Robinson + Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

October 30, 2015

Via Hand Delivery

Enzo Faienza, Mayor
Town of Cromwell
41 West Street
Cromwell, CT 06416

Re: **Submission of Technical Information Concerning a Proposal to Construct a Wireless Telecommunications Facility at 667 Main Street, Cromwell, Connecticut**

Dear Mr. Faienza:

This firm represents Cellco Partnership d/b/a Verizon Wireless ("Cellco"), in its proposal to construct a new wireless telecommunications facility on an approximately two-acre parcel at 667 Main Street in Cromwell (the "Property"). The Property is owned by Cromwell Concrete Products Inc. ("CCP"). For the purposes of this filing, the proposed telecommunications facility is known as Cellco's "Cromwell North 2 Facility". This Technical Report is submitted pursuant to Connecticut General Statutes ("Conn. Gen. Stat.") § 16-50*l*(g), which establishes local input requirements for the siting of a wireless telecommunications facility under the jurisdiction of the Connecticut Siting Council (the "Council"). This statutory provision requires the submission of technical information to the municipality where a proposed facility will be located and any municipality within 2,500 feet of the proposed facility location. Because a portion of the Town of Rocky Hill is located within 2,500 feet of the Cromwell North 2 Facility, a copy of this report will also be forwarded to Rocky Hill's Mayor Henry Vasel.

Correspondence and/or communications regarding the information contained in this report should be addressed to:

Anthony Befera
Verizon Wireless
99 East River Drive
East Hartford, CT 06108

A copy of all such correspondence or communications should also be sent to Cellco's attorneys:

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

Cellco intends to submit an application to the Council for a Certificate of Environmental Compatibility and Public Need ("Certificate") for the construction, maintenance and operation of a wireless telecommunications facility at the Property. The Cromwell North 2 Facility would interact with Cellco's existing cell sites in Cromwell, Rocky Hill and Portland.

The Cromwell North 2 Facility would provide improved coverage to existing service gaps in Cromwell, Rocky Hill and Portland and, more importantly, significant capacity relief to Cellco's wireless network in the area. Plots showing coverage from Cellco's existing cell sites in the area, alone and together with the predicted coverage from the proposed Cromwell North 2 Facility are included in Attachment 1. These plots show areas of coverage from Cellco's existing cell sites (blue shading), existing gaps in reliable wireless service, and the coverage footprint from the Cromwell North 2 Facility (purple shading) in each of Cellco's licensed frequencies. The Cromwell North 2 Facility will also off-load voice and data traffic from Cellco's existing Cromwell North cell site (Beta sector) and Portland, CT cell site (Alpha sector), which are currently operating at or near their respective capacity limits. Due to its proximity to the TPC River Highlands golf course, the site will also provide improved service during the annual Travelers Championship.

Cell Site Information

The proposed Cromwell North 2 Facility would be located in the westerly portion of an approximately two-acre parcel at 667 Main Street in Cromwell. The Property is owned by CCP and is located in Cromwell's BP (Business Park) zone district. The Property and several adjacent parcels are currently used by CCP as a part of its concrete products business.

The proposed wireless facility will consist of a 120-foot monopole tower and a 12' x 26' shelter located within a 50' x 50' fenced compound and 75' x 75' leased area. Cellco will install twelve (12) panel-type antennas at the centerline height of 120 feet above ground level ("AGL"). Cellco's antennas would extend to an overall height of approximately 123 feet AGL. Equipment

associated with Cellco's antennas and a diesel fueled back-up generator would be located inside the shelter. Access to the Cromwell North 2 Facility would extend from Main Street over adjacent parcels owned by CCP or related entities on an existing paved or gravel driveway a distance of approximately 775 feet. Project plans for the Cromwell North 2 Facility are included in Attachment 2.

Connecticut Siting Council Jurisdiction

Municipal jurisdiction over the siting of the proposed telecommunications facility described in this report is pre-empted by provisions of the Public Utilities Environmental Standards Act ("PUESA"), Conn. Gen. Stat. § 16-50g et seq. The PUESA gives exclusive jurisdiction over the location, type and modification of telecommunications towers, to the Council (Conn. Gen. Stat. § 16-50x(a); 16-50i(a)(6)). Accordingly, the telecommunications facility described in this report is exempt from the Town's land use regulations.

Upon receipt of an application, the Council will assign a docket number and, following a completeness review, set a docket schedule, including a hearing date. At that time, the Town may choose to become an intervenor or party in the proceeding. Other procedures followed by the Council include serving the applicant and other participants with interrogatories, holding a pre-hearing conference, and conducting a public hearing. The public hearing would be held at a location in the Town. Following the public hearing, the Council will issue findings of fact, an opinion and a decision and order. Prior to construction, the Council will also require the Applicant to submit a development and management plan ("D&M Plan") which is, in essence, a final site development plan showing the details of the facility incorporating any conditions imposed by the Council. These procedures are also outside the scope of the Town's jurisdiction and are governed by the Connecticut General Statutes, the Regulations of Connecticut State Agencies, and the Council's Rules of Practice. If the Council approves the cell site described in this report, Cellco will submit to the Building Official an application for approval of a building permit. Under Section 16-50x of the General Statutes, which provides for the exclusive jurisdiction of the Council, the building official must honor the Council's decision.

Municipal Consultation Process

Pursuant to Section 16-50*l* of the General Statutes, Town officials are entitled to receive technical information regarding the proposed telecommunications facility at least ninety (90) days prior to the filing of an application with the Council. This Technical Report is provided to the Town in accordance with these provisions and includes information on the need for improved reliable wireless service in the area; the location of existing wireless facilities in and around

Cromwell; details of the proposed facility; the location of alternative sites considered and rejected; the location of schools and commercial day care facilities in the area and the aesthetic impacts of the facility on those schools and day care facilities, if any; a description of the site selection process; and a discussion of potential environmental effects associated with the proposed facility.

Not later than sixty (60) days after the initial consultation meeting, the municipality may, in cooperation with Cellco, hold a public information hearing on the facility proposal. If such a hearing is held, the applicant must notify all abutting landowners and publish notice of the hearing in a newspaper of general circulation in the municipality, at least fifteen (15) days prior to the hearing.

Not later than thirty (30) days after the initial consultation meeting, the municipality may present Cellco with alternative sites, including municipal parcels, for its consideration. If not previously considered, these alternatives will be evaluated and discussed in its application to the Council.

Pursuant to Section 16-50*l*(e) of the General Statutes, Cellco must provide a summary of the Town's comments and recommendations, if any, to the Council within fifteen (15) days of the filing of an application.

Need for the Proposed Wireless Facility

The proposed Cromwell North 2 Facility described in this Technical Report is needed so that Cellco can provide enhanced wireless voice and data services in portions of Cromwell, Rocky Hill and Portland, Connecticut. More particularly, the Cromwell North 2 Facility will provide additional wireless "coverage" along portions of Routes 99 and local roads in the area around the Property. More importantly, the Cromwell North 2 Facility will provide capacity relief to Cellco's existing Cromwell North and Portland cell sites which are currently operating at or beyond their respective capacity limits. The Cromwell North 2 Facility, described in this report, would improve coverage and provide significant network capacity relief in the area, improving, overall, Cellco's ability to provide high quality, reliable wireless services in the area.

Environmental Effects

In our experience, the primary impact of a wireless facility such as the proposed Cromwell North 2 Facility is visual. The visual impact of the proposed facility will vary from place to place around the site location, depending upon factors such as vegetation, topography, distance from the tower, and the location of buildings in the sight-line of the cell site.

To more fully assess the visual impact of the Cromwell North 2 Facility, Cellco's consultant, All-Points Technology Corporation ("APT") has prepared a Visibility Analysis. This analysis indicates that a majority of the year-round visibility of the proposed 120-foot tower at the Property would be limited to the area within approximately ¾ of a mile of the proposed tower location and would encompass an area of approximately 108-acres. When the leaves are off the trees, views of the proposed tower through the trees (a/k/a seasonal views) may occur over a larger area (approximately 224 additional acres) around the tower site. (*See* Attachment 3).

Pursuant to the provisions of Conn. Gen. Stat. § 16-50p(a)(3)(G), new telecommunications facilities must be located at least 250 feet from schools (defined in C.G.S. §10-154a) and commercial day care facilities (defined in C.G.S. §19a-77(a)(1)) unless the location selected is acceptable to the Town's chief elected official or the Council finds that the facility will not have a substantial adverse effect on the aesthetics or scenic quality of the neighborhood where the school or commercial day care use is located. The proposed Cromwell North 2 Facility is not located within 250 feet of any building containing a school or commercial day care facility.

Based on field surveys and related environmental investigations, Cellco has determined that the construction of the Cromwell North 2 Facility will have no direct impact on inland wetlands or watercourses, within or near the tower compound. Cellco anticipates that all other physical environmental effects associated with the proposed facility would be minimal.

Radio Frequency Emissions

The Federal Communications Commission ("FCC") has adopted a standard (the "Standard") for exposure of radio frequency ("RF") emissions from telecommunications base stations like the Cromwell North 2 Facility. To ensure compliance with the Standard, Cellco has performed a worst-case RF emissions calculation for the proposed facility according to the methodology described in FCC Office of Science and Technology Bulletin No. 65 ("OST Bulletin 65"). This calculation is a conservative, worst-case approximation of RF emissions at the closest accessible point to the antenna (i.e., the base of the tower), and with all antennas

transmitting simultaneously on all channels at full power. The worst-case calculated RF emissions level for Cellco's antennas at the 120-foot level on the proposed tower would be 52.39% of the FCC Standard. (*See* Attachment 4.) Actual RF emissions levels from this facility will be far less than this "worst-case" approximation.

Scenic Natural Historic or Recreational Impacts

To further assess the environmental impacts of the proposed facility, Cellco is working with its consultant team to prepare a National Environmental Policy Act ("NEPA") Environmental Screening Checklist (the "NEPA Checklist") and other related environmental reviews to determine if the facility will have any significant adverse environmental effects. The NEPA Checklist will include information from the Environmental and Geographic Information Center of the Connecticut Department of Energy and Environmental Protection ("DEEP"), the U.S. Fish and Wildlife Service ("USFWS") and the State Historic Preservation Officer ("SHPO"). Copies of the DEEP, USFWS and the SHPO determinations will also be submitted as a part of the Council Application.

Site Search Process

Cellco conducted a search for suitable cell site locations in Cromwell and identified the Property as a site that would satisfy its wireless service objectives in the area. In addition to the proposed location, Cellco identified and investigated two (2) alternative facility locations in the area. With the exception of the Property, each of the alternative sites considered were either rejected by the landowner who was unwilling to enter into a lease or eliminated due to some concerns for significant environmental effects, including floodplain and/or wetland impacts. A complete list of other potential cell sites investigated is included in Attachment 5.

Tower Sharing

As stated above, Cellco intends to build a tower that is capable of supporting its antennas and those of additional wireless telecommunications providers, including Towns of Cromwell and Rocky Hill emergency service providers, if a need exists. The provision to share the tower is consistent with the intent of the General Assembly when it adopted Conn. Gen. Stat. § 16-50aa and with Council policy. The availability of space on the proposed tower may reduce, if not eliminate, the need for additional towers in Cromwell for the foreseeable future.

Conclusion

This Technical Report is submitted in accordance with Conn. Gen. Stat. § 16-50*l* which requires Cellco to supply the Town with information regarding its proposed Cromwell North 2 Facility. This report includes information regarding the site selection process, public need, and the potential environmental impacts of the facility. Cellco submits that its proposed Cromwell North 2 Facility would not have any significant adverse environmental effects. Moreover, Cellco submits that the public need for high quality wireless service, and a competitive framework for providing such service has been determined by the FCC to be in the public interest and that such public need far outweighs any perceived environmental effects of the proposed facility.

