Photographic Documentation & Simulations

CONNECTICUT DEPARTMENT OF EMERGENCY SERVICES AND PUBLIC PROTECTION (DESPP)
COMMUNICATIONS UPGRADE PROJECT
BRANFORD DOT FACILITY
LEETES ISLAND ROAD
BRANFORD, CT 06405

Prepared in January 2021 by:
All-Points Technology Corporation, P.C.
567 Vauxhall Street Extension – Suite 311
Waterford, CT 06385

ALL-POINTS
TECHNOLOGY CORPORATION

VISUAL ASSESSMENT & PHOTO-SIMULATIONS

The Connecticut Department of Emergency Services and Public Protection ("DESPP") is seeking approval to replace an existing monopole with a new lattice tower ("Replacement Facility") at 69 Leetes Island Road in Branford, Connecticut (the "Host Property"). At the request of DESPP, All-Points Technology Corporation, P.C. ("APT") completed this assessment to evaluate the potential visual effects of the proposed Replacement Facility from within a 2-mile radius (the "Study Area"). The Study Area includes portions of the neighboring municipalities of North Branford to the north and Guilford to the east.

Project Setting

The Host Property consists of a ±5-acre parcel located south of Interstate 95 ("I-95" or "Interstate") on the eastern side of Leetes Island Road. The parcel is developed with a State of Connecticut Department of Transportation ("CTDOT") maintenance garage. The CTDOT maintenance yard currently includes a 49-foot tall monopole topped with CTDOT telecommunications antennas; collectively, the existing structure reaches a top height of approximately 70 feet above ground level ("AGL").

Land uses surrounding the Host Property are a mix of residential, industrial and commercial development. Residential neighborhoods are located to the west and. The Branford Gun Club and a boat storage yard are located to the southwest and west of the Host Property, respectively. I-95 and an associated on-ramp are immediately to the north, with industrial and commercial development beyond that to the north.

The topography within the Study Area consists of relatively level terrain. Ground elevations range from approximately one (1) foot above mean sea level ("AMSL") in the southern portion of the Study Area to approximately 250 feet AMSL in its northeastern portion. Tree cover within the Study Area (consisting primarily of mixed deciduous hardwoods) occupies approximately 4,903 acres (or ±60.96%) of the 8,042-acre Study Area. Open water over Long Island Sound and smaller bodies of water occupies approximately 120 acres (±1.49%) of the Study Area.

Project Undertaking

DESPP plans to construct the proposed Replacement Facility immediately northwest of the CTDOT maintenance garage in the northern portion of the Host Property (the "Site"). Relying on the current Site Drawings[1] prepared by Centek Engineering (dated August 27, 2020), the Replacement Facility would be located at a ground elevation of approximately 106 feet AMSL

[1] Connecticut Siting Council Petition No. 1435, Exhibit 2, Certified Drawings featuring DESPP, DOT and Town Antennas.

and include a 100-foot tall self-support tower with whip antennas extending to an approximate height of ±115' above ground level ("AGL"). The tower, an equipment shelter, and an underground 1,000-gallon liquid propane gas tank would be located within a new 50-foot by 50-foot fenced compound. The Replacement Facility has been designed to accommodate multiple state (DESPP and CTDOT) and municipal (Towns of Branford and Guilford) antennas and equipment.[2] Access to the Site would be gained over a new ±12' wide gravel access drive.

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 Replacement Facility on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of visibility throughout the entire Area, including private properties and other areas inaccessible for direct observations. The in-field analyses 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 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[3] 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 Replacement Facility height[4], 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[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,"

[2] Although not planned at this time, the Replacement Facility has been designed to accommodate future commercial wireless service providers should they determine the need.

[3] 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.

[4] For purposes of this visual assessment, the top height of the Replacement Facility is considered 115 feet AGL (incorporating the 100-foot tall lattice tower and whip antennas).

[5] Light Detection and Ranging

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

"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 Replacement Facility 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 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 Replacement 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 Replacement 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 occur with distance. As a result, some areas depicted on the viewshed maps as theoretically offering potential visibility of the Replacement Facility may be over-predictive because the quality of those views is not sufficient for the human eye to recognize the Replacement Facility or discriminate it from other surrounding or intervening objects.[8]

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

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

[8] In this instance, incorporating the whip antennas into the overall height of the Replacement Facility substantially over-predicted views, particularly at distances beyond ±0.5 mile from the Site.

