APPENDIX C

VISUAL ASSESSMENT REPORT, INCLUDING PHOTO-SIMULATIONS

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VISUAL ASSESSMENT & PHOTO-SIMULATIONS

The United Illuminating Company

Town of Fairfield,
City of Bridgeport

BASED ON 50% DESIGN

FAIRFIELD TO CONGRESS RAILROAD TRANSMISSION LINE 115-kV REBUILD PROJECT

October 2022

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VISUAL ASSESSMENT & PHOTO SIMULATIONS

The United Illuminating Company ("UI" or the "Company") is proposing to rebuild its existing single-circuit 115-kilovolt (kV) overhead lines that extend approximately 7.8 miles[1] through Fairfield and Bridgeport (the "Project"). The existing circuits extend in a southwest-northeast direction within the Connecticut DOT ("CT DOT") railroad corridor, primarily on railroad catenary structures, starting at catenary structure B648S, east of Sasco Creek, along the CT DOT corridor in Fairfield to UI's Congress Street Substation in Bridgeport. At the request of UI, All-Points Technology Corporation, P.C. ("APT") completed this assessment to evaluate the potential visual effects of the Project from surrounding locations.

Project Setting

The Project corridor is located within a densely developed portion of southern Fairfield County. The general area contains multiple transportation corridors, including Interstate 95 ("I-95"), U.S. Route 1, and the CT DOT railroad corridor. The existing UI transmission lines and supporting infrastructure occupy areas along both the north and south sides[2] of the railroad corridor. CT DOT owns the railroad corridor, which varies in total width from 60 to 210 feet and, in the Project area includes four railroad tracks. The shared railroad and electrical corridor is visually distinctive as a result of the catenary structures, the UI transmission line support columns, referred to as "bonnets", located on top of the catenary structures, and the 115-kV lines themselves. In several areas, the transmission lines are attached to free-standing structures independent of the catenaries. Existing structures supporting UI's infrastructure range in height from approximately 60 feet above ground level ("AGL") to approximately 215 feet AGL, with the existing catenary structures and UI bonnets typically rising to a height of between 60 feet AGL and 80 feet AGL throughout the Project area.

The visual environment adjacent to the railroad corridor varies but is generally characterized by a mix of industrial and commercial areas. In addition to the I-95 and MNR corridor, the four MNR stations[3], PSEG's Bridgeport Harbor Generating Station, and UI's existing substations are examples of dominant landscape features in the Project area. Some areas along and in the vicinity of the railroad corridor also include single-family residences and town house developments. Because it traverses a near-coastal region, the railroad corridor also extends near and (in some areas) crosses inland/tidal wetlands, marshes and waterways, including Ash Creek and the Mill and Pequonnock Rivers.

The topography within the corridor and surrounding areas consists of relatively level terrain, and lacks high vantage points. Ground elevations range from sea level to approximately 40 feet above mean sea level ("AMSL") in the Project area. The edges of the railroad corridor are interspersed with mature mixed deciduous hardwood trees among narrow strips of primarily non-native, shrub/scrub invasive vegetation, escaped ornamentals associated with residential landscaping, and species common to freshwater and tidal wetlands.

Project Description

UI proposes to remove the existing transmission facilities from the railroad catenary structures and rebuild the 115-kV lines parallel to the CT DOT-owned corridor, on a combination of single- and double-circuit monopoles. With few exceptions, the proposed replacement structures will range from 100 feet to 135 feet AGL. The tallest structures will extend to approximately 195 feet AGL along the segment from the Pequonnock Substation to the Congress Street Substation in order to span both I-95 and portions of the west bank of the Pequonnock River. Once the transmission lines are rebuilt, most of the existing support bonnets and all of the existing 115-kV wires/infrastructure will be removed from the top of the catenaries. In addition, other electrical infrastructure that is no longer needed (e.g., certain legacy wood poles, steel poles, and lattice towers) will be removed during the construction of this Project.

Methodology

APT used the combination of a predictive computer model, in-field analysis, and a review of various data sources to evaluate the visibility associated with the Project on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of visibility throughout a pre-defined "Study Area" (in this case, one mile on either side of the railroad corridor) including private properties and other areas inaccessible for direct observations. The in-field analysis consisted of a field reconnaissance throughout the Study Area to record existing conditions, evaluate results of the model, and provide photographic documentation from publicly accessible areas. A description of the procedures used in the analysis is provided below.

[1] 7.6 miles of the project occur along the CT DOT corridor and 0.23 mile occur along the ROW between the MNR corridor and Ash Creek substation.