Please contact me if you have any additional questions regarding the proposed facility.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Enclosures
Copy to (*via hand delivery*):
Henry Vasel, Mayor, Town of Rocky Hill
Alice Kelly, Chair, Cromwell Planning and Zoning Commission
Joseph Corlis, Chair, Cromwell Inland Wetlands and Watercourses Agency
Dimple Desai, Chair, Rocky Hill Planning and Zoning Commission
Ed Charamut, Chair, Rocky Hill Inland Wetlands and Watercourses Commission
Anthony R. Befera, Verizon Wireless

ATTACHMENT 1

Existing Verizon Wireless 700 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

NEW BRITAIN
NEWINGTON
WETHERSFIELD
GLASTONBURY
ROCKY HILL
BERLIN
MARLBOROUGH
EAST HAMPTON
CROMWELL
MIDDLETOWN
PORTLAND
MERIDEN

ROCKY HILL EAST CT
ROCKY HILL 4 CT
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
CROMWELL N CT
CROMWELL CT
CROMWELL SE CT
PORTLAND CT

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 700 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

N W E S

0 0.75 1.5 Miles

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2006)

C:\GIS\Projects\Verizon\Cromwell, North\Drawings\Working_Existing.mxd

Proposed Verizon Wireless 700 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

NEW BRITAIN
NEWINGTON
WETHERSFIELD
ROCKY HILL EAST CT
ROCKY HILL
ROCKY HILL 4 CT
BERLIN
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
CROMWELL N CT
CROMWELL
CROMWELL CT
PORTLAND CT
PORTLAND
MIDDLETOWN
CROMWELL SE CT
MERIDEN
EAST HAMPTON
MARLBOROUGH
GLASTONBURY

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 700 MHz Coverage
- Proposed Wireless 700 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

N W E S

0 0.75 1.5 Miles

Map Notes:
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Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2006)

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Existing Verizon Wireless 850 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm

NEW BRITAIN
NEWINGTON
WETHERSFIELD
GLASTONBURY
ROCKY HILL
BERLIN
MARLBOROUGH
EAST HAMPTON
CROMWELL
PORTLAND
MIDDLETOWN
MERIDEN

ROCKY HILL EAST CT
ROCKY HILL 4 CT
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
CROMWELL N CT
CROMWELL CT
CROMWELL SE CT
PORTLAND CT

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 850 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

Map Notes:
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Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2006)

0 0.75 1.5 Miles

Proposed Verizon Wireless 850 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm

ROCKY HILL EAST CT
ROCKY HILL 4 CT
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
CROMWELL N CT
CROMWELL CT
CROMWELL SE CT
PORTLAND CT

NEW BRITAIN
NEWINGTON
WETHERSFIELD
GLASTONBURY
ROCKY HILL
BERLIN
MARLBOROUGH
EAST HAMPTON
CROMWELL
PORTLAND
MIDDLETOWN
MERIDEN

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 850 MHz Coverage
- Proposed Wireless 850 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

N W E S

0 0.75 1.5 Miles

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2000)

Existing Verizon Wireless 1900 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm

NEW BRITAIN
NEWINGTON
WETHERSFIELD
GLASTONBURY
ROCKY HILL
BERLIN
MARLBOROUGH
EAST HAMPTON
CROMWELL
PORTLAND
MIDDLETOWN
MERIDEN

ROCKY HILL EAST CT
ROCKY HILL 4 CT
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
CROMWELL N CT
CROMWELL CT
CROMWELL SE CT
PORTLAND CT

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 1900 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon wireless

N W E S

0 0.75 1.5 Miles

Map Notes:
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Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2009)

Proposed Verizon Wireless 1900 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm

ROCKY HILL EAST CT

ROCKY HILL 4 CT

ROCKY HILL 2 CT

CROMWELL NORTH 2 CT

CROMWELL N CT

CROMWELL CT

CROMWELL SE CT

PORTLAND CT

NEW BRITAIN

NEWINGTON

WETHERSFIELD

GLASTONBURY

ROCKY HILL

BERLIN

MARLBOROUGH

EAST HAMPTON

CROMWELL

PORTLAND

MIDDLETOWN

MERIDEN

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 1900 MHz Coverage
- Proposed Wireless 1900 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

N W E S

0 0.75 1.5 Miles

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Base map: CTECO Hillsheds (2000)

Existing Verizon Wireless 2100 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

NEW BRITAIN
NEWINGTON
WETHERSFIELD
GLASTONBURY
ROCKY HILL
BERLIN
MARLBOROUGH
EAST HAMPTON
CROMWELL
PORTLAND
MIDDLETOWN
MERIDEN

ROCKY HILL EAST CT
ROCKY HILL 4 CT
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
CROMWELL N CT
CROMWELL CT
CROMWELL SE CT
PORTLAND CT

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 2100 MHz Coverage
- Major Route
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

0 0.75 1.5 Miles

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Base map: CTECO Hillshade (2000)

Proposed Verizon Wireless 2100 MHz Coverage
Cromwell, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

NEW BRITAIN
NEWINGTON
WETHERSFIELD
GLASTONBURY
ROCKY HILL EAST CT
ROCKY HILL
ROCKY HILL 4 CT
BERLIN
ROCKY HILL 2 CT
CROMWELL NORTH 2 CT
MARLBOROUGH
EAST HAMPTON
CROMWELL N CT
CROMWELL
CROMWELL CT
PORTLAND CT
PORTLAND
CROMWELL SE CT
MIDDLETOWN
MERIDEN

Legend

- Existing Verizon Wireless Facilities
- Proposed Verizon Wireless Facility
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Wireless 2100 MHz Coverage
- Major Route
- Municipal and Private Open Space
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- State Forest/Park
- Open Water
- Town Line

ALL-POINTS TECHNOLOGY CORPORATION

verizon

N W E S

0 0.75 1.5 Miles

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Base map: CTECO Hillshade (2006)

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ATTACHMENT 2

Cellco Partnership

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

CROMWELL NORTH 2
667 MAIN STREET
CROMWELL, CT 06416

SITE DIRECTIONS

FROM: 99 EAST RIVER DRIVE
EAST HARTFORD, CONNECTICUT

TO: 667 MAIN STREET
CROMWELL, CONNECTICUT

1.	HEAD SOUTHWEST ON E RIVER DR TOWARD PITKIN ST	0.9 MI.
2.	CONTINUE ONTO E RIVER DR EXTENSION	0.3 MI.
3.	TURN RIGHT ONTO THE US-5 S/CT-15 S RAMP TO NEW HAVEN/I-91 S	0.2 MI.
4.	MERGE ONTO US-5 S	0.8 MI.
5.	TAKE EXIT 86 TO MERGE ONTO I-91 S TOWARD NEW HAVEN/NYC	5.1 MI.
6.	TAKE EXIT 24 TO MERGE ONTO CT-99 S TOWARD ROCKY HILL	0.3 MI.
7.	MERGE ONTO CT-99 S	1.5 MI.
8.	CONTINUE STRAIGHT TO STAY ON CT-99 S, AND DESTINATION WILL BE ON THE LEFT	1.2 MI.

GENERAL NOTES

1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELLCO PARTNERSHIP.

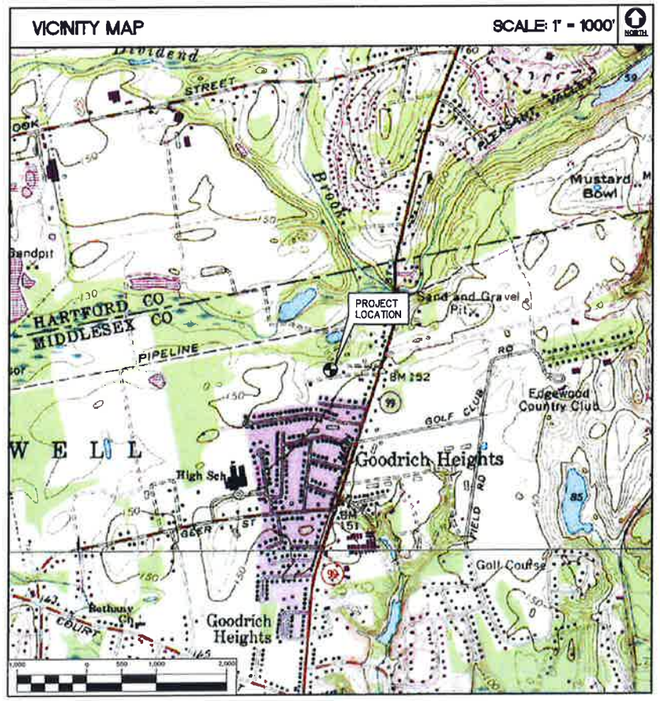
SITE INFORMATION

THE SCOPE OF WORK SHALL INCLUDE:

1. THE CONSTRUCTION OF A 50'x50' FENCED WIRELESS COMMUNICATIONS COMPOUND.
2. A TOTAL OF UP TO TWELVE (12) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED AT A CENTERLINE ELEVATION OF 120'-0"± AGL ON A 120'-0"± PROPOSED STEEL MONOPOLE TOWER.
3. POWER AND TELCO UTILITIES SHALL BE ROUTED UNDERGROUND FROM EXISTING RESPECTIVE DEMARCS TO THE PROPOSED UTILITY BACKBOARD LOCATED ADJACENT TO THE PROPOSED FENCED COMPOUND. FINAL DEMARC LOCATION AND UTILITY ROUTING TO PROPOSED BACKBOARD WILL BE VERIFIED/DETERMINED BY LOCAL UTILITY COMPANIES. UTILITIES WILL BE ROUTED UNDERGROUND FROM UTILITY BACKBOARD TO THE PROPOSED NOMINAL 12'x26' WIRELESS EQUIPMENT SHELTER LOCATED WITHIN FENCED COMPOUND AREA.
4. FINAL DESIGN FOR TOWER AND ANTENNA MOUNTS SHALL BE INCLUDED IN THE D&M PLANS.
5. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT.
6. THERE WILL NOT BE ANY LIGHTING UNLESS REQUIRED BY THE FCC OR THE FAA.
7. THERE WILL NOT BE ANY SIGNS OR ADVERTISING ON THE ANTENNAS OR EQUIPMENT.

