Solar Energy Equipment/Systems shall be minimized as reasonably practical from public roadways and adjacent properties to the maximum extent feasible.

*Response: As discussed in the VIMMP (see Section 11.13) and shown in the abbreviated landscape plan of Revised Attachment 7, a robust landscape plan is proposed for the Facility. The plan demonstrates that the Facility will be minimized as reasonably practicable from public roadways and adjacent properties to the maximum extent feasible. Currently, robust vegetation screening is tailored to the level of potential impact to sensitive receptors with predicted solar array visibility, including participating and non-participating residences, and public and private businesses, and large swaths of existing roadway. Landscaping was added to screen sensitive receptors from unobstructed views of above-ground project components (i.e. panels and substations) while also utilizing and retaining existing tree hedgerows and forest for additional screening benefit. Sensitive receptors include participating and non-participating homes, schools (i.e. Canajoharie High School), regularly used recreational areas (i.e. the Canajoharie High School athletic fields), frequently-used town buildings (i.e. the Root Town Justice building and the Root Town Garage), and other visual resources (i.e. the Canajoharie Forest Fish & Game Club). Vegetation screening was not placed at areas with existing vegetative screening, low visibility, a small number of viewers (i.e., seasonal roads, rear and side lots, vacant land), seldom seen areas, or views that are consistent with solar energy such as abutting farming operations. Several photo-simulations were developed to document the proposed conditions of the landscape plan (see representative examples of the landscape plan in VPs 16, 48, 83, and 85 of Revised Attachment 4).*

**§8(5)(m)(iii)** - The screening & landscaping plan should demonstrate that the landscaped buffer will provide a year-round screening so that, to the maximum extent practicable, the Solar Energy Equipment/System is not visible from roadways and adjacent nonparticipating properties. The plan shall specify the locations, elevations, height, plant species and/or materials that will comprise the landscaping, berms, grading, structures, architectural features, or other screening methods that will harmonize with character of the property and surrounding area, mitigate adverse aesthetic effects, and screen the system from important views or vistas. The plan shall use native and non-invasive plant species to promote habitat for native wildlife species and foraging habitat beneficial to game birds, songbirds, and pollinators. Evergreen tree plantings may be required to screen portions of the site from residential properties, roadways, and other important natural resources, viewsheds, and/or receptors, as may be identified by the Planning Board. If the buffer utilizes vegetative planting, the plantings shall consist of noninvasive evergreen trees or bushes, deer and weather resistant plant species, or other noninvasive species as otherwise recommended by the landscape architect, planted with sufficient spacing, dependent on the type of species of plantings used, to facilitate for healthy tree growth and at least four feet tall at time of planting, or as otherwise required by the Board or as may be recommended as part of the visual

impact assessment. The buffer shall obtain a height of at least 10 feet within five growing seasons. Invasive species shall not be planted as part of the landscape buffer.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§8(5)(m)(iv)** - The Planning Board may elect to waive certain screening and landscaping requirements in select locations based on an applicant's demonstration of non-impact or impact mitigation on adjacent parcels.

*Response: Consistent with this provision, the Applicant is seeking a waiver of certain screening and landscaping requirements in select locations based on an Applicant's demonstration of non-impact or impact mitigation on adjacent parcels. See Exhibit 24 for more information.*

**§8(5)(n)** - A Tier 3 Solar Collector System proposed within 1 mile of an existing or proposed Tier 3 Solar Collector System shall be reviewed with the additional consideration of the cumulative visual impacts and impacts to the aesthetic resources of the Town.

*Response: Cumulative effects of the Facility are discussed in Section 13.0.*

**§8(5)(o)(iv)** - Compliance with applicable overlay district standards, including the Critical Environmental and Scenic Resources Overlay Districts.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§9** All Solar Energy Systems which are regulated under Section 94-C [Executive Law Chapter 18, Article 6, Section 94-C], shall be subject to any and all applicable provisions of this law and additional Tier 3 provisions. The Town intends that the intent, purpose, and provisions of this Local Law be reviewed by any siting and/or regulating Boards, as the Town is desirous of maintaining its unique character and quality as a historic, agricultural community greatly reliant upon tourism.

*Response: See Exhibit 24 for more information on the Facility's compliance with local laws.*

### **Town of Root Solar Energy Facilities Law (Local Law No. 1 of 2024)**

**§7.1(F)(1)(h) and §7.1(F)(1)(i)** - Trails located on the site that are part of the Statewide Snowmobile Trail System. Historic sites listed on the National and/or State Register of Historic Places, or those Eligible for listing, within the site and those within a 1-mile radius of the site.

*Response: The Applicant has included the required information in the site design drawings as a part of Exhibit 5: Design Drawings. In addition to the drawings, snowmobile trails have been incorporated to the aesthetic resource inventory (see Section 6.1) and are depicted on visibility mapping (see Figures 3 and 4 of Attachment 2).*

**§7.1(F)(13)** - Photo simulation shall be included showing the proposed solar energy system in relation to the building/site along with elevation views and dimensions, and manufacturer's specs and photos of the proposed solar energy system, solar collectors, and all other components.

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*Response: The above requirement is procedural and supplanted by Article VIII regulations. Photo-simulations have been developed for the VIA herein and may be reviewed in Revised Attachment 4. Manufacturer specifications are documented in Appendices 5-1 and 5-2.*

**§7.1(F)(16)(a)** - A GIS viewshed analysis of the Zone of Visual Impact (ZVI); as defined as the area from which the proposed undertaking may be visible within one-half mile (0.5) around solar fields covering 4 to 40 acres in size, and one-mile around solar fields must be based upon bare-earth topography only (do not factor in vegetation). The analysis should be presented as an orthorectified aerial base map with the setback and project area indicated and ZVI highlighted.

*Response: The above requirement is procedural and supplanted by Article VIII Regulations. Two discrete viewsheds were developed for the assessment of Facility visibility and includes but is not limited to: One viewshed of the solar arrays, and one viewshed of the POI infrastructure. The viewshed analyses were conducted to the prescribed 2-mile VSA, which exceeds the 1-mile radius buffer from the Facility as required by the local law. The viewsheds incorporated existing vegetation, structures, and topography, and accounted for vegetative clearing associated with the Facility. In this manner, the existing environment is reasonably and realistically evaluated regarding potential Facility visibility. See Section 7.1.1 for the respective viewshed methodology and Attachment 2 for the visibility maps.*

**§7.1(F)(16)(b)** - A visual assessment of the visual impacts of the Solar energy Equipment/System on public roadways, historic resources, scenic resources, important corridors, adjacent properties, and other sensitive receptors as may be identified pursuant to the application requirements and overlays, maps, and/or as identified by the Planning Board. The visual assessment shall generally conform to the most current NYS DEC policy on Assessing and Mitigating Visual and Aesthetic Impacts (“Visual Policy”). At a minimum, a line-of-sight profile analysis shall be provided. Depending upon the scope and potential significance of the visual impacts, additional impact analyses, including for example a digital viewshed report, may be required to be submitted by the applicant. The Planning Board may waive or modify the requirements set forth in this section for Solar Energy Equipment/System with a Facility Area smaller than 10 acres. Visual Mitigation and/or landscaping plan that demonstrates the visual mitigation strategy will provide year-round screening so that, to the maximum extent practicable, the Solar Energy Equipment/System is not visible from roadways and adjacent non participating properties, The plan shall specify the locations, elevations, height, plant species, and/or materials that will compromise the landscaping, berms, grading, structures, architectural features, or other screening methods that will harmonize with character of the property and surrounding area, mitigate adverse aesthetic effects, and screen the system from important views or vistas. The plan shall use native and non-invasive plant species to promote habitat for native wildlife species and foraging habitat beneficial to game birds, songbirds, and pollinators. Evergreen tree plantings may be required to screen portions of the site from residential properties, roadways, and other important natural resources, viewsheds, and/or receptors, as may be identified by the Planning Board. If the buffer utilizes vegetative planting, the plantings shall conform to the requirements of Section 7.2.D.2 of this law. The visual mitigation shall obtain a height of at least 10 feet within five growing seasons. Invasive species shall not be planted as part of the landscape buffer.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§7.1(F)(16)(c)** - The Planning Board may elect to waive some or all screening and landscaping requirements in select locations based on the applicant's demonstration of non-impact or impact mitigation on adjacent parcels.

*Response: Consistent with this provision, the Applicant is seeking a waiver of certain screening and landscaping requirements in select locations based on an Applicant's demonstration of non-impact or impact mitigation on adjacent parcels. See Exhibit 24 for more information.*

**§7.1(F)(16)(d)** - A vegetation management plan which ensures that any landscaping and trees that will die off will be replaced by the following growing season with the approved plantings from the screening and landscape plan.

*Response: As indicated in the General Landscape and Seeding Notes of Appendix 5-1, the contractor shall monitor and guarantee that all plants, trees, and shrubs will remain health and free of disease for 1-year after installation. Contractor shall replace any dead or unhealthy plants at contractor's expense.*

**§7.2(D)** The solar facility, including any proposed off-site infrastructure, shall be located and screened in such a way as to avoid visual impacts as viewed from public locations, public dedicated roads and highways, residences located on contiguous parcels, or other locations identified by the Planning Board. Acceptable screening would include maintenance of existing vegetation, new native vegetative barriers or berms, landscape screen or other opaque enclosures, or any combination thereof acceptable to the Town capable of screening the site as possible. The applicant shall guarantee that all plantings that form part of the approved landscape and screening will be maintained and replaced, if necessary, during the life of the project.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§7.2(D)(2)**. - Trees to be included in screening shall be native and non-invasive species of evergreen, e.g. White Spruce, White Pine, Larch, red cedar, juniper, a minimum of 8' tall and 3" in diameter at breast height. It shall be determined and documented by the developer if at the time of planting if any species are threatened due to regional blight, disease, etc. Final decisions on appropriate plantings will be made by the Planning Board.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§7.2(D)(3)** - The solar facility shall provide for the creation of a mixed-species buffer that has an offset, double row of densely growing evergreens with the addition of some smaller trees and shrubs in front to create more of a naturalized hedgerow habitat. The purpose of the double row is to provide additional screening early while the trees are still small. While the evergreens should be the dominant tree for screening, addition of some smaller trees and shrubs are to be provided to benefit wildlife and aesthetics. Appropriate shrubs and small trees to include to create a hedgerow could be Elderberry, American Plum, Hazelnut, Witch Hazel, Blueberry, Dogwoods

(Pagoda, Flowering, Silky, Gray), Sumac, Buttonbush, Pear, Apple, Lilac, Shadbush, Pussywillow, Raspberry Maple leaved viburnum, nannyberry, chokecherry.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§7.2(D)(4)** - The plans shall show maximum screening of utility-scale solar. The plan shall demonstrate that screening is provided year-round, to the fullest extent possible and will not have visual adverse impacts on roadways or adjacent properties.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§7.2(D)(5)** - The design, construction, operation, and maintenance of any solar energy system shall prevent the misdirection and/or reflection of solar rays onto neighboring properties, public roads, and public parks in excess of that which already exists. The Planning Board reserves the right to individually assess what they deem to be sensitive areas on any proposed solar facility site as part of their review to ensure that negative impacts of solar ray reflection will be prevented. All solar panels shall have anti-reflective coating(s) not identified as a hazardous material by the U.S. Environmental Protection Agency. The applicant shall adhere to all federal and state laws, regulations and guidelines regarding PFAS and polytetrafluoroethylene (PTFE) films. The applicant shall provide a certificate to the Town attesting to the fact that the entire solar installation is non-toxic and will not result in harmful chemicals leaching into the soils under and within the solar installation.

*Response: The Glare Analysis evaluated 17 existing roadways and a total of 113 unique buildings that were identified in proximity to the proposed Facility using one and/or two-story receptor heights, depending on the height of the existing building. Arrays 1-30, 32-36, 40-47, and 49-59 exhibited no glare results for the modeled receptors. The remaining five array areas (Arrays 31, 37, 38, 39 and 48) had varying amounts of estimated glare based on the model; however, based on more targeted analyses impacts are not anticipated. The results of these arrays at receptors are available in the Glint and Glare report (see Plan 7C of Revised Attachment 7).*

**§7.2(D)(6)** - All structures and devices used to support solar collectors shall be non-reflective and/or painted a subtle or earth tone color to aid in blending the facility into the existing environment.

*Response: The Facility has been designed to comply with this provision. The colors of the Facility are described in the material analysis of Section 2.0. The neutral gray colors comprising the racking system, substation, inverters, and blue color of the solar modules cannot be modified as specifications and materials are inherent and standardized by the manufacturer (fabricated by mass production, either by automation or assembly lines). Solar panels are manufactured with polycrystalline, which is naturally blue in color and is best suited to reflect the least possible sunlight. However, as available, the POI switchyard transmission structures will be surfaced in self-weathering steel, which resembles a brown material, to mimic earthy colors of the existing environment. Further, the Applicant has proposed woven wire fencing around the perimeter of the solar panels to reinforce existing cultural/agricultural features within the local landscape.*

**§7.2(D)(7).** - Fencing installed for security or public safety shall be seven-foot (7') tall, composed of natural wood poles that mimic the rural aesthetics of the community. Barbed wire or any similar alternatives is prohibited.

*Response: The Applicant is seeking a waiver of this provision. See Exhibit 24 for more information.*

**§7.2(H).** - Artificial lighting of solar energy systems shall be limited to lighting required for safety and operational purposes and shall be cast downward and shielded from all neighboring properties and public roads. Lighting shall be dark sky compliant.

*Response: The lighting design for the collection and POI switchyard have been designed to minimize light creep beyond the substations' footprints while ensuring compliance with the standards established by the National Electrical Safety Code (NESC) and Occupational Safety and Health Administration (OSHA). Facility lighting follows dark sky principles to the extent allowable for safety. For more information regarding the Lighting Plan, see Section 11.13 as well as Revised Attachment 7.*

**§7.2(N)** - Utility-scale solar energy systems structures and equipment are prohibited in cemeteries and burial grounds. The applicant shall consult with the Town historian and with the NYS Office of Parks Recreation and Historic Preservation to identify any such burial grounds within the project site.

*Response: The Facility has been designed to comply with this provision. Facility components were sited in avoidance of existing cemeteries and burial grounds. In the event human remains or evidence of human burials are encountered during construction, all work in the vicinity of the find shall be immediately halted and the "unanticipated discovery plan" shall be implemented per Appendix 5-1 General Notes (C-100-02).*

**§7.2(T)** All transmission lines, especially those traversing nonparticipating properties, and wiring associated with a utility-scale solar energy system shall be buried and include necessary encasements in accordance with the National Electric Code. The Planning Board may waive this requirement if sufficient engineering data is submitted by the applicant to demonstrate that underground transmission lines are not feasible, or practical or other best practices exist. The applicant is required to show the locations of all proposed overhead and underground electric utility lines including substations, switchyards, junction boxes and other electrical components for the project on the site plan. All transmission lines and electrical wiring shall comply with the utility company's requirements for interconnection.

*Response: The Applicant is seeking a waiver of this provision due to technological limitations. The Town's Solar Energy Law contains a provision that requires all transmission lines to be buried underground. Note, no transmission lines will traverse non-participating properties.*

## **2.0 FACILITY CHARACTERISTICS AND DEFINITIONS**

The Facility will be sited on rural-agricultural land characterized by undulating terrain with land use activities primarily consisting of cultivation. In these lands, other landscape components are prevalent and include tree hedgerows, forests, and lesser amounts of farmstead and rural-

residential development. In total, the Facility will have a generating capacity of 300 MW alternating current (AC). The Facility Site includes 3,794 acres of land within the Towns of Canajoharie and Root, Montgomery County, New York. The Facility limits of disturbance is limited to 1,637 acres of the Facility Site and will include components such as solar PV arrays, inverters, security fencing, access roads, temporary laydown yards, underground electric collection system, a collection substation, and a POI switchyard. The POI switchyard will connect to two transmission structures to support the generation tie (gen-tie) line into the existing New York Power Authority (NYPA) Transmission Line #352.

The following definitions will be used to describe various areas or boundaries of the Facility throughout the VIA:

**Facility:** is defined as the proposed components to be constructed for the collection and distribution of energy for the Flat Creek Solar Facility, which includes solar arrays, security fencing, access roads, inverters, electric collection lines, a collection substation, a POI switchyard, and two POI transmission structures for the gen-tie line.

**Facility Site:** The parcels encompassing Facility components which totals 3,794 acres in the Town of Canajoharie and Root, Montgomery County, New York (Figure 2-1).

**Visual Study Area (VSA):** A 2-mile radius is assigned around the proposed fence perimeter of the Facility for the assessment of visual impacts.

**Component:** A single part, equipment, or improvement of the Facility including, but not limited to the solar arrays, electrical collection system (transformers, inverters, collection lines), substations, access roads, laydown/staging areas, and fencing.

The proposed aboveground components to be installed will be “visually” assessed to meet the objectives of the VIA. Each proposed Facility component evaluated in this VIA is described and defined as follows:

**Solar Arrays:** For the purposes of collecting solar energy, the Applicant intends to use a solar module comparable to the Tiger Neo N-type 72HL4-BDV bifacial module. This module’s appearance can be described as a rectangular form that resembles a dark blue checkered texture. This module will be affixed to a tracker racking system similar to the NX Horizon Single Axis Tracker. This racking system is comprised of non-reflective grey metallic components such mounting piles, metal framing, and rails. A specification sheet for the module and racking system is included as Appendix 5-4 in Exhibit 5. The maximum height of the solar array panels used in the VIA is set at 10 feet from finished grade, inclusive of the racking system. The height specification is a conservative value that is implemented to account for future unknown manufacturer changes that may result in changes to the solar array’s maximum height.

**Inverters:** Inverters will be located within the Facility Site. To the extent practicable, inverters will be interspersed throughout the centroid areas of the solar arrays to obscure their appearance. Their purpose is to convert direct current (DC) electricity generated by the solar modules into AC electricity. Cables from the solar modules are run to the inverters using an aboveground cabling system or underground lines. From the inverters, underground collection lines convey electricity to the Facility collection substation and ultimately to the existing electric transmission system. The Applicant intends to use a SMA Medium Voltage Power Station, or similar. A specification sheet for these inverters is included in Appendix 5-4 of Exhibit 5. The inverter will support a 10.5-foot maximum height, a 4.7-foot width, and a 19.9-foot length. As shown in the inverter specification cover, the enclosed components are compartmentalized within a metal frame. The material colors of the inverter will be predominantly gray; however, one enclosure will be surfaced in an off-white material finish.

**Collection Substation:** The collection substation will be located between Rappa Road and Hilltop Road, adjacent to the existing NYPA Transmission Line #352. Within the substation, a step-up transformer will increase the voltage from 34.5 kilovolts (kV) to 345 kV for interconnection. The substation utilizes 1.80 acres of rural/open land and will be located adjacent to solar panels in the center portion of the Facility. Access to the substation will be available via a new access road from Hilltop Road. A single 90-foot a-frame takeoff structure at the collection substation will facilitate a 100-foot overhead cable connection to the existing NYPA Transmission Line #352. Two 90-foot standalone lighting masts will be centrally positioned within the substation. A variety of equipment with lesser heights (ranging approximately 21 to 35 feet) will support the collection substation and include, but is not limited to switches, breakers, bus work, transformers, and a control house. In general, the color of the substation will be gray, and the control building facade will consist of "Ash Grey" interlocking wall panels. Section drawings and profiles of the collection substation can be found in Plan 7B of Revised Attachment 7 (Collection Substation and POI Switchyard Plan & Profile Drawings and Lighting Plan). The complete set of plans and sections of the substation are available in Appendix 5-1 of Exhibit 5).

**POI Switchyard:** Electricity from the collection substation will be routed immediately east to the POI switchyard, located between Rappa Road and Hilltop Road. A single access road will be available from Rappa Road. Three 90-foot h-frame takeoff structures are proposed for the switchyard: one within the western interior of the switchyard will collect transferred electrical power from the collection substation, and two takeoff structures will route 229.5 feet of overhead conductors to the two proposed POI transmission structures (see below; Transmission POI) where the interconnection is completed immediately north of the POI switchyard. There are two standalone lighting masts located on the southern portion of the footprint, both are proposed with heights of 90 feet. Several components with lower heights between 13 and 40 feet will comprise the POI switchyard. These components are identified as breakers, switches, bus work, control building, etc. The total

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area of the POI switchyard is approximately 3.6 acres; sectional drawings and plans of this switchyard can be reviewed in Plan 7B of Revised Attachment 7 as well as in Exhibit 5. The appearance of the switchyard will be gray (galvanized steel), and the control building's facade will be comprised of "Ash Grey" interlocking wall panels.

**POI Transmission Structures:** Two POI transmission structures are proposed to facilitate interconnection from the Facility to the existing NYPA Transmission Line #352. The new transmission structures will comprise of two new poles, surfaced with self-weathering steel (brown), in a dead-end configuration (approximately 140 feet in height). Initiating at two POI switchyard takeoff structures, overhead cabling spanning 229.5 linear feet will be routed to the new structures where interconnection is completed. Plans and sections of the transmission structures and associated transmission lines are available in the Substation and POI Switchyard Plan & Profile Drawings and Lighting Plan (Plan 7B of Revised Attachment 7 and Exhibit 5).

**Access Roads:** New permanent access roads are proposed within the Facility Site. These access roads are predominantly gravel-surfaced and 20 feet wide, however very limited sections will be impervious and typically occur at the construction entrance by the existing roadways. When construction is completed, the access roads will provide a point of access for maintenance workers and authorized personnel.

**Fencing:** Security fencing for the collection substation and POI switchyard will be incorporated as required per regulatory standards. This fencing will consist of a 7-foot, galvanized chain-link fence with a one-foot-long extension arm for attachment of barbed wire, resulting in a total fence height of 8 feet (see Appendix 5-2).

Surrounding all other Facility components, fencing will consist of fencing with fixed-knot woven wire and evenly spaced galvanized (gray) metal posts. This woven wire fence shall measure a total height of 8 feet above ground level.

Although not considered an aboveground visual component, buried collection lines are proposed in lieu of overhead structures to avoid additional potential visual impacts, which is further defined as follows.

**Underground Electric Collection System:** The 34.5 kV collection lines will connect the solar arrays with the Facility substation for delivery to the electric grid. All medium voltage collection lines will be installed underground. Specific installation methods, as well as collection line arrangement, are shown on the Design Drawings (Exhibit 5, Appendix 5-1).

### 3.0 CHARACTER OF THE EXISTING LANDSCAPE

As mentioned, the Facility is to be sited within the Towns of Canajoharie and Root, within Montgomery County. Section 3.0 describes the character of the existing landscape within the VSA and Facility Site, including communities and residential areas, physiography and land use, water resources, transportation resources, energy infrastructure, and publicly known proposed land uses (other than the Facility described herein). To investigate the visual characteristics within the VSA, numerous information sources were referenced and consulted, including but not limited to aerial imagery; field assessments; publicly accessible tabular and geospatial data from local, state, and federal agencies; local and regional tourism websites; and public search engines, such as Google.

Tables 4 and 5 are provided in Section 6.0 for an inventory of local, county, state, and federal visual resources and sensitive sites within the 2-mile VSA.

#### 3.1 Community/Residential

Population data was derived from the U.S. Census Bureau (2020 Decennial Census) to convey information pertaining to population densities in the VSA and is provided below in Table 1 Population of Communities within the 2-mile VSA. This population data does not account for interstate travelers nor national travelers that may visit the region or travel through to reach other destinations; information pertaining to transportation is available in Section 3.4. To provide further context and scale of the VSA population data in Table 1, the City of Johnstown is approximately 6.5 miles northeast of the VSA and accounts for a total estimated population of 8,204, which is comparable to the total estimated population within the Towns of Canajoharie, Palatine, and Root (8,862). Not all involved townships are completely within the VSA, for example, the Towns of Canajoharie and Palatine are partially intersected by the VSA, and the Town of Mohawk is minorly within the VSA. The VSA extends around a majority of the Town of Root’s jurisdictional boundary.

**Table 1. Population of Communities within the 2-Mile VSA**

Town/Village	Total Population (2020 Census Estimates)
<b>Town of Canajoharie</b>	<b>3,660<sup>1</sup></b>
Village of Canajoharie	2,037
Mapletown (Minor Civil Division)	73
<b>Town of Mohawk<sup>2</sup></b>	<b>3,572<sup>1</sup></b>
<b>Town of Palatine</b>	<b>3,189<sup>1</sup></b>

Town/Village	Total Population (2020 Census Estimates)
Village of Palatine Bridge	796
Mckinley <sup>2</sup> (Minor Civil Division)	79
Cook Corners* (Minor Civil Division)	106
<b>Town of Root</b>	<b>2,013<sup>1</sup></b>
Rural Grove (Minor Civil Division)	135
Flat Creek (Minor Civil Division)	134
Lykers (Minor Civil Division)	116
Browns Hollow (Minor Civil Division)	113
Hamlet of Sprakers	112
Currytown (Minor Civil Division)	96
Root Center (Minor Civil Division)	78

<sup>1</sup>This metric accounts for total population including population in rural locations and places that are not recognized as a minor civil division or incorporated place.

<sup>2</sup>Denotes communities/municipalities that are minorly intersected by the 2-mile VSA.

As shown in Table 1, above, approximately 56% of the Town of Canajoharie’s population resides within the Village of Canajoharie, and 25% of the Town of Palatine’s population resides within the Village of Palatine Bridge. Therefore, villages within the VSA contain a higher concentration or potential viewers where physical obstructions consisting of tightly spaced residential housing, commercial buildings, structures, and vegetation often constrain distance of view to objects in the foreground. The remaining percentages of population within the VSA are typically found in smaller communities (hamlets or census designated places), and a lesser extent of population is described as rural- residential where dwellings may be found punctuated between large expanses of agricultural land.

In the VSA, Rural-residential development primarily consists of one-story to two-story dwellings and farmsteads located within the vicinity of local or county roads. These dwellings are frequently positioned with ample space between each neighboring property. Conversely, the Villages of Palatine Bridge and Canajoharie contain a higher concentration of development within a small, confined area, where congregated observers are more prevalent. The character of these communities is documented as viewpoint (VP) photographs found in the Facility Photolog in Attachment 3. Overall, the amount of population in the VSA is less compared to other more populous regions in New York State.

Lesser populated communities in the VSA include the Hamlet of Sprakers, and several Minor Civil Divisions (MCD) are noted as, but not limited to Flat Creek, Mapletown, Root Center, Rural Grove, and Currytown. The communities of Flat Creek and Currytown are the closest MCDs to the Facility.

- Communities that fall within 0.5 miles of Facility: Towns of Canajoharie and Root, Village of Canajoharie and MCDs of Flat Creek and Currytown.
- Communities that fall between 0.5 and 2.0 mile of Facility: Towns of Palatine and Mohawk, Villages of Palatine Bridge, and MCDs of Mapletown, Rural Grove, Root Center, Lykers, Mckinley, Browns Hollow, and Cook Corners

For information about the characteristics and potential effects of viewing distances, please visit Section 4.0, Distance Zones.

One Potential Environment Justice Area (PEJA) was identified within the VSA as U.S. Census Tract 726, Block Group 1. The PEJA is bounded by the Town of Canajoharie and comprises a total of 11.18 square miles. PEJAs are administered by the New York State Department of Environmental Conservation (NYSDEC) Office of Environmental Justice for improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities. PEJAs are defined by 6 NYCRR Section 487.3 as areas with populations that meet one or more of the following thresholds:

- 52.42 percent or more of the population in an urban area reported themselves to be members of minority groups; or
- 26.28 percent or more of the population in a rural area reported themselves to be members of minority groups; or
- 22.82 percent or more of the population in an urban or rural area had household incomes below the federal poverty level.

The Impact Study Area, including a half-mile buffer around the site, is contained within five block groups in Montgomery County (Figure 19-1). Based on the review of the minority and low-income population of these Census block groups from the most recent ACS data available (2022 vintage), the Study Area does not currently include block groups that meet the criteria for a PEJA (Figure 19-1). Please reference Exhibit 19, Environmental Justice, for more information regarding PEJAs.

### **3.2 Physiography and Land Use**

The VSA is solely within the Mohawk Valley physiographic region of New York State which contributes to the larger region of the Eastern Great Lakes Lowlands. The Mohawk Valley physiographic region is characterized as a corridor of irregular river valley that travels east to west

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between the Adirondack Park and the Glaciated Low Allegheny Plateau (Bryce 2010). The Mohawk Valley landform consists of upland (north and south) of the Mohawk River reaching elevations of approximately 785 feet Above Sea Level (ASL) in Cooks Corners north of the Mohawk River, and 819 feet ASL east of Old Sharon Road, south of the Mohawk River. The Mohawk River lowland is conveyed with a lesser elevation of 290 feet ASL (at the Riverfront Park) in the Village of Canajoharie. Generally, when in and around the Mohawk Valley lowlands, the opportunity to experience far reaching views of the landscape is prohibited by upland topography. Conversely, upland areas immediately north and south of the valley may furnish elevated positions for viewing the distant landscape. Further south of the Mohawk River, terrain elevation trends generally increase attaining elevational heights of up to 960 feet ASL (east of the community of Mapletown) and 1,055 feet ASL (at the intersection of Becker Road and Mapletown Road).

The Facility Site contains elevations ranging from approximately 500 feet ASL to 890 feet ASL. Figures 3 and 4 of Attachment 2 have been prepared with USGS topographic mapping and can be reviewed to understand the general character of existing topographic variability in and around the VSA. Land use in the VSA can also be conveyed through Landscape Similarity Zones (LSZ) which are delineated throughout the VSA and discussed in Section 5.0. A map outlining the various LSZs in the VSA is obtainable in Figure 2 of Attachment 2.

