



**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 Potential Alternate  
Site Locations  
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, during the March 11, 2010 Public Hearing held for this docket, the Connecticut Siting Council (the "Council") identified potential alternate areas on the host property and requested that Verizon Wireless further evaluate these for consideration for placement of its Facility.

During the March 11<sup>th</sup> hearing, council members specifically requested that Verizon Wireless explore two general relocation options, either an area on the eastern portion of the host property beyond the farm pond or an area southeast of the Currently Proposed Site Location (the original location identified in Docket 397) at the eastern edge of the cultivated field.

Upon further investigation, a total of four potential alternate site locations were identified; three east of the farm pond and the one along the east edge of the cultivated field. These locations are identified herein as Potential Alternate Sites A through D as depicted on the attached Alternate Sites Loci Map. Verizon Wireless' radio frequency engineers determined that a Facility at any of the locations could be designed to meet its coverage objectives. On March 19, 2010, VHB environmental staff and Verizon's project engineer, NatComm, Inc., conducted an in-field evaluation of the potential alternate sites to assess their development constraints, access, likely visibility, and possible wetland impacts. To address the Council's inquiry regarding a placement of a Facility beyond the farm pond, three potential alternate locations (A, B and C) were evaluated in this area. The fourth alternative location, (Alternative Site D) is located on the east edge of the cultivated field, approximately mid-distance between the Currently Proposed Site Location and the previously presented Alternate Site, adjacent to the barn.

Based on the results of the in-field constraints analysis, Potential Alternate Site B was identified as the most viable alternate site location. Potential Alternate Site A was eliminated from consideration due to wetland impacts as well as impacts to upland forest areas (i.e. substantial removal of mature trees); Potential Alternate Site C is located within close proximity to the southern property boundary of the host property proximate to two neighboring residences; and, Potential Alternate Site D was eliminated due to its proximity to the northerly abutting property. It was also determined that the overall view shed associated with Potential Alternate Site D would be similar to that of both the Currently Proposed Facility Location (approximately 370 feet to the northwest) and the Alternate Site (located approximately 300 feet to the southwest), and thus , not provide any substantial reduction in visibility to neighboring properties.

As part of the March 19, 2010 evaluation, VHB staff conducted a balloon float from Potential Alternate Site Location B and conducted in-field reconnaissance to document potential views associated with this site. Since this location sits at significantly lower ground elevation (approximately 520 feet AMSL) than the sites under consideration on the western portion of the host property, Verizon Wireless radio frequency engineers determined that a minimum height of 160 feet AGL would be required at this location. Balloons were therefore tethered at heights of 160 feet AGL and 170 feet AGL for comparative purposes. The balloons were photographed from the following locations:

1. Prospect Street adjacent to house #566.
2. Prospect Street adjacent to house #529.
3. Prospect Street at northern portion of host property.
4. Prospect Street at existing driveway to on host property.
5. Prospect Street at Green Road.
6. Green Road west of Prospect Street.
7. Prospect Street south of Green Road.

Photographic simulations depicting a traditional, 160-foot tall monopole with three antenna arrays were generated for each of the locations above.

VHB also generated a view shed map for Potential Alternate Site Location B (attached). According to the results of view shed model, year-round visibility associated with a 160-foot tall facility at Potential Alternate Site Location B would total approximately 95 acres within the 8,042-acre Study Area. As depicted on the attached view shed map, the overall footprint of potential year-round visibility would generally be reduced, but more importantly, as evidenced by the results of the balloon float (and as depicted in the corresponding photographic simulations), the installation of a 160-foot tall facility at Potential Alternate Site Location B would significantly minimize and/or eliminate year-round views from abutting residences along Prospect Street to the north of the host property when compared to both the Currently Proposed Site Location and the Alternate Site near the barn. Views along Prospect Street to the north and south of Green Road would be somewhat similar for each of these three locations. The Potential Alternate Site B location would also eliminate some of the more distant views associated with these two other site locations, primarily because of its lower ground elevation and the intervening topography. In total, VHB estimates that the Potential Alternate Site B Location would be at least partially visible from approximately six residential properties contained within the Study Area. This includes five residences located along Prospect Street and one residence located off Green Road. The attached view shed map also depicts areas where seasonal views are



anticipated. Overall, this area accounts for an additional 74 acres. VHB estimates that seasonal views may be achieved from approximately three residential properties located within the Study Area; two on Prospect Street and one on Green Road.

For comparison, the Currently Proposed Site Location would be visible year-round from approximately 167 acres. Portions of approximately 11 residential properties may have at least partial year-round views of the proposed Facility (at a 130-foot height) if it were situated at the Currently Proposed Site Location. An additional 102 acres and five residential properties are estimated to incur seasonal ("leaf off") views.

It is evident that a Facility developed at Alternate Site Location B, even at 160 feet tall, would be less visually intrusive than utilizing the Currently Proposed Site Location or the Alternate Site. Further, no significant access, wetlands or construction-related constraints were identified that would prohibit development of the Facility at this location.