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

SITE NAME:	CROMWELL NORTH 2
SITE ADDRESS:	667 MAIN STREET CROMWELL, CT 06416
PROPERTY OWNER:	CROMWELL CONCRETE PRODUCTS INC. 667 MAIN STREET CROMWELL, CT 06416
LESSEE/TENANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
VERIZON SITE ACQUISITION CONTACT:	CHRIS BISSON CELLCO PARTNERSHIP (203) 217-6200
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN, ESQ. ROBINSON & COLE (860) 275-8345
TOWER COORDINATES:	LATITUDE 41°-37'-56.493" LONGITUDE 72°-39'-12.048" GROUND ELEVATION: 147.1'± A.M.S.L. COORDINATES AND GROUND ELEVATION BASED ON FAA 1-A SURVEY CERTIFICATION AS PREPARED FOR VERIZON WIRELESS, BY MARTINEZ COUCH AND ASSOCIATES LLC, DATED MAY 1, 2015.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
C-1	SITE LOCATION PLAN	1
C-2	COMPOUND PLAN, ELEVATION AND ANTENNA MOUNTING CONFIGURATION	1

PROFESSIONAL ENGINEER SEAL

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	10/30/15	HMR	DMD	ISSUED FOR CT SITING COUNCIL
0	07/08/15	HMR	DMD	ISSUED FOR CT SITING COUNCIL – CLIENT REVIEW

Cellco Partnership d.b.a. verizon wireless

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

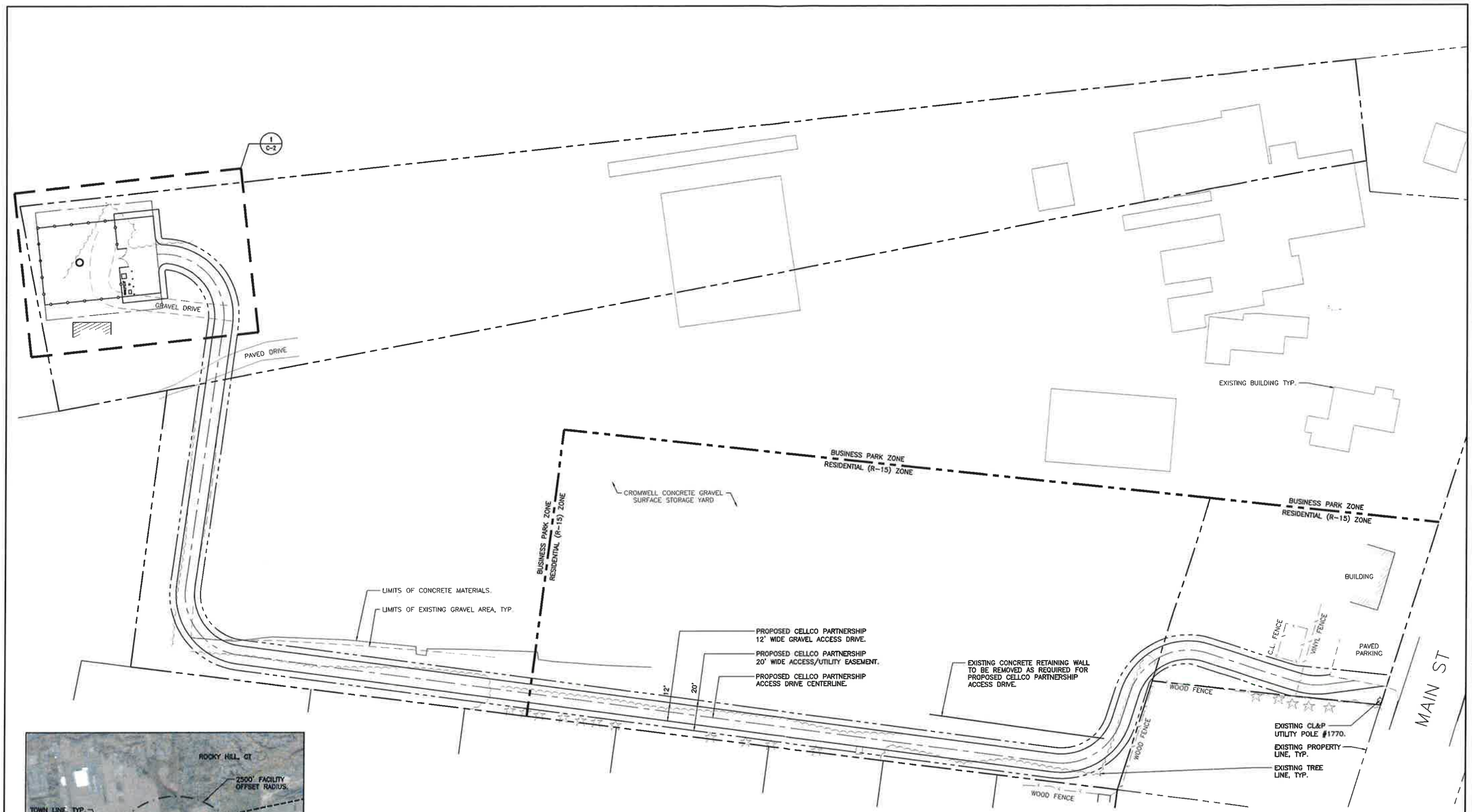
Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
CROMWELL NORTH 2
667 MAIN STREET
CROMWELL, CT 06416

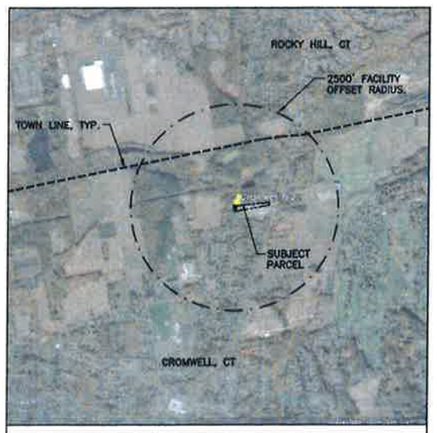
DATE: 07/07/15
SCALE: AS NOTED
JOB NO. 15011.000

TITLE SHEET

T-1

Sheet No. 1 of 3





MUNICIPALITY NOTIFICATION LIMIT MAP

1 / C-1 SITE LOCATION PLAN
SCALE: 1"=30'

APPROXIMATE NORTH

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	10/30/15	HMR	DMD	ISSUED FOR CT SITING COUNCIL
0	07/06/15	HMR	DMD	ISSUED FOR CT SITING COUNCIL – CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d/b/a Verizon Wireless

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

WIRELESS COMMUNICATIONS FACILITY

CROMWELL NORTH 2

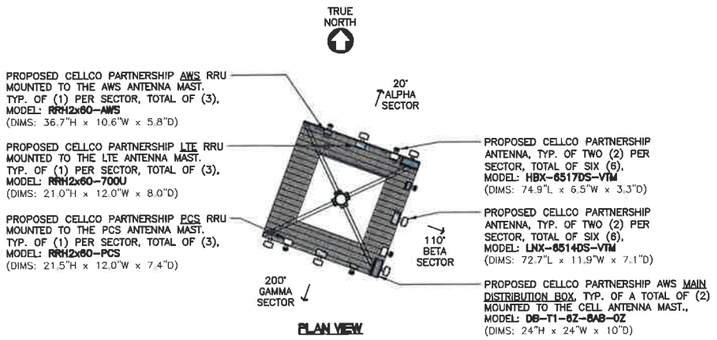
667 MAIN STREET
CROMWELL, CT 06416

DATE: 07/07/15
SCALE: AS NOTED
JOB NO. 15011.000

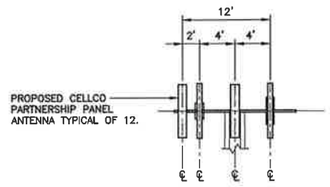
SITE LOCATION PLAN

C-1

Sheet No. 2 of 3

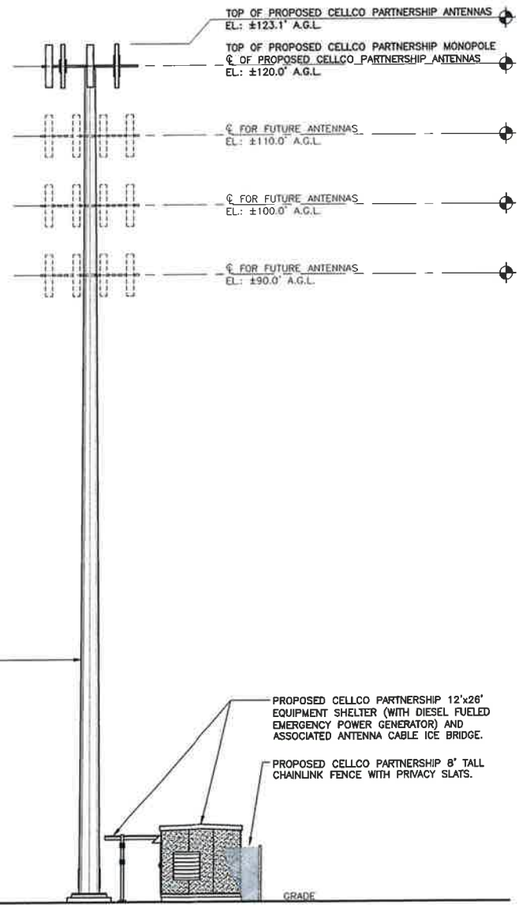


PLAN VIEW



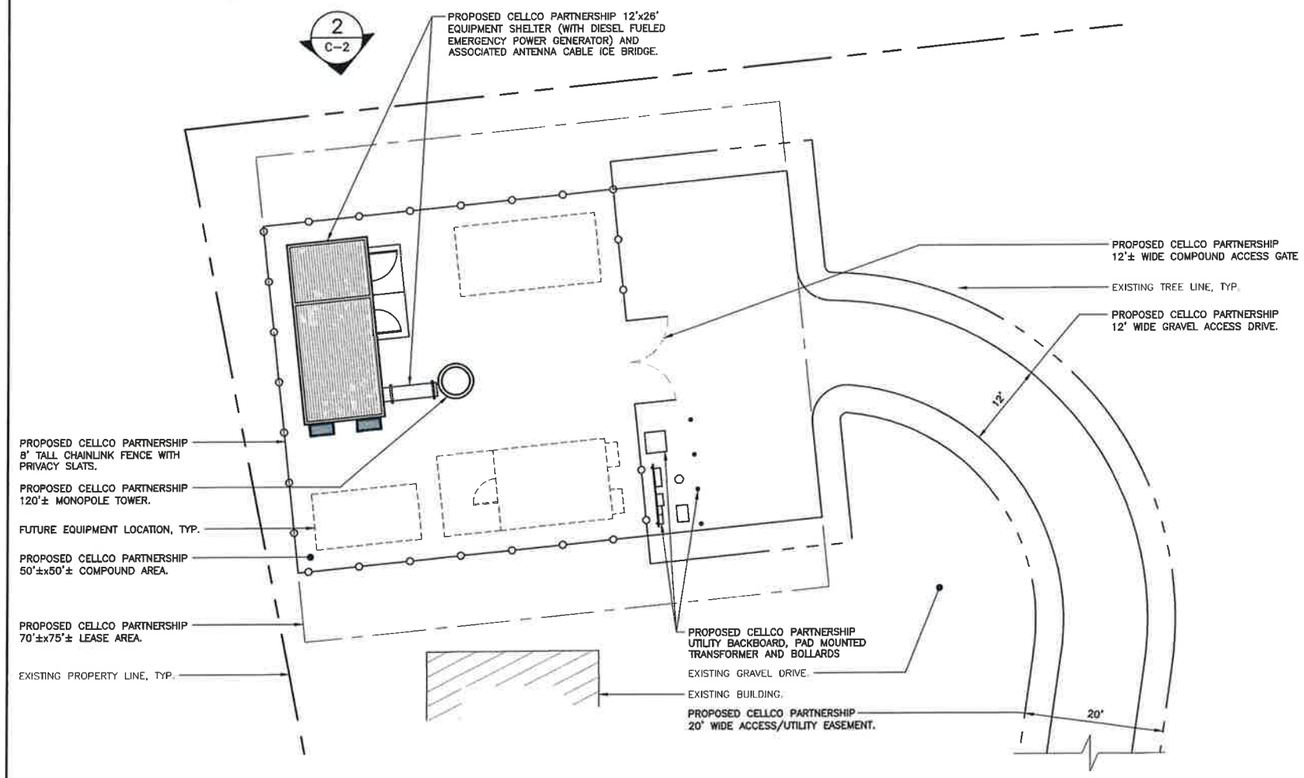
TYPICAL SECTOR ELEVATION

3 C-2 **ANTENNA MOUNTING CONFIGURATION**
SCALE: 1/8" = 1'



2 C-2 **NORTH ELEVATION**
SCALE: 1" = 10'

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.