### **3.3 Water**

Water bodies can be an important aesthetic feature of a landscape and may also provide recreation and tourism opportunities. From within the Mohawk Valley Lowlands, the Mohawk River is the most prominent water feature in the VSA. This river horizontally bisects the northern section of the VSA and separates jurisdictional boundaries of the Villages of Palatine Bridge and Canajoharie. The Mohawk River originates in the valley between the western Adirondacks and the Tug Hill Plateau and flows 140 miles to the east where it joins the Hudson River (NYSDEC n.d.).

The Canajoharie Creek is a larger tributary creek to the Mohawk River and is found meandering south through the Village of Canajoharie and along Wintergreen Park and Prospect Hills Cemetery prior to exiting west of the VSA. Public access to the Canajoharie Creek and Falls is prohibited, however, an observational deck is available in the northern extension of the Wintergreen Park.

Several smaller tributary creeks identified within the VSA that contribute to the Mohawk River are known as Lasher Creek, Knauderack Creek, Yatesville Creek, and Flat Creek. Several smaller (man-made) ponds are located on rural and agricultural properties throughout the VSA and are predominantly on private land south of the Mohawk River.

### 3.4 Transportation

Roadways are generally publicly accessible and provide an opportunity for viewers to observe their surrounding environment and landscape. Determining the characteristics of a travel route assists with identifying the potential viewer types, frequency of view, as well as traffic volume. For example, the New York State Thruway (NY I-90) sustains thousands of vehicles daily, thereby providing a high frequency for users to discern the visual environment. Contrariwise, less traveled rural roads such as Caswell Road (less than 100 daily travelers in the VSA) do not accommodate many viewers or population, therefore, views of the landscape would be infrequent.

Annual Average Daily Traffic (AADT) was utilized to estimate the average volume of daily travelers within the VSA. AADT data was used in conjunction with population data (see Table 1) to estimate potential number of viewers within the VSA. Traditionally, AADT is a planning metric used primarily in transportation planning and transportation engineering. AADT data is calculated by totaling the annual volume of vehicle traffic of a road and dividing by 365 days. AADT counts are provided by the New York State Department of Transportation (NYSDOT) and are presented below in Table 2.

**Table 2. Available Traffic Data of Public Roads in the 2-Mile VSA**

Route/ Road Name	Town	AADT	NYSDOT Functional Class
NY I-90	Canajoharie, Root	23,637 to 25,929	Principal Arterial Interstate
New York State Highway 5 (NY5)	Palatine	3,377	Minor Arterial
New York State Highway 5S (NY5S)	Canajoharie, Root	3,450	Major Collector
New York State Highway 162 (NY162)	Root	1,665	Major Collector
New York State Highway 10 (NY10)	Canajoharie	1,494	Minor Arterial
Maple Avenue	Canajoharie	1,360	Major Collector
Lafayette Street (NY10)	Palatine	1,304	Major Collector
Old Sharon Road	Canajoharie	470	Local
Currytown Road	Root	361	Local
Flat Creek Road	Root	309	Local
Mckinley Road	Palatine	325	Local
Carlisle Road	Canajoharie, Root	306	Minor Collector
Darrow Road	Root	279	Local

Route/ Road Name	Town	AADT	NYSDOT Functional Class
Brower Road	Palatine	269	Local
Mapletown Road	Canajoharie	269	Local
Latimer Hill Road	Root	197	Minor Collector
Blaine Road	Canajoharie	166	Local
Hilltop Road	Root	137	Local
Seebers Lane	Canajoharie	109	Local
Rappa Road	Root	108	Local
Caswell Road	Palatine	93	Local
Cunningham Road	Canajoharie	71	Local

NYSDOT functional classifications are helpful for identifying potential viewer types and frequency of use within the VSA and are defined as follows.

- **Arterial Roads:** *Provides expedited travel for the public at higher uninterrupted speeds. Usually consisting of transportation corridors that accommodate a multitude of travelers.*
- **Collector Roads:** *Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.*
- **Local Roads:** *Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement and accommodates travel over shorter distances.*

### 3.5 Existing Energy Infrastructure

Several aboveground energy infrastructure of varying heights, materials, and configurations are noted within the VSA and are documented below:

- NYPA Transmission Line #352 – This existing overhead transmission line is built within the Towns of Root and Canajoharie. The transmission line bisects the center of the VSA in an east-to-west formation. The Facility is proposing to interconnect into this transmission line (see Section 2.0 for more information about the interconnection).
- Nexamp Community Solar Farm at Caswell and Gray Roads - The Solar Farm is recently constructed within land north of South Gray Road and east of Caswell Road in the Town of Palatine. This existing community solar energy facility expends approximately 19 acres of land within the VSA.

### 3.6 Publicly Known Proposed Utility Land Uses

The Applicant has reviewed publicly available information, including town documents, public notices, and town board and planning board meeting minutes, and has determined that there are no known proposed land uses within the VSA, however, applicable proposed land uses beyond the VSA are discussed in Section 14.0

## 4.0 DISTANCE ZONES

Distance zones were established within the VSA for assessing and determining the Facility's visual effects over discrete distances and are required pursuant to Section 1100-2.9 (b)(1) of the Article VIII Regulations. Distance zones provide representative information about the level of detail and acuity of objects in the landscape over various distances. Distance zones also provide useful information for determining the relationship between levels of viewer sensitivity and distance. These zones have been defined in documents produced by the U.S. Forest Service or the Bureau of Land Management. However, certain procedures or guidelines may be inapplicable to the northeast and are more appropriate for western landscape applications. Therefore, discretion must be used when implementing distance zones as the effects of distance highly depend on the characteristics of the landscape. Further, the magnitude of the proposed action must also be considered when assigning distance zones. For example, solar panels exhibit a smaller profile and sit lower in the landscape as opposed to mature trees, two-story buildings, or transmission structures that assume taller heights. Therefore, distance zones for this Facility have been judiciously modified from the U.S. Forest Service Handbook to accommodate the extents of the VSA, the limitations of human vision, and the low-profile scale of the Facility components. Consequentially, two distance zones have been incorporated within the 2-mile VSA:

- Distance Zone 1: Foreground (up to 0.5 miles from the viewer to the Facility). This zone represents the nearest vantage points to the Facility. In this zone, clarity of individual details, textures, and the full spectrum of colors are typically discernable. Due to the proximal distance of this zone in respect to the limited height of the solar panels, predicted areas of visibility are often more prevalent in this zone.
- Distance Zone 2: Middle ground to Background (0.5 to 2 miles from the viewer to the Facility). In this zone from distances up to approximately 1-mile, individual trees and building forms can still be distinguishable but textures become less apparent and ornate. When nearing the outer extents of this zone, distant objects begin to converge into homogenous shapes and colors. Often, atmospheric haze may affect color and contrast of distant landscape during certain weather conditions, resulting in the landscape inheriting a very light blue color. From this distance the solar panels merge into a single form or geometric shape. Slimmer components such as the fencing may become imperceivable at this distance. The amount of predicted visibility is usually less in this zone as screening effects of topography, trees, and buildings become more plentiful in the viewing field.

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Figures 2, 3, and 4, of Attachment 2 illustrate the locations of Distance Zones 1 and 2. A discussion of the percentage of Facility visibility in each Distance Zone can be found in Section 10.1.1.1 Viewshed Results of Solar Arrays within Distance Zones and LSZs.

## 5.0 LANDSCAPE SIMILARITY ZONES

Variations in the characteristics of the existing landscape can influence the ability to view the existing environment. In the VSA, discrete visual characteristics of the existing landscape that share common features are categorized and mapped into distinct zones or LSZs. Identified LSZs are typically categorized by landform, vegetation, open water, land use, and user activity zones. Further, LSZs provide additional context for evaluating the existing quality of the landscape, potential viewer types, viewer frequency, and duration of view. LSZs each contain variable environments that can encourage or discourage general landscape viewing. For example, forested landscapes with substantial foliage may confine or obstruct a perspective, whereas places comprised of open landscape, such as open water areas, may provide farther viewing opportunities.

The 2021 USGS National Land Cover Dataset (NLCD) was accessed to establish LSZs to categorize distinct landscape areas within the VSA. These NLCD data were further enhanced by utilizing a combination of aerial photo interpretation and ground truthing to validate the accuracy of the NLCD data as needed. To view a map of the delineated LSZs within the VSA, please see Figure 2, of Attachment 2. Overall, this effort resulted in the definition of five LSZs within the VSA, presented as follows.

- **Zone 1: Agricultural** – The character of this LSZ consists of open land that is predominantly cultivated or used for production of crops and/or livestock, it may also contain pasture, or be left fallow. This LSZ presents variable upland terrain characterized as flat to rolling and includes less areas of shallow valley (lowland). In this LSZ, rural upland areas may furnish views of the surrounding and distant landscape, however, the number of the viewing public, as well as the frequency and duration of viewers in a rural agricultural setting is expected to be low. Typically, sparsely located farmsteads and single residential dwellings intermittently dot this open landscape. Also noted within this LSZ are minor forms of vegetation portrayed as single strand tree hedgerows, separating quadrangular shaped agricultural lands in mosaic patterns. Land use within this zone is limited to cultivation or livestock farming with a significantly less amount of habitational use. Several photographic examples of the Zone 1 Agricultural LSZ are available as VPs 2, 4, 5, 6, 7, 9, 11, 12, 16, 19, 21, 22, 30, 32, 35, 51, 56, and 73 in the Facility Photolog of Attachment 3.
- **Zone 2: Forested** – In this zone, land is comprised of mature deciduous, coniferous, and mixed tree groups. Forested areas within this LSZ can encompass large swaths of land or be an isolated strand of trees. Typically, forested lands are owned by private entities, or they may be protected and stewarded by a government agency, such as

the Rural Grove State Forest and Yatesville Falls State Forest. Those forested lands owned by public entities or organizations (e.g., NYSDEC) tend to offer the public recreational activities such as hunting, nature viewing, hiking, or camping. The type of viewing opportunities in this zone are typically confined to the forest itself (seldom seen areas), however, under specific situations it may be possible to view longer distances from forested land (e.g., views from an observation tower/deck or from a forested edge abutting an open field). Several photographic examples of the Zone 2 Forested LSZ are available in the Facility Photolog as VPs 40, 41, 46, 60, 67, 69, 72, 78, and 87.

- Zone 3: Developed – This zone includes villages, towns, minor civil divisions, rural-residential abutting roadways, and the NY I-90 transportation corridor. In rural settings, dwellings are characterized by a mix of single-family residences and farmsteads intermittently spaced along the vicinity of roads. These places with concentrated development are typically limited to foreground views of the landscape due to tightly spaced development, such as buildings, residential dwellings, or street trees that may impede distant views. Rural-residential dwellings within the near vicinity of the Facility may experience visual change if topography or dense vegetation is not present. Photographed viewpoints have been documented from Zone 3 Developed LSZ and are listed in the Facility Photolog, some examples include VPs 8, 27, 29, 44, 49, 57, 58, 59, 71, 77, and 85.
- Zone 4: Open – The Zone 4 Open LSZ includes miscellaneous other open land that may have minor development with less visually obstructive features such as minor expanses of barren land, land with short scrub-shrub vegetation, cemeteries, golf courses, paved lots, playgrounds, or small emergent wetlands. In this zone, optimal landscape viewing may be afforded due to the lessened height of vegetation or lack thereof. Photographs exemplifying the characteristics of Zone 4 Open LSZ are shown in the Facility Photolog as VPs 1, 8, 15, 17, 27, 38, 43, 47, 49, 50, 54, 55, 66, 68, 77, and 81-86.
- Zone 5: River Corridor – Zone 5 River Corridor LSZ represents the Mohawk River found within the Mohawk Valley lowlands. This zone is described as an elongated body of water that is typically bounded by wooded riparian zones and a few brief intervals of concentrated development. Generally, observers in this zone have limited distant viewing opportunities when oriented perpendicular from the river where foreground vegetation and development often intervene. Contrariwise, distant landscape viewing opportunities are conducive when aligned with the corridor's lateral length, or when facing parallel with the river. Examples of the Zone 5 River Corridor LSZ are noted as VPs 27, 61, 66, 67, 68 and 70 in the Facility Photolog of Attachment 3.

Table 3 is provided below to demonstrate the differing percentages of LSZs within the 2-Mile VSA.

**Table 3. Percentage of LSZs within the 2-Mile VSA**

LSZ	Total LSZ Square Miles	Total LSZ Percent
Zone 1 Agricultural	27.7	52.0%
Zone 2 Forested	19.6	36.8%
Zone 3 Developed	4.2	8.0%
Zone 4 Open	1.1	2.1%
Zone 5 River Corridor	0.6	1.1%
<b>Total</b>	<b>53.3</b>	<b>100%</b>

As shown in Table 3, LSZ Zone 1 Agricultural constitutes 52% of total land use and is a dominant landscape character within the VSA. LSZ Zone 2 Forested comprises 36.8% of land use within the VSA and typically acts as a visual obstruction to other landscape elements. The remaining LSZs are partial contributors of the VSA and include LSZ Zone 3 Developed (8% of the VSA), LSZ Zone 4 Open (2.1% of the VSA), and LSZ Zone 5 River Corridor (1.1%) of the VSA.

A discussion of the percentage of Facility visibility in each LSZ can be found in Section 10.1.1 below.

## 6.0 SCENIC RESOURCE INVENTORY

Aesthetic resources were compiled within the VSA according to readily and publicly available information consisting of local, county, state, and federally recognized visual resources and/or sensitive sites within the full extents of the VSA. These data were inventoried according to 16 NYCRR Section 1100-2.9 (b)(4)(ii). Specific data sources consulted to assemble the inventory consisted of publicly available Geographic Information Systems (GIS) data; town, county, and agency reports; and websites (see Section 15.0, References, for a complete listing of cited sources). Visual resources were also identified during several field investigations for securing VP locations and associated photography. The complete inventory is provided below in Table 4 of Section 6.1. Figure 3 of Attachment 2 depicts the geographic location of the inventoried resources.

Per 16 NYCRR Section 1100-2.9 (b)(4)(ii) and Section 1100-2.9 (a), the following criteria was referenced for identification of visually sensitive resources within the VSA:

- 
- Landmark landscapes;
  - Wild, scenic, or recreational rivers administered by NYSDEC, Adirondack Park Agency, or Department of the Interior;
  - Forest preserve lands;
  - Scenic vistas specifically identified in the Adirondack Park State Land Master Plan;
  - Conservation easement lands;
  - Scenic byways designated by the federal or state governments;
  - Scenic districts and scenic roads, designated by the Commissioner of Environmental Conservation;
  - Scenic Areas of Statewide Significance;
  - State parks;
  - Historic sites listed or eligible on the National Register of Historic Places (NRHP) or State Register of Historic Places (SRHP);
  - Areas covered by scenic easements, public parks, or recreation areas;
  - Locally designated historic or scenic districts and scenic overlooks; and
  - High-use public areas.

In accordance with 16 NYCRR Section 1100-2.9 (b)(4), a VIA Survey Request (Information Request) was distributed to stakeholders in February 2024. The details of this information request are further outlined below.

#### *Information Request to Visual Stakeholders (February 2024)*

An Information Request was sent to visual stakeholders comprising local municipalities, including local planning representatives, ORES, the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), and Montgomery County. This engagement provided an opportunity for stakeholders to append additional visual resources to a preliminary inventory of aesthetic resources and/or choose viewpoint locations or add photographs for possible preparation of Facility photo-simulations. Cartographic mapping (see Attachment 2) and a Facility Photolog (see Attachment 3) were also provisioned to facilitate the review of the extent and findings of visibility studies at that point in time. In this request, the Applicant extended an opportunity for stakeholders to discuss the proposed landscape plan (see Appendix 5-2 of Exhibit 5) prior to the submission of the Application.

On August 14, 2023, OPRHP sent a letter through the State Historic Preservation Office (SHPO) Cultural Resource Information System (CRIS) with a formal request to prepare a VIA document to review and evaluate potential impacts to a subset of historic resources outlined in a table embedded within the letter (see Attachment 5). The subject historic resources were appended to Table 4 and are denoted accordingly (see footnotes in Table 4) and evaluated herein (see Section 10.1.1.2 for a discussion of each visible resource)

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The Town of Canajoharie responded to the request on March 7, 2024, with an attachment outlining several design recommendations and other concerns (e.g., noise) that are unspecific to the assessment of Facility visibility. The attachment suggests that “severe impact” will occur from the Canajoharie High School Athletic Fields, Cunningham Road, Carlisle Road, and Miller Road, but it is unclear whether this impact is related to design, traffic, noise, construction, or wetland/s. The document also states, “[there is] very high visibility impact to the Canajoharie CSD athletic field”. On March 21, 2024, the Applicant convened with the Town of Canajoharie. During this on-site meeting, it was suggested that a photo-simulation be prepared from the Canajoharie Senior High School’s Athletic Fields. As a result, the Applicant prepared two photo-simulations from the school, which are available as VPs 83 and 85 of Revised Attachment 4.

On March 20, 2024, the Applicant also met with the Town of Root for discussions pertaining to the proposed Facility. However, no specific visual assessment requests were made during this time. The Town of Root did not respond to the February 2024 visual survey request, however, in subsequent meetings with the town, VP 16 from Conway Road was recommended for the development of a photo-simulation. The applicant complied with the request and prepared the VP 16 simulation (see Revised Attachment 4).

On February 15, 2024, The Montgomery County Department of History & Archives replied to the visual survey request acknowledging that they would not be able to respond by March 7<sup>th</sup>. A letter was later transmitted and received on May 20, 2024.

ORES responded to the visual survey request with several additional suggested locations for the potential preparation of photo-simulations. The applicant provided two of these locations as photo-simulations, see VPs 21 and 83 of Revised Attachment 4. Additionally, as requested in the reply, all non-historic (local) cemeteries were appended to the inventory of aesthetic resources (see Table 4).

## **6.1 94-c Aesthetic Resources Inventory**

As mentioned, an aesthetic resource inventory was completed within the VSA. Table 4 contains the results of the investigatory findings for listed and recognized scenic resources within each village, town, or agency in accordance with the above listed 94-c aesthetic resource criteria. Figures 3, and 4 of Attachment 2 depict the geographic location of each inventoried resource. The Facility Photolog in Attachment 3 illustrates photographs taken from various LSZs, distance zones, communities, roadways, and potential sensitive locations throughout the VSA. Many of these photographs were documented from inventoried scenic and aesthetic resources identified below. Each existing condition photograph of the Facility Photolog depicts the perspective that matches the direction of the Facility.

**Table 4. Inventory of Aesthetic Resources within the 2-Mile VSA**

Map ID	Resource Name	Town/Village	Approximate Distance to Nearest Solar Array	LSZ <sup>4</sup>	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
<b>Recreation</b>						
A1	Riverfront Park	Canajoharie	1.1 Miles	4,5	L	No
B1	DEC Boat Launch (Riverfront Park)	Canajoharie	1.17 Miles	5	S	No
C1	Canajoharie Fish and Game Club	Canajoharie	800 Feet	2,4	L	No
D1	Canajoharie Little League Field/Park	Canajoharie	0.52-Mile	3,4	L	No
E1	Wintergreen Park	Canajoharie	0.4-Mile	2,4	L	Yes (Minor)
F1	White Park (NRHP listed and included in Canajoharie Historic District)	Canajoharie	1 -Mile	3,4	F	No
G1	Rural Grove State Forest	Multiple Municipalities	1.54 Miles	2	S	No
H1	Erie Canalway Trail	Multiple Municipalities	0.2-Mile	2,3,4	S	No
I1	NYS Bicycle Route 5 (NY5S)	Multiple Municipalities	0.23-Mile	1,2,3	S	Yes
J1	Various Snowmobile Trails (S72, S72A, S75, S75A, C7P, C7H)	Multiple Municipalities	Various Distances	1,2	S	Yes
K1	Yatesville Falls State Forest	Root	0.6-Mile	2	S	Yes (Minor)
L1	Pangaea Puddle Water Ski Site	Root	1.2 Miles	4	L	Yes (Not in vicinity to

Map ID	Resource Name	Town/Village	Approximate Distance to Nearest Solar Array	LSZ <sup>4</sup>	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
						recreational areas)
M1	Canajoharie Senior High School & Athletic Fields	Canajoharie	300 Feet	3,4	L	Yes
N1	Canajoharie Middle School, Elementary School, & Athletic Fields	Canajoharie	0.38-Mile	3,4	L	Yes
<b>Scenic Byways</b>						
N/A	Revolutionary Trail (NY5) <sup>3</sup>	Mohawk, Palatine	0.57-Mile	1,2,3,	S	Yes (Minor)
<b>Heritage Corridors</b>						
See Figure 3 of Attachment 2 (Encompasses VSA)	Erie Canalway National Heritage Corridor	Multiple Municipalities	Study area is entirely within	1,2,3,5	F	Yes
See Figure 3 of Attachment 2 (Encompasses VSA)	Mohawk Valley State Heritage Corridor	Multiple Municipalities	Study area is entirely within	1,2,3,5	S	Yes
<b>Conservation Easements</b>						
O1	NRCS – Wetlands Reserve Program – Parcel 1	Canajoharie	140 Feet	1,2,4	F	Yes (Minor)

Map ID	Resource Name	Town/Village	Approximate Distance to Nearest Solar Array	LSZ <sup>4</sup>	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
O2	NRCS – Wetlands Reserve Program – Parcel 2	Canajoharie	0.8-Mile	1,2,4	F	No
O3	NRCS – Wetlands Reserve Program – Parcel 3	Root	0.8-Mile	1,2,4	F	No
O4	NRCS – Wetlands Reserve Program – Parcel 4	Root	445 Feet	1,2,4	F	No
O5	NRCS – Wetlands Reserve Program – Parcel 5	Root	0.76-Mile	1,2,4	F	No
O6	NRCS – Wetlands Reserve Program – Parcel 6	Root	0.34-Mile	1,2,4	F	No
O7	NRCS – Wetlands Reserve Program – Parcel 7	Root	1.3 Miles	1,2,4	F	No
O8	NRCS – Wetlands Reserve Program – Parcel 8	Palatine	1.66 Miles	1,2,4	F	No
<b>Montgomery County Scenic Byways</b>						
MC1	Carlisle Road (CR 93)	Canajoharie, Root	In vicinity	1,2,3,4	C	Yes
MC2	Caswell Road (CR 45)	Palatine	0.85-Mile	1,2,3,4	C	Yes
MC3	Clinton Road (CR 80)	Canajoharie	1.74 Miles	1,2,3,4	C	No
MC4	Currytown Road (CR 105)	Root	0.42-Mile	1,2,3,4	C	Yes
MC5	East Lykers Road (CR 103)	Root	1.55 Miles	1,2,3,4	C	No
MC6	Hilltop Road (CR 96)	Root	In vicinity	1,2,3,4	C	Yes
MC7	Latimer Hill Road (CR 89)	Canajoharie, Root	1.56 Miles	1,2,3,4	C	Yes

Map ID	Resource Name	Town/Village	Approximate Distance to Nearest Solar Array	LSZ <sup>4</sup>	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
MC8	Logtown Road (CR 110)	Root	1.53 Miles	1,2,3,4	C	No
MC9	McKinley Road (CR 42)	Palatine	0.77-Mile	1,2,3,4	C	Yes
MC10	Old Sharon Road (CR 94)	Canajoharie	380 Feet	1,2,3,4	C	Yes
MC11	Seebers Lane (CR 87)	Canajoharie	1.47 Miles	1,2,3,4	C	Yes
MC12	West Lykers Road (CR 102)	Root	1.3 Miles	1,2,3,4	C	Yes (Minor)
<b>Local Cemeteries</b>						
P1	St. Peter's & Paul's Catholic Cemetery	Canajoharie	0.93-Mile	2,4	L	No
P2	Spraker Hill Cemetery	Root	0.87-Mile	2	L	No
P3	Rural Grove Cemetery	Root	1.55 Miles	2,4	L	No
P4	Lyker Cemetery	Root	1.44 Miles	2	L	No
P5	Flanders Cemetery	Root	0.42-Mile	2	L	No
P6	Currytown Cemetery	Root	0.35-Mile	1,2,3	L	No
<b>Potential Environmental Justice Area</b>						
Q1	PEJA - Census Tract 726, Block Group 1	Canajoharie	Various Distances	1,2,3,4,5	S	Yes

<sup>1</sup>Potential visibility is obtained from the viewshed analysis using topography, trees, and buildings only, per 19 NYCRR Section 900.2.9(b)(1), simulations or by methods of onsite field verification.

<sup>2</sup>Also recognized as a National Historic Landmark per the National Park Service.

<sup>3</sup>Resource is also considered to be recreational.

<sup>4</sup>Please refer to Section 5.0 Landscape Similarity Zones for definitions of each LSZ.

Table 4, continued:

Map ID	USN	Resource Name	Approximate Distance to Nearest Solar Array	Address	Town/Village	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
<b>NRHP Listed Historic District</b>							
HR1	<b>14NR06559</b> 05702.000139 05708.000231 05749.000285 05749.000286 05749.000287 05749.000288	<b>New York State Barge Canal Historic District</b> (Mohawk River) <sup>2, 3, 4</sup> (contains six listed sites)	0.42-Mile	N/A	Multiple Municipalities	F	Yes (Limited section of Mohawk River. All six NRHP listed sites are unaffected)
HR2	<b>14NR06580</b>	<b>Canajoharie Historic District</b> (Contains 619 listed sites including Canajoharie Falls Cemetery)	0.44-Mile	N/A	Canajoharie	F	No
HR3	<b>19NR00029</b>	<b>Palatine Bridge Historic District</b> (Contains 156 listed sites including Palatine Bridge Cemetery)	1.03 Miles	N/A	Palatine	F	Yes (Minor; all NRHP listed sites unaffected)
<b>NRHP Listed Historic Site</b>							
HR4	<b>90NR01534</b> 05708.000091 05708.000092 05708.000234 05708.000242 05708.000243	<b>Montgomery County Farm<sup>4</sup></b> (Contains five listed sites)	1.22 Miles	NY5	Palatine	F	Yes (Minor; all NRHP listed sites unaffected)

Map ID	USN	Resource Name	Approximate Distance to Nearest Solar Array	Address	Town/Village	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
HR5	<b>10NR06181</b> 05708.000021 05708.000233	<b>Daniel G. Van Wie Farmstead</b> (Contains two listed sites)	0.78-Mile	Brower Road	Palatine	F	Yes
HR6	05749.000110	Residence	1.02 Miles	51 East Grand Street	Palatine Bridge	F	No
HR7	05749.000111	Residence	1.01 Miles	55 East Grand Street	Palatine Bridge	F	No
HR8	05749.000038	Residence	1-Mile	63 East Grand Street	Palatine Bridge	F	No
HR9	05749.000040	Residence	0.96-Mile	71 East Grand Street	Palatine Bridge	F	No
HR10	05749.000041	Residence	0.96-Mile	81 East Grand Street	Palatine Bridge	F	No
<b>NRHP Eligible Historic District</b>							
HR11	<b>05743.000023</b> <b>(05702.000083)</b>	<b>Bowman's Creek Historic District</b> (Contains one eligible site in VSA)	1.42 Miles	N/A	Canajoharie	F	No
<b>NRHP Eligible Historic Site</b>							
HR12	05709.000151	Carr Farm Hay Barn <sup>4</sup>	1.07 Miles	181 Lynk Street	Root	F	No
HR13	05709.000150	Carr Farmhouse <sup>4</sup>	1.07 Miles	181 Lynk Street	Root	F	No

Map ID	USN	Resource Name	Approximate Distance to Nearest Solar Array	Address	Town/Village	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
HR14	05708.000250	House	1.74 Miles	3651 McKinley Road	Palatine	F	Yes
HR15	05709.000152	Rappa Road Cemetery (Olmstead Cemetery) <sup>4</sup>	0.33-Mile	Rappa Road	Canajoharie	F	Yes
HR16	05709.000071	Currytown Reformed Church <sup>4</sup>	498 Feet	State Highway 162	Root	F	Yes
HR17	05709.000104	Major Andrew Mitchell House <sup>4</sup>	0.93-Mile	158 Monk Road	Root	F	No
HR18	05709.000167	Residence <sup>4</sup>	426 Feet	788 State Highway 162	Root	F	Yes
HR19	05702.000116	Van Evera House <sup>4</sup>	0.46-Mile	140 Jump Road	Canajoharie	F	No
HR20	05709.000038	Residence <sup>4</sup>	0.57-Mile	835 Mapletown Road	Root	F	No
HR21	05709.000092	Residence <sup>4</sup>	0.57-Mile	119 Fish & Game Club Road	Root	F	No
HR22	05708.000175	Residence	474 Feet	5722 NY 10	Palatine	F	No

Map ID	USN	Resource Name	Approximate Distance to Nearest Solar Array	Address	Town/Village	Federal (F), State (S), County (C), or Local (L) Resource	Potential Visibility <sup>1</sup>
HR23	05708.000247	Residence	2 Miles	5650 Ephratah Road	Palatine	F	No
P7	05702.000052	Mapletown Cemetery <sup>4</sup>	1.09 Miles	Blaine Road and Mapletown Road	Canajoharie	F	No

<sup>1</sup> Potential visibility is obtained from the viewshed analysis using topography, trees, and buildings only, per 19 NYCRR Section 900.2.9(b)(1), simulations or by methods of onsite field verification.

<sup>2</sup> Also recognized as a National Historic Landmark by the NPS.

<sup>3</sup> Resource is also considered to be recreational.

<sup>4</sup> Also identified as a listed or eligible resource of SHPO interest.

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In summary, the following key places may have the potential to view the proposed Facility. A positive declaration of visibility does not necessarily constitute visual impact. For example, a very small distinguishable percentage of a solar panel may result in a visual resource receiving “Facility visibility”. Therefore, see Section 10.1.1 for resource descriptions that elaborate on the potential visual effects of the Facility.

