Planning Board
Zoning Board of Appeals

Robert A. Watchilla
Director of Planning &
Community Development

Town of Ware

Planning & Community Development

Application for Special Permit

126 Main Street
Ware, MA 01082
413.967.9648 ext. 120
www.townofware.com

SP-20 22-06

Applicant

Name of Applicant (primary contact): Cellco Partnership d/b/a Verizon Wireless

Address: c/o Gehring & Associates. LLC, P. O. Box 98, West Mystic, CT 06388

Phone: 860-536-0675 Cell:

Email Address: wireless@gehringzone.com

Owner

Name of Owner (primary contact): Big Y Foods, Inc.

Address: P. O. Box 7840, Springfield, MA 01102

Phone: Cell:

Email Address:

Request

Choose applicable Zoning Bylaw Section: 4.8.2, 7.2 and 7.4 and 47 U.S.C. 332(c)(7)(B); All Rights Reserved.

Will the project require a: **Site Plan Review:** [X] Yes* [ ] No **Variance:** [ ] Yes* [X] No **Explain in narrative*

Property

Location of Property: 148 West ~~Road~~ Street (behind Big Y)

Assessor's Tax Map/Parcel Number: 56-0-102

Deed Reference – Hampshire District Registry of Deeds Book/Page Number: Book 5724, Page 101

Plan Reference – Hampshire District Registry of Deeds Book/Plan Number:

Zoning District: HC - Highway Commercial Acreage: 8.6

Check all that apply: [ ] Wetlands* [ ] Floodplain* [ ] Aquifer * Wetlands and Floodplain are on portions of Subject Property, but proposed facility is not.

Proposal

Brief description of the proposal: Install a new wireless communications facility tower and equipment compound pursuant to the enclosed plans and supporting materials which are incorporated into and made part of this Application. This site is necessary to replace the existing wireless site that will be lost when the Mary Lane Hospital building is decommissioned. All Rights Reserved.

Sign

Applicant's signature: ~~Cellco Partnership d/b/a Verizon Wireless~~ By Gehring, Its Agent

Owner's signature: See enclosed Letter of Authorization

Date: 4-14-22

Town Clerk's stamp:

RECEIVED
APR 14 2022
TOWN CLERK'S OFFICE
TIME RECEIVED 11:20 am

Official Use Only: Preliminary Review By: RW Date 4/14/22

Fee: $ 750.00 Date Paid: 4/14/22 Check #: 1889

Date of Public Hearing: May 19, 2022

Decision of Board:

Date of Decision: Expiration Date:

APPLICATION
FOR A
SPECIAL PERMIT
AND
SITE PLAN APPROVAL

SUBMITTED TO:
TOWN OF WARE
PLANNING BOARD

Applicant:	Cellco Partnership d/b/a Verizon Wireless
Subject Parcel:	148 West Road, Assessor's Parcel 56-0-102 ("Subject Property")
Zoning District:	HC – Highway Commercial
Proposed Use:	Install a new Wireless Communications Facility tower with accessory ground equipment including a stand-by power generator.
Requested:	Special Permit and Site Plan Approval pursuant to Sections 4.8.2, 7.2, 7.4 and other applicable sections of the Town of Ware Zoning Bylaws, M.G.L. Chapter 40A, and the Telecommunications Act of 1996, 47 U.S.C. 332(c)(7)(B); All Rights Reserved.
Date:	April 14, 2022

On behalf of Verizon Wireless by:
Gehring & Associates, LLC
P. O. Box 98
West Mystic, CT 06388
860-536-0675
wireless@gehringzone.com

verizon

GEHRING & ASSOCIATES, LLC
Wireless Planning & Zoning

Post Office Box 98
West Mystic, CT 06388

860-536-0675
wireless@gehringzone.com

April 14, 2022

Planning Board
Town of Ware
126 Main Street
Ware, MA 01082

RE: Application of Cellco Partnership d/b/a Verizon Wireless for a Special Permit and Site Plan Approval to Install a New Wireless Communications Facility at 148 West Road, Assessor's Parcel 56-0-102

Dear Members of the Planning Board:

Cellco Partnership d/b/a Verizon Wireless ("Applicant") is pleased to submit the enclosed Application for a Special Permit and Site Plan Approval to construct a new Wireless Communications Facility at 148 West Road, Assessor's Parcel 56-0-102 ("Subject Property"). The Subject Property is located in the HC - Highway Commercial Zoning District.

Verizon Wireless is currently on-air on an installation on the roof of the Mary Lane Baystate Hospital building. That building is due to be demolished and Verizon has to find a new location from which to broadcast its signal which is currently providing coverage to the southern and downtown sections of Ware.

A search of the area did not discover any existing communications towers or other structures tall enough nearby to support Verizon's antennas. Accordingly, land sites were searched where a new tower could be located in an unobtrusive manner.

The Subject site was chosen because it is in a commercial zoning district and is currently utilized for commercial purposes. An area to the rear of the property was chosen where a monopole could be built and remain unobtrusive to the neighborhood.

Once constructed, the facility will host no employees so there will be no activity on-site as a result of this proposed installation. A Special Permit and Site Plan Approval are respectfully requested. No variances are needed or requested for the proposed installation.

Enclosed for your review and consideration are the following which are incorporated into and made part of this Application:

Tab 1 - Town Application Forms & Waivers Request
Tab 2 - Statement in Support of Application
Tab 3 - Landowner Authorization
Tab 4 - Assessor's Field Card, Tax Map and Deed
Tab 5 - FCC Licenses
Tab 6 - RF Engineer's Report and Coverage Plots
Tab 7 - RF Emissions Compliance Report
Tab 8 - FAA No Hazard Determination
Tab 9 - Acoustical Compliance Report
Tab 10 - Fall Zone Letter
Tab 11 - Wetlands Report
Tab 12 - Real Estate Valuation Non-Impact Report
Tab 13 - Photos and Photo-Simulations
Tab 14 - Site Plans & Elevation Drawings

The Applicant looks forward to its Public Hearing where the enclosed may be presented for your consideration and approval.

Sincerely,

Gehring & Associates, LLC

By CGehring
Carl W. Gehring, on behalf of Cellco Partnership d/b/a Verizon Wireless

Enclosures

cc: Big Y Foods - Landowner
Dave Tivnan - Verizon Wireless Real Estate Department

Verizon Wireless Communications Facility

Engineering Necessity Case – WARE 4, MA

Prepared by:
Kip DiVito
March, 2022

verizon

Project Need Overview:

This Radio Frequency (RF) report is being provided for Verizon's proposed Ware 4, MA site. Ware 4 will consist of a 75x75 ft leased area with ground based equipment, 130 ft monopole, and necessary RF equipment mounted at 125 ft Above Ground Level (AGL). The proposed location has been found through a site acquisition process with RF consultation. This location has been found acceptable to provide a similar coverage footprint to replace Verizon's Ware, MA site located on Baystate Mary Lane Hospital, that is scheduled for demolition.

The testimony provided in this report for Ware 4, MA is unique in that Verizon is not making the case for new coverage or more capacity; the reason for Ware 4 is to replace the service the residents, first responders, and businesses experience today provided by the Ware MA site. Therefore, the location has taken precedence throughout the conversation. Moving too far in any direction moves the coverage too far away or towards locations that Ware, MA is currently covering today. Moving the location of Ware 4 to overburden a single sector is also poor network design practice. These topics will be discussed in further detail later in this testimony.

Currently, in the town of Ware, Verizon has three sites: Ware, MA located on the Baystate Hospital (42.253681,-72.242839), Ware 2, MA located off Coffee Hill Rd. (42.262853,-72.321847), and Ware 3, MA located off Palmer Rd. (42.234389,-72.287861).

Included in the following pages is information on common terms, educational resources on common topics, best network design practices, and coverage maps. These have been shared to shed light on how Verizon has come to determine that the proposed Ware 4, MA site will provide the coverage needed to fill in for Ware MA's decommission.

The site(s) proposed in this application are necessary to achieve the technical objectives stated above. Note that there are several ways by which an applicant can establish site need. See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment," FCC 18-133, 83 FR 51867, at ¶ 6 (October 15, 2018) (confirming that the test for establishing an effective prohibition is whether "a state or local legal requirement *materially inhibits* a provider's ability to engage in any of a *variety of activities related to its provision of a covered service*," and this test is met "not only when filling a coverage gap but *also when densifying a wireless network, introducing new services or otherwise improving service capabilities*").

Introduction:

Coverage and/or capacity deficiencies are the two main drivers that prompt the need for a new wireless communications facility (WCF). Most WCF provide a mixture of both capacity and coverage for the benefit of the end user.

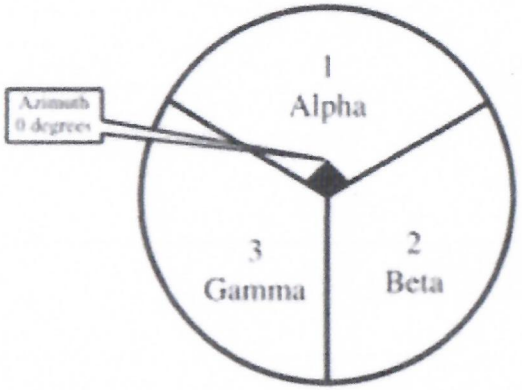
Coverage describes the existence or lack of wireless service in an area. The request for improved service often comes from our customers or emergency services personnel that have no service or poor service. Coverage used to refer to the ability to make or place a call in vehicles, however, as usage patterns have shifted, coverage is now determined based on whether or not sufficient WCF exist to provide a reliable signal inside of buildings and residential areas, as well. Historically, when wireless was still in its infancy, coverage was the primary means to measure the effectiveness of the network in a given area.

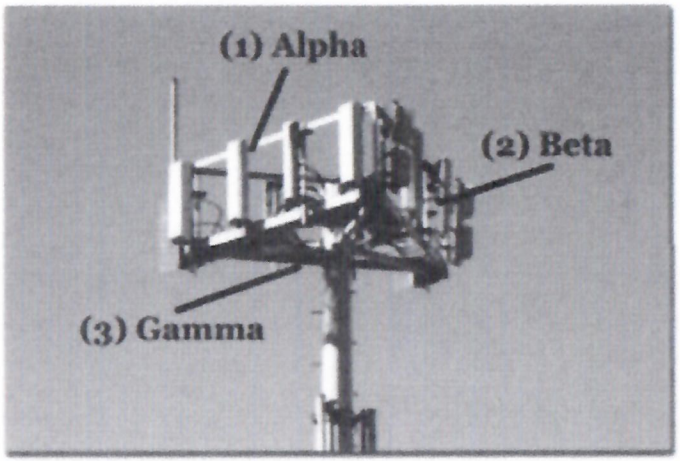
Capacity is the metric used to determine if sufficient wireless resources exist and is now the primary means to measure how a community's wireless needs are being addressed. "Five bars" no longer means guaranteed coverage and capacity because each WCF has a limited amount of resources to handle voice calls, data connections and data volume. When these limits are reached and the WCF becomes overloaded (meaning there is more demand than signal to service it), the user experience quickly degrades preventing customers from making/receiving calls or getting applications to run. A WCF short on capacity could also make internet connections time out or delay information to emergency response personnel.

Introduction:

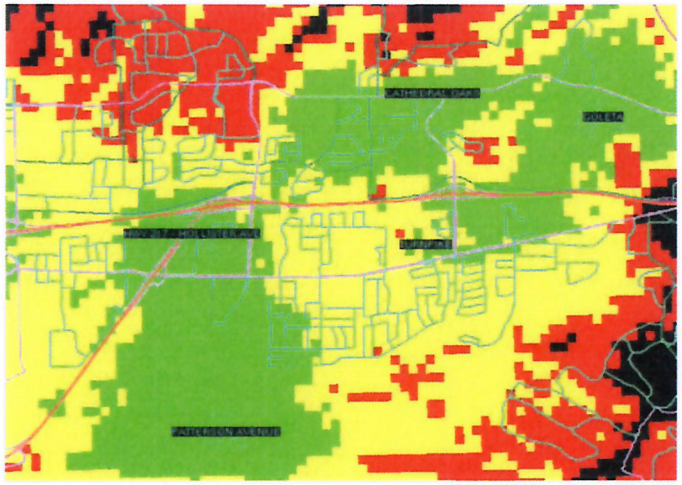
Sectors provide both Coverage and Capacity from a WCF towards a designed geographic area. Individual sectors are mounted near the top of a WCF and include radio equipment such as antennas, remote radio heads, and coaxial cables. Individual Sectors are typically labeled using the Greek alphabet, and each sector has an azimuth associated with it which defines the orientation of that sectors antennas. The proposed three sector facility has azimuths of 40(Alpha), 150 (Beta) & 270 (Gamma).

Cell tower sectors
Sector layout and azimuth





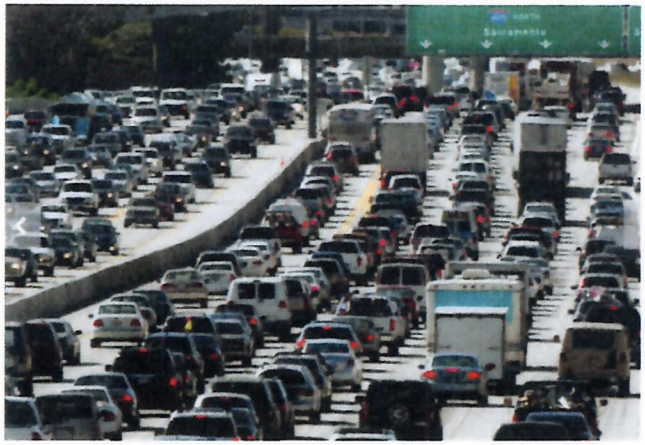
Explanation of Wireless Coverage



Coverage is best shown via coverage maps. RF engineers use tools that take into account terrain, vegetation, building types, and WCF specifics to model the existing coverage and prediction what we expect to see with the addition of a proposed WCF.

Coverage also changes depending on which frequencies are used. Most phones today use 3G at 800 MHZ or 4G at 700 MHz spectrum which are considered low frequencies. Low frequencies can travel further distances than then the higher 1900 MHz and 2100 MHz frequencies now being employed due to increased capacity demands. Operating at higher frequencies makes it necessary for carriers to install substantially more wireless facilities to achieve the same coverage as one tower operating on the lower frequencies.

Explanation of Wireless Capacity



Capacity is the amount of resources that a WCF has to service customer demand. Verizon utilizes sophisticated programs and customer feedback to monitor current usage trends and to forecast future needs. Because it takes an average of 2-3 years to complete a WCF, we have to start the process of adding a new WCF several years in advance of when the WCF will be needed.

Location, Location, Location. A good capacity WCF needs to be in the center of a user population which insures that traffic is evenly distributed around the WCF. A typical WCF is configured into three sectors (like a pie cut into three pieces), with each slice (sector) having 33% of the WCF resources. If one sector is under-utilized, it's resources can not necessarily be diverted to another sector. Therefore, optimal performance is only obtained when all three sectors have an even traffic distribution.

Wireless Data Growth

Each year Verizon sees large increases in how much data its customers need. As the resolution of the pictures we send increases, the quality of the video we watch improves and the complexity of the applications grow, we commonly see tremendous growth year-over-year. 57% of American homes are wireless only. (CDC's 2018 Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July-December, 2018)

Machine to Machine communications will also increase the data burden on wireless networks, as over the next five (5) years more and more services that improve our safety and make our lives easier will be available over the wireless infrastructure , such as:

- Cars that notify 911 when an airbag deploys.
- "Driverless" cars needing traffic data and maps to reach your destination as quickly as possible.
- Medical monitors that will alert us should a loved one neglect taking their prescription drugs.
- Home alarms that notify you when your child arrives home from school.
- Smart street lights that notify the city when they are not working.
- City garbage cans that let people know when they need to be emptied.
- Tracking watches will aid in finding lost Alzheimer patients.

Radio Emission Safety...

A common question received is "Are the radio emissions safe?"

Verizon goes to great effort to ensure that all of its projects meet the standards established by the FCC to ensure safety of the public and its employees. The links below are to three reputable organizations that have performed extensive reviews of the science available on this subject and have good educational articles on the results of their research.

World Health Organization
http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html

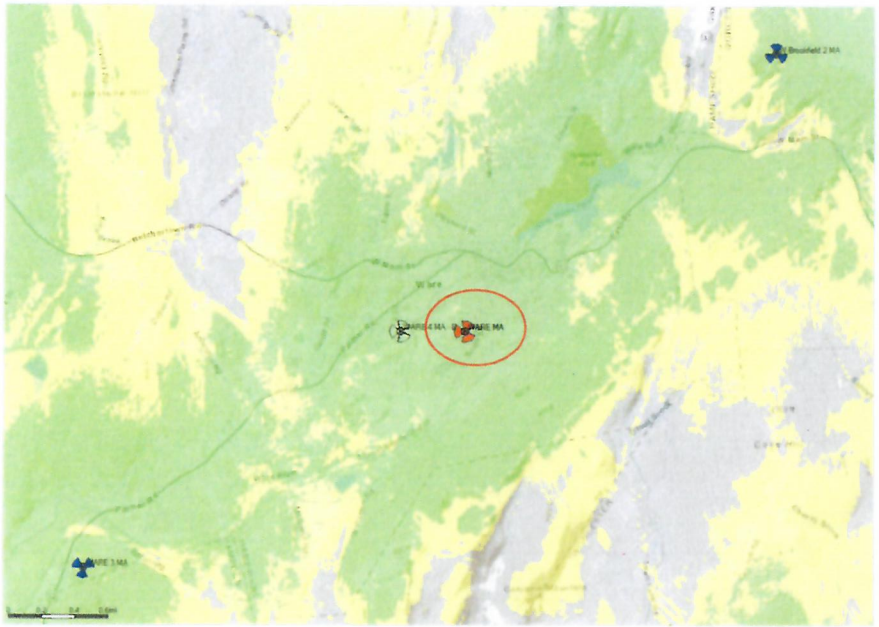
American Cancer Society
http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/wireless facilityular-phone-towers

FCC Radio Frequency Safety
https://www.fcc.gov/general/radio-frequency-safety-0

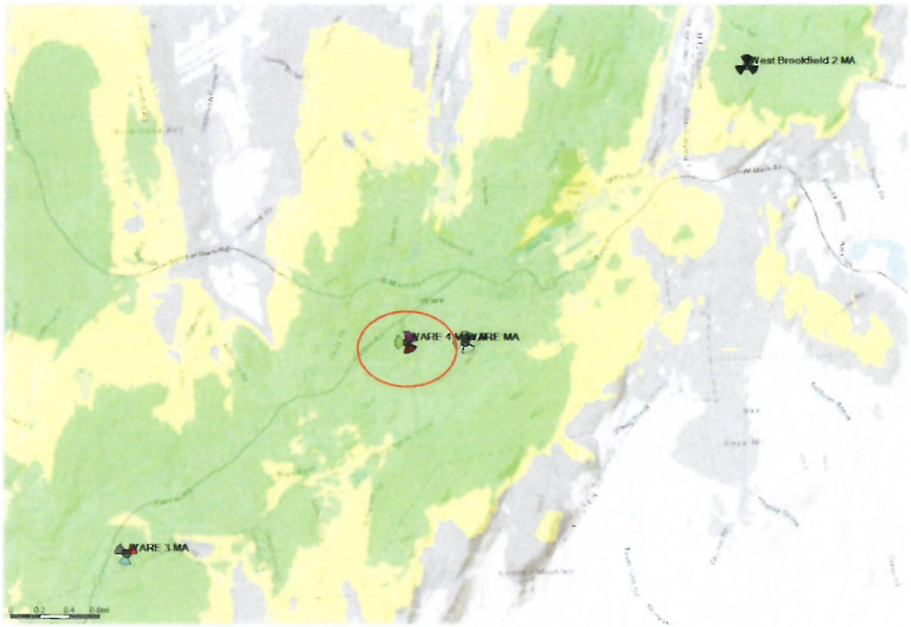
Coverage @ 700 MHz:

-105 = (Gray) On-Street Coverage
-95 = (Yellow) In-Vehicle Coverage
-85 = (Green) In-Building Coverage

Ware MA Existing 700 MHz 4G Coverage



Ware 4, MA 700 MHz 4G Coverage



The above map shows the coverage of the proposed cell. Reliable in-building coverage is shown in green. This level of coverage is based on the new 4G voice service used in the latest phones which requires stronger signal than the older 3G technology.

