

August 28, 2015

Bill Finch, Mayor
City of Bridgeport
Margaret E. Morton Government Center
999 Broad Street
Bridgeport, CT 06604

Re: **Submission of Technical Information Concerning a Proposal to Construct a Wireless Telecommunications Facility at 380 Horace Street, Bridgeport, Connecticut**

Dear Mayor Finch:

This firm represents Construction Services of Branford, LLC (“CSB”) and Cellco Partnership d/b/a Verizon Wireless (“Cellco”). CSB and Cellco (collectively the “Applicant”) propose to construct a new wireless telecommunications facility on an approximately 13.7-acre parcel at 380 Horace Street in Bridgeport, Connecticut (the “Property”). For the purposes of this filing, the proposed telecommunications facility is known as Cellco’s “Bridgeport East Facility”. This Technical Report is submitted pursuant to Connecticut General Statutes (“Conn. Gen. Stat.”) § 16-50I(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.

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

Robinson + Cole

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Raymond J. Lemley
Construction Services of Branford, LLC
63-1 North Branford Road
Branford, CT 06405

Anthony R. Befera
Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108

A copy of all such correspondence or communications should also be sent to the Applicant's attorney:

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

The CSB and Cellco intend 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 Bridgeport East Facility would provide improved coverage and significant capacity relief to Cellco's network in portions of eastern Bridgeport and western Stratford, particularly along portions of Routes 1, 8 and 127 and in the surrounding industrial, commercial and residential areas. Coverage plots for Cellco's existing cell sites in the area, alone and together with the proposed Bridgeport East Facility are included in Attachment 1. These plots show areas of coverage from Cellco's existing cell sites (purple shading), existing gaps in reliable wireless service, and the coverage footprint from the Bridgeport East Facility (lighter purple shading) in each of Cellco's licensed frequencies. The Bridgeport East Facility which will also off-load voice and data traffic from Cellco's East Bridgeport Relo (Alpha and Gamma sectors), Bridgeport Washington Park (Alpha sector) and North Bridgeport 2 (Gamma sector) cell sites, which are currently operating beyond their existing capacity limits.

Cell Site Information

The proposed Bridgeport East Facility would be located in the northerly portion of the Property. The Property is owned by MDL Realty Inc. and is located in Bridgeport's Industrial (ILI) zone district. The Property is currently used for industrial purposes.

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The proposed wireless facility will consist of a 90-foot monopole tower and a 12' x 26' shelter located within a 2,500 square-foot fenced compound and leased area. Cellco will install twelve (12) panel-type antennas at the centerline height of 90 feet above ground level ("AGL"). Cellco's antennas would extend above the top of the tower to an overall height of approximately 94 feet AGL. Equipment associated with Cellco's antennas and a natural gas back-up generator would be located inside the shelter. Access to the Bridgeport East Facility would extend from Horace Street over an existing paved driveway and parking area on the Property a distance of approximately 230 feet. Project plans for the Bridgeport East 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 Bridgeport's land use regulations.

Upon receipt of an application, the Council will assign a docket number and, following a completeness review, set a hearing date. At that time, the City 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 City. 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 City'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 local 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 \bar{l} of the General Statutes, City 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 City 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 Bridgeport; 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 the prospective applicant 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 \bar{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 Bridgeport East Facility described in this Technical Report is needed so that Cellco can provide enhanced wireless voice and data services in Bridgeport and Stratford, Connecticut. The Bridgeport East Facility will provide additional wireless "coverage" along portions of Routes 1, 8 and 127 and local roads in the area immediately around the Property. More importantly, the Bridgeport East Facility will provide capacity relief to Cellco's existing East Bridgeport Relo, Bridgeport Washington Park and North Bridgeport 2 cell sites which are all currently operating beyond their respective capacity limits.

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Environmental Effects

In our experience, the primary impact of a wireless facility such as the proposed Bridgeport East 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 Bridgeport East Facility, Cellco's consultant, All-Points Technology Corporation has prepared a Visibility Analysis. (*See Attachment 3*). This analysis indicates that the areas where the proposed 90-foot tower will be visible year-round comprise a total of approximately 41 acres. Seasonal views are anticipated to occur over some locations within an area of approximately 40 additional acres.

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 municipality'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 Bridgeport East Facility is not located within 250 feet of any building containing a school or commercial day care facility.

Based on field surveys, Cellco has determined that the construction of the Bridgeport East 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 Bridgeport East 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 90-foot level on the proposed tower would be

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40.32% 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

The Applicant conducted a search for suitable cell site locations in Bridgeport and identified the Property as a site that would satisfy Cellco’s wireless service objectives in the area. In addition to the proposed location, the Applicant identified and investigated the City’s former landfill site at 475 Asylum Street. A summary of Cellco’s site search efforts for a Bridgeport East facility location is included in the Site Search Summary 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 City of Bridgeport 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 east Bridgeport for the foreseeable future.

Conclusion

This Technical Report is submitted in accordance with Conn. Gen. Stat. § 16-50l which requires Cellco to supply the City with information regarding its proposed Bridgeport East 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 Bridgeport

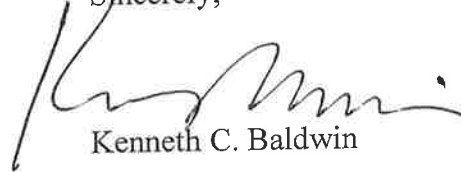
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East Facility would not have any significant adverse environmental effects. Moreover, the Applicant submits that the public need for high quality wireless service, and a competitive framework for providing such service has been determined by the FCC 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

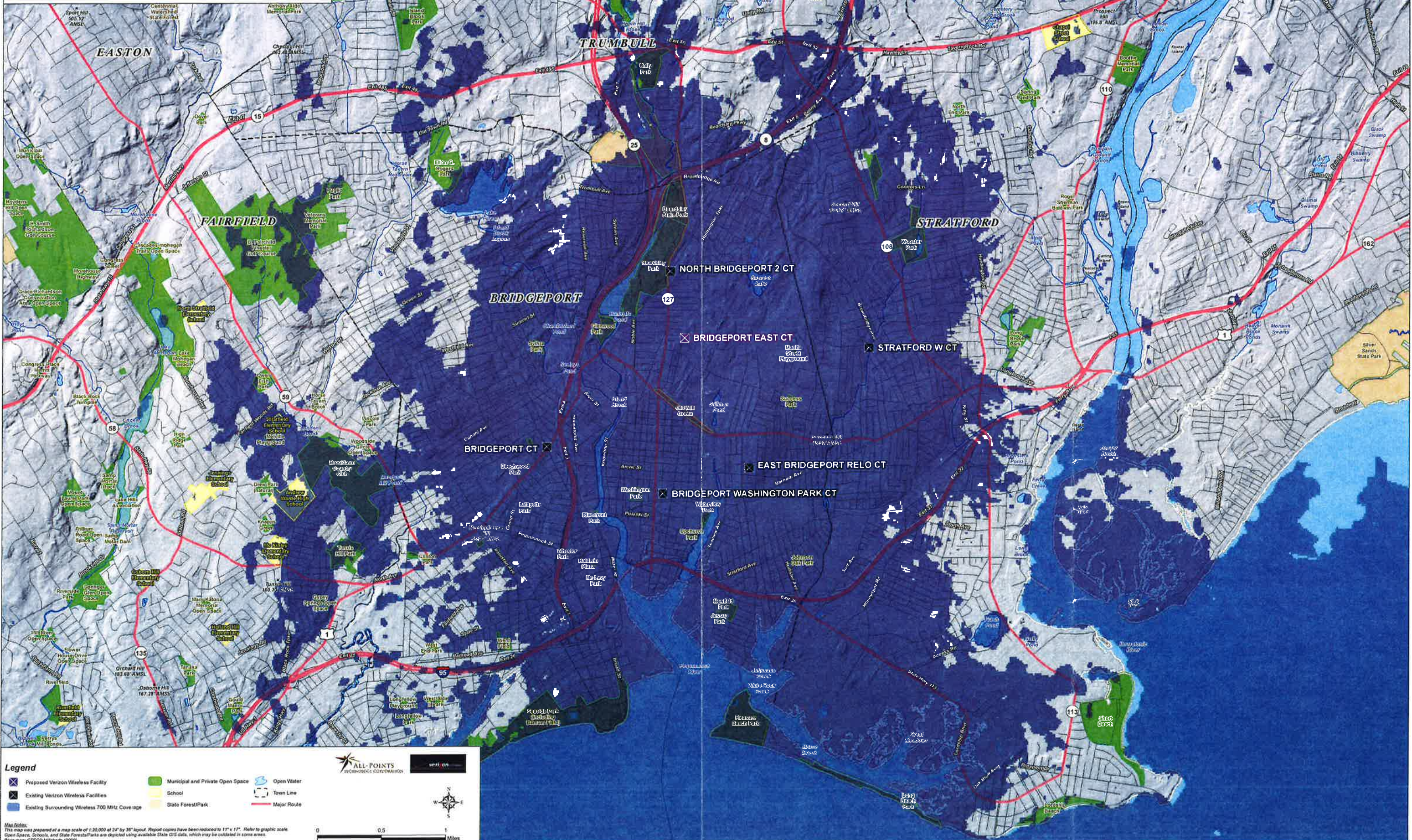
Copy to (*via Federal Express*):

Melville T. Riley, Jr., Acting Chairman, Bridgeport Planning and Zoning Commission
and Acting Chairman, Bridgeport Inland Wetland Watercourses
Agency

ATTACHMENT 1

**Existing Verizon Wireless 700 MHz Coverage
Bridgeport, Connecticut and Surrounding Area
(*Map Scale is 1:20,000)**

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



Legend

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

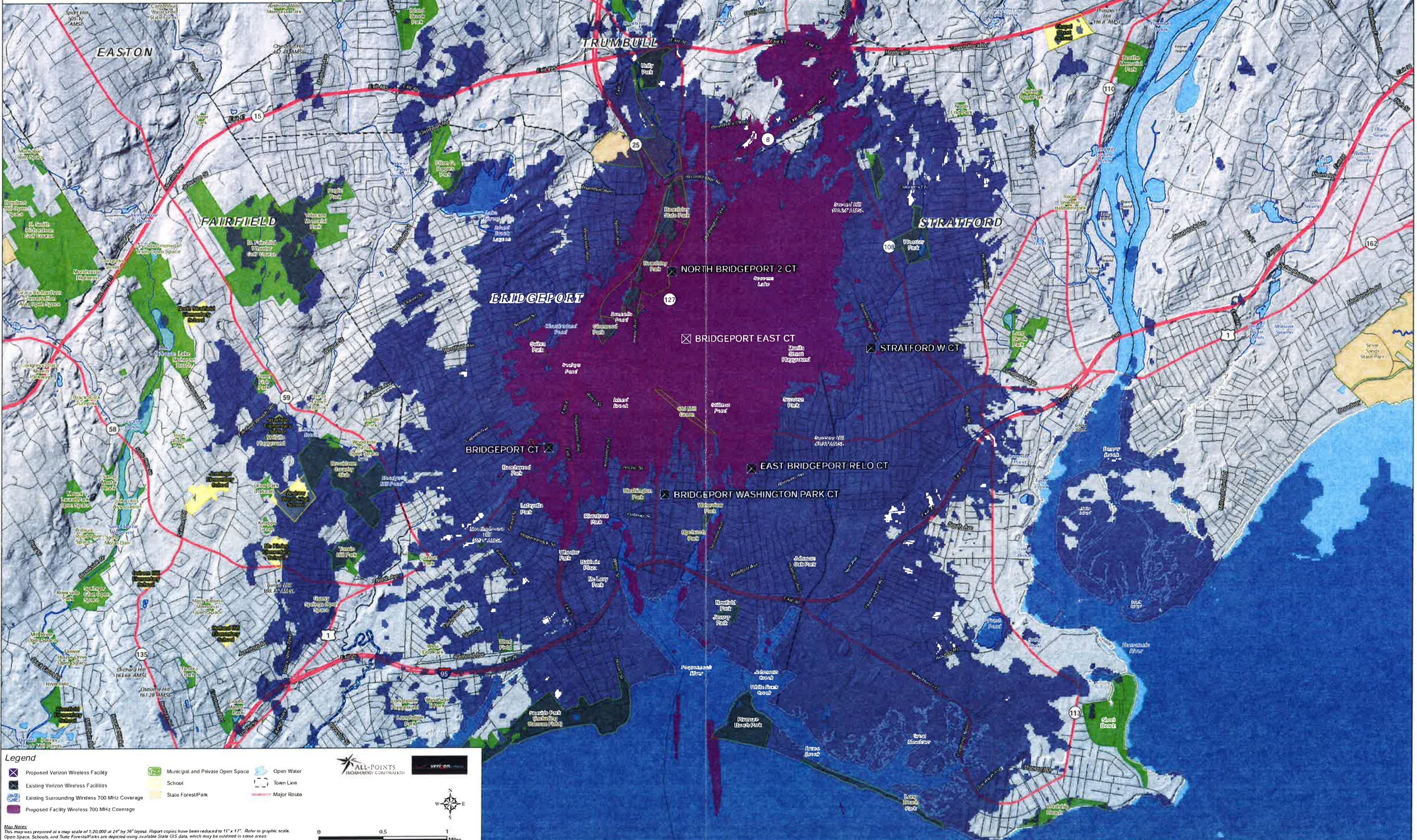
Map Notes:
This map was prepared at a map scale of 1:20,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17" (letter) to graphic scale.
Open Space, Schools, and State Forest/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2009)