1 C-2 **COMPOUND PLAN**
SCALE: 1" = 10'

APPROXIMATE NORTH

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	10/20/15	HMR	DMD	ISSUED FOR CT SITING COUNCIL
0	07/09/15	HMR	DMD	ISSUED FOR CT SITING COUNCIL - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. verizon wireless

CENTEK engineering
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(203) 488-0580
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63-2 North Branford Road
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Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
CROMWELL NORTH 2
667 MAIN STREET
CROMWELL, CT 06416

DATE: 07/07/15
SCALE: AS NOTED
JOB NO. 15011.000

COMPOUND PLAN, ELEVATION AND ANTENNA MOUNTING CONFIG.

C-2

Sheet No. 3 of 3

ATTACHMENT 3

ALL-POINTS
TECHNOLOGY CORPORATION

VISIBILITY ANALYSIS

CROMWELL NORTH 2

667 MAIN STREET

CROMWELL, CT

Prepared for:

Verizon Wireless
99 East River Drive
East Hartford CT 06108

Prepared by:

All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419

JUNE 2015

Project Introduction

Cellco Partnership d/b/a Verizon Wireless is considering the development of a new wireless communications facility ("Facility") at 667 Main Street in Cromwell, Connecticut (the "Property"). At the request of Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") prepared this Visibility Analysis to evaluate the potential visual impacts associated with the proposed Facility from within a two-mile radius (the "Study Area"). A small part of the neighboring Town of Glastonbury is located in the eastern portion of the Study Area.

Site Description and Setting

The 7.78-acre Property is comprised of four (4) separate, adjacent parcels of land located on the west side of Main Street. The Property is improved with buildings, infrastructure, and storage areas that support the daily operations of Cromwell Concrete Products, Inc., manufactures of pre-cast concrete products (drainage structures, light pole bases, etc.) and pavers and landscaping material (mulch and stone).

The area proposed for the Facility (the "Site") is located in the northwest corner of the Property at an approximate ground elevation of 147 feet Above Mean Sea Level ("AMSL"). The proposed Facility would include a 120-foot tall steel monopole surrounded by a 50-foot by 50-foot, gravel base equipment compound.

Land use within the immediate vicinity of the Property is a mix of industrial and residential, with open space and the TPC golf complex nearby to the east. The topography within the Study Area is characterized generally by steep hills and river valleys; ground elevations range from approximately 10 feet AMSL to 290 feet AMSL. The tree cover within the Study Area (consisting of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately 3,240 acres of the 8,042-acre study area (±40%). The average tree canopy is estimated to be approximately 60 feet.

Methodology

APT used the combination of a predictive computer model and in-field analysis to evaluate the visibility associated with the proposed Facility on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of potential visibility throughout the entire Study Area including private properties and other areas inaccessible for direct observations. The in-field analyses included a balloon float and reconnaissance of the Study Area to record existing conditions, verify results of the model, inventory visible and nonvisible locations, and provide photographic documentation from publicly accessible areas. A description of the procedures used in the analysis is provided below.

Preliminary Computer Modeling

To conduct this assessment, a predictive computer model was developed specifically for this project using TerrSet, an image analysis program developed by Clark Labs at Clark University, to provide an estimation of potential visibility throughout the Study Area. The predictive model incorporates Project- and Study Area-specific data, including the site location, its ground elevation and the proposed Facility height, as well as the surrounding topography, existing vegetation, and structures (which are the primary features that can block direct lines of sight).

Information used in the model included LiDAR[1]-based digital elevation and land use data. The LiDAR-based Digital Elevation Model ("DEM") represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the year 2000 and has a horizontal resolution of ten (10) feet. In addition, multiple land use data layers were created from National Agricultural Imagery Program (USDA) aerial photography (1-foot resolution, flown in 2012) using IDRISI image processing tools. The TerrSet tools develop light reflective classes defined by statistical analysis of individual pixels, which are then grouped based on common reflective values such that distinctions can be made automatically between deciduous and coniferous tree species, as well as grassland, impervious surface areas, water and other distinct land use features. This information is manually cross-checked with the recent USGS topographic land characteristics to quality assure the imaging analysis.

Once the data layers were entered, an assumed, conservative average tree height of 50 feet was added, and image processing tools were applied and overlaid onto USGS topographic base maps and aerial photographs to achieve an estimate of locations where the Facility might be visible. Additional data was reviewed and incorporated into the visibility analysis, including protected private and public open space, parks, recreational facilities, hiking trails, schools, and historic districts. Two trail systems are located within the Study Area. Based on a review of publicly-available information, no designated state scenic roads exist within the Study Area.

Field Reconnaissance

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a balloon float, vehicular and pedestrian reconnaissance, and photo-documentation.

Balloon Float and Field Reconnaissance

A balloon float and field reconnaissance were conducted March 16, 2015 to evaluate the visibility associated with the proposed Facility and to obtain photographs for use in this report. The balloon float consisted of raising an approximately four-foot diameter, red helium-filled balloon tethered to a string height of 120 feet above ground level ("AGL") at the proposed Facility location. Weather conditions were favorable for the in-field activities, with calm winds (less than 3 miles per hour) and mostly overcast skies. Once the balloon was secured, APT conducted a Study Area reconnaissance by driving along the local and State roads and other

[1] LiDAR is an acronym for Light Detection and Ranging. It is a technology that utilized lasers to determine the distance to an object or surface. LiDAR is similar to radar, but incorporates laser pulses rather than sound waves. It measures the time delay between transmission and reflection of the laser pulse.

publicly accessible locations to document and inventory where the balloon could be seen above/through the tree canopy. Visual observations from the reconnaissance were also used to evaluate the results of the preliminary visibility mapping and identify any discrepancies in the initial modeling.

During the balloon float and in-field activities, several trees were randomly surveyed using a hand-held infrared laser range finder and a Suunto Tandem clinometer to ascertain their heights. The heights of trees adjacent to the site were field measured to document the surrounding canopy elevation. Numerous off-site locations were also selected to obtain tree canopy heights, including along roadways, wooded lots, and high- and low-lying areas to provide for the irregularities associated with different land characteristics and uses found within the Study Area. The average canopy height was developed based on measurements and comparative observations, in this case approximately 60 feet AGL. Throughout Connecticut, the tree canopy height varies from about 55 feet to in excess of 80 feet (where eastern white pine becomes a dominant component of the forest type, average tree heights may be even slightly higher). This general uniformity is most likely the result of historic state-wide clear cutting of forests for charcoal production in the late 1800s and early 1900s. Approximately 69% of Connecticut's forests are characterized as mature[2].

Photographic Documentation and Simulations

During the balloon float and field reconnaissance, APT drove the public roads within the Study Area and recorded observations, including photo-documentation, of those areas where the balloon was and was not visible. Photographs were obtained from several vantage points to document the views of a proposed Facility. The geographic coordinates of the camera's position at each photo location were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with the lens set to 50 mm.

> *"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm.[3]"*

Final Visibility Mapping

Information obtained during the field reconnaissance was incorporated into the mapping data layers, including observations of the balloon float, the photo locations, areas that experienced recent land use changes and those places where the initial model was found to over-predict visibility. The revised average tree canopy height data (60 feet AGL) was merged with the DEM and added to the base ground elevations of the forested areas data layer. Once the additional data was integrated into the model, APT re-calculated the visibility of the proposed Facility from within the Study Area to assist in producing the final viewshed map.

---

[2] USDA Resource Bulletin NE-160, 2004.

[3] Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

Photographic Simulations

Photographic simulations were generated to portray scaled renderings of the proposed Facility from representative locations where the proposed Facility would be visible on a year-round basis. Using field data, site plan information and 3-dimension (3D) modeling software, spatially referenced models of the site area and Facility were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo simulations were then created using a combination of renderings generated in the 3D model and photo-rendering software programs[4].

For presentation purposes in this report, the photographs were taken with a 50 mm focal length and produced in an approximate 7-inch by 10.5-inch format. When viewing in this format size, we believe it is important to provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph.

Photo-documentation of the balloon float and photo-simulations of the proposed Facility are presented in the attachment at the end of this report. The balloon float photos provide visual reference points for the approximate height and location of the proposed Facility relative to the scene. The photo-simulations are intended to provide the reader with a general understanding of the different views that might be achieved of the Facility. It is important to consider that the publicly-accessible locations selected are typically representative of a "worst case" scenario. They were chosen to present unobstructed view lines (wherever possible), are static in nature and do not necessarily fairly characterize the prevailing views from all locations within a given area. From several locations, moving a few feet in any direction will result in a far different perspective of the Facility than what is presented in the photographs. In several cases, a view of the Facility may be limited to the immediate area of the specific photo location.

[4] As a final step, the accuracy and scale of select simulations are tested against photographs of similar existing facilities with recorded camera position, focal length, photo location, and tower location.

Photograph Locations

The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, the distance from where the photo was taken relative to the proposed Facility and the general characteristics of that view. The photo locations are depicted on the visibility analysis maps provided as attachments to this report.

View	Location	Orientation	Distance to Site	View Characteristics
1	Woodside Road	Northeast	±0.73 Mile	Not Visible
2	Geer Street	Northeast	±0.70 Mile	Not Visible
3	Cromwell Middle School	Northeast	±0.40 Mile	Seasonal
4	Botelle Manor	Northeast	±0.26 Mile	Seasonal
5	West Tract Road	Northeast	±0.39 Mile	Year-round
6	Raymond Road	Northeast	±0.27 Mile	Year-round
7	Raymond Road	Northeast	±0.21 Mile	Year-round
8	Goodrich Avenue	Northeast	±0.19 Mile	Year-round
9	Goodrich Avenue	Northwest	±0.23 Mile	Year-round
10	Grove Road	Northeast	±0.14 Mile	Year-round
11	Grove Road	Northeast	±0.18 Mile	Year-round
12	Watrous Park	Northeast	±0.25 Mile	Year-round
13	Sunset Drive	Northeast	±0.08 Mile	Year-round
14	Sunset Drive	Northwest	±0.16 Mile	Year-round
15	Main Street	Northwest	±0.17 Mile	Year-round
16	Main Street	Southwest	±0.19 Mile	Seasonal
17	Ronald Drive	Southwest	±0.37 Mile	Not Visible
18	Main Street	Southwest	±0.42 Mile	Seasonal
19	Farms Village Road	Southwest	±0.52 Mile	Not Visible
20	Highview Drive	Southwest	±0.77 Mile	Not Visible
21	Springbrook Drive	Southeast	±0.84 Mile	Not Visible
22	Brook Street	Southeast	±0.86 Mile	Year-round
23	Capital Boulevard	Southeast	±1.10 Miles	Not Visible
24	Golf Club Road	Southwest	±0.42 Mile	Year-round
25	Golf Club Road	West	±0.57 Mile	Year-round
26	Golf Club Road	Northwest	±0.49 Mile	Year-round
27	Field Road	Northwest	±0.55 Mile	Year-round
28	Field Road	Northwest	±0.69 Mile	Year-round
29	Laurel Drive	Northwest	±0.71 Mile	Not Visible
30	Reiman Drive	Southwest	±1.18 Miles	Not Visible

Visibility Analysis Results

Results of this analysis are graphically displayed on the viewshed maps provided in the attachment at the end of this report. Areas from where the proposed Facility would be visible above the tree canopy year-round comprise a total of approximately 108 acres. When the leaves are off the trees, seasonal views through intervening tree trunks and branches are anticipated to occur over some locations within an area of 224± additional acres.