Coverage @ 700 MHz:

-105 = (Gray) On-Street Coverage
-95 = (Yellow) In-Vehicle Coverage
-85 = (Green) In-Building Coverage

Existing & Proposed 700 MHz 4G Coverage Map Without Neighboring Sites

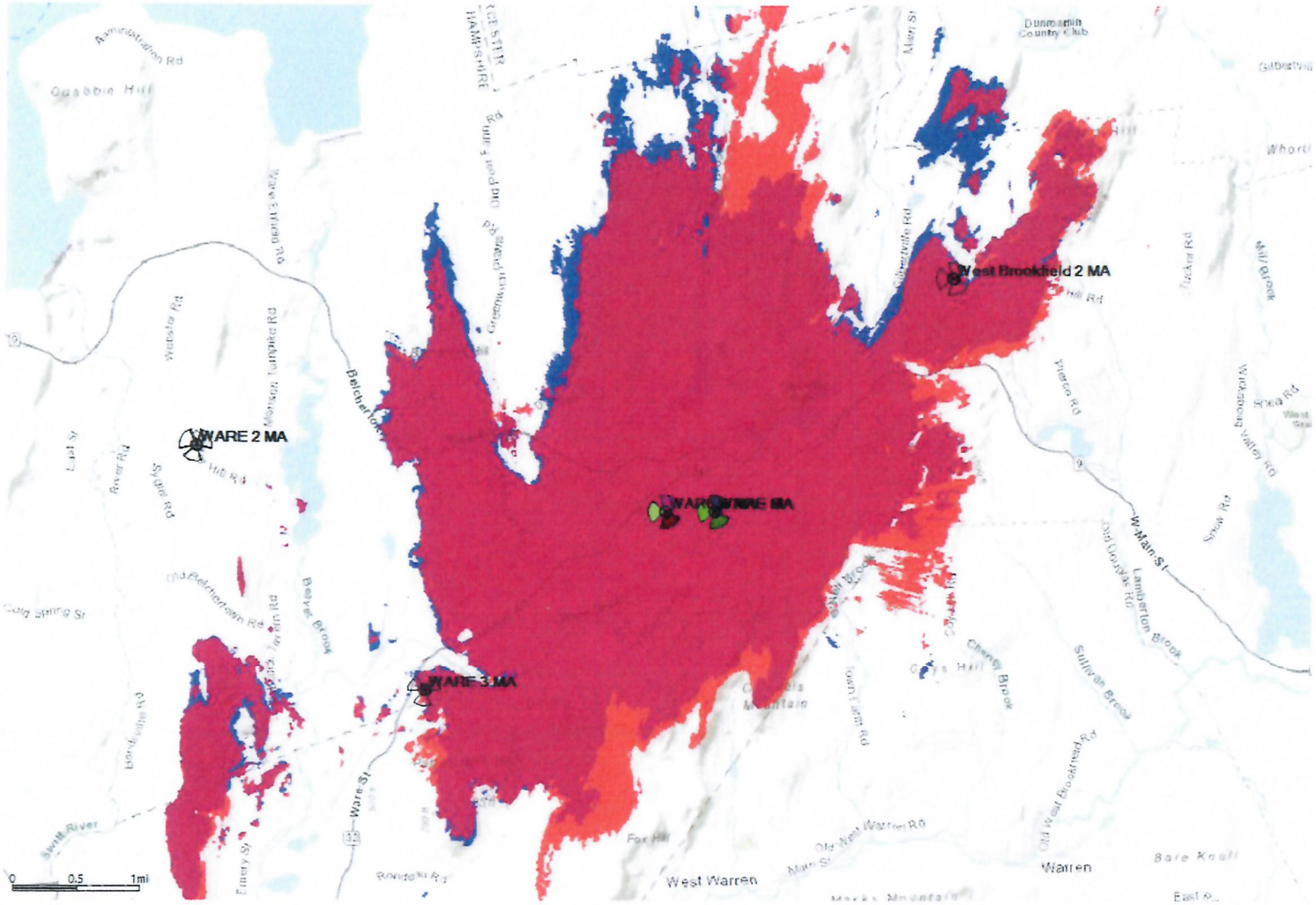
The above map shows the coverage of the proposed cell. Reliable in-building coverage is shown in green. This level of coverage is based on the new 4G voice service used in the latest phones which requires stronger signal than the older 3G technology.

Infeasibility of Alternate Locations:

The process of determining the location of a new site is a multi step process that begins with a need communicated through various channels from our customers. In this instance, however, the need was predetermined by the existing site located on Mary Lane Hospital being decommissioned. First, Verizon considered structures that were already built in the area to co-locate on. However, through network design best practices, it was determined that these locations were, for reasons stated below, not viable to best replace the change taking place in Verizon's network.

- The existing tower near Belchertown Rd (42.263455, -72.262180), is located too far from the center of Ware and the main routes through town. This location would create an unbalanced site with most of the traffic on only two of the three sectors. The proposed Ware 4, MA site is in a more centrally located area of Ware, balancing traffic evenly among the three sectors. Also, the existing tower's elevation is far greater than our existing and replacement locations. This creates an extremely difficult situation to try and contain the RF to the intended area of coverage and can cause interference with neighboring sites, further degrading service for customers.

Coverage Shift: Current Ware, MA & Proposed Ware 4, MA Coverage Plot



Coverage Layer: 700 MHz @ -110 dBm

Blue: Ware, MA
Orange: Ware 4, MA
Red: Overlap

Note the similar coverage footprints provided by the existing and proposed sites.

Waivers Requested

As described in the supporting Statement under Tab 2

Section 4.8.2(G)(2) - Fall Zone

Section 4.8.2(G)(7) - Landscaping

Section 4.8.2(G)(11) - Other towers within 2 miles

Section 4.8.2(G)(14) - Removal Bond

All instances where Applicant's response to a Bylaw provision is "Not Applicable."

Big Y Foods, Inc.
2145 Roosevelt Ave.
P.O. Box 7840
Springfield, MA 01102-7840

January 6 , 2022

RE: Evidence of Lease and Landowner's Consent to File for Land Use Permits Granted to Cellco Partnership d/b/a Verizon Wireless

To Whom It May Concern:

The undersigned is owner ("Landowner") of certain real property in the Town of Ware, MA at 148 West Street, Assessor's Parcel 56-0-102 ("Subject Property").

Please be advised that Landowner has entered into a lease with Cellco Partnership d/b/a Verizon Wireless ("Applicant") to install a wireless communications facility on a portion of the Subject Property and permission is hereby granted to Applicant to make application for Building, Zoning, Planning, or any other Land Use or Regulatory Permit(s) required to effectuate the installation of said wireless facility.

The Applicant, or its agent, is hereby authorized to execute the required application(s) regarding this matter. Permission is also hereby granted for public officials and Board, Commission, or Council members, as required, to enter upon the Subject Property for the limited purpose of inspecting the specific site and access that are the subject of Verizon Wireless's proposed installation.

Sincerely,

Big Y Foods, Inc.

By Theresa A Jasmin

Theresa A. Jasmin
VP / CFO

A & D Klumb Environmental, LLC

November 29, 2021

Mr. Sylvester Bhembe
Hudson Design Group
45 Beechwood Drive
North Andover, MA 01845

RE: Wetland Report Ware 4 MA

Dear Mr. Bhembe,

Audra Klumb, NH Certified Wetland Scientist, visited the Ware 4 MA telecommunications facility to be located at 148 West Street in Ware, MA on November 23, 2021 to delineate any wetlands, including Bordering Vegetated Wetlands meeting the MA 310 CMR 10 jurisdictio,n as well as any surface waters within the vicinity of the project.

The tower is to be located south of an existing commercial plaza within a wooded area. The property boundaries were not found to be marked. The boundaries were estimated based on the proposed tower location coordinates and the Lease Exhibit provided for the site.

The property, in the vicinity of the proposed tower site was found to be highly disturbed with a large berm located approximately 100-feet east of the proposed tower site, debris piles including brick and concrete, and an excavation area located southwest of the tower site. The dominant vegetation near the tower site included red oak (*Quercus rubra*), black cherry (*Prunus serotina*), green ash (*Fraxinus pennsylvanica*), white pine (*Pinus strobus*), box elder (*Acer negundo*), sugar maple (*Acer saccharum*), rock elm (*Ulmus thomasii*), honeysuckle (*Lonicera* sp.), bittersweet (*Celastrus orbiculatus*), and poison ivy (*Toxicodendron radicans*).

The area of the tower site and surrounding 200-feet (within the approximate property boundaries) were reviewed for wetlands. No wetlands or Bordering Vegetated Wetlands were found on the property within 150-feet of the tower construction area.

The Ware River is located to the east of the property and the Muddy Brook tributary feeds into the river at the eastern edge of the property. The edge of Muddy Brook was estimated to be approximately 225-feet east of the proposed tower center (based on the coordinates shown on the Lease Exhibit). The brook has a significant topographic change between the water channel and the top of the bank. The mean annual high water line of the brook was marked with pink flagging labeled R-1 through R-4 so that the 200-foot Riverfront Area (Mass DEP 310 CMR 10.58 (2)(a)3) could be established on the project drawings.

34 Centennial Drive
Webster, NH 03303

603-746-5065
adke@klumbenv.com

The flags along Muddy Brook should be surveyed and shown on the project drawings along with the 200-foot Riverfront Area. Impacts to the Riverfront Area should be avoided if possible. Any impacts to the 200-foot Riverfront Area would require a Notice of Intent to be filed with the town and state.

Please find the wetland sketch map and site photographs attached. Contact me with any questions.

Sincerely,

Audra L. Klumb, CWS#222
President

Enclosures:
Site Photographs
Wetland Sketch Map

Resources:

Cowardin et.al., 1979. *Classification of Wetlands and Deepwater Habitats of the United States*; US Department of the Interior, Fish and Wildlife Service, Washington, DC

Environmental Laboratory. 2012. "*Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, (Version 2.0)" ERDC/EL TR-12-1, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

U.S. Army Corps of Engineers, 2020. *National Wetland Plant List,* Version 3.5. US Army Corps of Engineers Engineer Research and development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH http://wetland-plants.usace.army.mil/

MA Department of Environmental Protection Division of Wetlands and Waterways. 1995. *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act, A Handbook.* MA DEP Division of Wetlands and Waterways.

Munsell Color (Firm). Munsell Soil Color Charts: with Genuine Munsell Color Chips. 2009. Revised, Printed in 2012. Grand Rapids, MI

United States Department of Agriculture Natural Resources Conservation Service. 2016. *Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.0,* L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils

Photo 1. View of the proposed tower area looking southeast.

Photo 2. View of the proposed tower site location looking north.

Photo 3. View east at the proposed tower site.

Photo 4. View west at the proposed tower site.

Photo 5. View east toward the proposed access road location leading from the existing parking lot.

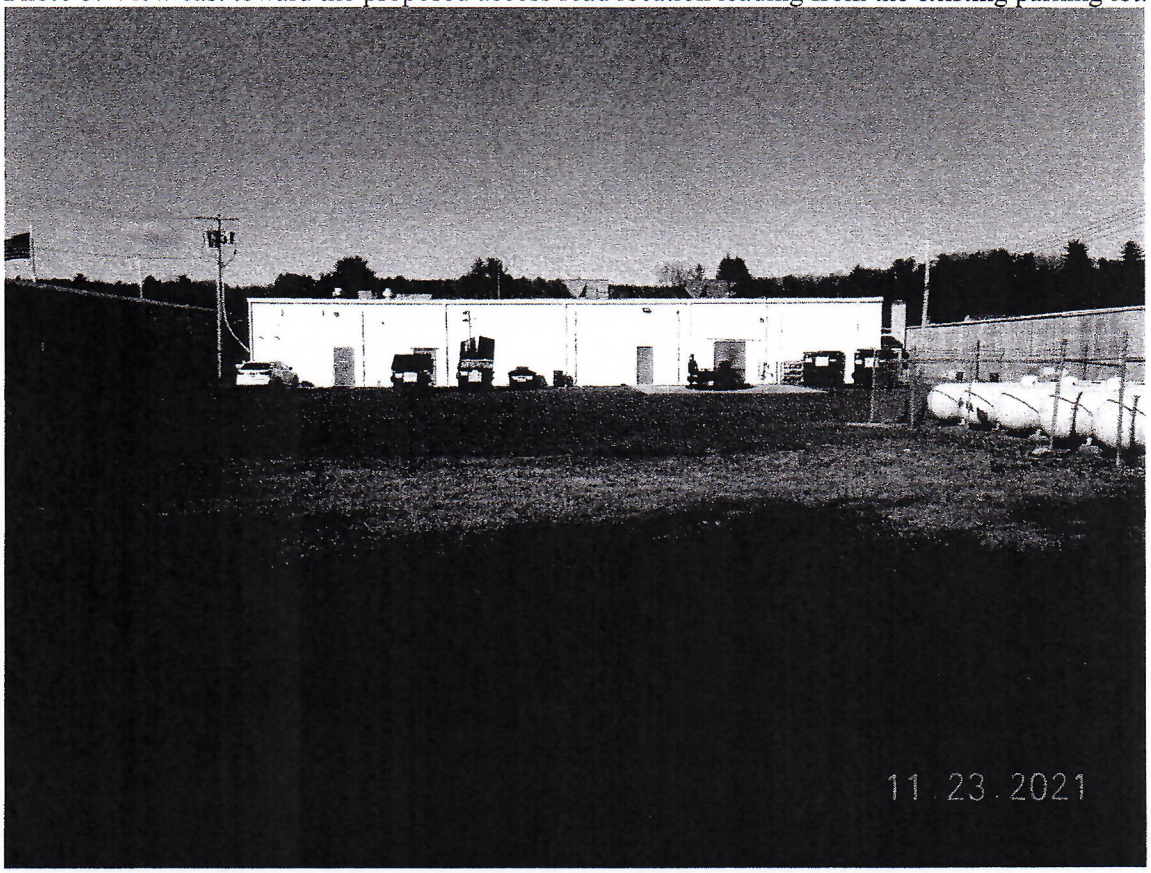
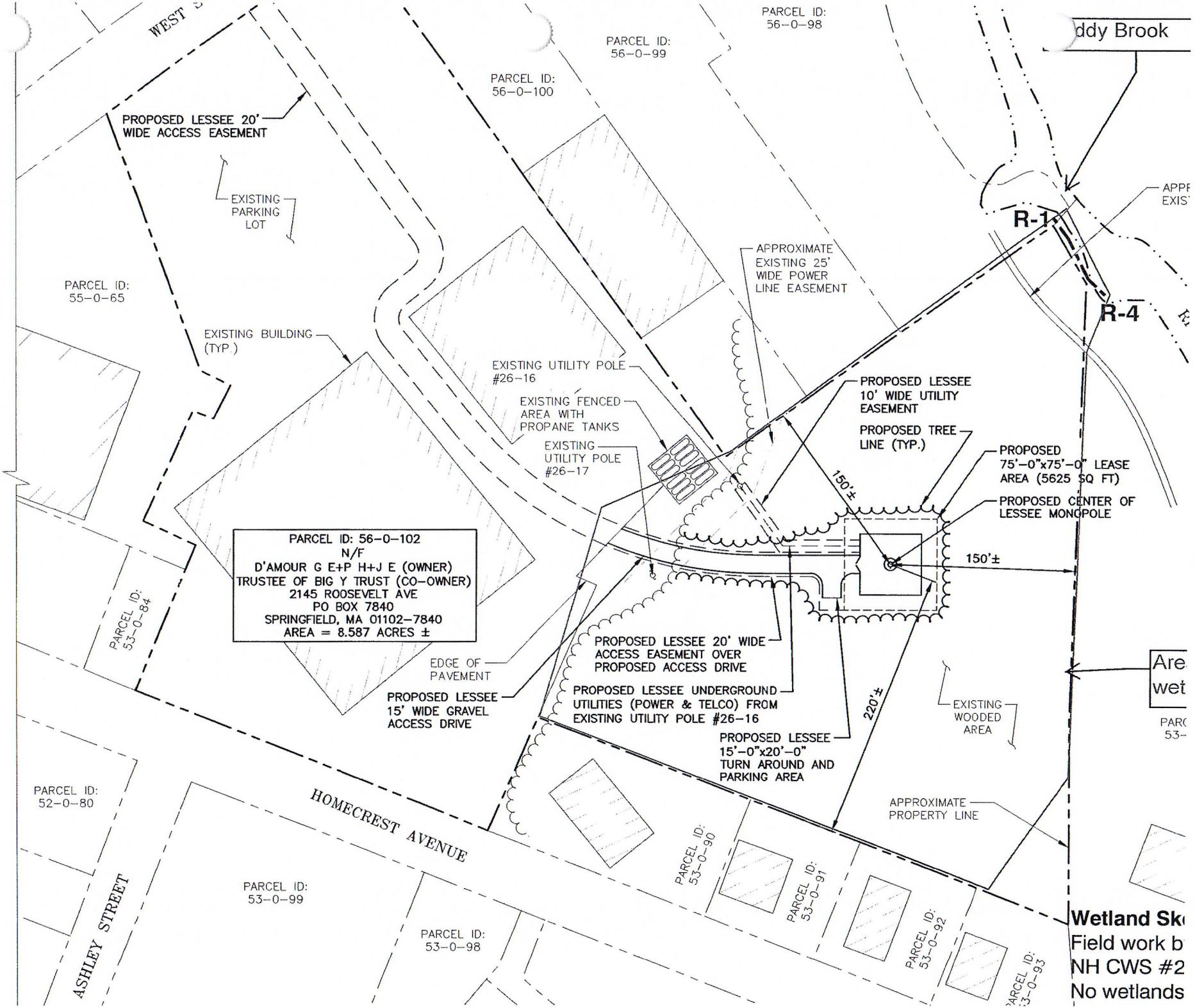


Photo 6. View north toward the parking lot from the proposed access road start.

Photo 7. View northeast of the flag R-1 along Muddy Brook.

Photo 8. View south along the edge of Muddy Brook toward the Ware River.


PROPOSED LESSEE 20' WIDE ACCESS EASEMENT
EXISTING PARKING LOT
PARCEL ID: 55-0-65
EXISTING BUILDING (TYP.)
PARCEL ID: 56-0-100
PARCEL ID: 56-0-99
PARCEL ID: 56-0-98
APPROXIMATE EXISTING 25' WIDE POWER LINE EASEMENT
R-1
R-4
EXISTING UTILITY POLE #26-16
EXISTING FENCED AREA WITH PROPANE TANKS
EXISTING UTILITY POLE #26-17
PROPOSED LESSEE 10' WIDE UTILITY EASEMENT
PROPOSED TREE LINE (TYP.)
PROPOSED 75'-0"x75'-0" LEASE AREA (5625 SQ FT)
PROPOSED CENTER OF LESSEE MONOPOLE
150'±
150'±
220'±
PARCEL ID: 56-0-102
N/F
D'AMOUR G E+P H+J E (OWNER)
TRUSTEE OF BIG Y TRUST (CO-OWNER)
2145 ROOSEVELT AVE
PO BOX 7840
SPRINGFIELD, MA 01102-7840
AREA = 8.587 ACRES ±
PARCEL ID: 53-0-84
EDGE OF PAVEMENT
PROPOSED LESSEE 15' WIDE GRAVEL ACCESS DRIVE
PROPOSED LESSEE 20' WIDE ACCESS EASEMENT OVER PROPOSED ACCESS DRIVE
PROPOSED LESSEE UNDERGROUND UTILITIES (POWER & TELCO) FROM EXISTING UTILITY POLE #26-16
PROPOSED LESSEE 15'-0"x20'-0" TURN AROUND AND PARKING AREA
EXISTING WOODED AREA
APPROXIMATE PROPERTY LINE
PARCEL ID: 52-0-80
HOMECREST AVENUE
ASHLEY STREET
PARCEL ID: 53-0-99
PARCEL ID: 53-0-98
PARCEL ID: 53-0-90
PARCEL ID: 53-0-91
PARCEL ID: 53-0-92
PARCEL ID: 53-0-93
Wetland Sk
Field work b
NH CWS #2
No wetlands

Carl W. Gehring
Gehring & Associates, LLC
P. O. Box 98
West Mystic, CT 06388

RE: Proposed Wireless Communication Facility
Site: Ware 4 MA
148 West St
Ware, MA 01082

March 23, 2022

Mr. Gehring,

I have completed a market study investigating the potential impact that cellular towers may have on adjacent residential property values.

The intended user of this report is the Ware, MA Land Use Permitting Boards in their deliberations relative to the applications submitted by your firm.

The purpose of this study is to provide substantive data to assist Ware Land Use Permitting Boards in answering the following question: *Will the granting of the application diminish the value of surrounding properties?*

This letter contains a summary of my research into this question and the rationale used to arrive at my conclusions.

The work consists of a viewing of the area around the tower site, a review of the materials relating to the proposed tower and research into sales of properties throughout the region that are in close proximity or have visual exposure to a cellular communication tower.

Also included in this report are the results of a national survey of appraisers regarding this question and information obtained from other appraisers known to have researched this same question.

It is my opinion that the proposed tower will have no measurable impact on surrounding property values due to proximity or visibility.

Sincerely,

Mark Correnti, SRA
Massachusetts Certified Residential Appraiser, 103752
Managing Member
FairMarket Advisors, LLC

Copyright

Assumptions and Limiting Conditions

This report is written subject to the following assumptions and limiting conditions. Because a proper understanding of the analysis and conclusions contained in this report requires an awareness of these assumptions and limiting conditions, parties using this report are asked to carefully review and consider them when reading the report.

This report is written with the understanding and intention that it is to be used *only* in conjunction with the request before the Ware, MA Land Use Permitting Boards.

The information contained in this report is specific to the needs of the client and for the intended use stated in the report. Parties using this report for any purpose other than that stated herein must assume full responsibility and do so at their own risk. FairMarket Advisors, LLC cannot accept any responsibility for any damages suffered by third parties because of the unauthorized or inappropriate use of this report.

This report is prepared for the exclusive use of the client identified in this report. The report is based upon the data available to me at the time of preparation of this document.

Distances estimated from the sales to the towers are based upon GIS technology, not physical measurements by the author.

Because of this report, I am not required to give further consultation, testimony, depositions, or be in attendance for any legal proceeding regarding the subject matter unless prior arrangements have been previously made.

Information contained herein that has been obtained from third parties is assumed to be correct and reliable.

General comment

A commonly held opinion is that the value of a home is negatively affected if it is close to a cell tower or a cell tower can be seen from the property.

Randall Bell, PhD. MAI has written extensively about property damages: in his work Real Estate Damages: An Analysis of Detrimental Conditions[1], makes the following statement:

> "The most significant issue in assessing the consequences of a detrimental condition on residential property values is the general predisposition of people to believe that detrimental conditions affect residential property values…*If market value is going to be affected, then this particular detrimental condition has to be given enough weight in the decision process of buyers and sellers to have a material effect on the price*.
> In other words, the detrimental condition issue has to be important relative to all the other variables that influence the home purchase decision, (public safety, quality of schools, access to employment … special features of the home, affordability, etc.)"