#### Federal Resources

- New York State Barge Canal Historic District: Mohawk River
- Erie Canalway National Heritage Corridor
- Palatine Bridge Historic District
- NRHP Listed Montgomery County Farm
- NRHP Listed Daniel G. Van Wie Farmstead
- NRHP Eligible “House”
- NRHP Eligible Rappa Road Cemetery
- NRHP Eligible Currytown Reformed Church
- NRHP Eligible “Residence”
- NRCS – Wetlands Reserve Program – Parcel 1

#### State Resources

- NYS Bicycle Route 5 (NY5S)
- Various Snowmobile Trails (S72, S72A, S75, S75A, C7P, C7H)
- Yatesville Falls State Forest
- Revolutionary Trail Scenic Byway (NY5)
- Mohawk Valley State Heritage Corridor
- PEJA - Census Tract 726, Block Group 1

#### Local Resources

- Canajoharie Senior High School & Athletic Fields
- Canajoharie Middle School, Elementary School, & Athletic Fields
- Wintergreen Park
- Pangaea Puddle Water Ski Site

### Montgomery County Scenic Byways

Several local roadways within the VSA are recognized in Montgomery County legislation as county scenic byways. These scenic byways are listed below and if visually affected, are discussed within Section 10.1.1.3, Visibility of Solar Arrays at Local Resources. As noted below, additional attention has been provided to a number of these resources through the development of LOS profiles and photo-simulations.

- Carlisle Road (CR 93) (see VPs 9 and 48 photo-simulation in Revised Attachment 4; VPs 10, 11, 34, 44, 49, 54, 89, and 90 of Facility Photolog in Attachment 3)
- Caswell Road (CR 45) (see representative VP 62 photo-simulation in Revised Attachment 4)
- Clinton Road (CR 80) (no visibility)
- Currytown Road (CR 105) (see VP 21 photo-simulation in Revised Attachment 4)
- East Lykers Road (CR 103) (no visibility)
- Hilltop Road (CR 96) (see L1 LOS and photo-simulation VP 31 in Revised Attachment 4)
- Latimer Hill Road (CR 89) (see VP 23 photo-simulation of Revised Attachment 4)
- Logtown Road (CR 110) (see VP 20 of Facility Photolog in Attachment 3)
- McKinley Road (CR 42) (see L2 LOS and representative VP 62 photo-simulation in Revised Attachment 4)
- Old Sharon Road (CR 94) (see VPs 55 and 88 of Facility Photolog in Attachment 3)
- Seebers Lane (CR 87) (see VP 92 of Facility Photolog in Attachment 3)
- West Lykers Road (CR 102) (see VPs 45 and 46 of Facility Photolog in Attachment 3)

## **7.0 GIS AND 3D ANALYSIS FOR VISUAL IMPACT EVALUATION - METHODOLOGY**

### **7.1 Viewshed Analysis**

A viewshed analysis is a computerized GIS analytical technique that calculates and predicts potential visibility that may be expected for proposed action. It allows one to determine if and where an object, such as a solar array, can geographically be seen within a larger regional area. The viewshed model uses the most current, publicly available LiDAR data, which accounts for visual impediments such as existing topography, vegetation, structures, buildings, in relationship to the height of the solar panels. The results of the viewshed analysis are displayed over a USGS topographic map or aerial image and are combined with other sensitive location information such

as historic places, national forests, or state parks, etc. Incorporating GIS-integrated data along with a viewshed analysis assists in understanding the potential for Facility visibility at sensitive receptors.

### **7.1.1 Methodology**

To accurately assess visual impacts of the Facility, two discrete viewshed analyses were completed: one to assess predicted visibility of the solar arrays, and one to assess predicted visibility of the collection substation, POI switchyard, and associated (two) transmission tap structures. The viewshed analyses were developed to evaluate the potential visibility of the Facility infrastructure within the VSA and are further defined as follows.

1. Solar Array Viewshed: This analysis accounted for the tallest possible configuration of the solar arrays. The VIA herein evaluated a tracker racking system with solar array panel height conservatively set to a value of 10 feet above finished grade at maximum tilt. Additional Facility components including inverters and perimeter fencing are represented in this viewshed model. The final resulting output identifies geographic areas from which viewers would potentially see all or some part of the proposed solar panels, fencing, and inverters.
2. Collection Substation, POI Switchyard, and POI Transmission Structure Viewshed: This analysis collectively evaluated visibility from the collection substation, POI switchyard, and associated transmission structures, which are herein referred to as “POI Components”. As mentioned in the material analysis of Section 2.0, the collection substation will gather and transfer electricity to the adjacently located POI switchyard, and two new transmission structures will facilitate interconnection from the POI switchyard to the existing NYPA Transmission Line #352. The proposed height (140 feet) and geographic position of the two proposed transmission structures were included in the viewshed model. The tallest heights of the respective substations are identified as 90-foot lightning masts and a-frame takeoff structures (which simultaneously serve as lightning masts). A variety of substation components with lower heights ranging from 13 to 40 feet were also incorporated into the viewshed model, such as breakers, bus work, switches, and a control building. Plans and sections of the POI Components are available in Revised Attachment 7 and Exhibit 5.

### Assumptions and Limitations of the Viewshed Model

The viewshed analysis identifies cells (image pixels) that contain elevation information and computes the differences along the terrain surface between an observer in the landscape and a target (e.g., a solar panel). This analysis assumes a viewer has telescopic vision, and that atmospheric effects do not exist (e.g., rain, haze, fog, snow, etc.). Therefore, certain factors in the interpretation of results need to be considered:

1. The computer model assumes the observer can visually differentiate objects at great distances. For example, the computer assumes the observer can identify any object, such as a mailbox, over several miles away. This would be unachievable for a human to identify without some form of magnification (e.g., binoculars or a telescope). Therefore, a certain amount of reasonable interpretation needs to be considered because of the limitations of human vision at greater distances or those atmospheric/meteorological conditions that may cause imperfect vision, such as haze or inclement weather.
2. Because an area may show visibility, it does not mean the entirety of the Facility will be visible from that area. The viewshed analysis depicts areas of visibility over a regional area. It can only predict geographically on a map, areas where some part of the solar panels might be seen. It cannot determine if the entirety, or a portion of, the Facility is visible. Additionally, if visibility is occurring in an area, it may sometimes only be a result of glimpsing a portion of the Facility over undulating treetops, between gaps of trees, or visibility of the tops of panels and not a full view. Likewise, there may be understory tree gaps where there may be visibility of the Facility.
3. The model was developed with the assumption that a viewer would not see the panels if standing among trees in forested areas as it is assumed the tree canopy would preclude outward-looking views.

## 7.2 Line of Sight Analysis

LOS profiles provide the viewer with information that assists in examining the reasons why objects such as solar panels or substation components may have impeded views or why there may be unobstructed views to the Facility. The underlying topography of a sight line, in addition to vegetative obstructions, can be produced, as can an estimated amount of visibility of the upper portion of an object if it is visible.

LOS profiles were also completed to address state aesthetic resources, fulfilling 16 NYCRR Section 1100.2.9 (b)(1). This regulation states specifically that LOS be completed for statewide resources of concern. There are five state resources predicted to distinguish the Facility within the VSA, four were incorporated in the LOS analyses and the fifth direct line-of-sight to the Facility was prepared as a photo-simulation (see VP 21 of Revised Attachment 4). Also, several local and county resources were additionally evaluated within the LOS profiles.

To develop the LOS profiles, elevation (LiDAR) data obtained for the Facility noted in Section 7.1.1 was used for the data source. ArcGIS Pro 3.0.2 and Global Mapper 23.0 were used to produce linear elevation profiles sampled across select sight lines for bare earth topography and for vegetation. The final LOS profiles were enhanced and embellished in Adobe Illustrator 2023. Section 10.2.2 provides a discussion of results and Revised Attachment 4 contains the LOS profiles.

### 7.3 Photographic Simulations

Photo-simulations accurately illustrate the general post-construction appearance of the Facility within an existing photograph. A Facility Photolog showing the photos acquired during site visits in March and April 2021, April 2022, and February 2024 is presented in Attachment 3. Attachment 2 is accompanied by large-scale aerial maps depicting each photographed VP location (see Figure 3). To the maximum extent practicable, the field photo effort provided the most unobstructed views possible from all cardinal directions (e.g., north, south, east, west) in areas where the viewshed maps predicted potential Facility visibility. A select number of representative VP locations were then chosen for simulation in conformance with 16 NYCRR Section 1100-2.9(b)(4), as described in Section 7.3.2 below. Simulations were developed using the methodology described in Section 7.3.1 below. Vegetative landscaping is proposed for the Facility and is presented within the simulations under the following conditions:

- Representative Simulation with 5 Year Landscaping (Leaf Off)
- Representative Simulation with 5 Year Landscaping (Leaf On)

The developed photo-simulations are presented in Revised Attachment 4.

#### 7.3.1 Methodology

To develop the photo-simulations, Autodesk 3DS MAX visualization software was used to correctly dimension a 3D model of the Facility into a digital photograph from a select VP location. Engineering specifications, drawings, and plans of the Facility were obtained from TRC's design engineers to facilitate the preparation of a representative 3D model of the Facility. The terrain elevation data (z value) needed to place the panels correctly on the surface of the earth was derived from the Light Detection and Ranging (LiDAR) sources, as noted in Section 7.1.1. Proposed grading elevations were then incorporated into the 3D model. Using the engineering site plan and LiDAR terrain surface data in GIS, the x, y, z coordinate location of each proposed solar array was obtained and imported with the terrain surface into Autodesk 3DS MAX visualization software. A 3D model of individually proposed solar arrays was then physically constructed according to the proposed solar panel specifications, tilt angle, and proposed racking system. The proposed arrays were modeled as bifacial single-portrait trackers with a height of 10 feet above finished grade with the array axis oriented in a north-south manner. The simulation model was further developed to position the viewer at a selected vantage point. For example, at any given vantage point the visualization software is capable of providing and adjusting a camera view that matches that of the actual photograph. From the field photography effort, the documented camera coordinate (x, y, z) positions were entered into the model along with other pertinent camera information. The model was further refined to precisely match the existing photograph by referencing LiDAR point cloud data against the existing landscape features identified within the photograph.

Subsequently, simulations with landscaping were produced from a computer-aided design (CAD) version of the proposed Landscaping Plan. The Landscape Plan CAD files were produced in Autodesk Civil 3D and obtained directly from the Facility Landscape Architect, then imported into the Autodesk 3DS MAX modeling environment. Each proposed tree and shrub species was then translated and built into the 3D environment. Facility growth rates and heights of each species were then assigned using conservative values (see Table 11).

Autodesk 3DS MAX is capable of depicting physically accurate shadows and highlights on the model (Preetham et al. 1999). As such, during the field visits, each photograph recorded information such as geographic position, time, and date. These data typically exist as electronic information embedded in the respective digital photograph files. Subsequently, this information can be used to calculate the sun angle within the simulation software in order to represent accurate lighting conditions for the precise time of day and year that the photograph was captured.

### **7.3.2 Viewpoint Selection for Photo-Simulations**

VP selection criteria are determined in 16 NYCRR Section 1100-2.9(b)(4) under (i), (ii), (iii), (iv), and (v). As mentioned, TRC conducted four site visits (on March and April 2021, April 2022, and February 2024) to capture representative VP locations compatible with the VP selection criteria set forth in the Article VIII regulations. Specialized field crew strategically obtained photographs from discrete locations in the VSA in accordance with following regulatory requirements:

- (i) Unobstructed views or direct line-of-sight. Prior to each conducted site visit, viewshed maps illustrating predicted Facility visibility within the VSA were prepared to facilitate the identification of vantage points containing direct line-of-sights to the Facility. To the maximum extent practicable, field staff also physically investigated unobstructed locations to photograph. This process involves identifying distinct and existing landmarks features (e.g., barn silos, buildings, clearing cuts, or transmission structures) on land within the Facility Site, to which is subsequently used as a visual reference to orient oneself to the Facility. Representative VP locations were judiciously selected for the preparation of photo-simulations from the most unobstructed views to the Facility. Examples of unobstructed views that were simulated include VPs 9, 16, 23, 21, 31, 48, 62, 83, and 85 (see Revised Attachment 4).
- (ii) Significance of viewpoints, designated scenic resources, areas or features. Sensitive resources were identified within the VSA and tabulated (see Table 4). This process involved a meticulous review of federal, state, and local places of interest that are accessible to the public, may experience high volume of public use, and exhibit aesthetic characteristics or qualities. Additional resources were incorporated into the table subsequent of an information request sent to stakeholders in February 2024. Further, several municipal websites were consulted to review planning documents for potential locally designated resources that may occur in the VSA. The results of the resource inventory were cross referenced with the viewshed results to quantify VPs near resources

that may experience predicted visibility of the Facility. This criterion was then applied to the VP selection process, resulting in photo-simulations from VPs 9, 21, 23, 31, 48, 83, and 85 (see Revised Attachment 4).

- (iii) Level of viewer exposure. To the extent the Facility is discernible from a location, VP locations were identified from populated places where viewers may congregate and/or travel routes that may experience an increased number of public travelers (viewers). Publicly available AADT data provisioned by the NYSDOT was consulted to identify roadways experiencing high volumes of daily traffic (refer to Section 3.4 Transportation and Table 2). The U.S. Census Bureau 2020 Decennial Census was also referenced to select VPs from populated places (see Table 1). Further information regarding population metrics within the VSA can be found in Section 3.1 Community/Residential. All nine photo-simulations demonstrate a varying levels of viewer exposure (see Revised Attachment 4). Although not considered highly populated areas, simulations were also prepared from minor census designated communities as VPs 9 and 21, or in vicinity to rural residential dwellings (VPs 31, 48, and 62), as well as the Canajoharie Senior High School Athletic Fields (VPs 83 and 85).
- (iv) Proposed Land Uses. Proposed non-Facility development information was investigated and identified within the VSA. These data were extracted from municipal meeting minutes filed online from various town, village, and county websites. Information pertaining to proposed non-Facility land use can be found in Section 3.6, Publicly Known Proposed Land Uses, as well as in Exhibit 3. An applicable cumulative view of the proposed Facility and development unrelated to the Facility is depicted in VP 21, 31, and 62 (see Revised Attachment 4). Further discussions of cumulative effects are provided in Section 13.0.
- (v) Assessment of visual impacts pursuant to the requirements of adopted local laws or ordinances. As mentioned in Section 6.1, visual stakeholders consisting of local planning representatives and applicable state agencies were provided the opportunity to append additional VP locations and/or recommend existing VPs as candidates locations for developing photo-simulations. Further, on two separate accounts, the Applicant convened with the Towns of Canajoharie and Root to discuss the topic of Facility visibility. As a result of the visual stakeholder engagement and town consultations, VPs 16, 31, 83, and 85 were prepared as simulations. Further, a consistency review of adopted local laws as they relate to the assessment of visual impacts was completed and is available in Section 1.2. In summary, §7.1(F)(13) of the Town of Root Solar Facilities Law requires simulations to be developed but does not prescribe criterion or qualifications for viewpoint selection and is therefore unspecific. Notwithstanding, the Applicant convened with the Towns of Root and Canajoharie and prepared simulations in accordance with constituent recommendations.

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## 8.0 VIEWER CHARACTERISTICS

The characteristics of potential viewers must be understood to determine the relative importance and effect of visual change. There are several factors that may influence an observer's visual attentiveness of the environment and is dependent on the viewer's elevation, the types of activities pursued, the frequency of the viewing action, and the duration of view. The result of evaluating viewer characteristics provides useful information about the public's anticipated level of sensitivities to a proposed action.

Overall, higher degrees of visual sensitivity are correlated with areas where people live and with people who are engaged in outdoor recreation or participate in scenic driving. Conversely, areas of industrial or commercial use are considered to have low to moderate visual sensitivity because the activities conducted are not significantly affected by the quality of the environment. Views and viewer groups are discussed throughout the VIA in the context of aesthetic resources, viewshed visibility results, and Facility simulations. In addition to viewer characteristics, distance zones are established within the VSA to estimate levels of viewer sensitivity as it relates to viewing distance, or the distance from a viewer to the Facility (see Section 4.0).

Collectively, these concepts are applied when evaluating the visual landscape and assessing the importance of a particular VP location. Consequentially, the identification of viewer groups is established and defined as follows.

### **Identification of Viewer Groups**

Types of viewers will vary by geographic region, as well as by travel route, destination, or use areas. For example, local roads are often used by residents to reach an objective or to return to a place of residence, whereas recreational resource sites may contain mixed users consisting of local and visitor constituencies. The types of viewer groups that were identified within the VSA are listed and described below as follows.

- **Local Residents:** This group represents residents inhabiting and expending a significant amount of time in the local area and/or surrounding communities. This group may include local residents and members of groups to which the local area is important in different ways. Also included are those who may occupy a camp or summer home in the area during the warmer seasons.
- **Commuter/Area Traveler Constituency:** This group represents individuals who use or are generally restricted to travel corridors that are destination oriented toward places of employment. This group generally has transient short duration view and includes area travelers which are people strictly engaged in inter-regional or out of state travel for business, leisure, vacation, or other purposes.

- **Visitor or Recreational Constituency:** This group represents individuals who visit the area to experience its natural appearance, cultural landscape qualities, recreational opportunities, or for commercial/business activities. Visitors may be of local, regional, or of national origin.

The following additional viewer characteristics are applicable to each defined viewer group:

Viewer Sensitivity – Viewer sensitivity may be variable from individual to individual and is highly dependent on the observer’s location, objectives, and expectations within the existing landscape. Generally, viewer sensitivity is expected to be higher when in proximity to visual change, and less when distanced from the change. A reduction in viewer sensitivity can be achieved through the use of visual mitigatory strategies, please refer to Section 11.0 for more information regarding visual mitigation implemented for the Facility.

Number of viewers – The degree of sensitivity is typically correlated to the number of viewers affected by a change. Information about precise number of viewers is not always readily available, however it can be reasonably assumed based on presence of development, recreational space, accessibility to public spaces, and through other data sources as follows.

- Table 1. Population of Communities within VSA (see Section 3.1)
- Table 2. Available Traffic Data of Public Roads in the 2-Mile VSA (see Section 3.4)

It is reasonable to estimate if a particular location is a high public use area or if it is a location that is less frequently visited, or more inaccessible where the public is not expected to be present (such as swamps or places absent in amenities). Generally, a village or city typically contains a higher concentration of viewers than suburban or rural places.

Duration of view – Duration of view is the amount of time a viewer would actually be looking at a particular landscape feature. Depending on the viewer activity (see below), the duration of view may be extended (static or stationary view), or it may be momentary (fleeting or transient view). Typically, a momentary duration of view involves mobilization of a viewer.

Viewer activities – Viewers within the VSA will experience different viewing times of the Facility depending on the priorities and objectives of an individual’s activity. Distinct viewing durations of the Facility can be estimated by the types of viewer groups identified within a particular location. For example, fleeting views or those traveling by vehicle are expected to have views endured for a lesser amount of time whereas those who may be in a fixed position (e.g., fishing, camping, resting on a park bench) may experience a longer duration of view.

Context of Viewer – The scenic integrity of an observer’s visual environment may influence or diminish the impression of a visual change. Typically, a visual change may not be as compelling if the change is harmonious with the character of the existing environment. Whereas existing

human-made alterations within a landscape may have the propensity to absorb or visually distract a viewer's attention to visual change.

## 9.0 VISUAL IMPACT RATING METHODOLOGY

TRC has developed a visual impact rating form for use in comparing Facility photo-simulations as required by Article VIII. This form includes concepts and framework referenced in the following federal agency policies, procedures, and guidelines:

- U.S. Bureau of Land Management (BLM), Handbook H-8431: Visual Contrast Rating, January 1986 (USDOJ, 1986).
- Visual Resources Assessment Procedure for U.S. Army Corps of Engineers, March 1988 (Smardon, et al., 1988).
- National Park Service Visual Resources Inventory View Importance Rating Guide, 2016 (NPS, 2017C).
- United States Department of Agriculture (USDA) Forest Service, Landscape Aesthetics: A Handbook for Scenery Management. USDA Forest Service Agriculture Handbook No. 701, 1995 (USDA, 1995).

To date, Riverside Solar, Foothills Solar, and Shepherd's Run Solar applications have successfully used this rating system and received a notice of complete application determination letter from ORES. The visual impact rating form utilizes a numerical rating system to determine the visual contrast rating of a simulated view against the conditions of the existing view. These VP locations, prepared as photo-simulations, are rated against the following conditions:

1. "Existing Conditions" (before),
2. "Proposed Conditions" (after) photo-simulations with 0 to 2-year landscaping post-construction.
3. "Proposed Conditions" (after) photo-simulations with 5-year landscaping post-construction.

As mentioned, the rating effort involved the evaluation of nine VP locations that were developed as photo-simulations with proposed landscaping during a 0 to 2-year and 5-year timeframe, post-construction. These timeframes allow for an assessment of when landscaping is first installed, and 5-years thereafter for purposes of conveying larger vegetative screening heights subsequent of plant establishment. Prior to the visual impact rating effort, all VIA framework was completed in accordance with state regulatory requirements or other visual policy and includes the visual

resource inventory, terrain analyses, development of LSZs, distance zones, photo-simulations, and viewshed analyses.

To evaluate the effects and visual change of the Facility, a professional panel of raters was assembled, and instructions (see Revised Attachment 6) were provided to complete four parts to the rating form:

- Part 1 – Visual Contrast Rating of Facility rates the Facility with 0 to 2-year landscaping as it contrasts against compositional visual elements of the VP’s existing photograph. This includes compositional contrasts against the existing and natural environment such as vegetation, water, sky, landform, or structures. The higher the rating total, the higher the contrast.
- Part 2 – Viewpoint Sensitivity Rating rates the sensitivity of the VP location, which inherently considers the importance of the VP (if it falls within a visual resource area), viewer groups, duration of view, if it is a high use area, or if there is the presence of water. The higher the rating total, the more sensitive the VP is.
- Part 3 – Scenic Quality should not be confused with quantifying visual contrast, but rather it serves as an evaluation of the existing view to identify any qualities of scenic integrity. Part 3 is a qualitative evaluation of strictly the existing conditions without the influence of the Facility.

Part 4 – Visual Contrast Rating of Facility With 5-Year Mitigation evaluates Facility contrast generally after the proposed landscaping obtains a suitable growth period for establishment and proliferation of foliage (see Section 11.11 for more information about proposed landscaping for the Facility). Once ratings are complete, a comparison of contrast rating values for Part 1 and Part 4 can be differentiated to determine the effectiveness of the proposed landscaping over a growth period. The rating parts are discrete and never combined to a final value or result. Each part is averaged amongst the raters and the results are discussed. In example, Part 1 - Visual Contrast Rating of the Facility would need not be combined and averaged with Part 3 - Scenic Quality. Each part of the form includes several visual rating elements which are individually assessed with the following rating scale:

**Table 5A. Visual Element Rating Scale**

Rating Scale		Degree of Contrast Criteria
0	None	The element of contrast is not perceived or easily detected.
0.5	Very Weak	
1	Weak	The element of contrast can be seen but does not attract attention.

Rating Scale		Degree of Contrast Criteria
1.5	Weakly Moderate	
2	Moderate	The element of contrast begins to attract attention and begins to dominate the characteristic landscape.
2.5	Moderately Strong	
3	Strong	The element of contrast demands attention, will not be overlooked, and is dominant in the landscape.

The individual ratings for each visual element are then summed, providing the total rating for that part.

Under Part 1, there are nine elements (see Revised Attachment 6) to rate, resulting in a total possible rating ranging from 0 to 27. When the rating scale outlined in Table 5A is rescaled to account for the total possible rating across the nine categories, the scale is as follows:

**Table 5B. Part 1 Visual Contrast Rating Scale**

Visual Contrast Rating Scale	
0	None
0 to 4.5	Very Weak
4.5 to 9	Weak
9 to 13.5	Weakly Moderate
13.5 to 18	Moderate
18 to 22.5	Moderately Strong
22.5 to 27	Strong

Under Part 2, there are eight elements (see Revised Attachment 6) to rate, resulting in a total possible rating ranging from 0 to 24. When the rating scale outlined in Table 5A is rescaled to account for the total possible rating across the eight categories, the scale is as follows:

**Table 5C. Part 2 Viewpoint Sensitivity Rating Scale**

Viewpoint Sensitivity Rating Scale	
0	None
0 to 4	Very Weak

Viewpoint Sensitivity Rating Scale	
4 to 8	Weak
8 to 12	Weakly Moderate
12 to 16	Moderate
16 to 20	Moderately Strong
20 to 24	Strong

Under Part 3, only one element (see Revised Attachment 6) is rated, resulting in a total possible rating ranging from 0 to 3. Thus, the total possible rating for Part 3 is scaled as follows:

**Table 5D. Part 3 Scenic Quality Rating Scale**

Scenic Quality Rating Scale	
0	None
0 to 0.5	Very Weak
0.5 to 1	Weak
1 to 1.5	Weakly Moderate
1.5 to 2	Moderate
2 to 2.5	Moderately Strong
2.5 to 3	Strong

Under Part 4, there are nine elements (see Revised Attachment 6) to rate, resulting in a total possible rating ranging from 0 to 27. When the rating scale outlined in Table 5A is rescaled to account for the total possible rating across the nine categories, the scale is as follows:

**Table 5E. Part 4 Visual Contrast Rating Scale**

Visual Contrast Rating Scale	
0	None
0 to 4.5	Very Weak
4.5 to 9	Weak
9 to 13.5	Weakly Moderate
13.5 to 18	Moderate
18 to 22.5	Moderately Strong
22.5 to 27	Strong

Three panelists were selected to evaluate and rate Facility simulations from nine VPs to facilitate the visual impact rating for the VIA. All three panelists have been trained in the field of landscape architecture. Each panelist's qualifications are documented in Revised Attachment 6.

Initial training on how to use the visual impact rating form and the intention of each visual element rating was provided to each panelist. Facility location information, such as a Google Earth KMZ file, was provided to allow the panelist to better understand and visualize the environment around the VP that otherwise might not have been captured in the photo itself. Using the aerial imagery and terrain features of the Google Earth software simultaneously with "street view" capabilities, each reviewer was able to discern if there were other residences or vegetation around the viewer while also offering the panelist to view the camera location from different perspectives. The panelist then applied the ratings singularly and independently without consultation with any other party.

Revised Attachment 6 provides more comprehensive guidelines on how the contrast ratings were assessed and applied within each category. Revised Attachment 6 also includes a brief description of the methodology and the instructions used for the rating process, as well as panelist qualifications and the completed evaluation forms for each simulated VP. Results of the Visual Impact Rating are discussed in Section 10.3.

## **10.0 VISUAL IMPACT ANALYSIS RESULTS**

### **10.1 Viewshed Results and Discussion**

The viewshed analysis showing areas of potential Facility visibility can be found in Figures 3, 4, and 5 of Attachment 2. As noted in Section 7.1.1, two discrete viewshed analyses were performed. One analysis was completed for solar arrays and supporting infrastructure, and a second viewshed was performed for the identification of potential areas where the substation, POI switchyard, and proposed transmission structures may be distinguished. This analysis considered the lowest to tallest substation equipment (36 to 70.83 feet tall) such as h-frame tap structures, bus work (bus support structures and bus), transformers, and lightning masts. Shorter utility components (i.e., less than 36 feet tall) were also entered into the viewshed analysis. Additionally, proposed transmission structures were entered into the viewshed with heights of 135 to 195 feet above ground level. Refer to Section 7.1.1 for additional information regarding viewshed methodology.

#### **10.1.1 Viewshed Results for Solar Arrays**

As described in Section 7.1.1, a viewshed analysis using LiDAR data was prepared for the proposed solar arrays and is presented in Figure 3 of Attachment 2. The viewshed analysis identifies cells (image pixels) that contain elevation information and computes the differences along the terrain surface between an observer in the landscape and a target (e.g., a solar panel). This analysis assumes a viewer has telescopic vision, and that atmospheric effects that diminish

visibility do not exist (e.g., rain, haze, fog, snow, etc.). Therefore, the mere presence of visibility should not be indicative of unwavering views to the Facility.

As indicated by the solar array viewshed results (see Figure 3), a total of 18.83% of limited predicted visibility is found within the VSA, in contrast, 81.17% of the VSA will not discern the solar arrays. In general, predicted visibility may constitute a view of a solar array at a proximal distance, or it may only be a small fragment of the top of a solar panel that is severely screened. Therefore, the mere presence of predicted visibility should not always be indicative of adverse visual impact. No areas within the VSA are predicted to have full visibility of the Facility's solar arrays. Full visibility is defined as an unobstructed view to the full extent of the Facility.

The following subsections examine the solar array viewshed results and provide an in-depth discussion of the quantified visibility results. The topics include a detailed discussion of the percentages of land area, LSZs and Distance Zones that may experience solar array visibility, a discussion of identified resources with visibility, and a discussion of predicted visibility at highly populated public roadways and populations as determined by the solar array viewshed analysis.

#### **10.1.1.1 Viewshed Results of Solar Arrays within Distance Zones and LSZs**

As mentioned in Section 4.0 and 5.0, distance zones and LSZs were identified within the VSA as provisioned in 16 NYCRR Section 1100-2.9(b)(1). These classifications provide useful information when evaluating potential viewshed visibility results, such as the type of landscape character that promotes potential visibility, or conversely, demotes visibility. As described in (USDA Forest Service, December 1995), distance zones provide an estimation of concern levels based on distance to the proposed change. A discussion of the interconnected relationship between solar array visibility results, distance zones, and LSZs is provided as follows.

