

# Visual Assessment & Photo-Simulations

WILTON SOUTH CT  
TOWN OF WILTON  
180 SCHOOL ROAD  
WILTON, CT

*Prepared in January 2023 by:*  
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*Prepared for Verizon Wireless*



## **VISUAL ASSESSMENT & PHOTO-SIMULATIONS**

Cellco Partnership, d/b/a Verizon Wireless ("Verizon Wireless") is seeking approval for the development of a new wireless communications facility (the "Facility") at 180 School Road in Wilton, Connecticut (the "Host Property"). At the request of Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed this assessment to evaluate the potential visual effects of the proposed Facility from within a two-mile radius (the "Study Area"). The Study Area extends approximately to the municipal boundaries of New Canaan to the southwest and Weston to the northeast.

### **Project Setting**

The Host Property is a 109.27-acre, Town-owned parcel located west of Danbury Road (U.S. Route 7) and developed with Wilton High School, associated athletic fields and facilities, the Cider Mill Elementary School, a community center, a school bus depot, and an associated service shop. The proposed Facility would be located east of the bus parking lot ("Site"). Land use within the immediate area is primarily a mix of municipal/institutional and residential development to the north/northwest of the Host Property and, to a lesser extent the west and south. Commercial development predominates along Route 7 to the east.

The topography within the Study Area consists of relatively hilly terrain. Ground elevations range from approximately 137 feet above mean sea level ("AMSL") in the southeastern portion of the Study Area to approximately 604 feet AMSL in the northwestern portion of the Study Area. Tree cover within the Study Area (consisting primarily of mixed deciduous hardwoods) occupies approximately 5,236 acres (or  $\pm 65.1\%$ ) of the 8,042-acre Study Area.

### **Project Undertaking**

The proposed Facility would be located at a ground elevation of approximately 378 feet AMSL and include a 123-foot tall brown monopole designed to resemble a pine tree ("monopine"). Associated ground-mounted equipment would be placed within a gravel based fenced compound surrounded by an 8-foot high chain link fence with privacy slats. Verizon Wireless would install antennas with a 120' above ground level ("AGL") centerline. The Facility has been designed to accommodate multiple service providers. Access to the Site would be gained from School Road over an existing paved drive and parking area<sup>1</sup>.

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<sup>1</sup> Verizon Wireless is coordinating access with the Town of Wilton, please refer to Site Layout sheet L-2 "Option A" and "Option B".



## 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 proposed Facility on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of visibility throughout the entire Study Area, including private properties and other areas inaccessible for direct observations. The in-field analysis consisted of a crane test and field reconnaissance of the Study Area to record existing conditions, verify results of the model, inventory seasonal and year-round view locations, and provide photographic documentation from publicly accessible and private areas. A description of the procedures used in the analysis is provided below.

### Preliminary Computer Modeling

To conduct this assessment, a predictive computer model was developed specifically for this project using ESRI's ArcMap GIS<sup>2</sup> software and available GIS data. The predictive model incorporates Project- and Study Area-specific data, including the Site location, its ground elevation and the proposed Facility height, as well as the surrounding topography, 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<sup>3</sup> LAS<sup>4</sup> 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 Facility may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells<sup>5</sup> within the DSM that can be seen from an observer location. Cells

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<sup>2</sup> 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.

<sup>3</sup> Light Detection and Ranging

<sup>4</sup> An LAS file is an industry-standard binary format for storing airborne LiDAR data.

<sup>5</sup> Each DSM cell size is 1 square meter.

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 visibility. 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 preliminary analysis are intended to provide a representation of those areas where portions of the Facility 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 Facility may not necessarily be visible from all locations within those areas identified by the predictive model, which has its limitations. For instance, the computer model cannot account for mass density, tree diameters and branching variability of trees, or the degradation of views that occurs with distance. As a result, some areas depicted on the viewshed maps as theoretically offering potential visibility of the Facility may be over-predictive because the quality of those views is not sufficient for the human eye to recognize the Facility 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 woodland 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, as introduced above, cannot be precisely modeled. Seasonal visibility is therefore estimated based on a combination of factors including the type, size, and density of trees within a given area; topographic constraints; and other visual obstructions that may be present. Considering these dynamics, areas depicting seasonal visibility on the viewshed 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.

### **Crane Test and Field Reconnaissance**

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a crane test, vehicular and pedestrian reconnaissance, and photo-documentation. The crane test and field reconnaissance were completed on

December 2, 2022. The crane test consisted of positioning a crane at the proposed Facility location and extending the crane boom with a brightly-colored (red) flag to the top height of the tower ( $\pm 123$  feet AGL). This provided a fixed object unaffected by wind. Weather conditions were favorable for the in-field activities with partly cloudy skies.

APT conducted a Study Area reconnaissance by driving along local and State roads, other publicly accessible locations, and select private residential properties to document and inventory where the boom/flag could be seen above and through the tree canopy and other visual obstructions. Visual observations from the reconnaissance were also used to evaluate the results of the preliminary visibility mapping and identify any discrepancies in the initial modeling.