In general, year-round views of portions of the Facility appear to be primarily limited to locations within less than 0.75 mile of the Property. The generally level terrain results in large portions of the Facility being visible above the tree canopy from several locations. Areas to the east are fairly open with little vegetation. Residential neighborhoods to the west of the site have a combination of mature trees and landscaping so that fleeting year-round views are attained with the majority of lines of sight to the Facility being more seasonal in nature. A large portion of visibility (both year-round and seasonal) occurs over open undeveloped land to the east and west.

No views of the Facility will be achieved from the trail systems in the Study Area.

Proximity to Schools And Commercial Child Day Care Centers

No schools or commercial child day care centers are located within 250 feet of the Property. The nearest school, Cromwell Middle School is located approximately 0.4 mile to the southwest. The nearest commercial child day care center, Kids Korner at Woodside Intermediate School , is located at 30 Woodside Avenue, approximately 0.75 mile to the south/southwest. No views of the Facility are anticipated from either of these locations.

Limitations

The viewshed maps presented in the attachment to this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography and an assumed tree canopy height of 60 feet. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating 2012 aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

The simulations provide a representation of the Facility under similar settings as those encountered during the balloon floats and reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the balloon float included partly cloudy skies and the photo-simulations presented in this report provide an accurate portrayal of the Facility during comparable conditions.

ATTACHMENTS

PHOTO LOG

Base Map Source: 2012 Aerial Photograph (CTECO)

Legend

Site | Year-Round Visibility | Seasonal Visibility | Not Visible

N W E S

1,800 900 0 1,800 Feet

1 inch = 1,800 feet

ALL-POINTS

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**WOODSIDE ROAD**	**NORTHEAST**	**+/- 0.73 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	GEER STREET	NORTHEAST	+/- 0.70 MILE	NOT VISIBLE

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**CROMWELL MIDDLE SCHOOL**	**NORTHEAST**	**+/- 0.40 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**CROMWELL MIDDLE SCHOOL**	**NORTHEAST**	**+/- 0.40 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**BOTELLE MANOR**	**NORTHEAST**	**+/- 0.26 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**BOTELLE MANOR**	**NORTHEAST**	**+/- 0.26 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**WEST TRACT ROAD**	**NORTHEAST**	**+/- 0.39 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**WEST TRACT ROAD**	**NORTHEAST**	**+/- 0.39 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**RAYMOND ROAD**	**NORTHEAST**	**+/- 0.27 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**RAYMOND ROAD**	**NORTHEAST**	**+/- 0.27 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**RAYMOND ROAD**	**NORTHEAST**	**+/- 0.21 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**RAYMOND ROAD**	**NORTHEAST**	**+/- 0.21 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**GOODRICH AVENUE**	**NORTHEAST**	**+/- 0.19 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**GOODRICH AVENUE**	**NORTHEAST**	**+/- 0.19 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

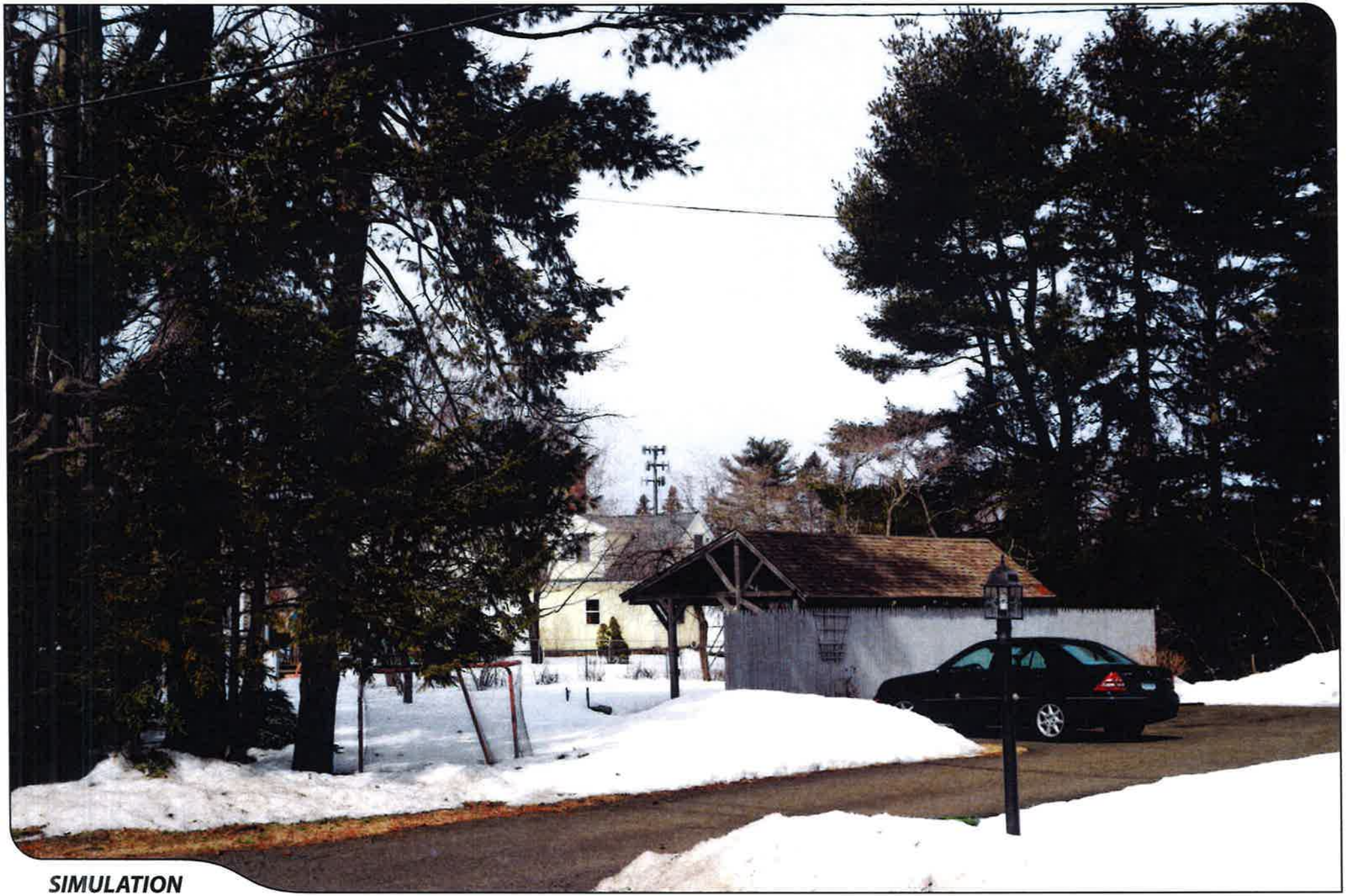
verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**GOODRICH AVENUE**	**NORTHWEST**	**+/- 0.23 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon



SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**GOODRICH AVENUE**	**NORTHWEST**	**+/- 0.23 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**GROVE ROAD**	**NORTHEAST**	**+/- 0.14 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**GROVE ROAD**	**NORTHEAST**	**+/- 0.14 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**GROVE ROAD**	**NORTHEAST**	**+/- 0.18 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**GROVE ROAD**	**NORTHEAST**	**+/- 0.18 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**WATROUS PARK**	**NORTHEAST**	**+/- 0.25 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**WATROUS PARK**	**NORTHEAST**	**+/- 0.25 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**SUNSET DRIVE**	**NORTHEAST**	**+/- 0.08 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**SUNSET DRIVE**	**NORTHEAST**	**+/- 0.08 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	SUNSET DRIVE	NORTHWEST	+/- 0.16 MILE	YEAR ROUND

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**SUNSET DRIVE**	**NORTHWEST**	**+/- 0.16 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

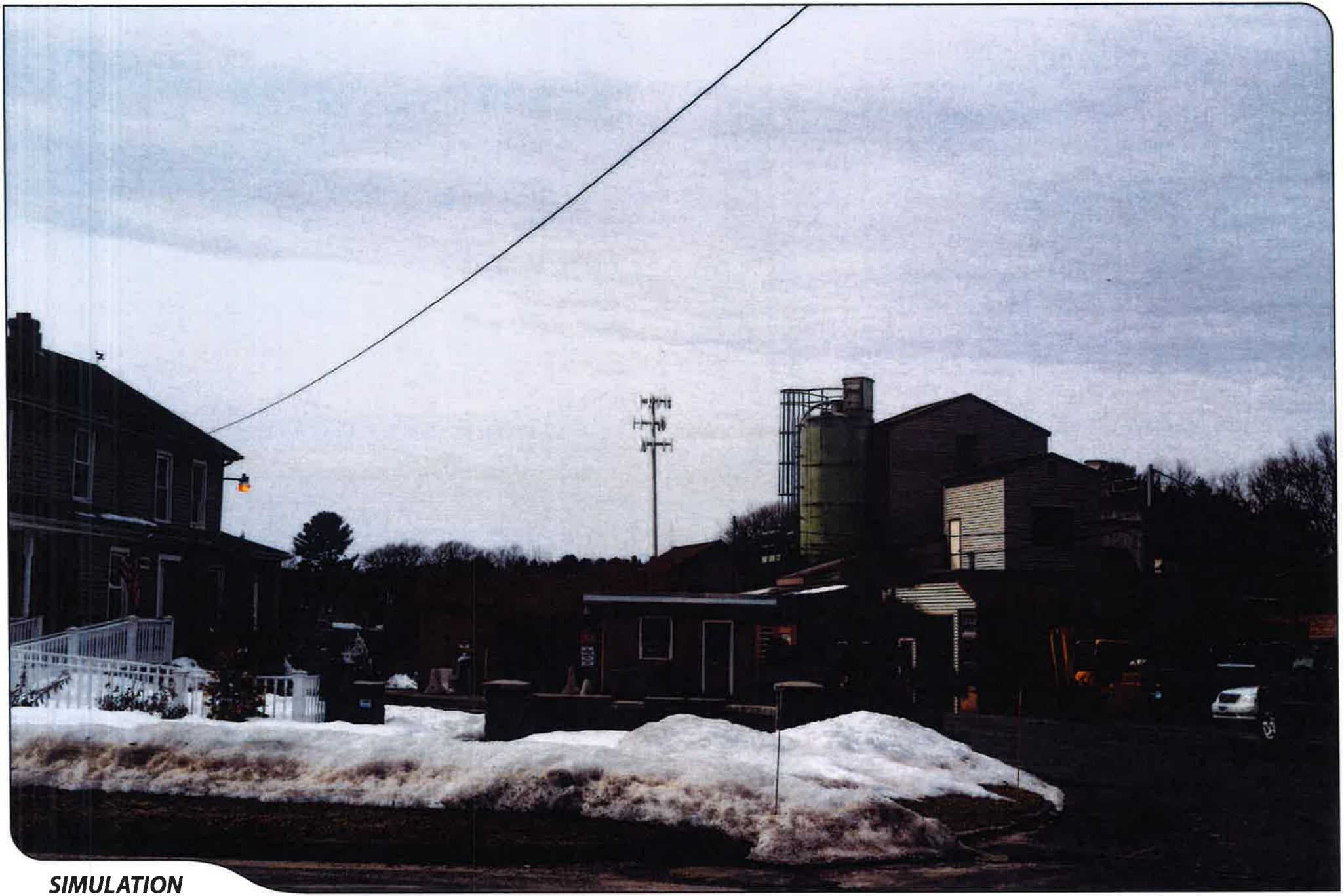
verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**MAIN STREET**	**NORTHWEST**	**+/- 0.17 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon



SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**MAIN STREET**	**NORTHWEST**	**+/- 0.17 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**MAIN STREET**	**SOUTHWEST**	**+/- 0.19 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**MAIN STREET**	**SOUTHWEST**	**+/- 0.19 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

