Visual Resource Evaluation Report

Proposed Telecommunication Facility

Watertown

655 Bassett Road
Watertown, Connecticut 06795

Prepared For: **North Atlantic Towers**
1001 3rd Avenue West, Suite 420
Bradenton, FL 34205

Prepared By:

infinigy
engineering & surveying

11 Herbert Drive
Latham, New York 12110

Infinigy Project # 226-015

Site Report Issued: **February 2, 2010**
(Revised August 1, 2011)

PROJECT SUMMARY

North Atlantic Towers is currently proposing the construction of a 150-foot self-supporting monopole telecommunications facility to be located at 655 Bassett Road in Watertown, Connecticut (Appendix A – Viewshed and Site Location Maps). ***Infinigy Engineering & Surveying*** (***Infinigy***) was retained by North Atlantic Towers to conduct a Visual Resource Evaluation encompassing a two-mile radius (Study Area) from the proposed site known as "Watertown" located at 655 Bassett Road in Watertown, Connecticut.

The proposed project facility includes a 150-foot monopole proximate to the northeastern boundary of the Subject Property, in an undeveloped wooded area. The tower will be situated in the center of the 75-foot by 75-foot fenced equipment compound, situated within a 100-foot by 100-foot lease area. The proposed tower and fenced equipment compound are designed to provide space for future carriers' equipment and antenna structures. Access to the telecommunications facility will be from an existing unimproved access drive, then along a new 12-foot wide gravel access drive to the compound. The proposed access and utility easement consists of a 15-foot wide access area and a 15-foot by 20-foot turn around area. The Subject Property is located at an elevation of approximately 830 feet above mean sea level (AMSL).

Initially the proposed facility consisted of a 180-foot monopole that was later revised to consist of a 150-foot monopole. For this reason, the balloon test was completed at a height of 180 feet. However, the photographic simulations were completed reflecting a proposed tower height of 150 feet.

PROJECT SITE SETTING

The Host Property consists of a ±51.53-acre parent parcel of land zoned as Residential (R-90) and identified on Tax Map Parcel 15-25-3 on the current official tax map of the Town of Watertown, is located approximately 0.36 miles north of the intersection of Bassett Road and Linkfield Road, in an undeveloped wooded area of the Host Property identified as "655 Bassett Road" in the Town of Watertown, Litchfield County, Connecticut. A Site Location Map is included in Appendix A. In addition to the proposed telecommunication facility, the host property is currently occupied by several residential and agricultural use buildings. Photographs of the proposed project area are included in Appendix D – Photographs and Simulations.

The Site is generally characterized as a moderately hilly parcel consisting of residential and agricultural uses. Land use within the area surrounding the host parcel is a mixture of agricultural and sparse residential uses. The topography of the Study Area is characterized as moderately rolling slopes with steep slopes to the east of the Subject Property proximate to the Wigwam Reservoir area. The overall topography of the area ranges in elevation and demonstrates a gradual increase from east to west from approximately 500 feet AMSL on Bidwell Road adjacent to Black Rock State Park, approximately 2.3 miles southeast of the Subject Property, to approximately 950 feet AMSL on Linkfield and Wigwam Roads, approximately 3.2 miles north of the Project Site.

The existing vegetative cover within the Study Area can be described as a combination of active agricultural and residential lands interspersed with large stands of mixed deciduous and coniferous (evergreen) forest. The areas dominated by dense woodland or forest cover include the lands immediately adjacent to the Subject Property and the majority of the land located within a half-mile to the east, north and west of the Subject Property.

METHODOLOGY

To estimate the visibility associated with the proposed facility, ***Infinigy*** evaluates the Subject Property in two phases, consisting of determining potential visibility using topographic relief as well as vegetative cover and a field investigation to verify the results of the topographic mapping. Zones of potential visibility within the Study Area are identified during the predictive mapping that is completed. Utilizing the visibility report generated through topographic mapping and conservative tree cover estimates, ***Infinigy*** conducts a field investigation known as a "balloon float" to verify the findings of the visibility report. During the balloon float, a thorough drive through field investigation of the Study Area is completed to verify the visibility data, field check tower height, location and structure representations as well as document publicly accessible areas through a photographic log. Data obtained during the field investigation is analyzed and incorporated into the final viewshed map (Appendix C – Viewshed Maps / Field Verified Viewshed Map).

COMPUTER MODELING VISIBILITY ANALYSIS

A computer modeling tool, ESRI's ArcView Spatial Analyst software, is utilized to calculate the areas from which the Site is expected to be visible. Information specific to the Site such as tower height and structure, significant objects and/or structures that would obstruct potential views, ground elevation, and surrounding topography is entered into the computer modeling program and interpreted during the modeling process.

Subsequent to data entry, constraints are applied to the computer model to more accurately define the potential visibility of the Site within the Study Area. During the initial computer analysis, the tree canopy is omitted and the only visual constraint evaluated is topography. This initial analysis provides a reference point that can be used to assist in the determination of seasonal visibility fluctuations. The actual average tree height for the Study Area is determined during the field investigation by visually inspecting the thoroughfares. The average tree canopy height, in the case of the proposed Watertown site, was determined to be 50 feet, was then incorporated into the final Viewshed Map.

An additional data layer depicting significant resource areas such as State Forests and Parks, recreational facilities, registered Historic sites, open space lands and other sensitive receptors was obtained from the Connecticut State Department of Environmental Protection (CTDEP). The data layer is added to the Viewshed map and is useful in identifying potential impacts to sensitive receptors within the Study Area.

STUDY AREA FIELD INVESTIGATION & BALLOON FLOAT

On January 19, 2010 ***Infinigy*** verified the computer modeling report and evaluated the potential visibility of the proposed facility by conducting a field investigation of the Study Area including a balloon float and drive-through reconnaissance survey. The balloon float consisted of fully inflating, raising and maintaining a tethered, 3-foot diameter weather balloon at the proposed tower location at the maximum allowable height of 180 feet. The balloon was then stabilized while ***Infinigy*** personnel drove through local public thoroughfares throughout the Study Area to field-verify the visibility map and inventory areas of visibility. On the day of the field investigation, the temperature was approximately 35 degrees and the skies were mostly cloudy with approximate wind speeds of 2 – 4 mph out of the south-southwest.

PHOTOGRAPHIC EVALUATION LOG

In an effort to further define and evaluate the Viewshed map result, during the field investigation; ***Infinigy*** personnel conducted a drive-through reconnaissance survey throughout the Study Area. Emphasis was placed on residential areas and additional areas that were determined to be potentially sensitive view shed receptors. Photographs were taken from a variety of locations, settings and vantage points to assist in evaluating where the balloon was visible from, including factors such as visibility above and below the tree canopy. A photographic log was maintained including locations, orientation and environmental factors, if applicable.