[2] UI's 1130 Line is supported on monopoles ranging in height from 80 to 120 feet AGL on the northern side of the railroad tracks. The Project does not involve any work on the 1130 line west of structure TP735N (I-95 crossing east of Ash Creek in Bridgeport).

[3] The four MNR stations include the Southport Train Station, Fairfield Train Station, Fairfield Metro Train Station, and Bridgeport Train Station.

Computer Modeling

To conduct this assessment, a predictive computer model was developed specifically for this project using ESRI's ArcMap GIS[4] software and available GIS data. The predictive model incorporates Project and Study Area-specific data, including: proposed transmission structure locations, heights and ground elevations; the surrounding topography; and existing vegetation and structures (the primary features that can block direct lines of sight).

A digital surface model ("DSM"), capturing both the natural and built features on the Earth's surface, was generated for the extent of the Study Area utilizing State of Connecticut 2016 LiDAR[5] LAS[6] data points. LiDAR is a remote-sensing technology that develops elevation data by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the "returns" can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," "surface water" or "building". Derived from the 2016 LiDAR data, the LAS datasets contain the corresponding elevation point data and return classification values. The Study Area DSM incorporates the first return LAS dataset values that are associated with the highest feature in the landscape, typically a treetop, top of a building, and/or the highest point of other tall structures.

Once the DSM was generated, ESRI's Viewshed Tool was utilized to identify locations within the Study Area where the proposed transmission structures may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells[7] within the DSM that can be seen from an observer location. Cells where visibility was indicated were extracted and converted from a raster dataset to a polygon feature which was then overlaid onto aerial photograph and topographic base maps. Since the DSM includes the highest relative feature in the landscape, isolated "visible" cells are often indicated within heavily forested areas (e.g., from the top of the highest tree) or on building rooftops during the initial processing. It is recognized that these areas do not represent typical viewer locations and overstate the potential visibility of the Project transmission structures. As such, the resulting polygon feature is further refined by extracting those areas. The viewshed results are also cross-checked against the most current aerial photographs to assess whether significant changes (a new housing development, for example) have occurred since the time the LiDAR-based LAS datasets were captured.

The results of the viewshed analysis are intended to provide a representation of those areas where at least a portion of the proposed replacement structures may potentially be visible to the human eye without the aid of magnification, based on a viewer eye-height of five (5) feet above the ground and the combination of intervening topography, trees and other vegetation, and structures. However, the Project infrastructure may not necessarily be visible from all locations within those areas identified by the predictive model, which has limitations. For instance, the computer model cannot account for mass density, tree diameters and branching variability of trees, or the fact that visibility decreases as distance increases. As a result, some areas depicted on the viewshed map as theoretically offering potential visibility of the Project may be over-predictive because the quality of those views is not sufficient for the human eye to recognize the infrastructure or discriminate it from other surrounding or intervening objects.

Seasonal Visibility

Visibility also varies seasonally with increased, albeit obstructed, views occurring during "leaf-off" conditions. Beyond the variabilities associated with density of tree stands found within any given Study Area, each individual tree also has its own unique trunk, pole timber and branching patterns that provide varying degrees of screening in leafless conditions which cannot be precisely modeled. Seasonal visibility is therefore estimated based on a combination of factors including, but not necessarily limited to, the types, sizes, and density of trees within the Study Area. Taking into account these considerations, areas depicting seasonal visibility on the Viewshed Analysis maps are intended to represent locations from where there is a potential for views through intervening trees, as opposed to indicating that leaf-off views will exist from within an entire seasonally-shaded area.

Field Reconnaissance

To supplement the results of the computer modeling efforts, APT completed in-field verification activities consisting of vehicular and pedestrian reconnaissance and photo-documentation. The field reconnaissance activities were completed on multiple occasions from January to March 2022 to obtain an understanding of existing views of the Project area during both leaf-on and leaf-off conditions.

Photographic Documentation and Simulations

During the Study Area reconnaissance, APT obtained photo-documentation of representative locations of existing conditions. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body[8] and Canon EF 24 to 105 millimeter ("mm") zoom lens.

[4] ArcMap is a Geographic Information System desktop application developed by the Environmental Systems Research Institute for creating maps, performing spatial analysis, and managing geographic data.

[5] Light Detection and Ranging

[6] An LAS (LASer) file is an industry-standard binary format for storing airborne LiDAR data.

[7] Each DSM cell size is 1 square meter.

[8] The Canon EOS 6D is a full-framed camera which includes a lens receptor of the same size as the film used in 35mm cameras. As such, the images produced are comparable to those taken with a conventional 35mm camera.