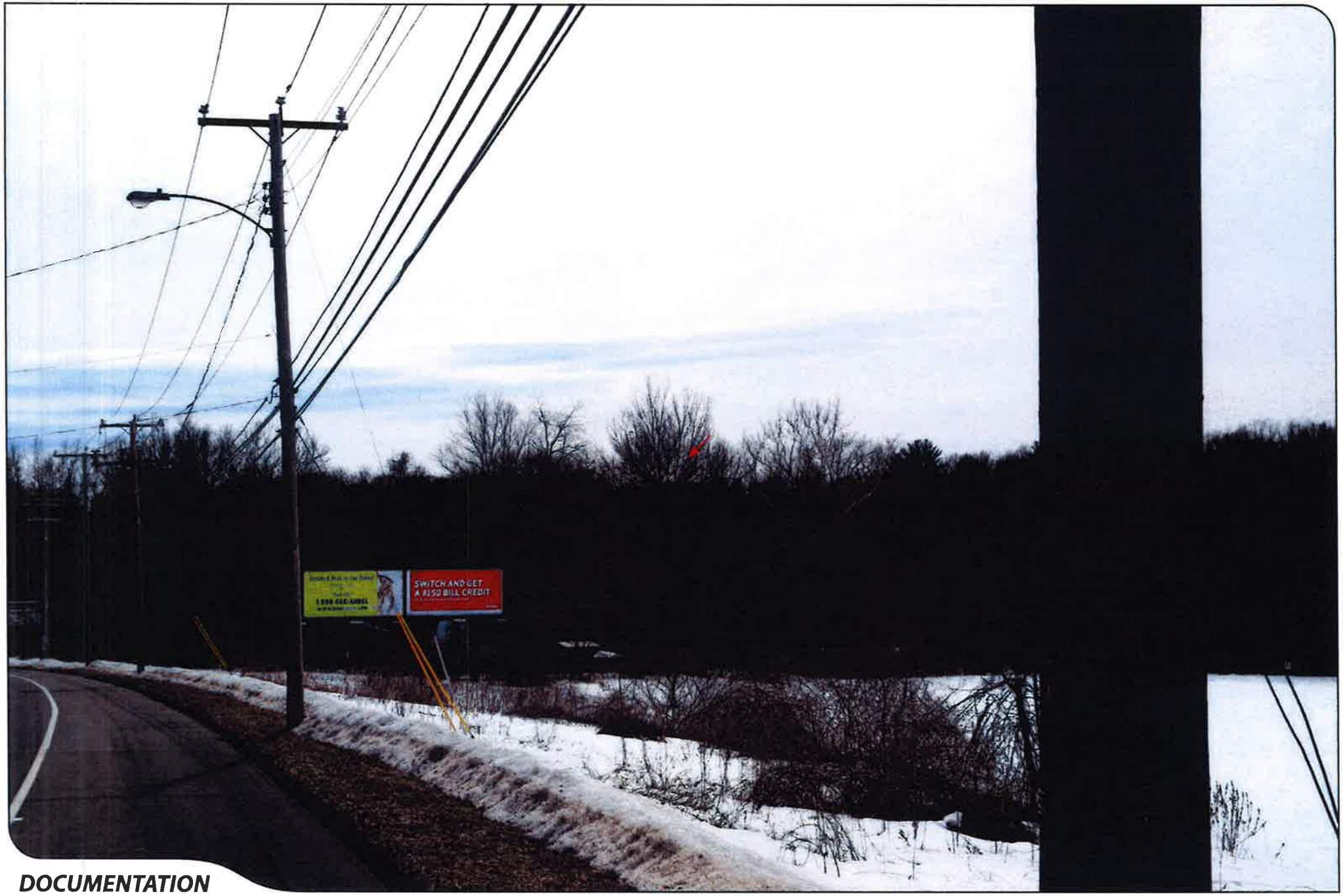
verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**RONALD DRIVE**	**SOUTHWEST**	**+/- 0.37 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon



DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**MAIN STREET**	**SOUTHWEST**	**+/- 0.42 MILE**	**SEASONAL**

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**FARMS VILLAGE ROAD**	**SOUTHWEST**	**+/- 0.52 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**HIGHVIEW DRIVE**	**SOUTHWEST**	**+/- 0.77 MILE**	**NOT VISIBLE**

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DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
21	**SPRINGBROOK DRIVE**	**SOUTHEAST**	**+/- 0.84 MILE**	**NOT VISIBLE**

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DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**BROOK STREET**	**SOUTHEAST**	**+/- 0.86 MILE**	**YEAR ROUND**

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verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**BROOK STREET**	**SOUTHEAST**	**+/- 0.86 MILE**	**YEAR ROUND**

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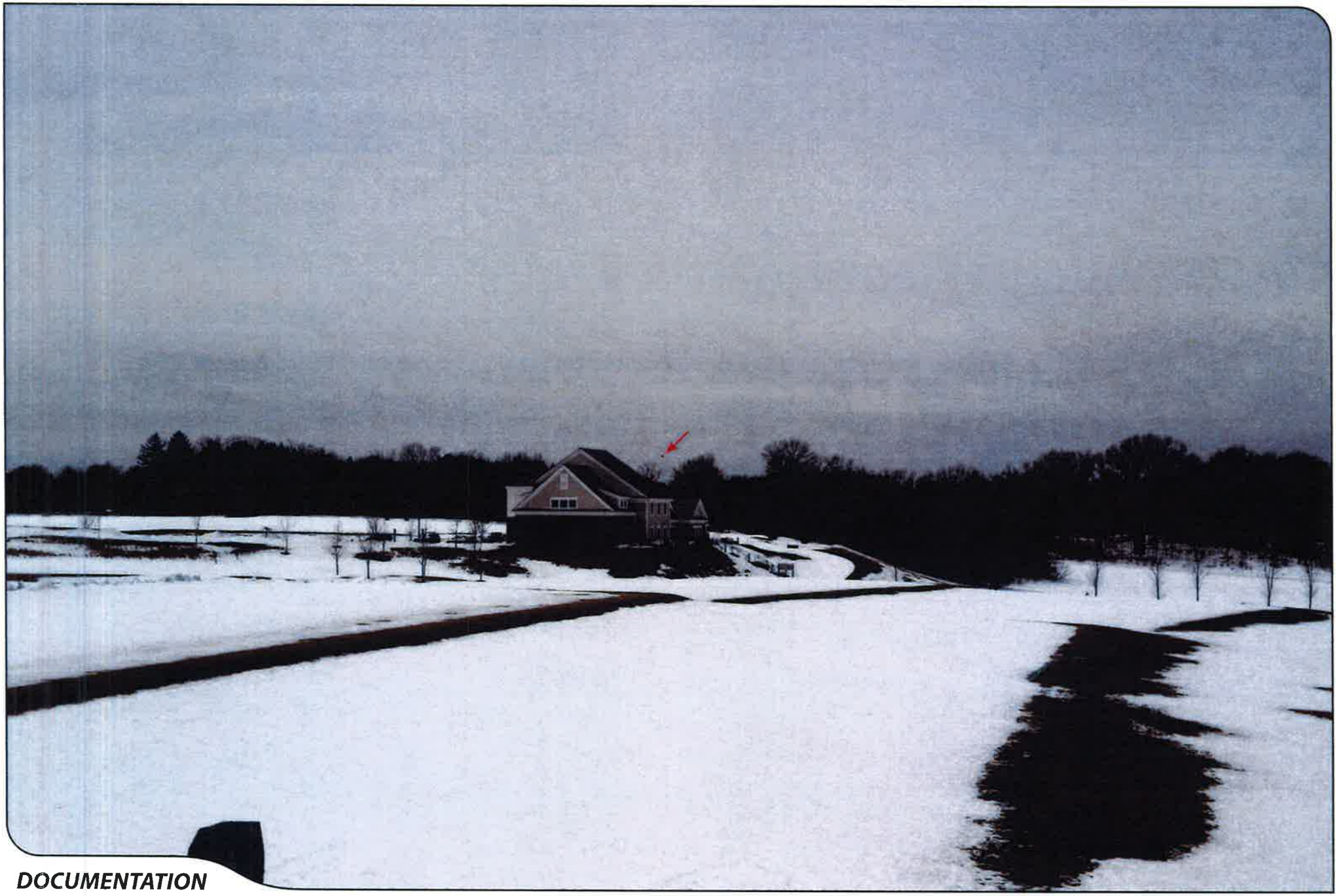
verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**CAPITAL BOULEVARD**	**SOUTHEAST**	**+/- 1.10 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon



DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
24	**GOLF CLUB ROAD**	**SOUTHWEST**	**+/- 0.62 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
24	**GOLF CLUB ROAD**	**SOUTHWEST**	**+/- 0.62 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
25	GOLF CLUB ROAD	WEST	+/- 0.57 MILE	YEAR ROUND

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
25	**GOLF CLUB ROAD**	**WEST**	**+/- 0.57 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
26	**GOLF CLUB ROAD**	**NORTHWEST**	**+/- 0.49 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
26	**GOLF CLUB ROAD**	**NORTHWEST**	**+/- 0.49 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

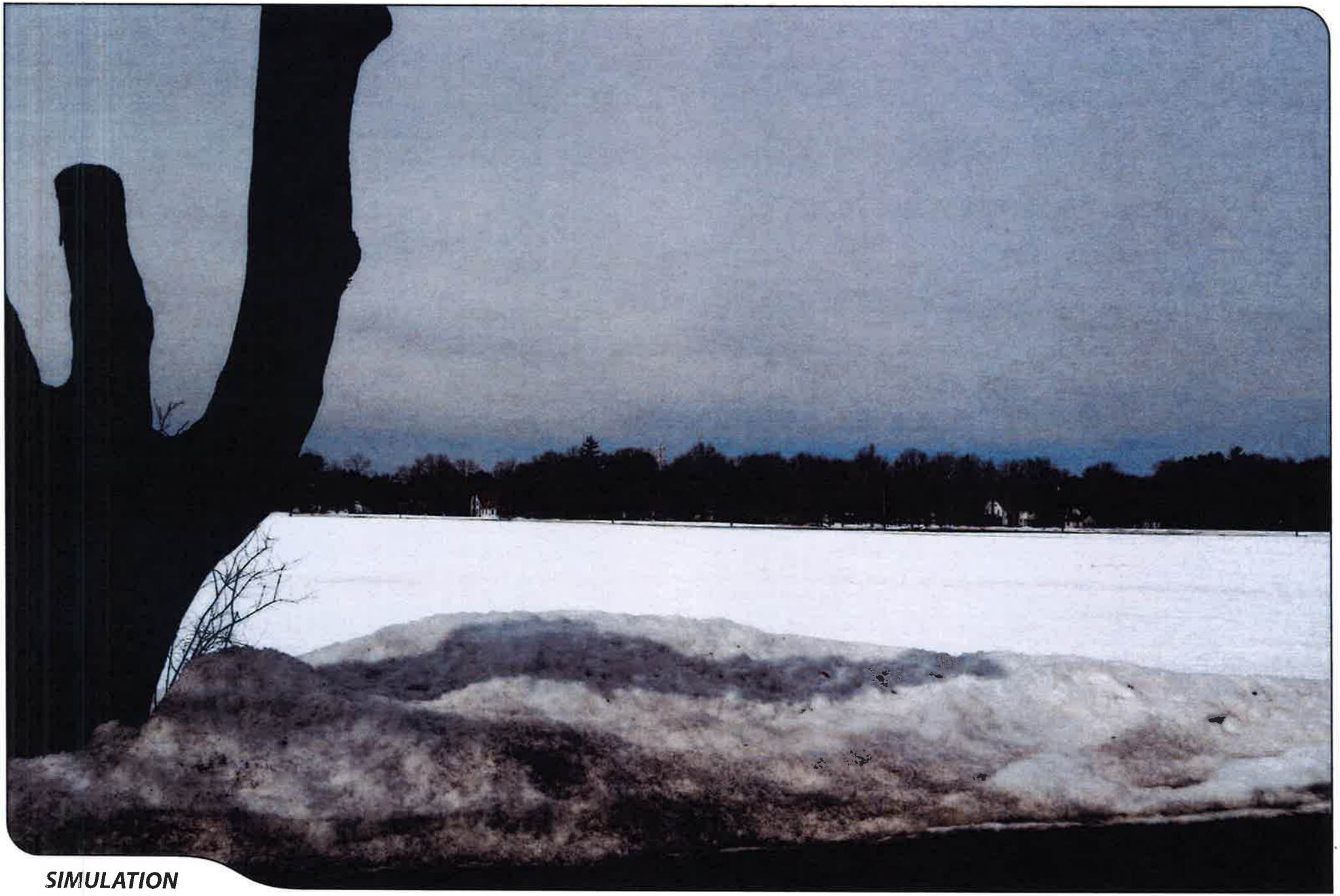
verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
27	FIELD ROAD	NORTHWEST	+/- 0.54 MILE	YEAR ROUND