Photographs of the balloon from the locations summarized in the table below were taken with a NIKON Coolpix 7600 7.1 Megapixel camera which has a focal length equivalent to 35 mm camera with 38 to 115 mm zoom. Research suggests that the lens that most closely represents the unaided human eye is known as normal focal length lens. For a 35mm camera which produces a 24 x 36 mm image, the normal focal length is approximately 50mm. For the purposes of the Visual Resource Evaluation, the optical zoom lens for the NIKON Coolpix 7600 was set at the 50mm range for the purposes of most accurately representing the unaided human eye.

During the Study Area field investigation, the latitude and longitude of each photograph were recorded using a handheld GPS receiver unit. The geographic coordinate data of each location was then plotted on a Photo Location Map. Photo Location Maps, a 2-mile radius and a 2-mile field verified radius, are included as Appendix B – Photo Location Maps and Appendix C – Viewshed Maps / Field Verified Viewshed Map.

PHOTOGRAPHIC LOG

Photo	View Direction	Location	Coordinates	Visibility
1 (Simulation 1)	North	Bassett Road	N 41° 39' 09.7" W 73° 08' 06.2"	Visible
2	Southeast	Drove Gilbert Road	N 41° 39' 50.2" W 73° 08' 38.1"	Not Visible
3	East	Hidden Pond Road	N 41° 39' 16.0" W 73° 08' 56.2"	Limited visibility through winter vegetation only
4 (Simulation 2)	North	Franson Road Extension	N 41° 38' 44.2" W 73° 08' 09.5"	Not Visible
5	North	Plugins Road	N 41° 38' 45.1" W 73° 08' 03.0"	Not Visible
6	Northwest	Bidwell Hill Road (State Park area)	N 41° 38' 30.8" W 73° 05' 45.7"	Not Visible
7	North	Town Recreation Area	N 41° 36' 21.4" W 73° 07' 47.2"	Not Visible
8	Northeast	Cemetery	N 41° 37' 10.8" W 73° 09' 00.7"	Not Visible
9	NNE	Open Space Area	N 41° 37' 06.3" W 73° 08' 29.7"	Not Visible
10	Northwest	Echo Lake Recreation Area	N 41° 36' 02.9" W 73° 05' 50.6"	Not Visible
11	Northwest	Open Space	N 41° 37' 21.1" W 73° 05' 56.4"	Not Visible
12	West	State Park Entrance Area (Park was closed)	N 41° 39' 32.0" W 73° 06' 18.6"	Not Visible
13 (Simulation 3)	North	Linkfield Road	N 41° 38' 51.1" W 73° 07' 58.6"	Visible
14	Northwest	State Park	N 41° 39' 32.0" W 73° 06' 42.1"	Not Visible
15	North	Linkfield Road	N 41° 39' 05.1" W 73° 08' 02.1"	Visible
16 (Simulation 4)	West	Bassett Road	N 41° 39' 18.6" W 73° 07' 48.7"	Visible
17	Northwest	Open Space	N 41° 38' 04.2" W 73° 06' 18.6"	Not Visible
18 (Simulation 5)	SSE	Branch Road (Rt 109)	N 41° 40' 22.5" W 73° 08' 29.5"	Visible
19	South	Wigwam Road	N 41° 42' 07.8" W 73° 08' 03.2"	Not Visible

PHOTOGRAPHIC LOG				
Photo	**View Direction**	**Location**	**Coordinates**	**Visibility**
20	Southwest	Newton Road	N 41° 41' 59.1" W 73° 06' 11.8"	Not Visible
21	Southwest	Entrance to Humaston Brook State Park Scenic Reserve	N 41° 42' 11.5" W 73° 06' 23.3"	Not Visible

PHOTOGRAPHIC SIMULATION METHODOLOGY

The proposed Tower is constructed in 3D modeling software according to client specifications which include variables such as tower height and structure, various antennae design layouts and associated ground equipment. Terrain and aerial imagery are imported from publicly available sources. The proposed tower is then located at the appropriate ground location at the latitude and longitude coordinates provided by the client.

Cameras are then set up within the modeling software using coordinates provided to match locations of file photography. The "virtual camera" view moves the proposed tower to the appropriate distance and elevation relative to the viewer as well as the approximate view to the left or right. Field Photography is subsequently imported into the modeling software to align the proposed tower with the balloon in the image. This is done to more accurately assess the proposed location, as the modeling software assumes the balloon will be centered in the field of view. The proposed Tower, now accurately constructed as a 3D model within the software, is exported out of the modeling software using the camera shots created with the 'virtual camera" set up to match field photo locations. Using 2D graphics software, the field photography and 3D modeling data are combined, removing data that would not be visible due to tree lines or structures (aerial photography is used to determine locations of obstructions relative to tower) and adding light and shadows.

Infinigy utilizes the location of the balloon as well as the simulation methodology previously discussed to accurately simulate the visual presence the tower will have from that location. Photographic simulations were generated for five (5) of the twenty-one (21) locations identified above. Additionally, locations where the proposed tower was field verified to be visible or areas of significance, were enhanced to identify the location of the proposed tower and included within Appendix D - Photographs & Simulations. The photographic simulations represent an accurately scaled depiction of the proposed monopole tower. The locations and the orientations of the simulation photos are detailed below:

1. View from Bassett Road facing North (~0.36 miles South of Project Site)
2. View from Franson Road Extension facing North (~0.36 miles South of Project Site)
3. View from Linkfield Road facing North (~0.73 miles SE of Project Site)
4. View from Bassett Road facing West (~0.36 miles South of Project Site)
5. View from Branch Road (Route 109) facing South Southeast (~1.08 miles SE of Project Site)

CONCLUSIONS

The Viewshed Maps present a conservative description of the analysis within the 2-mile Study Area through publicly available thoroughfares. For purposes of this report, for both analyses any area where the data illustrates any portion of the proposed structure is either partially or wholly visible is presented as a "visible" area. At the time of the site investigation the seasonal conditions were winter, leaf off conditions, which typically provides the "worst-case" scenario for determining potential visibility.

In addition to the protected Connecticut Department of Environmental Protection, Municipal Non-municipal properties that are identified on the Viewshed Map, the map also illustrates the areas where the proposed structure *will be* visible based upon the computer generated elevation and land cover analysis (yellow) and the field-verified reconnaissance survey (olive green).

Based upon the field reconnaissance performed during the viewshed analysis, the proposed structure will not be visible in areas located at a distance of two (2) miles or greater from the proposed site. Additionally, except for a small, localized area on Thomaston Road, proximate to the north end of the Wigwam Reservoir, visibility of the Project Site is limited to those areas located within a one mile radius of the Proposed Site. The total acreage referenced for the Study Area that is further discussed below is based upon a two (2) mile (approximately 8,042 acres) radius. Based upon this two mile (2) mile Study Area, areas from which the proposed structure will be visible above or through the tree canopy, during leaf off conditions, comprise approximately 170 acres, or 2.2 percent of the 8,042 acre Study Area. Of this total, approximately 20 acres are situated on the host parcel known as "655 Bassett Road" which consists mainly of an agricultural use area.