Appraisers can examine data to determine if a detrimental condition (cell tower) affects value by application of sensitivity analysis which is a method used to isolate the effect of individual variables on value.

The two most common types of sensitivity analysis used in general real estate practice are:

1. Paired sales by which two properties - one with cell tower influence is matched to a similar property without cell tower influence to see if there is a price difference that can be attributed to the cell tower.
2. Grouped data analysis which matches a property with cell tower influence to the median price paid for groups of sales of similar properties without the cell tower influence. Again, to see if there is a price difference attributable to the cell tower. Similar properties are properties a typical buyer would find to be acceptable alternatives to the property with the cell tower influence (similar style, size, etc.).

Due to the diversity of home styles in New England, most appraisers use grouped data analysis.

Buyers are the *market makers*; only through their buying decisions can it be determined if and to what extent the presence or absence of a neighborhood attribute influences value.

For this report sales in residential neighborhoods close to cell towers were identified and grouped data analysis is used to see if the presence of the tower impacted the sale price. A total of seven single-family residences that are proximate and have views of cell towers are researched. Five are in Ware MA, one in North Brookfield MA, and another in Brimfield MA.

[1] Bell, Randall, Real Estate Damages: An Analysis if Detrimental Conditions, Chicago: Appraisal Institute 1999, page 38.

Data limitations – Scarcity

To understand the impact of cell towers on residential values I attempt to locate sales of single-family residences that have recently sold and also have a view of a cell tower.

The FCC maintains a database of registered communication towers and arrays. In Ware there are cell tower located throughout the community. For a tower location to be considered in this study it would have exposure to a residential neighborhood, there are sales of single-family residences within 1,000' in the last 10 years that have a view of the tower, and there are no other competing external influences.

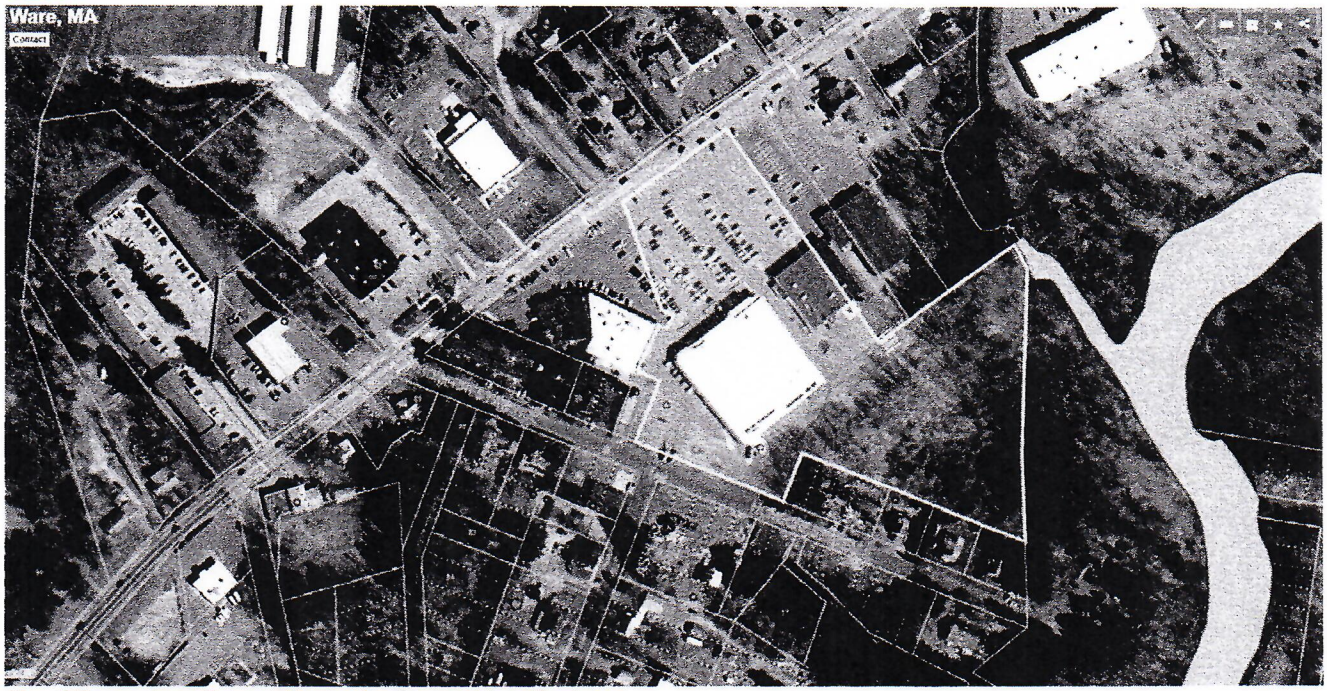
This report contains information on residences that have sold and all having some visibility of a communications tower. The view from each sale included in this report is different and depends on topography, distance, tree cover and home orientation to the tower.

Proposed Site

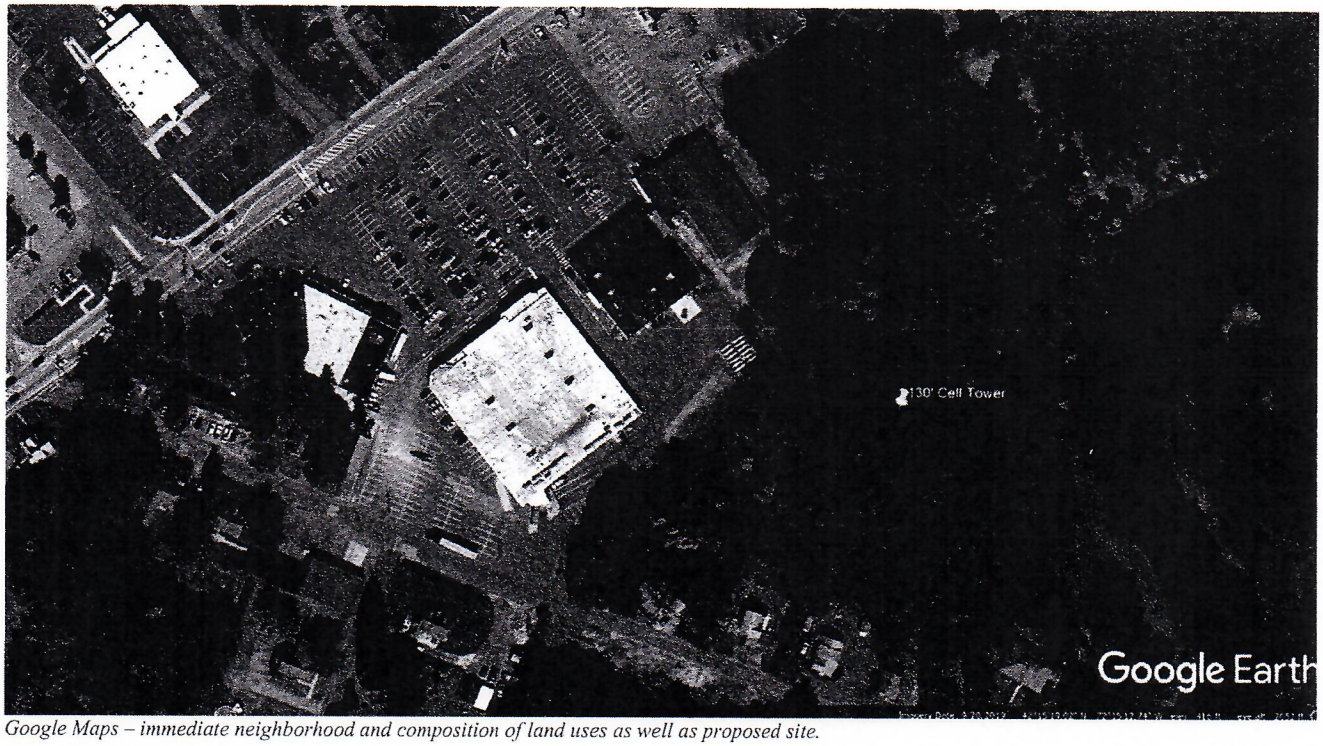
Property description: 148 West Street Ware, MA (Ware Tax Map 56 Lot 0-102)

The proposed site is in the Phillips shopping plaza behind the Big Y Supermarket. There is a wooded portion of the lot directly behind the Mexicali Cantina Grill that the 75' x 75' leased area is proposed to be located.

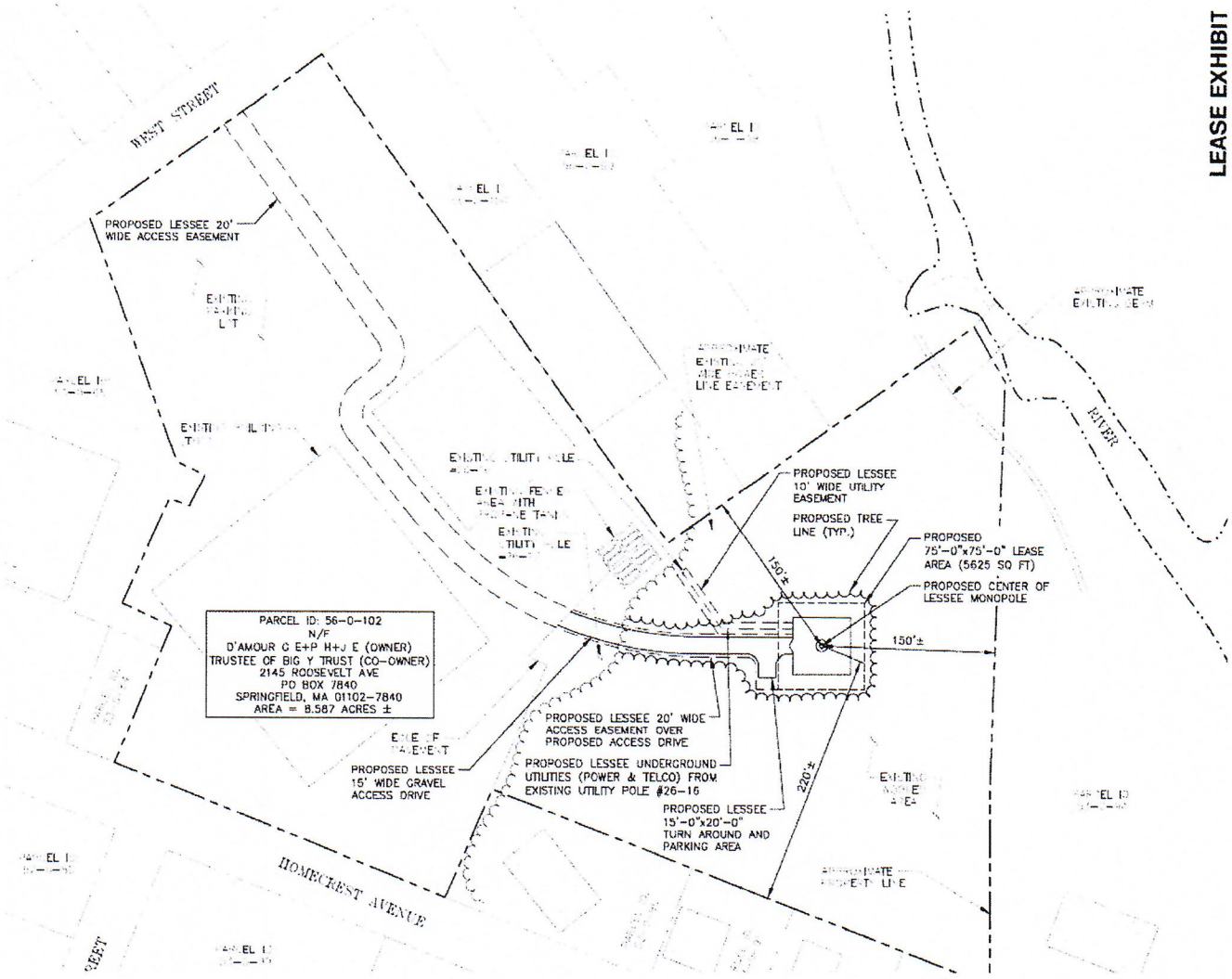
Surrounding land use is primarily retail on West St with some light commercial and industrial sites nearby. There are some multi- and single-family residences directly behind Phillip Plaza on Homecrest Ave and Ashley Street.

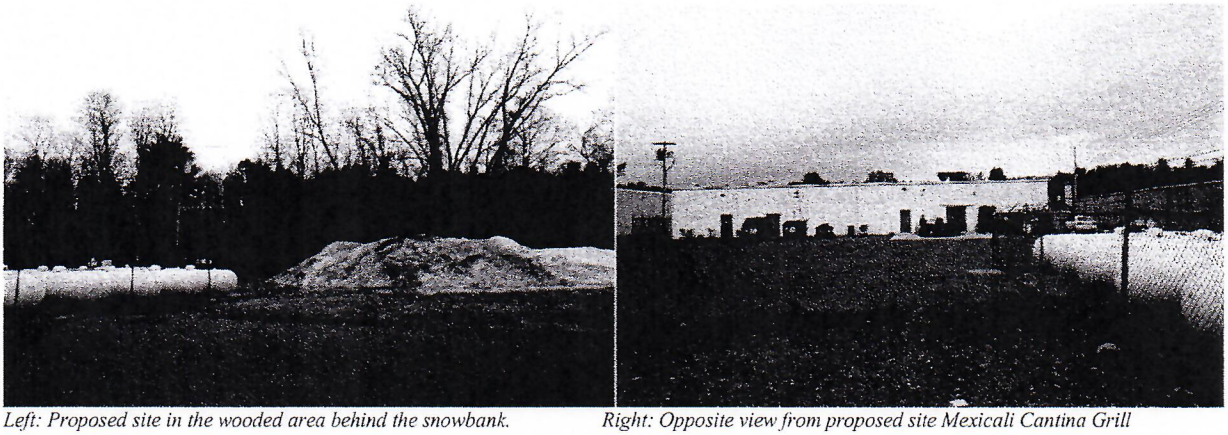


Ware GIS map – immediate neighborhood and composition of land uses.



Google Maps – immediate neighborhood and composition of land uses as well as proposed site.





Left: Proposed site in the wooded area behind the snowbank. *Right: Opposite view from proposed site Mexicali Cantina Grill*

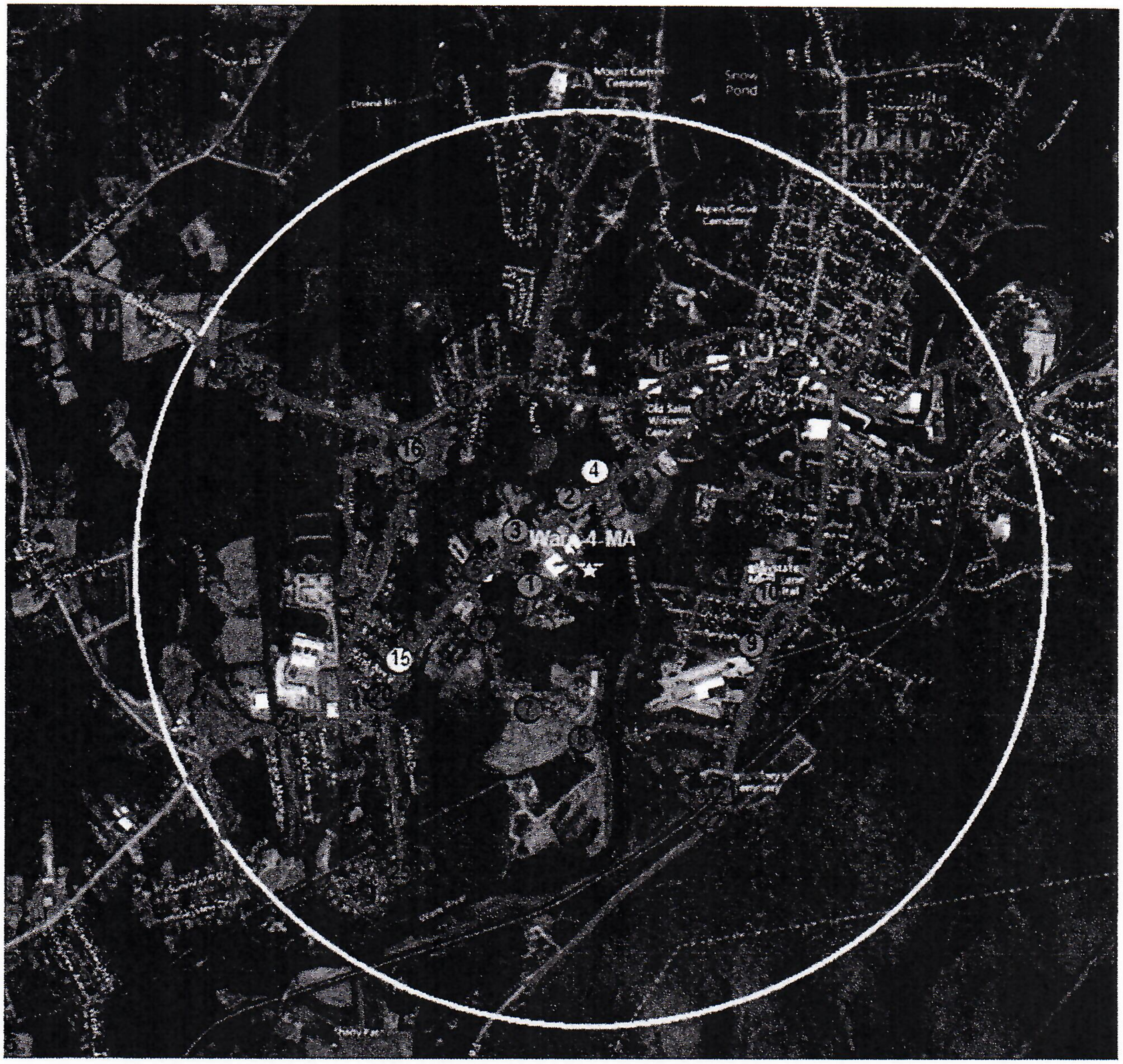
The leased area will be roughly a 75' x 75' fenced compound that will have a 130' cell tower at the southeastern end of the lot. The proposed structure would be accessed via a 20' right of way easement over the existing parking lot.

Simulated Proposed Tower Pictures

In this instance the applicant has commissioned a "balloon simulation" to assist the Board in visualizing the proposed tower as it relates to surrounding properties.

Below is a map showing the locations form where photos were taken. The yellow star represents the proposed site of the 130' cell tower. Green dots indicate that the location will have a view of the tower, yellow dot an obscured view, and red dots indicate no view. In this report only the areas from where there will

The reader must keep in mind that every property is unique just as every tower is unique; as a result, the visual impact of the proposed tower to surrounding properties will not be identical to the examples contained herein. However, the examples illustrate a wide range of visual exposure which can be related to the simulations presented for the proposed tower.