Several LSZs were identified and delineated within the VSA as Zone 1 Agricultural, Zone 2 Forested, Zone 3 Developed, Zone 4 Open, and Zone 5 River Corridor (see Figure 2 of Attachment 2 for a map depicting the LSZs within the VSA). According to Table 3, LSZ Zone 1 Agricultural is prevalent within the VSA (approximately 52% of VSA), where 16.62% of a total of 18.83% of solar panel visibility is predicted to occur. Given that 7.22% of VSA visibility occurs on agricultural lands belonging to participating landowners, it is then reasonable to assume that approximately 9.4% of (16.62%) LSZ Zone 1 Agricultural visibility encounters non-participating landowner parcels. While LSZ Zone 1 is abundant within the VSA, Zone 2 Forested comprises less with approximately 36.8% of land in the VSA where only 0.75% visibility is predicted. The remaining LSZ Zone 3 Developed (8% of land in VSA), Zone 4 Open (2.1% of land in VSA), and Zone 5 River Corridor (1.1% of land in VSA) are smaller contributors to the landscape where a small amount of visibility was predicted as noted below:

- LSZ Zone 3 Developed (0.98% solar panel visibility in VSA)
- LSZ Zone 4 Open (0.21% solar panel visibility in VSA)

- LSZ Zone 5 River Corridor (0.27% solar panel visibility in VSA)

These data for Zones 3, 4, and 5 suggest that a very insignificant amount of predicted visibility (1.46%) may occur in sensitive locations, such as developed areas (villages, residential, commercial, etc.), open areas (parks, cemeteries, greenspace, etc.) and the Mohawk River. Moreover, 7.22% of the 18.19% total visibility in the VSA occurs on lands belonging to participating landowners while 10.97% of total visibility in the VSA falls within land belonging to non-participating landowners.

The percentage of solar panel visibility was also quantified for distance zones in the VSA (see Table 7). As indicated in Table 7, Distance Zone 1 contains the highest percentage of potential solar array visibility (12.43% of the VSA), which generally correlates with LSZ Zone 1 Agricultural (16.62% of predicted visibility). A significant portion of Distance Zone 1 solar array sightings occur when in the immediate vicinity to the arrays. Therefore, rural-residential viewers that are concurrently within LSZ Zone 1 Agricultural and Distance Zone 1 may have a higher probability to view the solar arrays, however, existing topography and/or forested vegetation (LSZ Zone 2 Forested) found in between these zones, as well as proposed landscaping, may diminish views to the Facility. Photo-simulations representative of Distance Zone 1 are provided as VPs 9, 31, 48, and 83 (see Revised Attachment 4). These simulations are demonstrative of variable visibility to the solar arrays, however, a there is a substantial amount of Distance Zone 1 that does not support views to the solar panels (approximately 10 square miles). To reduce the visual appearance of the Facility, vegetative landscaping is proposed around the security fencing of the Facility to minimize visibility where existing vegetation is unavailable, as a result, visibility within Distance Zone 1 and LSZ Zone 1 Agricultural will likely be reduced as the landscaping matures and attains heights comparable to the solar panels.

Contrary to Distance Zone 1, Table 7 shows that 5.76% of solar panel visibility was predicted within Distance Zone 2. Given that LSZ Zone 1 Agricultural contains the highest concentration of predicted solar array visibility (16.62% of a total of 18.83%), visibility conditions to the solar arrays become elevated when in LSZ Zone 1 Agricultural and Distance Zone 2. As shown in the viewshed analysis (see Figure 3 of Attachment 2), the largest occurrence of solar array sightings in Distance Zone 2 and LSZ Zone 1 is found in rural upland, due north of the Mohawk River. The VP 62 photo-simulation is representative of this broad area and illustrates that even though visibility is predicted, the general character of the existing landscape remains dominant where only small forms and colors comprising the solar arrays are noticed. Consequentially, the results of these above analyses conclude that predicted visibility of solar arrays within Distance Zone 2 is anticipated to be relatively minor.

**Table 6. Percent Visibility of Arrays within LSZs in the 2-Mile VSA**

LSZ	Total LSZ Square Miles	LSZ Square Miles of Visibility	% Visibility within LSZ	% Visibility within VSA
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Zone 1 Agricultural	27.7	8.54	30.8%	<b>16.02%</b>
Zone 2 Forested	19.6	0.39	2.0%	<b>0.74%</b>
Zone 3 Developed	4.2	0.51	12.1%	<b>0.96%</b>
Zone 4 Open	1.1	0.11	9.5%	<b>0.20%</b>
Zone 5 River Corridor	0.6	0.14	23.9%	<b>0.27%</b>
<b>Total</b>	<b>53.33</b>	<b>9.70</b>	-	<b>18.19%<sup>1</sup></b>

<sup>1</sup>7.22% of the 18.19% total visibility in the VSA occurs on lands belonging to participating landowners while 10.97% of total visibility in the VSA falls within land belonging to non-participating landowners.

**Table 7. Percent Visibility of Arrays within Distance Zones in the 2-Mile VSA**

Distance Zone	Total Area Comprising Distance Zone Square Miles	Visibility Within Distance Zone Square Miles	% Visibility Within Distance Zone	% Visibility Within Full VSA
Zone 1 0-0.5 Miles	16.89	6.63	39.28%	<b>12.43%</b>
Zone 2 0.5-2.0 Miles	36.44	3.07	8.43%	<b>5.76%</b>
<b>Total</b>	<b>53.33</b>	<b>9.70</b>	-	<b>18.19%<sup>1</sup></b>

<sup>1</sup>7.22% of the 18.19% total visibility in the VSA occurs on lands belonging to participating landowners while 10.97% of total visibility in the VSA falls within land belonging to non-participating landowners.

### 10.1.1.2 Visibility of Solar Arrays at Federal and State Designated Resources

The viewshed visibility analysis presented in Figure 3 of Attachment 2 indicated that 29 out of 68 visual resources (see Table 4) may discern some portion of the Facility. The distinction of Facility visibility at a select resource should not be confused with a declaration of visual impact nor does it immediately constitute profound adverse impact. For example, even if a single inch of solar panel is seen above treetops, the computerized viewshed analysis defines this as positive visibility. Therefore, the collective results of visibility must be reviewed thoroughly before a conclusion is formed.

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39 out of 68 visual resources listed in Table 4 are not predicted to view the Facility.

Of the 29 visual resources that may discern some degree of the Facility, 13 resources were proposed by local or county constituents. The remainder of visible resources (16) are recognized by state and federal agencies. From the 16 state and federal resources, there are two NRHP listed historic districts, two NRHP listed sites, and four NRHP eligible sites. In accordance with 19 NYCRR Section 900-2.9(a)(10), the following resources with predicted visibility as listed in Table 4 are further described below:

**Federal Resources:**

New York State Barge Canal Historic District: Mohawk River (14NR06559)

In 2014, The New York State Barge Canal was listed on the National Register of Historical Places. This historical district encompasses 450-miles of waterway and includes four branches of the state's canal system: Erie, Champlain, Oswego, and Cayuga-Seneca canals. The extensive canal system is recognized for its significant work of twentieth century engineering and construction that shaped transportation and commerce for nearly half a century.

The New York Barge Canal Historic District meanders through the VSA along the Mohawk Valley lowlands in an east-to-west direction. The concentration of potential Facility visibility is found approximately east of the Hamlet of Sprakers, within the (Mohawk) River Corridor LSZ. A LOS profile (L3; see Revised Attachment 4) was prepared to further evaluate the degree at which the Facility may be seen from this visual resource. As illustrated by the LOS L3 profile, a minor number of solar arrays may be discernible from elevated terrain found almost 3.5 miles away. Most of the Facility is indistinguishable due to the intervening effects of a large forest (located 2.5 miles from the observer). With an appreciable viewing distance of 3.5 miles from the viewer to the Facility, the scale of the solar arrays would be dwarfed by the full extent of the visible landscape. It is anticipated that very few viewers may even perceive the Facility at this distance due to vision limitations (acuity). Potential viewers will consist of recreational boaters or non-motorized boats that have physical access to the river, however, due to motion of pursued activities, it is highly unlikely the Facility would be recognized at a substantial distance (3.5 miles). Even though viewshed software predicted solar array visibility, the software does not consider the limitations of human vision to perceive 10-foot objects (solar panels) within the landscape at such distances. Therefore, visibility from the Mohawk River is considered negligible.

Erie Canalway National Heritage Corridor

The Erie Canalway National Heritage Corridor expands 524-miles and encompasses 4,834 square feet of land in over 23 counties. Enacted by Congress in 2000 as an official designated National Heritage Corridor, the Erie Canalway National Heritage Corridor includes the Erie, Cayuga-Seneca, Oswego, and Champlain Canals and their historic alignments. The Corridor is

recognized as shaping New York as a premier commercial and financial center, as well as having contributed to the state’s culture, history, and commerce.

The Erie Canalway National Heritage Corridor encompasses and extends beyond the VSA. Several photo-simulations and LOS profiles have been prepared to demonstrate visual effects from within the corridor. Please see Revised Attachment 4 to review the results of the photo-simulations and LOS profiles, as well as Section 14.0 for the summary conclusions of visibility within the Erie Canalway National Heritage Corridor.

Palatine Bridge Historic District (19NR00029 – Contains 156 individual historic resources)

The Palatine Bridge Historic District is a NRHP listed district positioned north of the Mohawk River and Village of Canajoharie and is northwest of the Facility at a 1-mile distance. A small, isolated area of potential solar array visibility is found within vacant fields, north of Tilton Road. Due to the remote nature of the visibility, the private status of the undeveloped land, and the absence of amenities, the general public will not be affected.

NRHP Listed Montgomery County Farm (90NR01534)

The Montgomery County Farm is a NRHP listed historic resource found off NY5 by the eastern VSA border. Solar array visibility was predicted to occur south of NY5 within undeveloped lands that are absent in amenities and access accommodations. Due to the remote nature of the visibility, little to no viewers will distinguish the Facility. The physical Montgomery County Farm building found north of NY5 will not discern the Facility.

NRHP Listed Daniel G. Van Wie Farmstead (10NR06181)

The Daniel G. Van Wie Farmstead site is positioned in Distance Zone 2, within the Town of Palatine. The physical farmstead is adjacently north of Brower Road and is approximately 1-mile north of the nearest solar arrays. From the site, solar arrays are predicted to be distinguished from a large area of the northern property but are focused to the northern agricultural fields where very few observers would congregate. While the Facility may be discernible from the site, no such visibility occurs at the physical buildings. VP 65 was documented from a visible portion of Brower Road, in vicinity to the Daniel G. Van Wie Farmstead site (see VP 65 photograph in Attachment 3). This photograph demonstrates a distant view to several beige fields located approximately 1-mile away, in conjunction with the viewshed results, the Facility may appear within a portion of the far beige fields. As mentioned, no solar array visibility was predicted at the physical historic buildings on site, therefore, it is assumed that most viewers will be visiting to enjoy the historical character of the structures, and less viewers would be traversing the large agricultural fields where solar array visibility is predicted.

NRHP Eligible “House” (USN 05708.000250) (Map ID# HR14)

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The NRHP Eligible “House” is located immediately north of McKinley Road, near the community of McKinley. According to visibility results of the solar arrays, views are not expected at the physical NRHP eligible house but are predicted immediately west of the dwelling where LOS L2 was prepared. As demonstrated in LOS L2 (see Revised Attachment 4), a small portion of solar arrays are potentially discerned at a substantial viewing distance of 2.46 miles. Therefore, private individuals with access to this part of the property may be able to search for the Facility, but the actual discernment of the limited section of the Facility at this distance would be difficult to achieve due to the diminishing effects of distance (acuity of vision, atmospheric haze, reduction in color contrast and variation, and lack of distinct detail) as well as the relatively small scale of the Facility in context to the larger viewable landscape.

#### NRHP Eligible Rappa Road Cemetery (USN 05709.000152)

Rappa Road Cemetery is a NRHP eligible historic resource on Rappa Road, adjacent to the existing NYPA Transmission Line #352. Viewshed visibility results suggest that the solar arrays, collection substation, and POI switchyard may be discernible from this resource. Due to the proximity of the proposed substation and switchyard, a LOS profile (L1) was performed to review the potential visual effects. As shown in the L1 LOS, the viewer is standing within the cemetery at an elevation of approximately 805 feet ASL. As indicated by the visible cone of view, portions of the upper components (a-frame and bus equipment) attributed to the switchyard and collection substation are distinguishable, however, proposed 5-year landscaping will moderate views to lower substation components as well as the sighting of the solar arrays found adjacent to Hilltop Road. Rappa Cemetery is located on private property, public access is prohibited, therefore viewers will be confined to the public right-of-way (Rappa Road) and would need to face east to view the cemetery, in the opposite direction of the Facility. Further, according to AADT data, 108 daily drivers travel on Rappa Road. Therefore, it is anticipated that a relatively small number of visitors would experience visual change at the cemetery.

The Rappa Road Cemetery is eligible for listing in the NRHP under Criterion A in the area of social history and early settlement of the Town of Canajoharie. Although the project will be visible at certain discreet locations, this will not diminish the property’s ability to convey its historic significance.

#### NRHP Eligible Currytown Reformed Church (USN 05709.000071)

Currytown Reformed Church is a NRHP eligible resource found on NY162 in the community of Currytown. As indicated in the viewshed results (Figure 3 of Attachment 2), solar arrays to the south southwest may be distinguishable at a distance of 360 feet from limited areas of the church property, specifically, in portions of the southwest parking lot and lawn area and northeast lawn. Visitors to the church will not discern solar arrays when facing north toward the church, however, stationary viewers facing south may have an opportunity to glance at the Facility through swaths of existing vegetation and proposed landscaping. As shown in VP 75 photograph of Attachment 3, the presence of tree and scrub/shrub vegetation along Lasher Creek and within the nearby

agricultural field, as well as proposed landscaping would soften the limited view of the solar arrays, especially during warmer seasons when foliage is established.

The Currytown Reformed Church is eligible for listing in the NRHP under Criterion C in the area of architecture and its character defining features include its exterior architectural elements. The setting beyond the church's tax parcel boundaries does not contribute to the property's significance.

#### NRHP Eligible "Residence" (USN 05709.000167)

The NHRP eligible "residence" is located on NY162 in the Community of Currytown. This subject property received a very small fragment of potential solar array visibility within the backyard, south of the residence. Much of this property is encompassed by mixed deciduous and evergreen tree species (see VP 76 of Facility Photolog in Attachment 3). Further, two dense tree hedgerows are also positioned between the potential viewer and solar arrays, thus, heavy-filtered views to a small portion of the southern solar arrays may exist. During warmer conditions when leaf foliage is available, views are not expected to be obtainable. Since public access to the property is not permitted, public viewers must discern the subject property from a small section of NY162 where no views of the solar arrays are obtainable.

#### NRCS – Wetlands Reserve Program – Parcel 1

The Natural Resources Conservation Service is a 28-acre wetland reserve easement located east of Blaine Road. Solar panels were predicted to be discerned in two minor isolated areas within the easement, however, upon review of aerial photography, the abundance of vegetation between the solar panels and the subject areas suggest that views would be heavily screened. Potential viewer types mostly consist of workers maintaining the site. Given the extent of existing vegetative screening (tree hedgerows, shrubbery, and isolated trees) the Facility is only expected to be slightly perceived through trees. During warmer seasons when wetland activities are prevalent, views are expected to be precluded by foliage.

#### **State Resources:**

##### Revolutionary Trail Scenic Byway (NY5)

Encompassing six counties in New York, the Revolutionary Trail is a scenic transportation route connecting the Port of Ontario to Capital Region at a length of 158 miles. The route offers scenic valleys, woodlands, as well as museums, historical sites, hiking, picnicking, and cycling. It also features and is known for containing a significant collection of scenic, natural, recreational, cultural, and historic resources. These features underscore many of New York State's major contributions toward building the American Nation.

In the VSA, the Revolutionary Trail travels east-to-west along the Mohawk River for a length of approximately 5.36 miles. A total of 0.51-mile, or 9.5% of the road is predicted to receive variable

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and intermittent visibility of the solar arrays. The occurrence of potential visibility is found between east of the Village of Palatine and west of fringe of the VSA. The solar arrays are variable in distance to NY5 (approximately 0.5 to 5 miles), when considering factors that affect viewing conditions, such that most viewers from NY5 will be traversing at relatively high speeds (55 MPH), the presence of existing tree vegetation that shields most of the route (see LOS L2 of Revised Attachment 4), as well as the limited shoulder widths that prohibit a safe pull-off location and/or walking/biking path, it is therefore expected that the frequency and view of the solar arrays from NY5 will be minimal to none. Consequentially, a negative visual change is not anticipated at this resource.

#### NYS Bicycle Route 5 (NY5S)

NYS Bicycle Route 5, also known as State Bike Route 5, is a designated on-road bicycle route that traverses 365 miles, spanning from Niagara Falls to the Massachusetts state line. This bicycle route parallels the Erie Canal and Erie Canalway Trail.

In the VSA, Bicycle Route 5 (also referred to as NY5S) travels east-to-west for approximately 6 miles, of which, a total of 0.72-mile was predicted with intermittent visibility of the solar arrays. The focus of potential visibility occurs over a dispersed section of roadway, roughly between the Hamlet of Sprakers and Lasher Creek. The L3 LOS profile (see Revised Attachment 4) travels through this visible section of NY5S and terminates at the nearest solar arrays, approximately 2 to 3 miles to the southwest, however, the LOS results determined potential vantage points from NY5S are obstructed by several existing tree groups.

While it is recognized that there are solar arrays at an approximate 2-mile distance to the south from this subject area of NY5S, views are infeasible due to the preclusion of steep, foreground terrain (elevation differential of roughly 300 feet from NY5S to the apex of the nearest terrain; see VPs 28 and 68 photographs in Attachment 3 which illustrates the terrain obstruction from NY5).

Together, these results suggest that viewshed visibility from this confined section of NY5S is projected from solar arrays (to the west) beyond a 3-mile distance. When considering the extensive 365-mile length of NYS Bicycle Route 5 that extends well beyond the VSA, a total of 0.2% of roadway would contain a substantial 3-mile viewing distance to the solar arrays. At this distance, there are several factors that may diminish solar panel visibility, such as acuity of human vision, atmospheric haze, and visual obstructions of topography, vegetation, structures, and dwellings. Therefore, because most activities on NYS Bicycle Route 5 will be partaken in motion (e.g., bicycling, driving, etc.), viewers would need to become stationary and meticulously search the landscape to potentially discern the visible solar arrays, most viewers however would experience great difficulty in identifying solar arrays at a 3-mile distance due to limitations of human vision, atmospheric haze, and physical obstructions (vegetation and topography).

#### Various Snowmobile Trails (S72, S72A, S75, S75A, C7P, C7H)

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Six NYS snowmobile trails within the VSA may experience variable and transient visibility of the Facility. Seasonal limitations affecting viewer accessibility to these trails should be considered when reviewing visibility results, such that snowmobiling activities are confined to the winter seasons when a reasonable snow accumulation is available.

Snowmobile trail S72 initiates between Carlisle and Conway Road within the Facility interior and heads north past a few solar arrays before abruptly advancing east by Rappa Road. The S72 trails meanders westerly through several additional arrays before existing the VSA to the west near the community of Rural Grove. As indicated by the solar array viewshed analysis, a bulk of the S72 travels in Distance Zone 1 and abuts several array areas. Additionally, the S72 trail briefly passes by the POI substations, which is conveyed in LOS L1 Profile of Revised Attachment 4. As shown in the L1 LOS, a dense tree hedgerow parallels the trail and may provide partial screening to the solar arrays and POI substations. The viewshed results also indicate that scattered visibility occurs throughout the trail within Distance Zone 1, but mainly focused to areas adjacent the solar arrays. For these reasons, most visibility will be punctuated when passing by each solar array, there may also be periods where views to very distant solar arrays are possible, but because the observer's focus will be directed forward to ensure safe means of transportation, potential glimpses to distant arrays will be infrequent. However, not all the S72 trail will encounter the Facility, such as most portions of trail south of Mapletown and Flat Creek, and east of Currytown.

Snowmobile trail S72A meanders through the VSA in a general north-to-south pattern within the Town of Canajoharie. The S72A trail received proposed rerouting for sections that travel through proposed solar array groups. According to solar array visibility results, intermittent and variable views from S72A are prevalent in Distance Zone 1. Since the trail traverses by several arrays, it is expected that snowmobilers will encounter fleeting foreground views of the arrays in delayed intervals, however, intervening tree hedgerows and proposed landscaping interfaced between the trail and Facility will reduce what can be discerned. Some portions of the trail will not discern the Facility, such as lengths north and west of Mapletown, and intermittent areas within Distance Zone 1.

Snowmobile Trail S75 is identified within the Village of Palatine and trend northeast before intersecting the VSA by Caswell Road. The S75 trail is fully encompassed in Distance Zone 2. While predicted solar array visibility is dispersed in small intervals throughout the trail, the collective viewing experience of the Facility will be underwhelming due to viewing distances of approximately 1.35 to 7 miles as well as the abundance of tree forest and hedgerows interfacing most areas around the trail.

Snowmobile Trail S75A initiates north from the junction of S75 before immediately exiting the VSA for a span of 0.34-mile. The S75A trail is exclusively within Distance Zone 2 where nearest solar arrays are approximately 1.84 to 7.27 miles away. Due to the substantial distance to the solar arrays, most would not be discernible. Considering viewers will be sustaining motion when on the

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trail, it is therefore expected that the Facility would be difficult to perceive and would result in minimal to no effect.

Snowmobile Trail C7P enters the VSA near McEwan Road to the west and winds eastward to the Hamlet of Sprakers where path trajectory continues along part of the Erie Canalway Trail. The C7P trail runs adjacent to two solar arrays in the VSA, north of Carlisle Road and west of Canyon Road. Visibility to the solar arrays will be variable when traveling on C7P in Distance Zone 1, however, most visual change experienced by snowmobilers will consist of an ephemeral and short duration view of foreground solar arrays when traversing on C7P near Carlisle and Canyon Road.

Snowmobile Trail C7H juts into the VSA from the southwest and travels north of Mapletown then quickly exits the VSA to the south. The C7H trail has received proposed rerouting for sections of trail that directly traverse through solar array locations (see Appendix 5-1 for the rerouting). According to the new routing, the C7H trail will abut the Facility by Lincoln Road and north and south of Conway Road where the trail meanders between two solar array groups. In total, the trail will pass by four solar array groups where most solar array sighting will be fleeting in nature due to travel speeds. While the trail will traverse by solar arrays in Distance Zone 1, a vast portion of the trail that extends into Distance Zone 2 and beyond the VSA will not experience Facility visibility.

#### Yatesville Falls State Forest

Yatesville Falls is a state forest found immediately northeast of the community of Currytown. From Currytown Road, an access drive (Yatesville Creek Road) functions to route traffic to the interior of the forest where Yatesville Falls (Buttermilk Falls) can be observed. Results of the solar panel viewshed detected potential sightings from a small section of the forest's southwest boundary. Viewers that infrequently navigate to the subject forest boundary will also be presented with a different landscape character (rural-residential and agricultural land) than the character of the forest itself. In general, viewers seek visitation to the state forest for purposes of enjoying the encompassing characteristics of nature and pertinent outdoor activities and are not expected to visit the forest's edge where woodland characteristics are diminished. As such, viewer concentration will be focused on interior locations, such as the Yatesville waterfall, where natural features exist.

#### Mohawk Valley State Heritage Corridor

The Mohawk Valley State Heritage Corridor is part of the collective Heritage Area System and is used to form a local and state partnership for establishing the preservation and development of areas that have special significance. These areas often include natural, historic, and cultural resources.

The Mohawk Valley State Heritage Corridor encompasses the entire VSA where all photo-simulations and LOS profiles have been prepared for the assessment of Facility visibility. The

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results of the visual analyses are documented throughout Section 10.0 to Section 10.3. The summary of conclusions (See Section 14.0) contains an overview of potential visibility within this extensive corridor that travels through the VSA.

#### Potential Environmental Justice Area (PEJA) - Census Tract 726, Block Group 1

The PEJA – Census Tract 726, Block Group 1 covers approximately 26% of total land in and around the Town of Canajoharie. Several representative photo-simulations and LOS profiles have been prepared from within the PEJA to aid the assessment of Facility visibility. The results of the visual analyses are documented in Section 10.2, Photo-simulation and LOS Results and Discussion, as well as Revised Attachment 4, Photo-Simulations and Lines of Sight. The VIA conclusions in Section 14.0 should be referenced when reviewing and understanding potential visibility from the subject PEJA. The Impact Study Area, including a half-mile buffer around the site, is contained within five block groups in Montgomery County (Figure 19-1). Based on the review of the minority and low-income population of these Census block groups from the most recent ACS data available (2022 vintage), the Study Area does not currently include block groups that meet the criteria for a PEJA (Figure 19-1). Please reference Exhibit 19, Environmental Justice, for more information regarding PEJAs.

#### **10.1.1.3 Visibility of Solar Arrays at Local Resources**

While not classified as officially listed agency scenic resources (see Table 4 in Section 6.0), local resources were also investigated for potential Facility visibility. As mentioned in Section 6.0 and 7.3.2, visual stakeholders were consulted and provided the opportunity to append additional resources of concern. The local resources listed below were identified in planning documents, local legislation, and during stakeholder engagement. Each local resource with potential solar array visibility has been described as follows.

#### **Local Resources**

##### Canajoharie Senior High School & Athletic Fields

The Canajoharie Senior High School & Athletic Fields are in the Town of Canajoharie, located east of the Village of Canajoharie, between Carlisle Road and Cunningham Road. Facility solar arrays are proposed in the adjacent agricultural fields, due east of the athletic fields. According to the solar array viewshed (see Figure 3 of Attachment 2), visibility is encompassed throughout the eastern athletic fields, specifically, three baseball fields, two soccer fields, and a large greenspace area. As requested by ORES and the Town of Canajoharie during stakeholder outreach, a photo-simulation was prepared from the Senior Soccer Field, which is the closest vantage point to the solar arrays from the field complex. As illustrated in the VP 83 simulation, the Facility's lateral form is disrupted by staggered placement of landscape plantings where small gaps elicit a slight impression of the solar arrays. VP 85 was also prepared from the vicinity of the school building to demonstrate a midground view to the Facility. The results of the VP 85 simulation indicate that

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with distance, the solar arrays become subordinate to larger features of the local viewing environment and therefore will not demand immediate attention of observers.

A variety of viewer types will utilize the fields during warmer seasons when leaf-on foliage is present. These viewers are anticipated to be visitors and residents, consisting of recreational users, athletes, spectators, or school workers. Those athletes or recreational users conducting sport activities are not expected to focus on eastward views to the facility, but on the pursued activity by itself. Possible glimpses to the eastern solar arrays may occur, however, recreationalist and athletes may dismiss this view as hyperfocus is supplied to the partaken activity. Spectators observing recreational players or athletes in the sport fields will have the propensity to focus on the recreational sport players, however, outward views beyond the activity to the eastern solar arrays may also occur, depending on the position on the viewer (e.g., spectators facing sporting events in a west direction are unlikely to view the solar arrays to the east). Overall, viewers are not expected to sustain relentless views to the Facility from the athletic fields, while views may be occasional to the nearby solar arrays, they will likely be brief in nature and will be moderated by landscaping.

#### Canajoharie Elementary/Middle School & Athletic Fields

The Canajoharie Elementary/Middle School is positioned on the eastern jurisdictional boundary of the Village of Canajoharie. Limited solar array visibility was predicted on the southern portion of the property, including the football field, playground, and mixed-use fields. This visibility is projected from solar arrays located approximately 0.23 miles to the southeast, more specifically, east of Cunningham Road. From the southern football field, potential visibility is found in one linear band running across the center of the playing field where viewers will consist of recreational sport players, whom will be focused on partaking in the sport activity. During infrequent scenarios, should recreational players face or view in the direction of the Facility, they will experience filtered views through vegetation that is in between the field and the Facility. Similarly, views to the solar arrays from the school's playground and mixed-use field may be obtainable but would be experienced as a filtered view with the football field and tree vegetation disrupting the sighting. Overall, these vantage points from the Canajoharie Elementary/Middle School & Athletic fields are not expected to result in any profound visual change due to distance of the Facility, the availability of existing deciduous vegetation, and the focused viewer activities that will likely draw attention away from the partial and distant view to the solar arrays.

#### Wintergreen Park

Wintergreen Park is a public park found within the Town of Canajoharie on Old Sharon Road. Due to the lower elevation of the park, visibility of the solar arrays is only predicted on the far northeastern corner of the site where no public amenities exist. Due to the remote nature of where visibility is predicted, it is very unlikely viewers would be affected as focus, activities, and enjoyment will be emphasized on or near the park's amenities.

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### Pangaea Puddle Water Ski Site

The Pangaea Puddle Water Ski Site is a private recreational club located off Mahr Road within the Town of Root. In the VSA, this club is found north of Browns Hollow toward the southern portion of the 2-mile study area. Several amenities for private members are available to accommodate water skiing activities, such as two 2,000-foot man-made lakes with a slalom course and jump ramps, six full-size soccer fields, a trap sporting clay lite field, a sand volleyball court, and two horseshoe pits. Two beaches, a playhouse, and picnic tables are provided for those wishing to spectate the water sports.

Viewshed visibility results suggest there may be a view to solar arrays from undeveloped, open land within the southern section of the site. From thereon, the nearest solar arrays are approximately 1.5 miles to the north. Upon review of recent aerial imagery and site inspection, there are no amenities available that would attract viewers to this inactive area. Therefore, potential visibility is negligible in this seldom-seen remote area. Private recreationalist and spectators will continue to enjoy the site's amenities with no visual effects associated with the solar panels.

### Carlisle Road (CR 93) – Montgomery County Scenic Byway

Carlisle Road is a Montgomery County Scenic Byway within the Towns of Canajoharie and Root and is found meandering through the VSA in a northwest-to-southeast fashion. Carlisle Road is classed as a minor collector which serves to route local traffic to arterial roadways with higher travel speeds. A vast portion of Carlisle Road is found within Distance Zone 1, or the closest viewing distance to the Facility where visual contrast may be increased. As indicated by the results of the viewshed analysis (see Figure 3 of Attachment 2), predicted visibility is dispersed throughout the road which suggests intermittent views of the solar panels will occur in intervals when traveling. The highest view occurrence on Carlisle Road is found between Canyon Road and Lincoln Road, near Fish and Game Club Road, between Hilltop Road and Mapletown Road, and adjacent to Mahr Road. Not all sections of Carlisle Road will contain views to the solar panels due to natural screening effects of vegetation and topography. To further examine the potential visual effects of the visible sections of Carlisle Road, two photo-simulations were developed (VPs 9 and 48; see Revised Attachment 4).