A cumulative analysis of the computer generated analysis and the field verification demonstrates several areas to the south (photo locations 1, 5, 13, and 15) had unobstructed views of the proposed structure, while areas to the north (photo 18), east (photo 16) and west (photo 3) had limited visibility through winter vegetation (seasonal views) of the proposed structure. Based upon the field survey and a review of aerial mapping, it is estimated that less than a dozen residential structures will have partial seasonal views of the proposed structure and less than four, including the Subject Property will have year round views of the proposed structure.

As illustrated on the Field Verified Viewshed Map, the majority of the area from which the proposed structure will be visible is confined to secondary roads and private lands inaccessible to the public. It is estimated that only a very limited number of residences within the Study Area will have year round views of the proposed structure. Additionally, although the proposed structure will be visible from a limited number of residences along the secondary roads within the Study Area, this view may be partially to wholly obstructed in spring, summer and fall leaf-on conditions.

No views of the proposed structure are anticipated from Black Rock State Park, Mattatuck State Forest, Veterans Memorial Park or Echo Lake, located between one (1) and five (5) miles to the east and south of the proposed site. Portions of these areas are shaded in yellow on the Viewshed Map, indicating visibility of the structure from these areas, as calculated by

the viewshed analysis; however, based on field reconnaissance during the balloon float, the proposed structure is not expected to be visible from these areas. Echo Lake is not identified on the Viewshed Map as it is outside the geographic limits of the map, located between 4 and 5 miles from the proposed tower location. In addition, no views of the proposed structure are anticipated from the Watertown Center Historic District, which is located approximately 3.5 miles to the south-southeast, in the vicinity of the intersection of Route 63 (Main Street) and Route 6 (Deforest Street).

Based upon this Visual Resource Analysis, the proposed facility does not interfere with or reduce the public's enjoyment and/or appreciation of the appearance of any areas considered to be aesthetic resources. The majority of the areas where the proposed project will be visible are agricultural areas with limited to no public access and limited secondary roadways to the south and east of the Project Site. Therefore, the proposed 150' monopole will not have a significant adverse impact on the surrounding area.

APPENDICES

Appendix A – Site Location Map
Appendix B – Photo Location Maps
Appendix C – Viewshed Maps / Field-Verified Viewshed Map
Appendix D – Photographs & Simulations

APPENDIX A

SITE LOCATION MAP

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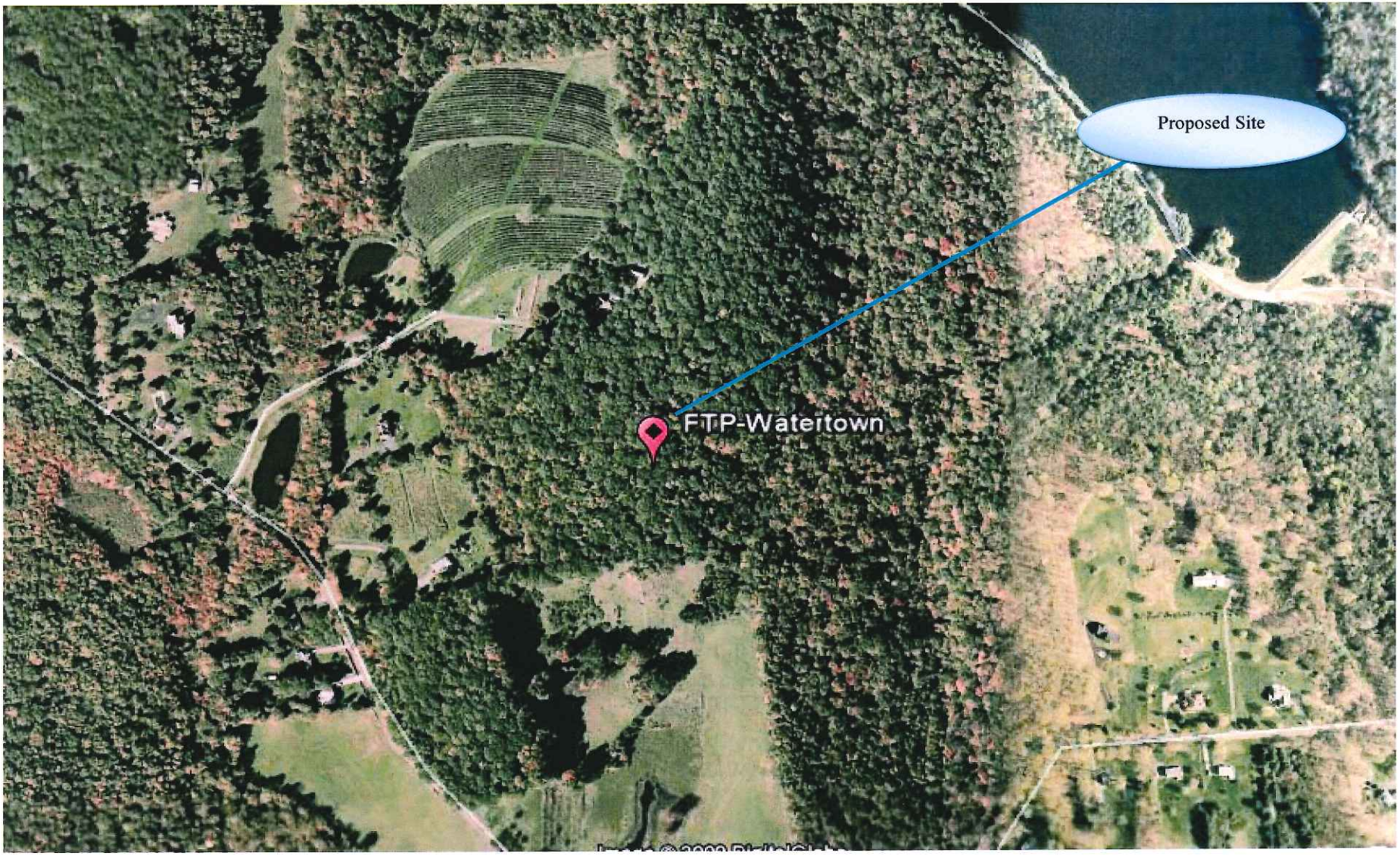
11 Herbert Drive
Latham, New York 12110

SITE VICINITY MAP

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
Florida Tower Partners, LLC	8936 Linkfield Road Watertown, CT	FTP-Watertown	226-010