### **Photographic Documentation and Simulations**

Visual observations from the reconnaissance were used to evaluate the results of the preliminary visibility mapping, including identifying any discrepancies in the initial modeling, and to obtain photo-documentation from representative locations within the Study Area. Photographs were taken with a Canon EOS 6D digital camera body<sup>6</sup> and Canon EF 24 to 105 millimeter ("mm") zoom lens. The coordinates of the boom/flag (i.e., the proposed tower location) were entered as a "waypoint" into a handheld global positioning system ("GPS") device, with the "find" tool on the GPS unit then used to provide the distance and orientation to the flag position. The geographic coordinates of each photo location were recorded as meta data using GPS technology internal to the camera. APT typically uses a standard focal length of 50mm to present a consistent field of view. On occasion, photos are taken at lower focal lengths to provide a greater depth of field and to provide context to the scene by including surrounding features within the photograph. During this evaluation, four (4) photographs were taken at a 35mm focal length and two (2) were taken at 24mm focal length, as noted in [Table 1 – Photo Locations](#).

Photographic simulations were generated to portray scaled renderings of the proposed Facility from 22 locations presented herein where the Facility may be recognizable above or through the trees. Using field data, site plan information and 3-dimensional (3D) modeling software, spatially referenced models of the Site and Facility 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

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<sup>6</sup> 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.



photograph (the crane boom and flag) and the corresponding simulation (the Facility) is proportional to their surroundings.

For presentation purposes in this report, the photographs were produced in an approximate 7-inch by 10.5-inch format. When reproducing the images in this format size, we believe it is important to present the largest view while providing key contextual landscape elements (existing developments, street signs, utility poles, etc.) so that the viewer can determine the proportionate scale of each object within the scene. Photo-documentation of the field reconnaissance and photo-simulations of the proposed Facility are presented in the attachment at the end of this report. The field reconnaissance photos that include the flag in the view provide visual reference points for the approximate height and location of the proposed Facility relative to the scene. The corresponding photo-simulations were created to represent the proposed monopole and antennas. The photo-simulations are intended to provide the reader with a general understanding of the different view characteristics associated with the Facility from various locations. Photographs were taken from publicly accessible areas and select private residential parcels, and unobstructed view lines were chosen wherever possible.

Table 1 – Photo Locations summarizes the photographs and simulations presented in the attachment to this report, and includes a description of each location, view orientation, distance from where the photo was taken relative to the Site, and the general characteristics of the view. The photo locations are depicted on the photolog and viewshed maps provided as attachments to this report.

**Table 1 – Photo Locations**

Photo	Location	Orientation	Distance to Site	Height of Facility Visible	Visibility
1	Ridgefield Road*	Northeast	± 0.51 Mile	N/A	Not Visible
2	Lovers Lane at Merwin Lane	North	± 0.53 Mile	N/A	Not Visible
3	Merwin Meadows Park	Northwest	± 0.57 Mile	N/A	Not Visible
4	Old Ridgefield Road	Northwest	± 0.94 Mile	N/A	Not Visible
5	Village Market	Northwest	± 0.79 Mile	10'-20'	Seasonal
6	Ridgefield Road	Northwest	± 0.66 Mile	N/A	Not Visible
7	Danbury Road	Northwest	± 0.98 Mile	N/A	Not Visible
8	Perry Green Condos – Danbury Road	Northwest	± 0.50 Mile	N/A	Not Visible
9	Danbury Road	Northwest	± 0.41 Mile	N/A	Not Visible
10	Hurlbutt Street at Hyland Drive	Southwest	± 1.32 Miles	N/A	Not Visible
11	Ambler Farm	Southwest	± 1.25 Miles	20'-30'	Year Round
12	Wicks End Lane	Southwest	± 1.55 Miles	N/A	Not Visible
13	Cannon Road at Pimpewaug Road	Southwest	± 1.04 Miles	N/A	Not Visible
14	Danbury Road	Southwest	± 1.35 Miles	N/A	Not Visible
15	Allens Meadows Park	Southwest	± 0.96 Mile	N/A	Not Visible
16	Catalpa Road at Kristine Lilly Way	Southwest	± 0.46 Mile	N/A	Not Visible
17	Kristine Lilly Way	Southwest	± 0.36 Mile	N/A	Not Visible
18	Kristine Lilly Way	Southwest	± 0.36 Mile	N/A <sup>^</sup>	Seasonal
19	Cider Mill School	Southwest	± 0.27 Mile	N/A	Not Visible
20	Catalpa Road	South	± 0.26 Mile	N/A	Not Visible
21	Richdale Drive	Southwest	± 0.16 Mile	40'-50'	Year Round
22	Richdale Drive	Southwest	± 0.13 Mile	10'-20'	Seasonal
23	Olmstead Hill Road at Hemmelskamp Road	Southeast	± 1.11 Miles	N/A	Not Visible
24	English Drive	Southeast	± 0.97 Mile	N/A	Not Visible
25	Signal Hill Road	Southeast	± 1.31 Miles	N/A	Not Visible
26	Drum Hill Road	East	± 0.80 Mile	N/A	Not Visible
27	Middlebrook Farm Road at Middlebrook Lane	East	± 0.58 Mile	N/A	Not Visible
28	Middlebrook Farm Road	Southeast	± 0.58 Mile	N/A	Not Visible
29	School Road	Southeast	± 0.50 Mile	N/A	Not Visible
30	School Road	Southeast	± 0.42 Mile	10'-20'	Year Round
31	Hunting Ridge Lane	Southeast	± 0.26 Mile	N/A	Not Visible
32	School Road*	Southeast	± 0.13 Mile	N/A	Not Visible
33	School Road	Southeast	± 0.11 Mile	20'-30'	Seasonal

\*Photograph was taken at 35 mm focal length.

\*\*Photograph was taken at 24 mm focal length.

