Transportation Land Development Environmental Services



Vanasse Hangen Brustlin, Inc.

EXHIBIT NO. 21

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Memorandum

To: Alexandria Carter
Regulatory Manager
99 East River Drive
East Hartford, CT 06108

Date: April 19, 2010

Project No.: 41479.42

From: Vanasse Hangen Brustlin, Inc.

Re: Proposed East Woodstock Facility

Visual Evaluation of Alternate Site

445 Prospect Street Woodstock, Connecticut

Cellco Partnership, dba Verizon Wireless, currently has an application pending with the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need for the construction of a wireless telecommunications facility ("Facility") to be located on property at 445 Prospect Street ("host property"), in the Town of Woodstock, Connecticut (Docket No. 397). Initially, Verizon Wireless proposed the installation of a 130-foot tall monopole to be located on the northern portion of the 44.20-acre host property. However, prior to the March 11, 2010 Connecticut Siting Council (the "Council") Public Hearing held for this docket, Verizon Wireless identified an alternate site location ("Alternate Site") on the host property. This memorandum summarizes VHB's initial visual evaluation for the Currently Proposed Site Location and compares that to the anticipated view shed associated with the Alternate Site. The locations of the Currently Proposed Site Location and the Alternate Site are depicted on the attached Site Location Map.

The potential view shed associated with the proposed Facility was assessed in VHB's November 2009 *Visual Resource Evaluation Report* and is contained under tab ten of the application document (exhibit one). Based on that analysis, areas from where the proposed 130-foot tall Facility may be visible above the tree canopy comprise approximately 167 acres, or just over two percent of the 8,042-acre Study Area (a two-mile radius surrounding the site location), with most of the year-round visibility occurring on the host property and its immediate vicinity. VHB estimated that portions of approximately 11 residential properties may have at least partial year-round views of the proposed Facility including approximately four residences located along Prospect Street; three residences along Paine Road; two residences along Green Road; one residence along Dugg Hill Road and one residence located along Chandler School Road. The November 2009 *Visual Resource Evaluation Report* also identified approximately 102 acres within the general vicinity of the proposed Facility where seasonal, or "leaf-off", views of the proposed Facility may occur. VHB estimated that such views may be achieved from portions of approximately five additional residential properties located along Prospect Street and Curtiss Road.

Prior to the Council's Public Hearing, Verizon Wireless identified an area located approximately 530 feet to the south of the Currently Proposed Site Location, adjacent to an existing barn on the host property, for consideration as an alternative. The Alternate Site sits at approximately 570 feet above mean sea level (AMSL), roughly 42 feet lower than the proposed Facility which is located at approximately 612 feet AMSL. Given the lower ground elevation, Verizon Wireless would need to

Date: April 19, 2010 Project No.: 41479.42

locate its antennas ten feet higher than the Currently Proposed Site Location, at approximately 140 feet above ground level (AGL) at the Alternate Site, to meet its coverage objectives.

In order to assess the potential view shed associated with the installation of a 140-foot tall structure at the Alternate Site location, VHB employed a predictive computer model, utilizing our standard methodology which is detailed in the November 2009 Visual *Resource Evaluation Report*, and conducted an in-field evaluation that consisted of a balloon float and Study Area reconnaissance. The balloon float and Study Area reconnaissance took place on March 7, 2009 under favorable weather conditions.

The predictive computer model, attached to this memo, indicates that a 140-foot tall structure at the Alternate Site would be visible (above the surrounding vegetation) from approximately 159 acres within the two-mile radius Study Area, a slight decrease in acreage from the approximate 167 acres associated with the proposed Facility. VHB estimates that neighboring residents would have yearround and/or seasonal views similar to those of the Currently Proposed Site. As depicted on the attached view shed map, most of the year-round visibility occurs on the host property and its immediate vicinity, including portions of Prospect Street, Curtiss Road and Green Road. Although the visual footprint of the two site locations is fairly consistent, observations made during the balloon float and Study Area reconnaissance, indicate that views from abutting and/or adjacent properties to the north of the host property are somewhat minimized by the approximate 530-foot shift to the south as compared to the proposed Facility which is situated near the northern boundary of the host property and would therefore be closer to these potential receptors. The Alternate Site would also move the telecommunications facility away from a northerly abutting 2.52-acre parcel that was retained by Arthur and Phyllis Kuper (for a possible future residence) and excluded from the farmland preservation restriction that encumbers the remainder of their farm. Note that the view shed map depicts the Gosnell Preserve (Wyndham Land Trust, Inc.), located approximately 0.75-mile northwest of the host property. At the Council's March 11, 2010 Public Hearing, Verizon was asked to identify this parcel and provide information regarding its physical location, known uses, and whether visibility of the Facility might be attained from locations thereon. According to the Wyndham Land Trust, Inc. website (http://www.wyndhamlandtrust.org), this land-locked, 63.4-acre parcel is not accessible to the general public and, therefore, no additional information is provided. Based on computer modeling, neither the Currently Proposed Site nor the Alternate Site would be visible from locations on this heavily-wooded property.