APPENDIX B

PHOTO LOCATION MAPS

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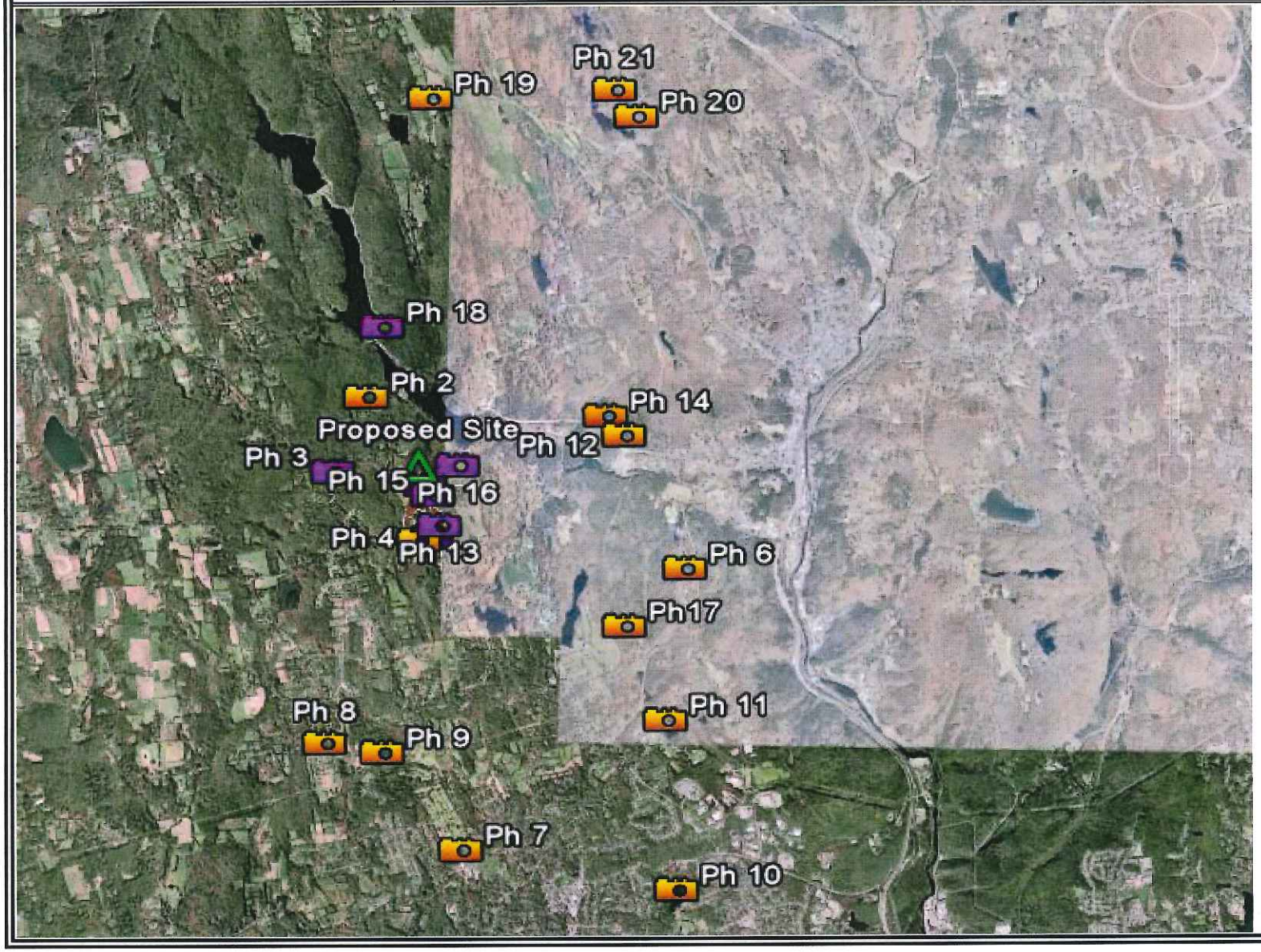
PHOTOGRAPHIC LOCATION MAP

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
Florida Tower Partners, LLC	655 Bassett Road Watertown, CT	FTP-Watertown	226-015



Visible Location

Not Visible Location

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ZOOMED PHOTOGRAPHIC LOCATION MAP
PHOTOS 18 - 21

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
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ZOOMED PHOTOGRAPHIC LOCATION MAP
PHOTOS 7 -11

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
Florida Tower Partners, LLC	655 Bassett Road Watertown, CT	FTP-Watertown	226-015