<sup>^</sup>Facility not visible above ridge line

**Table 1 – Photo Locations Continued**

Photo	Location	Orientation	Distance to Site	Height of Facility Visible	Visibility
34	Middlebrook School*	Northeast	±0.16 Mile	30'-40'	Year Round
35	Middlebrook School	Northeast	± 0.15 Mile	40'-50'	Year Round
36	Middlebrook School**	East	± 342 Feet	80'-90'	Seasonal
37	School Road**	Northeast	± 301 Feet	100'-110'	Seasonal
38	Middlebrook School*	Northwest	± 0.13 Mile	40'-50'	Seasonal
39	11 Cider Mill Place***	Northwest	± 0.20 Mile	N/A	Seasonal
40	15 Richdale Drive	South	± 0.15 Mile	50'-60'	Year Round
41	9 Richdale Drive	South	± 0.17 Mile	30'-40'	Year Round
42	9 Richdale Drive	South	± 0.18 Mile	20'-30'	Seasonal
43	83 Catalpa Road	Southeast	± 0.21 Mile	20'-30'	Seasonal
44	41 Hunting Ridge Lane	Southeast	± 0.23 Mile	30'-40'	Seasonal
45	41 Hunting Ridge Lane	Southeast	± 0.23 Mile	20'-30'	Seasonal
46	87 Catalpa Road	Southeast	± 0.26 Mile	20'-30'	Seasonal
47	103 Catalpa Road***	Southeast	± 0.31 Mile	N/A	Seasonal
48	119 Middlebrook Farm Road	Southeast	± 0.47 Mile	20'-30'	Seasonal
49	135 Middlebrook Farm Road	Southeast	± 0.56 Mile	20'-30'	Year Round
50	135 Middlebrook Farm Road	Southeast	± 0.56 Mile	10'-20'	Year Round

*\*Photograph was taken at 35 mm focal length.*  
*\*\*Photograph was taken at 24 mm focal length.*  
*\*\*\*No photo-simulation prepared for this location – highly obstructed by intervening trees.*

### Final Visibility Mapping

Information obtained during the field reconnaissance was incorporated into the mapping data layers, including observations of the field reconnaissance, the photograph locations, areas that experienced recent land use changes and those places where the initial model was found to over or under-predict visibility. Once the additional data was integrated into the model, APT recalculated the visibility of the proposed Facility within the Study Area.

### Conclusions

As presented on the attached viewshed maps and photo-simulations, year-round visibility of the Facility would be primarily limited to areas of the Host Property and over portions of additional Town-owned property south of School Road. Year-round visibility also would extend up to approximately 0.55-mile to the northwest in the Turner Ridge area (see Photos 49 and 50 as



examples) and over portions of the Rolling Hills Country Club and Ambler Farm (see Photo 11) over one-mile away to the northeast.

Seasonal visibility, when leaves are off the deciduous trees, would occur within 0.5-mile of the Site (see Photo 18 for a representative example). Seasonal visibility will extend to the north of the site throughout residential properties, primarily along Catalpa Road. Seasonal visibility is also anticipated along portions of Pimpewaug Road near the intersection with Danbury Road, and along Danbury and Ridgefield Roads in the vicinity of the Wilton Train Station at distances up to approximately 0.75-mile.

The combined predicted visibility associated with the proposed Facility could extend up to  $\pm 89$  acres, or  $\pm 1.1\%$  of the 8,042-acre Study Area. Nearly half of the combined predicted visibility, approximately 43.8% ( $\pm 39$  acres) occurs on Town-owned properties.

Predicted year-round visibility ( $\pm 12$  acres) is limited generally to within 0.25-mile of the Site, half of which occurs on Town-owned property, including the Middlebrook School (see Photos 34 and 35, which provide representative views from these locations).

Predicted seasonal visibility includes an additional  $\pm 77$  acres. Similar to the predicted year-round visibility, a large portion of the predicted seasonal visibility ( $\pm 33.7$  acres, or  $\pm 43.76\%$ ) would occur on Town property.

The results of the viewshed modeling and crane test photographs demonstrate that the Facility's visibility would be restricted to a small geographic area. The proposed camouflage design, combined with its relatively low height and surrounding mature hardwoods and conifers will assist in limiting the Facility's visibility to neighboring locations. The proposed monopine design is appropriate in this setting and would soften views of the Facility, particularly from residential properties to the north and south.

### **Proximity to Schools And Commercial Child Day Care Centers**

No schools or commercial child day care centers are located within 250 feet of the proposed Facility. Middlebrook School is located approximately 0.08-mile ( $\pm 450$  feet) south of the Site at 131 School Road in Wilton. Photos 34 and 35 depict visibility from this property. The Goddard School of Wilton child care center is located approximately 0.41-mile northeast of the Site at 385 Danbury Road in Wilton. No visibility is anticipated from the child care center.