Photographic simulations were generated from five locations where the balloon was visible during the March 7, 2010 balloon float and provided to the Council at the March 11th hearing. The locations of these photographs are included below:

- Curtiss Road.
- 2. Prospect Street adjacent to house #529.
- 3. Prospect Street at host property.
- 4. Green Road west of Prospect Street.
- 5. Prospect Street south of Green Road.

At the request of the Council, additional photographic simulations from these locations have been prepared that depict two optional stealth applications, including a windmill, which consists of a lattice type tower and associated blades with three antenna platforms affixed to the lattice portion of the structure, and a grain silo. The attached simulations reflect an overall Facility height of $150\pm$ feet AGL that would be necessary to accommodate these stealth options.



Existing Property Line
Proposed Lease Area

Proposed Le
Open Water

Currently Proposed Site and Alternate Site Locations Proposed Verizon Wireless Telecommunications Facility East Woodstock, CT 445 Prospect Street Woodstock, Connecticut Photographic Documentation and Simulations

Telecommunications Facility Proposed Wireless

East Woodstock
Potential Alternate Site Location
445 Prospect Street
Woodstock, CT

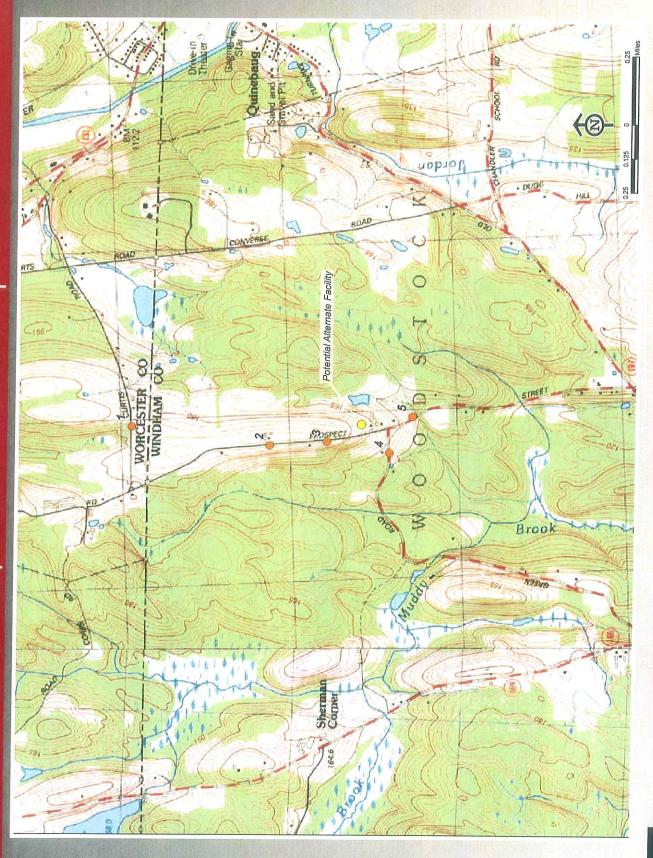
SUBMITTED TO:



SUBMITTED BY:



Photolog Map



Photographic Documentation

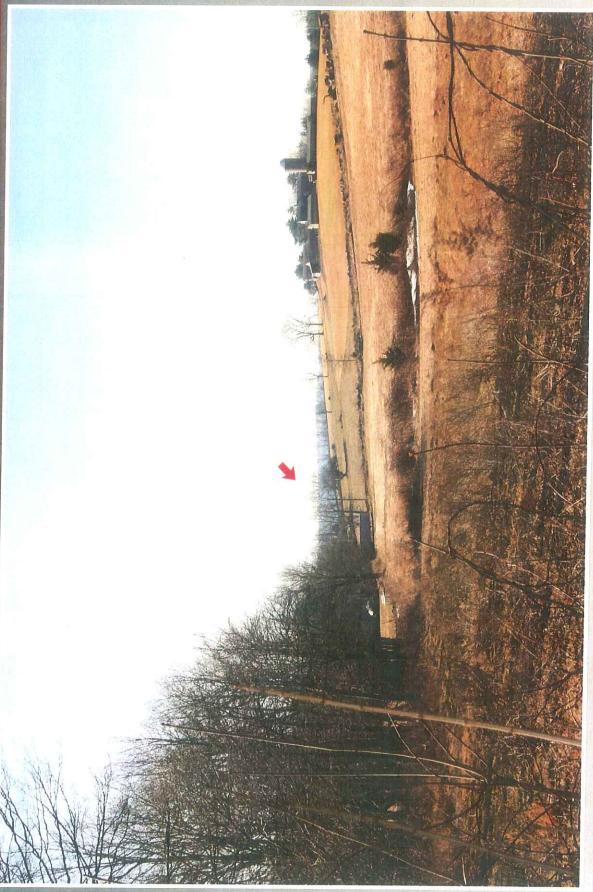


PHOTO TAKEN FROM CURTISS ROAD, LOOKING SOUTHWEST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.85 MILE +/-

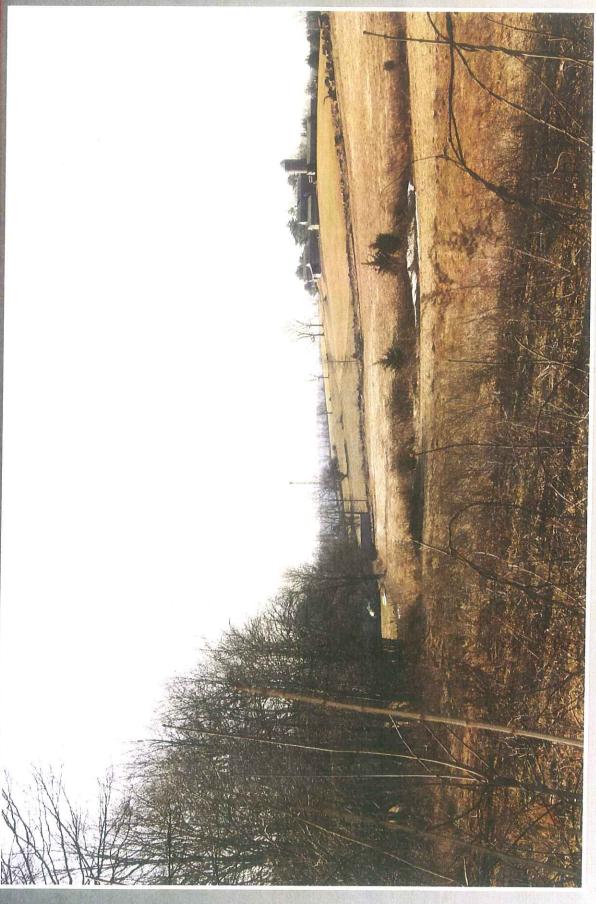


PHOTO TAKEN FROM CURTISS ROAD, LOOKING SOUTHWEST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.85 MILE +/-

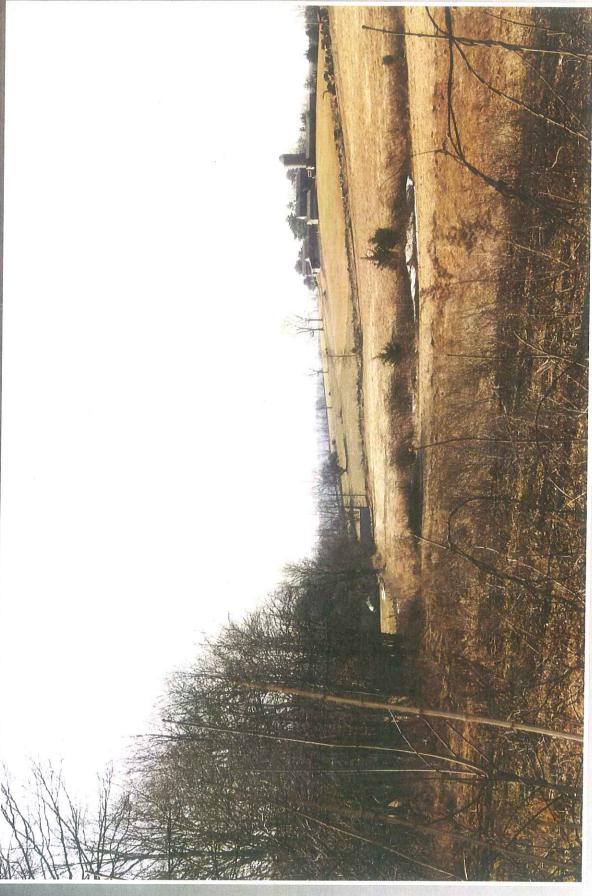