584 Prospect Street

2.52 Acre Parcel Retained by Arthur & Phyllis Kuper

Host Property - 445 Prospect Street

Currently Proposed Site Location

Potential Alternate Site Location D

Alternate Site Location

Prospect Street Pond

Potential Alternate Site Location A

Potential Alternate Site Location B

Green Rd

Prospect St

Potential Alternate Site Location C

399 & 401 Prospect Street



**Legend**

- ✕ Potential Alternate Site A
- ✕ Potential Alternate Site B
- ✕ Potential Alternate Site C
- ✕ Potential Alternate Site D
- Existing Property Line
- - - Existing Path
- - - Potential Lease Area
- Open Water

Vanasse Hangen Brustlin, Inc.

Alternate Sites Loci Map  
 Proposed Verizon Wireless  
 Telecommunications Facility  
 East Woodstock, CT  
 445 Prospect Street  
 Woodstock, Connecticut





Photographic Documentation and Simulations

# Proposed Wireless Telecommunications Facility

East Woodstock  
Potential Alternate Site Location (Site B)  
445 Prospect Street  
Woodstock, CT

SUBMITTED TO:

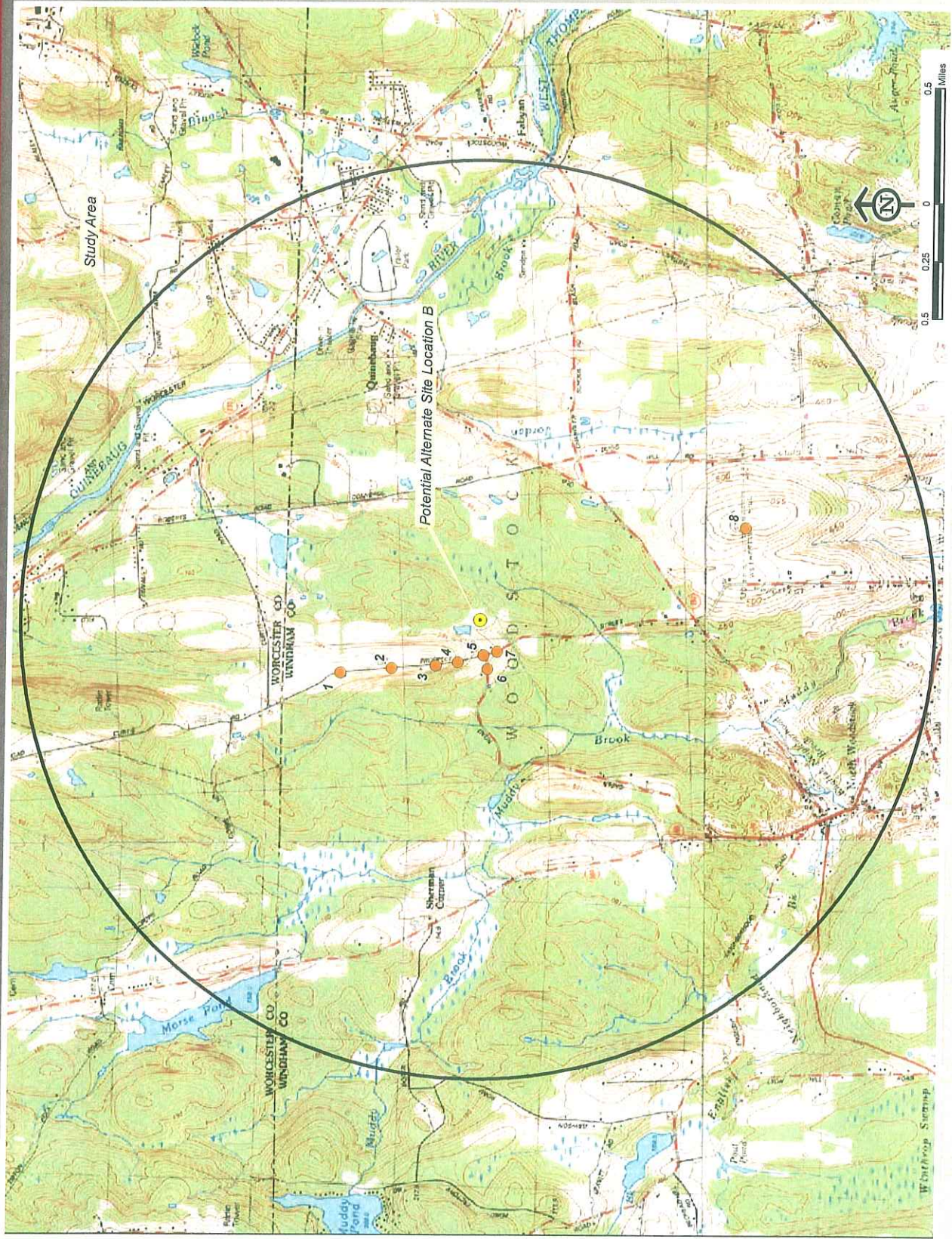


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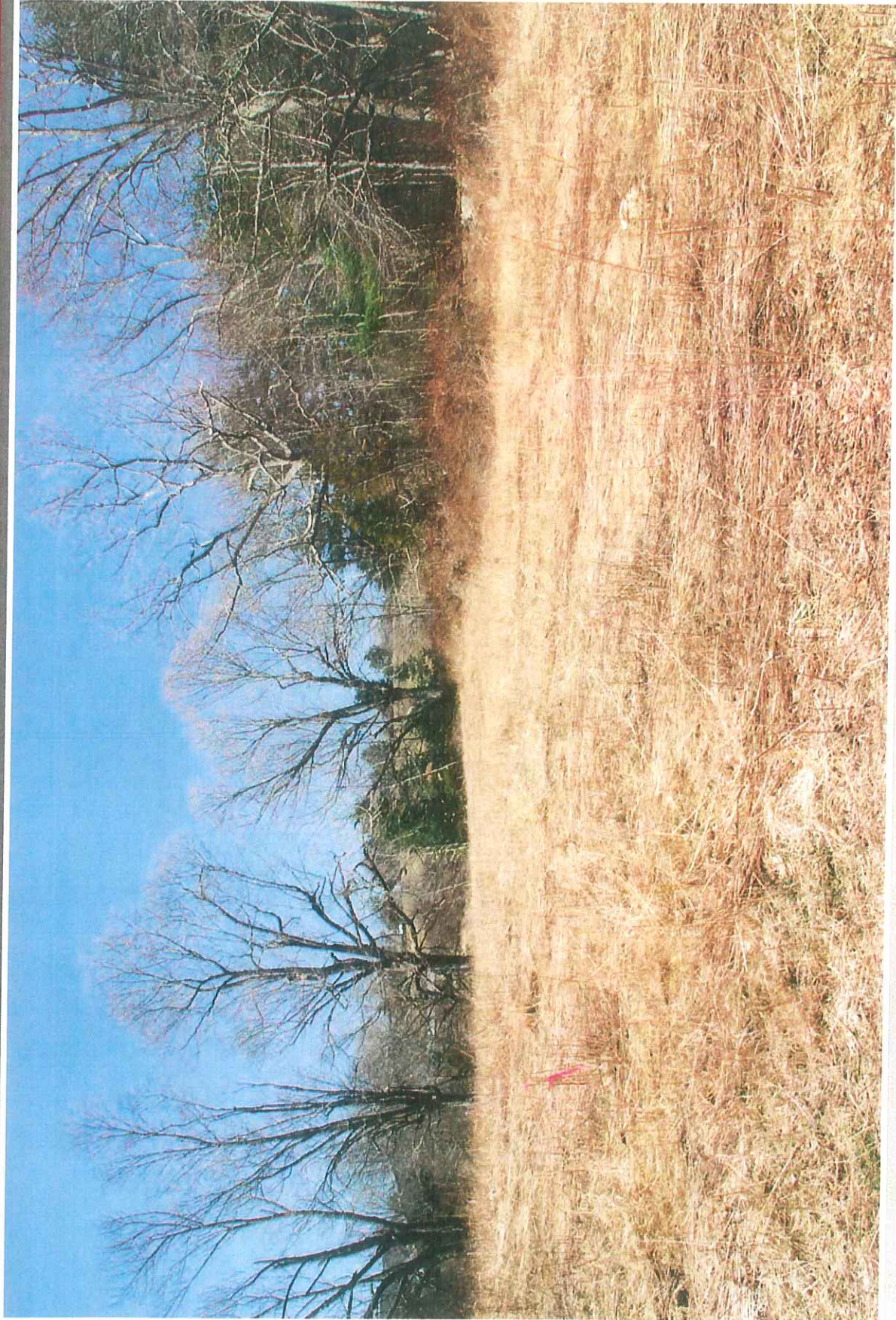
# Photolog Map