Photographic simulations were generated to portray scaled renderings of proposed replacement facilities based on current Project plans and engineering design from 14 representative locations along the Project corridor. Using field data, site plan information and 3-dimensional (3D) modeling software, spatially referenced models of the proposed infrastructure were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo-simulations were then created using a combination of renderings generated in the 3D model and photo-rendering software programs, which were ultimately composited and merged with the existing conditions photographs (using Adobe Photoshop image editing software). The scale of the subjects in the photograph (e.g., existing catenary structures with UI bonnets, free-standing poles and 115-kV lines) and the corresponding simulation (e.g., 115-kV single- and double-circuit) is proportional to the surroundings.

Photo-documentation of existing conditions and photo-simulations are presented in Attachment 1. The photographs presented in this report provide views of existing conditions along the Project corridor. The associated photo-simulations depict visual representations of the rebuilt 115-kV lines from vantage points near the railroad corridor. The simulations portray the proposed replacement monopoles and the removal of existing UI 115-kV facilities and bonnets from the CT DOT railroad catenary structures. The photo-simulations are intended to provide the reader with a general understanding of the proposed changes in view characteristics associated with development of the Project.

Conclusions

As presented in Attachment 2 on the viewshed mapping, the current zone of visibility associated with existing infrastructure generally extends to distances within 0.25 to 0.5 mile. At either end of the Project (east and west) and to the south, over undeveloped, open water and marsh, views extend to and, in some locations, beyond 1.0 mile. The visibility of the existing UI infrastructure encompasses approximately 2,855 acres of the 11,609-acre Study Area (or ±24.6%). Current year-round visibility is estimated to be ±2,424 acres, with approximately 1,044 acres occurring over open water. Seasonal visibility, when leaves are off the deciduous trees, is estimated to be an additional ±431 acres. Upon completion of the Project, the visibility is predicted to increase to approximately 3,365 acres, or ±29%. While there is a predicted increase in visibility of about 5%, there will be no substantive expansion of the existing viewshed footprint. For example, the installation of the new monopole structures associated with the Project would not significantly increase the existing viewshed in areas where the existing 1130 line monopole structures are located. Approximately 43% (±220 acres) of the increased predicted visibility occurs over open water.

As is the case today, at these distances (and beyond), the tops of the new transmission line structures and transmission circuits will not be prominent features, particularly in light of the amount of intervening existing development and infrastructure commonly associated with the railroad corridor and within the Project area.

Although some near-view locations will experience changes from existing conditions due to the relocation and modified heights of new structures, visual effects resulting from the Project are balanced by the removal of bonnets and other supporting infrastructure, particularly along the southern side of the railroad corridor. A total of 191 existing catenary bonnets and 11 free-standing structures will be removed (or, in one instance significantly lowered) as part of the Project and replaced with 103 new transmission line poles. Generally, existing catenary structures along the railroad corridor rise to heights of approximately 60 to 80 feet AGL and UI's removal of bonnets will decrease the height by approximately 15 to 20 feet. Although the new poles will be substantially taller than the existing bonnets, the increased heights allow for longer spans between poles, thus reducing UI's total infrastructure along the Project corridor.

Urban commercial development, transportation and electrical infrastructure, and open water/marshes are the dominant characteristics of the Project Area. In several locations, there are also residences in close proximity to the railroad corridor, most of which have at least partial views of existing railroad and electrical infrastructure today. In some locations where direct lines of sight exist at close distances, the new poles may become more prominent features of the landscape. However, given the significant reduction in catenary bonnets and longer distances between UI support structures, several other locations will have less infrastructure in the viewshed.

Limitations

The photo-simulations in Attachment 1 provide a representation of potential views after the Project is developed, under similar settings as those encountered during the field reconnaissance. Views can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location.

The viewshed maps presented in Attachment 2 depict areas where portions of the Project may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of five (5) feet above the ground and taking into consideration intervening topography, tree canopy, and existing development.