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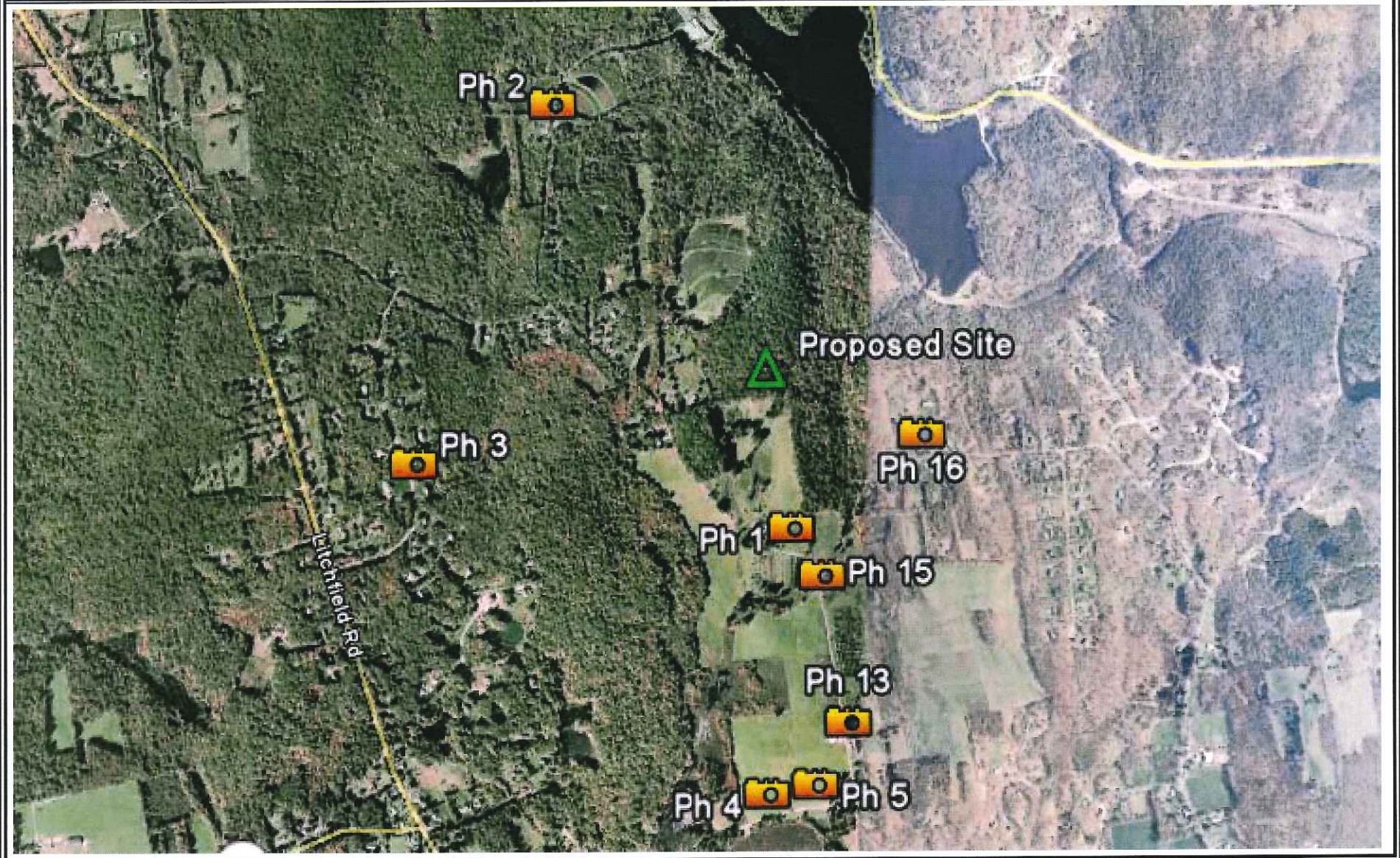
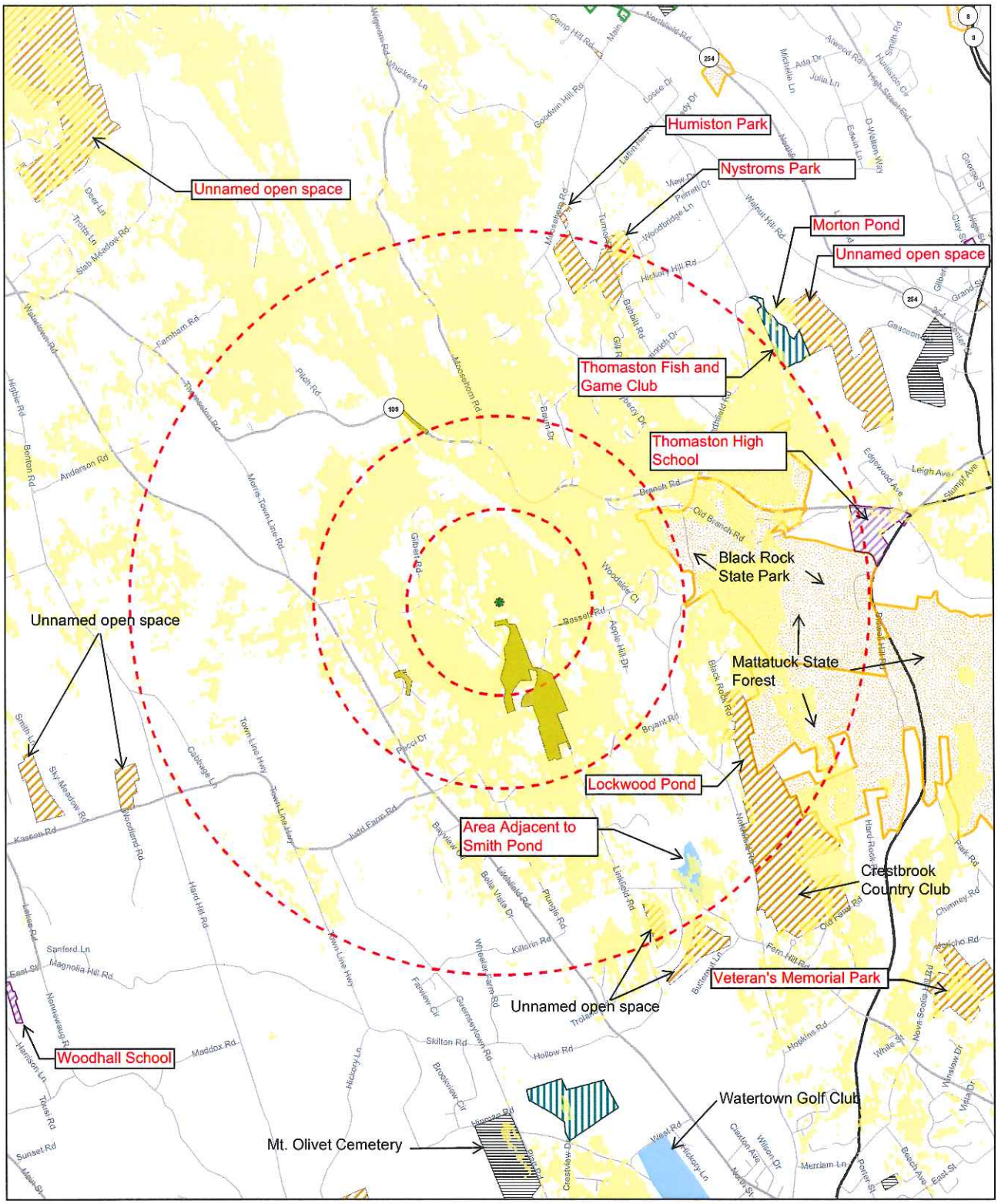
ZOOMED PHOTOGRAPHIC LOCATION MAP
PHOTOS 1 – 5, 13-16

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
Florida Tower Partners, LLC	655 Bassett Road Watertown, CT	FTP-Watertown	226-015



APPENDIX C

VIEWSHED MAPS / FIELD VERIFIED VIEWSHED MAP



Project Radius at 1/2, 1, and 2 Miles

Areas Calculated as Visible

Based on surface elevation with landcover & 150' tower height

Visibile Areas based on Field Verification

DEP Properties

- State Forest
- State Park
- State Park Scenic Reserve
- State Park Trail
- Water Access

Municipal Properties

- Cemetery
- Existing Preserved Open Space
- General Recreation
- School
- Uncategorized

Viewshed Analysis Map with Landcover

CT1140 / WATERTOWN
655 BASSETT ROAD
WATERTOWN, CT 06795

PN 61100242

1 inch equals 0.5 mile

0 0.125 0.25 0.5 0.75 1 Miles

Notes:
Revised on 8.2.2011 for a lowered height of 150'