**ALL-POINTS
TECHNOLOGY CORPORATION**

0 0.5 1 Miles

**Proposed Verizon Wireless 700 MHz Coverage
Bridgeport, Connecticut and Surrounding Area
(*Map Scale is 1:20,000)**

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



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

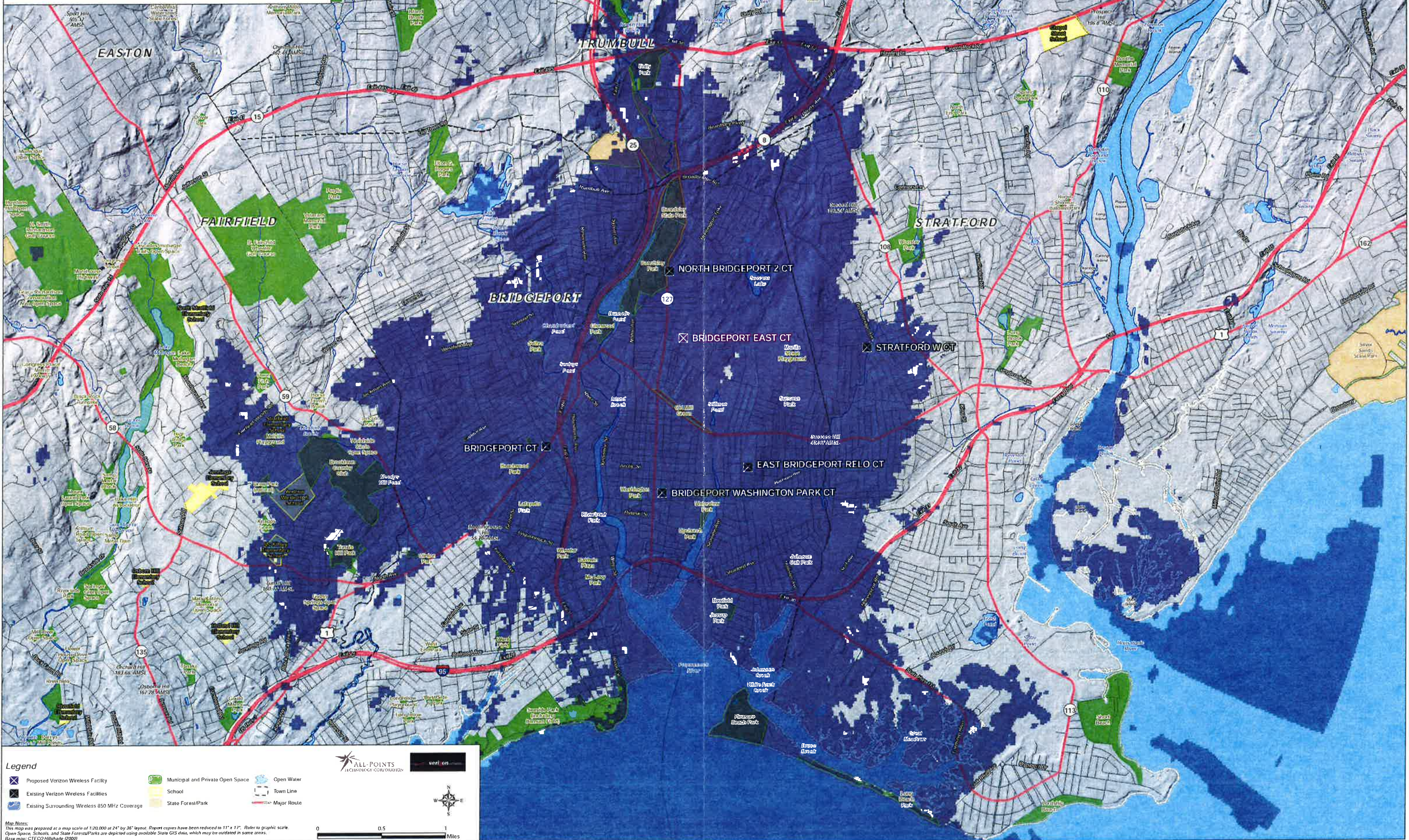
**ALL-POINTS
TECHNOLOGY CORPORATION**

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 Holdings (2009)

Existing Verizon Wireless 850 MHz Coverage
 Bridgeport, Connecticut and Surrounding Area
 (*Map Scale is 1:20,000)

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



Map Notes:
 This map was prepared at a map scale of 1:20,000 at 24" x 36" layout. Report copies have been reduced to 11" x 17". Ruler to graphic scale.
 Open Space, Schools, and State Forest/Parks are depicted using available State GIS data, which may be updated in some areas.
 Base map: CTECO Hillshade (2009)

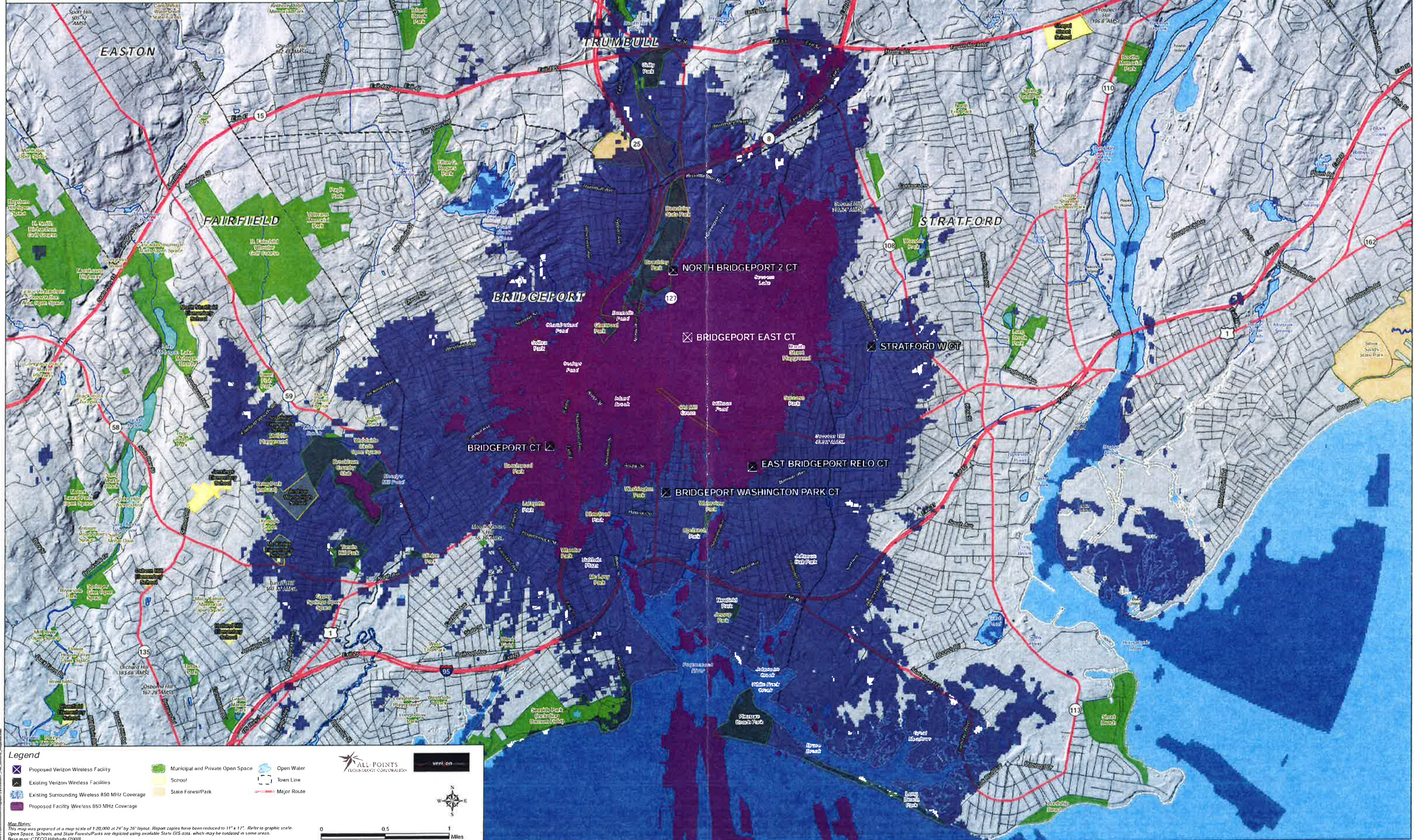


- Legend**
- Proposed Verizon Wireless Facility
 - Existing Verizon Wireless Facilities
 - Existing Surrounding Wireless 850 MHz Coverage
 - Municipal and Private Open Space
 - School
 - State Forest/Park
 - Open Water
 - Town Line
 - Major Route



**Proposed Verizon Wireless 850 MHz Coverage
Bridgeport, Connecticut and Surrounding Area
(*Map Scale is 1:20,000)**

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



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

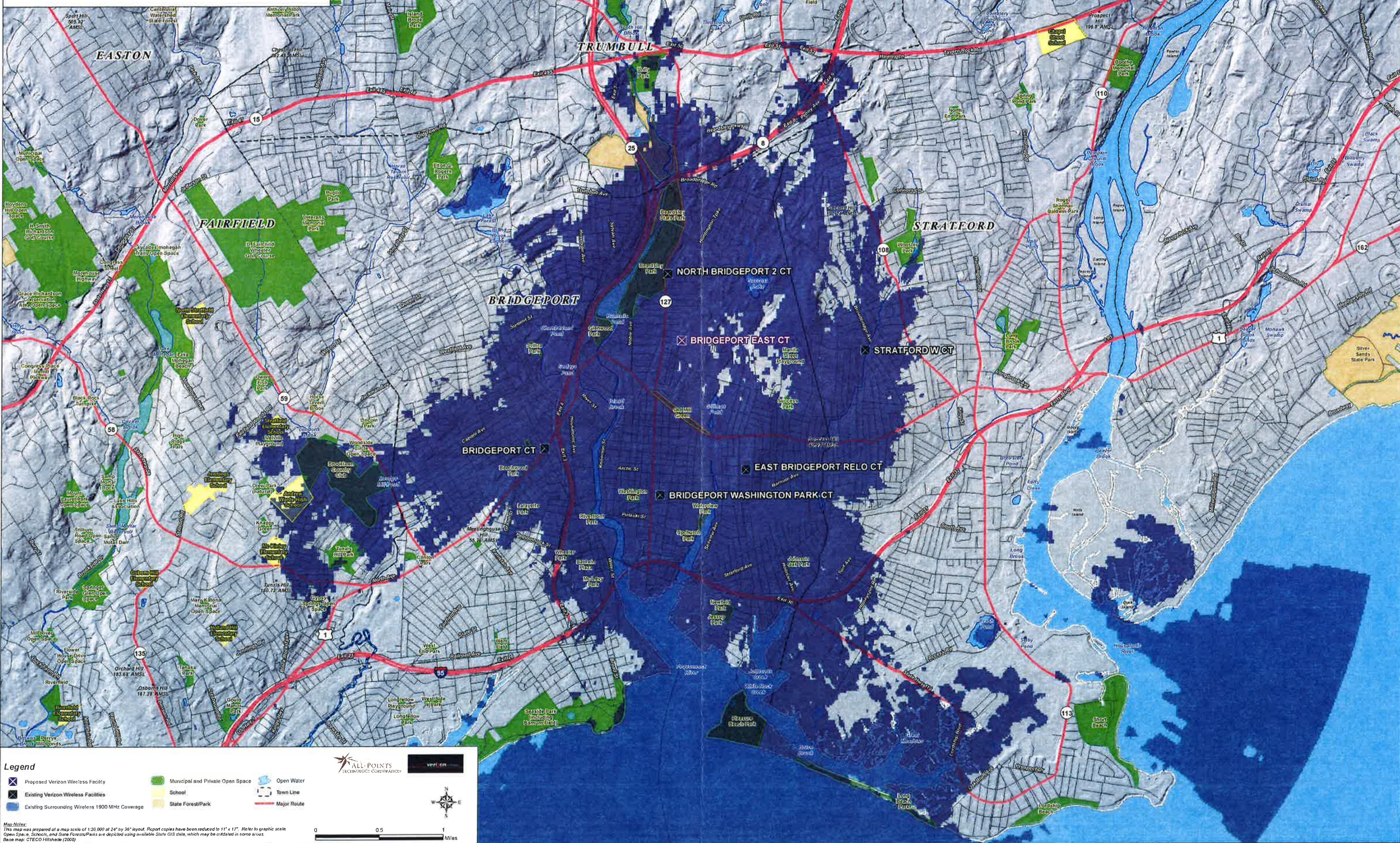
**ALL POINTS
TECHNOLOGY SOLUTIONS**

Map Notes:
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Open Space, Schools, and State Forest/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2008)

0 0.5 1 Miles

**Existing Verizon Wireless 1900 MHz Coverage
Bridgeport, Connecticut and Surrounding Area
(*Map Scale is 1:20,000)**

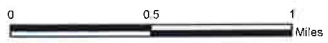
Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



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

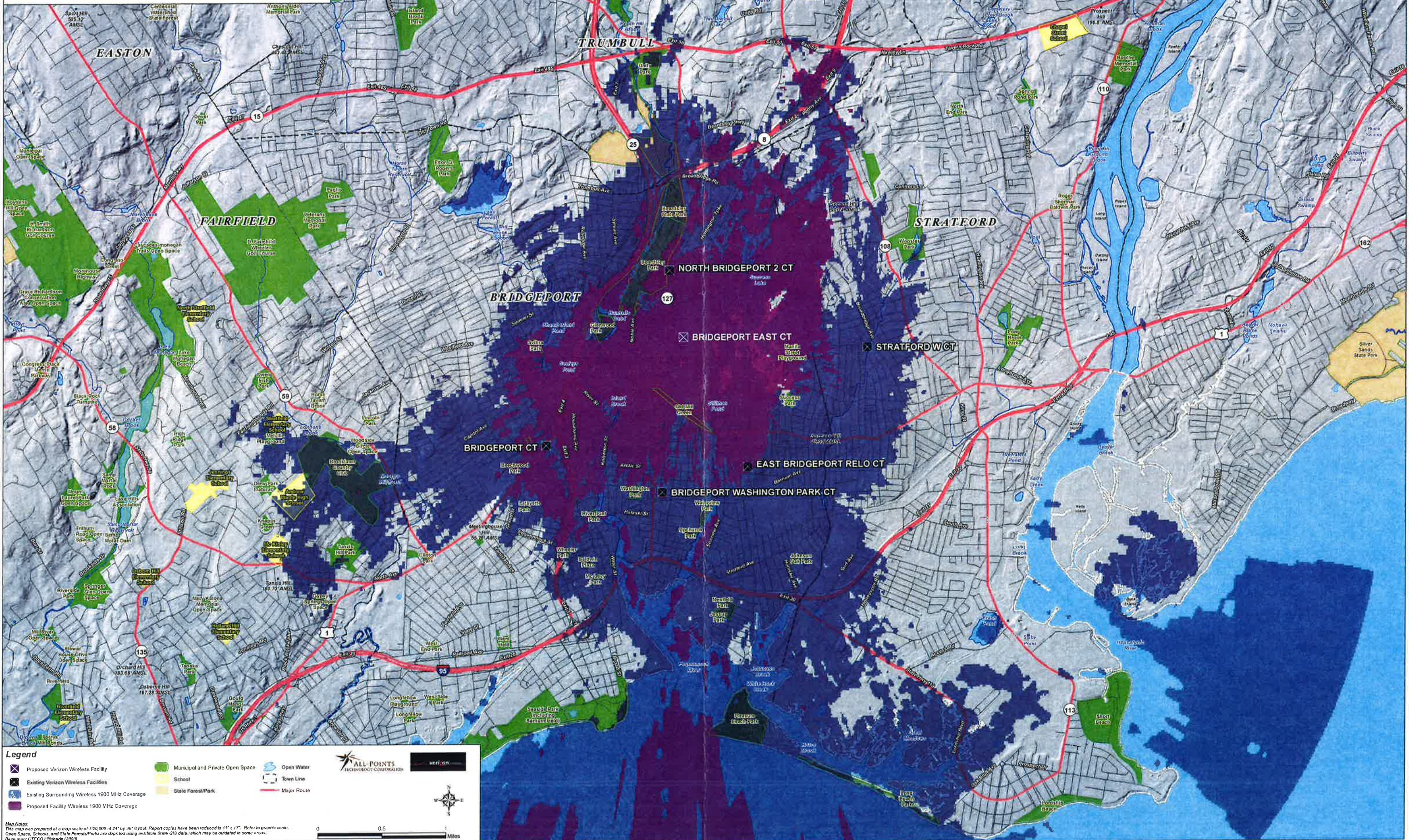


Map Notes:
This map was prepared at a map scale of 1:20,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2000)



