

# PLAPC

PARISI LAW ASSOCIATES, P.C.

**APPLICATION FOR  
SPECIAL PERMIT AND SITE PLAN APPROVAL  
(Planning Board)  
And  
VARIANCES  
(Zoning Board)  
FOR  
PERSONAL WIRELESS SERVICE FACILITY  
  
SUPPLEMENT No. 3**

**Applicant:** Vertex Towers, LLC  
**Site Id:** VT-MA-0019F  
**Property Address:** 28 Martin Road, Buckland, MA 01338  
**Tax Assessors:** 8-0-60 (facility)  
8-0-60.1 (access)  
**Property Owner:** Amos M. Franceschelli and Christopher Franceschelli  
**Date:** July 7, 2022

1. Virtual Site Simulations: Balloon Test Process and Documentation
2. Revised Photographic Simulation Package Pages 13 and 14 (photo location 10)
3. Supplemental Photographic Simulation Package

Respectfully submitted,



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# Balloon Test- Process & Documentation

## VT-MA-0019F

A balloon test is conducted to be used as the visual reference for site observations from multiple locations throughout the study area. The balloon test consists of flying an approximately 3 Ft. diameter helium filled balloon to the top elevation of the proposed structure. A red balloon is typically used to provide the best contrast between it and surrounding sky or vegetation. The balloon is then tethered to the location of the proposed structure, while elevation is set by measuring the length of the tether. The tether is a braided polyethylene (with little to no stretch) line, pre-measured and marked with a black mark every 5 feet with the base color of the line changing every 25 feet. The line is measured to the base of the balloon. To increase accuracy, the location of the base of the tether is determined using both construction or zoning drawings depicting landmarks which are previously flagged with stakes and or orange tape, and confirming with GPS (Global Positioning System) or latitude and longitude numbers.

Balloon test accuracy is very wind dependent. The balloon test is therefore scheduled on a day with wind conditions below the accepted threshold of 10mph. Drive-by visual reconnaissance of the Study Area is then conducted. Locations where the Balloon is visible and not visible are photo documented. GPS data from the photos and camera is used to document photo locations, directions and other meta data. A track of the cameras travel in the study areas is made and added to a map as an overlay. Reconnaissance areas are limited to public areas/roads, no private property is used in the on-site observations of this test.

Photo documentation of this test is accomplished using a Nikon P900 16Mp digital camera set to use a 50mm focal length<sup>1 2</sup>. The Nikon P900 was chosen because it has built- in XMP metadata files that embed the GPS location, light conditions and bearing to target within the image source data file. These photos document the necessary location and bearing data to ensure the accuracy of simulation location. This documentation can then be incorporated into a computer model prediction. The on-site observations are used to adjust model assumptions made in the 3d model as necessary.

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<sup>1</sup> "The lens that most closely approximates the view of the unaided human eye is known as the normal focal length lens. For the 35 mm camera format, which gives an 24 x 35mm image, the normal focal length is about 50mm" Warren Bruce Photography, West Publishing Company, Egan, MN c 1993 (page 70)

<sup>2</sup> 50 mm focal length is based on 35mm film photography. Since Digital photographic sensors are not the same size as 35mm film ALL digital photography focal lengths must be corrected

## Photographic Documentation – Photorealistic Simulations

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A number of photographs are chosen from the on-site documentations photos and used to prepare photorealistic simulations of the proposed telecommunications facility. GPS coordinates and bearing information recorded within the XMP metadata file of the documentation photos are used to generate virtual camera positions within a 3d model. The balloon in the documentation photos is used as a spatial reference to verify the proportions and height of the proposed tower. Site plan information, field observations and 3D models are then used in these simulations to portray relative scale and location of the proposed structure. The photo simulations are then created using a combination of the 3d model and photo rendering software. These simulations and the existing site photographs provided for reference are attached.

### Limitations:

This report and the analysis herein does not claim to depict all locations, or the only locations from which the proposed facility will be visible; it is intended to provide a representation of those areas where proposed facility is likely to be visible within the study area.

### Weather:

**First Balloon float:** 0-5mph in the early morning, 5-10mph in the afternoon

**Second Balloon Float:** 5-7mph all day

**Third Balloon Float:** almost no wind, 0-3mph all day

### Location:

A 3-foot red Helium filled balloon was flown at one hundred fifty feet (150') located at 42.577356 -72.693697 on the following dates:

**First Balloon float** - 6/14, 8am-2pm

**Second Balloon Float** - 6/15, 8am-7pm, balloon down 5-5:45 due to helium loss

**Third Balloon Float** - 6/25, 8am-7pm

David Archambault

*David Archambault*

Virtual Site Simulations

7/6/2022



**2**

Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	Upper St	42.58592	-72.79757	0.62 Miles	North	162	Year Round