VP 9 was prepared from the community of Flat Creek to represent a non-participating local residence view from Carlisle Road. As illustrated in the simulation, a partial sighting to solar arrays within the distant beige agricultural fields is available. An existing tree hedgerow and proposed 5-year landscaping provides some visual softening of the Facility. When foliage is present during warmer seasons, the existing and proposed vegetation will provide a larger screening effect. Due to speed of travel, motorists passing through this area of Flat Creek are unlikely to fully perceive the Facility due to intervening dwellings, structures, and isolated tree vegetation abutting the roadway. Local residents residing near this area will likely experience stationary (longer duration) views to the solar arrays. While the solar arrays are setback in distance from most residences,

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the existing character of the landscape will change when facing south from this segment of Carlisle Road.

Further, VP 48 was also developed from Carlisle Road to demonstrate another non-participating local residence view near the intersection of Marh Road. As shown in the simulation, proposed landscaping will obscure most of the foreground solar arrays adjacent to Carlisle Road during warmer seasonal weather conditions that support leaf-on foliage. Given that the VP 48 photo-simulation depicts leaf-off emergent trees within the midground field, it is expected that leaf-on conditions will further screen the distant solar arrays as tree canopies furnish foliage. While the photo-simulations demonstrate close perspectives of the Facility, there will be many other locations on Carlisle Road that may see a very minor number of solar arrays or none.

Overall, a limited number of motorists would pass the Facility on Carlisle Road (AADT of 306; Flat Creek 2020 Census population estimate of 134; see Table 1 and 2). Of those local residents or commuters that travel on Carlisle Road, views of the Facility would be reasonably screened during warmer months. Given that motorist will be traveling, views of the Facility would be momentary and intermittent since the road is punctuated by visual impediments such as existing topography, structures, existing tree vegetation, and proposed landscaping.

#### Caswell Road (CR 45) – Montgomery County Scenic Byway

Caswell Road is identified within the Town of Palatine, within the northern extents of the VSA. This road travels in a north-to-south direction and is predicted to contain interspersed solar array visibility from Distance Zone 2. A representative photo-simulation (VP 62) was prepared in vicinity to Caswell Road and can be reviewed to understand the Facility's potential effect. As illustrated in the simulation, a subtle color change is noticed in the photograph, but the actual distinction of solar arrays is not apparent due to a relatively large viewing distance of 1.7 miles, as well as the intervening effects of existing topography and vegetation.

Very few local travelers and commuters (AADT of 93) will be traveling on Caswell Road, several residential properties (approximately eleven) are also located within the predicted viewshed, however, as mentioned above, the simulation shows that the Facility is difficult to perceive in the landscape at a stationary position and is therefore unlikely to be noticed by residents and/or local travelers.

#### Currytown Road (CR 105) – Montgomery County Scenic Byway

Currytown Road is a Montgomery County Scenic Byway found within the Town of Root and is within the eastern portion of the VSA. This local road provides a connection point for the communities of Currytown and Randall (beyond the VSA). A 0.41-mile span of visibility was predicted on this road between the edge of Yatesville Falls State Forest to the intersection of NY162 and Currytown Road. The closest solar array group is approximately 0.50-mile from this area of interest. To elaborate on the potential viewing conditions from the limited area of road, VP

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21 was prepared as a photo-simulation. As shown in the simulation, a distant tan field is populated with a massing of solar arrays that are perceived as dark blue segmented-forms where existing dark blue colors of distant forest soften and visually absorb the color contrast.

A limited number of local travelers and commuters (AADT of 361) are expected to be traversing along Currytown Road, of which the view may consist of a temporary glance to the Facility along the 0.41-mile section of road. A few residential dwellings along this segment of road may sustain a longer duration of view to the Facility but will vary depending on the observer's position and associated activities.

#### Hilltop Road (CR 96) – Montgomery County Scenic Byway

Hilltop Road is a local road facilitating residential and commuter travel from NY162 to Carlisle Road in a north-to-south manner. This road is also recognized as a Montgomery County Scenic Byway. Hilltop Road traverses through a portion of the Facility within Distance Zone 1, where proximal observation points may be less than 0.5-mile to the solar arrays. From this road, some portions of the solar arrays are expected to be seen from an area spanning from the existing NYPA Transmission Line #352 to the crossroads of Hilltop and Carlisle Road. A photo-simulation was prepared from Hilltop Road to assess the visual effects of the Facility. As shown in the VP 31 simulation, solar arrays partially occupy the foreground field and become a visual focal point. In the distance, a substation is perceived but is juxtaposed with an existing tree hedgerow. The impression of the substation will diminish during warmer seasons when foliage populates on the tree hedgerow. It is important to mention that Type C and D landscaping are proposed along or near residential properties in the vicinity of this vantage point, therefore, not all views will be direct as illustrated in the VP 31 simulation.

Residents and commuters trafficking on this road will be few (137 AADT) but will likely experience partial fleeting views of the solar arrays, however, the presence of vegetative mitigation will lessen this effect (please refer to representative VPs 48 and 83 of Revised Attachment 4 to view Type C landscaping screening).

#### Latimer Hill Road (CR 89) – Montgomery County Scenic Byway

Latimer Hill Road is a local Montgomery County Scenic Byway found south near the border of the VSA. This road heads northwest-to-southeast through an elevated portion of rural upland within Distance Zone 2. Due to the abundance of existing forested vegetation along the road, intermittent visibility is within a 2,000-foot stretch near the intersection of Latimer Hill and Becker Road. From this area, the nearest visible solar arrays are approximately 2.65 miles to the north and northeast directions. VP 23 was prepared as a photo-simulation from this area of interest (see Revised Attachment 4) As shown in the simulation, a distant open field is replaced by a dark rectangular form where individual components are absent and only simple shapes and colors are perceived. Under these conditions, most local travelers and commuters (AADT of 197) are unlikely to perceive a change when considering factors such as the character of visibility (brief segments)

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and traveling speed. However, approximately nine rural-residential dwellings within this subject area of Latimer Road received solar array visibility, therefore stationary viewing opportunities may occur but is dictated by the viewer's activity and ability to intently discern the Facility at such a distance.

#### McKinley Road (CR 42) – Montgomery County Scenic Byway

McKinley Road is found on the northern extents of the VSA within the Town of Palatine and is recognized as a Montgomery County Scenic Byway. From this road, the potential sighting of solar arrays is predicted to occur over a 1.5-mile span from the western extents of the community of McKinley to east of the intersection of Caswell and McKinley Road. Within this span, predicted visibility is dispersed over the road. To further investigate the potential views, the LOS profile L2 was performed from McKinley Road (within Distance Zone 2) to the nearest solar array group. As shown in the LOS, the observer experiences an unobstructed view to solar arrays over 2.46 miles to the south. While the solar arrays were predicted to be seen by the viewshed software, it does not account for the limitations of human sight when viewing 10-foot objects over a substantial distance, nor does it factor viewer activities that may alter the viewing experience. From McKinley Road, a relatively small number of local travelers and commuters (ADDT of 325) will be using the road. Several (approximately eight) rural-residents were also found to receive visibility on portions of properties. As mentioned, due to the limited human vision capabilities of viewing solar arrays at such a large distance (2.46 miles), these viewers are highly unlikely to notice visual change within the distant environment.

#### Old Sharon Road (CR 94) – Montgomery County Scenic Byway

Old Sharon Road is located within the Town of Canajoharie and is proximal to several solar arrays. A brief segment of road (0.28-mile span) may experience views to the solar arrays near the intersections of Carlisle Road. Two residential dwellings were identified within the predicted area of visibility, these viewers would be susceptible to static views toward the Facility. As shown in the VP 88 photograph of Attachment 3, a single tree hedgerow exists between the solar panels and Old Sharon Road and will shield a moderate portion of the Facility. Further, proposed landscaping will be treated alongside of the solar array's perimeter fence that face Old Sharon Road. Consequentially, of the limited travelers of this road (AADT of 361), filtered views through existing and proposed vegetation to the solar arrays may be possible, although due to the sustained motion of travel, local residents and commuters may experience the mostly screened view in a fleeting manner. Also, the nearest solar panels are located approximately 350 feet from the road, this distance will contribute to a reduction in visual scale of the subject solar arrays. Collectively, these mitigation measures and viewer conditions will minimize the appearance of the Facility from Old Sharon Road.

#### Seebers Lane (CR 87) – Montgomery County Scenic Byway

Seebers Lane is Montgomery County Scenic Byway that travels west from the Village of Canajoharie and quickly exits the 2-mile VSA. A small segment of roadway (less than 200 feet) within Distance Zone 2 was predicted to discern solar arrays at 1.45 miles to the southeast. Generally, solar arrays become less of a focal point and are subsumed by the landscape when in Distance Zone 2 (see representative VP 62 photo-simulation of Revised Attachment 4 which illustrates a 1.7 mile viewing distance to the Facility). As indicated in Table 2, Seebers Lane supports a very small number of daily travelers (AADT of 109). When considering distance to the Facility, the limited number of travelers, and the small segment of visibility, it is likely that views will not be obtained when driving along Seebers Lane. Although not within the road, visibility was predicted to occur at approximately four residential dwellings adjacently east of Seebers Lane. As shown in the representative VP 62 photo-simulation, the visual effect of the solar arrays is not expected to demand attention or compete with larger landscape, therefore residents may not observe visual change unless actively seeking the Facility.

#### West Lykers Road (CR 102) – Montgomery County Scenic Byway

West Lykers Road is positioned in the southern extents of the VSA and provides local residents with access to Carlisle Road and the community of Browns Hollow. West Lykers Road is also recognized as a Montgomery County Scenic Byway and is within Distance Zone 2. Immediately west of the community of Lykers, predicted solar array visibility is scarcely segmented along a very brief section of the roadway. From this area, the nearest solar array is located 1.33 miles to the northwest. Therefore, due to the compounded effect of travel speed, the limited intervals of potential visibility (see VP 45 photograph in Attachment 3 illustrating an open interval through vegetation), as well as the 1.33-mile distance to the nearest solar array, residents traveling on West Lykers Road are very unlikely to perceive the Facility.

#### **10.1.1.4 Visibility of Solar Arrays from High-Use Public Areas**

Although not classed specifically as officially listed agency scenic resources, it is recognized that local town residents and local roadway traffic will experience views of the Facility in varying locations. Please refer to Table 2 for a general understanding of the average volume of daily traffic from roadways within the VSA. A more in-depth assessment of potential visibility from high-use public areas within the VSA is provided as follows.

#### **Highly Populated Communities**

Village of Palatine Bridge – As indicated in Table 1, the Village of Palatine Bridge supports a 2020 census population estimate of 796. In the VSA, the Village of Palatine Bridge is north of the Mohawk River and Village of Canajoharie. According to the solar array viewshed analysis (see Figure 3 of Attachment 2), solar panel visibility was predicted in two small, discrete areas. The first area is located on undeveloped land within private property where no members of the public have access. The second area is found within a commercial development, specifically in the Ace Hardware parking lot. From this area, the Facility is approximately 1.33 miles to the southeast.

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While many users may utilize this parking area for commercial and shopping purposes, it is not anticipated that viewers will be focused on a southeastern direction as viewer objectives are set on shopping and storefronts (to the north) within this commercial area. In other words, since no such amenities (e.g., overlooks, picnic benches, or signage) exist, it is very unlikely that viewers utilize the parking lot to view the landscape. Therefore, for these reasons, the minimal Facility visibility within the Village of Palatine is not expected to diminish the characteristics or qualities of the village.

### **High Trafficked Public Roads**

NY162 – In the VSA, NY162 is a thoroughfare found within the Town of Root, connecting smaller communities of Rural Grove, Currytown, and the Hamlet of Sprakers. This route also accommodates traffic in the VSA with access to NY5S and a variety of local roads. Viewshed visibility results suggest that more solar arrays may be distinguishable from NY162 in vicinity to Currytown, specifically, between Moyer Road and Currytown Road. This is likely due to the positioning of solar array groups near or adjacent to the road. Viewers traversing along NY162 will likely experience a brief, fleeting view of solar arrays when passing through Currytown, however, in addition to existing vegetation, landscaping is proposed to minimize views to the arrays. While there are minor segments of predicted visibility on NY162 outside of Currytown, these areas will not comprise high contrasting or sustained views of the solar arrays but will rather consist of short glimpses to a portion of the distant Facility. A large portion of NY162 will not experience views to solar arrays due to intervening topography, structures, and vegetation (see LOS L3 of Revised Attachment 4).

NY5S - As described in Section 10.1.1.2, solar array viewshed visibility predicted views to solar arrays (to the west) beyond a 3-mile distance. When considering the extensive 365-mile length of NYS Bicycle Route 5 that extends well beyond the VSA, a total of 0.2% of roadway would contain a substantial 3-mile viewing distance to the solar arrays. At this distance, there are several factors that may diminish solar panel visibility, such as acuity of human vision, atmospheric haze, and visual obstructions of topography, vegetation, structures, and dwellings. Therefore, because most activities on NYS Bicycle Route 5 will be partaken in motion (e.g., bicycling, driving, etc.), viewers would need to become stationary and meticulously search the landscape to potentially discern the visible solar arrays, most viewers however would experience great difficulty in identifying solar arrays at a 3-mile distance due to limitations of human vision, atmospheric haze, and physical obstructions (vegetation and topography).

NY I-90 - NY I-90 is a major thoroughfare that accommodates multi-regional travel in an east-to-west direction. Solar arrays are predicted to be distinguished on both eastbound and westbound traffic routes between the Flat Creek (creek) and Lasher Creek. Because of major topographical increases to the south, views are likely focused to the west where the closest solar array group is approximately 1.5 miles away. Therefore, travelers heading westbound may have the opportunity to glance at these distant arrays, however, due to expedited traveling speeds (65 MPH), motorists are likely to focus on forward traffic to ensure operational safety of the vehicle.

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### **10.1.2 Viewshed Results of the Collection Substation, POI Switchyard, and Transmission Structures**

The Facility will require interconnection to the existing electrical grid for purposes of distributing generated renewable energy. The interconnection will necessitate a collection substation, a POI switchyard and POI transmission structures (collectively referred to as “POI components”). This interconnection is located near the centroid of the Facility Site, between Rappa Road and Hilltop Road, adjacent to the existing NYPA Transmission Line #352. A second viewshed analysis (see Figure 4 of Attachment 2) was prepared to evaluate potential visibility of the POI components. Due to the noncontiguous form of the solar array layout and the magnitude of the VSA, the delineated solar array distance zones are inapplicable to the POI components and if used, would provide unsubstantiated visibility results. Therefore, a discrete set of distance zones were applied to the POI components using Distance Zone 1 and 2 parameters. The designated distance zones are mapped and illustrated in Figure 4 of Attachment 2. Associated methodology used to prepare the viewshed is further elaborated in Section 7.1.

The viewshed results of the POI components viewshed indicated that 10.25% of potential visibility may occur within the VSA. As shown in Table 8, Distance Zone 1 is responsible for 3.83% of potential sightings. As shown in the viewshed analysis of the POI components (see Figure 4 of Attachment 2), most pronounced views in Distance Zone 1 are limited to the immediate vicinity of the site, specifically, from a confined section of Rappa Road and Hilltop Road. LOS Profile L1 and photo-simulation VP 31 were prepared from the subject roads (see Revised Attachment 4). The findings of the L1 LOS conclude that collection substation components consisting of an a-frame takeoff structure and bus equipment will be momentarily distinguishable above proposed landscaping. Under this viewing circumstance, local motorists may experience a partial fleeting view when passing by. A single resident on Rappa Road near the L1 LOS trajectory would experience this viewing condition under a longer duration, however, this resident is also a participating landowner. Two other residences found immediately south on Rappa Road may experience partial filtered views to taller POI components (a-frames, lighting masts, etc.) through a few existing tree hedgerows and proposed landscaping. As portrayed in the VP 31 simulation from Hilltop Road, views to the substations are partially filtered by an existing tree hedgerow. One residence is located 220 feet southwest of the photo location and may experience a similar perspective, however most residents in this general area will receive landscaping Type C coverage to moderate views to the POI components.

In Distance Zone 2, POI components were predicted to be discernible within 6.42% of the VSA. In general, the focus of the potential visibility is isolated to rural upload north of the Mohawk River, approximately 2.75 to 5 miles in distance. Given that the tallest POI components consist of two proposed transmission structures (140-foot height), lighting masts and a-frame takeoff structures (90-foot height), most visibility in Distance Zone 2 is anticipated to be a result of these structures. As mentioned, the Facility will interconnect to existing NYPA Transmission Line #352, which is adjacent to the POI components. As shown in several photographs obtained from Distance Zone 2 that face the direction of the POI components (VPs 30 and 34; see Facility Photolog of

Attachment 3) views to the existing NYPA Transmission Line #352 are mostly abundant within the VSA, but the overall appearance of the existing structures (approximately 150 to 200-foot height) are greatly diminished. Therefore, from Distance Zone 2, sightings of the tallest POI components will be subordinate to the presence, scale, and visual dominance of the existing NYPA Transmission Line #352 and will likely be imperceivable in contrast to the dominating characteristics of the NYPA transmission line.

**Table 8. Percent Visibility of the Collection Substation, POI Switchyard, and POI Transmission Structures within VSA**

Distance Zone	Total Area Comprising Distance Zone Square Miles	Visibility Within Distance Zone Square Miles	% Visibility Within Distance Zone	% Visibility Within Full VSA
Zone 1 0-0.5 Miles	1.00	0.51	51.07%	<b>3.83%</b>
Zone 2 0.5-2.0 Miles	12.40	0.86	6.93%	<b>6.42%</b>
<b>Total</b>	<b>13.40</b>	<b>1.37</b>	-	<b>10.25%</b>

## 10.2 Photo-Simulation and LOS Results and Discussion

The discussion of predicted visibility in Section 10.1 above focuses on relative quantities of visibility (how much is seen and where) to understand and objectively assess the amount of visual change in the landscape. Photo-simulations and LOS profiles are prepared to illustrate the potential visual effects of the proposed Facility (post-construction) from key locations where predicted Facility visibility occurs. Photo-simulations and LOS profiles are designed to provide representative views of a landscape type (LSZ), distance zone, sensitive resource, or places of high-use activities. They are not intended for private places where limited users are permitted, nor should they be used to evaluate every minor fraction of the VSA. In most instances, photo-simulations representative of a distance zone and LSZ can be cross referenced and reviewed for vantage points that share similar zones. In doing so, the compared simulation can provide enough visual information to make informed decisions about potential visibility, or lack thereof.

As mentioned, photo-simulations and LOS profiles were prepared to supplement the evaluation of visibility from significant or representative viewing locations. To achieve this, nine photo-simulations have been developed from representative vantage points at varying distances and cardinal directions around the Facility. Per 19 NYCRR Section 900.2.9 (b)(4)(i), simulation locations are based on representative or typical views showing proposed site conditions from

areas predicted to have direct line of sight visibility to the Facility. Each photo-simulation underwent a rigorous selection process to conform with the regulations. The Section 94-c VP selection criteria and the prepared photo-simulations that conform to these criteria are discussed in Section 7.3.2.

Table 9 summarizes information for each simulation VP and LOS profile. Please refer to Revised Attachment 4 to view the simulations and LOS profiles.

**Table 9. Summary Table of Simulation and LOS Viewpoints**

Viewpoint ID	Location	Town	Approximate Distance to Facility	LSZ	Cardinal Direction	Reason for Selecting	Identified Viewer Types
9	Carlisle Road from the community of Flat Creek	Root	1,035 Feet	1,3	SSW	Photo representative of the community of Flat Creek from Carlisle Road (306 AADT) in vicinity to the Root Town Hall from Distance Zone 1.	Local Residents Commuters Area-traveler
16	Conway Road	Root	212 Feet	1,2,3	S	Location recommended by Town of Root during a meeting with the Applicant. The photo depicts a foreground view of the Facility from a non-participating landowner. View also representative of a local road within Distance Zone 1.	Local Residents
21	Currytown Road	Root	0.6-Mile	1,2,3	SW	Photo demonstrates view from Yatesville Falls State Forest, Currytown Road (Montgomery County Scenic Byway), and community of Currytown. This is also an ORES suggested VP location from Distance Zone 2.	Local Residents Commuters Recreationists
23	Latimer Hill Road	Root	2.65 Miles	1,3	NE	Photo illustrates vantage point south of the Facility from Distance Zone 2 and depicts potential visibility from Latimer Hill Road (Montgomery County Scenic Byway)	Local Residents Commuters Recreationists Area-traveler
31	Hilltop Road	Root	225 Feet	1,3	E	Adjacent to several residences on Hilltop Road, a Montgomery County Scenic Byway, facing toward the POI Switchyard and Collection Substation. This is also an ORES suggested VP location from Distance Zone 1.	Local Residents Commuters Recreationists

Viewpoint ID	Location	Town	Approximate Distance to Facility	LSZ	Cardinal Direction	Reason for Selecting	Identified Viewer Types
48	Intersection of Carlisle Road and Mahr Road, near the community of Flat Creek	Root	250 Feet	1,2,3	NE	Demonstrates a representative view from Carlisle Road (306 AADT) near the community of Flat Creek. View is in vicinity to several rural residences within Distance Zone 1.	Local Residents Commuters
62	South Gray Road	Palatine	1.7 Miles	1,3	S	Representative view from the community of Mckinley from Distance Zone 2. Demonstrative of cumulative effect from the Caswell and South Gray Road Solar Farm and proposed Facility.	Local Residents
83	Canajoharie Senior High School Athletic Fields	Canajoharie	570 Feet	3,4	SE	Representative vantage point from Canajoharie Senior High School Athletic Fields, intermittent high-use area. Location was recommended by ORES and Town of Canajoharie during stakeholder outreach and a meeting with the Town of Canajoharie and Applicant.	Local Residents Commuters Recreationists
85	Canajoharie Senior High School Athletic Fields	Canajoharie	0.26-Mile	3,4	NE	Representative vantage point from Canajoharie Senior High School Athletic Fields, intermittent high-use area. Location was recommended by Town of Canajoharie during a meeting with the Applicant.	Local Residents Commuters Recreationists
L1*	NRHP Eligible Rappa Road Cemetery (USN 05709.000152)	Root	543 Feet	1,3	NW	LOS from NRHP eligible Rappa Cemetery to the proposed Collection Substation. Includes a sight line from Hill top Road (Montgomery County Scenic Byway).	Local Residents Recreationists

Viewpoint ID	Location	Town	Approximate Distance to Facility	LSZ	Cardinal Direction	Reason for Selecting	Identified Viewer Types
L2*	NRHP Eligible "House" (USN 05708.000250)	Palatine, Canajoharie	2.46 miles	1,2,3, 4,5	SSW	LOS from NRHP eligible House off McKinley Road, Daniel G. Van Wie Farmstead (NRHP Listed "Area"), Revolutionary Trail Scenic Byway, NYS I-90, Mohawk River (NYS Barge Canal Historic District), Erie Canalway Trail, Snowmobile Trail (C7P), NY5S (NYS Bicycle Route 5), Brower Road, and Sprakers Road.	Local Residents Recreationists
L3*	NYS Revolutionary Scenic Byway	Palatine, Root, Canajoharie	3.62 miles	1,2,3, 4,5	WSW	LOS from Revolutionary Trail Scenic Byway, Mohawk River (NYS Barge Canal Historic District), NY I-90, Erie Canalway Trail, NY5S (NYS Bicycle Route 5), Spraker Hill Cemetery, NY162, Canyon Road, Flat Creek, and Snowmobile Trail (C7P).	Local Residents Commuters Recreationists Area Travelers

\*LOS profile analysis

### **10.2.1 Discussion of Simulations**

The following subsections describe the results of each photo-simulation which consist of discussions associated with potential changes to the character of the view, the identification of discernible Facility components, categorization of viewer constituency, and frequency of use. Simulations are presented as sets of existing and proposed conditions based on VP number and can be found in Revised Attachment 4. Also included in Revised Attachment 4 is the illustration of proposed landscaping mitigation at approximately 5 years subsequent of construction. Each photo-simulation depicts the proposed position of each planting according to the proposed Landscape Plan (see Appendix 5-2 of Exhibit 5 Design Drawings and Plan 7A of Revised Attachment 7). To depict the seasonal changes of vegetation that affect viewer perception of the Facility, both leaf-on and leaf-off representations are captured in each photo-simulation VP location. The methodology used to develop and select photographs for the simulations is described in Section 7.3

#### **10.2.1.1 VP 9, Carlisle Road (Montgomery County Scenic Byway), Community of Flat Creek, View South Southwest – Root (LSZ 1,3; Distance Zone 1)**

VP 9 was performed as a photo-simulation to evaluate potential visibility from Carlisle Road, a Montgomery County Scenic Byway. VP 9 also demonstrates a representative view from a residential dwelling in the Community of Flat Creek, near the interior of the Facility. VP 9 may also serve to understand the spatial relationship between Mapletown Road (identified as distant road bisecting fields within the existing conditions photograph) and the Facility. This vantage point is representative of viewer groups consisting of local residents, commuters, and area-travelers.

##### *Existing Conditions*

VP 9 is oriented south southwest from Carlisle Road and is in the immediate vicinity of few residential dwellings. This observation point is also approximately 300 feet east of the Root Town Hall building. From this perspective, the foreground consists of a residential dwelling and ancillary building framing a mostly unobstructed view to a rising agricultural field within the midground. A single tree hedgerow and lower shrub vegetation lays at the bottom of the field. A rural roadway (Mapletown Road) is seen bisecting the distant beige fields. A successive formation of local distribution structures parallels the road. One rural-residential dwelling encompassed by single deciduous trees is distinguishable near the crest of the hill, adjacent to the distant visible road.

##### *Proposed Conditions*

In the proposed condition with 5-year landscaping, a framed view between two residential structures is available to solar arrays on the side of a rising agricultural field. Due to the orientation of the solar arrays (north-to-south) and the angle of observation (south southwest), line forms between each array contrast with the beige colors of the existing field. A single inverter assembly is found within the centroid of the solar array. On the outskirts of the solar array's western fence

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perimeter, landscaping is proposed for viewers traveling on Mapletown Road, however the current view is dependent on the presence of existing vegetation to soften views to the arrays. Given that the solar arrays are following the rising topography of the hill, the treatment of landscaping within this perspective would not fully shield the solar arrays. Most viewers at this viewing location (Carlisle Road) will be comprised of a small number of local residents (AADT 306), however, this view may not be apparent to all motorists due to the factor of motion and the short window of opportunity to view the arrays between residential homes and structures. A few residents residing near this section of Carlisle Road may experience a longer duration of view when facing south-southwest.

#### **10.2.1.2 VP 16, Conway Road, View South – Root (LSZ 1,2,3; Distance Zone 1)**

VP 16 was selected by the Town of Root during a meeting with the Applicant. This location demonstrates a view from a non-participating, rural-residential dwelling on Conway Road, a local and rural road. This vantage point illustrates the appearance of the Facility from a foreground position within Distance Zone 1. This vantage point is representative of viewer groups consisting of local residents.

##### **Existing Conditions**

In the existing condition photograph, the view is mostly comprised of open agricultural land where a multitude of cleared corn row crops are seen within the foreground and middle ground. A mature deciduous forest forms in the middle ground and coexists with the receding agricultural field. In the background, deciduous forest forms a wall of vegetation on the top of a slope and precludes further views of the distant landscape. The visible horizon of the background sky is intersected by the distant forest. Behind the observer lies a farmstead consisting of livestock farming, a single residential dwelling, and agricultural land used for cultivation purposes.

##### **Proposed Conditions**

In the proposed condition, 5-year landscaping precludes a large portion of the appearance of what would have been an unobstructed view to the solar arrays. A section of tree forest is removed as noted in the left side of the photograph. During warmer seasons, views will be restricted to gaps above the plantings where distant solar arrays are receding up the sloped terrain. As shown in the Table 11 of Section 11.11, the proposed shrubs will attain additional growth heights subsequent of 5-years and is expected to screen more of the Facility from this perspective. Given that Conway Road is a local rural road with few rural-residential dwellings, it is assumed this view would be limited to those residents traveling to their property. Residents driving past this section of Conway Road may perceive a limited portion of solar arrays when facing south but the view would be experienced under a short duration due to travel speed. One farmstead located behind the observer would sustain a longer duration of view when facing south, but as mentioned, landscaping mitigates most of the view to the closer contrasting panels and is expected to gain additional growth heights subsequent of 5 years.

### **10.2.1.3 VP 21, Currytown Road (Montgomery County Scenic Byway), View Southwest – Root (LSZ 1,2,3; Distance Zone 2)**

VP 21 was prepared as a photo-simulation to portray potential Facility visibility from Currytown Road, which is recognized as a Montgomery County Scenic Byway. VP 21 is also near the periphery of the Yatesville Falls State Forest (located behind the observer). This vantage point is representative of viewer groups consisting of local residents, commuters, and recreationists.

#### *Existing Conditions*

The existing condition photograph generally depicts a predominantly rural landscape. The viewer is facing southwest toward the Community of Currytown, however, due to existing topography, many dwelling are not sighted in the photograph. The vast foreground area of the photo is comprised of harvested hayfields with minor undulating topography. The midground introduces several tree hedgerows and small forest groups, the slight appearance of buildings and a dwelling appear through the vegetation. From thereto, the background conveys a sweeping view to a predominantly forested terrain with a few cascading hills that recede into the horizon.