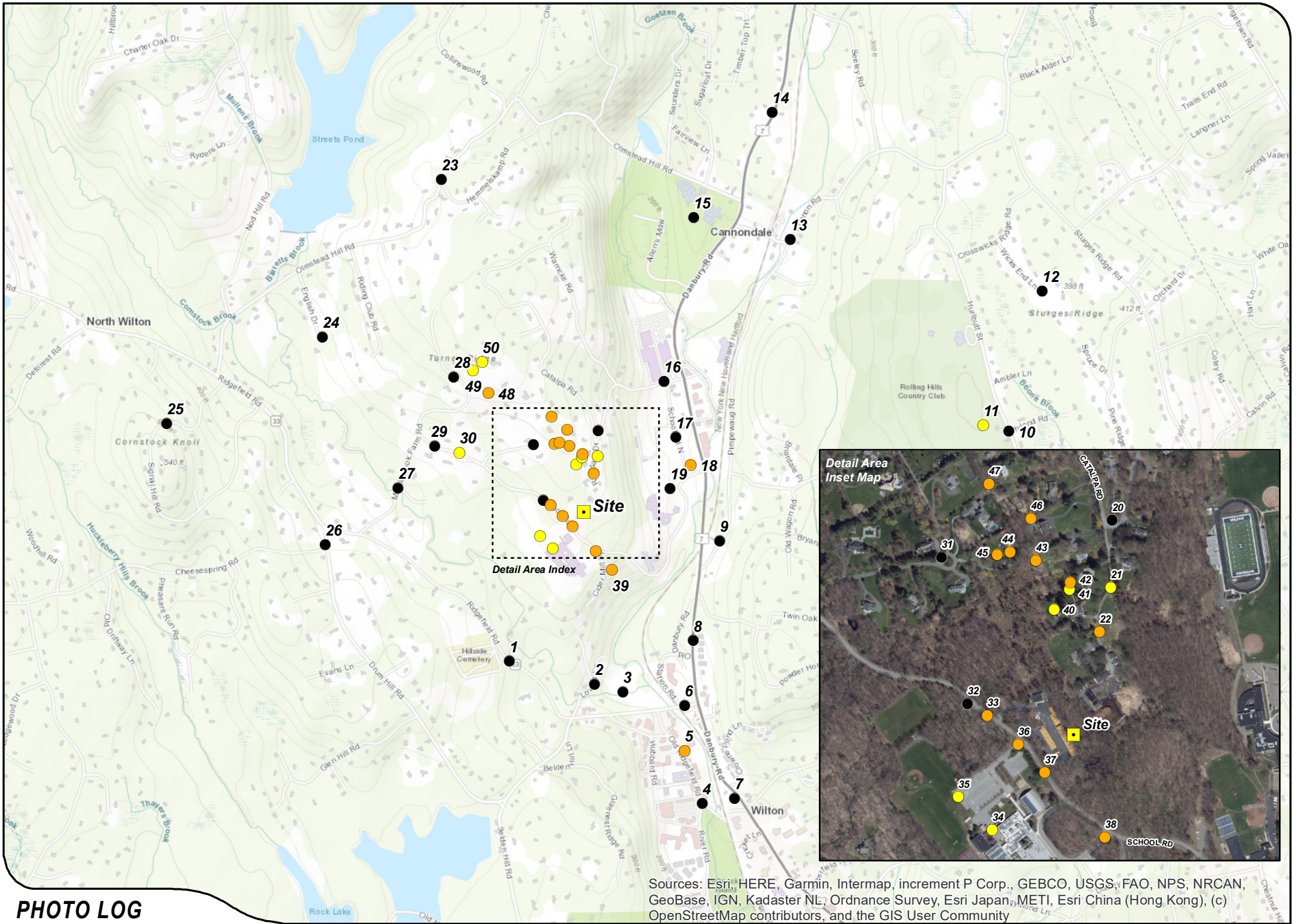
## **Limitations**

The viewshed maps presented in the attachment to this report depict areas where the proposed Facility 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 intervening topography, tree canopy, and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating aerial photographs, and in-field observations from publicly accessible locations. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

The photo-simulations provide a representation of the Facility under similar settings as those encountered during the field review and reconnaissance. Views of the Facility 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. Weather conditions on the day of the field review included partly cloudy skies.

## **ATTACHMENTS**

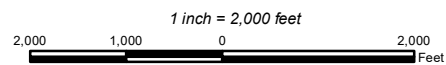




# PHOTO LOG

Legend

- Site
- Visible
- Seasonal
- Year-Round



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community







PHOTOGRAPHED ON 12/2/2022  
35mm focal length

**EXISTING**

PHOTO

1

LOCATION

**RIDGEFIELD ROAD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.51 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

2

LOCATION

**LOVERS LANE AT MERWIN LANE**

ORIENTATION

**NORTH**

DISTANCE TO SITE

**+/- 0.53 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

3

LOCATION

**MERWIN MEADOWS PARK**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.57 MILE**

VISIBILITY

**NOT VISIBLE**







PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

4

LOCATION

**OLD RIDGEFIELD ROAD**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.94 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

5

LOCATION

**VILLAGE MARKET**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.79 MILE**

VISIBILITY

**SEASONAL**





**PROPOSED**

PHOTO

5

LOCATION

**VILLAGE MARKET**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.79 MILE**

VISIBILITY

**SEASONAL**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

6

LOCATION

**RIDGEFIELD ROAD**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.66 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

7

LOCATION

**DANBURY ROAD**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.98 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

LOCATION

ORIENTATION

DISTANCE TO SITE

VISIBILITY

8

**PERRY GREEN CONDOS - DANBURY ROAD**

**NORTHWEST**

**+/- 0.50 MILE**

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

9

LOCATION

**DANBURY ROAD**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.41 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

10

LOCATION

**HURLBUTT STREET AT HYLAND DRIVE**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 1.32 MILES**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