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. Taking into account these considerations, 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 January 7, 2021. The crane test consisted of positioning a crane at the proposed Replacement Facility location and extending the crane boom with a brightly-colored flag to the top height of the self-support tower (±100 feet AGL). This provided a fixed object unaffected by the wind. Weather conditions were favorable for the in-field activities with clear skies.

APT conducted a Study Area reconnaissance by driving along local and State roads and other publicly accessible locations to document and inventory where the 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

During the Study Area reconnaissance, APT obtained photo-documentation of representative locations where the crane boom and flag were – and were not - visible. 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[9] and Canon EF 24 to 105 millimeter ("mm") zoom lens. 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, one (1) photograph was taken at a 24mm focal length and eight (8) photographs were taken at a 35mm focal length as noted in Table 1 – Photo Locations.

[9] 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 the proposed Replacement Facility from 20 locations presented herein where it 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 Replacement 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 photograph (the crane boom/flag) and the corresponding simulation (the Replacement 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 Replacement Facility are presented in the attachment at the end of this report. The field reconnaissance photos that include the crane boom in the view provide visual reference points for the approximate height and location of the Replacement Facility relative to the scene. All simulations were created to represent the proposed self-support tower and antennas (extending to a top height of 115' AGL). The photo-simulations are intended to provide the reader with a general understanding of the different view characteristics associated with the Replacement Facility from various locations. Photographs were taken from publicly-accessible areas 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	Visibility
1	Host Property**	West	± 418 Feet	Year Round
2	Leetes Island Road	North	± 296 Feet	Year Round
3	Leetes Island Road	North	± 0.11 Mile	Year Round
4	Saint Therese's Church, 105 Leetes Island Road	North	± 0.21 Mile	Year Round
5	Acorn Road	Northeast	± 0.29 Mile	Year Round
6	Unnamed Road	Northeast	± 0.25 Mile	Seasonal
7	Acorn Road at Gould Lane	Northeast	± 481 Feet	Year Round
8	Leetes Island Road**	Southeast	± 0.12 Mile	Year Round
9	Business Park Drive**	Southeast	± 0.26 Mile	Not Visible
10	Business Park Drive	Southeast	± 0.23 Mile	Year Round
11	Leetes Island Road	Southeast	± 0.23 Mile	Year Round
12	Leetes Island Road	Southeast	± 0.29 Mile	Year Round
13	Leetes Island Road	Southeast	± 0.37 Mile	Seasonal
14	East Main Street	South	± 0.46 Mile	Not Visible
15	Edward Frisbie House – 699 East Main Street	Southwest	± 0.71 Mile	Not Visible
16	Eliphalet Howd House – 675 East Main Street	Southwest	± 0.63 Mile	Not Visible
17	Sycamore Way**	Southwest	± 0.58 Mile	Not Visible
18	Sycamore Way	Southwest	± 0.52 Mile	Seasonal
19	Sycamore Way	Southwest	± 0.54 Mile	Year Round
20	Towner Swamp Road	Southwest	± 1.13 Miles	Not Visible
21	East Industrial Drive	Southwest	± 0.58 Mile	Not Visible
22	East Industrial Drive	Southwest	± 0.57 Mile	Year Round
23	East Industrial Drive	Southwest	± 0.34 Mile	Year Round
24	East Industrial Drive at Entrance to I-95	Southwest	± 0.28 Mile	Year Round
25	East Industrial Drive**	South	± 0.19 Mile	Year Round
26	North Farms Park – North Branford**	Southeast	± 1.47 Miles	Not Visible
27	Valley Road – North Branford	Southeast	± 1.00 Mile	Not Visible
28	Valley Road – North Branford	Southeast	± 0.88 Mile	Not Visible
29	Thompson Road	Southeast	± 0.97 Mile	Not Visible
30	Saint Agnes Cemetery	East	± 1.61 Miles	Not Visible
31	Griffing Pond Road at Damascus Road**	Northeast	± 1.05 Miles	Not Visible
32	Featherbed Lane	East	± 0.78 Mile	Year Round
33	East Industrial Drive	East	± 0.54 Mile	Year Round