Snow
Pond
16
4
2
3
1
15

Simulation

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
1	Homecrest Ave	42.25354	-72.25306	0.13 Miles	West	74	Year Round

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
2	West St Unit B	42.25633	-72.25141	0.16 Miles	North	164	Year Round

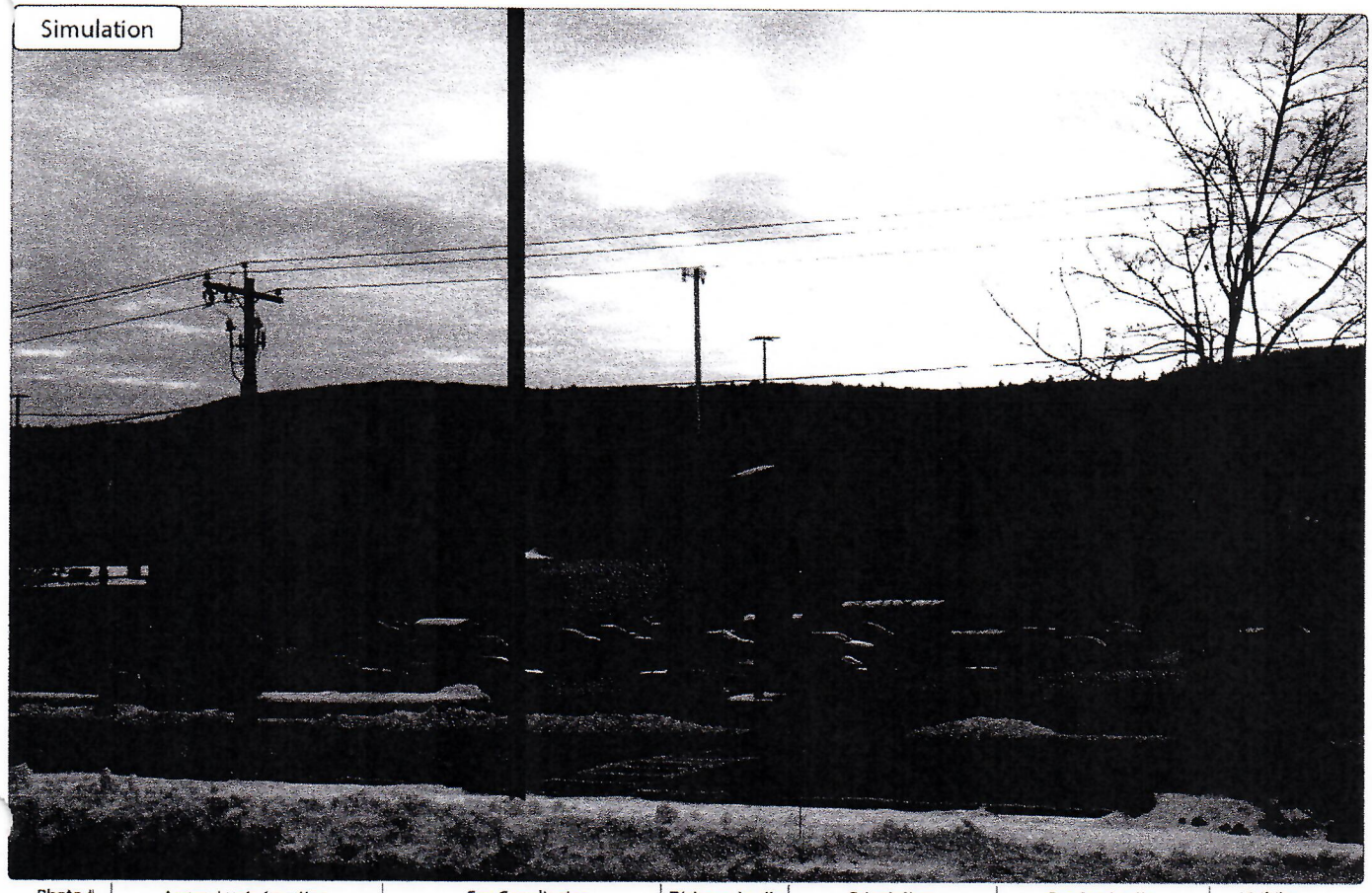


Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
3	MA-32	42.25528	-72.25369	0.18 Miles	North-West	118	Year Round

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	West St	42.25718	-72.25032	0.22 Miles	North	183	Obscured

Simulation

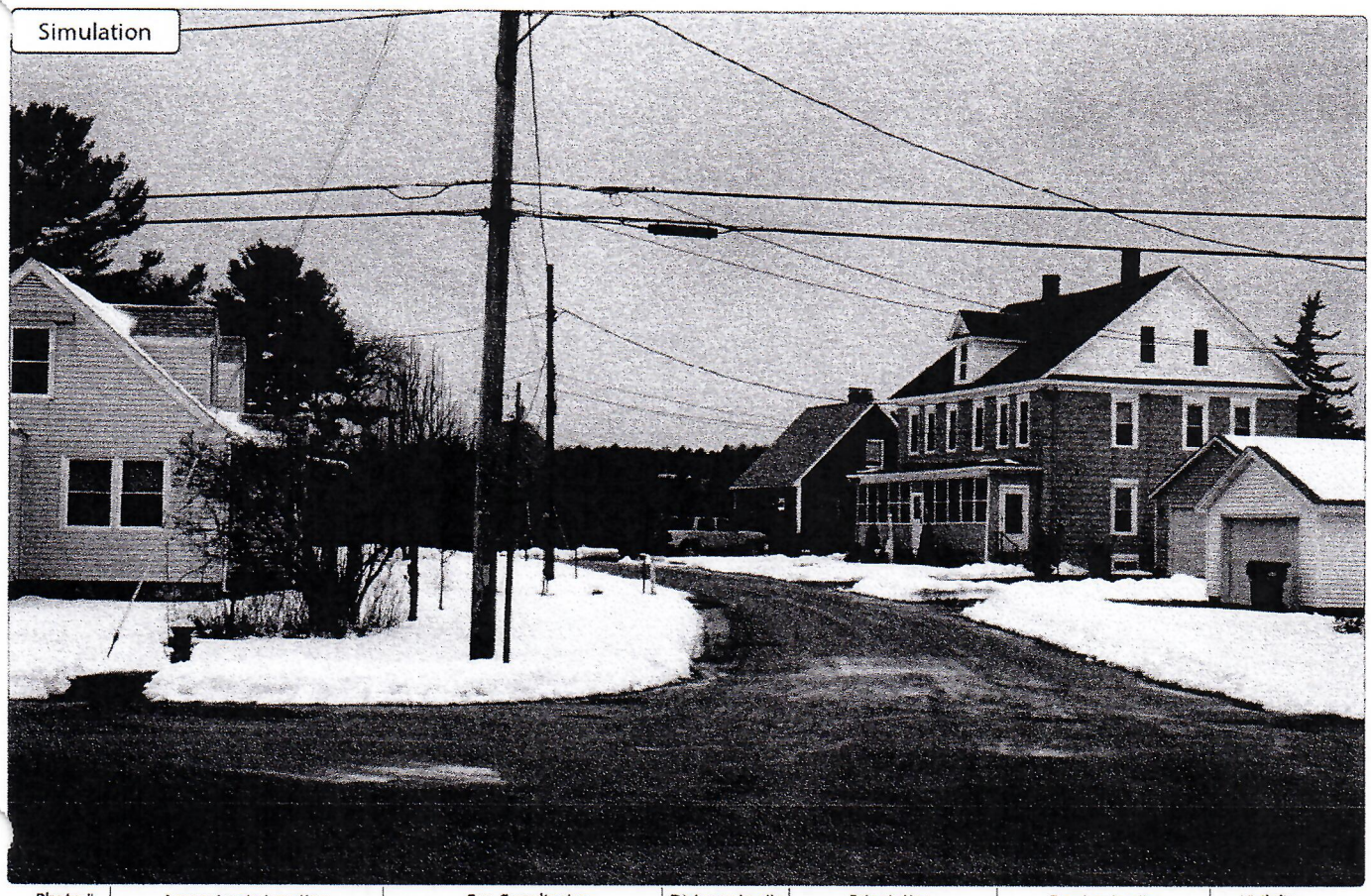


Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
9	Cummings St	42.25165	-72.24359	0.39 Miles	South-East	295	Year Round

Simulation

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	South St	42.25326	-72.24291	0.4 Miles	East	278	Year Round

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
15	MA-32	42.25122	-72.25867	0.46 Miles	South-West	65	Obscured

Simulation

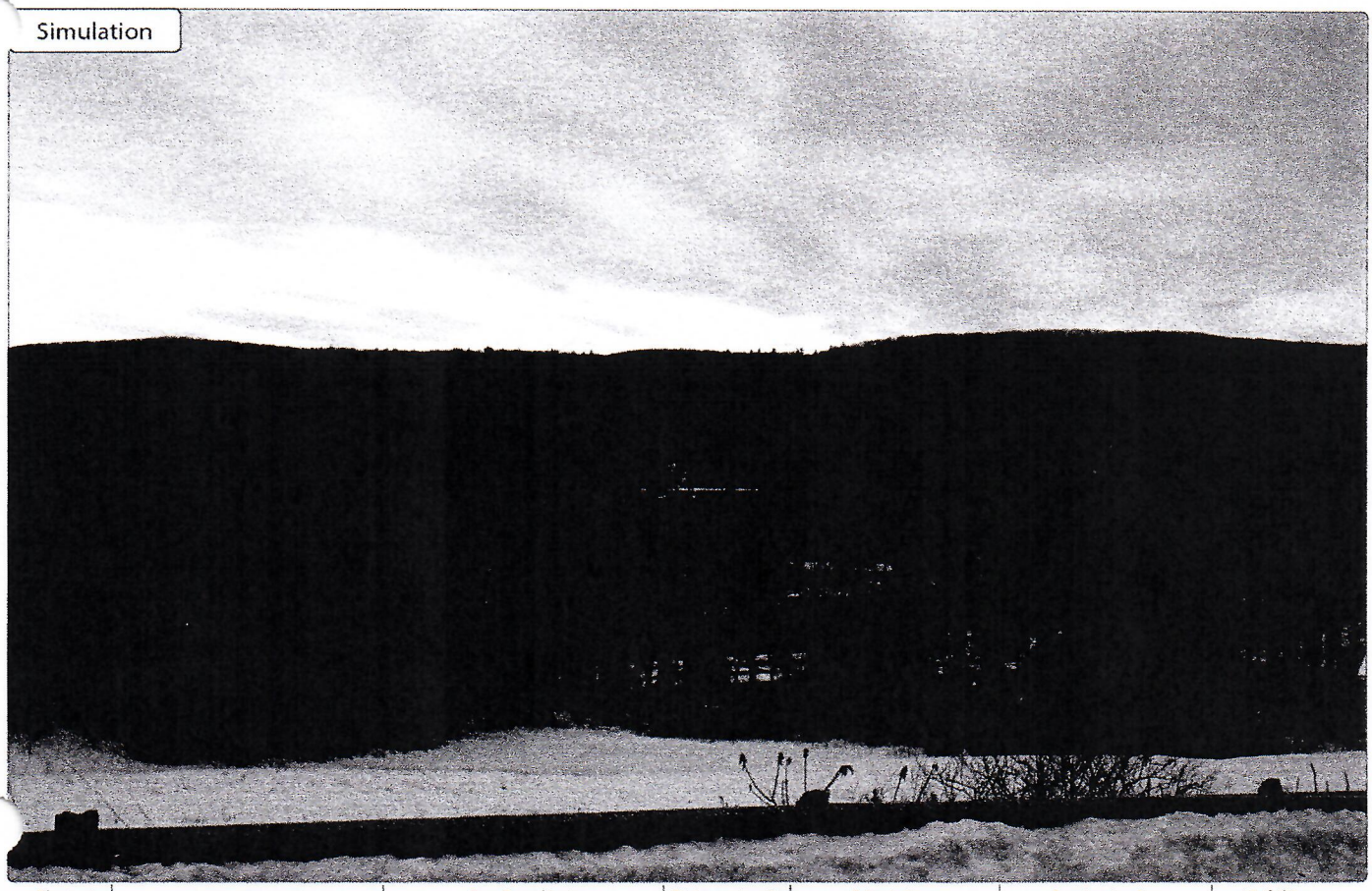


Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
16	Gould Rd	42.25789	-72.2582	0.47 Miles	North-West	124	Year Round

Simulation

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
18	Eddy St	42.26067	-72.24748	0.48 Miles	North	199	Year Round

Community based research

Over the past several years I have researched the issue of residential property values and cell towers throughout New England, the primary focus being on New Hampshire and Massachusetts.

The research consists of identifying recent sales of homes having either proximity to or a view of a communication tower within the community considering the development of a new tower. Often data from surrounding communities is researched and included to supplement local data. The communities may differ in characteristics, but together provide a good indication of the effect on the value of residential properties located near or having view of cell towers.

For each analysis, a comparison grid is presented. Each property sale is shown in ***bold italics*** underneath each are the medians calculated for the competitive sales examined. The data (from left to right) is: the number of competitive sales, the size range examined, the median lot size in acres, listing price, sale price, percent variance between the list and sale price, room, bedroom, bath count, garage size and average days on market.

This type of comparison enables identification of sales with substantial deviation from the median. If a sale presents a substantial deviation from the median further review is done to determine the reason for the deviation. An explanation for the deviation is provided as needed.

This row is the median sale price for the entire town for the given year

count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
129	Median	0.90		1955	≥ 6 months ≤	$425,000	$409,000	96%	1,860	6	3	2.0	1	65
Viz	***123 Sample Rd***	***1.5***	***Cape***	***1990***	***11/15/2018***	***$450,000***	***$435,000***	***97%***	***2,250***	***7***	***3***	***2.5***	***2***	***45***
8		1.40		1986	≥ 6 months ≤	$445,900	$437,000	98%	2,435	8	4	2.5	2	52

Sample Comparison Grid

This row shows one property that is proximate to a cell tower

The bottom row shows similar properties, but are not proximate to a cell tower

The top row shows all sales sold in a given year in the community. The middle row shows a property that is proximate to a cell tower. The bottom row shows properties that are similar to 123 Sample Rd in most respects with the exception that none of the sales are proximate to a cell tower.

A comparison can be made between the middle row (proximate to a cell tower) and the bottom row (not proximate to a cell tower) to infer if there was a difference in price reduction, price paid, or extended days on market (marketability).

In reviewing the data, a reader should note the following:

- Sales included in the analysis are those sales that had open market exposure to the general public. All of the sales in the analysis had market exposure through the statewide MLS system.
- There is no comparison being made between the sales seen in the analysis and today's real estate market. The comparison being made is between a sale that was proximate to a cell tower and those sales that sold in the same year, six months prior and six months after.
- The top row shows the median sales price for the community, and it includes all sales that occurred no matter their location, condition of sale, or unique features. Having the median sales price for a community allows the reader to understand what is typical for the market.

Ware, MA market research

Although there are various antenna and cell facilities in Ware, this report will concentrate on sales that are within 1,000' and have a view of a cell tower.

There is a 150' monopole off Palmer Rd near the intersection of Bacon Road. The tower was put into operation in 2006.

398 Palmer Rd is 445' from the base of the cell tower.

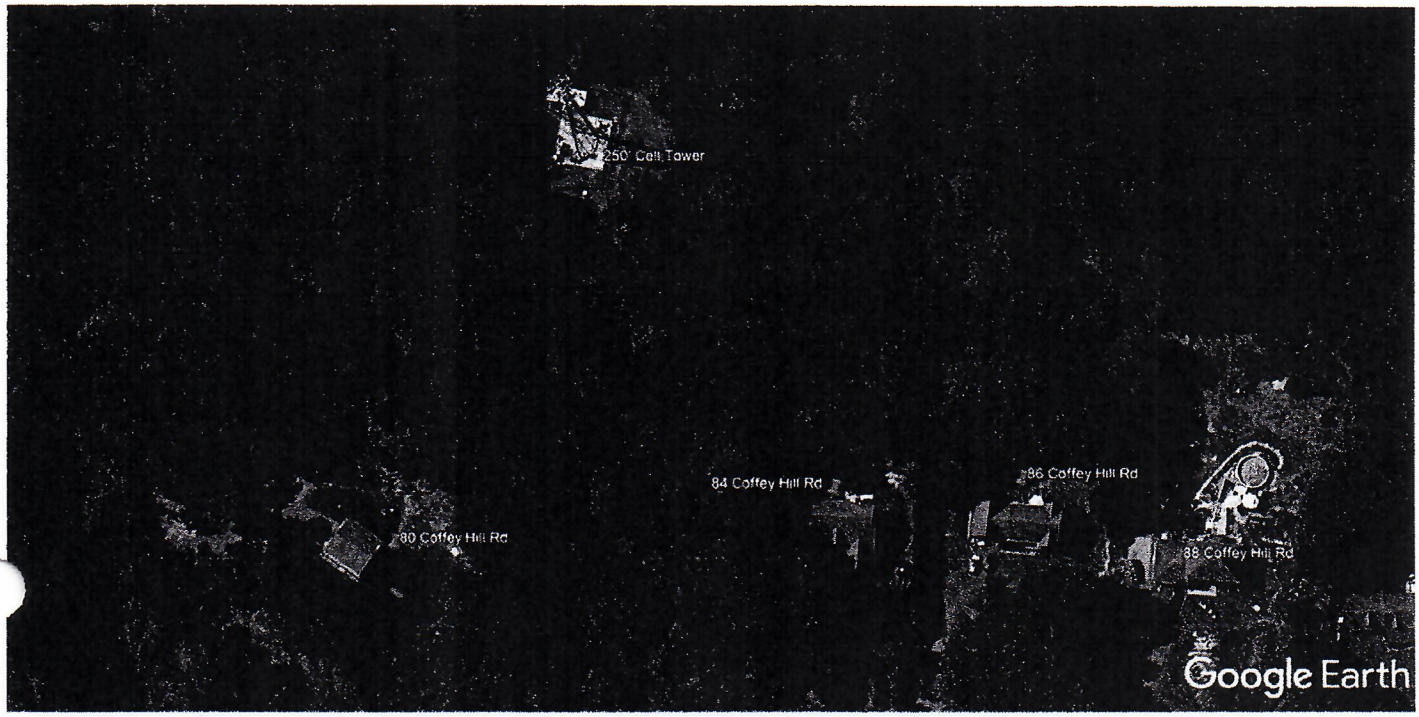
count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
89	Median	0.57		1970		$205,000	$200,000	98%	1,580	6	3	1.0	1	26
Viz	***398 Palmer Rd***	***0.98***	***Ranch***	***1955***	***2/6/2020***	***$239,900***	***$237,000***	***99%***	***1,649***	***7***	***3***	***1.0***	***1***	***6***
30		0.48		1967	≥ 6 months ≤	$207,450	$202,500	98%	1,395	6	3	1.0	1	22

398 Palmer Rd was marketed as having a remodeled interior with new interior surfaces, new kitchen, bath, and appliances. The residence sold in less than a week at a sales to list ratio of 99% which is slightly better than the 98% typical for Ware in 2020.

The price paid is considerably above that of similar properties which can be attributed to the interior remodeling. The proximity and view of the cell tower appears not to have been a factor, with the interior remodeling playing a more active role in the marketability of the property.

There is a 250' lattice structure cell tower that is located on Coffey Hill Rd that was put into service in 2000. Since that time the area has been developed with single-family residences. There are many residences on Coffey Hill Rd that have varying degrees of a view of the 250' cell tower. This study will concentrate on the four closest residences and their most recent sales.

80, 84, 86, and 88 Coffey Hill Rd range between 300' and 525' from dwelling to the base of the cell tower.



Streetside view of 80 Coffey Hill Rd and 250' cell tower

Streetside view of 88 Coffey Hill Rd and 250' cell tower. 88 Coffey Hill Rd is the chimney stack to the left.

count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
117	Median	0.78		1970		$270,000	$285,900	106%	1,744	6	3	2.0	2	8
Viz	***80 Coffey Hill Rd***	***3.34***	***Cape***	***1990***	***9/23/2021***	***$305,000***	***$350,000***	***115%***	***1,843***	***5***	***3***	***1.5***	***0***	***6***
30		1.39		1991	≥ 6 months ≤	$302,400	$311,000	103%	1,837	6	3	2.0	2	7

80 Coffey Hill Rd is 325' from and has direct views of the cell tower. It listed for sale on August 2, 2021 for $305,000; under agreement 6 days later, and subsequently sold on September 23, 2021 for $350,000 which is 15% over asking price.

2021 was a unique year for real estate market due to the pandemic, however typical for the Ware market was a 6% over asking price premium in 2021. 80 Coffey Hill Rd sold for nearly double that premium. The marketing materials and photos of the residence did not show any significantly unique features or updates to the residences. Based on the market data and in comparison, to how other residences sold in the Ware market during the same time period, it does not appear that the price paid for 80 Coffey Hill Rd was discounted due to the proximity of the cell tower.

4 Coffey Hill Rd is the closest of the four at 300' from the base of the cell tower. The residence sold in 2014 which is a different real estate market than current. During that period typical days on market ranged from 2-4 months with some price discounts and seller concessions occurring.

count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
59	Median	0.62		1976		$174,900	$174,900	100%	1,591	6	3	2.0	2	52
Viz	***84 Coffey Hill Rd***	***3.17***	***Colonial***	***2002***	***5/29/2014***	***$299,900***	***$299,900***	***100%***	***3,016***	***8***	***5***	***2.5***	***2***	***33***
6		2.17		1990	≥ 6 months ≤	$254,450	$245,480	96%	2,259	8	3	2.5	2	115

84 Coffey Hill Rd was marketed as being updated with a remodeled kitchen, modern materials, hardwood floors, and updated baths. The residence was highly marketable due to the size and modern features. 84 Coffey Hill Rd sold at full asking price in less time that what was typical for the 2014 market. The sales to list ratio, days on market, and price point in comparison to competing homes does not indicate that the price paid was discounted due to the proximity of the cell tower.

86 Coffey Hill Rd is 385' from the base of the cell tower. It sold within a year of #84 in a market that had extended days on market and sales prices that were close to list or slightly discounted.

count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
78	Median	0.60		1978		$186,450	$184,500	99%	1,654	6	3	1.0	2	65
Viz	***86 Coffey Hill Rd***	***2.87***	***Colonial***	***2002***	***2/27/2015***	***$255,000***	***$250,000***	***98%***	***2,458***	***8***	***4***	***2.5***	***2***	***95***
19		1.51		1991	≥ 6 months ≤	$265,000	$252,000	95%	2,230	7	3	2.5	2	89

86 Coffey Hill Rd had a price drop in November and went under agreement in January. The sale was $2,000 less than the median for 19 other competing and comparable properties. Days on market was a week longer than those 19 others, and a month longer than the community median. A review of the marketing material shows a well-kept residence with modern materials and amenities. The most likely reason for the extended days on market and $2,000 difference was the period of time that the property was exposed to the market; late November to December is typically a period of low buyer activity.