**Proposed Verizon Wireless 1900 MHz Coverage
Bridgeport, Connecticut and Surrounding Area
(*Map Scale is 1:20,000)**

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



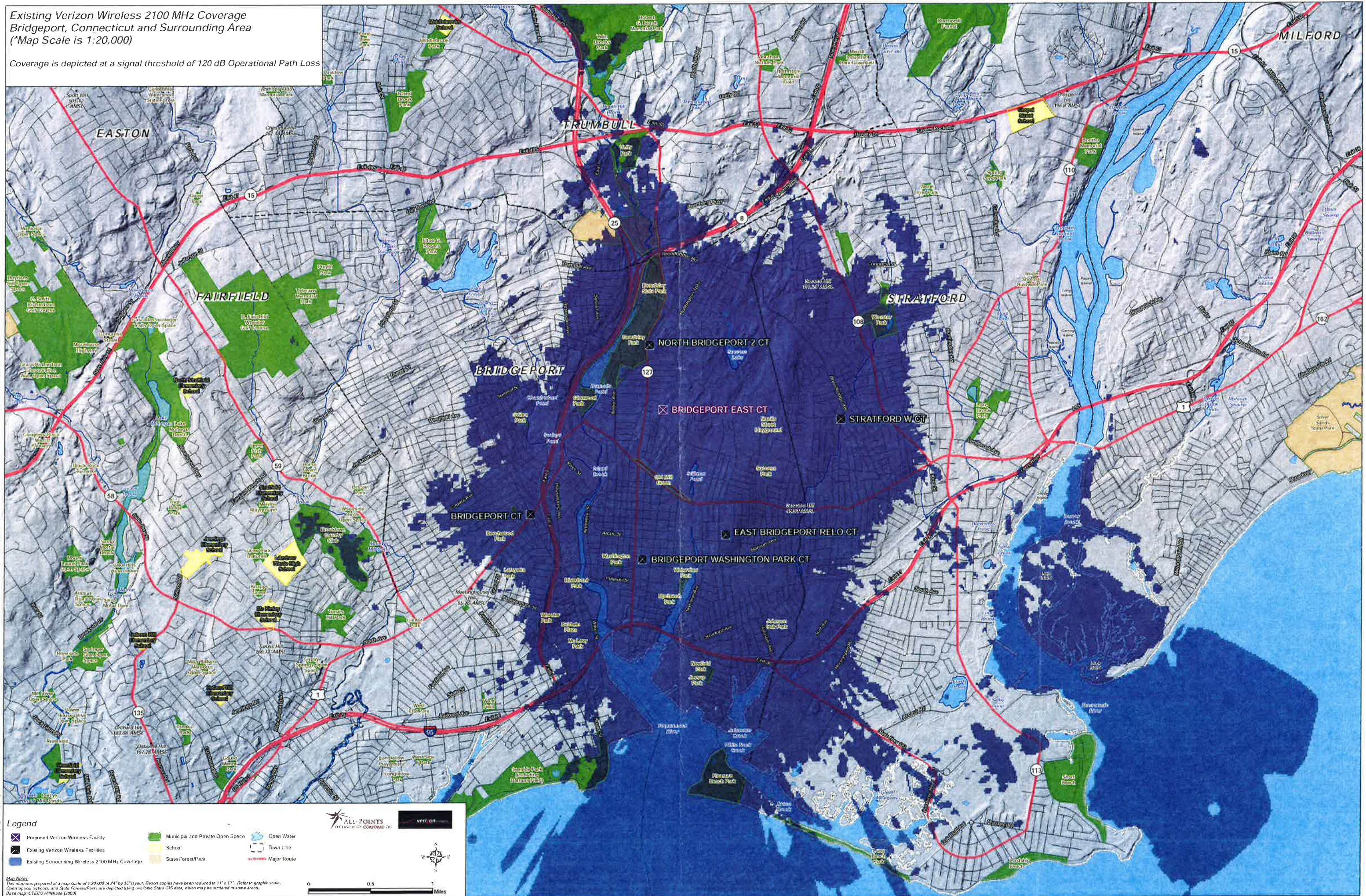
- Legend**
- ⊗ Proposed Verizon Wireless Facility
 - ⊗ Existing Verizon Wireless Facilities
 - ⊗ Existing Surrounding Wireless 1900 MHz Coverage
 - ⊗ Proposed Facility Wireless 1900 MHz Coverage
 - ⊗ Municipal and Private Open Space
 - ⊗ School
 - ⊗ State Forest/Park
 - ⊗ Open Water
 - ⊗ Town Line
 -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



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 (2000)

Existing Verizon Wireless 2100 MHz Coverage
 Bridgeport, Connecticut and Surrounding Area
 (*Map Scale is 1:20,000)

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



Legend

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

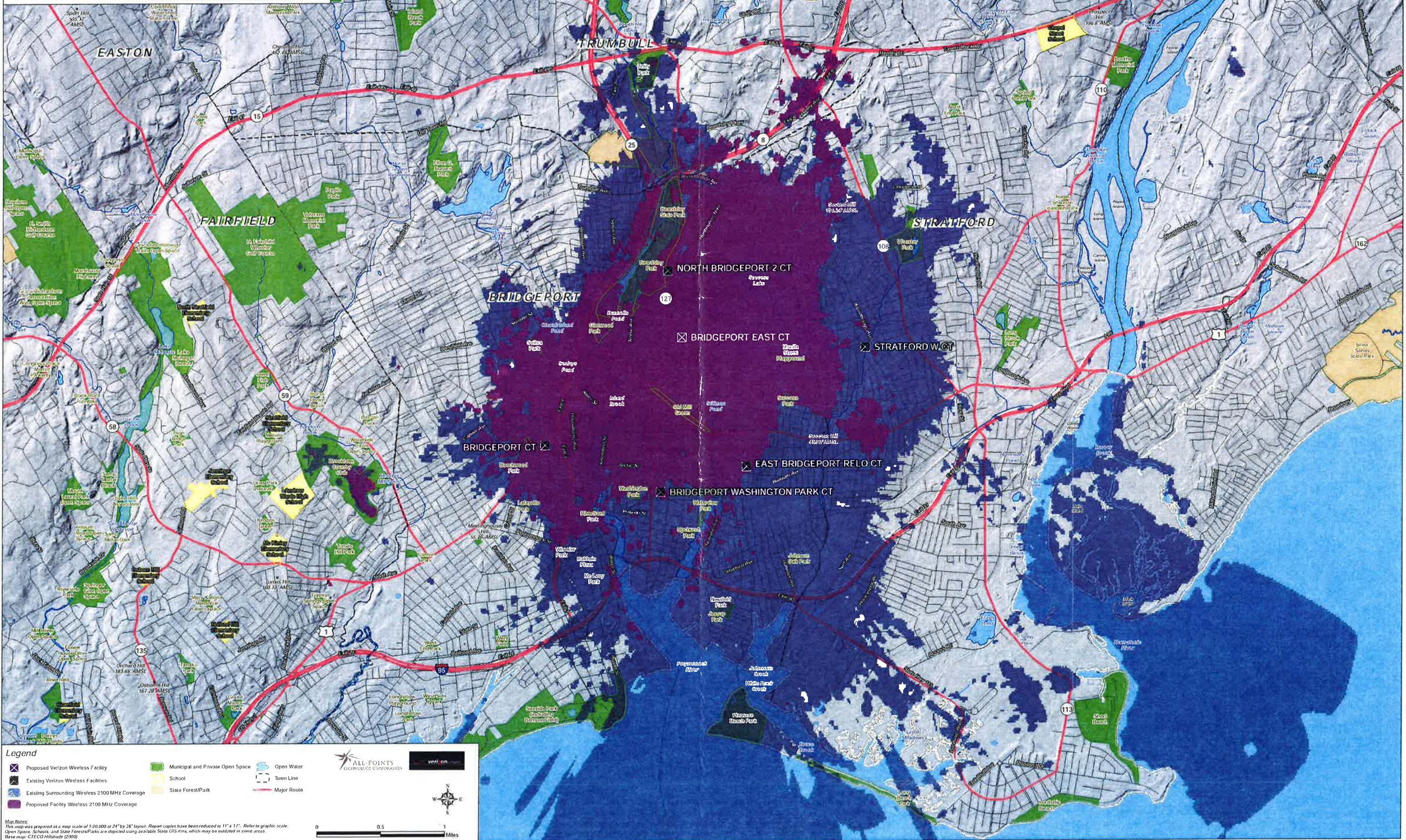
Map Notes:
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 Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
 Base map: CT/ECO Hatched (2009)

Scale: 0 0.5 1 Miles

Logos: ALL-POINTS TECHNOLOGIES CORPORATION, VPT-OR

Proposed Verizon Wireless 2100 MHz Coverage
 Bridgeport, Connecticut and Surrounding Area
 (*Map Scale is 1:20,000)

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



Legend

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



Map Notes:
 This map was prepared at a map scale of 1:20,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
 Open Spaces, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
 Base map: CTECO Hillshade (2000)



ATTACHMENT 2



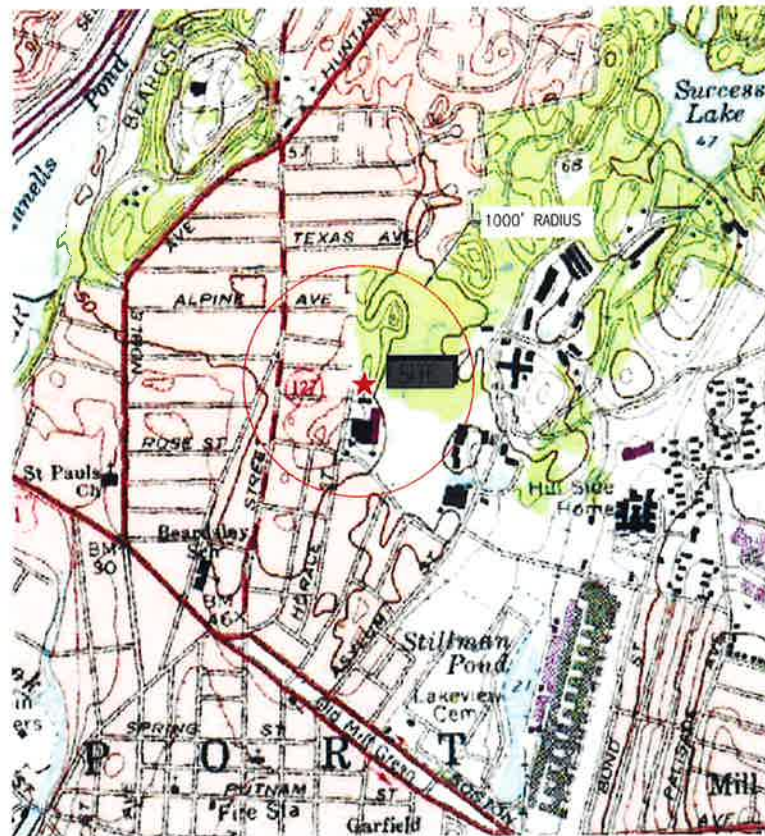
BRIDGEPORT EAST

380 HORACE STREET
BRIDGEPORT, CT 06610

MONOPOLE

PROJECT SUMMARY

SITE NAME: BRIDGEPORT EAST
 SITE ADDRESS: 380 HORACE STREET
BRIDGEPORT, CT 03310
 ASSESSOR'S PARCEL NO.: 2050-39Y & 2049-39E
 CONSTRUCTION TYPE: MONOPOLE
 PROPERTY OWNER: MDL REALTY, LLC
380 HORACE STREET
BRIDGEPORT, CT 06610
 APPLICANT, LESSEE/LICENSEE, PROJECT OWNER: CONSTRUCTION SERVICES OF BRANDFORD, LLC
63-3 NORTH BRANDFORD ROAD
BRANDFORD, CT 06405
 CO-APPLICANT, LESSEE/LICENSEE, PROJECT OWNER: CELLCO PARTNERSHIP D/B/A/ VERIZON WIRELESS
99 EAST RIVER DRIVE
EAST HARTFORD, CT 06108
 PROP. TOWER COORDINATES: LATITUDE: 41.204331
LONGITUDE: -73.176451
GROUND ELEVATION: 62'± A.M.S.L.



USGS/ VICINITY MAP
SCALE: N.T.S.

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	4
A-1	ABUTTER'S LIST AND MAP	4
C-1	PARTIAL SITE PLAN	4
C-2	COMPOUND AND ELEVATION PLAN	4
C-3	DETAILS	4
C-4	SHELTER DETAILS	4

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



APPROVALS

LANDLORD _____
 LEASING _____
 R.F. _____
 ZONING _____
 CONSTRUCTION _____
 A/E _____

AEG PROJECT NO: NA

DRAWN BY: SMB

CHECKED BY: SNA

SUBMITTALS

NO.	DATE	REVISION
4	8/17/15	REVISION
3	8/14/15	REVISION
2	7/29/15	REVISION
1	7/15/15	REVISION
0	6/25/15	FOR SUBMISSION

BRIDGEPORT EAST

380 HORACE STREET
BRIDGEPORT, CT 06610

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1



ABUTTERS SUMMARY TABLE

MAP	LOT	OWNER NAME	SITE ADDRESS
61	12-Z	MILLER, ROBERT D, JR. & CYNTHIA	115 KINGSBURY ROAD
61	14	MILLER, VIRGINIA	110 KINGSBURY ROAD
61	13	RAMOS, EDIE O. ETAL	101 BERKELEY PLACE #103
61	16	COLUCCELLI, LUCIA	94 BERKELEY PLACE
61	2	WESTOVER, GERALDINE P.	356 HORACE STREET
61	N/A	PENA, MARIO & KATAL	25 COGGSWELL STREET #27
61	5-A	JONES, ROSA LEE	25 COGGSWELL STREET #27
61	5-B	SMITH, LASERNE G.	37 COGGSWELL STREET
61	6-A	SHILLINGFORD, DEBORAH V.	39 COGGSWELL STREET
61	6-B	HOUSEY, CLYDE & CONNIE	41 COGGSWELL STREET
61	7-A	AMPOFO, STEVE ETAL	43 COGGSWELL STREET #45
61	7-B	SALCE, RAMON D. & LOURDES	47 COGGSWELL STREET #49
62	2	UNGER COGGSWELL PROPERTIES, LLC	425 ASYLUM STREET
62	29-C	BRIDGEPORT, CITY OF	455 ASYLUM STREET #REAR
62	29-B	BRIDGEPORT, CITY OF PUBLIC WORKS	455 ASYLUM STREET
69	39-A	SPORTING GOODS PROPERTIES, INC	615 ASYLUM STREET
62	1-A	COGGSWELL, BRIDGEPORT LLC	122 HASTINGS STREET
62	31-A	GRANT, ROSEMARY	129 HASTINGS STREET
62	33	US BANK NA	140 COGGSWELL STREET
62	1	SAEZ, SANDRA	318 GODDARD AVE #320
61	27-C	92 COGGSWELL ST LAND TRUST	92 COGGSWELL STREET
61	27-B	CORDERO, ARACELIS	90 COGGSWELL STREET
61	10-K1	OGUNJIMI, MOSES	80 COGGSWELL STREET #01
61	17	DIKKO, CHUKWUDI & ANN	381 HORACE STREET
61	4-A	HOLY TRINITY, UKRANIAN	89 YORK STREET #99

NOTE:
THERE IS NO MUNICIPAL BOUNDARY WITHIN 2500'
OF THE PROPOSED FACILITY.