Source: Selected data from NRCS, USGS, CT GIS, CT DEP & EBI

Created by:
EBI GIS
8.2.2011

N W E S

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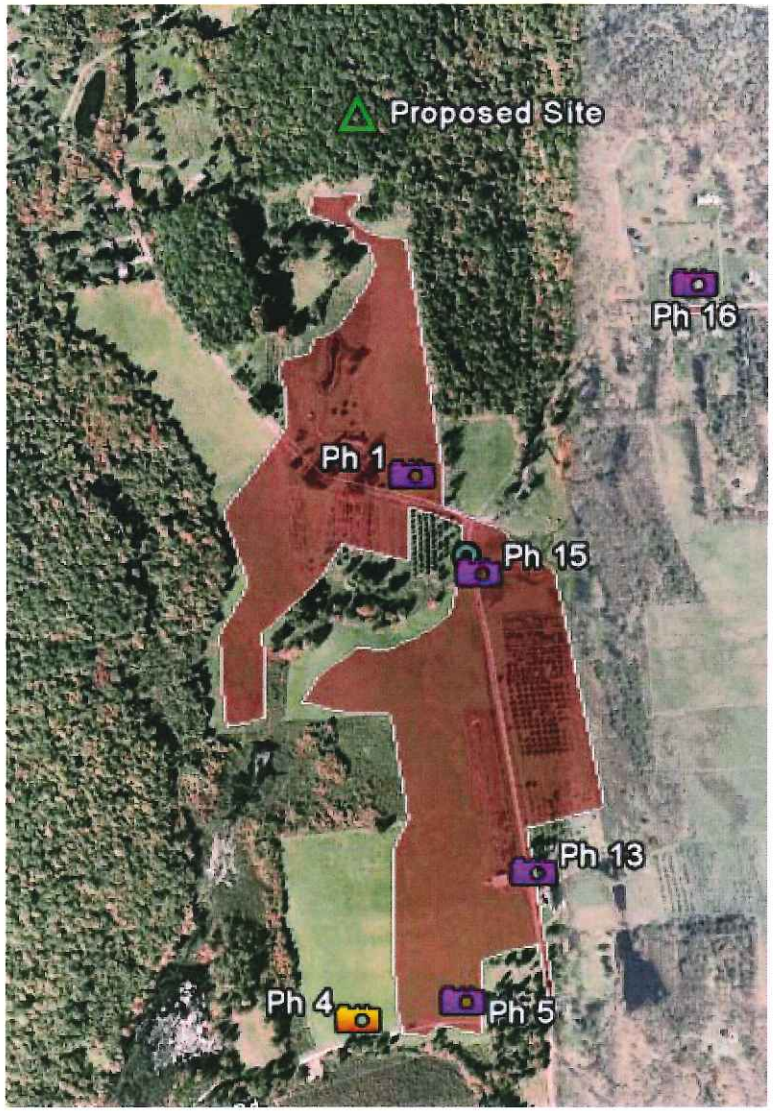
VISIBILITY MAP (PROJECT SITE AREA)

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
Florida Tower Partners, LLC	655 Bassett Road Watertown, CT	FTP-Watertown	226-015



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VISIBILITY MAP (SURROUNDING AREA)

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
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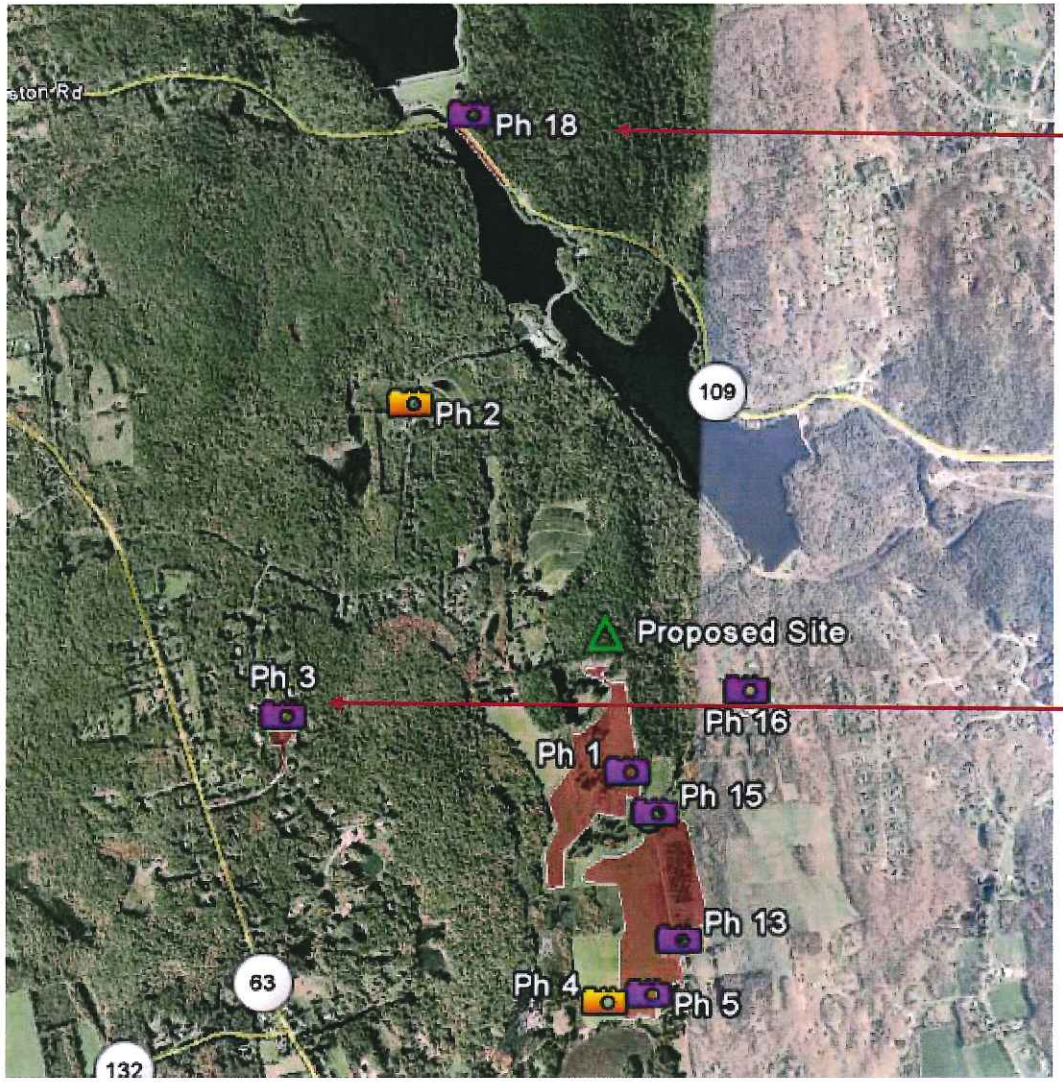

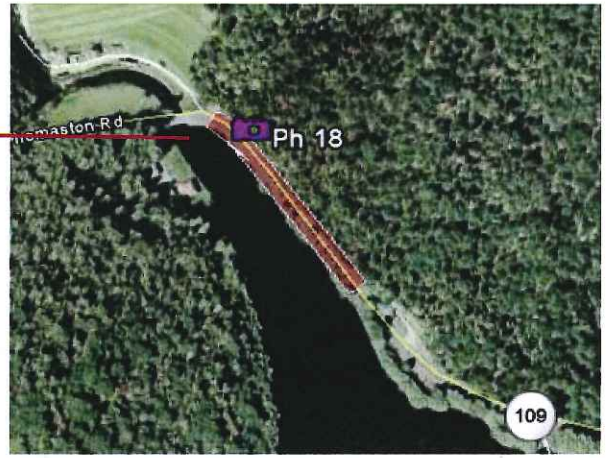

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ACREAGE DETERMINATION MAP

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
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APPENDIX D

PHOTOGRAPHS AND SIMULATIONS

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PHOTOGRAPH 3
Hidden Pond Road
Limited seasonal (winter) views only