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ATTACHMENT 1

PHOTO KEY, LOGS &
SIMULATIONS

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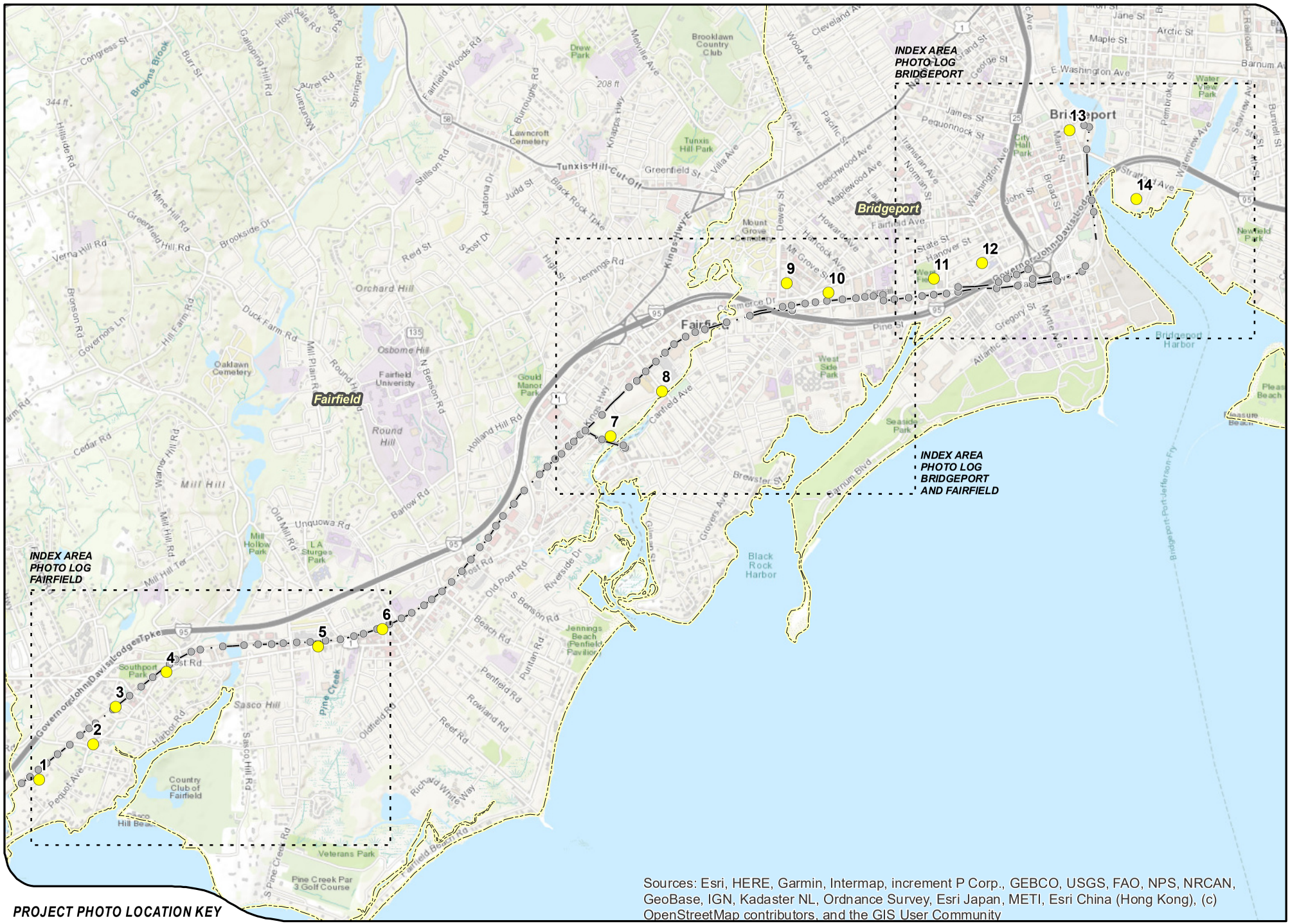
PHOTO KEY