ALL-POINTS TECHNOLOGY CORPORATION

verizon



SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
27	**FIELD ROAD**	**NORTHWEST**	**+/- 0.54 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

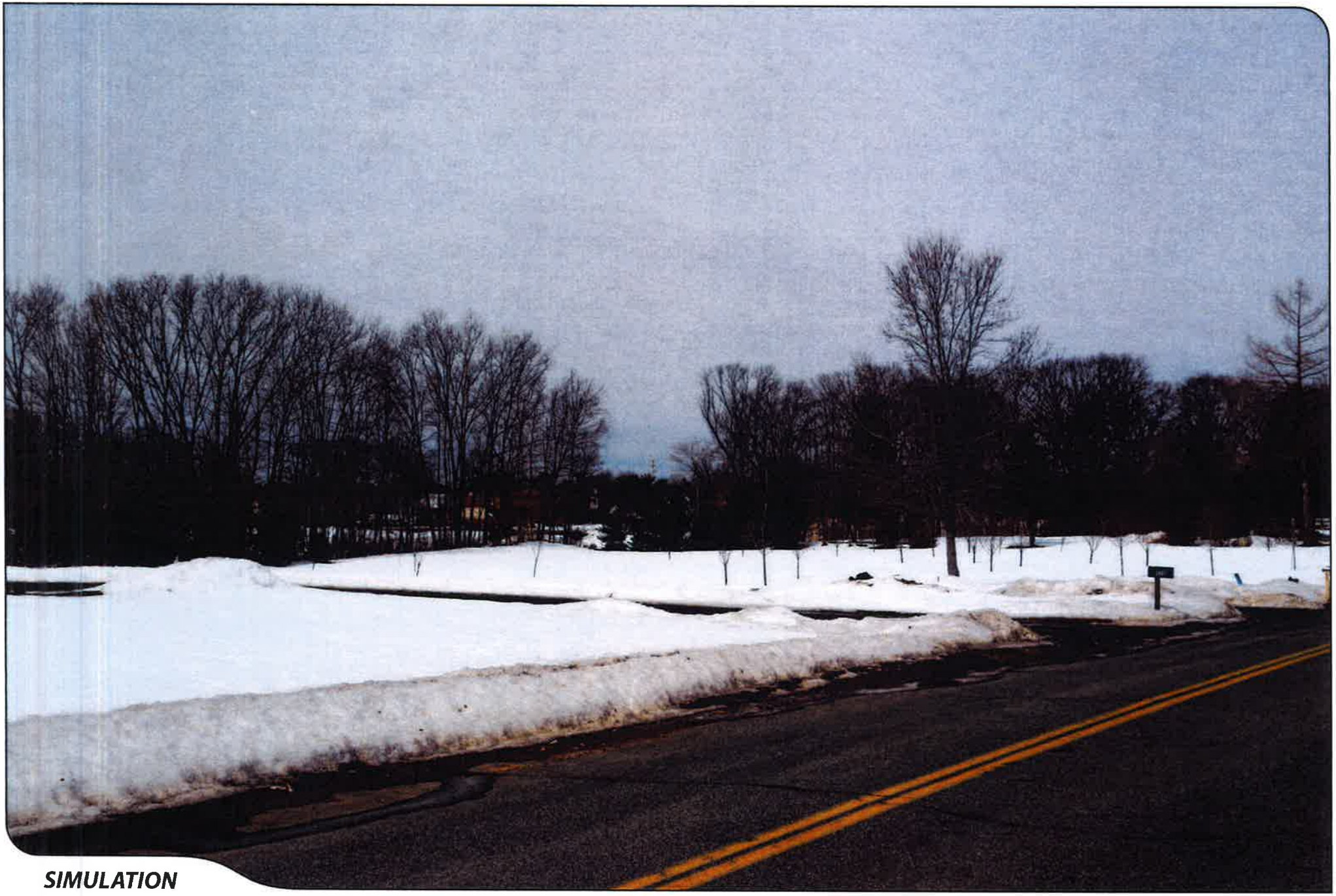
verizon

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
28	FIELD ROAD	NORTHWEST	+/- 0.69 MILE	YEAR ROUND

ALL-POINTS TECHNOLOGY CORPORATION

verizon



SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
28	**FIELD ROAD**	**NORTHWEST**	**+/- 0.69 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

verizon

DOCUMENTATION

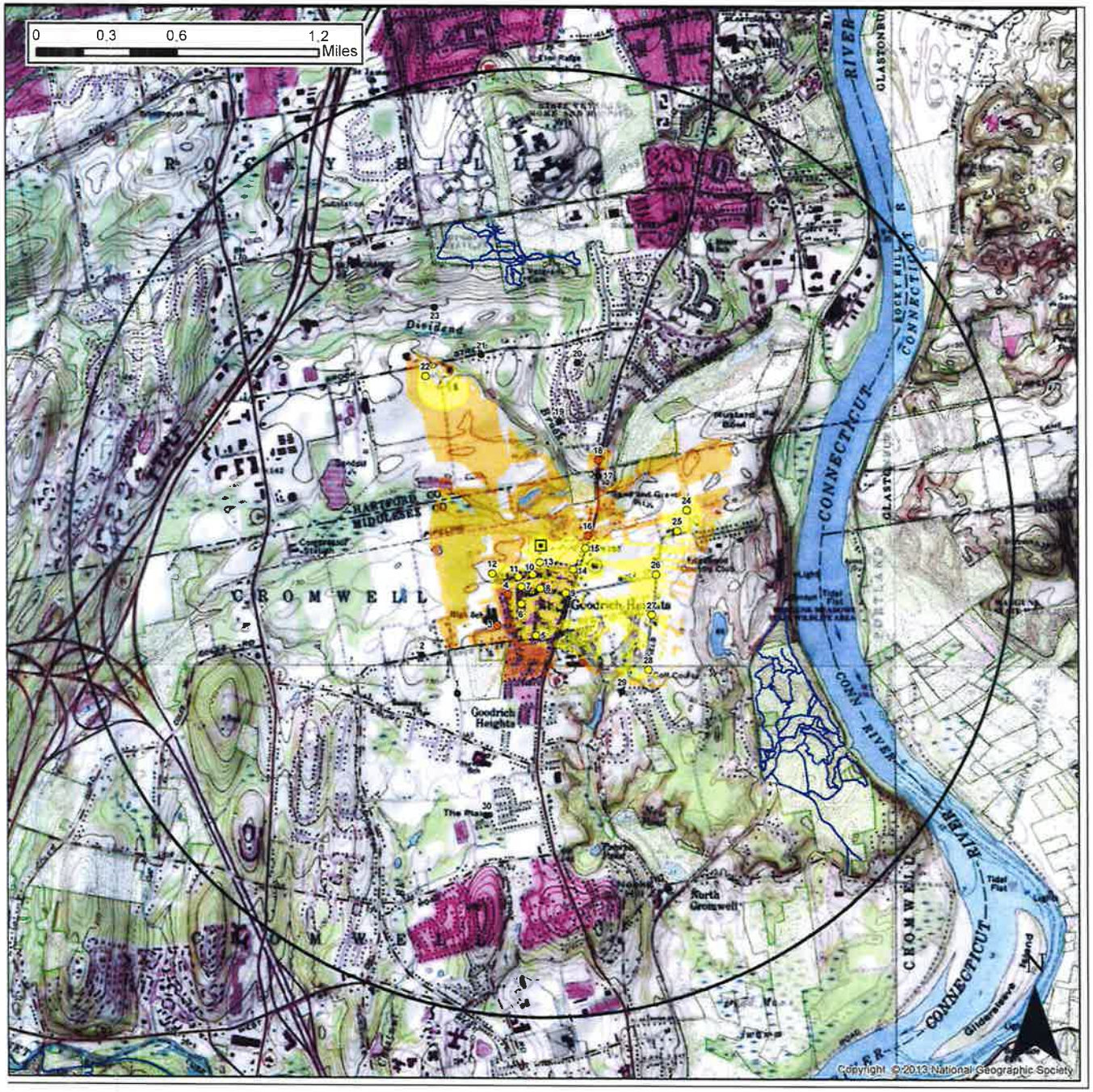
PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
29	**LAUREL DRIVE**	**NORTHWEST**	**+/- 0.71 MILE**	**NOT VISIBLE**

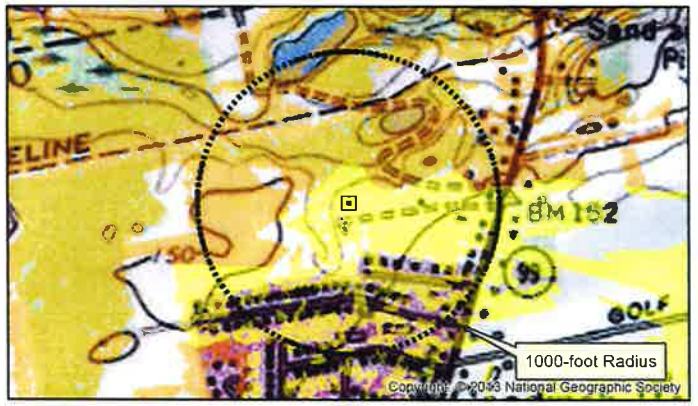
DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
30	**REIMAN DRIVE**	**SOUTHWEST**	**+/- 1.18 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

verizon





Viewshed Map – Topo Base

Proposed Wireless Telecommunications Facility
Cromwell North 2
667 Main Street, Cromwell, CT

Proposed facility height is 120 feet AGL.
Existing tree canopy height estimated as 60 feet.
Study area encompasses a two-mile radius and includes 8,042 acres of land.

Map compiled 7/21/2015

Map information field verified by APT on 3/16/2015.