PHOTO TAKEN FROM CURTISS ROAD, LOOKING SOUTHWEST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.85 MILE +/-



PHOTO TAKEN FROM PROSPECT STREET ADJACENT TO HOUSE #529, LOOKING SOUTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.35 MILE +/-

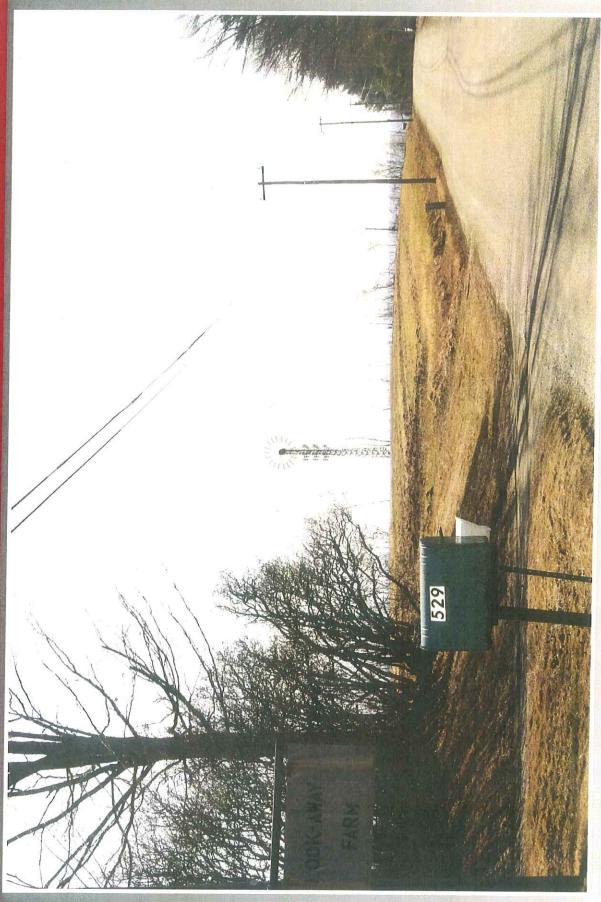


PHOTO TAKEN FROM PROSPECT STREET ADJACENT TO HOUSE #529, LOOKING SOUTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.35 MILE +/-