88 Coffey Hill Rd is the furthest of the four at 525' from the cell tower. However, it has a full view of the tower.

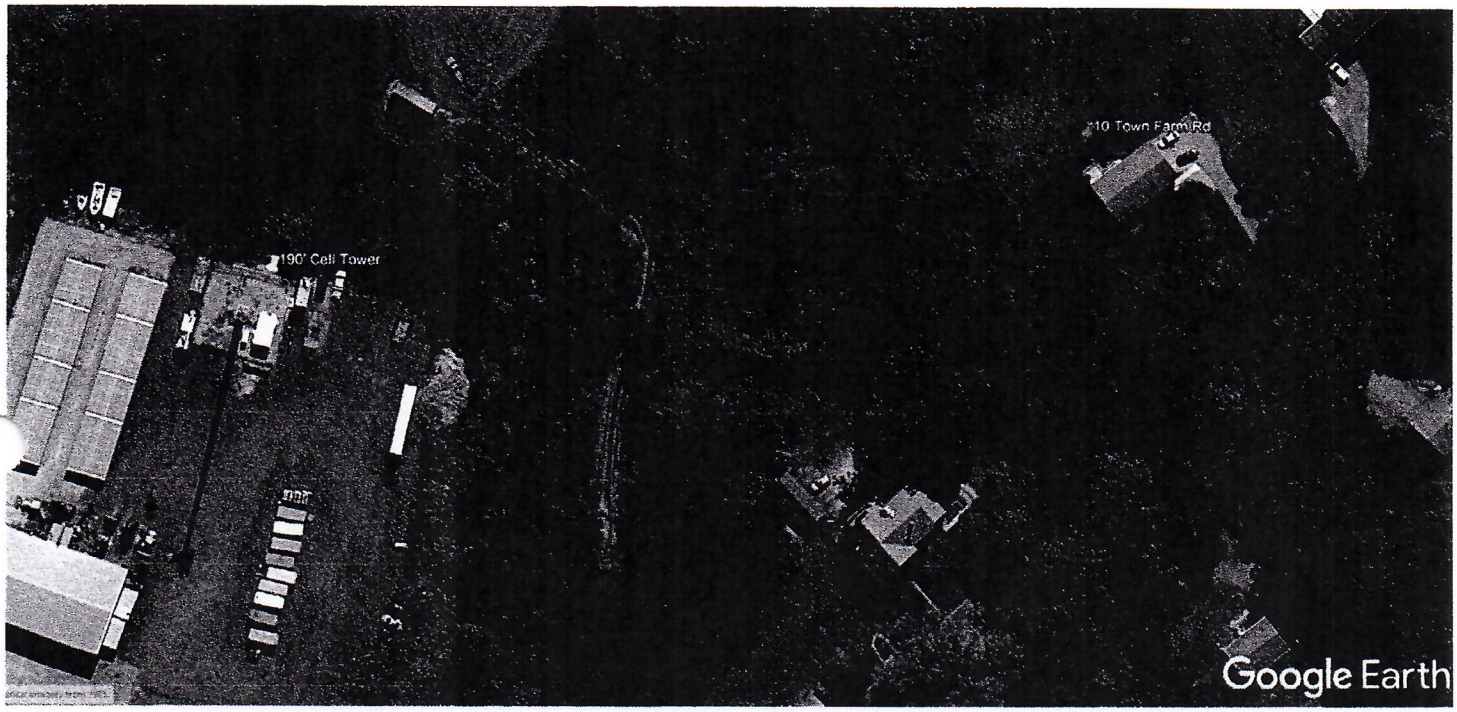
count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
60	Median	0.61		1984		$174,900	$174,950	100%	1,598	6	3	1.0	2	77
Viz	***88 Coffey Hill Rd***	***2.76***	***Colonial***	***2001***	***10/13/2014***	***$249,000***	***$240,000***	***96%***	***2,181***	***7***	***3***	***2.1***	***2***	***4***
7		1.51		1991	≥ 6 months ≤	$244,900	$238,000	97%	2,217	7	3	2.1	2	92

In 2014 88 Coffey Hill Rd was a 13-year-old residence. Marketing material shows materials that were original to the year built. Similar to the previous analysis, 88 Coffey Hill Rd sold within $2,000 of residences similar in size, style, and functional utility. 88 Coffey Hill Rd sold quickly at a 4% discount off of list price where 0%-3% was typical. Marketing material also described a $1,500 agent bonus for an expedited contract. It appears that the seller was motivated to sell and accepted a quick offer.

88 Coffey Hill Rd sold well above the community median which is a reflection of the Coffey Hill neighborhood. 88 Coffey Hill Rd also sold within $2,000 of those residences that it directly competes with.

North Brookfield, MA market research

In 1999 a 190' cell tower was put into service at 65 Donovan Rd in North Brookfield, MA. The tower is viewable in all seasons from residences on the east side of Town Farm Rd.



10 Town Farm Rd has an all-season and clear view of the 190' cell tower. The residence listed for sale and sold in 2018. The 2018 real estate market saw appropriately-priced homes selling at or slightly above asking price, typically with less than a month market exposure.

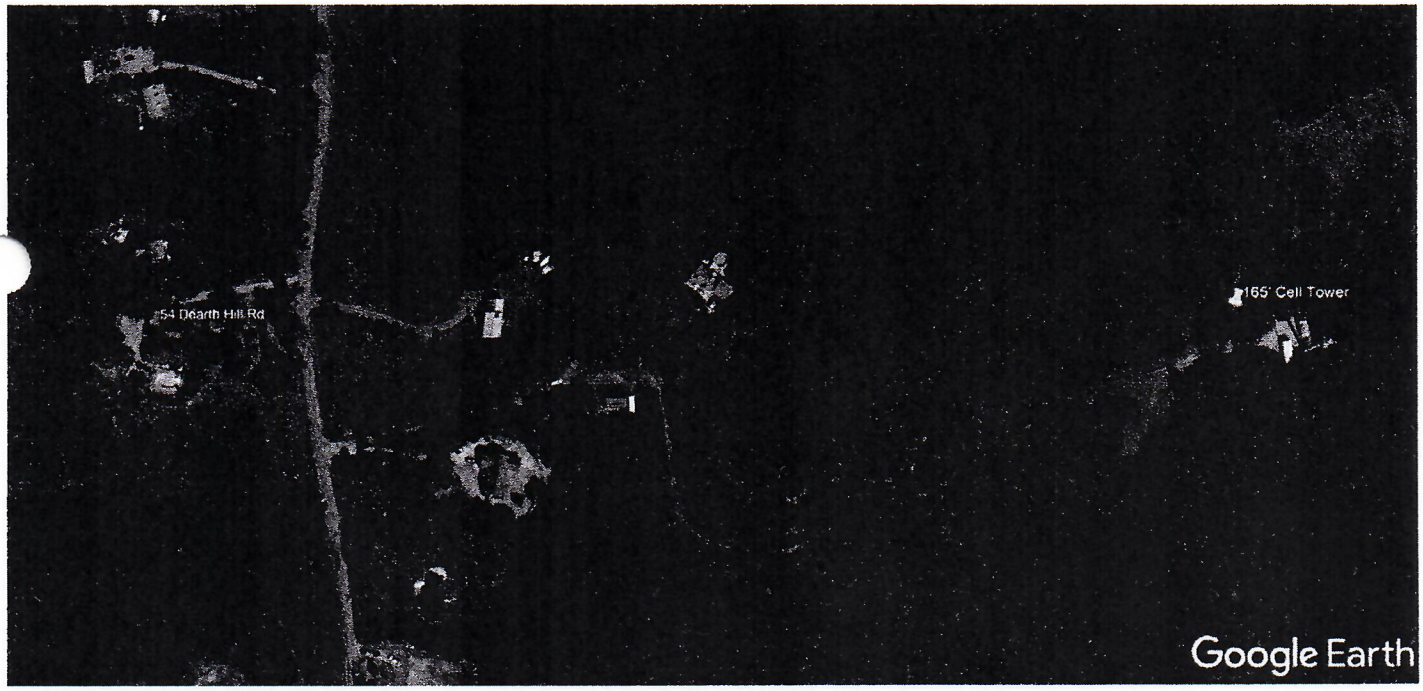
count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
52	Median	0.69		1959	≥ 6 months ≤	$220,122	$217,500	99%	1,501	6	3	1.0	1	35
Viz	***10 Town Farm Rd***	***1.52***	***Raised Ranch***	***2004***	***8/20/2018***	***$285,000***	***$295,000***	***104%***	***1,546***	***6***	***3***	***2.0***	***2***	***10***
10		1.42		2003	≥ 6 months ≤	$251,750	$254,250	101%	1,307	6	3	2.0	2	9

10 Town Farm Rd was a 14-year-old residence at the time of sale in 2018. The residence showed well with original materials considered modern with regards to kitchen and baths. Typical for the North Brookfield market at the time was 2-4 weeks on market at, or slightly above asking price.

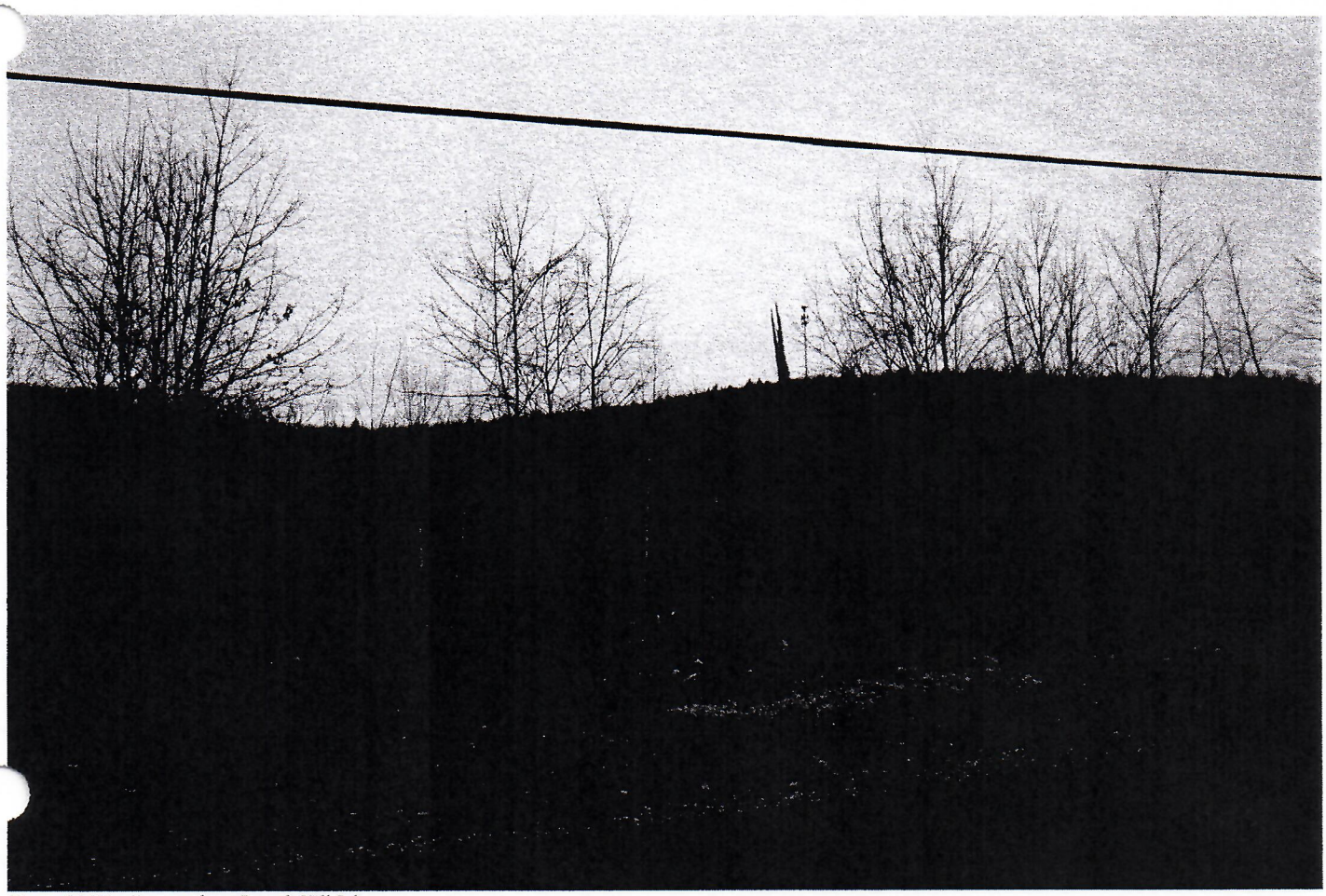
10 Town Farm Rd sold in less than two weeks, $10,000 above or, 4% above asking price. Given the features of the residence, the price paid, does not appear to reflect any discount due to the proximity of the cell tower.

Brimfield, MA market research

In 2000 a 165' cell tower was put into service at 57 Dearth Hill Rd. Directly across the street 54 Dearth Hill Rd sold in February 2022.



Although 1,700' from the cell tower, 54 Dearth Hill Rd was marketed as a view property as it has views on most sides of surrounding foothills, including Dearth Hill which has a 165' cell tower.



View of 165'cell tower from Dearth Hill Rd

count	Street	Acres	Style	Yr Built	Closed	List	Sale	Spread	SqFt Fin	Rms	BR	Baths	Gar.	DOM
56	Median	2.37		1989		$350,375	$362,000	103%	1,890	6	3	1.0	2	8
Viz	***54 Dearth Hill Rd***	***1.7***	***Gambrel***	***1982***	***2/11/2022***	***$659,000***	***$660,000***	***100%***	***3,658***	***9***	***4***	***2.5***	***2***	***5***
8		2.70		2002	12 months ≤	$437,450	$457,500	105%	3,270	8	4	3.5	2	57

54 Dearth Hill Rd is an exceptional property with an updated interior, inground pool, quality materials, and foothill views. The sales price is significantly above that of both the community and other residences similar in size. The quick period on market and offer $1,000 over asking price does not indicate that the price paid was discounted for any reason.

Additional research materials

To augment the findings presented thus far included in the addendum is the results of a survey of assessors and appraisers and statements and conclusions from reports prepared by other appraisers who have completed similar research to determine if verifiable market data exists supporting the opinion that the presence of a cell tower has a deleterious impact on surrounding property values.

The additional data all indicates that there is no data to support the contention that there is a measurable impact on home values due to the proximity of a communication tower.

Summary and Conclusion

Objection to site development for cell towers usually comes from a change in the view from an abutting property. This change causes surrounding landowners to assume that their property will lose value because the view of a tower reduces value. This report contains sale data of homes with a view of a cell tower that have sold; these sales do not support the value loss assumption.

Based upon the national e-mail survey of appraisers and assessors, research into properties located close to or having visual exposure to communication towers that have sold in Massachusetts, data obtained from other appraisers researching this same issue and a review of numerous reports prepared by other qualified appraisers; I am unable to find any data or proof that there is a measurable impact on home prices due to the proximity of a communication tower, or that price paid is signficantly diminished due to the ability to see a tower from a property.

Certification

The undersigned certifies that, to the best of my knowledge and belief:

The statements of fact contained in this report are true and correct.

The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, are my personal, impartial, and unbiased professional analyses, opinions, conclusions and recommendations.

I have provided the following valuation[2] services on the property within the preceding three years from the date of this letter: None.

I have no present or prospective interest in the subject property, I have no personal interest with respect to the parties and I have no bias with respect to the subject property or to the parties involved with this assignment.

My engagement in this assignment was not contingent upon developing or reporting predetermined results.

My compensation for completing this assignment is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this information.

My analyses, opinions and conclusions were developed, and this letter has been prepared in conformity with the Uniform Standards of Professional Appraisal Practice.

I have inspected the subject property. I have studied the plans, reviewed the community GIS data and municipal records about the property. I have also discussed the property with the client and believe I have a sufficient understanding of the attributes unique to the property.

The report analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics & Standards of Professional Appraisal Practice of the Appraisal Institute.

The use of this appraisal report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

As of the date of this report, I have completed the requirements of the continuing education program of the Appraisal Institute.

Mark Correnti, SRA
Massachusetts Certified Residential Appraiser, 103752
Managing Member
FairMarket Advisors, LLC

[2] Listing, selling, repairs, maintenance, appraisal, consulting, review, property inspections, tax abatements

ADDENDUM

General market research

A national e-mail survey of appraisers and assessors was initiated. The purpose of this survey is to obtain input from appraisal and assessment professionals from a broader perspective to see what other professionals have observed. On the following pages is an explanation of how the survey was conducted, quotations received from some of the respondents and a tabular summary of the communities covered by the responses.

The survey information is followed by statements and conclusions from reports prepared by other appraisers who have completed site-specific analysis or general market research to determine if verifiable market data exists supporting the opinion that the presence of a cell tower has a deleterious impact on surrounding property values.

National Survey of Appraisers & Assessors

A national e-mail survey of appraisers and assessors was initiated in 2009. The purpose of this survey is to obtain input from appraisal and assessment professionals from a broader perspective to see what other professionals have observed.

A total of 172 replies were received from 146 communities in 15 states with a total population more than 13,500,000 people. The communities range in size from Waterville Valley NH population 257 to Seattle WA population 3,554,760. This is a very diverse mix of communities with differences in socio-economic and geographic influences.

The survey solicited responses to the follow three questions:

1. ***Have you observed or are you aware of any loss in residential property value due to the presence of a cell tower? YES / NO***
2. ***Have you observed or are you aware of any appeals filed in the last two years claiming property value loss due to the presence of a cell tower? YES / NO***
3. ***Have you observed or are you aware of any property value loss due to the ABILITY to see ANY part of a cell tower from a residential property, regardless of distance? YES / NO.***

All of the respondents answered "NO" to each of the above three questions.

Some of the respondents simply replied "no" without additional comment while others expanded their answers to include local information and experience. The expanded comments start on the following page. The survey data tabulated by State, Community and Population follow the comments.

Jason R. Streebel, MAA
Director of Assessing
Mashpee, MA
October 3, 2018 in a public letter to Mashpee town manager

"...in sixteen years, not one homeowner, property appraiser, or resident has suggested to this office that the nearby cell towers were a detriment to their property value or purchase price."

Janet LePage
Monday, September 07, 2009 11:42 AM
RE: Residential Appraisal Survey from Fellow AI Member

"*I just completed an assignment of a manufactured home on acreage with a cell tower. The sales price did not appear to be impacted by the cell tower; in fact, the purchaser told me that it was a plus for him due to the income. It should be noted that the cell tower was VERY far from the house and could hardly be seen from the road.*"

Dick Harriman,
CEO/Assessor
Town of Orrington

"I have one tower and no problems or complaints"

Michelle Boisjoly,
Assessor
Dayton, Ohio

"No to all three questions; we have 2 towers in town with several sales near 1 of them. Dayton is rural with 1.5-3 acre minimum house lots."

Marlene Tepper
Certified Residential Appraiser
Westchester, NY

"My experience results in a "no" on all three questions"

Leland T Bookhout MAI, SRA
Rhinebeck, NY
(emphasis added)

"New buyers tell me in interviews that I have conducted that they did not pay less because of cell towers. I recognize that existing property owners feel they have been invaded thus scream and yell that the world has come to an end.

The bigger issue is that the potential pool of buyers for any home today is so sophisticated that they will use the issue of a nearby cell tower to get the purchase price down but when they resell in a few years - no reduction in asking price to list their property! Those who really do not want to live near a cell tower, or any other conceivable excuse, will go elsewhere, they have choices. We lose sight of the fact that any pool of potential buyers has choices. Ask any developer the question and they will almost always say that a particular buyer backed away from the purchase but someone came along to buy at the full price.

Part of the reaction by buyers is different in a sellers market vs. a buyers market. In the latter the alternatives are greater and the buyers can be picky."

Duane P. Willenbring CGB :GMB: CGP
Willenbring Const. Inc
St. Cloud, MN

"I am a Builder, Developer and Realtor and I serve on the Rockville, Mn. City Council. The answer to all three questions is No. I have not heard of any adverse opinions regarding cell towers"

Melinda Fonda
Assessor
Stratford, CT

1. *Have you observed or are you aware of any loss in residential property value due to the presence of a cell tower? "**NO"***

2. *Have you observed or are you aware of any appeals filed in the last two years claiming property value loss due to the presence of a cell tower? "**NO we have not had any appeals regarding loss in value due to cell towers"***

3. *Have you observed or are you aware of any property value loss due to the ABILITY to see ANY part of a cell tower from a residential property, regardless of distance? "I have had people claim their value is affected because they have an obstructed view. I have not seen this affect value."*

Alfred D. Jablonski, MAI
Real Estate Appraiser
Washington, DC

"In this market there is no evidence that cell tower, which is not allowed in residential zoning, has a negative effect on residential properties. In Fairfax County the light poles on our high school football fields are being converted to cell monopoles and the school system is receiving money and benefiting from the new monopoles."

From: Orban Winton
Socorro, NM

"I have not had the opportunity to appraise or be associated with questions 1 and 2. The majority of our small town can see a part of a cell tower and have not noted any reduction in sale prices".

Carl Brinegar, SRA, SRPA
San Angelo, TX
(emphasis added)

"Sorry I can't help much. Answer is no. For all of the properties that can see cell towers in this area, I have never noted any reduction in price, nor had a seller or Realtor tell me that there was a reduction in price due to that situation & some towers are quite visible from new moderate priced residential property subdivisions & builders are continuing to build closer & closer to the towers, apparently without any ill pricing effects yet at least."

Linda Truitt, MAI
Springfield, MO

*"Hi - I am not aware of any reduction in value to properties near a cell tower.
I know a local appraiser that an assignment to appraise a rural property with a small house before and after a cell tower was installed on their 10 acres. It was his opinion that the property was actually worth more with the tower because of the land lease income.
Not much help I'm afraid."*

Frederick B. Jones
Abilene, TX

"Hello, a group in an affluent neighborhood on the east side of town fought unsuccessfully to prohibit a cell tower's installation, claiming it would devalue the neighborhood and their individual property. They were unable to show how the property would be devalued and lost the

case. The tower was installed several years ago with no apparent value issues. I don't remember the exact dates, but the tower has had no long term devaluation.
We had a similar case recently with wind turbines – our area is the wind capital of the nation - with similar results. There is simply insufficient data to extract to show the plaintiff's were damaged. Hope this helps."

Ned Farrone, MAI
Larchmont, NY

"The answer is "NO" to all three questions. We have been doing ongoing studies of neighborhoods with cell towers for more than 10 years. Never once have we found that there was a diminution in value due to being able to see a cell tower."