11

LOCATION

**AMBLER FARM**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 1.25 MILES**

VISIBILITY

**YEAR ROUND**





**PROPOSED**

PHOTO

11

LOCATION

**AMBLER FARM**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 1.25 MILES**

VISIBILITY

**YEAR ROUND**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

12

LOCATION

WICKS END LANE

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 1.55 MILES

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

13

LOCATION

**CANNON ROAD AT PIMPEWAUG ROAD**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 1.04 MILES**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

14

LOCATION

DANBURY ROAD

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 1.35 MILES

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

15

LOCATION

**ALLENS MEADOWS PARK**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.96 MILE**

VISIBILITY

**NOT VISIBLE**







PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

16

LOCATION

CATALPA ROAD AT KRISTINE LILLY WAY

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 0.46 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

17

LOCATION

**KRISTINE LILLY WAY**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.36 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

**18**

LOCATION

**KRISTINE LILLY WAY**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.36 MILE**

VISIBILITY

**SEASONAL**





**PROPOSED**

PHOTO

**18**

LOCATION

**KRISTINE LILLY WAY**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.36 MILE**

VISIBILITY

**SEASONAL**





PHOTOGRAPHED ON 12/27/2022

**EXISTING**

PHOTO

19

LOCATION

CIDER MILL SCHOOL

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 0.27 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

20

LOCATION

CATALPA ROAD

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 0.26 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

21

LOCATION

**RICHDAL DRIVE**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.16 MILE**

VISIBILITY

**YEAR ROUND**





**PROPOSED**

PHOTO

21

LOCATION

**RICHDAL DRIVE**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.16 MILE**

VISIBILITY

**SEASONAL**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

22

LOCATION

**RICHDALE DRIVE**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.13 MILE**

VISIBILITY

**SEASONAL**







**PROPOSED**

PHOTO

22

LOCATION

**RICHDALE DRIVE**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.13 MILE**

VISIBILITY

**SEASONAL**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

23

LOCATION

**OLMSTEAD HILL ROAD AT HEMMELSKAMP ROAD**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 1.11 MILES**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

24

LOCATION

ENGLISH DRIVE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.97 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

25

LOCATION

**SIGNAL HILL ROAD**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 1.31 MILES**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

26

LOCATION

DRUM HILL ROAD

ORIENTATION

EAST

DISTANCE TO SITE

+/- 0.80 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

27

LOCATION

MIDDLEBROOK FARM ROAD AT MIDDLEBROOK LANE

ORIENTATION

EAST

DISTANCE TO SITE

+/- 0.58 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

28

LOCATION

MIDDLEBROOK FARM ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.58 MILE

VISIBILITY

NOT VISIBLE







PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

29

LOCATION

SCHOOL ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.50 MILE

VISIBILITY

NOT VISIBLE







PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

30

LOCATION

SCHOOL ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.42 MILE

VISIBILITY

YEAR ROUND







**PROPOSED**

PHOTO

**30**

LOCATION

**SCHOOL ROAD**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 0.42 MILE**

VISIBILITY

**YEAR ROUND**





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

31

LOCATION

HUNTING RIDGE LANE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.26 MILE

VISIBILITY

NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022  
35mm focal length

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
32	SCHOOL ROAD	SOUTHEAST	+/- 0.13 MILE	NOT VISIBLE





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

33

LOCATION

SCHOOL ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.11 MILE

VISIBILITY

SEASONAL







**PROPOSED**

PHOTO

33

LOCATION

SCHOOL ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.11 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022  
35mm focal length

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
34	MIDDLEBROOK SCHOOL	NORTHEAST	+/- 0.16 MILE	YEAR ROUND





**PROPOSED**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
34	MIDDLEBROOK SCHOOL	NORTHEAST	+/- 0.16 MILE	YEAR ROUND





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

35

LOCATION

MIDDLEBROOK SCHOOL

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 0.15 MILE

VISIBILITY

YEAR ROUND





**PROPOSED**

PHOTO

35

LOCATION

MIDDLEBROOK SCHOOL

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 0.15 MILE

VISIBILITY

YEAR ROUND





PHOTOGRAPHED ON 12/2/2022  
24mm focal length

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
36	MIDDLEBROOK SCHOOL	EAST	+/- 342 FEET	SEASONAL





**PROPOSED**

PHOTO

36

LOCATION

MIDDLEBROOK SCHOOL

ORIENTATION

EAST

DISTANCE TO SITE

+/- 342 FEET

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022  
24mm focal length

**EXISTING**

PHOTO

37

LOCATION

SCHOOL ROAD

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 301 FEET

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

37

LOCATION

SCHOOL ROAD

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 301 FEET

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022  
35mm focal length

**EXISTING**

PHOTO

38

LOCATION

MIDDLEBROOK SCHOOL

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 0.13 MILE

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

38

LOCATION

MIDDLEBROOK SCHOOL

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 0.13 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

39

LOCATION

11 CIDER MILL PLACE

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 0.20 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

40

LOCATION

15 RICHDALDE DRIVE

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 0.15 MILE

VISIBILITY

YEAR ROUND





**PROPOSED**

PHOTO

40

LOCATION

15 RICHDAL DRIVE

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 0.15 MILE

VISIBILITY

YEAR ROUND





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

41

LOCATION

9 RICHDALDE DRIVE

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 0.17 MILE

VISIBILITY

YEAR ROUND





**PROPOSED**

PHOTO

41

LOCATION

9 RICHDALDE DRIVE

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 0.17 MILE

VISIBILITY

YEAR ROUND





PHOTOGRAPHED ON 12/2/2022

## EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
42	41 HUNTING RIDGE LANE	SOUTH	+/- 0.18 MILE	SEASONAL





**PROPOSED**

PHOTO

42

LOCATION

41 HUNTING RIDGE LANE

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 0.18 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