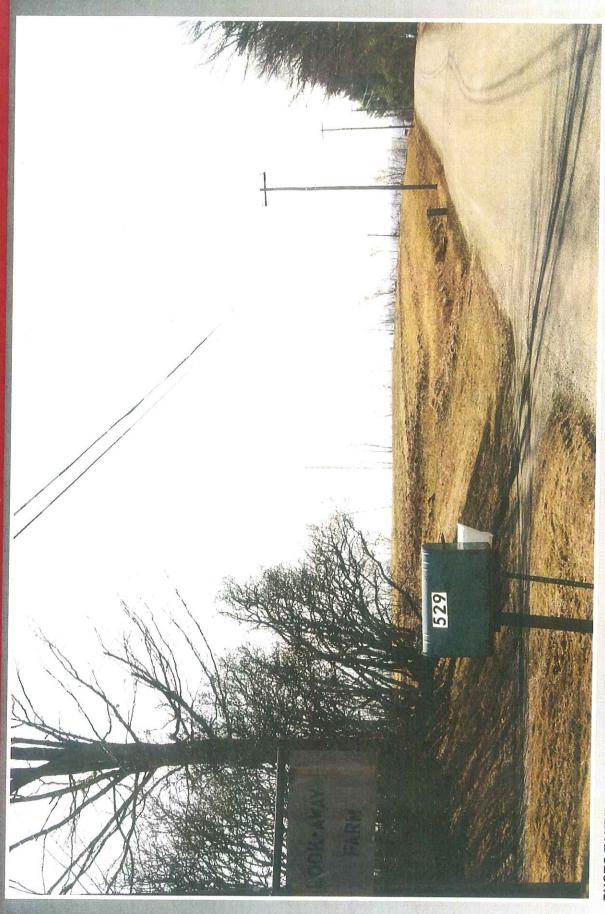


PHOTO TAKEN FROM PROSPECT STREET ADJACENT TO HOUSE #529, LOOKING SOUTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.35 MILE +/-



PHOTO TAKEN FROM PROSPECT STREET AT HOST PROPERTY, LOOKING SOUTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.14 MILE +/-



PHOTO TAKEN FROM PROSPECT STREET AT HOST PROPERTY, LOOKING SOUTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.14 MILE +/-



PHOTO TAKEN FROM PROSPECT STREET AT HOST PROPERTY, LOOKING SOUTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.14 MILE +/-

Photographic Documentation

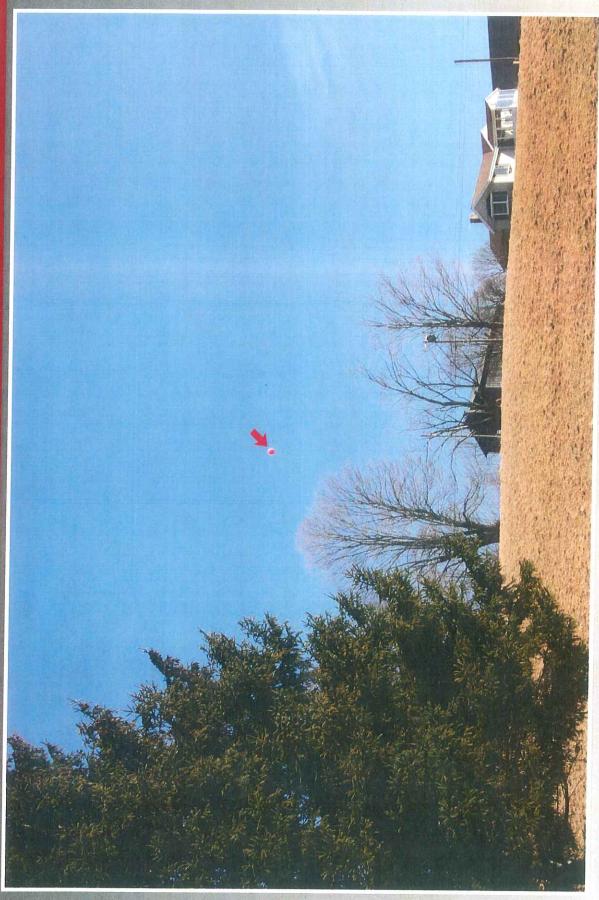


PHOTO TAKEN FROM GREEN ROAD WEST OF PROSPECT STREET, LOOKING NORTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.16 MILE +/-