Survey of New Hampshire, Massachusetts and Vermont Assessors

All assessors were asked the follow three questions:

1. ***Have you observed or are you aware of any loss in residential property value due to the presence of a cell tower?***
2. ***Have you observed or are you aware of any appeals filed in the last two years claiming property value loss due to the presence of a cell tower?***
3. ***Have you observed or are you aware of any property value loss due to the ABILITY to see ANY part of a cell tower from a residential property, regardless of distance?***

In New Hampshire twenty-six communities with populations from 2,000 to 110,000 responded. **All twenty-six communities answered "NO" to each of the above three questions.**

Population	Town	Population	Town	Population	Town	Population	Town
2,042	Newbury	5,620	Hopkinton	13,040	Durham	28,486	Dover
2,215	Andover	6,561	Newport	13,388	Claremont	29,558	Salem
2,460	Plainfield	7,098	Stratham	15,450	Hampton	42,336	Concord
3,537	Gilmanton	7,322	Belmont	17,060	Laconia	87,321	Nashua
4,463	New London	8,020	Bow	22,778	Keene	109,691	Manchester
4,867	Henniker	8,434	Seabrook	24,568	Hudson		
4,880	New Boston	11,156	Hanover	24,837	Londonderry		

Massachusetts assessor results

Andover	*Never seen an abatement for that*	Chelmsford	*Nothing*
Bedford	*No*	Lexington	*None to my knowledge*
Belmont	*Haven't seen any*	Lowell	*There were none*
Billerica	*No haven't seen anything yet*	Reading	*No*
Carlisle	*Not in this town*	Waltham	*Have not had any*
		Woburn	*No*

Vermont assessors / lister results

Bethel	*No; Our tower is 2 yrs old, no immediate neighbors; can be seen form Rte 107 & 12.*		
Cabot	*No; We have 2 towers*	Poultney	*No*
Charoltte	*No; not aware of any grievances re cell towers*		
So Burlington	*No; never had anyone broach the subject*	Dover	*No*
Weathersfield	*No to all 3 questions*	Mount Tabor	*No*
Royalton	*No; We have 2 towers in remote locations*		

The following statements and the conclusions are from reports by other appraisers who have completed site-specific analysis or general market research in order to determine if verifiable market data exists supporting the opinion that the presence of a cell tower has a deleterious impact on surrounding property values.

Edward J. Ferrarone, MAI – September 2008 – Danbury, CT

As you see from the data, the sales prices and price per square foot (a recognized unit of comparison) for those residences situated near a communication facility site are consistent with, and in some cases higher than, the prices achieved in the neighborhood further away from the communication facility site.

I have been conducting surveys of sales prices such as these for the last decade. The areas covered include Westchester, Rockland, Putnam, Dutchess, Orange, and Ulster Counties. In no instance have I ever found that values have been reduced by the presence of communications facilities such as those which are proposed for this site.

As a result of the foregoing analysis, it is our conclusion the installation, presence and/or operation of the proposed Facility on the subject Property, will not result in the diminution of real estate values of nearby properties or reduce the marketability of properties in the immediate area.

U.S. District Court Judge Charles L. Brieant, in a decision dated January 25, 2001, agreed with the conclusion"that the actual experience with similar wireless facilities within ... other communities has not supported a conclusion that these antennae have reduced the value of nearby property." Judge Brieant further states that "generalized concerns about a potential decrease in property values stemming from the construction of the proposed communications antenna, especially in light of the expert reports contained in this record before the Court, are not adequate to support the conclusion that a special use permit should be denied."

See U.S. District Court Southern District of New York (White Plains)
Civil Docket for case #: 7:00-CV-04828-CLB Sprint Spectrum, LP v Cestone et al.

Bill Pastuszek, Jr. SRA, MAI, MRA – December 2007 – Pepperell, Massachusetts

Summary. The preceding analysis demonstrates that cellular telecommunications facilities in competitive residential locations do not affect real estate prices adversely. Research and analysis in other areas supports this conclusion: there is no measurable impact on residential sales prices due to the presence of such facilities. *Conclusion*. Based upon my inspection of the subject site and neighborhood, of comparable sites, my detailed review of the proposed project, and my review of pertinent empirical studies, it is my professional opinion that the construction and operation of the project will not have any adverse effect upon the property values of any real estate located near the site.

Vern J. Gardner Jr. , SRA, MAI – February 2007 – Londonderry, New Hampshire

Based upon the material presented herein it is this appraiser's opinion that the Market Value of the Fee Simple Title to any of the properties in the vicinity of the proposed cell tower will experience no diminution in value resulting from its construction as of February 05, 2007.

Patricia Amadon, MAI - October 2006 – Falmouth ME

In terms of marketing time, I researched sales in the general area to investigate the number of days on the market for residential properties. The marketing time ranged from 0 days to 371 days. When the maximum and minimum values were eliminated, this range narrowed from 11 days to 134 days. The sales of the two properties in proximity to towers took 66 and 72 days to sell, selling times well within the range of residential properties within the area. Therefore, marketing time does not appear to be affected.

Based on my investigation summarized above, I have concluded the following:

The nearest property has sufficient natural coverage and distance from the proposed tower to significantly diminish visibility.

The addition of the proposed tower and associated equipment will have no measurable adverse impact on the value of surrounding property.

From a valuation perspective, the proposed tower is the most appropriate location for a telecommunications facility in the area.

Robert G. Bramley, MAI - May 2006 - Cornish NH

In summary, while the existing tower, if constructed, may be visible at a distance, I know of no instance where local property values in rural locations such as the subject will diminish with the construction of said facilities nor will the region be impacted, except in a positive way, from said facilities because of improved communication facilities.

J. Nathan Godfrey Appraiser October 2002 – West Tisbury, Ma

"The surrounding neighborhood area will be unchanged by the introduction if the proposed wireless communications facility. The equipment shelter and base of the pole will not be visible from Old Courthouse Road and there will be no change to the overall character of the site. My research and investigations have concluded that there would be no diminution of value or difficulty in marketing a residence in the immediate area around the proposed installation."

Donald E. Watson, Certified General Appraiser – June 1998 – 5 communities in Southern NH

The study of sales in Bedford, Nashua, Merrimack, Candia, and Manchester did not indicate any discernible trends or variations in the sale prices of properties in the vicinity of telecommunications towers or similar structures in relation to the overall sales ratios found in each community. The lack of any trend would indicate that in fact there is no diminution of value of properties near these structures. Given federally mandated guidelines, I am of the opinion that as more telecommunications tower are constructed, their presence will become more common, similar to the existing telephone poles. If any diminution of value were to occur, it would be evident during the early stages of placement of telecommunications towers.

Michael P. Wicker. MAI – April 1994 – Sullivan, New York

At your request, we have performed a detailed analysis of the effects of radio communication towers on surrounding property values. It is the conclusion of this analysis that the subject's proposed cell site to contain a 180-foot guyed tower and a 293 square foot prefabricated concrete shelter will have no effect upon surrounding property values. The location, nature, and height of buildings, walls, and fences will not discourage the appropriate development and use of adjacent land and buildings or impair their value.

Enclosed please find the results of this analysis which support the above conclusion.

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY. NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WQJQ689	
Radio Service	
WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
09-11-2019	07-15-2020	06-13-2029	

Market Number	Channel Block	Sub-Market Designator
REA001	C	0

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-13-2013	06-13-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
October 2017

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQJQ689 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
KNKA331	0007969805
Radio Service CL - Cellular	
Market Numer CMA063	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003290673

Market Name
Springfield-Chicopee-Holyoke,

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
02-02-2018	02-02-2018	01-22-2028		02-03-2018

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
1	42-08-32.3 N	072-20-53.3 W	289.6	48.8	

Address: 111 HOVEY ROAD
City: MONSON **County:** HAMPDEN **State:** MA **Construction Deadline:**

Antenna: 7
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	202.100	122.400	127.300	78.300	72.700	197.200	248.300	202.300
Transmitting ERP (watts)	15.000	18.450	5.840	0.900	0.100	0.100	0.400	3.360

Antenna: 8
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	202.100	122.400	127.300	78.300	72.700	197.200	248.300	202.300
Transmitting ERP (watts)	0.920	10.280	40.400	49.290	35.420	7.050	0.310	0.230

Antenna: 9
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	202.100	122.400	127.300	78.300	72.700	197.200	248.300	202.300
Transmitting ERP (watts)	1.020	0.100	0.100	0.100	0.520	1.590	1.350	1.740

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

FCC 601-C
March 2018

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA331 **File Number:** 0007969805 **Print Date:** 02-03-2018

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	42-05-03.3 N	072-42-15.3 W	198.4	52.7	

Address: (Agawam) 591 Northwest St.
City: AGAWAM **County:** HAMPDEN **State:** MA **Construction Deadline:**

Antenna: 4
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	164.900	191.800	199.600	206.000	184.800	149.200	74.000	151.000
Transmitting ERP (watts)	43.300	41.640	12.040	0.590	0.590	0.590	0.590	6.890

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	164.900	191.800	199.600	206.000	184.800	149.200	74.000	151.000
Transmitting ERP (watts)	0.590	0.590	19.080	45.650	36.390	4.190	0.590	0.590

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	164.900	191.800	199.600	206.000	184.800	149.200	74.000	151.000
Transmitting ERP (watts)	0.930	0.470	0.470	0.470	2.090	44.640	45.760	48.530

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	42-13-23.3 N	072-58-06.3 W	452.6	85.3	1205083

Address: (Blandford site) Chester Road
City: BLANDFORD **County:** HAMPDEN **State:** MA **Construction Deadline:**

Antenna: 5
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	171.200	258.000	244.700	206.300	135.300	92.500	42.400	83.400
Transmitting ERP (watts)	85.540	62.640	65.090	5.000	0.630	0.630	1.750	37.360

Antenna: 6
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	171.200	258.000	244.700	206.300	135.300	92.500	42.400	83.400
Transmitting ERP (watts)	0.720	5.720	86.650	280.390	217.650	44.440	1.510	0.720

Antenna: 7
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	171.200	258.000	244.700	206.300	135.300	92.500	42.300	83.400
Transmitting ERP (watts)	16.510	0.720	0.870	0.990	16.900	143.800	314.600	154.080

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA331 **File Number:** 0007969805 **Print Date:** 02-03-2018

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	42-09-27.3 N	072-10-15.3 W	295.1	58.5	

Address: WARREN 0.5 MI. NE OF DEVILS LANE AND BROOKFIELD ROAD
City: WARREN **County:** WORCESTER **State:** MA **Construction Deadline:**

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.100	127.800	115.500	144.400	99.900	87.300	162.000	151.800
Transmitting ERP (watts)	0.500	0.210	0.740	12.300	64.570	107.150	58.880	7.760

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.100	127.800	115.500	144.400	99.900	87.300	162.000	151.800
Transmitting ERP (watts)	1.440	7.410	36.700	67.710	32.000	7.230	1.230	0.450

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	42-02-57.3 N	072-30-29.3 W	119.2	39.9	

Address: (East Longmeadow site) 339 Prospect Street
City: East Longmeadow **County:** HAMPDEN **State:** MA **Construction Deadline:** 11-28-2013

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	87.800	40.200	-12.200	18.100	88.800	115.300	111.100	114.500
Transmitting ERP (watts)	88.610	43.310	5.460	0.810	0.810	0.810	3.450	28.610

Antenna: 2
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	87.800	40.200	-12.200	18.100	88.800	115.300	111.100	114.500
Transmitting ERP (watts)	3.500	54.180	231.130	82.010	5.540	0.820	0.820	0.820

Antenna: 3
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	87.800	40.200	-12.200	18.100	88.800	115.300	111.100	114.500
Transmitting ERP (watts)	0.830	0.830	1.630	30.310	200.250	120.660	13.850	0.830

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
11	42-23-15.0 N	072-24-12.0 W	368.8	73.1	1006324

Address: (Pelham 2) 320 Daniel Shays Highway
City: Pelham **County:** HAMPSHIRE **State:** MA **Construction Deadline:** 04-18-2014

Antenna: 1
Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	121.200	228.100	241.600	235.900	228.600	282.100	338.300	206.500
Transmitting ERP (watts)	468.370	158.700	0.930	0.930	0.930	0.930	8.920	245.800

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA331 **File Number:** 0007969805 **Print Date:** 02-03-2018

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
11	42-23-15.0 N	072-24-12.0 W	368.8	73.1	1006324

Address: (Pelham 2) 320 Daniel Shays Highway

City: Pelham **County:** HAMPSHIRE **State:** MA **Construction Deadline:** 04-18-2014

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	121.200	228.100	241.600	235.900	228.600	282.100	338.300	206.500
Transmitting ERP (watts)	1.000	1.130	5.710	58.950	301.100	106.740	6.120	1.000

Control Points:

Control Pt. No. 2

Address: 500 W Dove Rd.

City: Southlake **County:** TARRANT **State:** TX **Telephone Number:** (800)264-6620

Waivers/Conditions:

NONE

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WQGA906	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	11-01-2016	11-29-2021	

Market Number	Channel Block	Sub-Market Designator
BEA010	B	15

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGA906 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
WQTY765	
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
03-12-2014	11-01-2016	11-29-2021	

Market Number	Channel Block	Sub-Market Designator
BEA010	C	10

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQTY765 **File Number:** **Print Date:**

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AIRTOUCH CELLULAR

ATTN: REGULATORY
AIRTOUCH CELLULAR
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
KNLH212	0007717096
Radio Service	
CW - PCS Broadband	

FCC Registration Number (FRN): 0006146468

Grant Date	Effective Date	Expiration Date	Print Date
06-02-2017	06-02-2017	06-27-2027	06-06-2017

Market Number	Channel Block	Sub-Market Designator
BTA427	E	0

Market Name
Springfield-Holyoke, MA

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-27-2002			

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: AIRTOUCH CELLULAR

Call Sign: KNLH212 **File Number:** 0007717096 **Print Date:** 06-06-2017

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign	File Number
KNLH273	0007716978
Radio Service	
CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
06-02-2017	06-02-2017	06-27-2027	06-06-2017

Market Number	Channel Block	Sub-Market Designator
BTA427	F	0

Market Name
Springfield-Holyoke, MA

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-27-2002			

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.716 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNLH273 **File Number:** 0007716978 **Print Date:** 06-06-2017

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Photographic Simulation Package

Proposed Wireless Telecommunications Facility:

Ware-4-MA
148 West Street
Ware, MA 01082

- Balloon Test Conducted 3/1/22

- Due to dense overgrowth of vegetation. It was not possible to fly a balloon at the Proposed tower location. The balloon was flown approximately 90 feet to the North-West of the proposed Tower location.

Package prepared by:

Virtual Site Simulations, LLC
24 Salt Pond Road
Suite C3
South Kingstown, Rhode Island 02879

www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com

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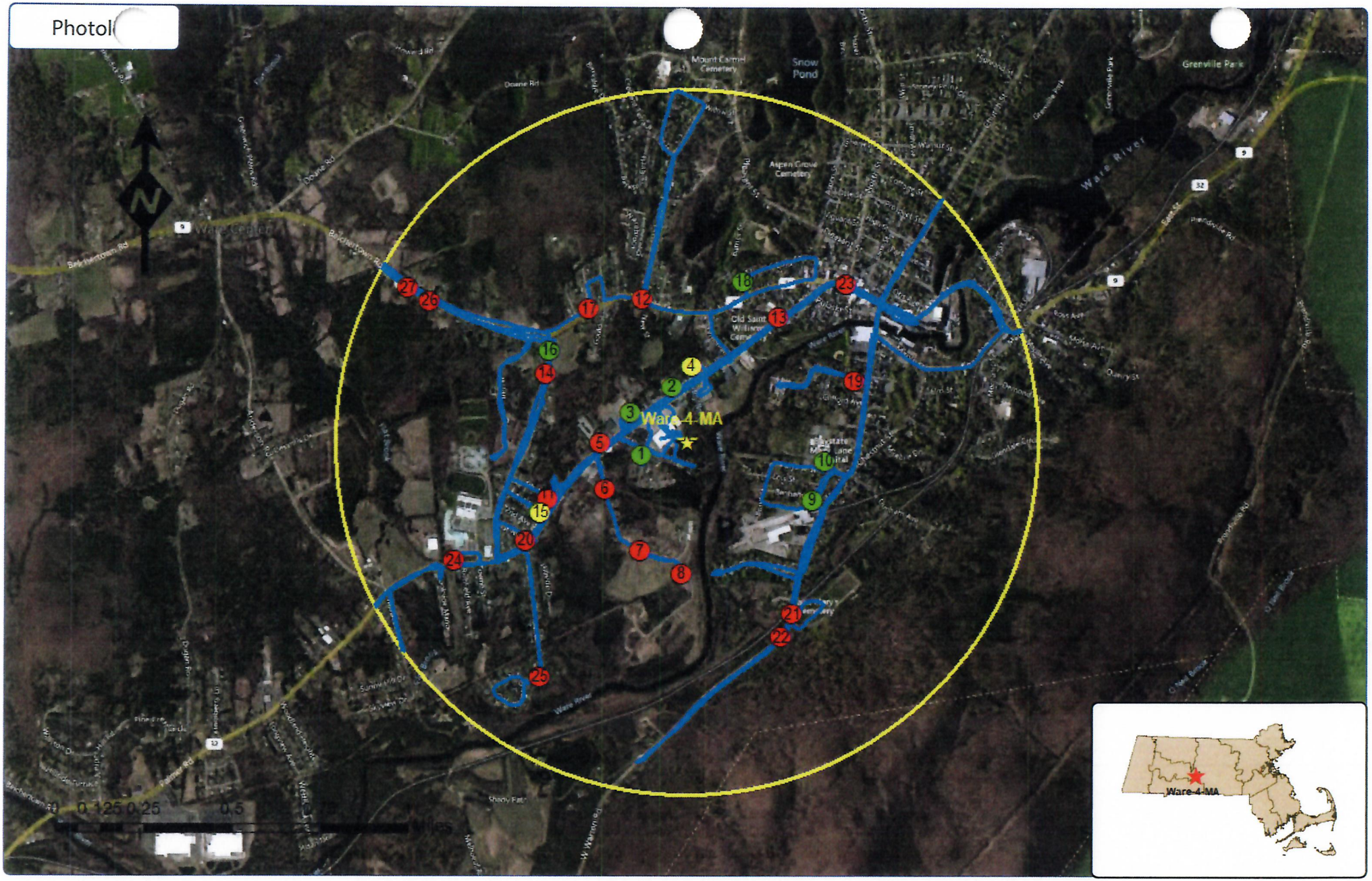

Wireless Telecommunications Facility:

Ware-4-MA

148 West Street

Ware, MA 01082

Legend:

- Facility Location
- 1 Mile Radius
- Reconnaissance Track Log
- Photo location -Balloon visible - Year Round Visibility
- Photo location -Balloon visible - Obscured Visibility
- Photo location -Balloon NOT visible

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

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Existir

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
1	Homecrest Ave	42.25354	-72.25306	0.13 Miles	West	74	Year Round

Site: Ware-4-MA

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

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Simulat

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
1	Homecrest Ave	42.25354	-72.25306	0.13 Miles	West	74	Year Round

Site: Ware-4-MA

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
2	West St Unit B	42.25633	-72.25141	0.16 Miles	North	164	Year Round

Site: Ware-4-MA

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Simulat

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
2	West St Unit B	42.25633	-72.25141	0.16 Miles	North	164	Year Round

Site: Ware-4-MA

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

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
3	MA-32	42.25528	-72.25369	0.18 Miles	North-West	118	Year Round

Site: Ware-4-MA

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Simulat

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
3	MA-32	42.25528	-72.25369	0.18 Miles	North-West	118	Year Round

Site: Ware-4-MA

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

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	West St	42.25718	-72.25032	0.22 Miles	North	183	Obscured

Site: Ware-4-MA

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

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	West St	42.25718	-72.25032	0.22 Miles	North	183	Obscured

Site: Ware-4-MA

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

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Balloon not visible from this lo ion

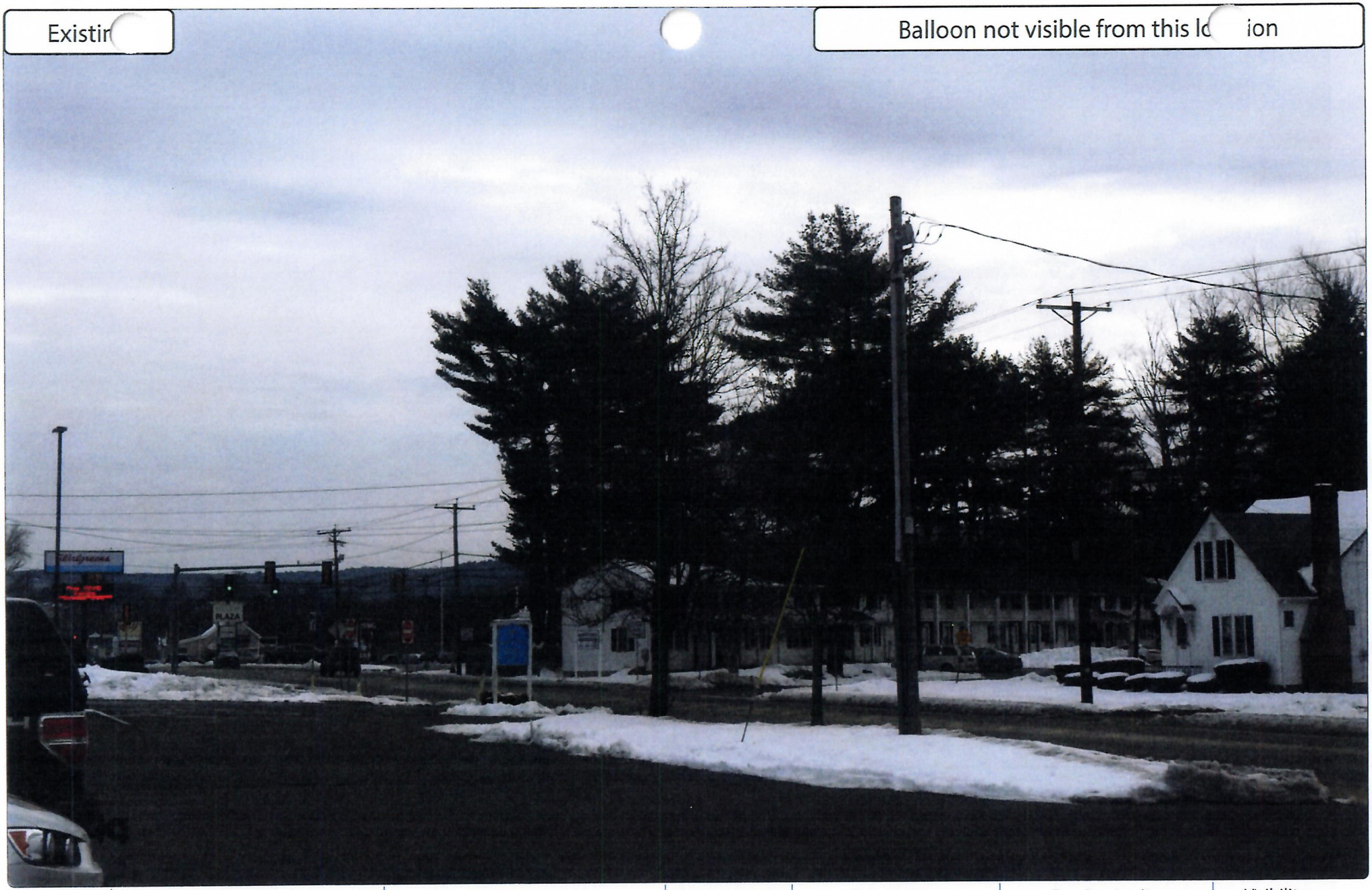

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
5	West St	42.25402	-72.25535	0.24 Miles	West	89	Not Visible