APPROVALS

LANDLORD _____

LEASING _____

R.F. _____

ZONING _____

CONSTRUCTION _____

A/E _____

AEG PROJECT NO: NA

DRAWN BY: SMB

CHECKED BY: SNA

SUBMITTALS

NO.	DATE	REVISION
4	8/17/15	REVISION
3	8/14/15	REVISION
2	7/28/15	REVISION
1	7/15/15	REVISION
0	6/25/15	FOR SUBMISSION

BRIDGEPORT EAST
380 HORACE STREET
BRIDGEPORT, CT 06610

SHEET TITLE
ABUTTER'S LIST
AND MAP

SHEET NUMBER
A-1



ADVANCED ENGINEERING GROUP, P.C.
 Civil Engineering - Site Development Surveying
 Telecommunications
 500 NORTH BROADWAY
 5th FLOOR
 BRIDGEPORT, CT 06610
 PH: 401-354-3303
 FAX: 401-353-8554



APPROVALS

LANDLORD _____
 LEASING _____
 R.F. _____
 ZONING _____
 CONSTRUCTION _____
 A/E _____

AEG PROJECT NO: NA

DRAWN BY: SMB

CHECKED BY: SNA

SUBMITTALS

NO.	DATE	REVISION
4	8/17/15	REVISION
3	8/14/15	REVISION
2	7/29/15	REVISION
1	7/15/15	REVISION
0	8/25/15	FOR SUBMISSION

BRIDGEPORT EAST

380 HORACE STREET
BRIDGEPORT, CT 06610

SHEET TITLE

PARTIAL SITE PLAN

SHEET NUMBER

C-1

NOTES:

1. LOCATION OF PROPOSED VERIZON EQUIPMENT SHELTER SHOWN IS ONLY APPROXIMATE. FINAL LOCATIONS ARE SUBJECT TO APPROVAL BY VERIZON AND LANDLORD.
2. EQUIPMENT SPECIFICATIONS AND UTILITY EASEMENTS ARE SUBJECT TO TELCO AND POWER COMPANY REQUIREMENTS.
3. SITE ACCESS FROM PUBLIC RIGHT OF WAY AS REQUIRED BY FIELD CONDITIONS.
4. PROPOSED VERIZON EQUIPMENT SHOWN IS SUBJECT TO R.F. AND STRUCTURAL ANALYSIS.

APPROXIMATE LOCATION OF FEMA FLOOD ZONE TAKEN FROM FEMA FLOOD INSURANCE RATE MAP NO. 09001C0433C, MAP REVISED JULY 8, 2013

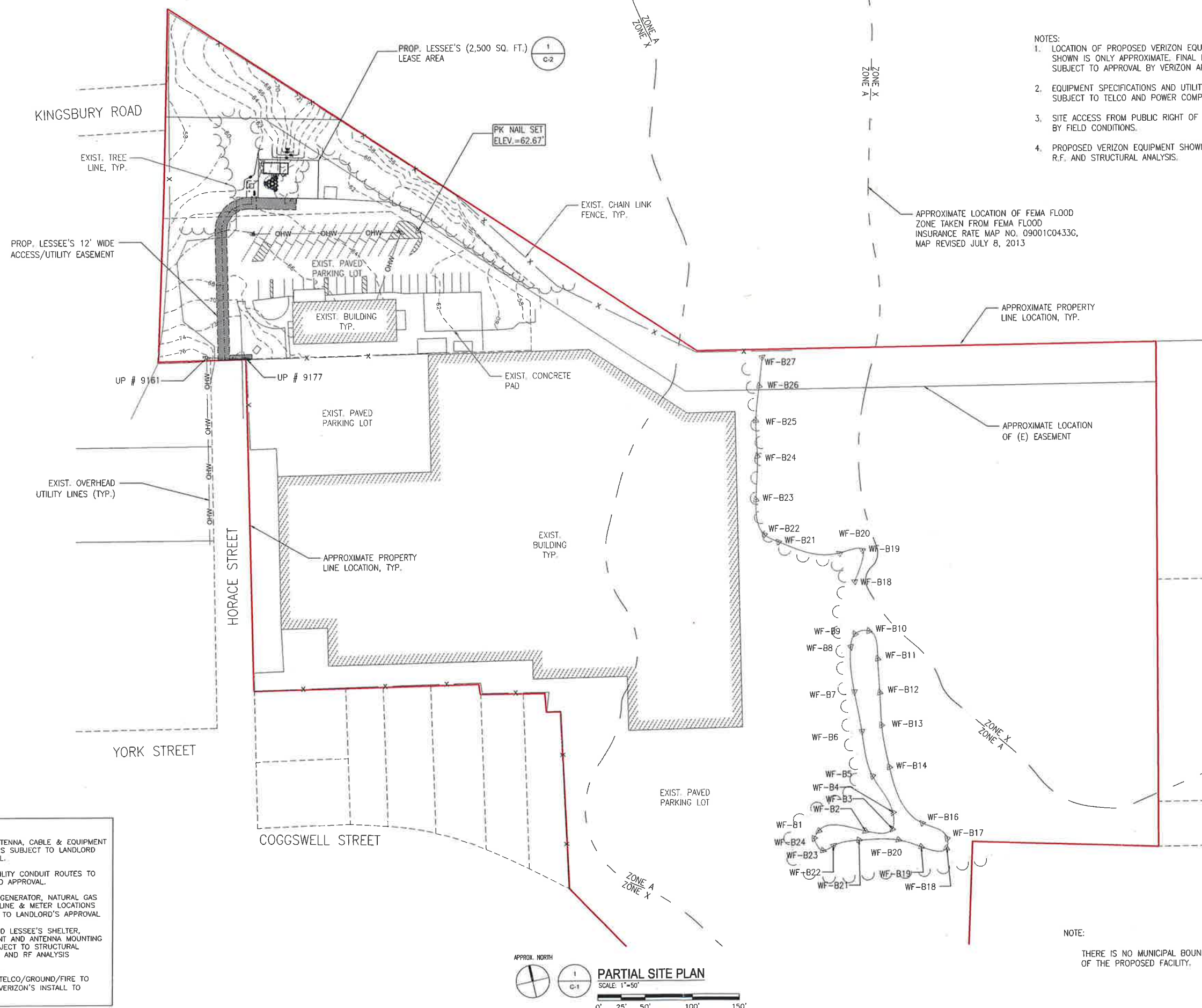
APPROXIMATE PROPERTY LINE LOCATION, TYP.

APPROXIMATE LOCATION OF (E) EASEMENT

ZONE X
ZONE A

NOTE:

THERE IS NO MUNICIPAL BOUNDARY WITHIN 2500' OF THE PROPOSED FACILITY.



PROP. LESSEE'S (2,500 SQ. FT.) LEASE AREA

PK NAIL SET
ELEV.=62.67'

KINGSBURY ROAD

EXIST. TREE LINE, TYP.

PROP. LESSEE'S 12' WIDE ACCESS/UTILITY EASEMENT

UP # 9161

UP # 9177

EXIST. OVERHEAD UTILITY LINES (TYP.)

HORACE STREET

YORK STREET

COGSWELL STREET

APPROX. NORTH



PARTIAL SITE PLAN

SCALE: 1"=50'



- NOTES
1. FINAL ANTENNA, CABLE & EQUIPMENT LOCATIONS SUBJECT TO LANDLORD APPROVAL.
 2. FINAL UTILITY CONDUIT ROUTES TO LANDLORD APPROVAL.
 3. BACKUP GENERATOR, NATURAL GAS SUPPLY LINE & METER LOCATIONS SUBJECT TO LANDLORD'S APPROVAL.
 4. PROPOSED LESSEE'S SHELTER, EQUIPMENT AND ANTENNA MOUNTING ARE SUBJECT TO STRUCTURAL ANALYSIS AND RF ANALYSIS.
 5. POWER/TELCO/GROUND/FIRE TO FOLLOW VERIZON'S INSTALL TO DEMARC.



- NOTES
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 5. POWER/TELCO/GROUND/FIRE TO FOLLOW VERIZON'S INSTALL TO DEMARC.

APPROVALS

LANDLORD _____
 LEASING _____
 R.F. _____
 ZONING _____
 CONSTRUCTION _____
 A/E _____

AEG PROJECT NO: NA
 DRAWN BY: SMB
 CHECKED BY: SMA

SUBMITTALS

NO.	DATE	REVISION
4	8/17/15	REVISION
3	8/14/15	REVISION
2	7/29/15	REVISION
1	7/15/15	REVISION
0	8/25/15	FOR SUBMISSION

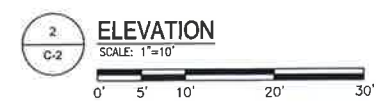
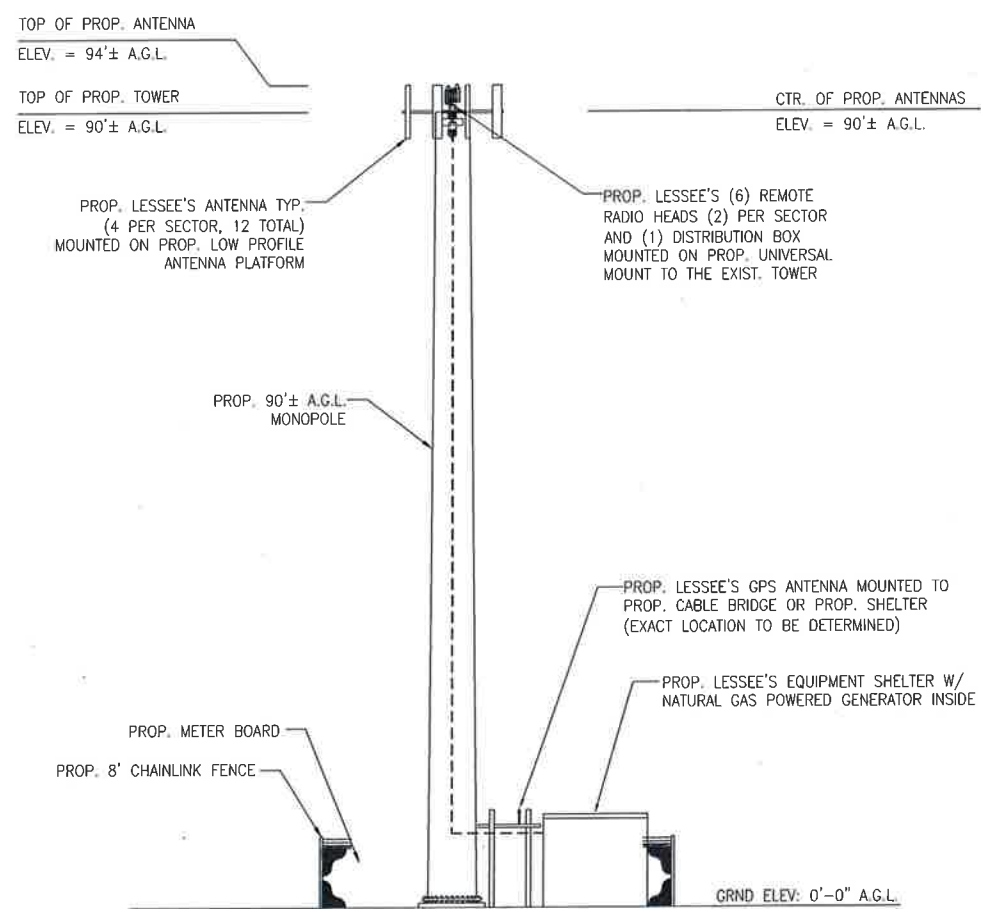
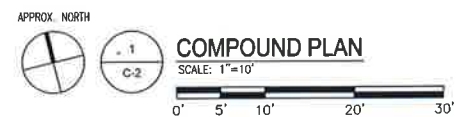
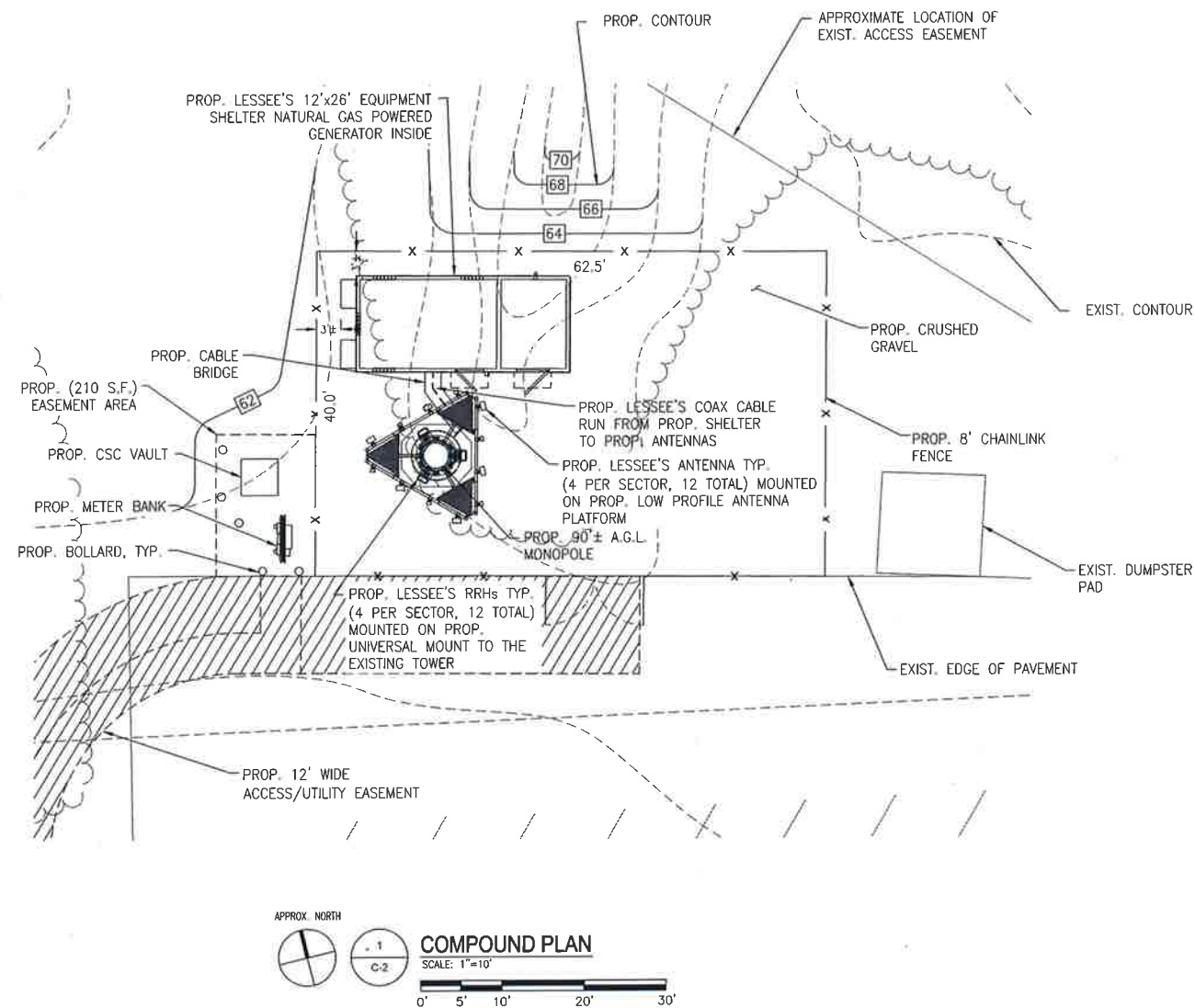
BRIDGEPORT EAST
 380 HORACE STREET
 BRIDGEPORT, CT 06610