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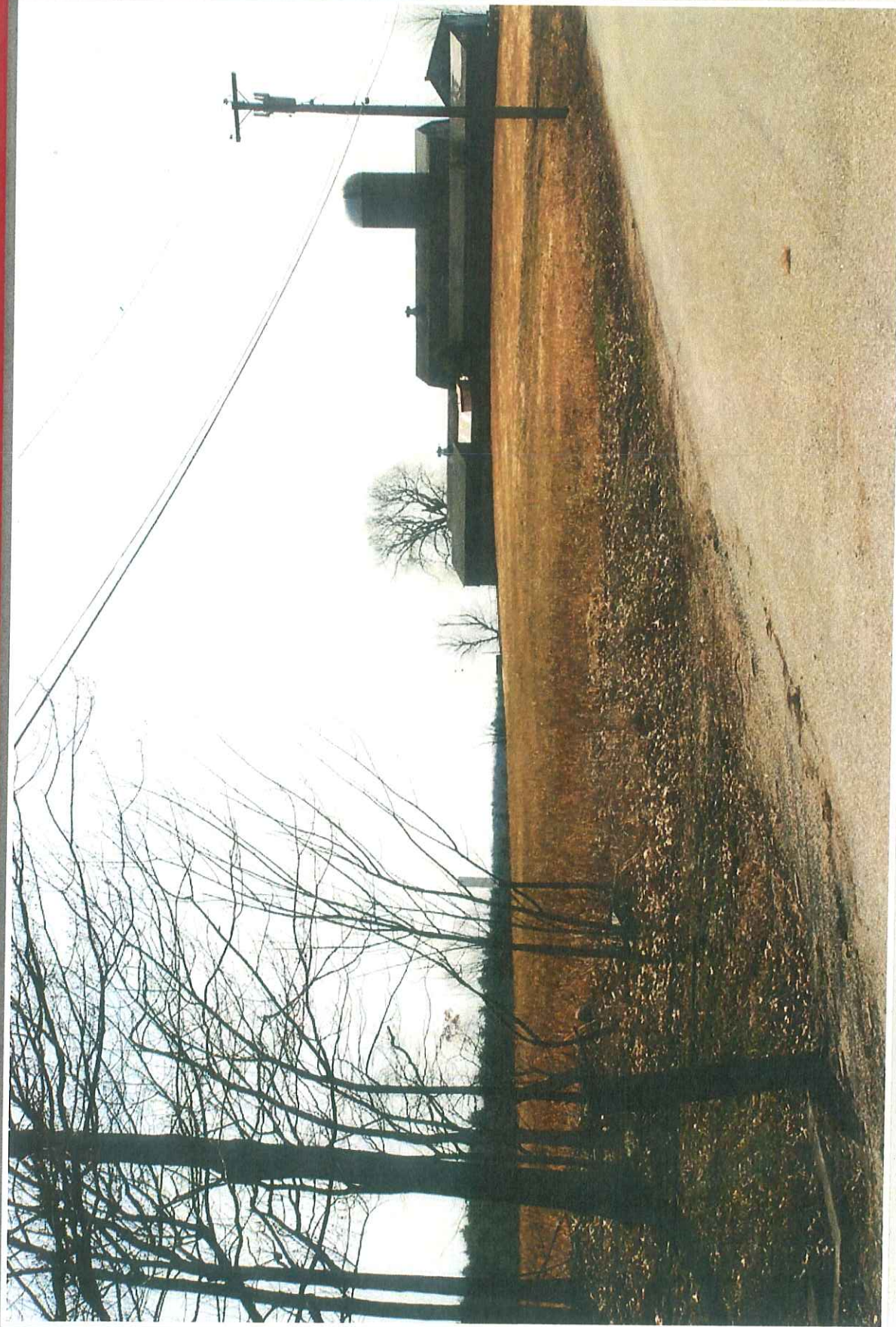
# Photographic Documentation



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POTENTIAL ALTERNATE SITE B PROJECT AREA





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**PHOTO TAKEN FROM PROSPECT STREET ACROSS FROM HOUSE #566, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.65 MILE +/-**





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**PHOTO TAKEN FROM PROSPECT STREET ACROSS FROM HOUSE #566, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.65 MILE +/-**





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**PHOTO TAKEN FROM PROSPECT STREET ADJACENT TO HOUSE #529, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.44 MILE +/-**





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**PHOTO TAKEN FROM PROSPECT STREET ADJACENT TO HOUSE #529, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.44 MILE +/-**