#### *Proposed Conditions*

With the Facility in view, a low-lying, distant agricultural field is populated by dark geometric forms consisting of solar panels. Intermittent tree groups partially obscure part of the Facility as they protrude above the mass form of panels. While the Facility is interpreted, most of the solar array's dark hues are subsumed by colors of the distance forest canopy, which diminishes the perceived visual contrast. From this vantage point, one resident approximately 420 feet southeast may experience a static view to the Facility, however, the greater landscape a distant hills and foreground field still dominate the view. Of the limited residents traversing on Currytown Road (AADT 361), views would only be obtainable when heading southbound and would be brief in nature. It is anticipated that potential viewer focus from this location will be fixed on the distant background landscape, where contrasting values of the existing sky and organic forms of hills draw immediate attention.

### **10.2.1.4 VP 23, Latimer Hill Road (Montgomery County Scenic Byway), View Northeast – Root (LSZ 1,3; Distance Zone 2)**

VP 23 was prepared as a photo-simulation to demonstrate the visual effect of the Facility from limited areas of visibility found south of the Facility. This vantage point also illustrates distant viewing characteristics of the Facility from Distance Zone 2 and represents the limited sections of Facility sighting from Latimer Hill Road, a Montgomery County Scenic Byway. This vantage point is representative of viewer groups consisting of local residents, commuters, and area-travelers.

#### *Existing Conditions*

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As shown in the existing photograph, an unobstructed view to the broad landscape is displayed. This view is furnished through a 720-foot clearing along Latimer Hill Road. Within the foreground, an open agricultural field can be discerned with a single line of deciduous shrub/scrub plants. The midground consists of a single residence surrounded by agricultural fields, large swaths of mixed forest, and isolated areas of residential development. The background is identified by a sloping hill with a commercial building and open land comprising agricultural uses. This is followed by an expanse of forested vegetation and the sighting of rolling, distant hills resembling the Adirondack Foothills.

#### *Proposed Conditions*

As shown in the photo-simulation, a distant tan field is replaced by a dark rectangular form. Because the observer is viewing the Facility at a 2.65 distance, the acuity of individual components are absent and only simple shapes and colors are perceived. Under these conditions, most local travelers and commuters (AADT of 197) are unlikely to perceive a change when considering factors such as the character of visibility (brief segments) and traveling speed. However, approximately nine rural-residential dwellings within this subject area of Latimer Road received solar array visibility, therefore stationary viewing opportunities may occur but is dictated by the viewer's activity and ability to intently focus and discern the Facility at such a substantial distance.

#### **10.2.1.5 VP 31, Hilltop Road (Montgomery County Scenic Byway), View East – Root (LSZ 1,3; Distance Zone 1)**

VP 31 was photographed from Hilltop Road, a Montgomery County Scenic Byway. VP 31 was selected for developing a photo-simulation as it is the nearest public representation to the collection substation, POI switchyard and POI transmission structures. As alluded within left side of the existing photograph, the observer is adjacent to the NYPA Transmission Line #352 where the Facility is proposed to interconnect. This vantage point is representative of viewer groups consisting of local residents, commuters, and recreationists.

#### *Existing Conditions*

In the existing conditions photograph, the character of the landscape is principally rural-agriculture but is shared with a land use consisting of transmission utility. The entire foreground of the photograph contains mown hay grasses, absent of any visual obstruction. The field continues into the midground where tree hedgerows are juxtaposed with a distant field and transmission right-of-way. The background initiates where distant intervals of cleared land and forests areas are discerned.

### *Proposed Conditions*

In the proposed condition simulation with 5-year landscaping, a coexisting land-use of utility and agriculture transitions into a dominant utility land-use with introduction of foreground solar arrays and an access road. In the midground, the collection substation and POI switchyard are juxtaposed behind a single tree hedgerow where taller components consisting of a-frame takeoff structures stand in prominence with the existing NYPA Transmission Line #352, however, shorter substation components, such as breaks, switches, and bus equipment are partially obstructed by the foreground solar arrays. A segment of proposed landscaping in the photograph runs parallel to the viewer and provides screening to part of the substations from this perspective, however, it is generally purposed to screen potential viewers north of this location. One residence is located 220 feet southwest of the photo location and may experience a similar perspective to what is presented in the simulation. Several other dwellings in the vicinity receive full coverage of the Type C and D landscaping to moderate views to the Facility from Hilltop Road (see Appendix 5-2 of Exhibit 5 for the complete landscape plan). While partial views to the Facility may be available on limited sections of Hilltop Road in Distance Zone 1, the relative number of local travelers or commuters (AADT 137) passing by the Facility would be minor. Further, a vast portion of the solar arrays adjacent to Hilltop Road are treated with Type C and D landscaping, which will provide a level of screening to those viewers.

#### **10.2.1.6 VP 48, Mahr Road and Carlisle Road (Montgomery County Scenic Byway), View Northeast – Root (LSZ 1,2,3; Distance Zone 1)**

The VP 48 photograph was obtained from the intersection of Mahr and Carlisle Road. Carlisle Road is a Montgomery County Scenic Byway. This photo was developed as a photo-simulation to demonstrate predicted visibility from Carlisle Road, Mahr Road, as well as a few residential dwellings in the proximal area. The viewer faces a northeast direction toward the Facility Site. This vantage point is representative of viewer groups consisting of local residents and commuters.

### *Existing Conditions*

The VP 48 photo of the existing conditions is characterized as an almost wholly agricultural landscape, with minor developed and forested features. In the foreground, paved roads form a crossing lined with two local distribution poles and mown grass shoulders. Beyond the road intersection where the midground begins, topography retreats but quickly increases. Two sizable fields are divided by a dense, deciduous, tree hedgerow. The background is found at the top of the hill where a mixed-developed area is found encompassed by forested vegetation, the developed area consists of a distribution center, residential dwellings, buildings, and agricultural land.

### *Proposed Conditions*

As illustrated the VP 48 photo-simulation with 5-year landscaping, the solar panels are placed within the foreground field and midground field. The foreground solar panels are treated with proposed Type C landscaping. As depicted by the landscaping, the segmented formation of plantings provides a screening effect that obscures most of the foreground solar arrays, while minor gaps between vegetation offer partial glimpses to the panels. In the distance, solar arrays in the midground field are partially filtered by intervening deciduous forest. While the simulation portrays leaf-on conditions of the proposed landscaping, such screening is not depicted on the deciduous forest. During seasons that support leaf-on conditions, the subject forest would develop a dense canopy capable of greatly diminishing or precluding views to the midground solar arrays. Given that most viewers will consist of local residents or commuters passing through at moderate speeds, the visual effect of viewing staggered landscaping while in motion will cause the plantings to appear as a solid mass of screening to the foreground arrays. A few residences are located approximated 300 to 500 feet southeast of the viewer's position, these viewers will have the opportunity to view the solar arrays, over a longer period of time, depending on the pursued objectives, however, as shown in the simulation, proposed landscaping in 5 years will mostly impede views to the closest solar array.

#### **10.2.1.7 VP 62, South Gray Road, Community of McKinley, View South – Palatine (LSZ 1,3; Distance Zone 2)**

This vantage point was secured from South Gray Road, near the Community of McKinley. A photo-simulation was selected from this location to demonstrate a view north of the Mohawk Valley. The VP 62 location also serves as an evaluation of a representative Distance Zone 2 view, as well as the potential cumulative effect from the existing Nexamp Community Solar Farm and the proposed Facility. This vantage point is representative of viewer groups consisting of local residents.

### *Existing Conditions*

In the existing VP 62 photograph, the landscape is described as abundantly rural-agricultural with intermittent forested areas. From the foreground, an enclosed pasture with sparsely low-lying shrubs is seen. Topography generally undulates from the foreground to the far background. The midground consists of several farmsteads with a mosaic of fields intersected by single tree hedgerows and moderately-sized forests, a lesser number of dwellings dot the hillside. Existing infrastructure is primarily distinguished as local distribution structures, however, a partial sighting to a single cell tower is noted toward the center of the photo. In the background, a light blue vegetated hill with few scattered fields is discerned on the left side of the photo, the right side of the photo depicts distant rolling hills resembling a solid blue form that is absent in detail.

### *Proposed Conditions*

In the proposed condition simulation, darker colors fill in small portions of fields within the distant rising hill and reinforce existing dark colors of forested vegetation and tree hedgerows. Due to the viewing distance from observer to the Facility (1.7 miles to nearest visible solar array), the scale of the Facility, as well as existing vegetation and topography, collectively reduces the physical appearance of the solar arrays. In addition to these visual implications, the agricultural and forested character of the existing landscape furnishes the absorption of newly introduced, lateral forms, such as the solar arrays. Consequentially, viewers, whether traversing this area or residing, are not expected to discern any noticeable change due to the Facility.

#### **10.2.1.8 VP 83, Canajoharie Senior High School & Athletic Fields, View Southeast – Canajoharie (LSZ 3,4; Distance Zone 1)**

As discussed in Section 1.2, the visual stakeholder engagement resulted in the Town of Canajoharie and ORES expressing interest in a photo-simulation evaluation from the Canajoharie Senior High School Athletic Fields. VP 83 faces east and was developed as a photo-simulation from the senior soccer field, which is the nearest sport field to the Facility from the school grounds. This vantage point is representative of viewer groups consisting of local residents, commuters, and recreationists.

### *Existing Conditions*

The existing photograph conveys a mixed land use consisting of recreational and agricultural uses. As illustrated in the photo, the foreground is dominated by greenspace. Recreational equipment is found on the right side of the photo (soccer goal and chain link fencing topped with a yellow vinyl guard). The midground is comprised of an agricultural field bounded by a deciduous tree hedgerow. The impression of a forest and part of a green colored field exists behind the hedgerow. The background, although indistinct, is on the far-left side of the photo and conveys a distant forest.

### *Proposed Conditions*

As illustrated in the VP 83 simulation, the Facility's lateral form is disrupted by a staggered placement of landscape plantings where small gaps over top of the vegetation elicits a slight impression of the solar arrays. Beyond the midground solar arrays, vegetative clearing occurs in the distant tree line, however, a single tree hedgerow remains and provides a visual softening to the further, partially seen solar panels. A variety of viewer types will utilize the fields during warmer seasons when leaf-on foliage is present. These viewers are anticipated to be visitors and residents, consisting of recreational users, athletes, spectators, or school workers. Those athletes or recreational users conducting sport activities are not expected to focus on eastward views to the facility, but on the pursued activity by itself. Possible glimpses to the eastern solar arrays may occur, however, recreationalist and athletes may dismiss this view as hyperfocus is supplied to

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the partaken activity. Spectators observing recreational players or athletes in the sport fields will have the propensity to focus on the recreational sport players, however, outward views beyond the activity to the mostly screened eastern solar arrays may also occur, depending on the position on the viewer (e.g., spectators facing sporting events in a west direction are unlikely to glance at the solar arrays to the east). Overall, viewers are not expected to sustain relentless views to the Facility from the athletic fields, while views may be occasional to the nearby solar arrays, they will likely be brief in nature and will be moderated by proposed landscaping.

#### **10.2.1.9 VP 85, Canajoharie Senior High School & Athletic Fields, View Northeast – Canajoharie (LSZ 3,4; Distance Zone 1)**

As mentioned above, the visual stakeholder engagement resulted in the Town of Canajoharie and ORES expressing interest in a photo-simulation evaluation from the Canajoharie Senior High School Athletic Fields. While recognizing that VP 83 was prepared as a photo-simulation from the school's athletic field (closest view to Facility from school), VP 85 illustrates a further view from the vicinity of the school building where the solar arrays are placed within the midground. This vantage point is representative of viewer groups consisting of local residents, commuters, and recreationists.

##### *Existing Conditions*

The VP 85 existing condition view depicts a mixed-use environment containing community institution development, open land, and agricultural uses. Within the photograph, the foreground is identified by open greenspace that is segmented by several isolated trees and the façade of a building. The middle ground consists of a distant agricultural field framed by tree hedgerows and a single farmstead. The background is perceived as a solid blue mass of hillside that is interfaced with an intervening tree hedgerow.

##### *Proposed Conditions*

As shown in the proposed conditions, the appearance of solar arrays and proposed landscaping are partially distinguished within the distant agricultural field. In 5 years, post-construction, the solar arrays are not perceived with an exception to a small opening where dark blue hues are discerned against beige fields.. A limited area of existing vegetative clearing is noticed within a tree hedgerow within the distant field. Viewers that may experience this vantage point are identified as students, athletes, or workers, however, there are no known amenities within the greenspace that would promote a stationary view. Notwithstanding, while viewers may wander by, gather, or walk in this general area during warmer seasons, the Facility is not expected to become a major focal point due to viewing distance and the subordinate scale of the solar arrays in comparison to the landscape. Further, as illustrated in the photograph, mature deciduous trees within the distant foreground are displayed in leaf-off conditions. As such, during suitable seasons that support proliferation of foliage, a supplemental screening effect will be available to further

reduce Facility visibility, in addition to the 5-year proposed landscaping around the Facility's perimeter fencing.

### **10.2.2 Discussion – Line of Sight Results**

LOS profiles were completed to address state aesthetic resources, as required in 19 NYCRR Section 900.2.9 (b)(1). This regulation states specifically that LOS profiles only be completed for statewide resources of concern. As noted in Table 4, a total of six state resources were predicted to experience solar panel visibility (see Section 10.1.1.2 for a description of each visible state resource). LOS profile analyses are presented in Revised Attachment 4. These LOS profiles also traverse through several additional state resources. The six state resources with predicted visibility are outlined below received a LOS profile to meet this regulatory requirement.

- NYS Bicycle Route 5 (See LOS profile L2 and L3)
- Revolutionary Trail Scenic Byway (NY5) (See LOS profile L2 and L3)
- Various Snowmobile Trails (S72, S72A, S75, S75A, C7P, C7H) (See LOS profile L1, L2, and L3)
- Potential Environmental Justice Area (PEJA) - Census Tract 726, Block Group 1 (See LOS profile L2 and L3)
- Mohawk Valley State Heritage Corridor (See LOS profile L1, L2, and L3)
- Yatesville Falls State Forest (See VP 21 simulation which provides a direct line-of-sight to the Facility)

A total of three LOS profiles were prepared within the VSA. Each LOS profile was performed from discrete state aesthetic resources where Facility visibility was predicted and terminates at the nearest discernible Facility component. Each LOS profiles may contain several pertinent sight lines from other state resources. The following paragraphs discuss the results of each LOS profile.

#### **10.2.2.1 L1 – NRHP Eligible Rappa Road Cemetery (also known as Olmstead Cemetery) (USN 05709.000152), View Northwest (LSZ 1,3; Distance 0.53-mile, Distance Zone 1)**

The L1 LOS profile was selected to demonstrate the potential degree of visibility to the collection substation from the Rappa Road Cemetery within the Town of Root. The LOS L1 faces a northwest direction and spans a total of 0.53-mile where it intersects the NYS Snowmobile Trail (S72) and terminates near Hill Top Road, a Montgomery County Scenic Byway. Viewer groups consisting of local residents, commuters, recreationists, and area-travelers may view the property from the public right-of-way.

When reviewing the LOS, the elevated position of Rappa Road Cemetery facilitates a partial sighting over existing low scrub/shrub vegetation to a section of the collection substation. The discernible components are identified as an a-frame takeoff structure (90-foot height) and bus equipment (40-foot height). Rappa Road Cemetery is located on private property, therefore a very small number of viewers from the cemetery may experience static views to the substation. Proposed landscaping shown within the LOS profile offers some moderation of contrast to lower components, such as the security fencing. While the number of potential views is anticipated to be minimal (108 AADT), the existing characteristics of an open agricultural field will be replaced with utility, however, this landscape change would be compatible with the existing NYPA Transmission Line #352, found immediately north of the substations (see also; VP 31 in Revised Attachment 4 for a representative simulation of the collection substation and POI switchyard from Hilltop Road). The Rappa Road Cemetery is eligible for listing in the NRHP under Criterion A in the area of social history and early settlement of the Town of Canajoharie. Although the Facility will be visible at certain discreet locations, this will not diminish the property's historical significance.

#### **10.2.2.2 L2 – NRHP Eligible “House” (USN 05708.000250), View South Southwest (LSZ 1, 2, 3, 4, 5; Distance 2.46 miles; Distance Zone 2)**

The L2 LOS profile was prepared from the NRHP eligible resource “house” located on McKinley Road in the Town of Palatine. The LOS detected potential visibility from a series of proposed solar arrays on a crest of a hill, at 2.46 miles in distance. Several additional state resources are intersected by the L2 LOS profile. Viewer groups consisting of local residents, commuters, and recreationists may view the property from the public right-of-way.

As shown in the L2 LOS profile, the NRHP eligible “house” contains an unobstructed view to solar arrays across the Mohawk Valley. When considering the slim vertical scale of the solar arrays at a substantial viewing distance of 2.46 miles, as well as the potential diminishing effects of atmospheric haze, it is very unlikely that stationary observers would perceive the solar arrays from the subject dwelling. Further, the NRHP eligible “house” is located on private land, therefore, the public must view the dwelling from Mckinley Road in the opposite direction of the solar arrays (north). Overall, visual implications from this resource are considered negligible.

#### **10.2.2.3 L3 – Revolutionary Trail Scenic Byway, View West Southwest (LSZ 1, 2, 3, 4, 5; Distance 3.62 miles; Distance Zone 2)**

The L3 LOS profile originates from the Revolutionary Trail Scenic Byway (NY5) near the contiguous border shared by the Towns of Palatine and Mohawk. The LOS identified a partial view of solar arrays located on the peak of a slope, due east of Carlisle Road at a substantial 3.62 miles in distance from the observer. Several additional state resources of interest are intersected and identified on the L3 LOS profile. Viewer groups consisting of local residents, commuters, recreationists, and area-travelers would be present along NY5.

As mentioned, the Revolutionary Trail Scenic Byway contains a limited view to solar arrays on the crest of a slope at a substantial distance of 3.62 miles. Solar arrays are proposed at closer distances to the observer (near 3-mile marker) but are precluded by several tree forest groups and topography. The typical viewer types that use the scenic byway are known to be travelers/commuters, recreationalists/visitors, and local residents who will be traveling at high speeds (55-MPH) where landscape viewing will be experienced in brief spans. The general focus of the viewer will be emphasized in the direction of the traveled road (east-to-west), as opposed to the direction to the subject solar arrays, which are located south of the viewer. Further, at substantial viewing distances of 3.62 miles, solar arrays have the propensity to form dark masses that mimic patterns of existing vegetation and the ability to discern solar arrays at this great distance becomes extremely challenging, even at a stationary position. As a conclusion, the limited potential solar array visibility on Revolutionary Trail Scenic Byway is expected to be visually negligible due to the extensive viewing distance to the solar arrays, the screening effects of topography and vegetation, and the viewer activities (vehicular travel) that will prohibit stagnant views of the subject solar arrays.

### **10.3 Visual Impact Rating Results**

Section 9.0 briefly describes the concepts and methodology applied to rating Facility contrast through the process of evaluating photo-simulations. Because a landscape plan is proposed for the Facility (see Plan 7A Revised Attachment 7 for the abbreviated landscape plan and Appendix 5-2 for the full landscape plan), simulations illustrating representative views of the Facility with 0 to 2-year vegetative landscaping were rated against the existing condition photograph (see Revised Attachment 4). A second rating evaluation (Part 4) was performed to determine the effectiveness of the proposed 5-year landscaping by comparing to the ratings of Part 1 (the 0 to 2-year landscaping for each simulation) Please see Section 10.3.2 below for more information. Please refer to Section 11.0 for more information regarding visual impact minimization and mitigation strategies for the Facility.

To complete the visual impact ratings, three professional panelists with landscape architectural experience evaluated and rated the simulations against the existing condition photograph using the visual impact rating methodology described in Section 9.0. Panelist 1 have been trained in the field of landscape architecture, and Panelists 2 and 3 are a landscape designer. All three individuals are experienced evaluators and have completed ratings on previous solar facility applications.

Instructions on how to use the visual forms were provisioned and the intention of each rating category was explained to the panelists. Detailed information to facilitate the rating evaluation was supplied to each panelist, this included the Facility location information and the respective location of each simulated view. The terrain and street view features available on the Google Earth platform also provided panelists the ability to discern if other residences or vegetation are present or in the vicinity while also allowing them to view different angles. The panelists then applied the contrast ratings singularly and independently without consultation with or from any

other party. A full description of the methodology used in the rating process is available in Revised Attachment 6, as well as panelist qualifications, and the completed evaluation forms for each simulated VP.

Table 10-A below summarizes and averages the final rating scores completed by the rating panelists for Part 1 Visual Contrast, Part 2 Viewpoint Sensitivity, and Part 3 Existing Scenic Quality. For example, as illustrated in Table 10, VP 16 was identified as having a moderate visual contrast rating, a weak viewer sensitivity rating, and a weak scenic quality rating.

**Table 10-A. Visual Impact Rating Results**

VP	Location	Rating Panelist 1 JB			Rating Panelist 2 GT			Rating Panelist 3 AL			Average Ratings		
		Part 1 <sup>A</sup>	Part 2 <sup>B</sup>	Part 3 <sup>C</sup>	Part 1 <sup>A</sup>	Part 2 <sup>B</sup>	Part 3 <sup>C</sup>	Part 1 <sup>A</sup>	Part 2 <sup>B</sup>	Part 3 <sup>C</sup>	Avg Part 1 <sup>A</sup>	Avg Part 2 <sup>B</sup>	Avg Part 3 <sup>C</sup>
9	Carlisle Road from the community of Flat Creek	16.5	11	1	17.5	8.5	1	16	13	1	<b>16.7 M</b>	<b>10.8 WM</b>	<b>1 W/WM</b>
16	Conway Road	19	4	1	18.5	4.5	1	17.5	4.5	1	<b>18.3 MS</b>	<b>4.3 W</b>	<b>1 W</b>
21	Currytown Road near community of Currytown	11	10	1	8	11.5	2.5	11.5	12	1	<b>10.2 WM</b>	<b>11.2 WM</b>	<b>1.5 WM</b>
23	Latimer Hill Road	4	10.5	2	8.5	11	2.5	7	11.5	1	<b>6.5 W</b>	<b>11 WM</b>	<b>1.8 M</b>
31	Hilltop Road	19	10	1	19.5	10	1.5	21.5	11.5	1	<b>20 MS</b>	<b>10.5 WM</b>	<b>1.2 WM</b>
48	Intersection of Carlisle Road and Mahr Road, near the community of Flat Creek	14.5	10	1	17.5	10	1.5	13	13	1	<b>15 M</b>	<b>11 WM</b>	<b>1.2 WM</b>
62	South Gray Road	3	7.5	2	2.5	4	2	6	6	1.5	<b>3.8 VW</b>	<b>5.8 W</b>	<b>1.8 M</b>
83	Canajoharie Senior High School Athletic Fields	13.5	8	1	17.5	6	1.5	15.5	8.5	1	<b>15.5 M</b>	<b>7.5 W</b>	<b>1.2 WM</b>
85	Canajoharie Senior High School Athletic Fields	10.5	11	1.5	12	9	1	12	11.5	1	<b>11.5 WM</b>	<b>10.5 WM</b>	<b>1.2 WM</b>

VW=very weak, W=weak, WM= weakly moderate, M=moderate, MS=moderately strong, S=strong

<sup>A</sup>Part 1: Visual Contrast Rating (0 to 2-Years Post-Construction); <sup>B</sup>Part 2: Viewpoint Sensitivity Rating; <sup>C</sup>Part 3: Existing Scenic Quality Rating

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### **10.3.1 Summary of the Part 1 - 3 Rating Results**

In summary of the visual impact rating results with 0 to 2-year landscaping, VP 31 (Hilltop Road, Montgomery County Scenic Byway) obtained the highest Part 1 visual contrast rating with an average score of 20 out of 27. This represents a moderately strong visual contrast resulting from distinct Facility characteristics consisting of unobstructed solar panels within the foreground and a partially filtered sighting of the POI substations. The average Part 2 average rating of viewpoint sensitivity was rated as weakly moderate, meaning some viewer sensitivity due to long-duration views from rural-residences in combination with the road's Montgomery County Scenic Byway status. Panelists rated the Part 3 scenic quality of the existing conditions as weakly moderate, this suggests that the route may contain segments absent in significant scenic attributes. Further, it is important to note that Type C and D landscaping is proposed to screen views from adjacent rural-residential receptors and therefore will likely receive a reduction in visual contrast, however, one residential dwelling located behind the VP 31 observer may experience a similar perspective to what is presented in the simulation.

VP 16 (Conway Road) obtained the second highest Part 1 average visual contrast rating of 18.3 out of 27, meaning a moderately strong amount of visual contrast due to the Facility's appearance with 0 to 2-year landscaping, however, the panelists rated the viewpoint sensitivity and scenic quality of the existing view as weak, which panelists indicate is a result of the low volume of potential viewers, absence of visual resources, and commonness of the agricultural setting as compared to the region.

VP 9 (Carlisle Road from the community of Flat Creek) received a Part 1 rating with an average score of 16.7 out of 27, indicating moderate visual contrast with 0 to 2-year landscaping. While vegetative landscaping is proposed within the extents of the view, it does treat this particular vantage point due to the elevated position and setback distance of the solar array. Part 2 Viewpoint Sensitivity obtained an average rating of weakly moderate due to potential views from adjacent dwellings or motorists in conjunction to the presence of the county scenic byway. However, the Part 3 average scenic quality rating concludes that this perspective is weak/weakly moderate, as similarly discussed for VP 31 above, the scenic rating results suggest that some places along the scenic byway may not contain scenic attributes.

VP 48 (Intersection of Carlisle Road and Mahr Road, near the community of Flat Creek) received a Part 1 visual contrast rating of moderate with 0 to 2-year landscaping, likely attributed to the lower screening heights of the install size plantings. The Part 2 Viewpoint Sensitivity ratings were scored as weakly moderate, likely due to the Carlisle Road's recognition of a Montgomery County Scenic Byway. The Part 3 scenic quality ratings were entered as weakly moderate, which panelists suggest the view is typical for the region.

The VP 83 (Canajoharie Senior High School Athletic Fields) photo-simulation demonstrates a proximal view to the Facility from the Senior Soccer Field. VP 83 Part 1 average visual contrast rating conveys that a moderate visual change may occur with 0 to 2-year landscaping. VP 85 was

prepared from greenspace adjacent to the school building and received a Part 1 average rating of weakly moderate visual contrast, this is likely a result of the reduced visual scale of the Facility due to the distance between viewer and solar arrays. The Part 2 Viewpoint Sensitivity average rating for VP 83 resulted in a weak score, indicating that fewer viewers may experience sensitivity, however, VP 85 received a Part 2 Viewpoint Sensitivity score of weakly moderate which may be contributed to the observer's location near the school building. The Part 3 ratings of existing scenic quality was also rated as weakly moderate for both VPs, suggesting that the existing character of view is typical for the area.

VP 21 (Currytown Road near community of Currytown) obtained a weakly moderate Part 1 visual contrast rating, which is likely associated with the Facility's diminished visual effect when in Distance Zone 2. VP 21 was rated as weakly moderate under Part 2 Viewpoint Sensitivity, which is a result of the panelists indicating a low number of potential viewers, while also recognizing the presence of the Montgomery County Scenic Byway (Currytown Road). The Part 3 Scenic Quality evaluation of the existing conditions indicated that VP 21 contains weakly moderate scenic character. These ratings suggest that the existing scenic quality as seen from VP 21 may not be compelling within context to the Montgomery County Scenic Byway.

VP 23 (Latimer Hill Road) also obtained one of the lowest Part 1 average contrast rating that consists of a weak score, meaning little visual contrast. This score is associated with the Distance Zone 2 views to the Facility where the appearance of the solar arrays is naturally minimized as a consequence of distance.

VP 62 (South Gray Road) is listed as having the lowest Part 1 average contrast rating of very weak, while the Part 3 existing scenic quality was rated as moderate. Given that Part 2 Viewpoint Sensitivity was rated as weak, and the visual contrast of the Facility is rated as very weak, this emphasizes that the Facility has a negligible visual effect from VP 62 within Distance Zone 2.

### ***10.3.2 Comparative Summary of Part 1 and Part 4 Rating Results***

A comparative summary is provided with attention given to Part 1 and Part 4 of the rating results. The purpose of this comparison is to determine the effectiveness of the proposed 5-year landscaping against the 0 to 2-year landscaping to understand whether additional foliage growth will furnish any meaningful minimization and moderation to Facility contrast. Part 4 entails a second series of visual contrast ratings that were performed for the Facility. For Part 4 ratings, the panelists who rated Parts 1 through 3 were instructed to examine the photo-simulations with 0 to 2-year landscaping against photo-simulations with 5-year landscaping from each simulated viewpoint location. Panelists were then prompted to rate the change in visual contrast using the same nine rating elements as described in Part 1 (see Revised Attachment 6 for the complete Part 1 rating methodology). As shown in Table 10-B below, the average rating results of Part 1 – Contrast Ratings With 0 to 2-Year Landscaping are juxtaposed with the average rating results of Part 4 – Contrast Ratings of Facility With 5-Year Landscaping.

As indicated in Table 10-B, the average Part 4 contrast ratings received an approximate 40% to 50% reduction in visual contrast in comparison to the average Part 1 ratings. This emphasizes that the 5-year landscaping will meaningfully screen the Facility during leaf-on conditions. An exception is given to VPs 9, 21, 23, 31, 62 where minor reductions in contrast are achieved with 5-year landscaping. As mentioned in Section 10.2.1, VP 9 depicts rising topography and the treatment of landscaping within this perspective would not fully shield the solar arrays, and VP 31 depicts a segment of proposed landscaping in the photograph that provides screening to part of the substations from this perspective, but the view of solar arrays exists. Moreover, VPs 21, 23, and 62 are positioned within Distance Zone 2 where larger viewing distances have been shown to diminish the Facility contrast, as well as the proposed landscaping itself. Notwithstanding, as shown in Table 10-B, many locations have been treated with a robust landscaping plan and have received a notable reduction in Facility contrast.