**Photograph was taken at 24 mm focal length*
***Photograph was taken at 35 mm focal length*
Note: Existing tower visible in photographs 5, 18, 22 through 25, and 33 is located at 21 Acorn Road, approximately 730 feet from the Site

Table 1 – Photo Locations Continued

Photo	Location	Orientation	Distance to Site	Visibility
34	East Main Street	Southeast	± 0.59 Mile	Not Visible
35	Red Hill Road**	West	± 0.57 Mile	Not Visible
36	John Hoadley House – 213 Leetes Island Road	Northwest	± 0.55 Mile	Not Visible
37	Quarry Road	Northwest	± 1.55 Miles	Not Visible
38	Branford Trolley Trail*	North	± 1.72 Miles	Not Visible

**Photograph was taken at 24 mm focal length*
***Photograph was taken at 35 mm focal length*

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 Replacement Facility within the Study Area.

Conclusions

As presented on the attached viewshed maps, year-round and seasonal visibility associated with the Replacement Facility would be limited primarily to the areas immediately surrounding the Site (generally within ±0.5-mile or less). The nearest year-round views would extend along Leetes Island Road, I-95 and within the industrial and commercial areas north of the Interstate.

Seasonally, when the leaves are off the deciduous trees, additional areas of obstructed visibility would extend to surrounding areas south of I-95, including portions of the Interstate approximately 0.75 mile west of the Site.

Predicted year-round visibility of the Replacement Facility is estimated to include approximately 48 acres. Predicted seasonal visibility is estimated to include an additional ±62 acres. Collectively, the total acreage of visibility represents ±1.36 percent of the Study Area. No visibility would extend into the neighboring municipalities of North Branford or Guilford.

Proximity to Schools And Commercial Child Day Care Centers

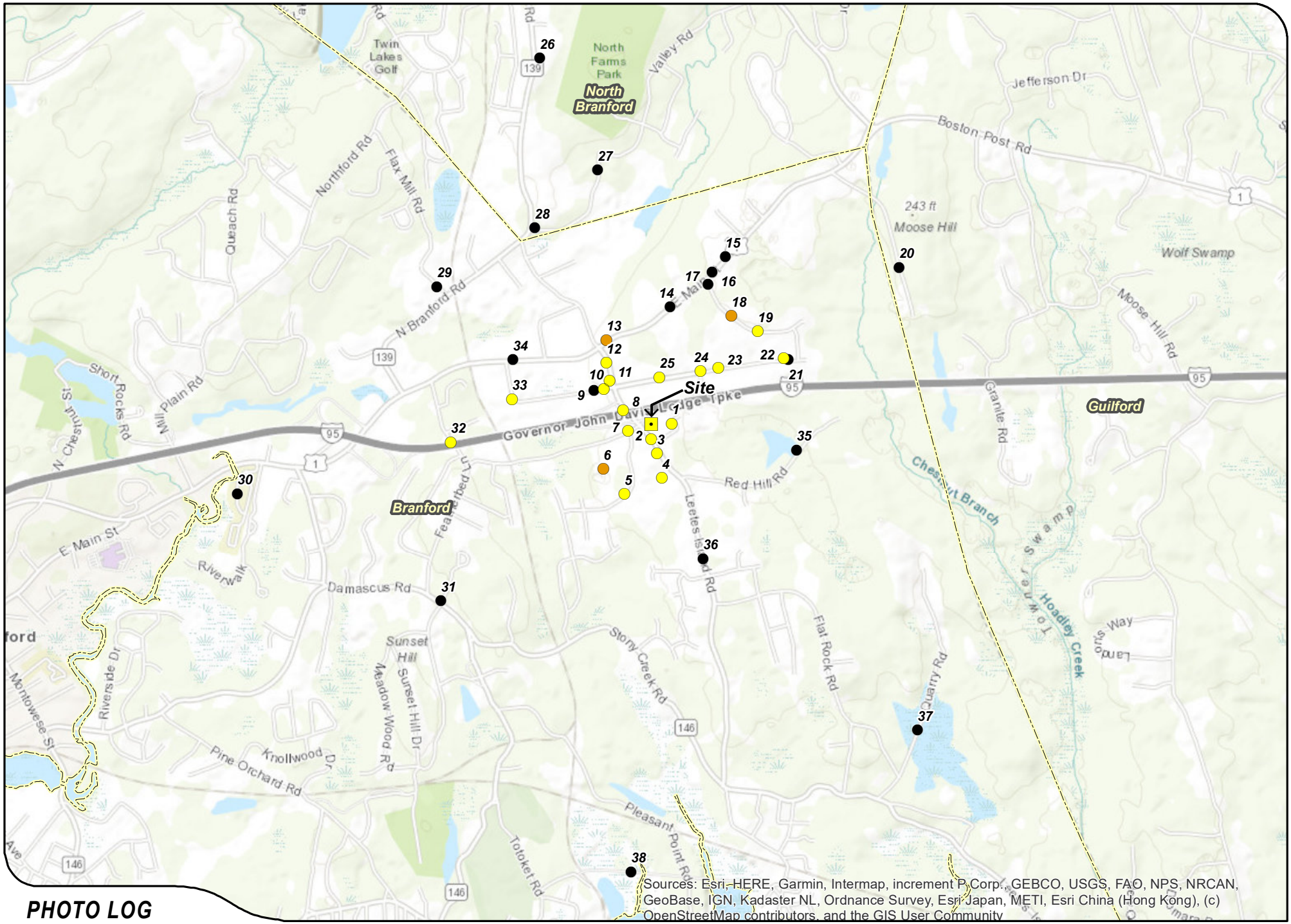
No schools or commercial day care centers are located within 250 feet of the Site. Francis Walsh Intermediate School is located approximately 1.19 miles southwest of the Site at 185 Damascus Road in Branford. No visibility is predicted from the school grounds. The nearest commercial child care center is Branford Early Learning Center approximately 1.88 miles to the southwest of the Site at 16 Birch Road in Branford. No visibility is predicted from or in the vicinity of the day care center.