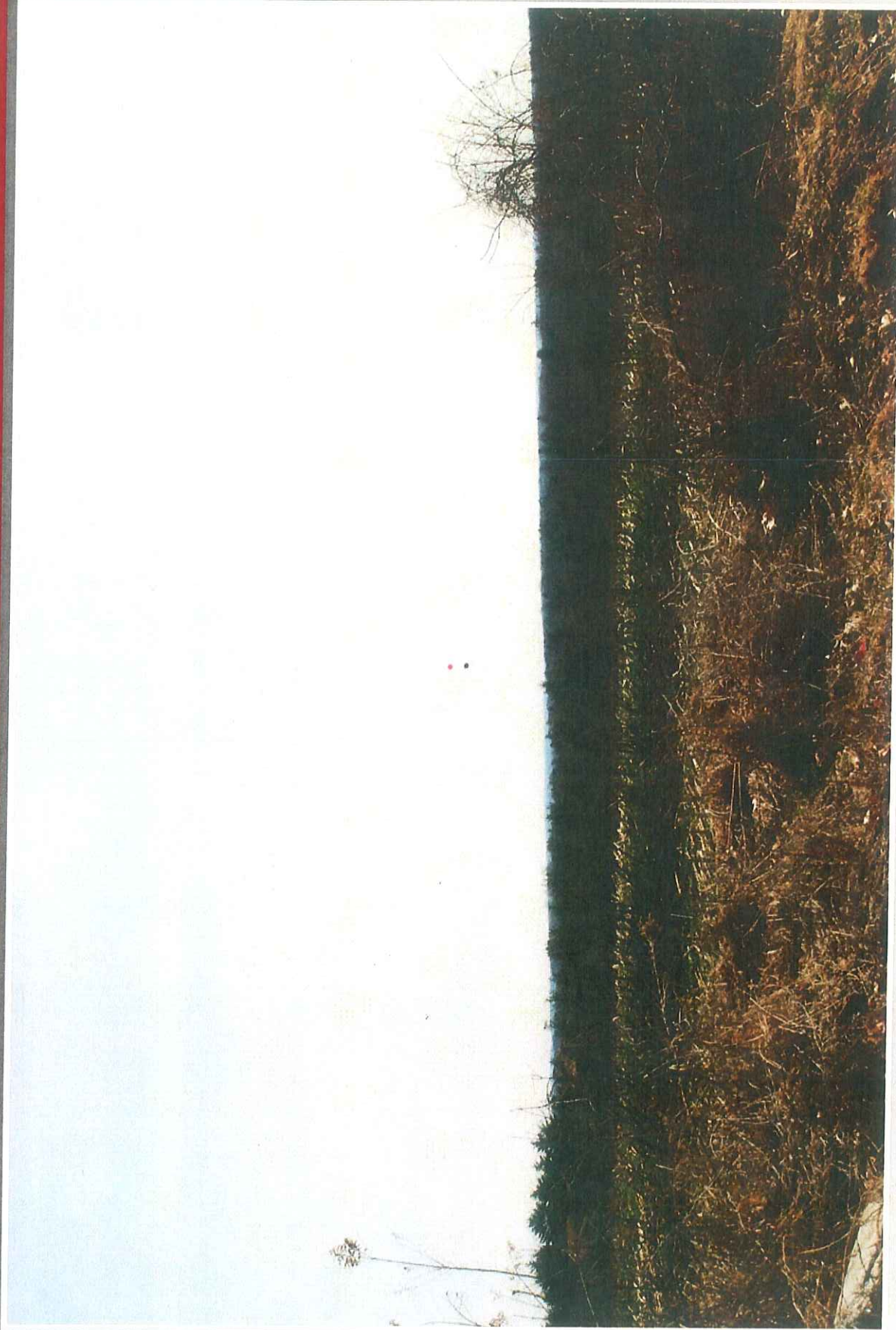


PHOTO TAKEN FROM PROSPECT STREET AT NORTHERN PORTION OF HOST PROPERTY, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.27 MILE +/-

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PHOTO TAKEN FROM PROSPECT STREET AT NORTHERN PORTION OF HOST PROPERTY, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.27 MILE +/-

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PHOTO TAKEN FROM PROSPECT STREET NORTH OF EXISTING DRIVEWAY ON HOST PROPERTY, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.21 MILE +/-

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PHOTO TAKEN FROM PROSPECT STREET NORTH OF EXISTING DRIVEWAY ON HOST PROPERTY, LOOKING SOUTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.21 MILE +/-

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PHOTO TAKEN FROM PROSPECT STREET AT GREEN ROAD, LOOKING EAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.15 MILE +/-

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**PHOTO TAKEN FROM PROSPECT STREET AT GREEN ROAD, LOOKING EAST**  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.15 MILE +/-





PHOTO TAKEN FROM GREEN ROAD WEST OF PROSPECT STREET, LOOKING NORTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.21 MILE +/-

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**PHOTO TAKEN FROM GREEN ROAD WEST OF PROSPECT STREET, LOOKING NORTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.21 MILE +/-**