**Table 10-B. Visual Impact Rating Results: 0 to 2-Year and 5-Year Landscaping**

VP	Location	Avg Part 1 – Contrast Ratings With 0 to 2-Year Landscaping	Avg Part 4 – Contrast Ratings With 5-Year Landscaping
9	Carlisle Road from the community of Flat Creek	16.7 M	16 M
16	Conway Road	18.3 MS	9.2 WM
21	Currytown Road near community of Currytown	10.2 WM	10.2 WM
23	Latimer Hill Road	6.5 W	6.5 W
31	Hilltop Road	20 MS	17.8 M
48	Intersection of Carlisle Road and Mahr Road, near the community of Flat Creek	15 M	8.5 W
62	South Gray Road	3.8 VW	3.8 VW
83	Canajoharie Senior High School Athletic Fields	15.5 M	9 W/WM
85	Canajoharie Senior High School Athletic Fields	11.5 WM	6.83 W

VW=very weak, W=weak, WM= weakly moderate, M=moderate, MS=moderately strong, S=strong

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## 11.0 VISUAL IMPACT MINIMIZATION AND MITIGATION PLAN

16 NYCRR Section 1100-2.9 (d) requires a VIMMP that includes proposed minimization and mitigation alternatives to avoid and minimize visual impacts to the maximum extent practicable. Appropriate and practicable measures to reduce visibility of solar development include mitigatory practices such as vegetative screening (landscaping), architectural design, visual offsets, relocation or rearranging Facility components, the reduction of component profiles, alternative technologies, facility color, and design lighting options for work areas and safety requirements. Please refer to Revised Attachment 7 to review the VIMMP documents.

### 11.1 Siting and Design

The Applicant implemented several minimization and mitigation strategies associated with the Facility's siting and design, which is outlined below as follows:

- Facility components are sited behind existing forested vegetation which is underscored by the minor predicted visibility expanses found south, west, east, and northeast in Distance Zone 2. In places where existing vegetation is unavailable in vicinity to the Facility, such as in open agricultural fields, the Applicant has proposed a landscaping plan for a positive screening effect. The proposed landscaping plan utilizes different planting modules based on the targeted setting and the proximity of sensitive receptors. Each planting module arrangement utilizes native species to reinforce and replicate the character of regional roadside vegetation and hedgerows. This conceptual planting plan was developed as a site-specific solution appropriate to the scale of the Facility and visual character of the existing landscape.
- The Facility components are sited to minimize potential visibility from significant federally listed visual resources and the most populated communities.
- Collection lines will be placed underground to decrease additional aboveground Facility visibility and associated impacts.
- Inverters are proposed to be sited toward the centroid of solar arrays to camouflage and obstruct views to the components.
- The Facility has been designed to conform with the minimum property and building setback distance in accordance with Section 1100-2.6(d) of the ORES regulations (see Exhibit 5 for more detail). The Applicant applied minimum setbacks of 250 feet from non-participating occupied residences, 100 feet from non-participating residential property lines, and 50 feet from the center line of public roads and non-residential, non-participating property lines.

- The Facility has been sited to circumvent and minimize vegetative clearing by utilizing open agricultural land. In addition to providing environmental protection, the minimization of tree clearing provides additional screening to Facility from public view.
- To avoid any new potential visual impacts pertaining to electrical overhead structures, the substation, POI switchyard, and transmission structures were sited adjacent to existing transmission right-of-way for immediate interconnection to the electrical grid.
- The Applicant proposes solar panels containing an antireflective coating. PV panels are designed to absorb light and minimize reflected light and glare. According to the Glare Analysis (see Section 11.9 as well as Plan 7C of Revised Attachment 7), the Applicant sited the Facility to avoid potential glare. In addition, the proposed landscaping plan around the perimeter mitigates glare, if any were to be produced.
- Racking systems consist of non-reflective metallic materials to reduce the potential for increased visual contrast.
- The Facility has been sited away from places with substantial population to minimize the number of potential viewers.
- During normal operations, most of the Facility will not be lit during nighttime hours. Within the onsite substation, manually-operated lighting will be provided in compliance with the National Electrical Safety Code. It will not be activated except during nighttime Operations and Maintenance (O&M) activities or in the case of an emergency response. Onsite O&M work activities will generally be limited to daylight hours. In the rare cases when nighttime O&M work is required, work lights will be limited to only those small work areas and will be directed downward and away from offsite receptors, to minimize light trespass and off-site spillage. Temporary work area lighting will be shut down at night, unless required for security purposes. Specifications for lighting are presented in Revised Attachment 7.

## 11.2 Downsizing and Low Profile

The breadth and lateral scale of the Facility is necessary to achieve the Facility's generating MW capacity to uphold the requirements of the Climate Leadership and Community Protection Act. However, throughout the Facility's iterative design process, reductions in Facility's footprint occurred to address environmental constraints, avoid sensitive resources, and for compliance with local laws to the maximum extent practicable. The Facility design was subject to several refinements of component siting that resulted in a reduced Facility layout, while still achieving the required MW capacity of the Facility. The proposed solar panels are anticipated to have a maximum height of 10 feet from finished grade, which resembles a low-profile height (less than a one-story building). Further, the Facility design employs tracker and bi-facial panel technology that which accommodates an even lower panel height during most daytime hours. If needed,

tracker systems allow for the ability to directly program and adjust panel tilt in select areas at certain times of day to mitigate glare, if necessary.

### **11.3 Alternate Technologies**

Alternate technologies generally do not exist that would substantially reduce the visibility and visual impact of the proposed Facility. However, the Facility is leveraging Bifacial solar panels that allow for light absorption on both sides of the panel, resulting in higher power generation. By employing bifacial technology, the solar arrays will need not conform to the full 10-foot height during the day. During midday times, the solar modules will be positioned horizontally, and visibility will be lessened. Further, with Bifacial solar panels, the Applicant can minimize the overall Facility footprint and still meet the required MW capacity.

### **11.4 Facility Color**

The colors of the Facility are described in the material analysis of Section 2.0. The neutral gray colors comprising the racking system, substation, inverters, and blue color of the solar modules cannot be modified as specifications and materials are inherent and standardized by the manufacturer (fabricated by mass production, either by automation or assembly lines). Solar panels are manufactured with polycrystalline, which is naturally blue in color and is best suited to reflect the least possible sunlight. However, as available, the POI transmission structures will be surfaced in self-weathering steel, which resembles a brown material, to mimic earthy colors of the existing environment. Further, the Applicant has proposed woven wire fencing around the perimeter of the solar panels to reinforce existing cultural/agricultural features within the local landscape.

### **11.5 Relocation and Rearranging Facility Components**

The Applicant performed multiple iterations of Facility design due to constraints including, but not limited to, shifts in land control, federal, state, and local regulations such as setback requirements, local zoning, sensitive resources and environmental protections (avoidance of wetlands, cultural resources, and protected habitats, etc.), noise and visual impacts, community feedback, and stormwater design.

### **11.6 Advertisements, Conspicuous Lettering, or Logos**

Other than warning and safety signs, no advertisements, conspicuous lettering, or logos will be permitted on Facility components.

### **11.7 Buried Electrical Collection System**

As described above, the collection system is proposed underground by either trenching and/or horizontal directional drilling (HDD).

### **11.8 Transmission Lines**

Transmission structures facilitating the POI shall have a non-glare finish. Use of a dark brown or green weathered steel dead-end structure shall be considered in the development of final engineered design.

### **11.9 Non-Specular Conductors**

Non-specular conductors will be implemented for the transmission line, electric collection system, as well as the electrical substation equipment to reduce light reflectance.

### **11.10 Glare for Solar Facilities**

A Glint and Glare Analysis was performed using ForgeSolar to identify any potential glint and glare impacts on nearby residences and roadways (included as Plan 7C in Revised Attachment 7). This analysis used methodology established by Sandia National Laboratories for Solar Glare Hazard Analysis Tool (SGHAT). This technology was developed by the Federal Aviation Administration (FAA) in cooperation with the Department of Energy (DOE), subsequently, ForgeSolar was then developed to supplement glint and glare assessments outside of the aviation industry.

The SGHAT analyzes the potential for glare over the entire calendar year from when the sun rises above the horizon until the sun sets below the horizon. The magnitude of glint and glare depends on several factors such as the sun's position, the location of the observer, and characteristics of the PV array including location, orientation, tilt, and optical properties (coatings) of the modules. Glare visibility from an observer's location is analyzed once array characteristics described above are determined. Ocular hazard potential is estimated based on the retinal irradiance and subtended angle (size/distance) of the predicted glare (Ho 2011). Potential ocular hazards associated with the phenomenon known as "glare" generally range from temporary after-image to retinal burn in extreme cases depending on the retinal irradiance and subtended angle. In order to capture these glare types, the SGHAT classifies solar glare into three distinct categories, denoted as "green," "yellow," or "red" glare.

- Green Glare is the mildest of the classifications and has low potential to cause after-image and no potential to cause retinal burn.
- Yellow Glare is a moderate level of glare and has some potential for temporary after-image and no potential to cause retinal burn.
- Red Glare is a serious and significant form of glare with potential to cause retinal burn and/or permanent eye damage. Typically red glare is not associated with solar projects, and the glare analysis finds no potential for red glare from the project.

The Glint and Glare Analysis evaluated 17 existing roadways and a total of 109 unique buildings that were identified in proximity to the proposed Facility using one and/or two-story receptor heights, depending on the height of the existing building. The following receptors were predicted to perceive some glare effect, however, given the conservatism in the model, further investigation was applied to each of the affected receptors to determine potential effect as noted below.

- **Conway Road:** When modeled and accounting for the proposed landscape screening, green glare is identified along a portion of Conway Road from Array 31. A targeted viewshed analysis was conducted for Array 31 accounting for the proposed landscaping vegetation. This viewshed showed that the proposed vegetation assisted in screening the roadway and residence to the north with the only potential visibility occurring at the break in the landscaping located at the entrance to Array 31 from Conway Road; however, the discrete location of visibility between the glare model and viewshed study do not overlap, which suggests that the estimated glare may not be visible from the roadway.
- **Residence OP13/OP14:** Green glare is estimated to be visible at both receptors of the two-story residence OP13/OP14 for a maximum in a day of 20 minutes from December to January between 10:00 to 11:00 am. These results account for the estimated location of proposed landscaping vegetation along the northern boundary of the Array 39 along with existing vegetation/tree lines located within the area. Following the glare study, a targeted

viewshed analysis was also conducted accounting for the proposed and existing vegetation was also conducted to determine the potential visibility of the array area producing glare, as shown in **Attachment 1** of the Glint and Glare report. This targeted viewshed analysis showed that the area was not visible from receptors at the residence of OP13/OP14. This shows that the results of the glare study may be an overestimation of what would be seen at the residence as the proposed landscaping and existing vegetation would assist in minimizing or mitigating the view of the array area.

- **Residence OP21/OP22:** Green glare is estimated to be visible at both receptors of the two-story residence OP21/OP22 for a potential maximum of 95 minutes in a day from the second-floor receptor; however, based on the information presented in **Attachment 1** of the Glint and Glare report, potential daily maximums vary during the estimated glare period. The estimated glare period is from November through January from approximately 12:00 to 2:00 pm. Existing vegetation is located along the southern and eastern boundary of this residence which would assist in minimizing view of this array area from the observer. This shown in the targeted viewshed analysis, which accounted for the existing and proposed vegetation (subject to the limitations of the viewshed analysis), which indicated a lack of full visibility of the impacting portion of the array at the residence.
- **Carlisle Road:** Green glare is estimated to be visible along a portion of Carlisle Road for a potential maximum of 30 minutes in a day; however, based on the information presented in **Attachment 1** of the Glint and Glare report, potential daily maximums vary during the estimated glare period. The estimated glare period is from November through January from approximately 10:00 to 11:00 am. Existing vegetation and proposed vegetation are located along the eastern boundary of the array area between the array and roadway which would assist in minimizing view of this array area from the observer. A targeted viewshed analysis was conducted from the impacting portion of this array (shown in Attachment 1) and Carlisle Road. Based on this targeted viewshed, the array along the impacted section of the roadway was not visible.
- **Mapletown Road:** Green and yellow glare is estimated to be visible along a portion of Mapletown Road for a potential maximum of 100 minutes in a day; however, based on the information presented in Attachment 1, potential daily maximums vary during the estimated glare period. The glare was estimated to occur from October to early March from 11:00 am to 3:00 pm. However, the limitations of the model may be overestimating potential glare from this array. As noted in the glare analysis report, limitations of the model may impact the results provided. As noted in Section 2.1 of the glare report, the SGHAT does not rigorously represent the detailed geometry of a solar panel array area. These detailed features include gaps between modules, variable heights of the PV array, and support structures that may all impact actual glare results. This impact can be evident in non-planar footprints (such as if the array area modeled is located on multiple sides of

a hill) in which the system would smoothen the footprint to place vertex elevations on a single planar surface. Ground topography within the modeled Array 39 area (covering approximately 61 acres) was seen to have varying topography within the array area. Hilled areas were noted within portions of the array area, including the southwestern portion of Array 39 which is the predicted glare spot for the glare observed along Mapletown Road. Due to the varying topography, it is likely that the SGHAT's internal processes may have adjusted portions of the array area to be more planar than Array 39 as a whole. This may have overestimated the glare results for the array.

In addition, the typical weather conditions are less ideal than the inputs and assumptions of the model during this period of the year (October to March) which would result in less glare and a reduction in the potential impact. Further, as detailed in the SGHAT model also assumes sunny weather conditions all year/day long, which is not typical for New York. Results for glare were typically observed during the fall, winter, to early spring months which generally have the least number of days that have clear sky conditions, which would reduce the potential glare observed. If glare is seen, it is unlikely to cause a significant nuisance. As noted, the results are located along a portion of the roadway, in which a vehicular observer would typically not be located within the impacted area of the road for an extended period of time. It should be noted that the Federal Aviation Administration (FAA) concluded in 2021 that in most cases, glint and glare from solar energy systems to pilots on final approach is similar to glint and glare pilots routinely experience from waterbodies, glass façade buildings, etc. This conclusion could be made for a motorist on a roadway as the observer is not anticipated to be stationary within a potentially impacted area.

Following the initial submittal of this glare analysis, the estimated glare impacts from Array 39, specifically the yellow glare estimated along Mapletown Road, were re-evaluated. This evaluation included conducting a study pertaining to the potential impact of the underlying variable ground topography on the estimated glare results for Array 39. As detailed in the Revised Glint and Glare Report (see **Revised Appendix 8-2**), to evaluate potential impacts from underlying ground topography, Array 39 was split into subarray areas. The subarray areas were generally based on the underlying topography as previously provided and remodeled based on the parameters and receptors of the initial analysis. As re-modeled, the glare previously identified was no longer identified in the model.

Overall, some receptors are predicted to only receive glare during dominant cloudy months during the winter, such that glare does not occur on overcast/cloudy days and is not accounted for in the glare predictions. Other receptors may not be affected by glare due to existing vegetation and structures, as confirmed by the focused viewshed study in the software. Please refer to the Glint and Glare report (Plan 7C of Revised Attachment 7) for more detailed information and the results pertaining to extent and significance of predicted glare. In the unlikely occurrence that glint or glare is experienced as a result of the Facility, the Applicant will evaluate further mitigation tools

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through the use of additional landscaping or operational adjustments, such as adjusting the resting angle of the responsible solar panel/s.

### **11.11 Planting Plan**

The Applicant is proposing a landscaping plan to minimize and mitigate visual impact to the surrounding environment. Landscaping, or vegetative screening, is generally the most optimal and effective mitigatory option for reducing visual change for solar development. Solar arrays are often low-profile, smaller than a single-story home, and have the propensity to be visually absorbed or screened by vegetative screening. Therefore, the proposed vegetative landscaping will reasonably minimize visual impacts in conformance with 16 NYCRR Section 1100.2.9 (d). It is important to consider that seasonality of vegetation (leaf-on foliage), maturation of plantings, and availability of existing vegetation may significantly improve the effects of screening. Further, attention has also been dedicated to the incorporation of evergreens in the landscape plan, which provide indefinite leaf-on foliage, regardless of the season.

The entire perimeter of the Facility was evaluated to identify adjacent receptors and observation angles. The arrangement of templates is based on the presence of adjacent receptors, area sensitivity, viewshed, and existing vegetation and topography. For example, areas that contain visual impediments between the Facility and a viewing location may not necessarily require landscaping due to the natural screening effects of existing topography and vegetation. Seldom seen areas without the characteristics of scenic integrity, where viewers are absent and/or the landscape is rarely viewed would also be inapplicable for a landscaping treatment. In certain locations, the installation of landscaping may be prohibited such as at utility crossings (overhead or underground) or at driveway entrances due to safety or access concerns.

There are five planting templates proposed for the Facility: Template A contains the most comprehensive screening with a predominant arrangement of deciduous and evergreen trees and is treated in places where existing vegetation is absent. Template B may be screen locations with an existing visual buffer consisting of existing vegetative hedgerows or a sparse placement of existing trees or rural roadways that are absent in development. Additional planting schemes include Template C is used in sensitive locations where enhanced screening measures are necessary, Template D bolsters thin tree hedgerows with additional vegetation for contrast minimization, and Template E as a suitable alternative to Template A for wet/moist areas. Plant species will be procured from local suppliers where possible. For both templates, installation of young and native species (heights range from 2 to 6 feet) is preferred to foster vitality, adaptability, and the minimization of potential die-off and replacement, however, in approximately 5-years post-construction, the plants may reach an average height of 7 to 17 feet (see Table 11). Overall, the site selection of plantings and associated templates were prioritized according to the degree sensitivity at a given location. This was completed to ensure that open and unobstructed views to the Facility were moderated.

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To naturalize the appearance of the installed landscaping, ornamental, pollinator-friendly, and small trees and shrubs have been incorporated into the plan and are placed in front of larger species. An abbreviated version of the landscaping plan can be found as Plan 7A in Revised Attachment 7. The full plan can be obtained in Appendix 5-2 of Exhibit 5 Design Drawings. The following items and concepts were applied to the plan:

- Planted vegetation will need suitable time to establish a meaningful height and breadth to provide appropriate visual screening while also maintaining minimum mature heights that will not shade Facility components, reducing power generation. See Table 11 below for an outline of the planting schedule for the Landscape Plan.
- Planting templates are proposed to parallel the Facility's fence perimeter as noted on the Landscaping Plan. Landscape templates A, B, C, D, and E are proposed for an approximate total of 31,100 linear feet (approximately 5.89 miles comprising 357 deciduous trees, 1,903 evergreen trees, and 3,426 deciduous shrubs). The proposed planting templates are outlined below:
  - Landscape Module Template Type A - Typical Screening: This planting scheme provides a high density of plantings and is intended for a maximum screening effect. This template is emphasized at sensitive receptors and non-participating residences. Approximately 806 evergreens trees, 154 deciduous trees, and 1,380 deciduous shrubs will comprise the Type A landscape template and will be implemented along 11,515 linear feet of the Facility's fence perimeter, approximately 37% of the overall proposed installed landscaping length. Please refer to Revised Attachment 7 Plan 7A for an illustrative representation of this planting template.
  - Landscape Module Template Type B – Supplemental Screening: This planting scheme provides a medium density of plantings proposed for use mostly along roads that traverse the Facility or as a buffer for places that do not contain a sensitive receptor or an adjacent resident. A total of approximately 1,055 evergreens trees, 243 deciduous trees, and 2,273 deciduous shrubs will comprise the Type B landscape template and will be implemented along 6,395 linear feet of the Facility's fence perimeter, approximately 21% of the overall proposed installed landscaping length. See Revised Attachment 7 Plan 7A for an illustrative representation of this planting template.
  - Landscape Module Template Type C – Enhanced Buffer/ Screening Effort: This planting scheme is proposed for the enhancement of visual screening for sensitive locations. Included in the template is 837 evergreens trees, 135 deciduous trees, and 702 shrubs with attainable heights of 7 to 17 feet in 5 years post construction. The Type B landscape template and will be implemented along 8,100 linear feet

of the Facility’s fence perimeter, constituting 26% he overall proposed installed landscaping length.

- Landscape Module Template Type D – Reduced Buffer/Screening Effort: This planting scheme provides additional vegetative enhancement to existing hedgerow areas as needed. Included in the template is intermixed species of shrubs with attainable heights of 8 to 15 feet at maturity, enough to moderate potential views of the Facility through thin wooded hedgerows, if necessary. The Type D landscape template and will be implemented along 5,090 linear feet of the Facility’s fence perimeter, constituting 16% he overall proposed installed landscaping length.
- Landscape Module Template Type E – Reduced Buffer/Screening Effort: This planting scheme is for wet/moist soil locations, and it is provided in the event that wet conditions are encountered. It is tended to be used as a substitute for Planting Template A.

As mentioned, the proposed plantings will sustain various growth rates (depending on the specific tree or shrub species) and are expected to realize heights between 7 to 17 feet in approximately 5 years after installation. Growth rates of plantings may continue unless a given plant has reached maturity. Table 11 provides the details regarding specie installation height, average projected 5-year average height, and mature height potential.

**Table 11. Plant Species Heights and Growth Rates of Proposed Landscape Plan**

Plant Species Common Name (Scientific Name)	Install Height Post Construction	Average Projected 5-Year Height Post Construction*	Mature Height
<b>Deciduous and Evergreen Trees</b>			
Downy Shadbush ( <i>Amelanchier Arborea</i> )	6 Feet	12 Feet	15 to 20 Feet
River Birch (Betula Nigra “Heritage”)	6 Feet	17 Feet	25 to 30 Feet
Eastern Red Cedar (Juniperus Virginiana)	5 to 6 Feet	13 Feet	40 to 50 Feet
White Spruce ( <i>Picea Glauca</i> )	5 to 6 Feet	13 Feet	40 to 60 Feet
Red Spruce (Picea Rubens)	5 to 6 Feet	12 Feet	50 to 70 Feet
<b>Shrubs</b>			
Red Chokeberry ( <i>Aronia Arbutifolia</i> )	24 to 30 Inches	7 Feet	7 to 10 Feet
Red Twig Dogwood ( <i>Cornus Sericea</i> )	24 to 30 Inches	7 Feet	7 to 9 Feet

Plant Species Common Name (Scientific Name)	Install Height Post Construction	Average Projected 5-Year Height Post Construction*	Mature Height
Common Witch Hazel ( <i>Hamamelis Virginiana</i> )	3 to 4 Feet	11 Feet	15 to 25 Feet
Common Winterberry ( <i>Ilex Verticillata</i> )	24 to 30 Inches	7 Feet	8 to 12 Feet
Highbush Blueberry ( <i>Vaccinium Corymbosum</i> )	24 to 30 Inches	8 Feet	6 to 12 Feet
American Cranberry ( <i>Viburnum Trilobal</i> )	24 to 30 Inches	9 Feet	8 to 10 Feet

\*Source: <https://www.arborday.org/trees/>

It is important to note that an annual O&M effort will be provided to ensure that proper care and attention is given to the proposed plantings once installed. Annual O&M efforts will include, but are not limited to, selective pruning, mowing, and monitoring of invasive species. Additionally, notes in the Landscaping Plan (Appendix 5-2 of Exhibit 5; see Abbreviated Landscaping Plan in Revised Revised Attachment 7, Plan 7A) provide further direction, recommendations, insight, and guidelines to ensure healthy, viable, and sustainable plantings throughout the life of the Facility.

### 11.12 Visual Offsets

Visual offsets are typically reserved for unique circumstances for when aesthetic impacts cannot be avoided. The New York Department of Environmental Conservation 2019 Assessing and Mitigating Visual and Aesthetic Impacts (Visual Policy) further elaborates that [visual offsets] should be employed where significant adverse impacts from a Facility are unavoidable, or mitigation of other types would be economically infeasible, or mitigation is only partially effective. The Visual Policy also describes that visual offsets should be considered as a last option when all mitigation, or avoidance strategies have been exhausted to mitigate adverse visual impact from important sensitive locations.

As demonstrated throughout the VIMMP (Revised Attachment 7) and Section 11.0, the Applicant has employed several avoidance, mitigation, and minimization measures. The most notable form of mitigation being vegetative landscaping where approximately 31,100 linear feet (5.89 miles) of proposed landscaping has been designed around the Facility to screen, minimize, and mitigate views from the most predicted areas of visibility and sensitivity. Proposed landscaping is also accompanied by the additional effort of preserving existing vegetation to the maximum extent possible for natural screening effects. Other forms of mitigation include siting the Facility away from large population centers and sensitive receptors, proposing underground collection lines, and siting the POI and substation components adjacent to existing transmission infrastructure to eliminate the need for additional above-ground structures. Visual contrast reduction strategies, such as applying setback distance to the Facility, has been implemented to decrease the visual scale of the Facility from non-participating landowners and public roadways. Other visual

improvement methods of the Facility include the utilization of woven wire fencing and greenspace and/or agricultural-use space between Facility setbacks allows partial retainment of the existing rural-agricultural characteristics within the landscape.

Since the Visual Policy underscores that all appropriate onsite measures should be employed prior to the consideration of a visual offset, no compensatory visual offsets (i.e., removal of an existing dilapidated structure to compensate for impacts) were used. As described within the VIMMP and VIA, the Applicant has used appropriate onsite measures to avoid, mitigate, and minimize visibility of the Facility.

### **11.13 Lighting Plan**

For the Facility, light fixtures are proposed within the substation and POI switchyard. The Substation and POI Switchyard Plan & Profile Drawings and Lighting Plan (see Plan 7B of Revised Attachment 7) illustrates the proposed positions, orientation, and tilt angle of the light fixtures. As a result, the plan indicates contour candela mapping as casted from each light source. All light fixtures at each substation are purposed for security, safety, and maintenance purposes and will remain off during regular operation. Lighting will be manually engaged for intermittent operations, maintenance, or emergencies.

Lighting has been designed to conform to the National Electrical Safety Code (NESC) to provide a minimum of 2 foot-candles around substation switches while managing and eliminating unnecessary light trespass beyond the POI switchyard and collection substation. Light fixtures will be mounted at minimum heights of 9 feet at the control house enclosures and a maximum height of 35 feet at the lightning masts and a-frame takeoff structures at the POI switchyard. Full cut-off fixtures and task lighting will be used wherever feasible, as specified in the Lighting Plan. One candela is equivalent to one lit candle. A minimal 0.1 candela occurs at the extents of the light sources. The lighting plan addresses the following, as applicable:

- As mentioned, manually activated lighting will be installed and available at the POI switchyard and collection substation for intermittent operations, maintenance, or emergencies. Lights are located on such structures as the control house enclosure, lightning masts, switches, and takeoff structures. Most light fixtures will be oriented downward to minimize potential impacts to surrounding receptors. Light fixtures with tilt angles are positioned at the control enclosure and one POI switchyard takeoff structure, however, the control enclosure's light fixtures contain full-cut off shielding and a minimal output of 209 lumens, and the single takeoff structure's light fixture is oriented to the southeast interior of the switchyard. As shown in Plan 7B of Revised Attachment 7, the lighting plan schematic demonstrate the lighting area needs, proposed lighting arrangement, and illumination levels to sufficiently provide safe working conditions at the substation and POI switchyard site.

- Should task lighting be implemented during the occurrence of nighttime maintenance, lights will be directed to the ground and/or work areas to confine the total maximum nighttime lighting output. Temporary work area lighting will be shut down at night, unless required for security purposes.
- The Lighting Plan was developed to minimize light creep and runaway light while meeting lighting standards established by the NESC. The proposed plan also complies with Occupational Safety and Health Administration (OSHA) requirements as proper illumination will be provided for all working spaces around the electrical equipment. All of which has been designed so that control points or persons making repairs will not be endangered by electrical hazards or other equipment.

## 12.0 VISIBILITY DURING CONSTRUCTION

Visibility of construction operation will be momentary in nature and will vary per location, however, most temporary visibility of construction activities will be focused to areas in and around the vicinity of the Facility Site. Construction visual contrasts would vary in frequency and duration throughout the course of construction. There may be periods of intense activity followed by periods with less activity and associated visibility would vary in accordance with construction activity levels. The construction phase of the Facility is temporary and is anticipated to expend up to 12 months. Please refer to Exhibit 16, Effect on Transportation, for details regarding road usage and frequency associated with Facility construction.

The summary of major construction undertakings includes the following actions:

- Building/upgrading/repairing access roads and local roadways (as applicable),
- Constructing temporary laydown areas,
- Cut and fill grading and earthwork,
- Removing a limited amount of vegetation from areas of construction,
- Delivery and transportation of components, materials, and equipment,
- Installation of solar arrays (driving piles, installing solar racking and modules),
- Constructing other Facility components (e.g., retention basins, substation, overhead transmission facilities, security fences),
- Construction of underground collection lines (trenching and/or HDD).

During construction, there will be an increase in vehicular traffic, equipment, and workers seen within the Facility Site and the immediate surrounding area. Construction may result in the temporary increase of dust; however, dust control measures are proposed as referenced in the

guidelines provisioned in the Civil Notes of General Environmental Restrictions, please review Appendix 5-1 of Exhibit 5, Design Drawings, of the Application for more information.

Construction of the Facility Site is expected to have a peak workforce of 88 construction workers during the estimate 12-month construction period, this equates to 88 daily trips consisting of Federal Highway Administration (FHWA) vehicle classification 1, 2, and 3 that may be arriving and/or departing the Facility Site, assuming individual travel accommodations. In addition to construction workforce trips, construction equipment and material delivery associated with constructing the Facility is estimated to comprise a total of 6,180 trips occurring throughout the 12 months of construction at an anticipated 25 trips per day. Approximately 5,228 of the 6,180 material/equipment trips are comprised of aggregate trucks transporting excavations (2,614 inbound trips and 2,614 outbound trips) to focused areas of the Facility Site due to cut and fill grading work, however, no additional fill material will be transported into the Facility Site. The discussion on construction vehicle types, number of trips, and construction activities is outlined in greater detail in Exhibit 16 Effect on Transportation.