SHEET TITLE

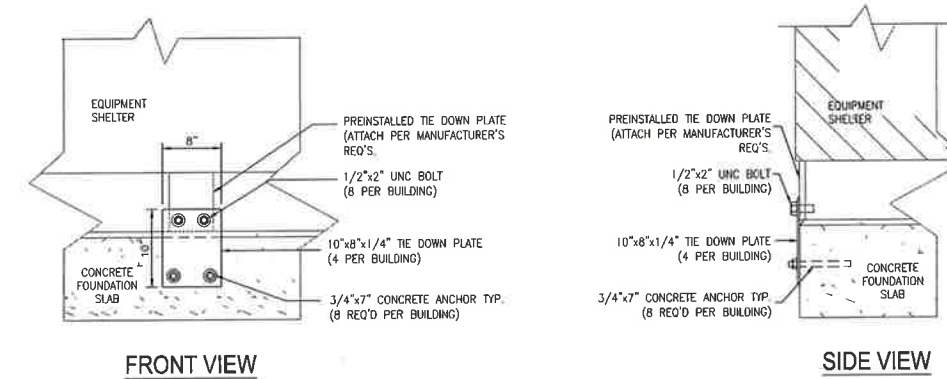
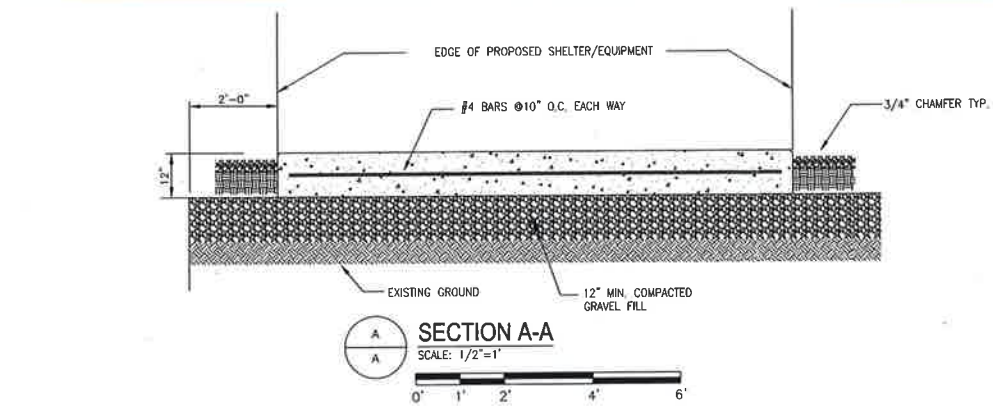
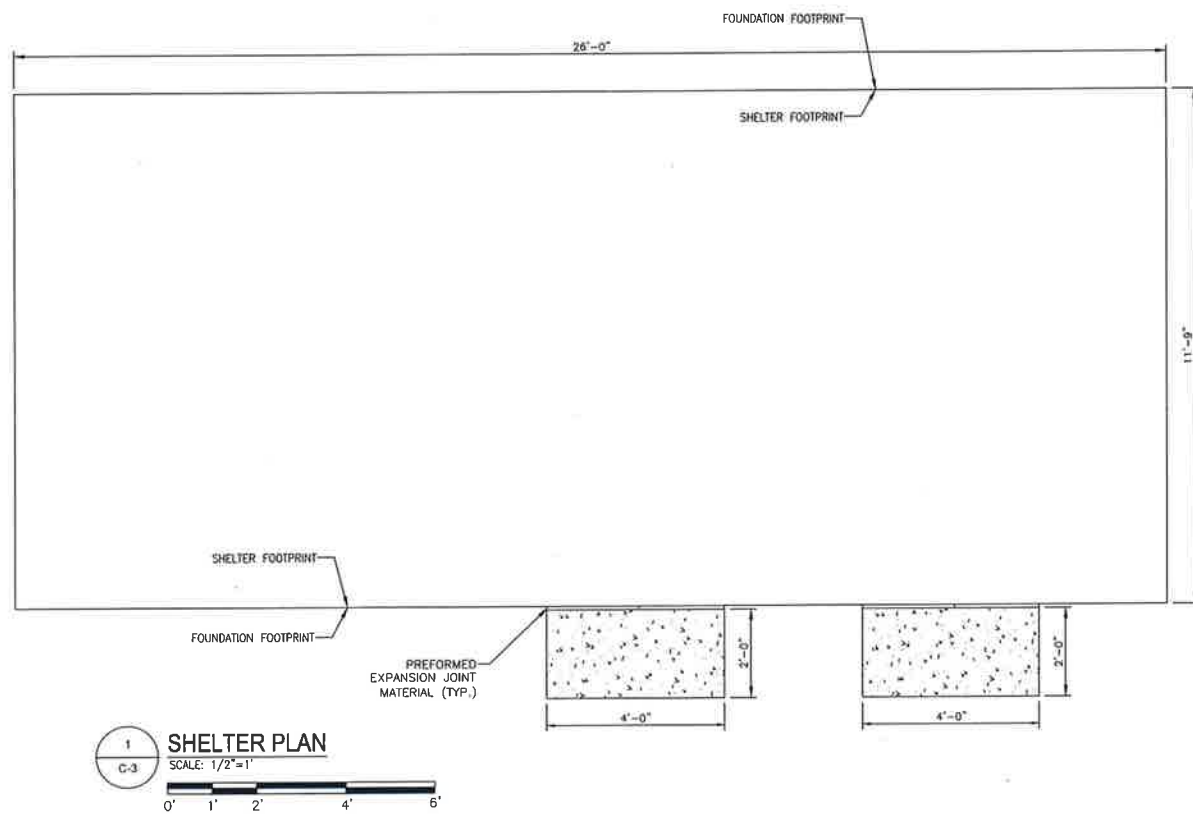
COMPOUND & ELEVATION PLAN

SHEET NUMBER

C-2



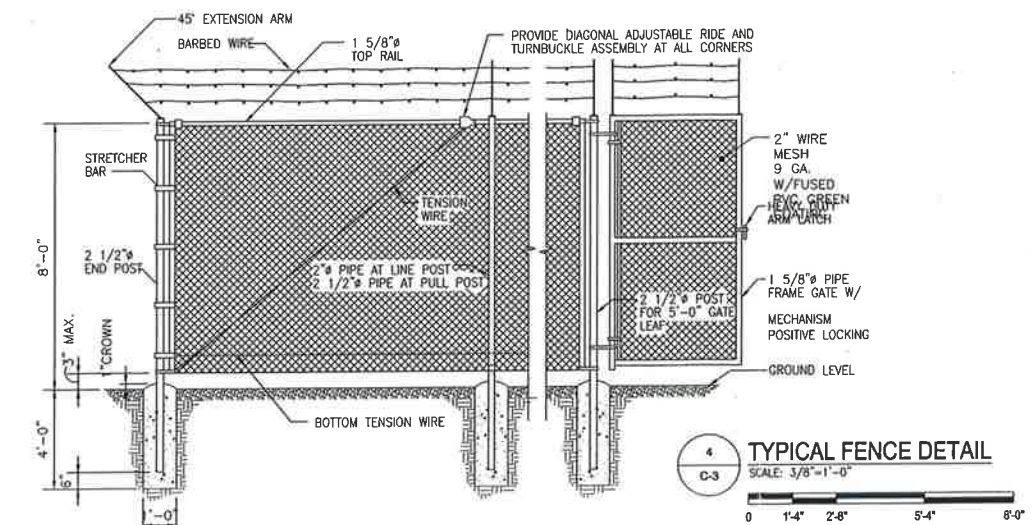
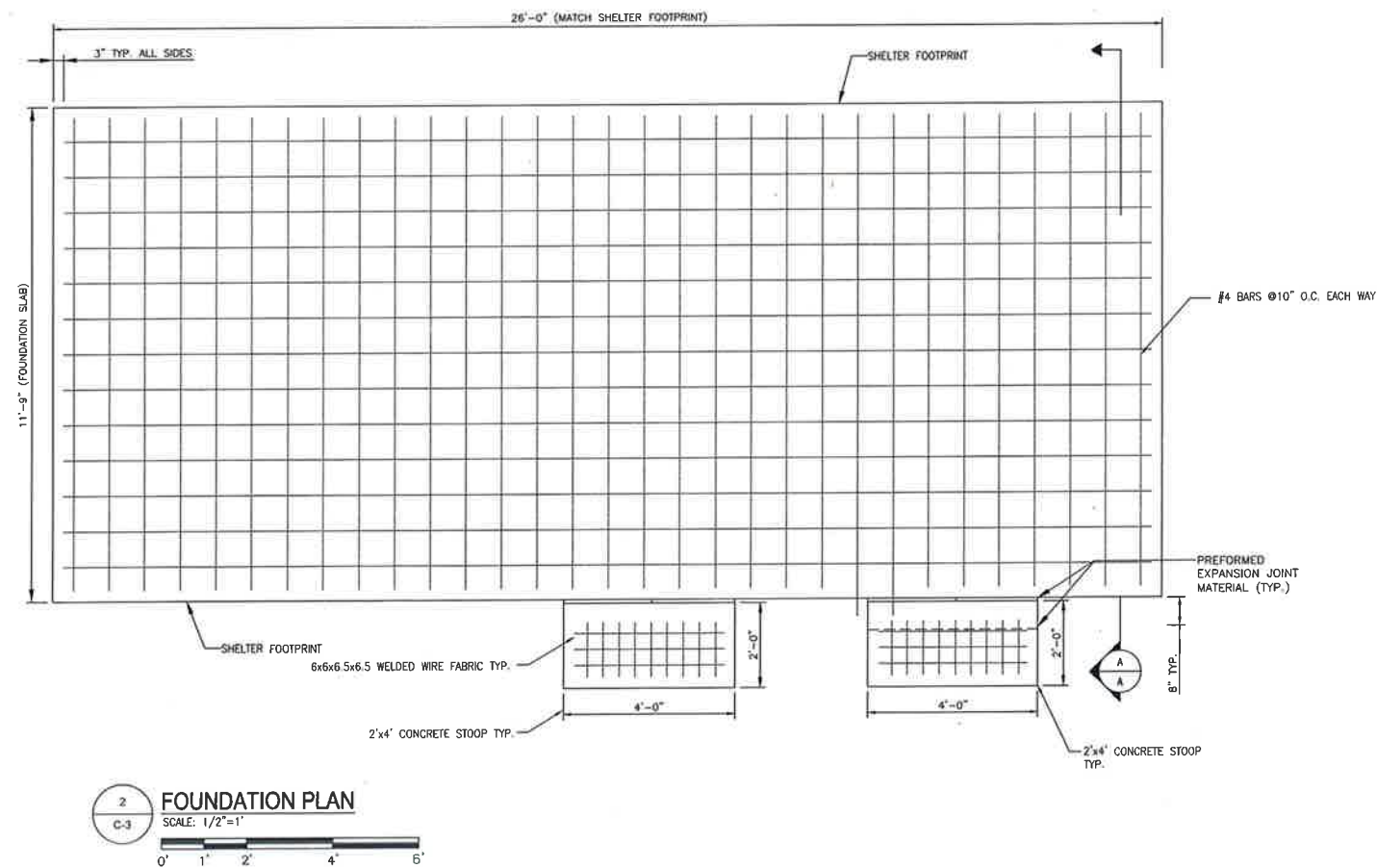
- NOTES:
1. LOCATION OF PROPOSED VERIZON EQUIPMENT SHELTER SHOWN IS ONLY APPROXIMATE. FINAL LOCATIONS ARE SUBJECT TO APPROVAL BY VERIZON AND LANDLORD.
 2. EQUIPMENT SPECIFICATIONS AND UTILITY EASEMENTS ARE SUBJECT TO TELCO AND POWER COMPANY REQUIREMENTS.
 3. SITE ACCESS FROM PUBLIC RIGHT OF WAY AS REQUIRED BY FIELD CONDITIONS.
 4. PROPOSED VERIZON EQUIPMENT SHOWN IS SUBJECT TO R.F. AND STRUCTURAL ANALYSIS.



3 SHELTER TO CONCRETE FOUNDATION SLAB ATTACHMENT TYP.
SCALE: N.T.S.

FENCE NOTES:

1. INSTALL FENCING PER ASTM F-567, SWING GATE PER ASTM F-900.
2. ALL END POSTS, LINE POSTS, PULL POSTS, POSTS FOR GATE LEAF, PIPES FOR GATE FRAME AND TOP RAILS SHALL BE SCHEDULE 40 PIPE PER ASTM F-1083.
3. FABRIC SHALL BE 9 GA. CORE WIRE WITH FUSED PVC GREEN COATING, SIZE 2" MESH CONFORMING TO ASTM A-392.
4. TENSION WIRE SHALL BE 7 GA. GALV. STEEL.
5. TIE WIRE SHALL BE 11 GA. GALV. STEEL (MIN.) AT POSTS AND RAILS. A SINGLE WRAP FABRIC TIE AT TENSION WIRE BY HOG RINGS SPACED MAX. OF 24" INTERVALS
6. BARBED WIRE SHALL BE DOUBLE STRAND 12 1/2" O.D. TWISTED WIRE TO MATCH W/FABRIC 14 GA., 4 PT. BARBS SPACES AT APPROXIMATELY 5" O.C.
7. COMPLY WITH LOCAL ORDINANCES OF BARBED WIRE PERMIT REQUIREMENTS, IF REQUIRED.
8. STEEL FENCE SYSTEM SHALL INCLUDE THE FENCE POSTS, FABRIC, GATE SYSTEM AND ALL NECESSARY ERECTION ACCESSORIES, FITTINGS AND FASTENINGS. ALL FENCE SYSTEM COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153. GATES SHALL BE SWING GATES WITH 5'-0" LEAF. REFER TO TYPICAL FENCE DETAIL FOR ADDITIONAL INFORMATION. INSTALL FENCE AFTER CONCRETE HAS ATTAINED 75% OF 28 DAY DESIGN STRENGTH.