Site: Ware-4-MA

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

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Balloon not visible from this lo .on

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
6	Robbins Rd	42.25216	-72.25512	0.27 Miles	South-West	61	Not Visible

Site: Ware-4-MA

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

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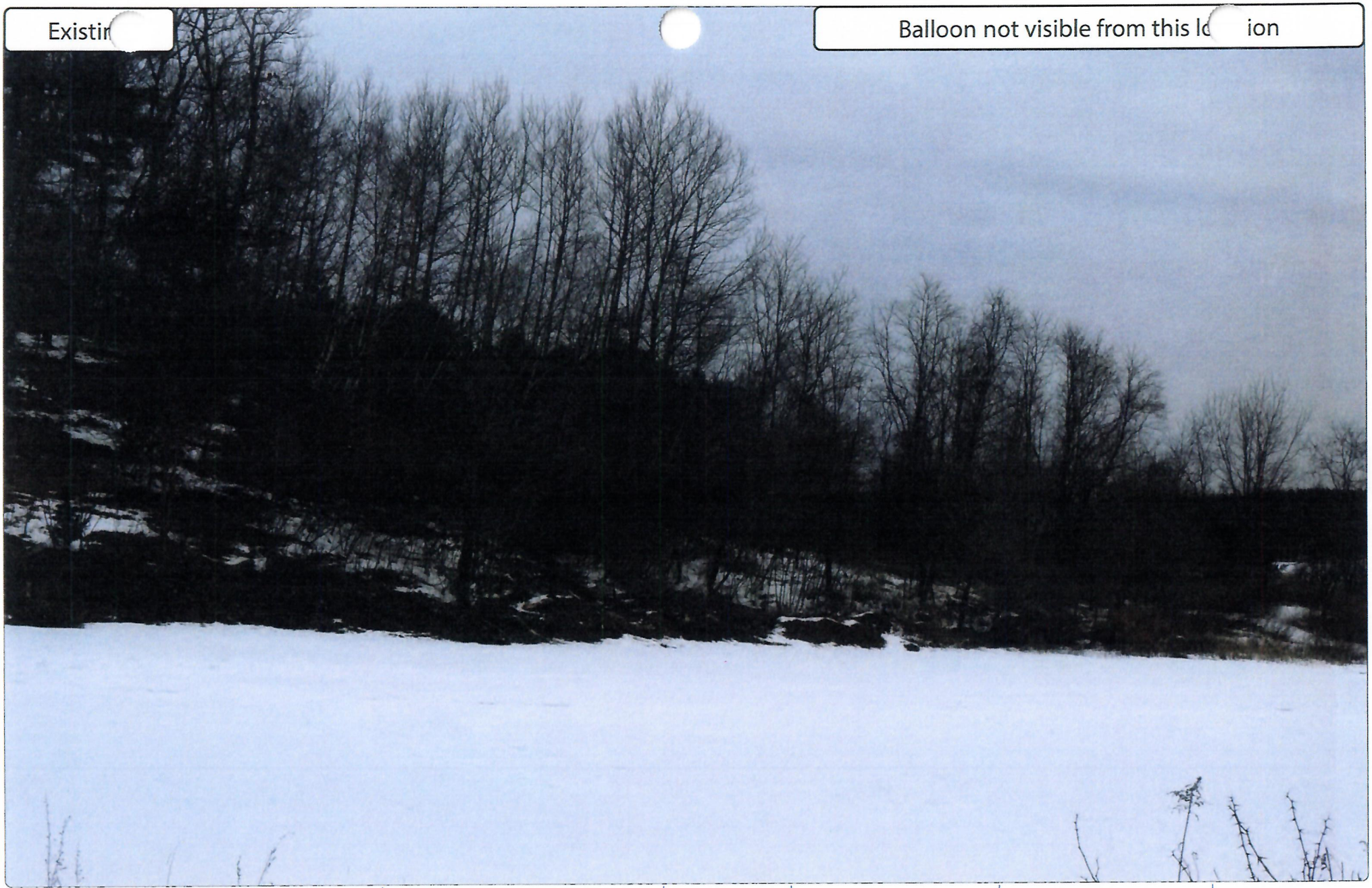

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
7	Robbins Rd	42.24962	-72.25316	0.33 Miles	South-West	23	Not Visible

Site: Ware-4-MA

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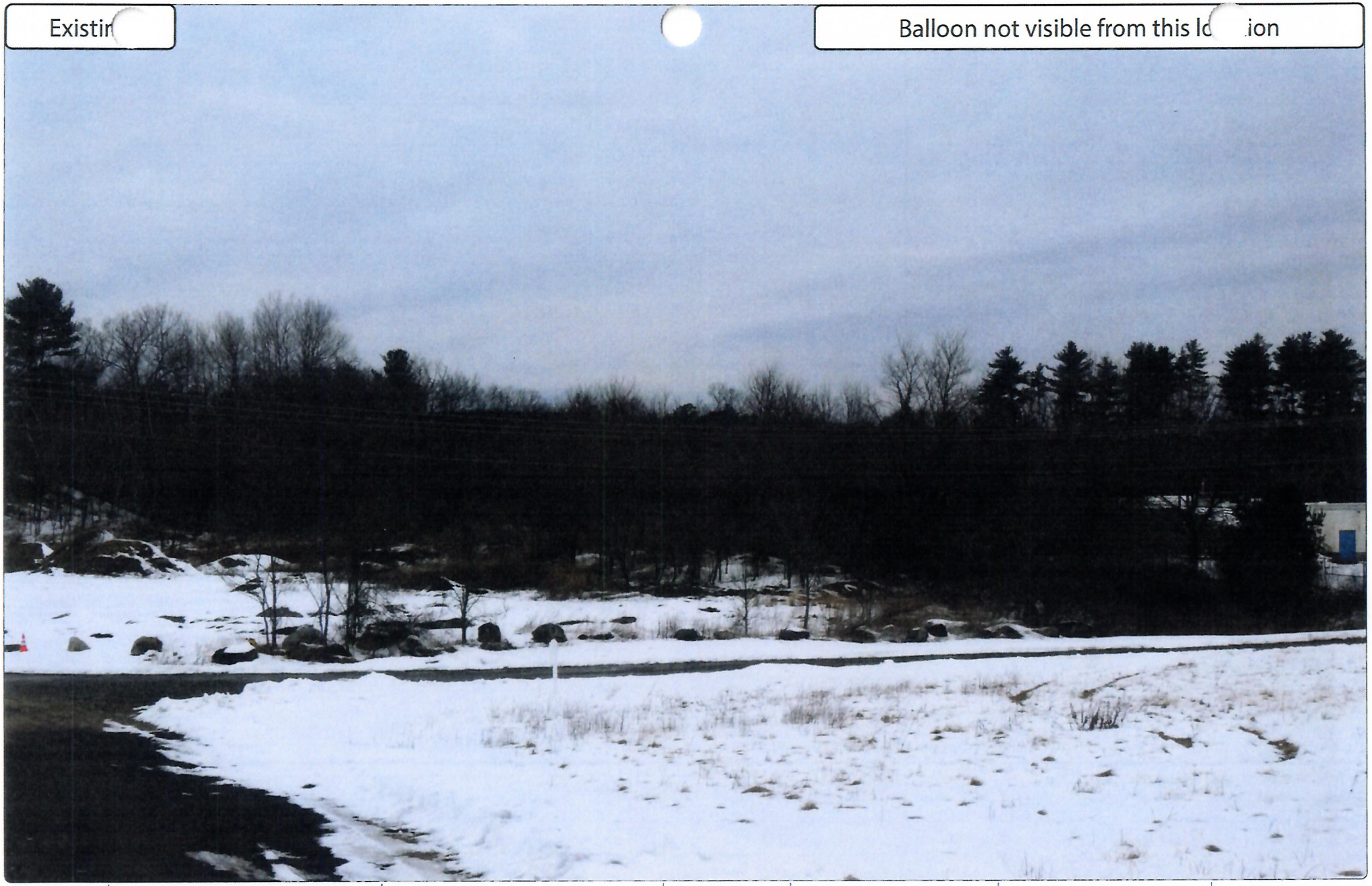

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
8	Ware	42.24867	-72.2509	0.37 Miles	South	3	Not Visible

Site: Ware-4-MA

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

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
9	Cummings St	42.25165	-72.24359	0.39 Miles	South-East	295	Year Round

Site: Ware-4-MA

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

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Simulat

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
9	Cummings St	42.25165	-72.24359	0.39 Miles	South-East	295	Year Round

Site: Ware-4-MA

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

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	South St	42.25326	-72.24291	0.4 Miles	East	278	Year Round

Site: Ware-4-MA

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Simulat

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	South St	42.25326	-72.24291	0.4 Miles	East	278	Year Round

Site: Ware-4-MA

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

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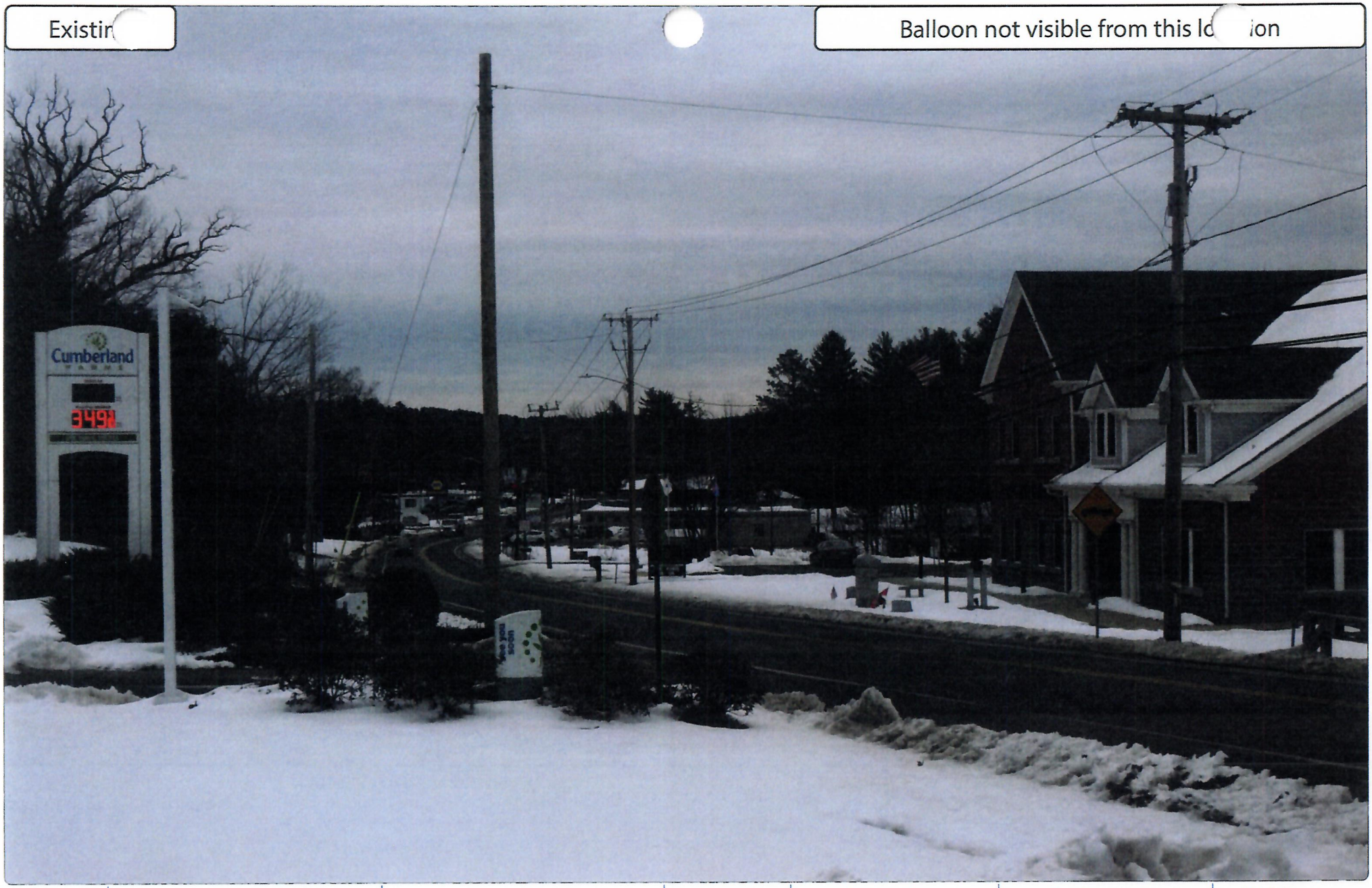

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
11	4th Ave	42.25178	-72.25827	0.42 Miles	West	68	Not Visible

Site: Ware-4-MA

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Balloon not visible from this lo ion

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
12	W Main St	42.25999	-72.25301	0.43 Miles	North	163	Not Visible

Site: Ware-4-MA

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Balloon not visible from this lo ion

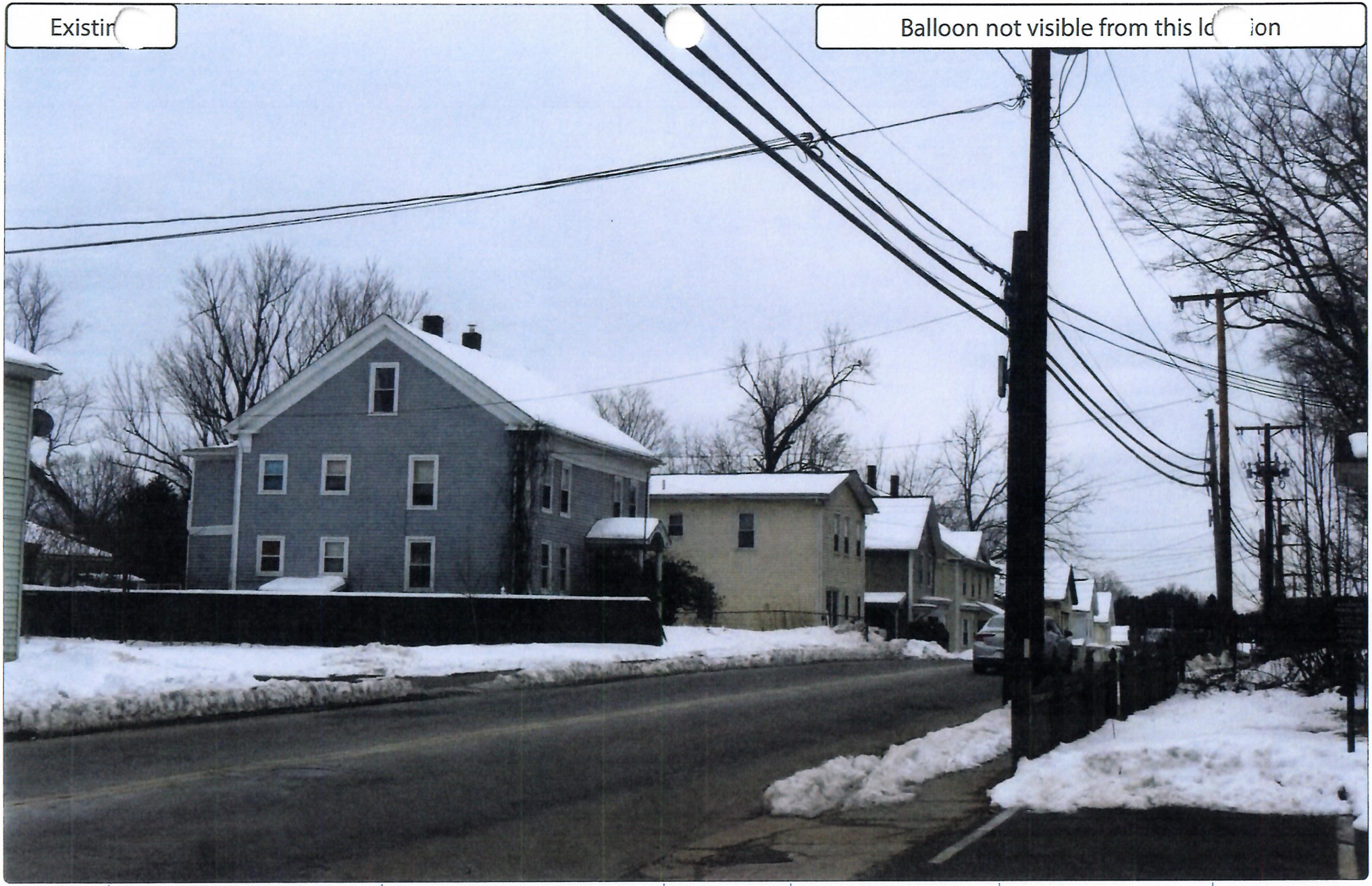

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
13	West St	42.25919	-72.2455	0.44 Miles	North-East	216	Not Visible

Site: Ware-4-MA

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Balloon not visible from this lo .on

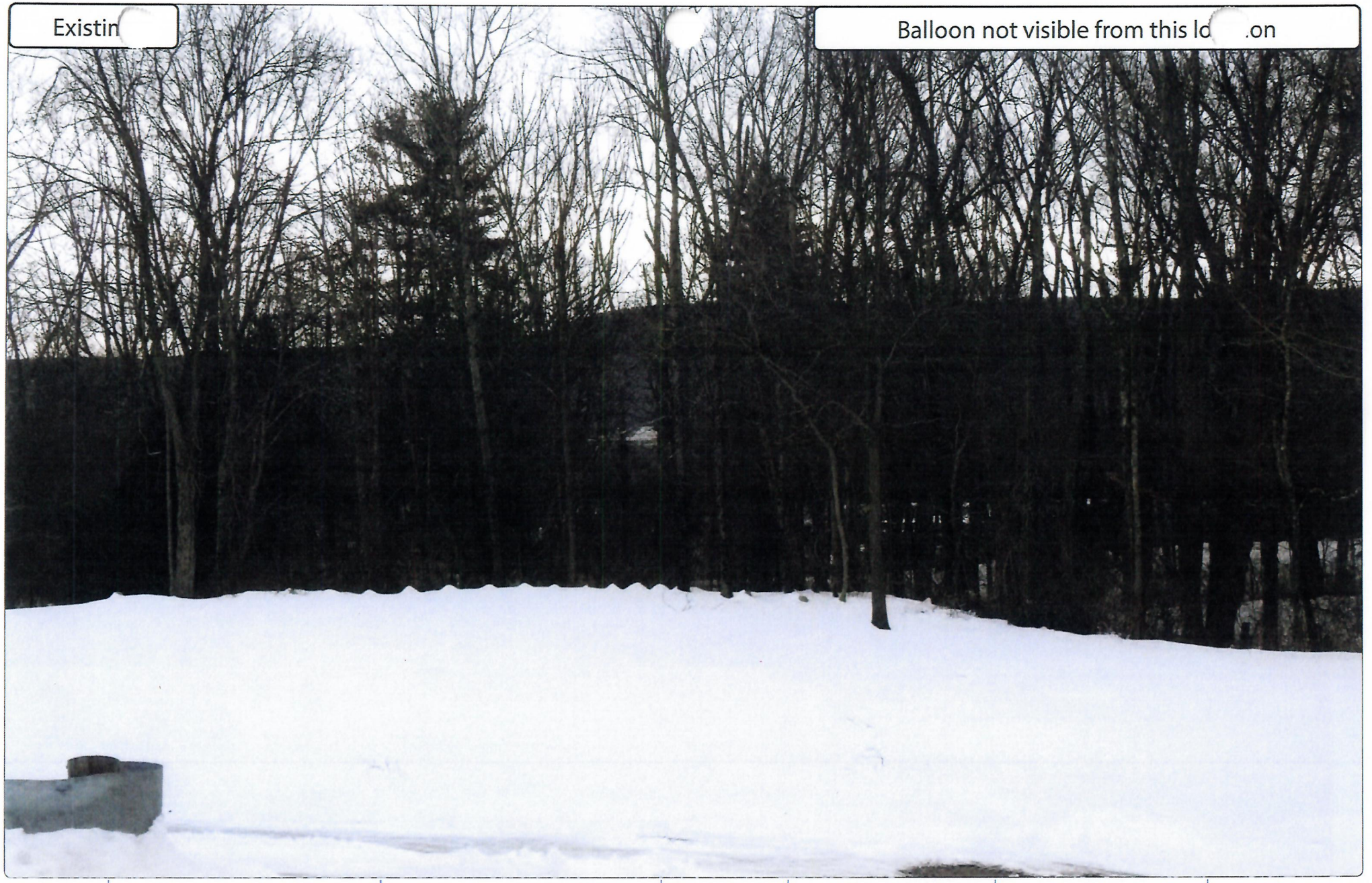

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
14	Gould Rd	42.25693	-72.25838	0.45 Miles	North-West	116	Not Visible