Photo No.	Location	Existing Transmission Line Infrastructure Depicted in Photograph	Project Modifications Depicted in Simulation
1	South Gate Lane - Fairfield; south of railroad corridor in a residentially developed area.	Center of Photo: Monopole structure on the north side of railroad tracks Right of Photo: Two catenary structures with bonnets on the south side of railroad tracks and one monopole structure on the north side of railroad tracks.	Bonnets and existing southern 115-kv facilities removed; two new steel pole located on south side of railroad tracks to be installed. P651S in center of photo; P652AS behind evergreen on right side of photo.
2	Pequot Avenue - Fairfield; south of railroad corridor within Southport Historic District.	Left of Photo: One catenary structure with bonnet on the south side of railroad tracks. Center of Photo: Three (one is not visible due to tree blocking view) catenary structures with bonnets on the south side of railroad tracks; one catenary structure with bonnet and one monopole structure on the north side of railroad tracks. Right of Photo: One catenary structure with bonnet on the south side of railroad tracks.	Five bonnets on the south side of railroad tracks and existing southern 115-kv facilities removed; one new steel pole located on south side of railroad tracks to be installed.
3	Station Street - Fairfield; Southport Railroad Station parking lot looking northeast.	Catenary structure with bonnet on south side of railroad tracks and a steel pole on north side of railroad tracks.	Bonnet and existing southern 115-kv facilities removed; two new steel poles located on south side of railroad tracks to be installed.
4	Pequot Avenue - Fairfield; south of railroad corridor. Post Road (Route 1) to the north, residentially developed area.	Two catenary structures with bonnets on south side and north side of railroad tracks. One steel monopole on north side of tracks.	Two bonnets on the south side of the railroad tracks and existing southern 115-kV facilities will be removed. Two new steel poles to be installed on the south side of railroad tracks.
5	Post Road - Fairfield; south of railroad corridor in a commercially developed area.	Catenary structures with bonnets on the south side of the railroad tracks. Five existing monopole structures on north side of the railroad tracks.	Bonnets and existing southern 115-kV facilities will be removed. Seven new steel poles to be installed on the south side of railroad tracks.
6	Carter Henry Drive at Miller Street - Fairfield; south of railroad corridor in a MNR parking lot looking northeast.	Three catenary structures with bonnets on the south side of railroad tracks; two monopole structures on north side of the railroad tracks.	Bonnets and existing southern 115-kV facilities will be removed. Two new steel poles will be installed on the south side of railroad tracks.
7	Fairfield Metro Conservation Area - Fairfield; south of railroad corridor looking southeast towards Ash Creek Substation.	Double Circuit Lattice Tower approaching Ash Creek Substation	Double Circuit Lattice Tower removed. Two new single circuit steel poles will be installed.
8	Ash Creek Boulevard - Fairfield; south of railroad corridor in a commercially developed area.	Four catenary structures with bonnets on the south side of the railroad tracks; two monopole structures on the north side of the railroad tracks	Bonnets and existing southern 115-kV facilities will be removed. One new steel pole will be installed on the south side of railroad tracks.
9	Ash Street at Bedford Avenue - Bridgeport; north of railroad corridor in a mixed residential/industrial area.	One catenary structure with bonnet on the south side of the railroad tracks; one monopole structure on the north side of the railroad tracks.	Bonnet, top of monopole, and existing 115-kV facilities will be removed.
10	Bostwick Avenue - Bridgeport; north of railroad corridor in industrially developed area.	Catenary structures with bonnets on the north and south sides of railroad tracks.	Bonnets and existing 115-kV facilities will be removed. Six new steel poles to be installed.
11	Norman Street - Bridgeport; north of railroad corridor in dense residentially developed area adjacent to Went Field.	Catenary structures with bonnets on the north and south sides of railroad tracks.	Bonnets and existing 115-kV facilities will be removed. Four new steel poles to be installed on the south side of railroad tracks.
12	Black Rock Avenue - Bridgeport; north of railroad corridor in dense residentially developed area.	Catenary structures with bonnets on the north and south sides of railroad tracks (beyond I-95 overpass in this photo). Two existing transmission poles south of I-95.	Bonnets and existing 115-kV facilities will be removed. Two new steel poles to be installed.
13	Water Street - Bridgeport; west of railroad corridor in downtown/transit area of Bridgeport.	Eleven catenary structures with bonnets on the north and south sides of railroad tracks.	Bonnets and existing 115-kV facilities will be removed. One steel pole will be installed on the south side of tracks.
14	East Main Street - Bridgeport; west of Pequonnock River looking west towards downtown Bridgeport.	Monopole and lattice tower on north and south side of I-95, respectively.	Monopole and lattice tower and 115-kV facilities will be removed. One steel pole will be installed on the south side of I-95.



PROJECT PHOTO LOCATION KEY

Legend

Photographic Location · Proposed Structure — Project Transmission Line ▭ Municipal Boundary

N W E S

1 0.5 0 1 Miles

ALL-POINTS TECHNOLOGY CORPORATION

UI

PHOTO LOG, FAIRFIELD
(PHOTOS 1-6)

Legend

Photographic Location | Proposed Structure | Project Transmission Line | Municipal Boundary

N W E S

1,000 500 0 1,000 Feet

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
1	**SOUTH GATE LANE - FAIRFIELD**	**NORTH**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
1	**SOUTH GATE LANE - FAIRFIELD**	**NORTH**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
2	**PEQUOT AVENUE - FAIRFIELD**	**NORTHWEST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
2	**PEQUOT AVENUE - FAIRFIELD**	**NORTHWEST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
3	**STATION STREET - SOUTHPORT TRAIN STATION**	**NORTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
3	STATION STREET - SOUTHPORT TRAIN STATION	NORTHEAST