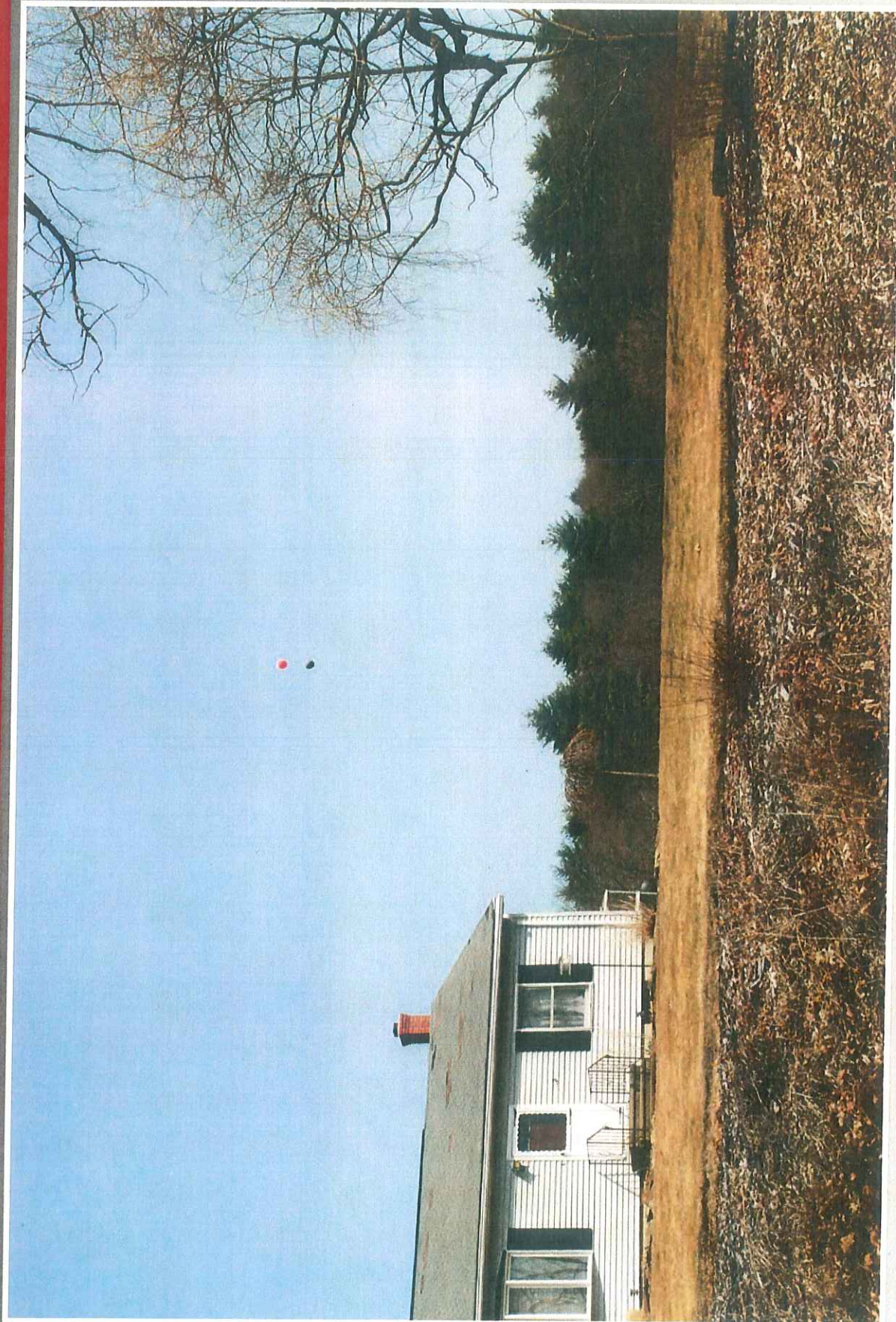


PHOTO TAKEN FROM PROSPECT STREET SOUTH OF GREEN ROAD, LOOKING NORTHEAST  
DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.16 MILE +/-

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



REV.	DATE	BY	CHK'D BY	DESCRIPTION
A	07/27/09	JAC	JAC	ISSUE EXHIBIT - ALTERNATE SITE A
B				
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**VERIZON WIRELESS**  
 EAST WOODSTOCK  
 445 PROSPECT STREET  
 WOODSTOCK, CT

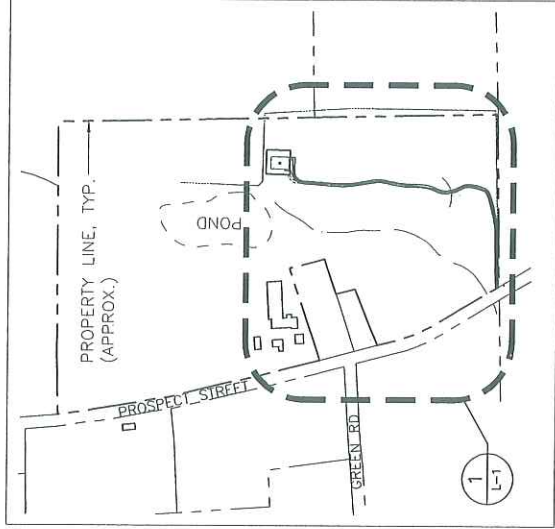
DATE: 06/27/09  
 SCALE: AS SHOWN  
 SHEET NO.: 01008