**Site: VT-MA-0019F Buckland**

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Simulation



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	Upper St	42.58592	-72.79757	0.62 Miles	North	162	Year Round

**Site: VT-MA-0019F Buckland**

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
9.1	Lower Rd	42.58598	-72.79017	0.62 Miles	North	197	Year Round

**Site: VT-MA-0019F Buckland**

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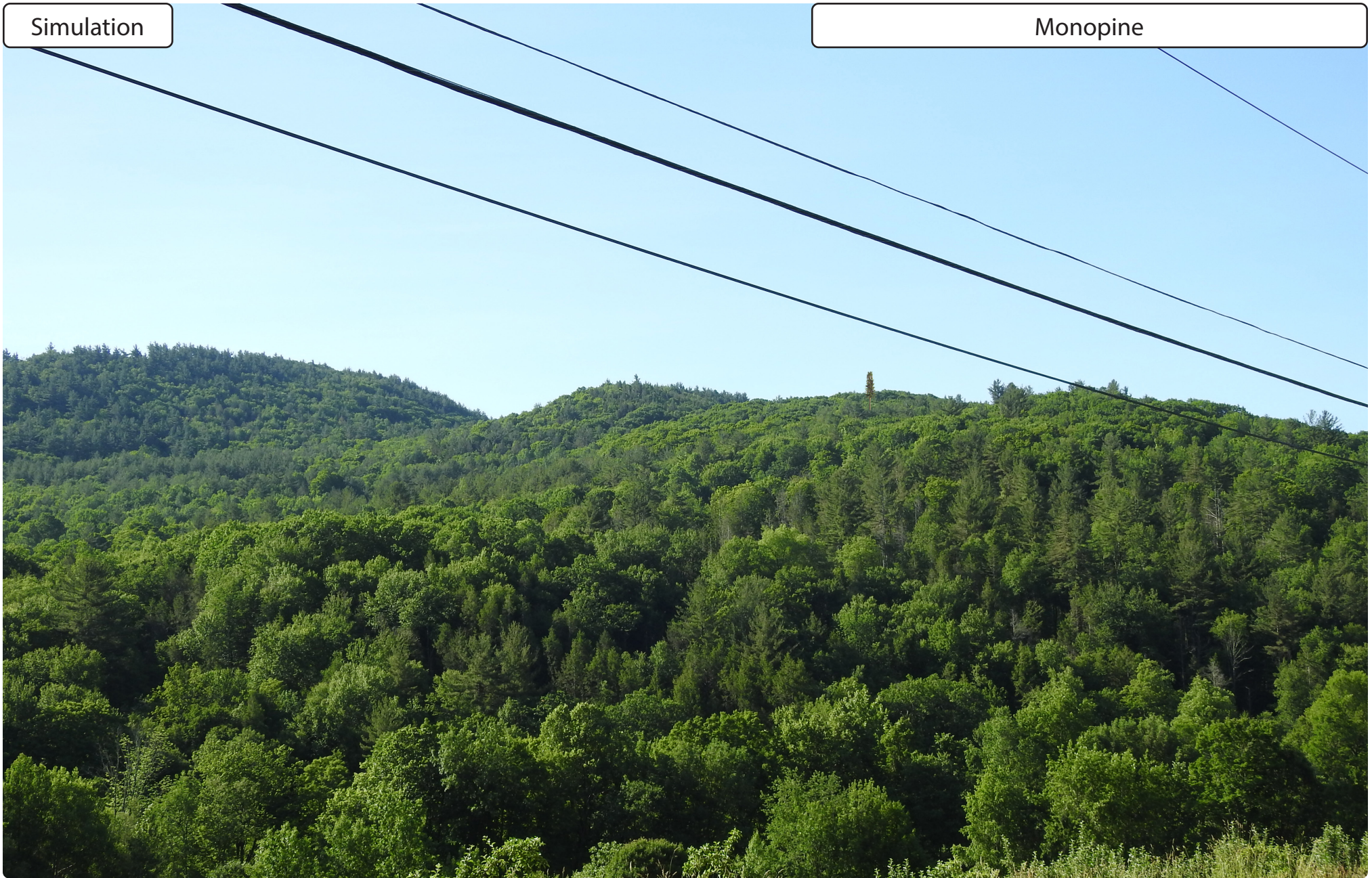


Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10.1	Upper St	42.58559	-72.79759	0.6 Miles	North	161	Year Round

Site: VT-MA-0019F Buckland

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Simulation

Monopine



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
12.1	Martin Rd	42.58721 -72.79116	0.69 Miles	North	191	Year Round

Site: VT-MA-0019F Buckland

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
14.1	Orcutt Hill Rd	42.58616	-72.80417	0.81 Miles	North-West	139	Year Round

**Site:** VT-MA-0019F Buckland

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
17.1	Orcutt Hill Rd	42.58119	-72.80959	0.85 Miles	West	108	Year Round