43

LOCATION

83 CATALPA ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.21 MILE

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

43

LOCATION

83 CATALPA ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.21 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

44

LOCATION

41 HUNTING RIDGE LANE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.23 MILE

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

44

LOCATION

41 HUNTING RIDGE LANE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.23 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

45

LOCATION

41 HUNTING RIDGE LANE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.23 MILE

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

45

LOCATION

41 HUNTING RIDGE LANE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.23 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

46

LOCATION

87 CATALPA ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.26 MILE

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

46

LOCATION

87 CATALPA ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.26 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

47

LOCATION

103 CATALPA ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.31 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

48

LOCATION

119 MIDDLEBROOK FARM ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.47 MILE

VISIBILITY

SEASONAL





**PROPOSED**

PHOTO

48

LOCATION

119 MIDDLEBROOK FARM ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.47 MILE

VISIBILITY

SEASONAL





PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO

49

LOCATION

135 MIDDLEBROOK FARM ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.56 MILE

VISIBILITY

YEAR ROUND







**PROPOSED**

PHOTO

49

LOCATION

135 MIDDLEBROOK FARM ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.56 MILE

VISIBILITY

YEAR ROUND







PHOTOGRAPHED ON 12/2/2022

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
50	135 MIDDLEBROOK FARM ROAD	SOUTHEAST	+/- 0.56 MILE	YEAR ROUND







**PROPOSED**

PHOTO

50

LOCATION

135 MIDDLEBROOK FARM ROAD

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

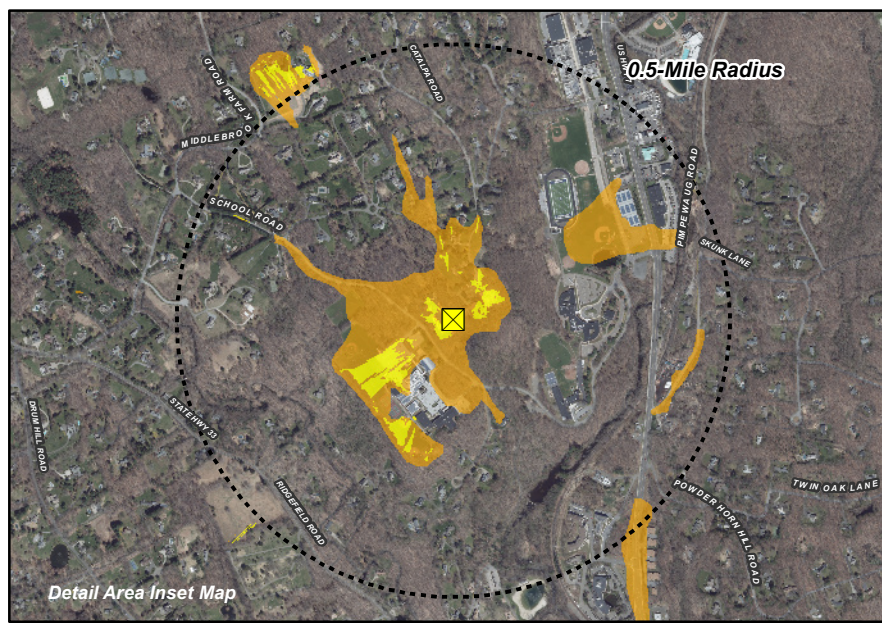
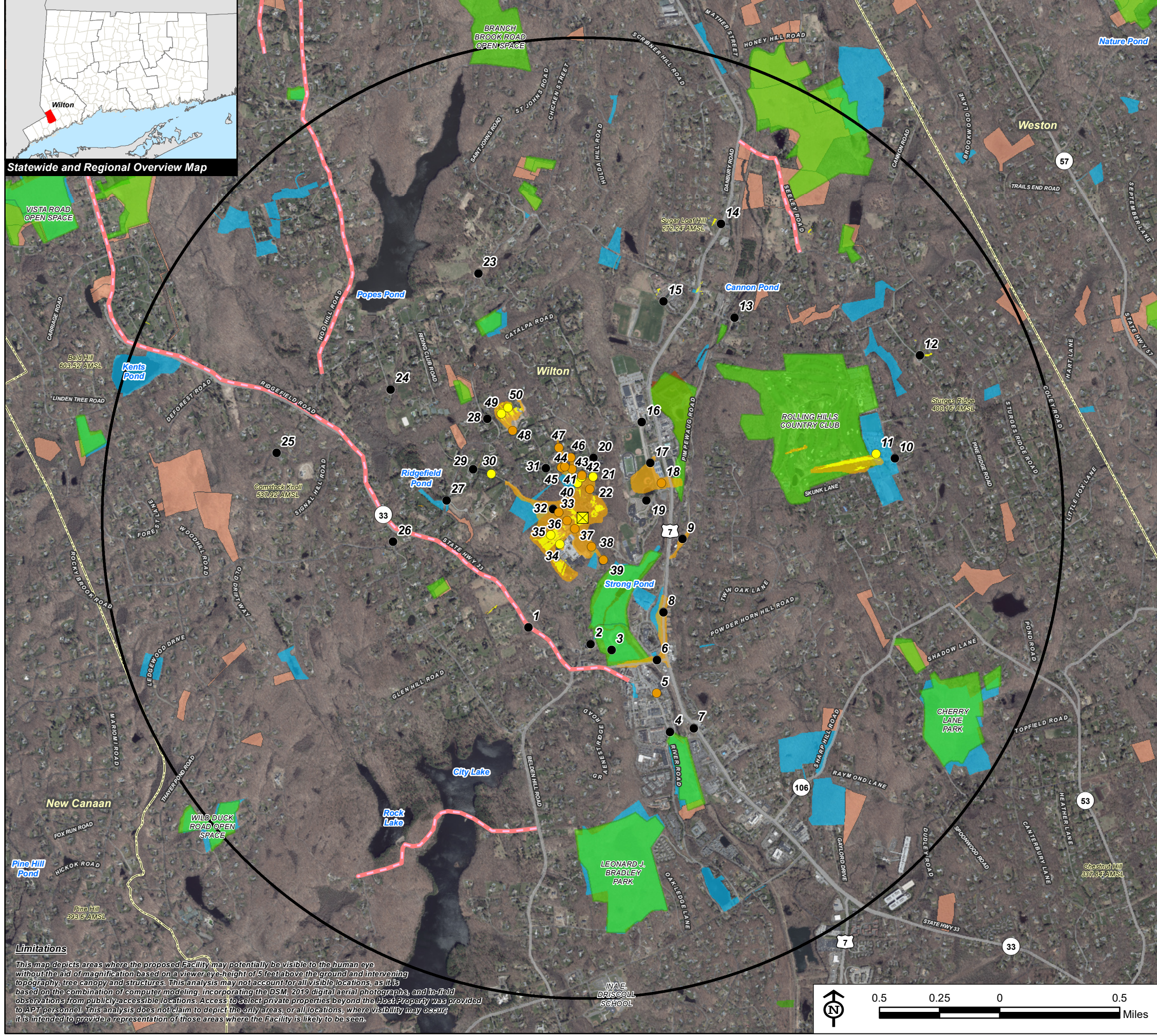
+/- 0.56 MILE