Construction activities are proposed to be limited to 7 a.m. to 8 p.m. Monday through Saturday.

### **13.0 CUMULATIVE EFFECTS**

A cumulative effects analysis must be performed according to 16 NYCRR Section 1100.2.9 (a). Cumulative effects are discussed in this section based on available data related to large scale utility development within the VSA. An overview map is provided as Figure 5 of Attachment 2 to depict the approximate geographic locations of each development in relation to the Facility. Aside from the proposed Facility, there is one existing and one proposed utility development facility within the VSA. As mentioned in Section 3.5 and 3.6, these Facilities are described below and evaluated, as practicable, for cumulative effects in conjunction with the Facility.

#### **Nexamp Community Solar Farm at Caswell and Gray Roads**

The Nexamp Community Solar Farm is constructed within land north of South Gray Road and east of Caswell Road in the Town of Palatine. This existing community solar energy facility expends approximately 19 acres of land within the VSA.

The Facility solar array viewshed analysis indicated visibility potential along South Gray Road where existing views to the Nexamp solar farm are obtainable when facing north. While a simultaneous view of both existing and proposed facilities is not possible, a successional view of the Nexamp solar farm to the north, and then to the proposed Facility to the south, could be possible in a stationary position. As shown in the VP62 photo-simulation that was prepared adjacent to the Nexamp solar farm on South Gray Road, solar arrays are distinguishable within a distant beige field. Due to the distance between the viewer and the Facility (approximately 2 miles), and the speed of vehicles traveling along the road, a viewer would need to be halted along South Gray Road to discern both existing and proposed facilities. Although there are no amenities

or places that promote fixed viewing conditions, residents residing along South Gray Road that are adjacent to the Nexamp Community Solar Farm may experience a successional view to each facility. It is important to mention that views of the landscape without solar development will still be available from this location and the Facility will not encompass the entire landscape, but a small fraction of the view when facing south.

### Mill Point Solar II

The Mill Point Solar II Project is proposed by ConnectGen Montgomery County LLC. This proposed utility solar energy facility is expected to generate 100 MW of renewable energy within the Town of Glen in Montgomery County and would be approximately 3.5 miles east of the eastern most Facility solar array, outside of the Facility VSA. Land acquisition and lease agreements are ongoing and therefore a proposed design is unavailable.

Several unknowns regarding design and location of a proposed action can profoundly affect where predicted visibility may occur. A cumulative assessment of the Mill Point Solar II Project and the proposed Facility would likely result in a misrepresentation of potential cumulative visibility. Therefore, a cumulative visual impact analysis was not practicable to perform. However, based on the approximate location of the Mill Point Solar II Project (see Figure 5) to the Facility, and the significant 3.5-mile distance between each proposed project, it is assumed that cumulative visibility may occur in delayed succession, depending on route of travel, but as mentioned, the exact location of cumulative visibility is unknown and a cumulative assessment of the Mill Point Solar II Project and the proposed Facility would consist of unsubstantiated results.

### Mohawk Solar

Mohawk Solar LLC has proposed a 90.5 MW-AC solar project located in the Towns of Canajoharie and Minden in Montgomery County, NY. Spatially, Mohawk Solar is approximately 2.35 miles west of the Facility's westernmost solar array (near Carlisle Road), beyond the Facility VSA. In general, Mohawk solar will be sited on 900 non-contiguous acres primarily consisting of rural-agricultural land. According to the Mohawk Solar Matter Master 17-00668/17-F-0182 of the Article 10 proceeding, the last DPS communication occurred on April 28, 2022. At this time, there is no public information pertaining to the anticipated date of construction.

Notwithstanding, due to the (nearest) substantial distance between the Mohawk Solar project and the Facility (2.35 miles), potential cumulative impacts would be severely limited. A cursory review regarding potential cumulative impacts for both developments was undertaken through the examination of viewsheds. This included the Facility solar array viewshed (see Figure 3 of Attachment 2) and the Mohawk Solar Appendix 24-A "Appendix A" Composite Overlay Map, submitted to the DMM in February 2020. From thereof, only one potential cumulative view was identified on Seebers Lane in proximity to VP 92, within a 200-foot stretch of roadway. At this location the Facility and Mohawk Solar project would not be cohesively viewed. In this instance, a viewer would need to face southeast to attempt to discern the Facility at a 3-mile distance, and

then orient oneself west to view the Mohawk Solar panels (approximately 0.5-mile away). While viewshed visibility results suggest potential cumulative visibility of each development, the software does not consider the observer's travel speed, the small 200 section of visible roadway, and the depreciating effects (i.e., atmospheric haze, fog, image acuity, air particles, etc.) of viewing a 10-foot object (solar panel) at a significant 3-mile distance. Therefore, while the Mohawk Solar project may be discernible from Seebers Lane (0.5-mile viewing distance to Mohawk solar arrays), the Facility would be nearly imperceptible.

### East Point Solar

East Point Solar is a recently constructed 50 MW solar project located in the Town of Sharon, Schoharie County, NY. Geographically, this existing utility development is 4.1 miles south southwest of the Facility. Potential cumulative effects of each development would not coexist but could be experienced in delayed order during interregional travel, depending on a viewer's travel objective, destination, and selected route. According to the NYSDOT functional class viewer, there are no major routes or thoroughfares that traverse and/or connect the Facility and East Point Solar, consequentially, travel between each development would only be feasible through a series of interconnected local roadways. Consequentially, it is then reasonable to assume that a very limited number of local travelers or commuters may infrequently pass by or through the Facility and East Point Solar, however, as mentioned, the likelihood is low as no major or direct route connects each development.

## **14.0 SUMMARY CONCLUSIONS – VISUAL IMPACTS DURING OPERATION**

The information in the VIA provides a comprehensive visual assessment of the extent and significance of potential impacts associated with the Facility. Section 14, Summary Conclusions - Visual Impacts During Operation provides an overview of the VIA findings with supportive computerized analyses of the Facility and existing landscape. Section 10 should be consulted to obtain more information about the in-depth discussions of computerized analysis results. The following provides a summary of findings and impacts related to the Facility.

1. As indicated by the solar array viewshed results (see Figure 3 of Attachment 2), a total of 18.83% of limited predicted visibility is found within the VSA, in contrast, 81.17% of the VSA will not discern the solar arrays. In general, predicted visibility may constitute a view of a solar array at a proximal distance, or it may only be a small fragment of the top of a solar panel that is severely screened. Therefore, the mere presence of predicted visibility should not always be indicative of adverse visual impact. No areas within the VSA are predicted to have full visibility of the Facility's solar arrays. Full visibility is defined as an unobstructed view to the full extent of the Facility.
2. As mentioned in Section 4.0 and 5.0, distance zones and LSZs were identified within the VSA as provisioned in 16 NYCRR Section 1100-2.9(b)(1). Several LSZs were identified

and delineated within the VSA as Zone 1 Agricultural, Zone 2 Forested, Zone 3 Developed, Zone 4 Open, and Zone 5 River Corridor (see Figure 2 of Attachment 2 for a map depicting the LSZs within the VSA). According to Table 3, LSZ Zone 1 Agricultural is prevalent within the VSA (approximately 52% of VSA), where 16.62% of a total of 18.83% of solar panel visibility is predicted to occur. Given that 7.22% of VSA visibility occurs on agricultural lands belonging to participating landowners, it is then reasonable to assume that approximately 9.4% of (16.62%) LSZ Zone 1 Agricultural visibility encounters non-participating landowner parcels. While LSZ Zone 1 is abundant within the VSA, Zone 2 Forested comprises less with approximately 36.8% of land in the VSA where only 0.75% visibility is predicted. The remaining LSZ Zone 3 Developed (8% of land in VSA), Zone 4 Open (2.1% of land in VSA), and Zone 5 River Corridor (1.1% of land in VSA) are smaller contributors to the landscape where only 1.46% of solar panel visibility may occur in sensitive locations, such as developed areas (villages, residential, commercial, etc.), open areas (parks, cemeteries, greenspace, etc.) and the Mohawk River (river corridor).

3. Distance Zone 1 contains the highest percentage of potential solar array visibility (12.43% of the VSA), which generally correlates with LSZ Zone 1 Agricultural (16.62% of predicted visibility). A significant portion of Distance Zone 1 solar array sightings occur when in the immediate vicinity to the arrays (0 to 0.5-mile). Therefore, rural-residential viewers that are concurrently within LSZ Zone 1 Agricultural and Distance Zone 1 may have a higher probability to view the solar arrays, however, existing topography and/or forested vegetation (LSZ Zone 2 Forested) found in between these zones, as well as proposed landscaping, may diminish views to the Facility. Contrary to Distance Zone 1, Table 7 shows that 5.76% of solar panel visibility was predicted within Distance Zone 2. Given that LSZ Zone 1 Agricultural contains the highest concentration of predicted solar array visibility (16.62% of a total of 18.83%), visibility conditions to the solar arrays become elevated when in LSZ Zone 1 Agricultural and Distance Zone 2. As shown in the viewshed analysis (see Figure 3 of Attachment 2), the largest occurrence of solar array sightings in Distance Zone 2 and LSZ Zone 1 is found in rural upland, due north of the Mohawk River where the VP 62 photo-simulation confirmed views would result in minimal contrast due to the diminishing effects of distance in Distance Zone 2.
4. The proposed solar arrays will not be distinguishable from the Village of Canajoharie, nor the communities of Sprakers, Rural Grove, Root Center, Browns Hollow, and Mapletown. While solar arrays were predicted in very limited and remote areas within the Village of Palatine Bridge and community of Lykers, the minimal effects of viewing a small portion of the Facility at relatively large distances results in negligible impact. The highest concentration of predicted solar array visibility predominantly occurs within the communities of Currytown, Flat Creek in Distance Zone 1 and the broader rural area of Mckinley in Distance Zone 2. As illustrated in LOS profile L2 and photo-simulation VP 62 of Revised Attachment 4, Facility views from the broader Mckinley area in Distance Zone 2 would render a minimal visual change. While the Facility is expected to be most

discernible in the Communities of Flat Creek and Currytown, the viewing population is relatively low (2020 Census Population Estimates of 134 and 135, respectively; see Table 1). The Applicant has proposed a comprehensive landscaping plan, as well as other mitigation strategies to minimize Facility impact to the maximum extent practicable (See Section 11.0 and Revised Attachment 7 of the VIMMP). Further, not all viewers or residences of these communities will receive extensive views to the solar arrays as existing topography, tree forests, and proposed landscaping will collectively obscure or diminish direct line of sights.

5. The solar array viewshed visibility analysis presented in Figure 3 of Attachment 2 indicated that 29 out of 68 visual resources (see Table 4) received predicted visibility: 13 of the 29 visible resources were proposed by local or county constituents, the remainder of visible resources (16) are recognized by state and/or federal agencies, which comprise two NRHP listed historic districts, two NRHP listed sites, and four NRHP eligible sites. A description of each visual resource with potential views to the Facility are provided in Section 10.1.1.2 and 10.1.1.3.
6. Overall, 23 of the 29 visual resources with potential visibility receive little, if at all, visual effect due to the Facility (see Section 10.1.1 for a thorough discussion of each resource). The remaining six visual resources are in proximation to the Facility and may experience some degree of visual change and are identified as:
  - **NRHP Eligible Currytown Reformed Church (USN 05709.000071)**: Currytown Reformed Church is found on NY162 in the community of Currytown. As indicated in the viewshed results (Figure 3 of Attachment 2), solar arrays to the south southwest may be distinguishable at a distance of 360 feet from limited areas of the subject property, specifically, in portions of the southwest parking lot and lawn area and northeast lawn. Visitors to the church will not discern solar arrays when facing north toward the church, however, stationary viewers facing south may have an opportunity to glance at the Facility through swaths of existing vegetation and proposed landscaping. As shown in VP 75 of the Facility Photolog of Attachment 3, the presence of tree and scrub/shrub vegetation along Lasher Creek and within the nearby agricultural field, as well as proposed landscaping would soften the limited view of the solar arrays, especially during warmer seasons when foliage is established. The Currytown Reformed Church is eligible for listing in the NRHP under Criterion C in the area of architecture and its character defining features include its exterior architectural elements. The setting beyond the church's tax parcel boundaries does not contribute to the property's significance.
  - **Canajoharie Senior High School & Athletic Fields**: VP 83 (Canajoharie Senior High School Athletic Fields) Part 4 average visual contrast rating conveys that a weak to weakly moderate visual change may occur with 5-year landscaping; the panelist's consensus is that this landscaping contributes to a reduction the

Facility's visual effect. VP 85 was prepared from greenspace adjacent to the school building and received a Part 4 average rating of weak visual contrast, this is likely a result of the reduced visual scale of the Facility due to the distance between viewer and solar arrays. The Part 2 Viewpoint Sensitivity average rating for VP 83 resulted in a weak score, indicating that fewer viewers may experience sensitivity, however, VP 85 received a Part 2 Viewpoint Sensitivity score of weakly moderate which may be contributed to the observer's location near the school building. The Part 3 ratings of existing scenic quality was also rated as weakly moderate for both VPs, suggesting that the existing character of view is typical for the area. A variety of viewer types will utilize the fields during warmer seasons when leaf-on foliage is present, such as visitors and residents, consisting of recreational users, athletes, spectators, or school workers. Those athletes or recreational users conducting sport activities are not expected to focus on eastward views to the facility, but on the pursued activity by itself. Possible glimpses or brief views to the eastern solar arrays may occur over the tops of proposed plantings, however, recreationalist and athletes may dismiss this view as full attention is supplied to the partaken activity. However, as noted by the VP 85 simulation prepared in proximity to the high school building, as viewing distance increases, the solar arrays become subordinate to larger features of the local viewing environment and therefore will not demand immediate attention of observers.

- **Carlisle Road:** Two photo-simulations were prepared and evaluated by the rating panel from Carlisle Road (AADT 306). VP 9 (Carlisle Road from the community of Flat Creek) received the second highest visual contrast Part 4 rating with an average score of 16 out of 27, indicating moderate visual contrast with 5-year landscaping. While vegetative landscaping is proposed within the extents of the view, it does treat this particular vantage point due to the elevated position and setback distance of the solar array. Part 2 Viewpoint Sensitivity obtained an average rating of weakly moderate due to potential views from adjacent dwellings or motorists in conjunction to the presence of the county scenic byway. However, the Part 3 average scenic quality rating concludes that this perspective is weak/weakly moderate, the scenic rating results suggest that some places along the scenic byway may not contain scenic attributes. Proposed conditions in VP 9 may not be apparent to all motorist due the factor of motion and the short window of opportunity to view the arrays between residential homes and structures. A few residents residing near this section of Carlisle Road may experience a longer duration of view when facing south-southwest.

VP 48 (Intersection of Carlisle Road and Mahr Road, near the community of Flat Creek) received a Part 4 visual contrast rating of weak which is attributed to the proposed 5-year landscaping. VP 48 was rated as weakly moderate under Part 2 Viewpoint Sensitivity, which is a result of the panelists indicating the location

contains a low number of potential viewers, while also recognizing the presence of the Montgomery County Scenic Byways. The Part 3 Scenic Quality evaluation of the existing conditions indicated that VP 9 contains weakly moderate scenic character. These ratings suggest that existing scenic quality of VPs 9 and 48 are not compelling in context to the Montgomery County Scenic Byways.

The conclusions of the above summarized analyses suggests that visual contrast may be variable when traversing on Carlisle Road due to the varying effects of existing vegetation and topography that may promote or diminish visibility. The visual impact rating effort indicated that VP locations on Carlisle Road in vicinity to the Facility may not exhibit scenic characteristics, which suggests the Facility does not disturb the existing scenic integrity of the county scenic byway.

- **NRHP Eligible Rappa Road Cemetery (USN 05709.000152):** The results of LOS Profile L1 suggest that very few viewers (AADT 108; Rappa Road) visiting the NRHP eligible Rappa Road Cemetery may distinguish taller components of the POI switchyard and collection substation due to proposed landscaping with 5 years or growth, however viewers would need to face east to view the private cemetery from Rappa Road (the public right-of-way), in the opposite direction of the visible Facility (west). The Rappa Road Cemetery is eligible for listing in the NRHP under Criterion A in the area of social history and early settlement of the Town of Canajoharie. Although the Facility will be visible at certain discreet locations, this will not diminish the property's historical significance.
- **Hilltop Road:** VP 31 (Hilltop Road, Montgomery County Scenic Byway) obtained the highest Part 1 visual contrast rating with an average score of 17.8 out of 27. This represents a moderate visual contrast resulting from distinct Facility characteristics consisting of unobstructed solar panels within the foreground and a partially filtered sighting of the POI substations. The average Part 2 average rating of viewpoint sensitivity was rated as weakly moderate, meaning some viewer sensitivity due to long-duration views from rural-residences in combination with the road's Montgomery County Scenic Byway status. Panelists rated the Part 3 scenic quality of the existing conditions as weakly moderate, this suggests that the route may contain segments absent in significant scenic attributes. Further, it is important to note that Type C and D landscaping is proposed to screen views from adjacent rural-residential receptors on Hilltop Road and therefore will likely receive a reduction in visual contrast, however, one residential dwelling located behind the VP 31 observer may experience a similar perspective to what is presented in the simulation. While partial views to the Facility may be available on limited sections of Hilltop Road in Distance Zone 1, the relative number of local travelers or commuters (AADT 137) passing by the Facility would be relatively low.

- **Snowmobile Trails C7P, S72, S72A, and C7H:** The C7P, S72, S72A, and C7H trails have received proposed rerouting for trail sections that directly traverse through solar array locations (see Appendix 5-1 for the rerouting). For these reasons, most visibility will occur when passing a solar array in delayed succession. In this manner, not all of the trails' extents will contain visibility, but will rather be punctuated by spans of existing landscape and brief segments of foreground views to the solar arrays. For example, between Hilltop Road and Flat Creek Road, snowmobilers may travel 1.5 miles before encountering the Facility, in other instances, viewers from the snowmobile trails may visually experience closer intervals of solar arrays (e.g., S72A near Lincoln Road and Carlisle Road; 0.12-mile of length between each passing of a solar array group). In some trail settings, such as the C7H trail, a vast portion of the trail (in Distance Zone 2) will not sustain views of the Facility but will pass two solar array groups within Distance Zone 1.

7. A professional rating panel was assembled to evaluate Facility contrast, viewpoint sensitivity, and existing scenic quality for each developed photo-simulation. In addition to the VPs 9, 16, 23, 31, 48, and 83 discussed above, the following simulated locations were also rated under Part 4 contrast ratings of the Facility with 5-year landscaping:

VP 21 (Currytown Road near community of Currytown) received a Part 4 visual contrast rating of weakly moderate. The VP 21 ratings are likely a result of Facility's diminished visual effect when in Distance Zone 2. VP 21 was rated as weakly moderate under Part 2 Viewpoint Sensitivity, which is a result of the panelists indicating a low number of potential viewers travel the road, while also recognizing the presence of the Montgomery County Scenic Byway (Currytown Road). The Part 3 Scenic Quality evaluation of the existing conditions indicated weakly moderate existing scenic character. This rating suggests that existing scenic quality of VP 21 is not compelling in context to the Montgomery County Scenic Byway.

VP 16 (Conway Road) obtained a Part 4 average visual contrast rating of 9.2 out of 27, meaning a weakly moderate amount of visual contrast due to the Facility's appearance, however, the panelists rated the viewpoint sensitivity and scenic quality of the existing view as weak, which panelists indicate is a result of the low volume of potential viewers, absence of visual resources, and commonness of the agricultural setting as compared to the region.

VP 23 (Latimer Hill Road) also obtained one of the lowest Part 4 average contrast rating that consists of a weak score, meaning little visual contrast. This score is associated with the Distance Zone 2 views to the Facility where the appearance of the solar arrays is naturally minimized as a consequence of distance.

VP 62 (South Gray Road) is listed as having the lowest Part 4 average contrast rating of very weak, while the Part 3 existing scenic quality was rated as moderate. Given that Part 2 Viewpoint Sensitivity was rated as weak, and the visual contrast of the Facility is rated as very weak, this emphasizes that the Facility will likely have a negligible visual effect from locations north of the Mohawk River.

8. A comparative summary is provided with attention given to Part 1 and Part 4 of the rating results. The purpose of this comparison is to determine the effectiveness of the proposed 5-year landscaping against the 0 to 2-year landscaping to understand whether additional foliage growth will furnish any meaningful minimization and moderation to Facility contrast.

As indicated in Table 10-B, the average Part 4 contrast ratings received an approximate 40% to 50% reduction in visual contrast in comparison to the average Part 1 ratings. This emphasizes that the 5-year landscaping will meaningfully screen the Facility during leaf-on conditions. An exception is given to VPs 9, 21, 23, 31, 62 where minor reductions in contrast are achieved with 5-year landscaping. As mentioned in Section 10.2.1, VP 9 depicts rising topography and the treatment of landscaping within this perspective would not fully shield the solar arrays, and VP 31 depicts a segment of proposed landscaping in the photograph that provides screening to part of the substations from this perspective, but the view of solar arrays exists. Moreover, VPs 21, 23, and 62 are positioned within Distance Zone 2 where larger viewing distances have been shown to diminish the Facility contrast, as well as the proposed landscaping itself. However, as shown in Table 10-B, many locations have been treated with a robust landscaping plan and have received a notable reduction in Facility contrast.

9. The viewshed results of the POI components viewshed indicated that 10.25% of potential visibility may occur within the VSA. As shown in Table 8, this visibility is present within Distance Zone 1 (3.83%) and Distance Zone 2 (6.42%). As shown in the viewshed analysis if the POI components (see Figure 4 of Attachment 2), most pronounced views will be immediately adjacent to the site, this equates to sightings of the POI components from a confined section of Rappa Road and Hilltop Road, where LOS Profile L1 and photo-simulation VP 31 was prepared (see Revised Attachment 4). The findings of the L1 LOS conclude that collection substation components consisting of an a-frame takeoff structure and bus equipment will be momentarily distinguishable above proposed landscaping when passing the site. Two other residences found immediately south on Rappa Road may contain partial filtered views to taller POI components (a-frames, lighting masts, etc.) through a few tree hedgerows and proposed landscaping. As portrayed in the VP 31 simulation from Hilltop Road, views to the substations are partially filtered by an existing tree hedgerow. One residence is located 220 feet southwest of the photo location and may experience a similar perspective, however most residents in this general area will receive landscaping Type C and D coverage to moderate views to the POI components.

In Distance Zone 2, POI components were predicted to be discernible within 6.42% of the VSA. In general, the focus of the potential visibility is isolated to rural upland north of the Mohawk River, approximately 2.75 to 5 miles in distance. Given that the tallest POI components consist of two proposed transmission structures (140-foot height), lighting masts and a-frame takeoff structures (90-foot height), most visibility in Distance Zone 2 is anticipated to be a result of these taller structures. As mentioned, the Facility will interconnect to existing NYPA Transmission Line #352, which is adjacent to the POI components. As shown in photographs obtained from Distance Zone 2 (VPs 30 and 50; see Facility Photolog of Attachment 3) views to the existing NYPA Transmission Line #352 are abundant within the VSA, but the overall appearance of the existing structures (approximately 150 to 200-foot height) are greatly diminished. Therefore, from Distance Zone 2, sightings of the tallest POI components will be subordinate to the presence, scale, and visual dominance of the existing NYPA Transmission Line #352 and will likely be imperceptible in contrast to the dominating characteristics of the NYPA transmission line.

10. A total of three LOS profiles (L1, L2, and L3) were prepared within the VSA. Each LOS profile was performed from discrete state aesthetic resources where Facility visibility was predicted and terminates at the nearest discernible Facility component. Each LOS profiles may contain several pertinent sight lines from other state resources. The LOS profiles L2 and L3 illustrate that nearest solar panels are obstructed by existing topography and vegetation, and that a very limited section of solar panels may be discernible from the Mohawk River Historic District, NY5 Revolutionary Scenic Byway, and NRHP eligible "House" (USN 05708.000250) due to distances over 2.46 miles; However, the sighting of the arrays would generally be underwhelming (see VP 62 photo-simulation of Revised Attachment 4 for a representative example of how a 1.7-mile viewing distance diminishes Facility contrast).

The results of LOS Profile L1 suggest that very few viewers visiting the NRHP eligible Rappa Road Cemetery (AADT 108; Rappa Road) may distinguish taller components of the POI switchyard and collection substation, however viewers would need to face east to view the private cemetery from Rappa Road, in the opposite direction of the visible Facility (west). LOS Profile L1 as indicates that traffickers along Hilltop Road, a Montgomery County Scenic Byway) will likely experience a brief view to a foreground solar array.

11. A cumulative effects analysis was performed to several proposed and existing renewable solar power projects per 19 NYCRR Section 900.2.9 (a). In summary, there are no built or proposed non-Facility solar developments in vicinity to the Facility. The proposed Mohawk Solar project and existing Nexamp Community Solar Farm, located outside the VSA, may be seen with the Facility, such that the observer would be required to discretely view each development in opposite directions. Notwithstanding, the character of the potential view to the Facility from the potential cumulative areas would be insignificant due to the large viewing distances (ranging 2 to 3 miles).

12. The Facility does not have an adverse effect on a known listed scenic vista.
13. The Facility does not damage or degrade existing scenic resources.
14. In 5 years, post-construction of the Facility, the proposed landscape plantings are expected to mature and greatly reduce the limited amount of predicted solar array visibility (18.92%). The VIA herein conservatively evaluates the extent and significance of Facility visibility with the assumption that solar arrays will always assume a fixed maximum height, however the Facility leverages tracker and bi-facial panel technology for the solar arrays. The maximum height of a tracker system is sustained for only a short period during daylight hours as the racking makes continuous angle adjustments to follow the sun. Therefore, the panels will not sustain a maximum height and will be less visible at certain times.
15. The Facility does not create a new source of substantial light that would adversely affect nighttime views in the area.
16. The Glint and Glare Analysis evaluated 17 existing roadways and a total of 109 unique buildings that were identified in proximity to the proposed Facility using one and/or two-story receptor heights, depending on the height of the existing building. The following receptors were predicted to receive glare, however, further investigation was applied to each of the affected receptors to determine potential effect as noted below.
  - Conway Road: When modeled and accounting for the proposed landscape screening, green glare is identified along a portion of Conway Road from Array 31. A targeted viewshed analysis was conducted for Array 31 accounting for the proposed landscaping vegetation. This viewshed showed that the proposed vegetation assisted in screening the roadway and residence to the north with the only potential visibility occurring at the break in the landscaping located at the entrance to Array 31 from Conway Road; however, the discrete location of visibility between the glare model and viewshed study do not overlap, which suggests that the estimated glare may not be visible from the roadway.
  - Residence OP13/OP14: Green glare is estimated to be visible at both receptors of the two-story residence OP13/OP14 for a maximum in a day of 20 minutes from December to January between 10:00 to 11:00 am. These results account for the estimated location of proposed landscaping vegetation along the northern boundary of the Array 39 along with existing vegetation/tree lines located within the area. Following the glare study, a targeted viewshed analysis was also conducted accounting for the proposed and existing vegetation was also conducted to determine the potential visibility of the array area producing glare, as shown in Attachment 1 of the Glint and Glare report. This targeted viewshed

analysis showed that the area was not visible from receptors at the residence of OP13/OP14. This shows that the results of the glare study may be an overestimation of what would be potentially experienced at the residence as the proposed landscaping and existing vegetation would assist in minimizing or mitigating the view of the array area.

- Residence OP21/OP22: Green glare is estimated to be visible at both receptors of the two-story residence OP21/OP22 for a potential maximum of 95 minutes in a day from the second-floor receptor; however, based on the information presented in Attachment 1 of the Glint and Glare report, potential daily maximums vary during the estimated glare period. The estimated glare period is from November through January from approximately 12:00 to 2:00 pm. Existing vegetation is located along the southern and eastern boundary of this residence which would assist in minimizing view of this array area from the observer. This shown in the targeted viewshed analysis, which accounted for the existing and proposed vegetation (subject to the limitations of the viewshed analysis), which indicated a lack of full visibility of the impacting portion of the array at the residence.
- Carlisle Road: Green glare is estimated to be visible along a portion of Carlisle Road for a potential maximum of 30 minutes in a day; however, based on the information presented in Attachment 1 of the Glint and Glare report, potential daily maximums vary during the estimated glare period. The estimated glare period is from November through January from approximately 10:00 to 11:00 am. Existing vegetation and proposed vegetation are located along the eastern boundary of the array area between the array and roadway which would assist in minimizing view of this array area from the observer. A targeted viewshed analysis was conducted from the impacting portion of this array (shown in Attachment 1) and Carlisle Road. Based on this targeted viewshed, the visibility of the array along the impacted section roadway was not noted.
- Mapletown Road: Green and yellow glare is estimated to be visible along a portion of Mapletown Road for a potential maximum of 100 minutes in a day; however, based on the information presented in Attachment 1, potential daily maximums vary during the estimated glare period. The glare was estimated to occur from October to early March from 11:00 am to 3:00 pm. However, the limitations of the model may be overestimating potential glare from this array. As noted above, the array is located on variable topography, which would cause variability in heights of panels and simplification of the array's planar footprint in the model, which may impact the glare results. In addition, the typical weather conditions apparent during this period of the year (October to March) would also impact the results in the real world.

Overall, some receptors are predicted to only receive glare during dominant cloudy months during the winter, such that glare does not occur on overcast/cloudy days and is not accounted for in the glare predictions. Other receptors may not be affected by glare due to existing vegetation and structures, as confirmed by the focused viewshed study in the software. Please refer to the Glint and Glare report (Plan 7C of Revised Attachment 7) for more detailed information and the results pertaining to extent and significance of predicted glare.

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