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
4	**PEQUOT AVENUE - FAIRFIELD**	**NORTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
4	**PEQUOT AVENUE - FAIRFIELD**	**NORTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
5	**POST ROAD - FAIRFIELD**	**NORTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
5	**POST ROAD - FAIRFIELD**	**NORTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
6	CARTER HENRY DRIVE AT MILLER STREET - FAIRFIELD TRAIN STATION	NORTHEAST

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
6	**CARTER HENRY DRIVE AT MILLER STREET - FAIRFIELD TRAIN STATION**	**NORTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

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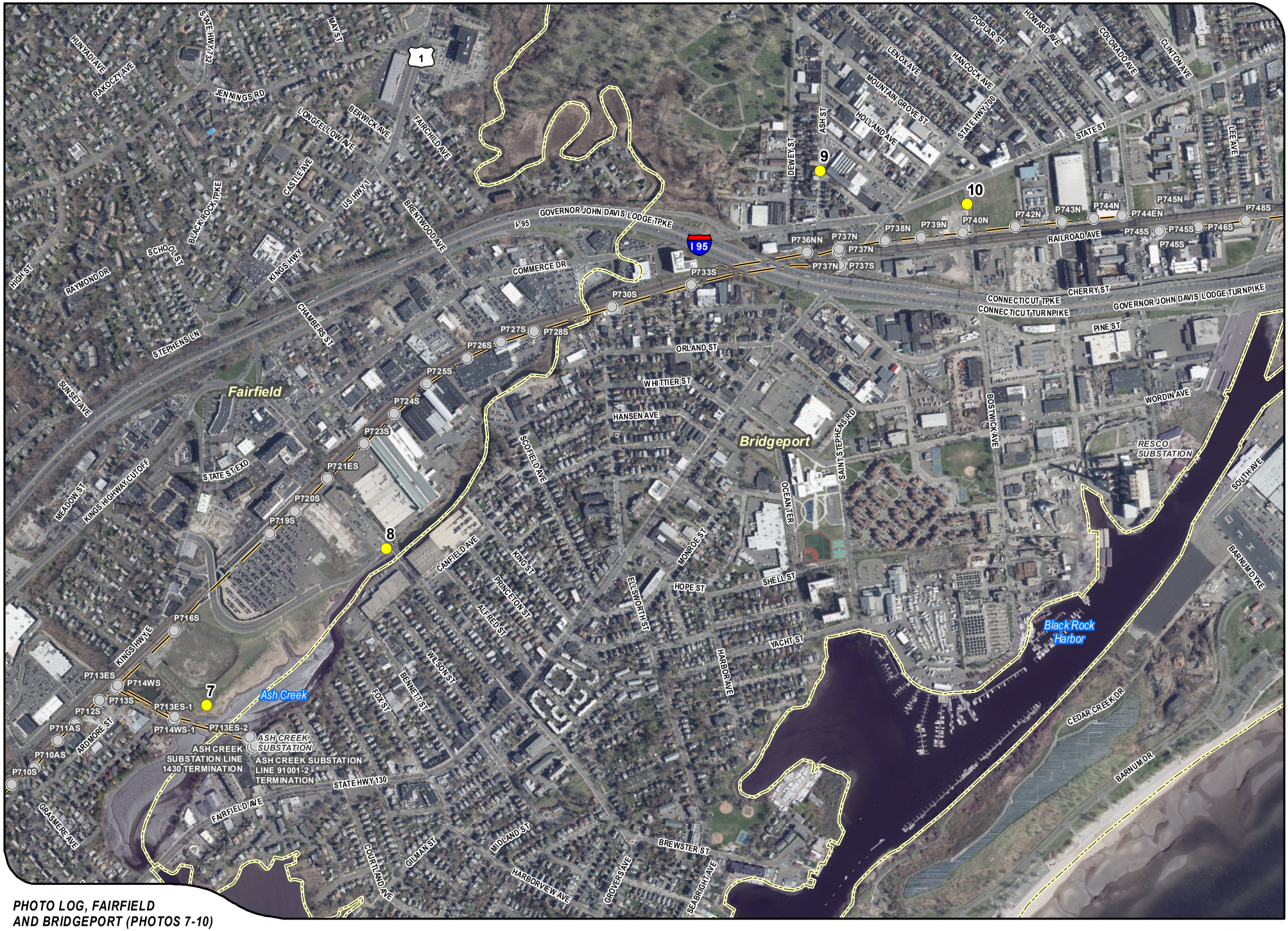