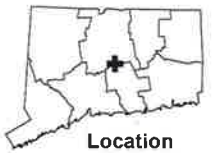
Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower

Photo Locations

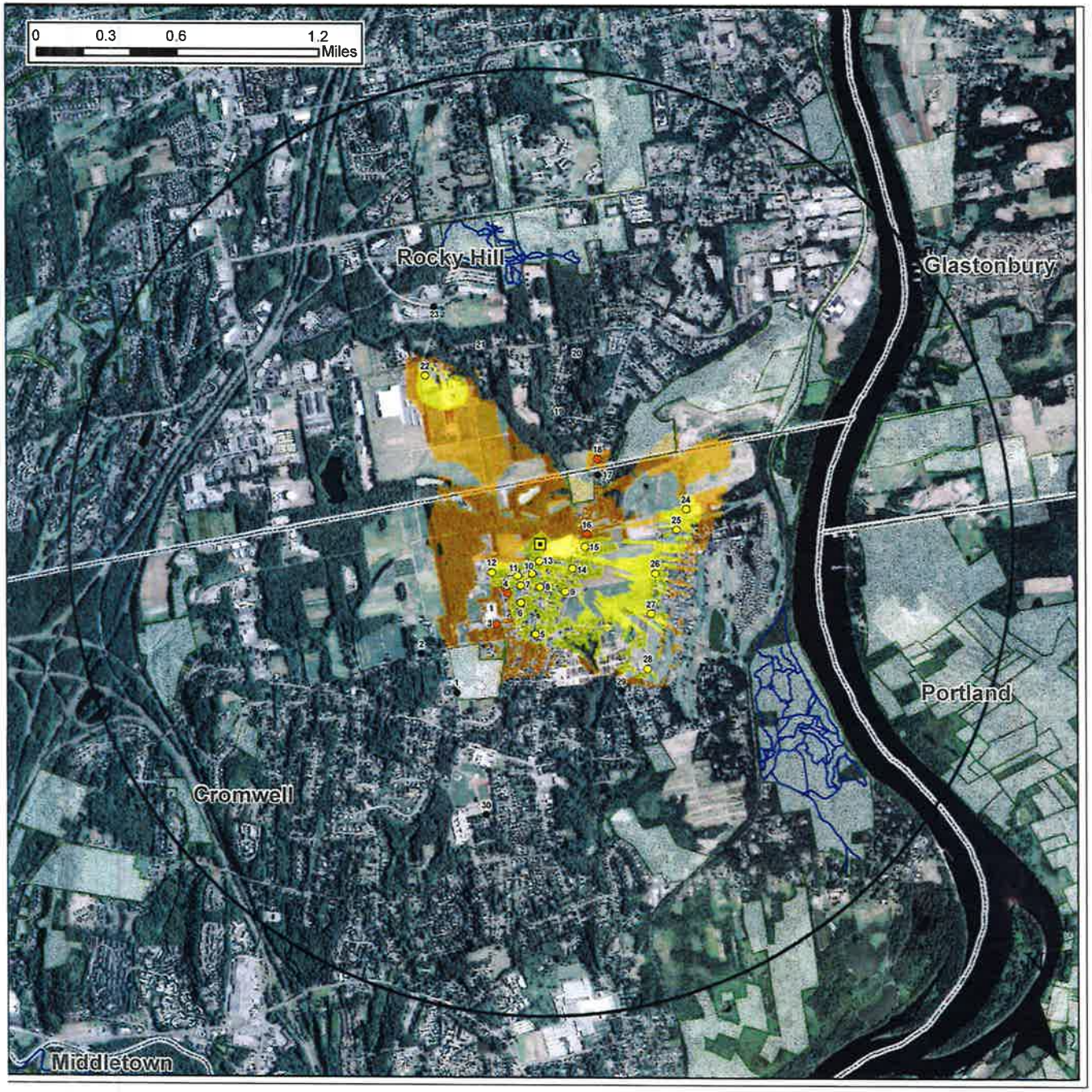
- Not Visible
- Seasonal Views
- Year-round Views
- Trails
- Predicted Seasonal Visibility (224 Acres)
- Predicted Year-Round Visibility (108 Acres)
- Towns
- 2-Mile Study Area
- Open Space

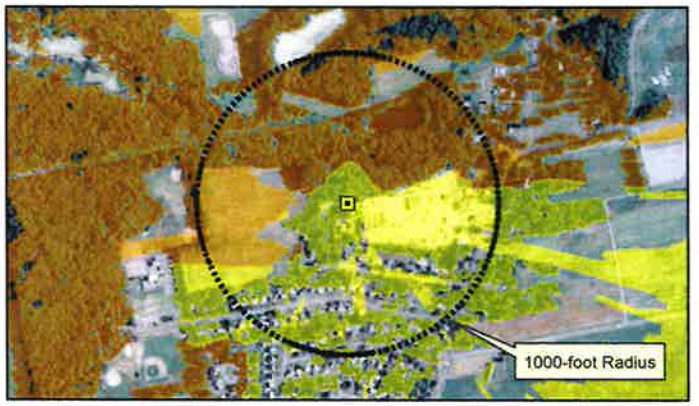


Location

verizon

ALL-POINTS TECHNOLOGY CORPORATION





Viewshed Map – Aerial Base

Proposed Wireless Telecommunications Facility
Cromwell North 2
667 Main Street, Cromwell, CT

Proposed facility height is 120 feet AGL.
Existing tree canopy height estimated as 60 feet.
Study area encompasses a two-mile radius and includes 8,042 acres of land.

Map compiled 7/21/2015

Map information field verified by APT on 3/16/2015.

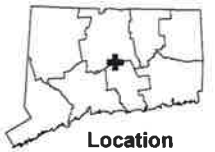
Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower

Photo Locations

- Not Visible
- Seasonal Views
- Year-round Views
- Trails
- Predicted Seasonal Visibility (224 Acres)
- Predicted Year-Round Visibility (108 Acres)
- Towns
- 2-Mile Study Area
- Open Space



Location

verizon

ALL-POINTS TECHNOLOGY CORPORATION

DOCUMENTATION

SOURCES CONSULTED FOR VIEWSHED MAPS
667 Main Street
Cromwell, Connecticut

Physical Geography / Background Data
Center for Land Use Education and Research, University of Connecticut (http://clear.uconn.edu)
*Land Use / Land Cover (2006)
*Coniferous and Deciduous Forest (2006)
*LiDAR data – topography (2000)
United States Geological Survey
*USGS topographic quadrangle maps – Hartford South, Middletown, Glastonbury, Middle Haddam (1984)
National Resource Conservation Service
*NAIP aerial photography (2012)
Department of Transportation data
^State Scenic Highways (updated monthly)
Heritage Consultants
^Municipal Scenic Roads

Cultural Resources
Heritage Consultants
^National Register
^ Local Survey Data

Dedicated Open Space & Recreation Areas
Connecticut Department of Energy and Environmental Protection (DEEP)
*DEEP Property (May 2007)
*Federal Open Space (1997)
*Municipal and Private Open Space (1997)
*DEEP Boat Launches (1994)
Connecticut Forest & Parks Association
^Connecticut Walk Books East –
The Guide to the Blue-Blazed Hiking Trails of Eastern Connecticut, 19th Edition, 2006.

Other
^ConnDOT Scenic Strips (based on Department of Transportation data)

*Available to the public in GIS-compatible format (some require fees).
^ Data not available to general public in GIS format. Reviewed independently and, where applicable, GIS data later prepared specifically for this Study Area.

NOTE Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.

LIMITATIONS
The visibility analysis map(s) presented in this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography and an assumed tree canopy height of 60 feet. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating 2012 aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties beyond the host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

The photo-simulations in this report are provided for visual representation only. Actual visibility depends on various environmental conditions, including (but not necessarily limited to) weather, season, time of day, and viewer location.

ATTACHMENT 4

Site Name: ***CROMWELL N 2 CT***
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW 700	746	1	1657	1657	120	0.0414	0.4973	8.32%
VZW Cellular	869	9	503	4529	120	0.1131	0.5793	19.52%
VZW PCS	1970	11	571	6282	120	0.1569	1.0000	15.69%
VZW AWS	2145	1	3548	3548	120	0.0886	1.0000	8.86%
Total Percentage of Maximum Permissible Exposure								52.39%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 5

Cellco Partnership d/b/a Verizon Wireless
667 Main Street
Cromwell, Connecticut

Cromwell North 2 Facility

Site Search Summary

Section 16-50j-74(j) of the Regulations of Connecticut State Agencies requires the submission of a statement that describes "the narrowing process by which other possible sites were considered and eliminated." In accordance with this requirement, descriptions of the general site search process, the identification of the applicable search area and the alternative locations considered for development of the proposed telecommunications facility in northern Cromwell are provided below.

Site Search Process

To initiate its site selection process in an area where wireless service problems have been identified, Cellco first establishes a "site search ring" or "site search area". In any search ring or search area, Cellco seeks to avoid the unnecessary proliferation of towers and to reduce the potential adverse environmental effects of the cell site, while at the same time maximizing the quality of service provided from a particular facility. These objectives are achieved by initially locating existing towers and other sufficiently tall structures within and near the site search area. If any are found, they are evaluated to determine whether they are capable of supporting Cellco's telecommunications antennas and related equipment at a location and elevation that satisfies its technical requirements.

The list of available locations may be further reduced if, after preliminary negotiations, the property owners withdraw a site from further consideration. From among the remaining locations, the proposed sites are selected by eliminating those that have greater potential for adverse environmental effects and fewer benefits to the public (i.e., those requiring taller towers; those with substantial adverse environmental impacts, or in densely populated residential areas; and those with limited ability to share space with other public or private telecommunications service providers). It should be noted that in any given site search, the weight afforded to factors considered in the selection process will vary depending upon the availability and nature of sites within the search area.

Need for the Cromwell North 2 Facility

Within approximately four (4) miles of the proposed Cromwell North 2 Facility, Cellco maintains seven (7) telecommunications facilities. These facilities are identified as Cellco's Portland, Cromwell SE, Cromwell, Cromwell North, Rocky Hill 2,, Rocky Hill 4 and Rocky Hill East cell sites. Cellco's Portland facility consists of antennas on a tower at 74 Goodrich Lane in Portland. Cellco's Cromwell SE facility consists of antennas on a tower at 201 Main Street in Cromwell. Cellco's Cromwell facility consists of antennas on the tower at 160 West Street in Cromwell. Cellco's Cromwell North facility consists of antennas on an existing sign structure at

179 Shunpike Road in Cromwell. Cellco's Rocky Hill 2 facility consists of antennas on an existing tower at 2 West Street in Rocky Hill. Cellco's Rocky Hill 4 facility consists of antennas on the existing tower at 1218 Cromwell Avenue in Rocky Hill. Cellco's Rocky Hill East facility consists of antennas on a tower at 699 Old Main Street in Rocky Hill.

These existing facilities currently provide wireless service in the area around the proposed Cromwell North 2 Facility location. Cellco's existing Portland and Cromwell North facilities are currently operating at or near their current capacity limits, resulting in a significant reduction in reliable wireless service in the area. Unfortunately, there are no other existing towers or other sufficiently tall structures available in this area. Construction of a new tower, therefore, is required to resolve Cellco's wireless service problems. Because the proposed tower site provides, primarily, capacity relief to its network, Cellco can keep the overall height of the structure lower than that which might be needed for a pure "coverage site".

Identification of the Cromwell North 2 Search Area

The purpose of the proposed Cromwell North 2 Facility is to provide coverage and additional network capacity relief in northeast Cromwell and southeast Rocky Hill. (*See* attached Search Area Maps). Because the primary purpose of the Cromwell North 2 Facility is to relieve existing capacity problems at the Portland and Cromwell North sites, the search ring issued is relatively small.

Sites Investigated

Cellco identified and investigated a total of three (3) sites in Cromwell. A listing of the sites investigated is provided below.

1. **667 Main Street, Cromwell, CT 06418:** Cellco entering into a lease agreement with the property owner, Cromwell Concrete LLC., for a new tower site at this parcel.

2. **650 Main Street, Cromwell, CT 06418:** The property owner of this parcel was not interested in leasing ground space to Cellco for a tower site.

3. **652 Main Street, Cromwell, CT 06418:** The property owners of this parcel were not interested in leasing space to Cellco for a tower.

Google earth

feet 2000

meters 800