VISIBILITY

YEAR ROUND







## Viewshed Analysis Map

Proposed Wireless Telecommunications Facility  
 Wilton South CT  
 Town of Wilton  
 180 School Road  
 Wilton, Connecticut

Proposed facility height is 123 feet AGL.  
 Forest canopy height is derived from LIDAR data.  
 Study area encompasses a two-mile radius and includes 8,042 acres.  
 Existing conditions field verified by APT on December 2, 2022  
 Base Map Source: 2019 Aerial Photograph (CTECO)  
 Map Date: January 2023

- Legend**
- Facility Location
  - Study Area (2-Mile Radius)
  - Not Visible
  - Seasonal
  - Year-Round
  - Predicted Year-Round Visibility (12 Acres)
  - Areas of Potential Seasonal Visibility (77 Acres)
  - Municipal Boundary
  - Trail
  - Scenic Highway
  - DEEP Boat Launches
  - Municipal and Private Open Space Property
  - State Forest/Park
  - Protected Open Space Property**
  - Federal
  - Land Trust
  - Municipal
  - Private
  - State

**Data Sources:**  
**Physical Geography / Background Data**  
 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.  
 Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP.  
 Scenic Roads: CT DOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

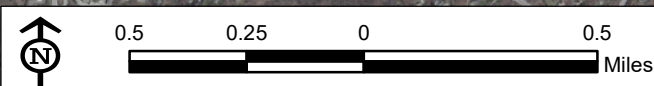
**Dedicated Open Space & Recreation Areas**  
 Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007); Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