Site: Ware-4-MA

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
15	MA-32	42.25122	-72.25867	0.46 Miles	South-West	65	Obscured

Site: Ware-4-MA

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Simulati

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
15	MA-32	42.25122	-72.25867	0.46 Miles	South-West	65	Obscured

Site: Ware-4-MA

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

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Existin

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
16	Gould Rd	42.25789	-72.2582	0.47 Miles	North-West	124	Year Round

Site: Ware-4-MA

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

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
16	Gould Rd	42.25789	-72.2582	0.47 Miles	North-West	124	Year Round

Site: Ware-4-MA

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

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Balloon not visible from this lo ion

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
17	W Main St	42.25958	-72.25601	0.47 Miles	North-West	144	Not Visible

Site: Ware-4-MA

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

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Existin

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
18	Eddy St	42.26067	-72.24748	0.48 Miles	North	199	Year Round

Site: Ware-4-MA

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Simulat

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
18	Eddy St	42.26067	-72.24748	0.48 Miles	North	199	Year Round

Site: Ware-4-MA

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Balloon not visible from this lo ion

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
19	Monroe St	42.25653	-72.2413	0.5 Miles	East	250	Not Visible

Site: Ware-4-MA

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

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HDG HUDSON Design Group LLC

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Existi

Balloon not visible from this l ion

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
20	West St	42.25007	-72.25953	0.54 Miles	South-West	59	Not Visible

Site: Ware-4-MA

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

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Existi

Balloon not visible from this lo ion

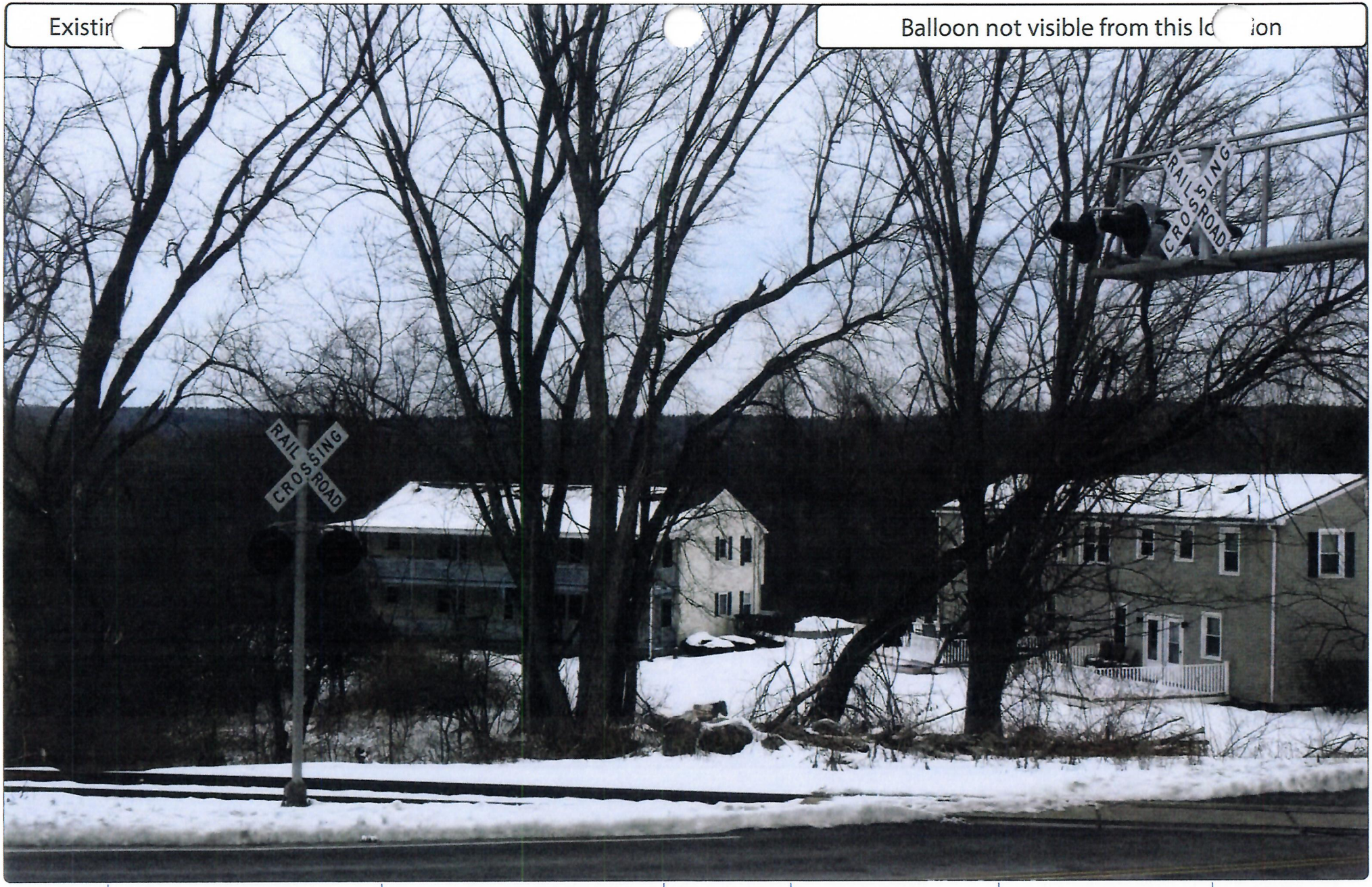

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
21	South St	42.24699	-72.24479	0.57 Miles	South-East	329	Not Visible

Site: Ware-4-MA

VSS

HDG HUDSON Design Group LLC

verizon

Existin

Balloon not visible from this lo ion

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
22	W Warren Rd	42.24605	-72.2454	0.61 Miles	South-East	335	Not Visible

Site: Ware-4-MA

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verizon

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Balloon not visible from this lo ion

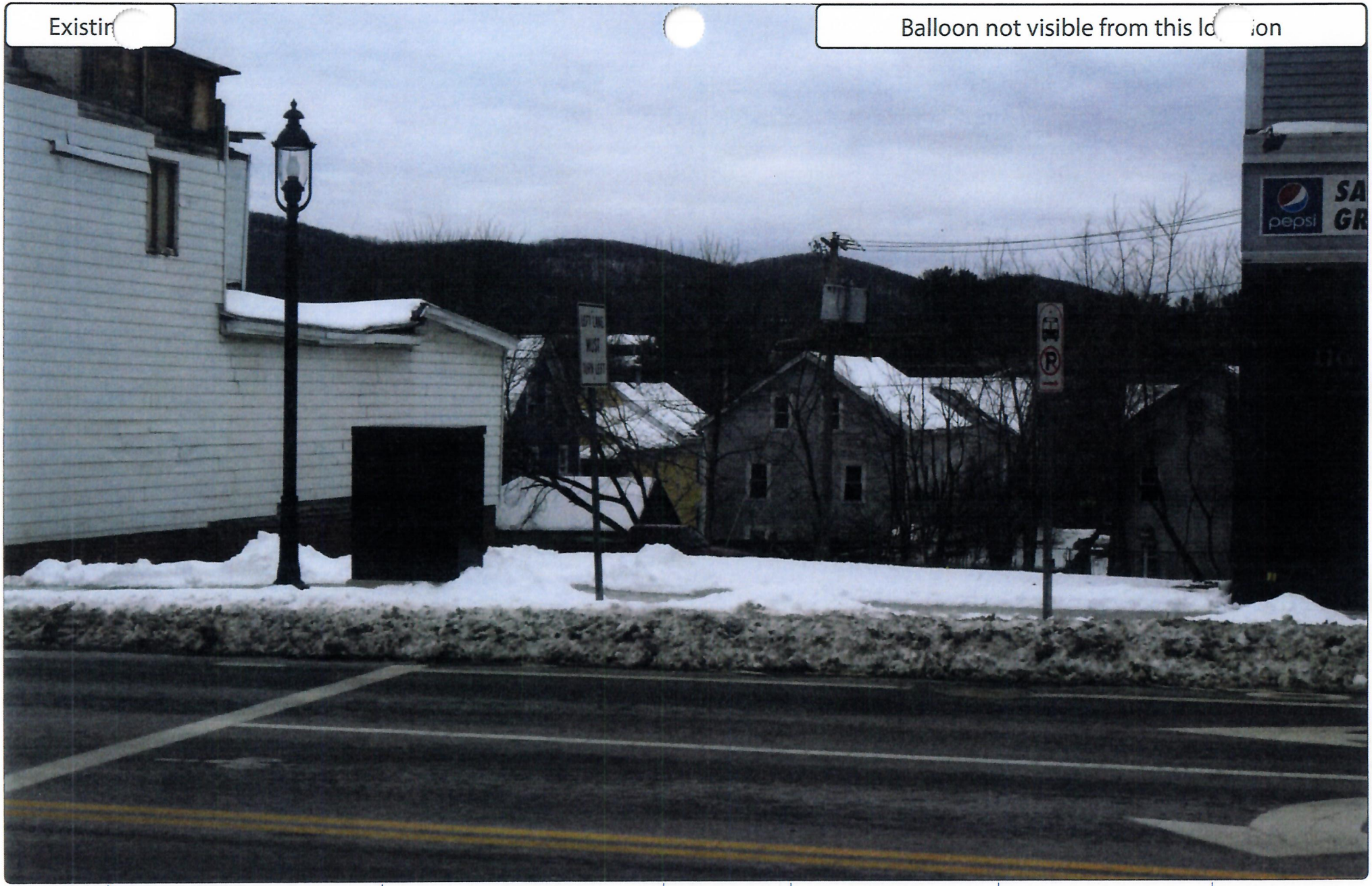

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
23	North St	42.26055	-72.24173	0.64 Miles	North-East	225	Not Visible

Site: Ware-4-MA

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VSS

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verizon

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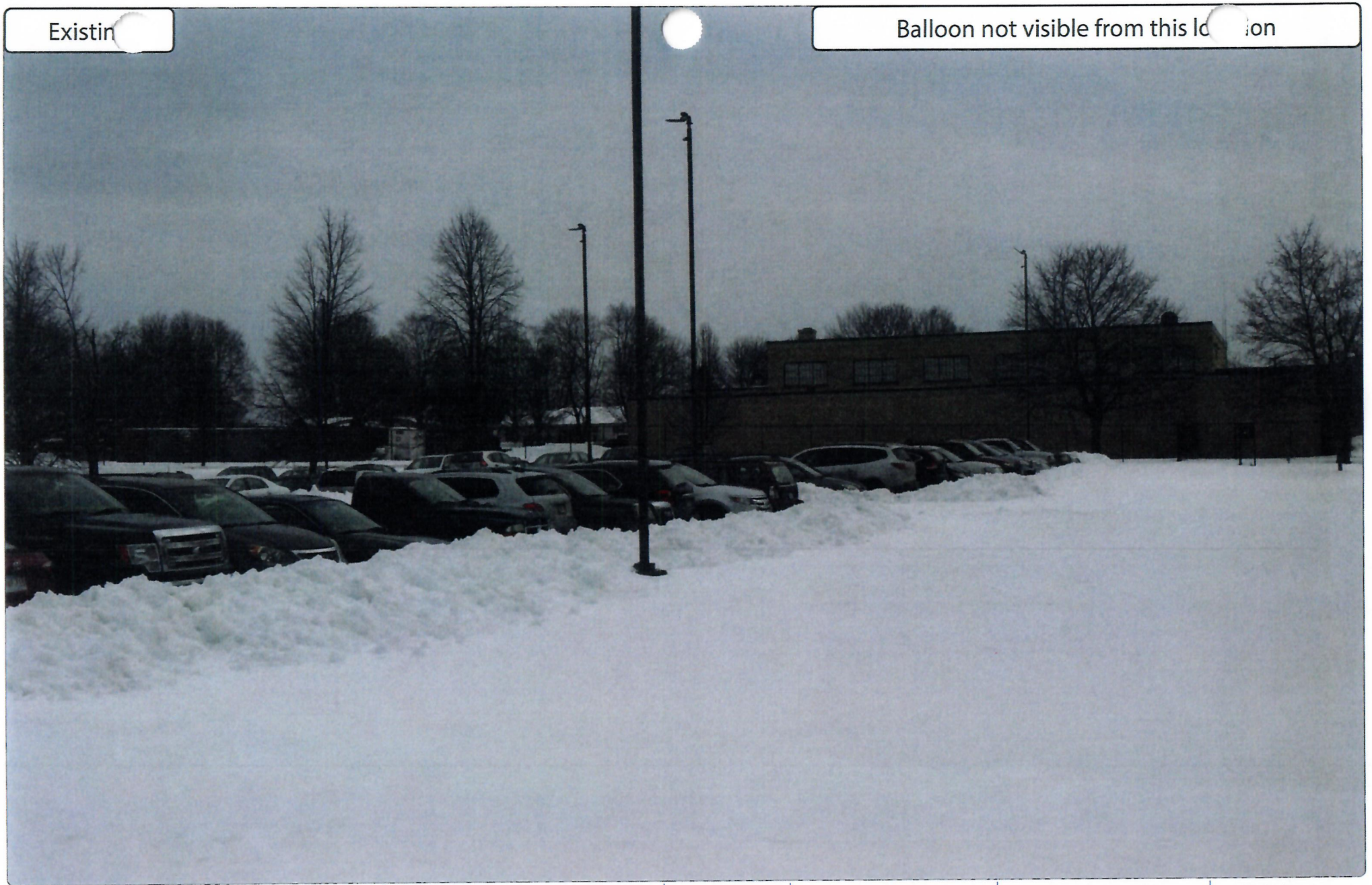

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
24	West St	42.24927	-72.2635	0.74 Miles	South-West	63	Not Visible

Site: Ware-4-MA

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

VSS

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verizon

Existin

Balloon not visible from this lo ion

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
25	Mountainview Dr	42.24448	-72.25873	0.78 Miles	South-West	32	Not Visible

Site: Ware-4-MA

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Existin

Balloon not visible from this lo ion

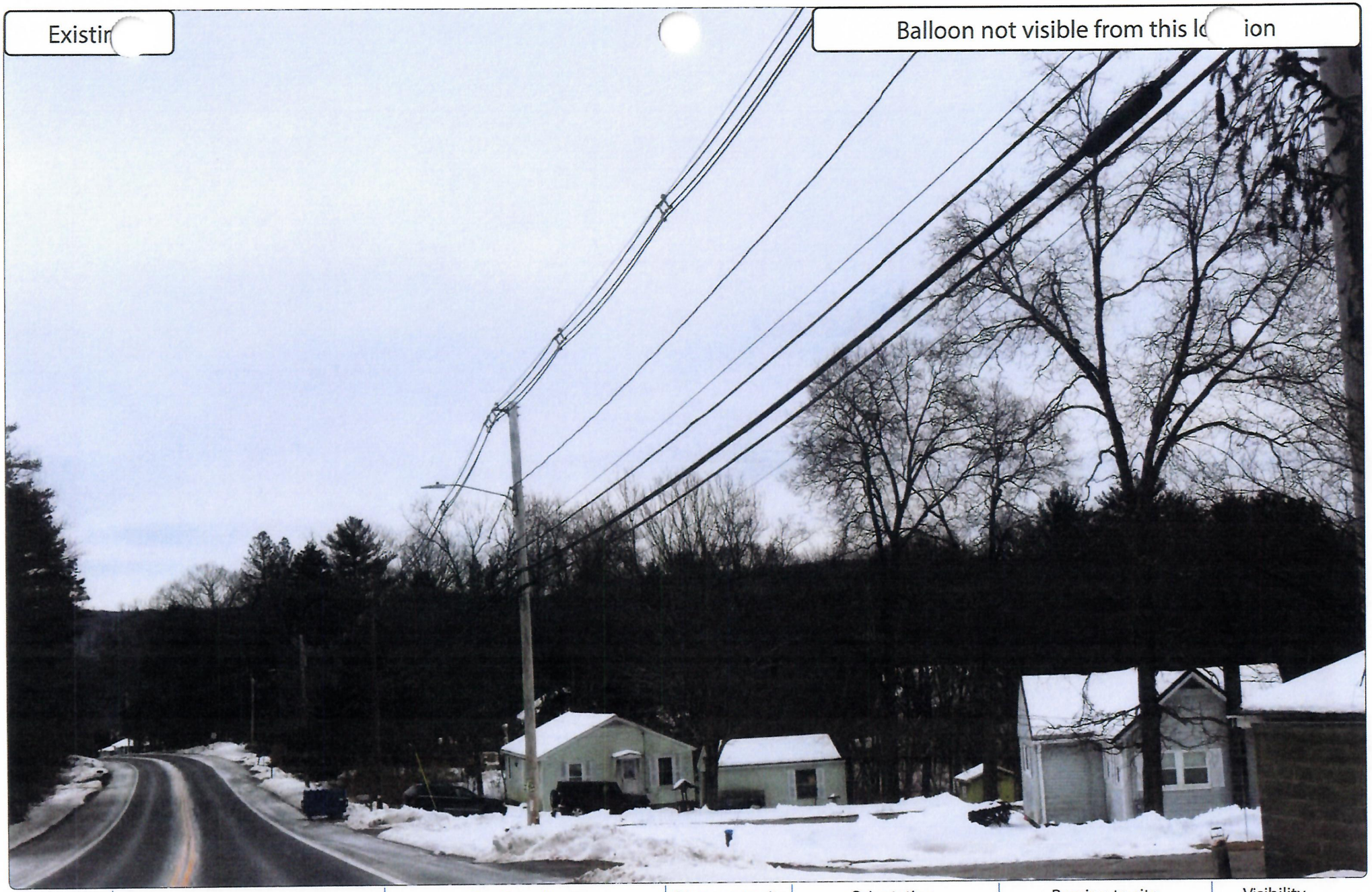

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
26	Belchertown Rd #9506	42.25997	-72.26485	0.84 Miles	North-West	119	Not Visible

Site: Ware-4-MA

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Balloon not visible from this lo ion

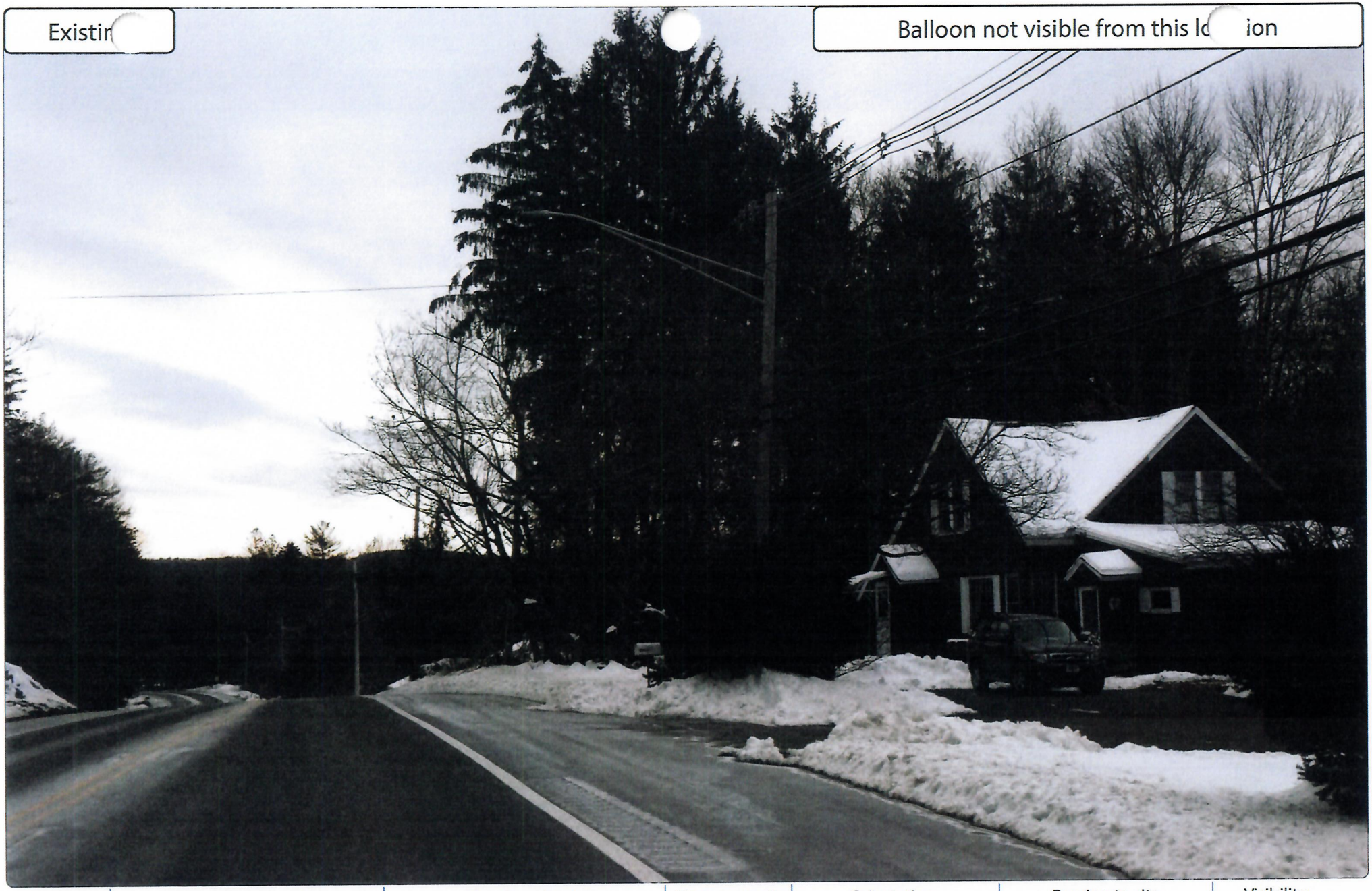

Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
27	Belchertown Rd	42.26048	-72.26603	0.91 Miles	North-West	119	Not Visible

Site: Ware-4-MA

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