**Site: VT-MA-0019F Buckland**

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Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
18.1	Upper St	42.5898 -72.794	0.86 Miles	North	179	Year Round

Site: VT-MA-0019F Buckland

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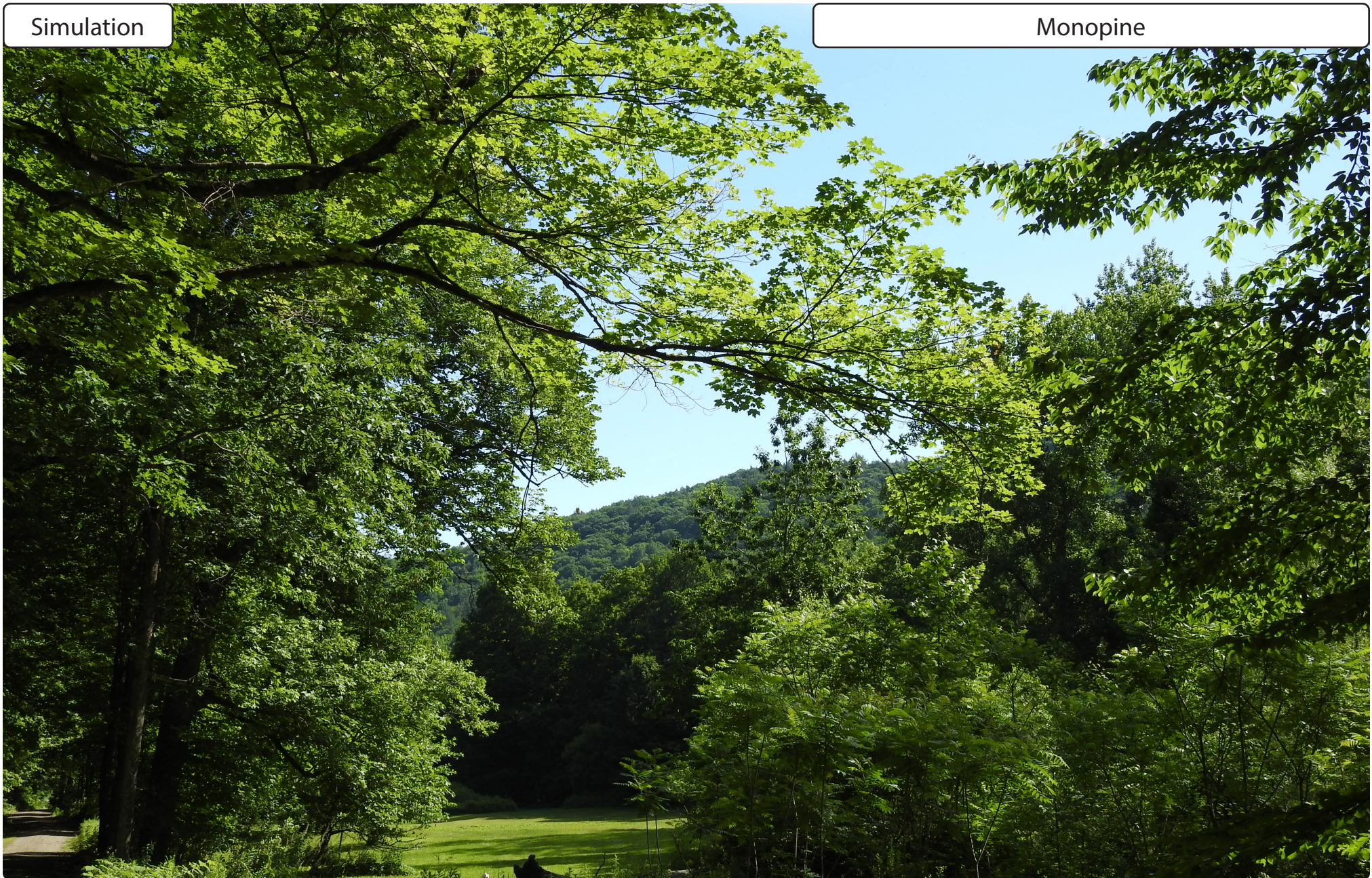


Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
23.1	Clesson Brook Rd	42.57046	-72.81085	0.99 Miles	South-West	61	Year Round

Site: VT-MA-0019F Buckland

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Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
24.1	Charlemont Rd	42.59308 -72.79272	1.09 Miles	North	183	Year Round

**Site:** VT-MA-0019F Buckland

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
25.1	Hog Hollow Rd	42.59257	-72.78686	1.11 Miles	North	198	Year Round

**Site:** VT-MA-0019F Buckland

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
26.1	Ashfield Rd	42.59941	-72.78118	1.65 Miles	North-East	203	Year Round

Site: VT-MA-0019F Buckland

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