PHOTO LOG, FAIRFIELD AND BRIDGEPORT (PHOTOS 7-10)

Legend

Photographic Location | Proposed Structure | Project Transmission Line | Municipal Boundary

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
7	**FAIRFIELD METRO CONSERVATION AREA - FAIRFIELD**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
7	**FAIRFIELD METRO CONSERVATION AREA - FAIRFIELD**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
8	**ASH CREEK BOULEVARD - FAIRFIELD**	**NORTHWEST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
8	**ASH CREEK BOULEVARD - FAIRFIELD**	**NORTHWEST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
9	**ASH STREET AT BEDFORD AVENUE - BRIDGEPORT**	**SOUTH**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
9	**ASH STREET AT BEDFORD AVENUE - BRIDGEPORT**	**SOUTH**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
10	**BOSTWICK AVENUE - BRIDGEPORT**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
10	**BOSTWICK AVENUE - BRIDGEPORT**	**SOUTHEAST**

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PHOTO LOG, BRIDGEPORT
(PHOTOS 11-14)

Legend

Photographic Location | Proposed Structure | Project Transmission Line | Municipal Boundary

N W E S

1,000 500 0 1,000 Feet

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
11	**NORMAN STREET - BRIDGEPORT**	**SOUTHWEST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
11	**NORMAN STREET - BRIDGEPORT**	**SOUTHWEST**

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UI

EXISTING

PHOTO	LOCATION	ORIENTATION
12	**BLACK ROCK AVENUE - BRIDGEPORT**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
12	**BLACK ROCK AVENUE - BRIDGEPORT**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
13	**WATER STREET - BRIDGEPORT**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
13	**WATER STREET - BRIDGEPORT**	**SOUTHEAST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

EXISTING

PHOTO	LOCATION	ORIENTATION
14	**EAST MAIN STREET - BRIDGEPORT**	**WEST**

ALL-POINTS TECHNOLOGY CORPORATION

UI

PROPOSED

PHOTO	LOCATION	ORIENTATION
14	**EAST MAIN STREET - BRIDGEPORT**	**WEST**

ALL-POINTS TECHNOLOGY CORPORATION

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ATTACHMENT 2

VIEWSHED ANALYSIS MAPPING

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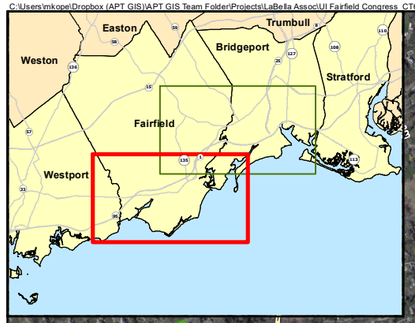

Map Sheet 2
Map Sheet 1

Bridgeport

Fairfield

Westport

Round Hill
157.44' AMSL

Mill Hill
167.28' AMSL

Sasco Hill
93.28' AMSL

Mill River

Ash Creek

Black Rock Harbor

Southport Harbor

Sasco Brook

Pine Creek

Long Island Sound

Tavernweather Island

PERRYS MILL PONDS

FAIRFIELD COUNTY HUNT CLUB

MILL HOLLOW PARK

STURGES PARK

ROGER LUDLOW HIGH SCHOOL

MILL HILL ELEMENTARY SCHOOL

TOMLINSON JUNIOR HIGH SCHOOL

ASH CREEK OPEN SPACE

SOUTH BENSON BOAT BASIN

SAINT MARYS BY-THE-SEA

SEASIDE PARK (INCLUDING BARNUM FIELD)

GOVERNMENT COMMONS

YMCA

RUGBY PARK

PENFIELD BEACH

VETERANS PARK

COMMUNITY SERVICE CENTER

OLD FIELD MARSH OPEN SPACE

SANITARY LAND FILL

PINE CREEK MARSH

PINE CREEK RECREATION AREA

PAR 3 GOLF COURSE

OLD DAM ROAD MARSH OPEN SPACE

COUNTRY CLUB OF FAIRFIELD

SASCO BEACH

GREENS FARMS ROAD

2016 CTECO Map Service Coastal Imagery

Legend

- Proposed Structure
- Project Transmission Line
- Year-Round Visibility (2,884 Acres; +/- 1,264 Acres occur over open water)
- Areas of Potential Seasonal Visibility (+/- 481 Acres)
- Study Area (1 Mile Radius)
- Half Mile Radius
- Municipal Boundary
- Scenic Highway
- Trail
- DEEP Boat Launches
- Municipal and Private Open Space Property
- State Forest/Park

Protected Open Space Property

- Land Trust
- Municipal
- Private
- State

N

1,000 500 0 1,000 Feet

Limitations

This map depicts areas where proposed infrastructure may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy, and existing structures. This analysis is based on a combination of computer modeling, incorporating the DSM, and 2019 digital aerial photographs.
This analysis does not necessarily depict all locations where views may occur. It is intended to provide a representation of those areas where at least a portion of the new facilities may be seen, but may actually over-predict visibility in some locations.