ADVANCED ENGINEERING GROUP, P.C.
Civil Engineering - Site Development Surveying
Telecommunications
500 NORTH BROADWAY
SAY BROOKFIELD, RI 02914
PH: 401-354-2403
FAX: 401-633-4334



APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

AEG PROJECT NO: NA

DRAWN BY: SMB

CHECKED BY: SNA

SUBMITTALS

NO.	DATE	REVISION
4	8/17/15	REVISION
3	8/14/15	REVISION
2	7/29/15	REVISION
1	7/15/15	REVISION
0	6/25/15	FOR SUBMISSION

BRIDGEPORT EAST
380 HORACE STREET
BRIDGEPORT, CT 06610

SHEET TITLE

DETAILS

SHEET NUMBER

C-3



ADVANCED
ENGINEERING GROUP, P.C.
 Civil Engineering - Site Development Surveying
 Telecommunications
 100 NORTH BROADWAY
 EAST PROVIDENCE, RI 02914
 PH: 401-354-2403
 FAX: 401-353-6254



APPROVALS

LANDLORD _____
 LEASING _____
 R.F. _____
 ZONING _____
 CONSTRUCTION _____
 A/E _____

AEG PROJECT NO: NA

DRAWN BY: SMB

CHECKED BY: SNA

SUBMITTALS

NO.	DATE	REVISION
4	8/17/15	REVISION
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1	7/15/15	REVISION
0	6/25/15	FOR SUBMISSION

BRIDGEPORT EAST

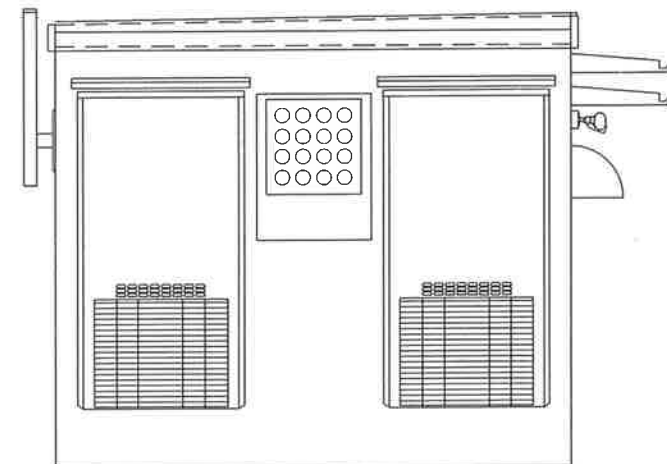
380 HORACE STREET
 BRIDGEPORT, CT 06610

SHEET TITLE

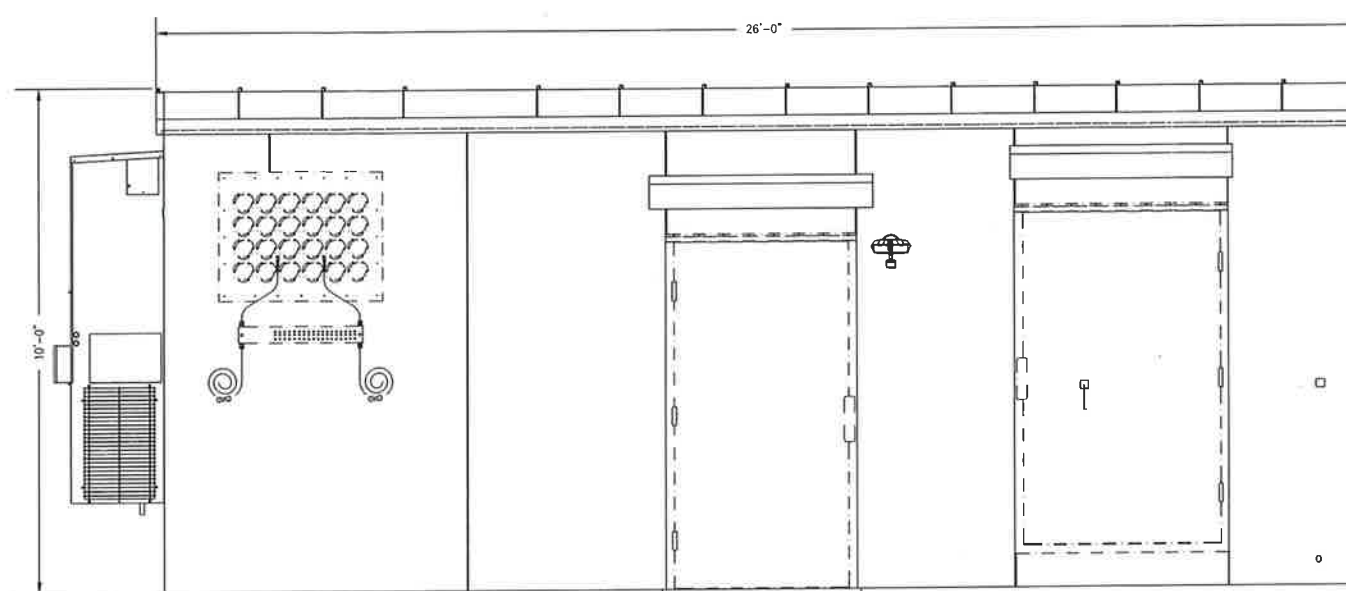
SHELTER DETAILS

SHEET NUMBER

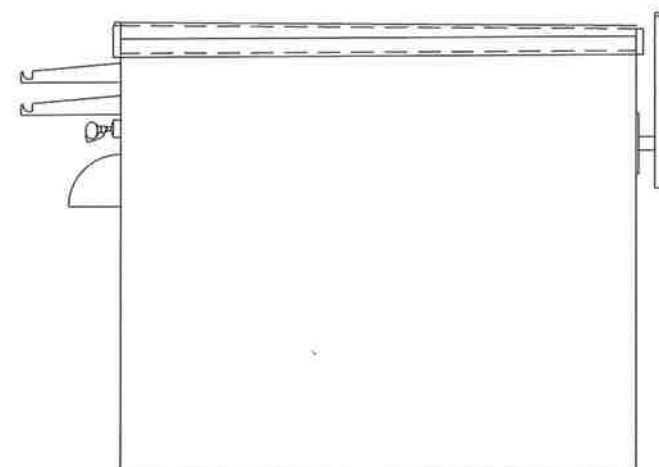
C-4



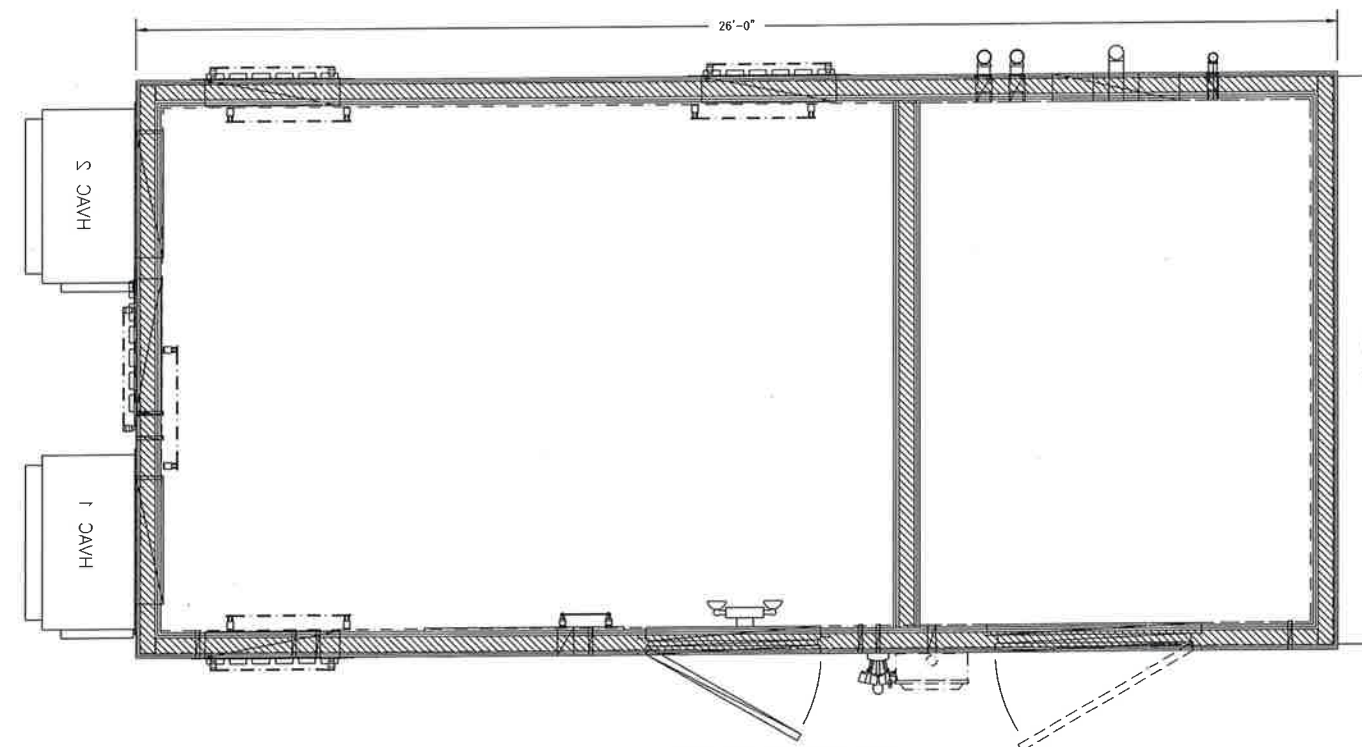
EXTERIOR ELEVATION -2



EXTERIOR ELEVATION -1



EXTERIOR ELEVATION-3



EXTERIOR PLAN

EQUIPMENT SHELTER TYPICAL DETAILS

SCALE: 1/2" = 1'-0"

ATTACHMENT 3

Visibility Analysis

380 HORACE STREET
380 HORACE STREET
BRIDGEPORT, CT 06610



Prepared in June 2015 by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06141



Project Introduction

Construction Services of Branford, in support of Cellco Partnership d/b/a Verizon Wireless, is pursuing a Certificate of Environmental Compatibility and Public Need from the Connecticut Siting Council ("Council") for the development of a new wireless communications facility ("Facility") at 380 Horace Street in Bridgeport, Connecticut (the "Property"). At the request of Construction Services of Branford, 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").

Site Description and Setting

The Property is developed with a commercial building located on the east side of Horace Street within a highly urbanized area. The proposed Facility location (the "Site") lies north of the existing building at an approximate ground elevation of 62 feet Above Mean Sea Level ("AMSL"). The proposed Facility would include a 90-foot tall steel monopole designed to accommodate multiple commercial service providers and/or municipal/regional emergency services equipment. The tower would be enclosed within a 50-foot by 50-foot, gravel base, fenced equipment compound.

Land use within the immediate vicinity of the Property is primarily a mix of dense, urban commercial and residential development, with a large tract of undeveloped forested land to the east/northeast. The Route 8 transportation corridor is approximately 0.75 mile to the west. The topography within the Study Area is characterized by the Pequonnock River valley and gently rising hills to the east and west; ground elevations range from approximately 10 feet AMSL to 260 feet AMSL. The tree cover within the Study Area (consisting of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately 1,004 acres of the 8,042-acre study area ($\pm 19\%$).

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 lidar¹-based digital elevation data and customized land use data layers developed specifically for this analysis. Lidar is a remote-sensing technology that develops elevation data in meters by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the returns can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," or "building." The system is also designed to capture many more data points than older radar-based systems. Thus, lidar-based digital elevation models ("DEM"s) have a much finer resolution and can also identify the different features of the landscape at the time that it was captured.

Viewshed analysis using lidar data provide a much more detailed view of the potential obstacles (especially trees and buildings), and therefore the viewshed modeling produces results with many smaller areas of visibility than those produced by using radar-based DEMs. Its precision makes lidar a superior source of data, but at present it is only available for limited areas of the state. The viewshed results are also checked against the most current aerial photographs in case significant changes (a new housing development, for example) have occurred since the time the lidar data was captured.

The lidar-based DEM created for this analysis represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the years 2007 through 2012 and has a horizontal resolution of approximately two (2) feet. In addition, multiple land use data layers were created from the Natural Resources Conservation Service (through the USDA) aerial photography (1-meter resolution, flown in 2012) using the image processing tools. Terrset develops 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, surface water and other distinct land use features.

With these data inputs, the model is then queried to determine where the top of the Facility can be seen from any point(s) within the Study Area, given the intervening existing topography and vegetation. The results of the preliminary analysis are depicted on the attached map and are intended to provide a representation of those areas where portions of the 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 the combination of intervening topography, tree canopy (year-round) and tree trunks (seasonally, when the leaves are off the deciduous

¹ Lidar (a word invented to mean "light radar") may also be referred to as LiDAR, 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.

trees), and structures. The shaded areas of predicted visibility shown on the map denote locations from within the Study Area which the proposed Facility may potentially be visible year-round (in yellow) above the tree canopy and/or seasonally, through the trees (during “leaf-off” conditions; depicted in orange). The Facility however may not necessarily be visible from all locations within those shaded areas. It is important to note that the computer model cannot account for mass density, the height, diameter and branching variability of the trees, or the degradation of views that occur with distance. In addition, each point – or pixel – represents about one square meter in area, and thus is not predicting visibility from all viewpoints through all possible obstacles. Although large portions of the predicted viewshed may theoretically offer visibility of the Facility, because of these unavoidable limitations the quality of those views may not be sufficient for the human eye to recognize the tower or discriminate it from other surrounding objects. Visibility also varies seasonally with increased, albeit obstructed, views occurring during “leaf-off” conditions. Beyond the density of woodlands found within the given Study Area, each individual tree has its own unique trunk, pole timber and branching pattern characteristics that provide varying degrees of screening in leafless conditions which cannot be precisely modeled.

Once the data layers were entered, image processing tools were applied and overlaid onto digital 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 occur within the Study Area, including the CT-blue blazed Housatonic Trail (approximately 0.5 mile northwest at its nearest point to the Site) and the East Coast Greenway, located approximately 1.8 miles to the south. 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 24, 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 90 feet above ground level (“AGL”) at the proposed Facility location. Weather conditions were favorable for the in-field activities, with calm winds (less than 5 miles per hour) and clear skies. Once the balloon was secured, APT conducted a Study Area reconnaissance by driving along the local and State roads and other 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.

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.”²

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. 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.

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. The simulations depict a monopole as well as the option for a monopine. 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 programs³.

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

² Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

³ 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.

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.

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 map provided as an attachment to this report.

View	Location	Orientation	Distance to Site	View Characteristics
1	Pennsylvania Avenue	Southeast	±0.35 Mile	Seasonal
2	Texas Avenue	Southeast	±0.24 Mile	Seasonal
3	Nelson Terrace and East Main Street	Southeast	±0.24 Mile	Seasonal
4	Alpine Street	Southeast	±0.14 Mile	Year-round
5	Foster Square	Southeast	±0.09 Mile	Year-round
6	Kingsbury Road	East	±0.08 Mile	Year-round
7	Berkeley Place	East	±0.11 Mile	Year-round
8	York Street at Horace Street	North	±0.12 Mile	Year-round
9	Asylum Street	West	±0.25 Mile	Seasonal
10	Goddard Avenue	North	±0.20 Mile	Year-round
11	Horace Street at Kent Street	North	±0.23 Mile	Year-round
12	Lakeview Cemetery	Northeast	±1.35 Miles	Not Visible

Visibility Analysis Results

Results of this analysis are graphically displayed on the viewshed map provided in the attachment at the end of this report. Areas from where the proposed Facility would be visible year-round comprise a total of approximately 41 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 40± additional acres.

In general, year-round views of portions of the Facility appear limited to the Property and its immediate vicinity (within ±0.25 mile). Near-range views (within ± 0.10 mile) of the proposed Facility offer an opportunity to see a majority of the length of the monopole. With few exceptions, views from distances beyond ± 0.10 mile are limited to upper portions of the monopole.