Limitations

The viewshed maps presented in the attachment to this report depict areas where the proposed Replacement 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. No access to private properties 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 Replacement Facility is likely to be seen.

The photo-simulations provide a representation of the Replacement Facility under similar settings as those encountered during the field review and reconnaissance. Views of the Replacement 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 clear skies.

ATTACHMENTS



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

PHOTO LOG

Legend

Site | Year-Round | Seasonal | Not Visible | Municipal Boundary

1 inch = 2,500 feet

2,500 1,250 0 2,500 Feet

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35mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**HOST PROPERTY**	**WEST**	**+/- 418 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**HOST PROPERTY**	**WEST**	**+/- 418 FEET**	**YEAR ROUND**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	**LEETES ISLAND ROAD**	**NORTH**	**+/- 296 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	**LEETES ISLAND ROAD**	**NORTH**	**+/- 296 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**LEETES ISLAND ROAD**	**NORTH**	**+/- 0.11 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**LEETES ISLAND ROAD**	**NORTH**	**+/- 0.11 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**SAINT THERESE'S CHURCH - 105 LEETES ISLAND ROAD**	**NORTH**	**+/- 0.21 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**SAINT THERESE'S CHURCH - 105 LEETES ISLAND ROAD**	**NORTH**	**+/- 0.21 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**ACORN ROAD**	**NORTHEAST**	**+/- 0.29 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**ACORN ROAD**	**NORTHEAST**	**+/- 0.29 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**UNNAMED ROAD**	**NORTHEAST**	**+/- 0.25 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**UNNAMED ROAD**	**NORTHEAST**	**+/- 0.25 MILE**	**SEASONAL**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**ACORN ROAD AT GOULD LANE**	**NORTHEAST**	**+/- 481 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**ACORN ROAD AT GOULD LANE**	**NORTHEAST**	**+/- 481 FEET**	**YEAR ROUND**

35mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.12 MILE**	**YEAR ROUND**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.12 MILE**	**YEAR ROUND**