View 4

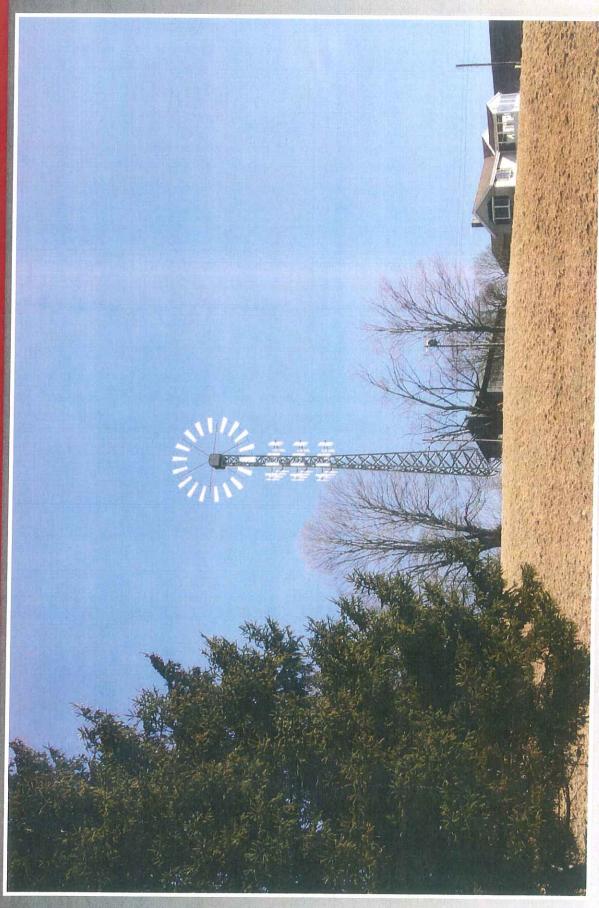


PHOTO TAKEN FROM GREEN ROAD WEST OF PROSPECT STREET, LOOKING NORTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.16 MILE +/-

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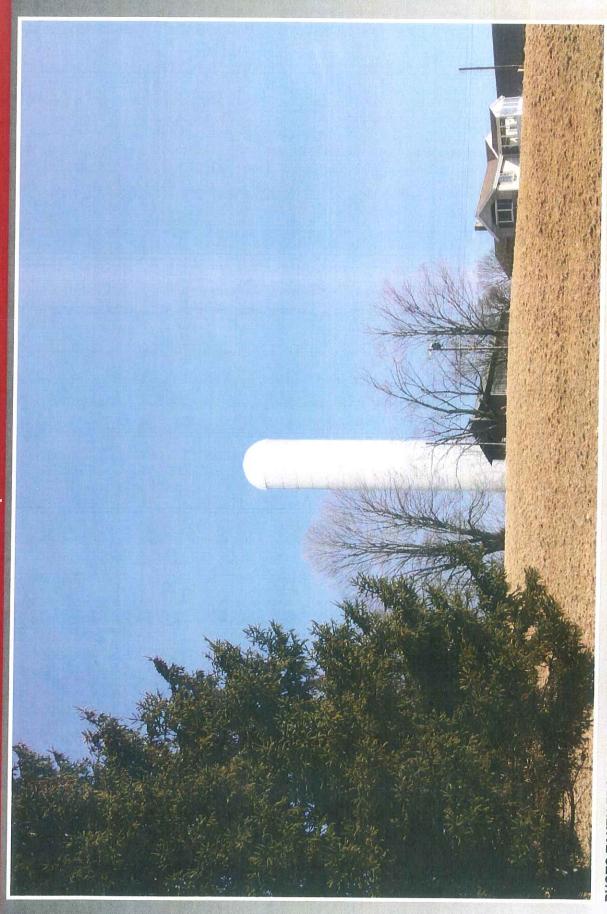


PHOTO TAKEN FROM GREEN ROAD WEST OF PROSPECT STREET, LOOKING NORTHEAST DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.16 MILE +/-

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Photographic Documentation

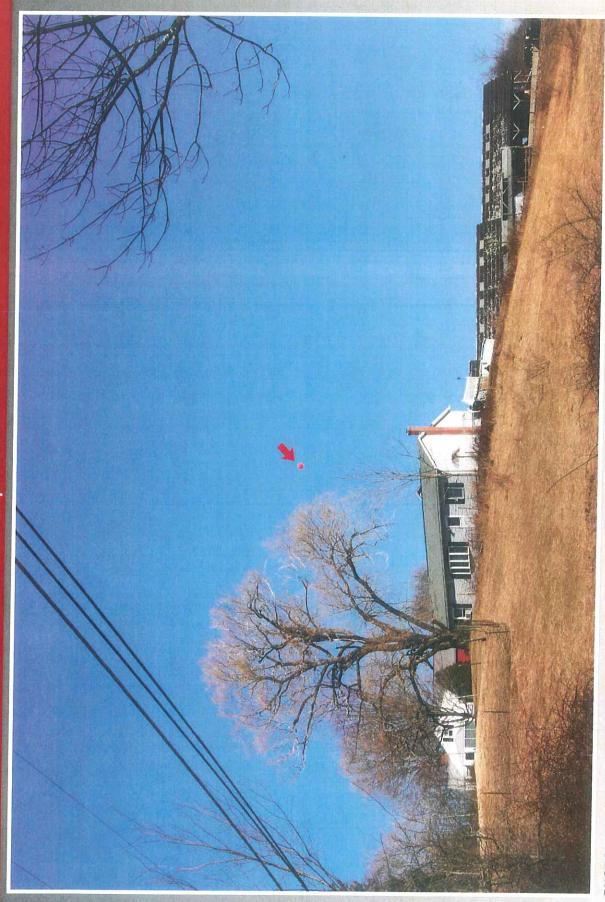


PHOTO TAKEN FROM PROSPECT STREET SOUTH OF GREEN ROAD, LOOKING NORTH DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.20 MILE +/-