SHEET NO. **L-1**

**LEASE EXHIBIT**

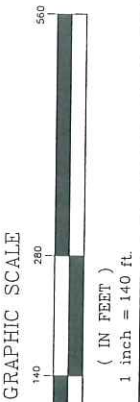
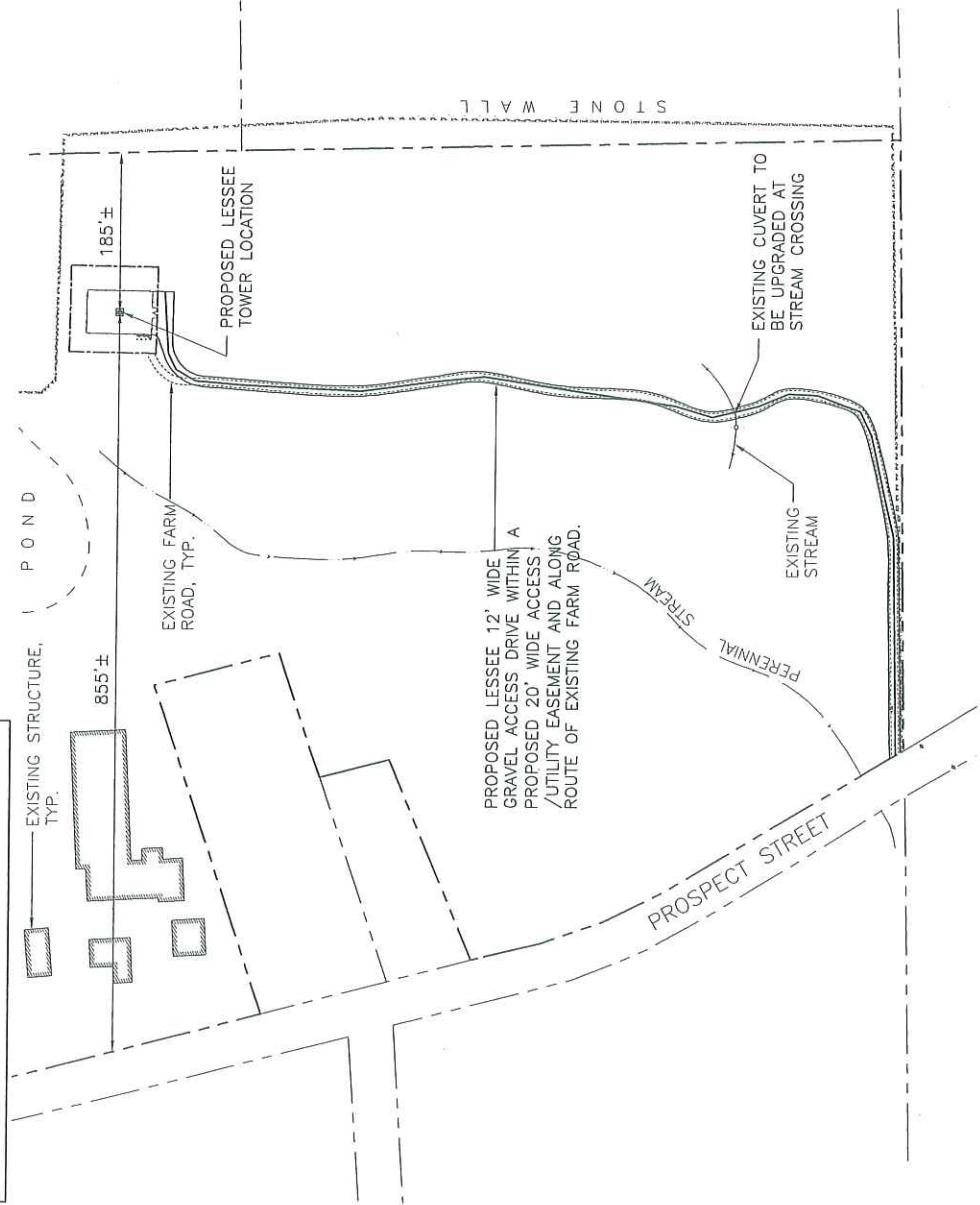
THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT, INCLUDING STRUCTURAL VERIFICATION WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

- NOTES:**
1. THE PROPOSED LESSEE ANTENNA INSTALLATION SHALL INCLUDE (3) SECTORS OF (5) ANTENNAS EACH FOR A TOTAL OF (15) ANTENNAS.
  2. TOWER SHALL BE LOCATED WITHIN LEASE AREA. IT'S LOCATION SHOWN HEREIN IS APPROXIMATE AND SUBJECT TO CHANGE PENDING FINAL SITE DESIGN.
  3. LOCATION OF EXISTING UTILITY SERVICE DEMARCS TO BE DETERMINED/VERIFIED BY THE LOCAL UTILITY COMPANIES.
  4. PROPERTY LINES SHOWN HEREIN ARE BASED ON TOWN OF WOODSTOCK ASSESSOR'S MAP.



**SITE KEY PLAN**  
 SCALE: 1" = 500'

PRELIM. SITE COORDINATES: LAT.: 42°-00'-53.424"  
 LNG.: 71°-58'-50.500"  
 GROUND ELEVATION: 520' ± A.M.S.L.