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EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**BUSINESS PARK DRIVE**	**SOUTHEAST**	**+/- 0.26 MILE**	**NOT VISIBLE**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**BUSINESS PARK DRIVE**	**SOUTHEAST**	**+/- 0.23 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**BUSINESS PARK DRIVE**	**SOUTHEAST**	**+/- 0.23 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.23 MILE**	**YEAR ROUND**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.23 MILE**	**YEAR ROUND**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.29 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.29 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.37 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**LEETES ISLAND ROAD**	**SOUTHEAST**	**+/- 0.37 MILE**	**SEASONAL**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**EAST MAIN STREET**	**SOUTH**	**+/- 0.46 MILE**	**NOT VISIBLE**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**EDWARD FRISBIE HOUSE - 699 EAST MAIN STREET**	**SOUTHWEST**	**+/- 0.71 MILE**	**NOT VISIBLE**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**ELIPHALET HOWD HOUSE - 675 EAST MAIN STREET**	**SOUTHWEST**	**+/- 0.63 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

35mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**SYCAMORE WAY**	**SOUTHWEST**	**+/- 0.58 MILE**	**NOT VISIBLE**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**SYCAMORE WAY**	**SOUTHWEST**	**+/- 0.52 MILE**	**SEASONAL**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**SYCAMORE WAY**	**SOUTHWEST**	**+/- 0.52 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**SYCAMORE WAY**	**SOUTHWEST**	**+/- 0.54 MILE**	**YEAR ROUND**

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**SYCAMORE WAY**	**SOUTHWEST**	**+/- 0.54 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**TOWNER SWAMP ROAD**	**SOUTHWEST**	**+/- 1.13 MILES**	**NOT VISIBLE**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
21	**EAST INDUSTRIAL DRIVE**	**SOUTHWEST**	**+/- 0.58 MILE**	**NOT VISIBLE**

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PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**EAST INDUSTRIAL DRIVE**	**SOUTHWEST**	**+/- 0.57 MILE**	**YEAR ROUND**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**EAST INDUSTRIAL DRIVE**	**SOUTHWEST**	**+/- 0.57 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**EAST INDUSTRIAL DRIVE**	**SOUTHWEST**	**+/- 0.34 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**EAST INDUSTRIAL DRIVE**	**SOUTHWEST**	**+/- 0.34 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
24	**EAST INDUSTRIAL DRIVE AT ENTRANCE TO I-95**	**SOUTHWEST**	**+/- 0.28 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
24	**EAST INDUSTRIAL DRIVE AT ENTRANCE TO I-95**	**SOUTHWEST**	**+/- 0.28 MILE**	**YEAR ROUND**

35mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
25	**EAST INDUSTRIAL DRIVE**	**SOUTH**	**+/- 0.19 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
25	**EAST INDUSTRIAL DRIVE**	**SOUTH**	**+/- 0.19 MILE**	**YEAR ROUND**

35mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
26	**NORTH FARMS PARK - NORTH BRANFORD**	**SOUTHEAST**	**+/- 1.47 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
27	**VALLEY ROAD - NORTH BRANFORD**	**SOUTHEAST**	**+/- 1.00 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
28	**VALLEY ROAD - NORTH BRANFORD**	**SOUTHEAST**	**+/- 0.88 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
29	**THOMPSON ROAD**	**SOUTHEAST**	**+/- 0.97 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
30	**SAINT AGNES CEMETERY**	**EAST**	**+/- 1.61 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
31	**GRIFFING POND ROAD AT DAMASCUS ROAD**	**NORTHEAST**	**+/- 1.05 MILES**	**NOT VISIBLE**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
32	**FEATHERBED LANE**	**EAST**	**+/- 0.78 MILE**	**YEAR ROUND**

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
32	**FEATHERBED LANE**	**EAST**	**+/- 0.78 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
33	**EAST INDUSTRIAL DRIVE**	**EAST**	**+/- 0.54 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
33	**EAST INDUSTRIAL DRIVE**	**EAST**	**+/- 0.54 MILE**	**YEAR ROUND**

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
34	**EAST MAIN STREET**	**SOUTHEAST**	**+/- 0.59 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

35mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
35	**RED HILL ROAD**	**WEST**	**+/- 0.57 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
36	**JOHN HOADLEY HOUSE - 213 LEETES ISLAND ROAD**	**NORTHWEST**	**+/- 0.55 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
37	**QUARRY ROAD**	**NORTHWEST**	**+/- 1.55 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