No views would extend portions of either the Housatonic Trail (approximately or the East Coast Greenway).

The overall visibility of the proposed Facility is the results of a combination of the relatively short height of the tower and the urban nature of the Study Area, which is dominated by multi-story structures and existing utility infrastructure.

Proximity to Schools And Commercial Child Day Care Centers

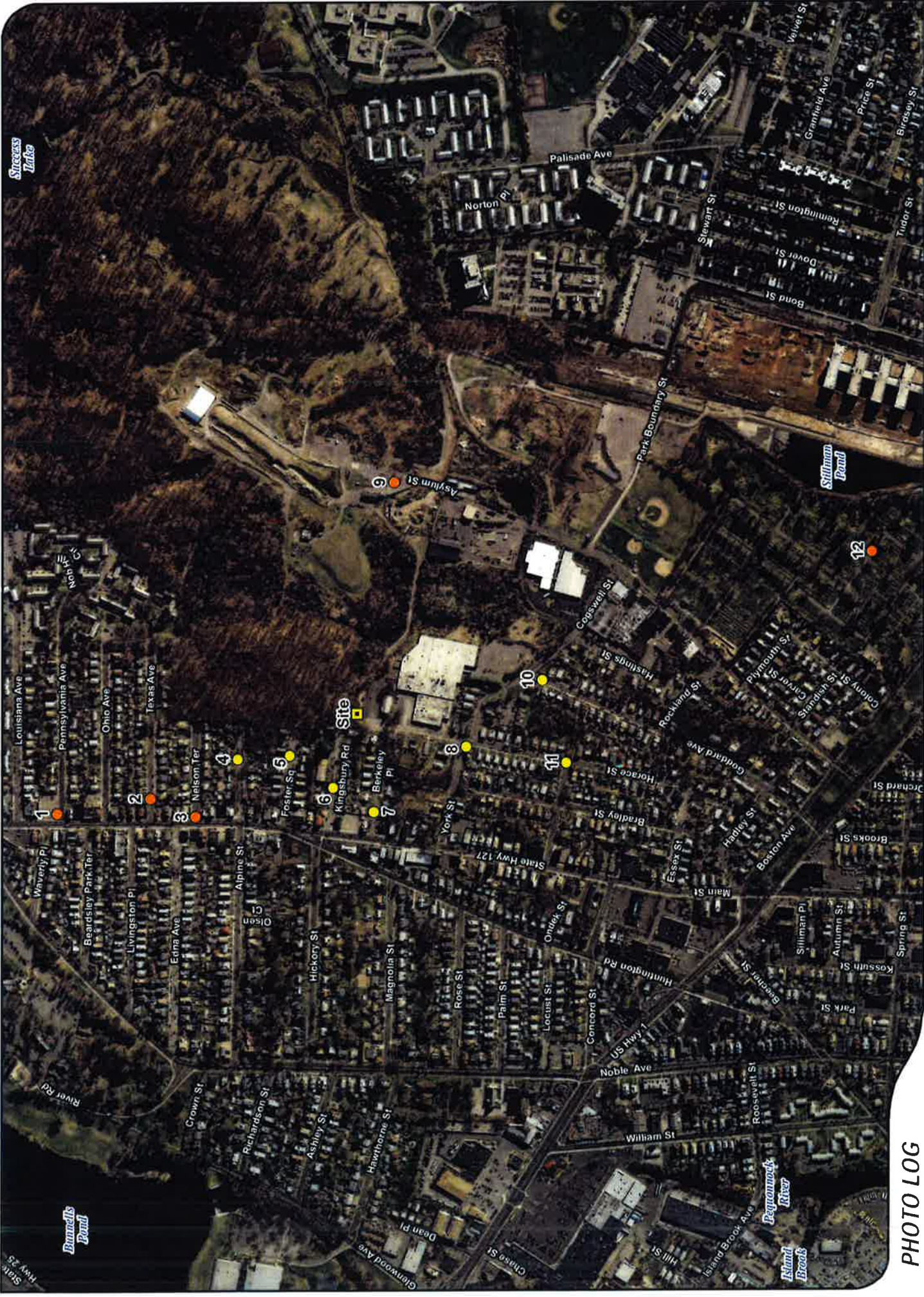
No schools or commercial child day care centers are located within 250 feet of the Property. The nearest school (Beardsley School) is located at 2010 East Main Street, nearly 0.5 mile to the southwest. The nearest commercial child day care center (Heavenly Blessings Christian Academy) is located approximately 0.25 mile to the southwest. No views of the Facility are anticipated from either of these locations.

LIMITATIONS

The viewshed map presented in the attachment to this report depicts 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



Legend

- Site
- Seasonal Visibility
- Year Round Visibility



PHOTO LOG



EXISTING

PHOTO

1

LOCATION

PENNSYLVANIA AVENUE

ORIENTATION

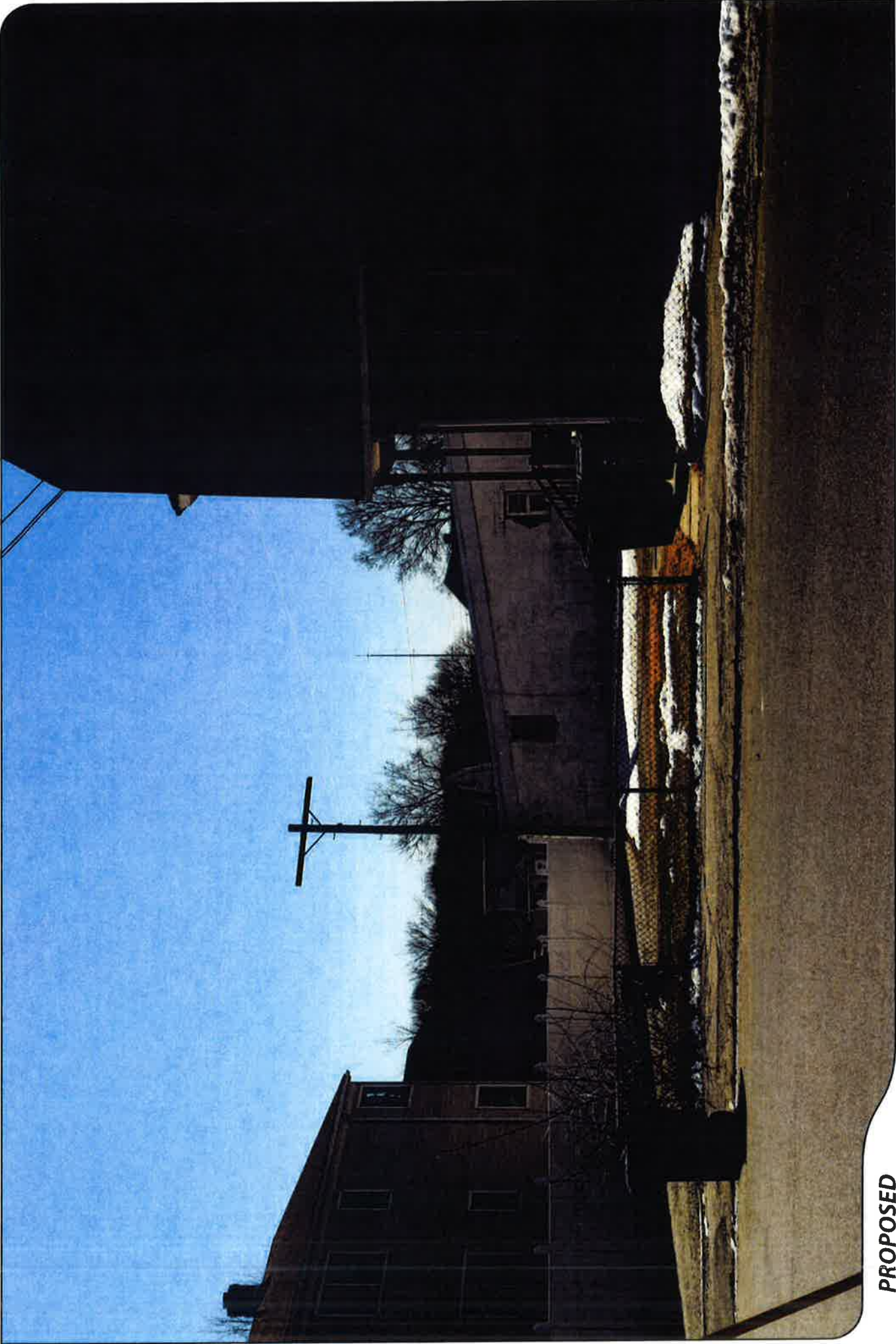
SOUTHEAST

DISTANCE TO SITE

+/- 0.35 MILE

VISIBILITY

SEASONAL



PROPOSED

PHOTO

1

LOCATION

PENNSYLVANIA AVENUE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.35 MILE

VISIBILITY

SEASONAL



EXISTING

PHOTO

2

LOCATION

TEXAS AVENUE

ORIENTATION

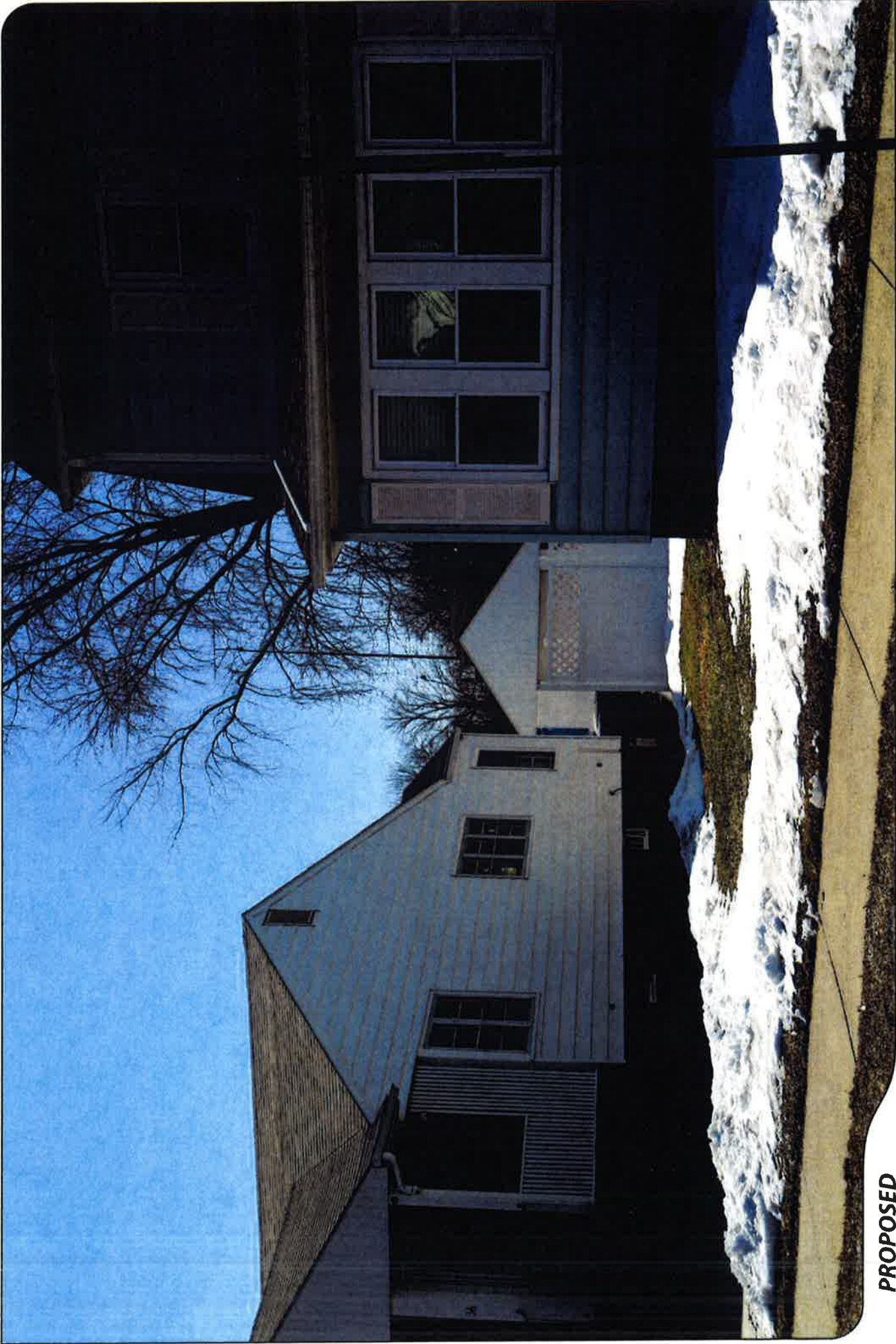
SOUTHEAST

DISTANCE TO SITE

+/- 0.24 MILE

VISIBILITY

SEASONAL



PROPOSED

PHOTO

2

LOCATION

TEXAS AVENUE

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.24 MILE

VISIBILITY

SEASONAL



EXISTING

PHOTO
3

LOCATION
NELSON TERRACE AT EAST MAIN STREET

ORIENTATION
SOUTHEAST

DISTANCE TO SITE
+/- 0.24 MILE

VISIBILITY
SEASONAL



PROPOSED

PHOTO

3

LOCATION

NELSON TERRACE AT EAST MAIN STREET

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.24 MILE

VISIBILITY

SEASONAL



EXISTING

PHOTO

4

LOCATION

ALPINE STREET

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.14 MILE

VISIBILITY

YEAR ROUND



PROPOSED

PHOTO

4

LOCATION

ALPINE STREET

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.14 MILE

VISIBILITY

YEAR ROUND



EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	FOSTER SQUARE	SOUTHEAST	+/- 0.09 MILE	YEAR ROUND