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PHOTOGRAPH 7
Town Recreation Area
***Not Visible* while driving through area**

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PHOTOGRAPH 8
Cemetery
Not Visible

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PHOTOGRAPH 10
Echo Lake Recreation Area
Not Visible

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PHOTOGRAPH 12
State Park Entrance (Closed)
Not Visible

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PHOTOGRAPH 15
Linkfield Road
Visible

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PHOTOGRAPH 19
Wigwam Road
Not Visible

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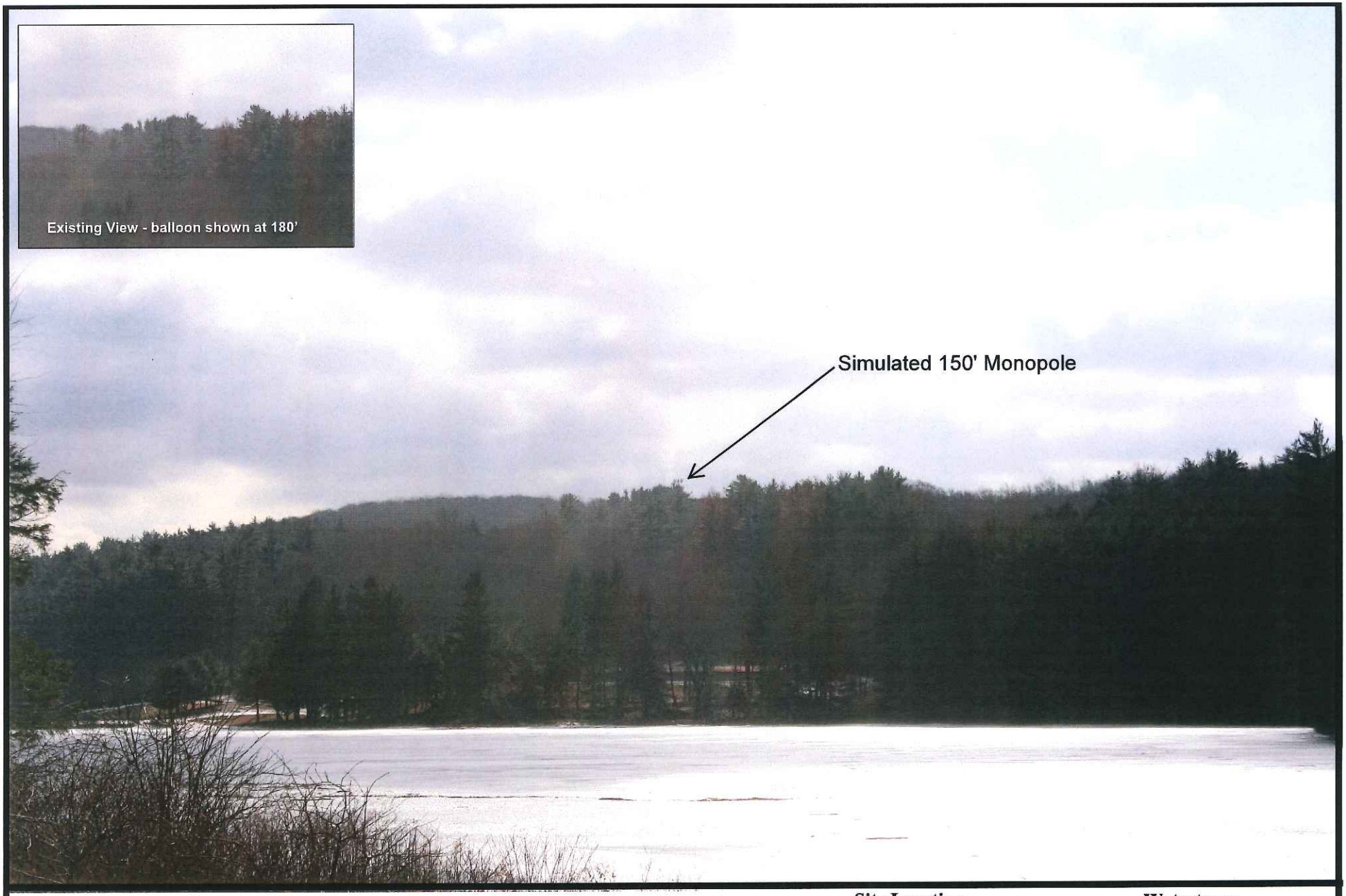
PHOTOGRAPH 21
Humaston Brook State Park Scenic Reserve
Not Visible

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
Florida Tower Partners, LLC	655 Bassett Road Watertown, CT	FTP-Watertown	226-015



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Florida Tower Partners

Site Location

655 Bassett Road,
Litchfied County,
Watertown, CT 06795

Watertown
CT-1140

150' Monopole Simulation
View from Branch Road, approx. 1.08 miles
Northwest of Proposed Location

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Florida Tower Partners

Site Location

655 Bassett Road,
Litchfied County,
Watertown, CT 06795

Watertown
CT-1140

150' Monopole Simulation
View from Bassett Road, approx. 0.36 miles
Southeast of Proposed Location