24mm Focal Length

PHOTOGRAPHED ON 1/7/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
38	**BRANFORD TROLLEY TRAIL**	**NORTH**	**+/- 1.72 MILES**	**NOT VISIBLE**

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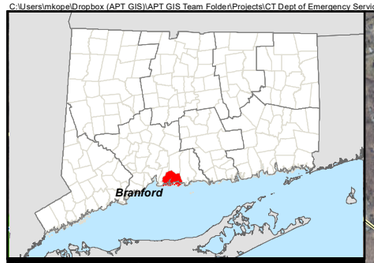
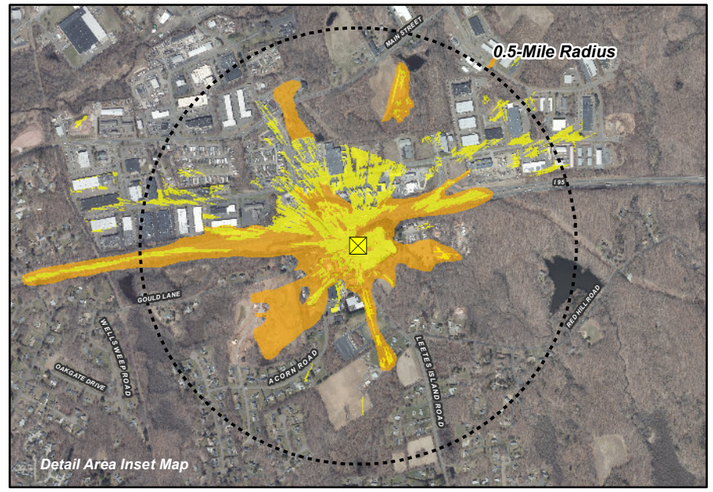


Statewide and Regional Overview Map



Viewshed Analysis Map

Proposed Wireless Telecommunications Facility
Connecticut Department of Emergency Services and Public Protection (DESPP)
Branford DOT Facility
Leetes Island Road
Branford, Connecticut

Proposed facility height is 115 feet AGL (including 100' tall monopole and15-foot whip antennas).
Forest canopy height is derived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres.
Map information field verified by APT on January 7, 2021
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: January 2021

Legend

- Proposed Site
- Study Area (2-Mile Radius)
- Predicted Year-Round Visibility (48 Acres)
- Areas of Potential Seasonal Visibility (62 Acres)

Photo Locations (January 7, 2021)

- Year-Round
- Seasonal
- Not Visible
- 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: CTDOT 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. No access to 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.

0.5 0.25 0 0.5 Miles

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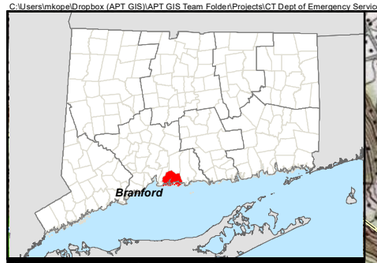

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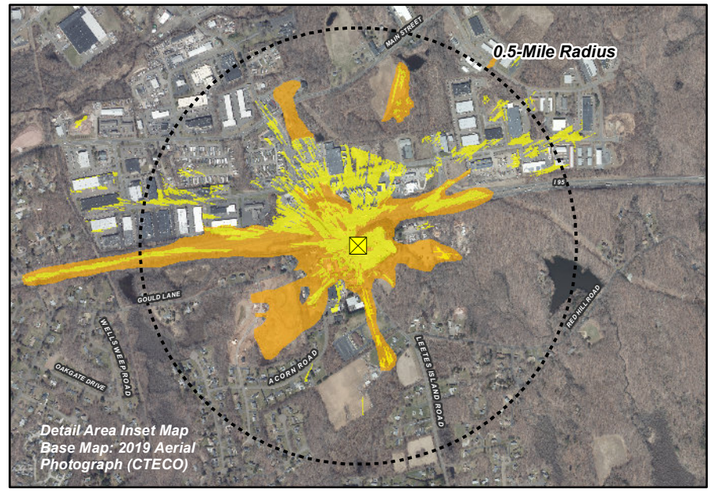

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Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Branford, CT (1984) and Guilford, CT (1972)
Map Date: January 2021

Legend

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0.5 0.25 0 0.5 Miles

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