Physical Geography / Background Data

Study area encompasses a 1-mile radius surrounding the proposed structures and includes 11,609 acres.
A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points.
The DSM captures the natural and built features on the Earth's surface.
Forest canopy height derived from LiDAR data.

Map Sources

*Note: Not all data layers appear on map sheet.
Ortho Base Map: State of Connecticut 2016 (coast) and 2019 aerial imagery (CTECO Map Service)
CTDEEP's data library (http://www.ct.gov/deep)
Data layers are maintained and updated by CTDEEP and represent the most recent publications.
Scenic Roads: CTDOT State Scenic Highways (2015)
Connecticut Forest and Parks Association, Connecticut Walk Books East and West

Map Date: June 10, 2022

Proposed Conditions Viewshed Analysis Map
Railroad 115-kV Transmission Line Upgrade Project
Fairfield to Congress Street Substation

Bridgeport, Farifield, and Westport, CT
Map Sheet 1 of 2

UI

All-Points Technology Corporation

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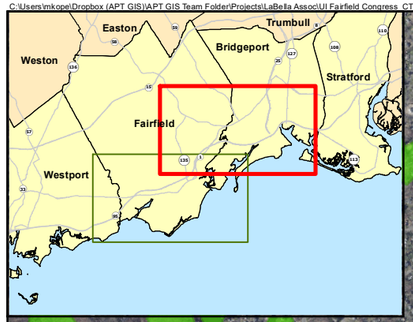

Fairfield
Bridgeport
Stratford
Mount Laurel Park Open Space
Mill River
Springer Glen Open Space
Perry's Mill Ponds
Drew Park (Natural)
Andrew Warde High School
Brooklawn Country Club
McKinley Elementary School
Tunxis Hill Park
Tunxis Hill 160.72' AMSL
Meetinghouse Hill 55.76' AMSL
Pequonnock River
Orchard Hill 138.67' AMSL
Osborne Hill 157.23' AMSL
Round Hill 157.19' AMSL
Tanaka Park
Gould Manor Park
West Side II Park
Seaside Park (Including Barnum Field)
Newfield Park
Pleasure Beach Park
Black Rock Harbor
Bridgeport Harbor
Long Island Sound
Ash Creek
Map Sheet 2
Map Sheet 1

Legend

- Existing Structure
- Project Transmission Line
- Year-Round Visibility (2,424 Acres; +/- 1,044 Acres occur over open water)
- Areas of Potential Seasonal Visibility (+/- 431 Acres)
- Study Area (1 Mile Radius)
- Half Mile Radius
- Municipal Boundary
- Scenic Highway
- Trail
- DEEP Boat Launches
- Municipal and Private Open Space Property
- State Forest/Park

Protected Open Space Property

- Land Trust
- Municipal
- Private
- State

N

1,000 500 0 1,000 Feet

Limitations

This map depicts areas where existing infrastructure may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy, and existing structures. This analysis is based on a combination of computer modeling, incorporating the DSM, and 2019 digital aerial photographs.
This analysis does not necessarily depict all locations where views may occur. It is intended to provide a representation of those areas where at least a portion of the existing infrastructure may be seen, but may actually over-predict visibility in some locations.

Physical Geography / Background Data

Study area encompasses a 1-mile radius surrounding the existing structures and includes 11,609 acres.
A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points.
The DSM captures the natural and built features on the Earth's surface.
Forest canopy height derived from LiDAR data.

Map Sources

*Note: Not all data layers appear on map sheet.
Ortho Base Map: State of Connecticut 2016 (coast) and 2019 aerial imagery (CTECO Map Service)
CTDEEP's data library (http://www.ct.gov/deep)
Data layers are maintained and updated by CTDEEP and represent the most recent publications.
Scenic Roads: CTDOT State Scenic Highways (2015)
Connecticut Forest and Parks Association, Connecticut Walk Books East and West

Map Date: June 10, 2022

Existing Conditions Viewshed Analysis Map
Railroad 115-kV Transmission Line Upgrade Project
Fairfield to Congress Street Substation

Bridgeport, Fairfield, and Stratford, CT
Map Sheet 2 of 2

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