Simulated 150' Monopole

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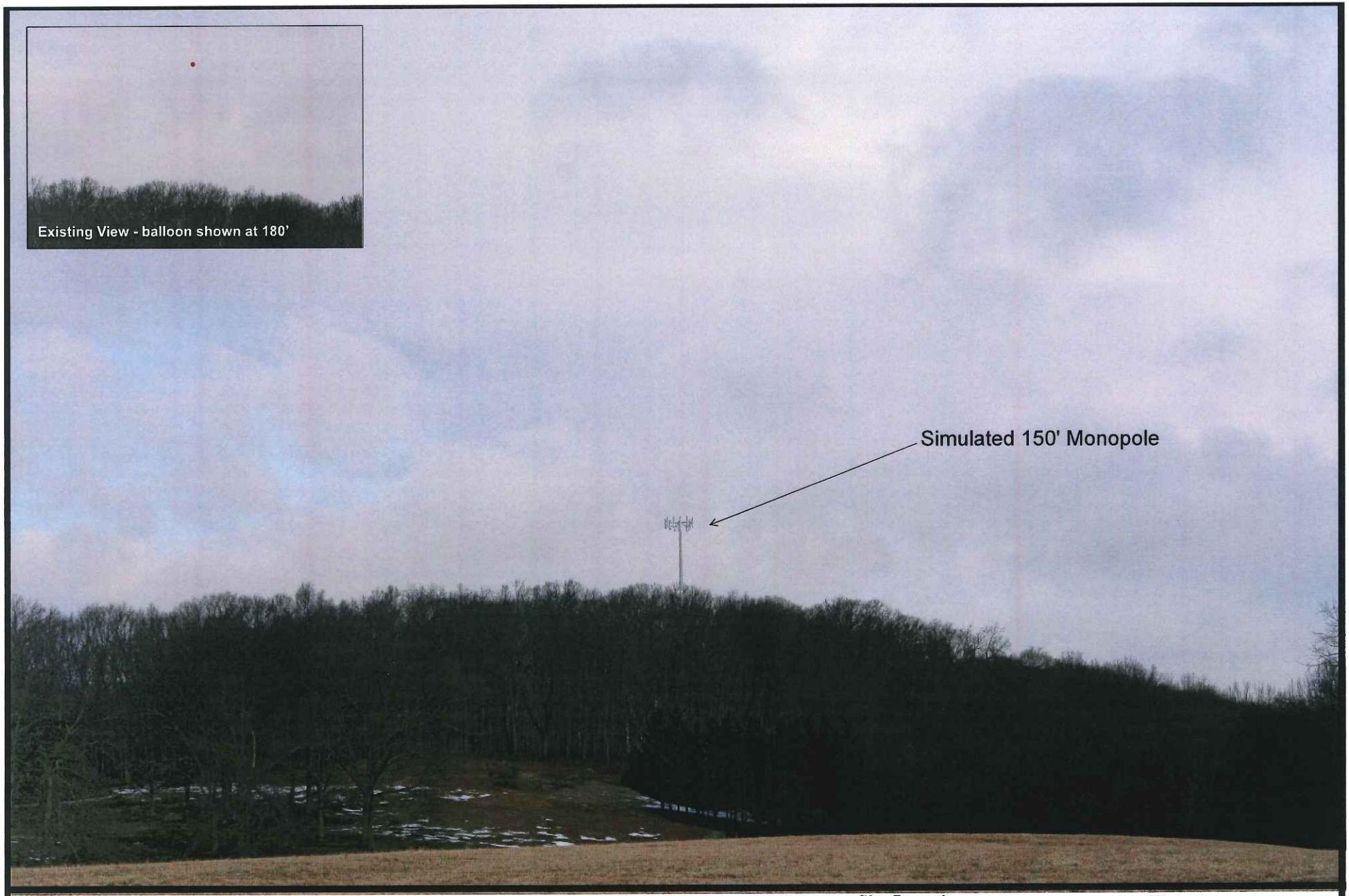
Litchfied County,
Watertown, CT 06795

Watertown
CT-1140
150' Monopole Simulation
View from Franson Road Ext, approx. 0.84 miles South of Proposed Location



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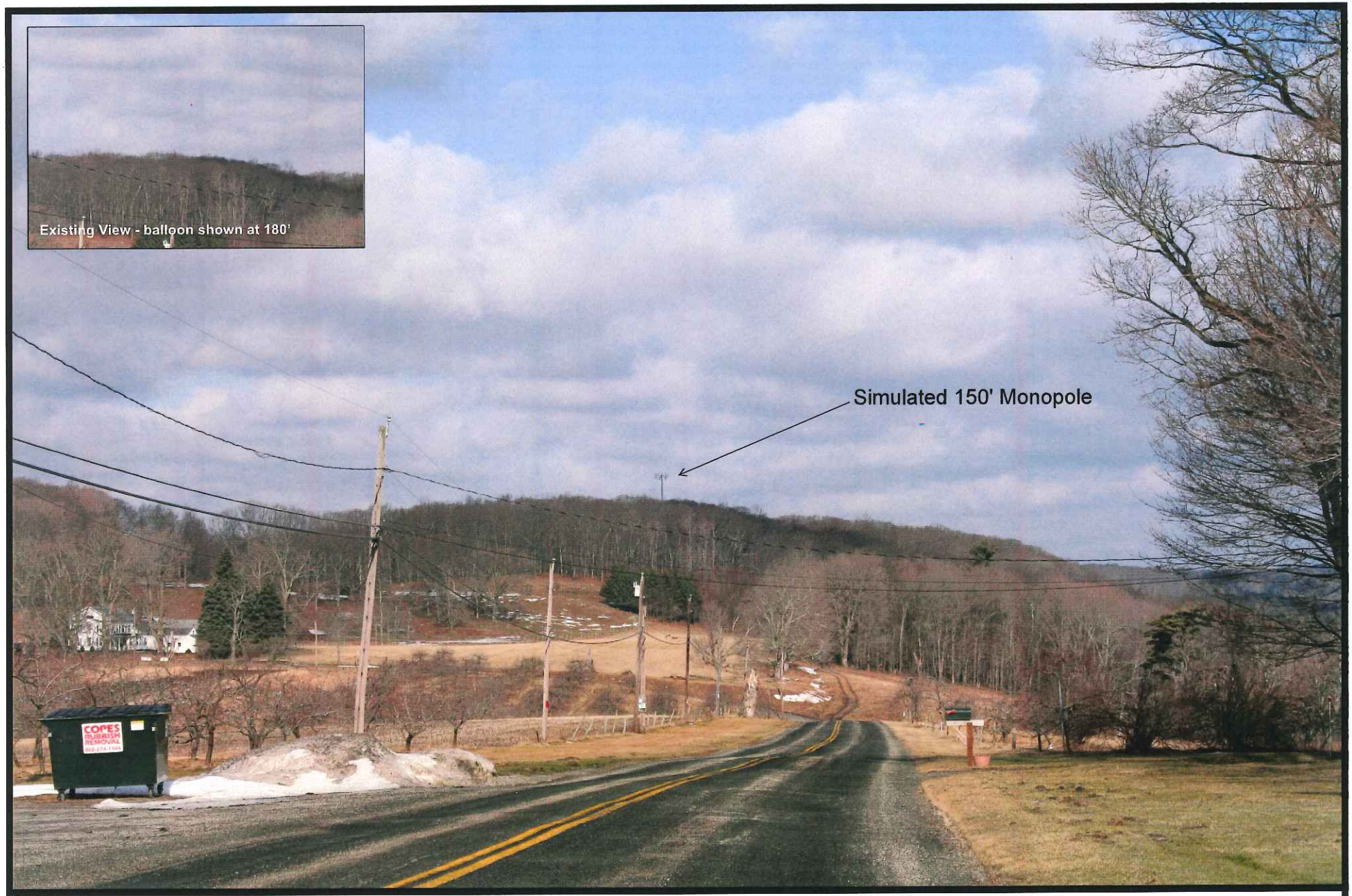
Site Location

655 Bassett Road,
Litchfied County,
Watertown, CT 06795

Watertown
CT-1140

150' Monopole Simulation
View from Bassett Road, approx. 0.36 miles
South of Proposed Location



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Florida Tower Partners

Site Location

655 Bassett Road,
Litchfied County,
Watertown, CT 06795

Watertown
CT-1140

150' Monopole Simulation
View from Linkfield Road, approx. 0.73 miles
Southeast of Proposed Location

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Florida Tower Partners

Site Location

655 Bassett Road,
Litchfied County,
Watertown, CT 06795

Watertown
CT-1140

150' Monopole Simulation
View from along Linkfield Road, approx. 0.45 miles south-southeast of Proposed Location