**PARTIAL SITE PLAN**  
 SCALE: 1" = 140'

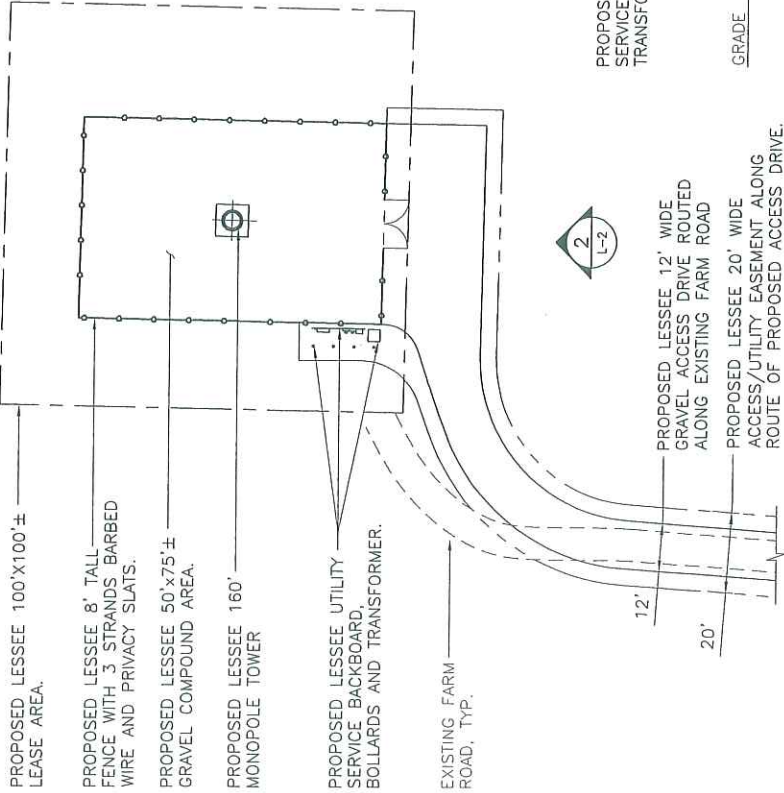




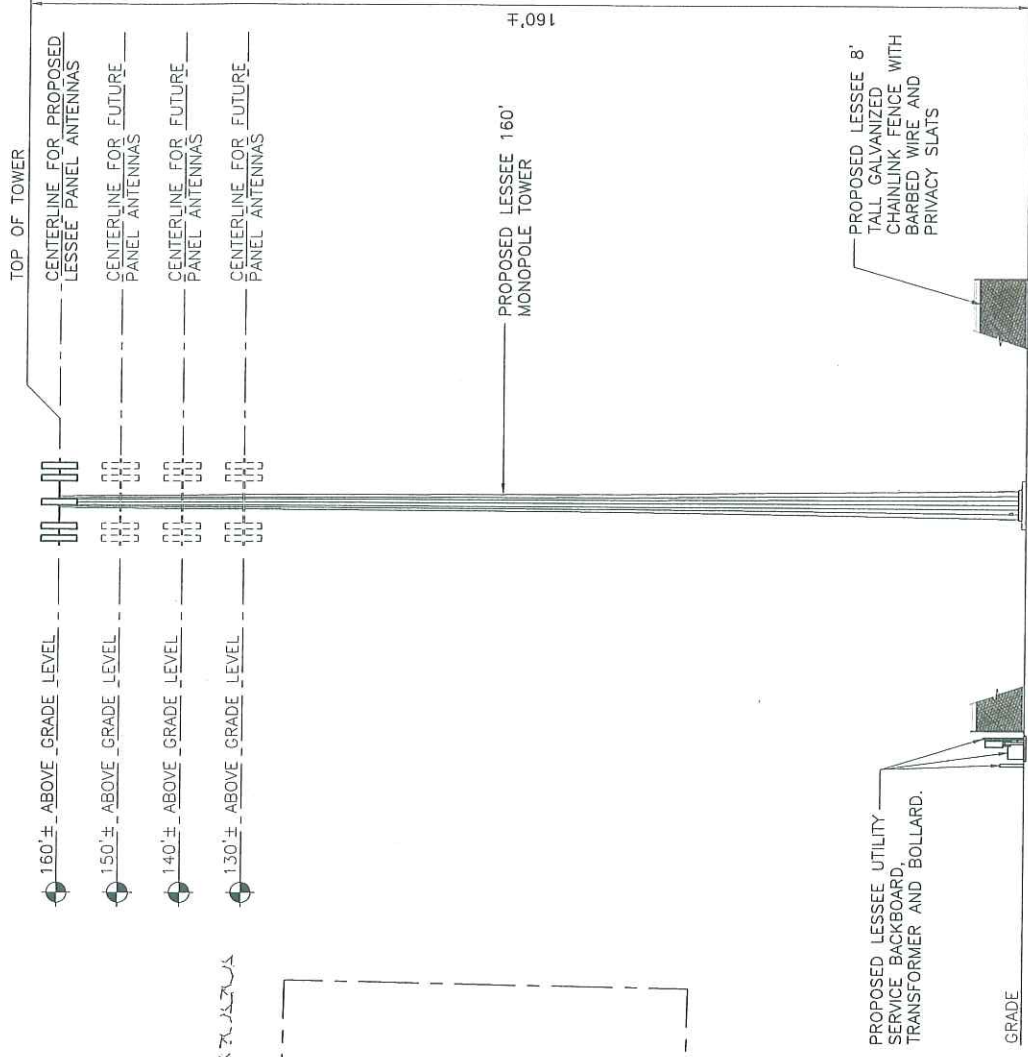
**LEASE EXHIBIT**

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STONE WALL



**1**  
L-2  
**COMPOUND PLAN**  
SCALE: 1" = 30'



**2**  
L-2  
**SOUTH ELEVATION**  
SCALE: 1" = 20' - 0"

DESIGNED BY:	DWG:	CYC:
DRAWN BY:		
CHECKED BY:		

REV	DATE	BY	CHK'D BY	DESCRIPTION
A	04/27/18	ENG	CYC	LEASE EXHIBIT - ALTERNATE SITE 'A'

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WOODSTOCK, CT

DATE: 06/29/18  
SCALE: AS SHOWN  
JOB NO. 00006  
SHEET NO. **L-2**