View 5

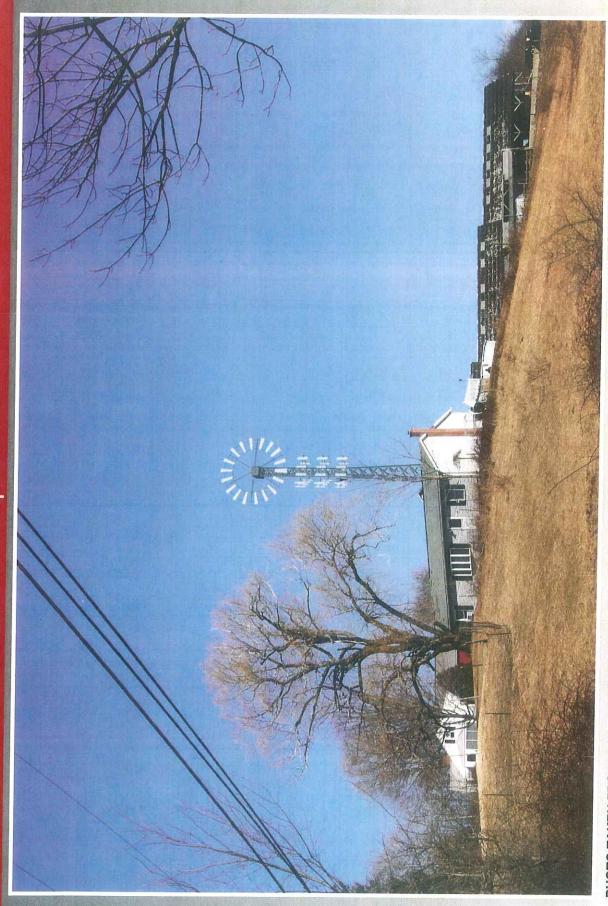


PHOTO TAKEN FROM PROSPECT STREET SOUTH OF GREEN ROAD, LOOKING NORTH DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.20 MILE +/-

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View 5

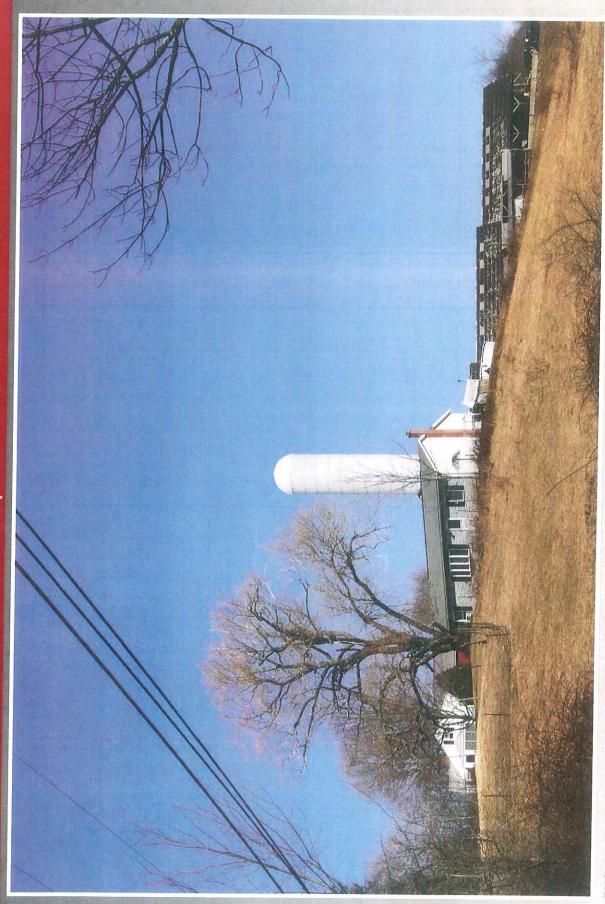


PHOTO TAKEN FROM PROSPECT STREET SOUTH OF GREEN ROAD, LOOKING NORTH DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.20 MILE +/-

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