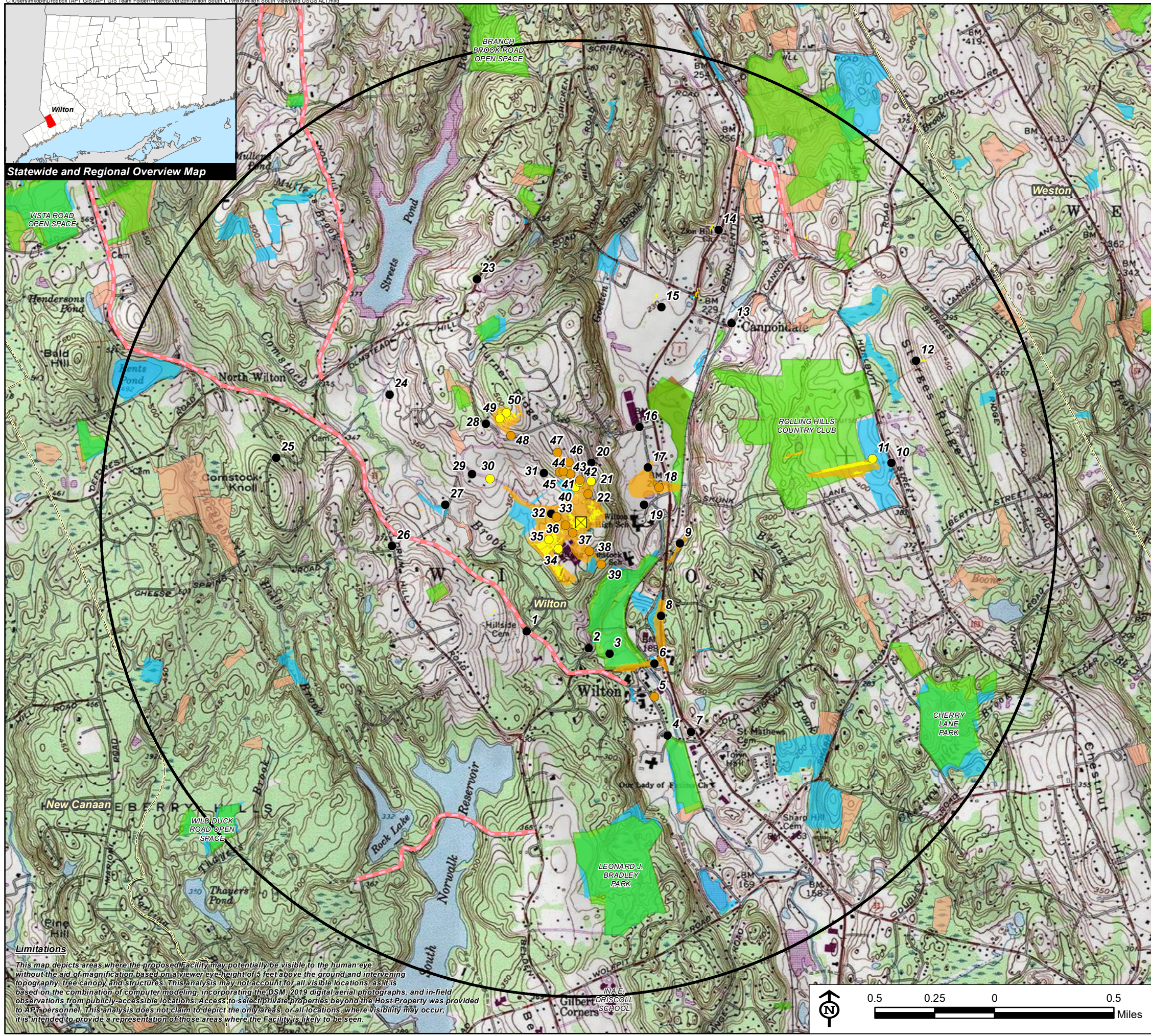
**Other**  
 CTDOT Scenic Strips (based on Department of Transportation data)

**Notes**  
 \*\*Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.

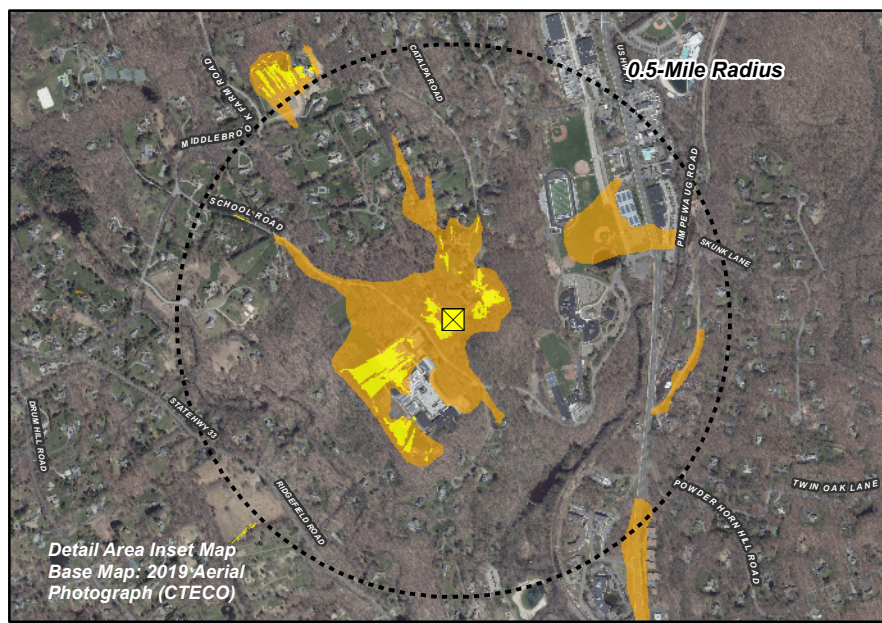
**Limitations**  
 This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM, 2019 digital aerial photographs, and in-field observations from publicly accessible locations. Access to select private properties beyond the Host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.







**Statewide and Regional Overview Map**



**Viewshed Analysis Map**  
 Proposed Wireless Telecommunications Facility  
 Wilton South CT  
 Town of Wilton  
 180 School Road  
 Wilton, Connecticut

Proposed facility height is 123 feet AGL.  
 Forest canopy height is derived from LiDAR data.  
 Study area encompasses a two-mile radius and includes 8,042 acres.  
 Existing conditions field verified by APT on December 2, 2022  
 Base Map Source: USGS 7.5 Minute Topographic  
 Quadrangle Map, Norwalk North, CT (1975)  
 Map Date: January 2023

**Legend**

- Facility Location
- Study Area (2-Mile Radius)
- Not Visible
- Seasonal
- Year-Round
- Predicted Year-Round Visibility (12 Acres)
- Areas of Potential Seasonal Visibility (77 Acres)
- Municipal Boundary
- Trail
- Scenic Highway
- DEEP Boat Launches
- Municipal and Private Open Space Property
- State Forest/Park
- Protected Open Space Property**
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- Land Trust
- Municipal
- Private
- State

**Data Sources:**

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**Other**  
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 This map depicts areas where the proposed Facility 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 structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM, 2019 digital aerial photographs, and in-field observations from publicly accessible locations. Access to select private properties beyond the Host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