PROPOSED

PHOTO

5

LOCATION

FOSTER SQUARE

ORIENTATION

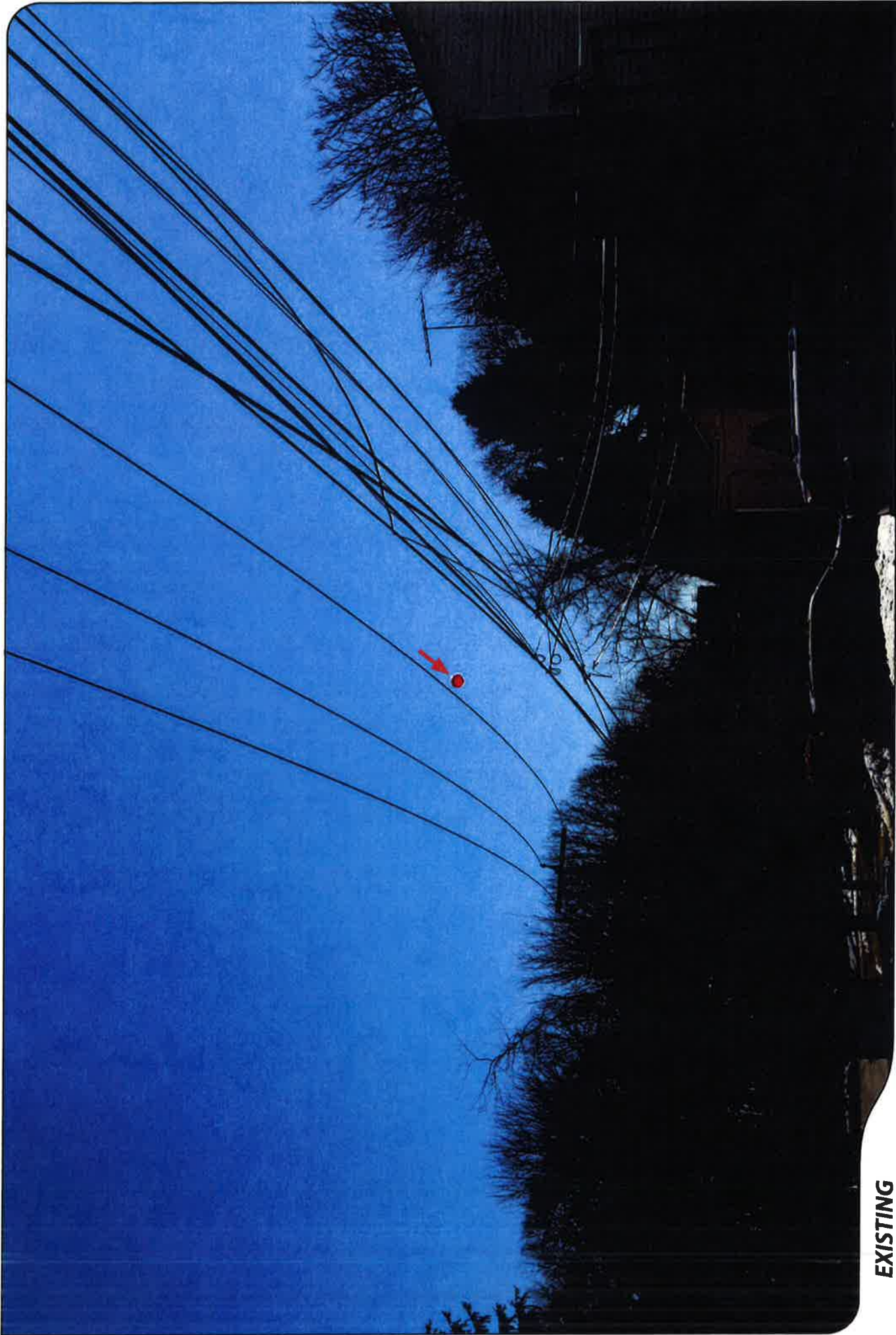
SOUTHEAST

DISTANCE TO SITE

+/- 0.09 MILE

VISIBILITY

YEAR ROUND



EXISTING

PHOTO

6

LOCATION

KINGSBURY ROAD

ORIENTATION

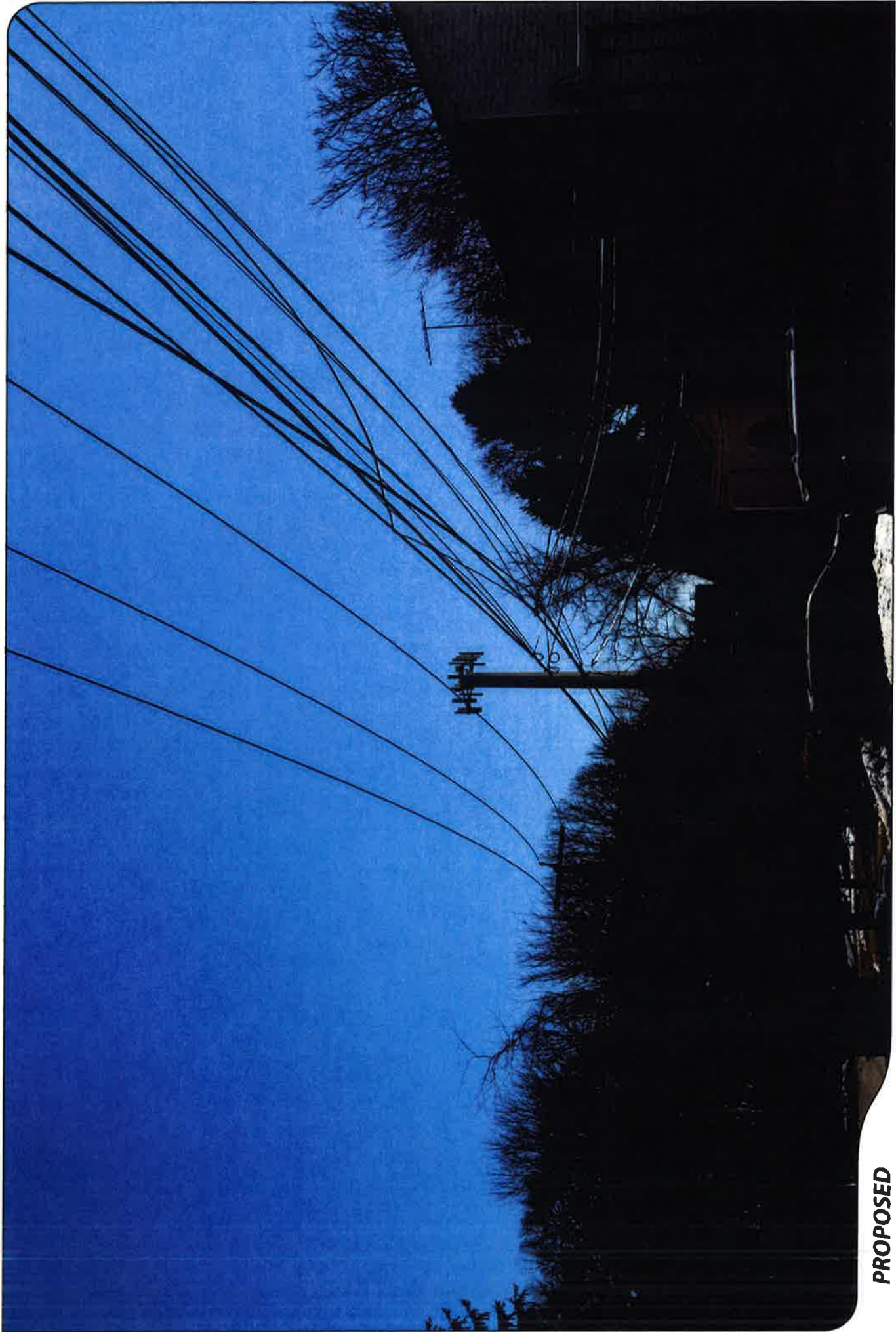
EAST

DISTANCE TO SITE

+/- 0.08 MILE

VISIBILITY

YEAR ROUND



PROPOSED

PHOTO

6

LOCATION

KINGSBURY ROAD

ORIENTATION

EAST

DISTANCE TO SITE

+/- 0.08 MILE

VISIBILITY

YEAR ROUND



EXISTING

PHOTO

7

LOCATION

BERKELEY PLACE

ORIENTATION

EAST

DISTANCE TO SITE

+/- 0.11 MILE

VISIBILITY

YEAR ROUND



PROPOSED

PHOTO

7

LOCATION

BERKELEY PLACE

ORIENTATION

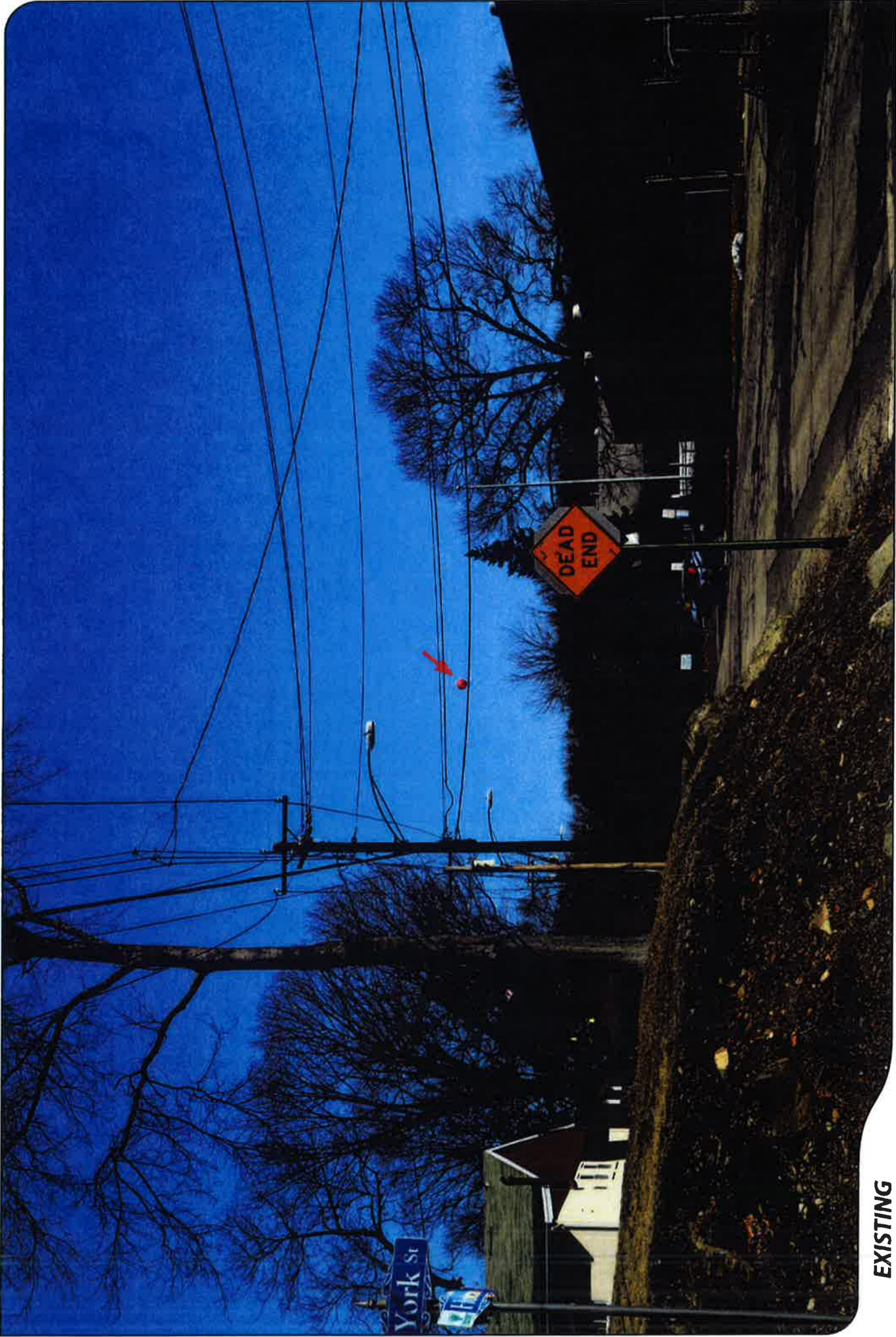
EAST

DISTANCE TO SITE

+/- 0.11 MILE

VISIBILITY

YEAR ROUND



EXISTING

PHOTO

8

LOCATION

YORK STREET AT HORACE STREET

ORIENTATION

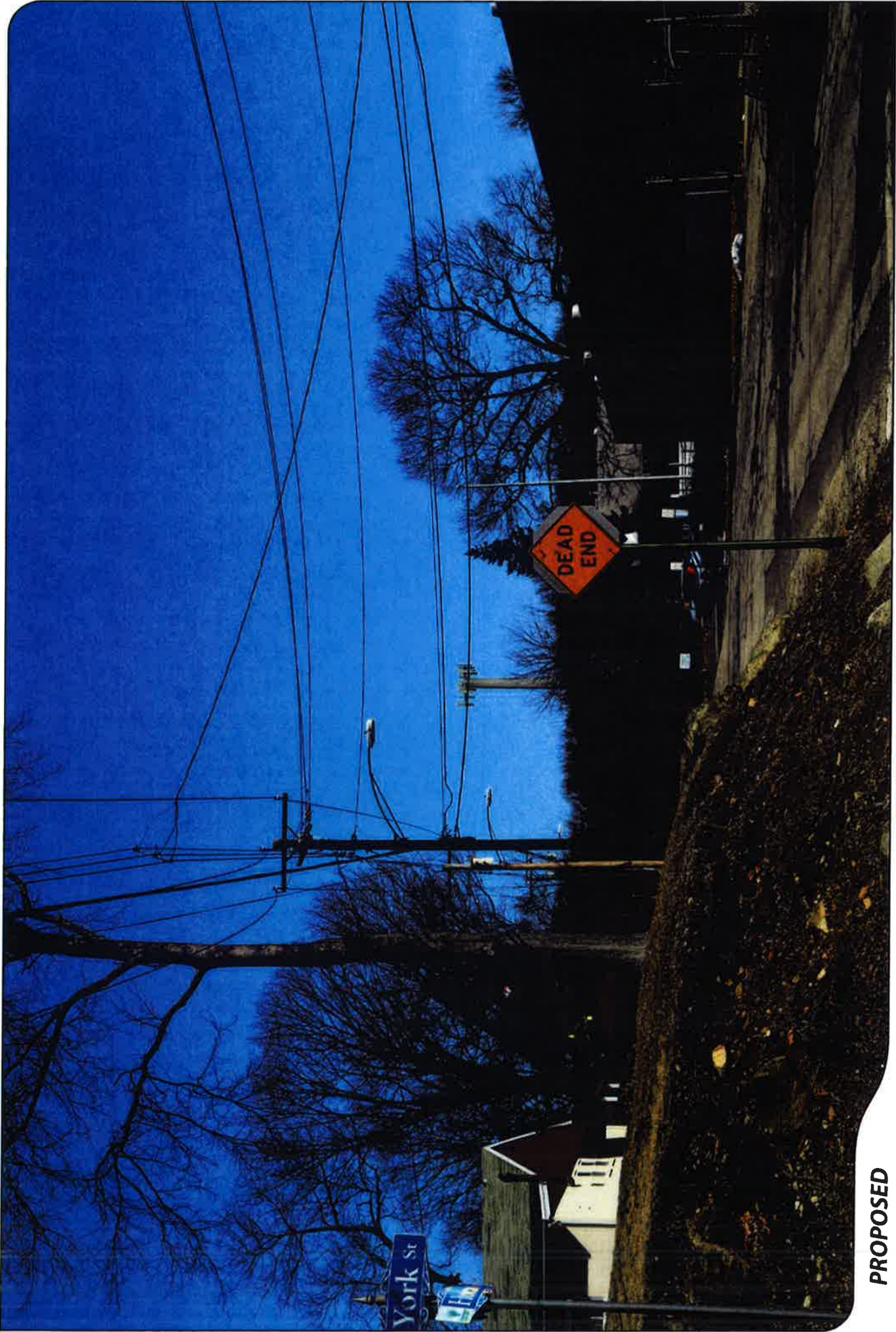
NORTH

DISTANCE TO SITE

+/- 0.12 MILE

VISIBILITY

YEAR ROUND



PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	YORK STREET AT HORACE STREET	NORTH	+/- 0.12 MILE	YEAR ROUND



EXISTING

PHOTO

9

LOCATION

ASYLUM STREET

ORIENTATION

WEST

DISTANCE TO SITE

+/- 0.25 MILE

VISIBILITY

SEASONAL



PROPOSED

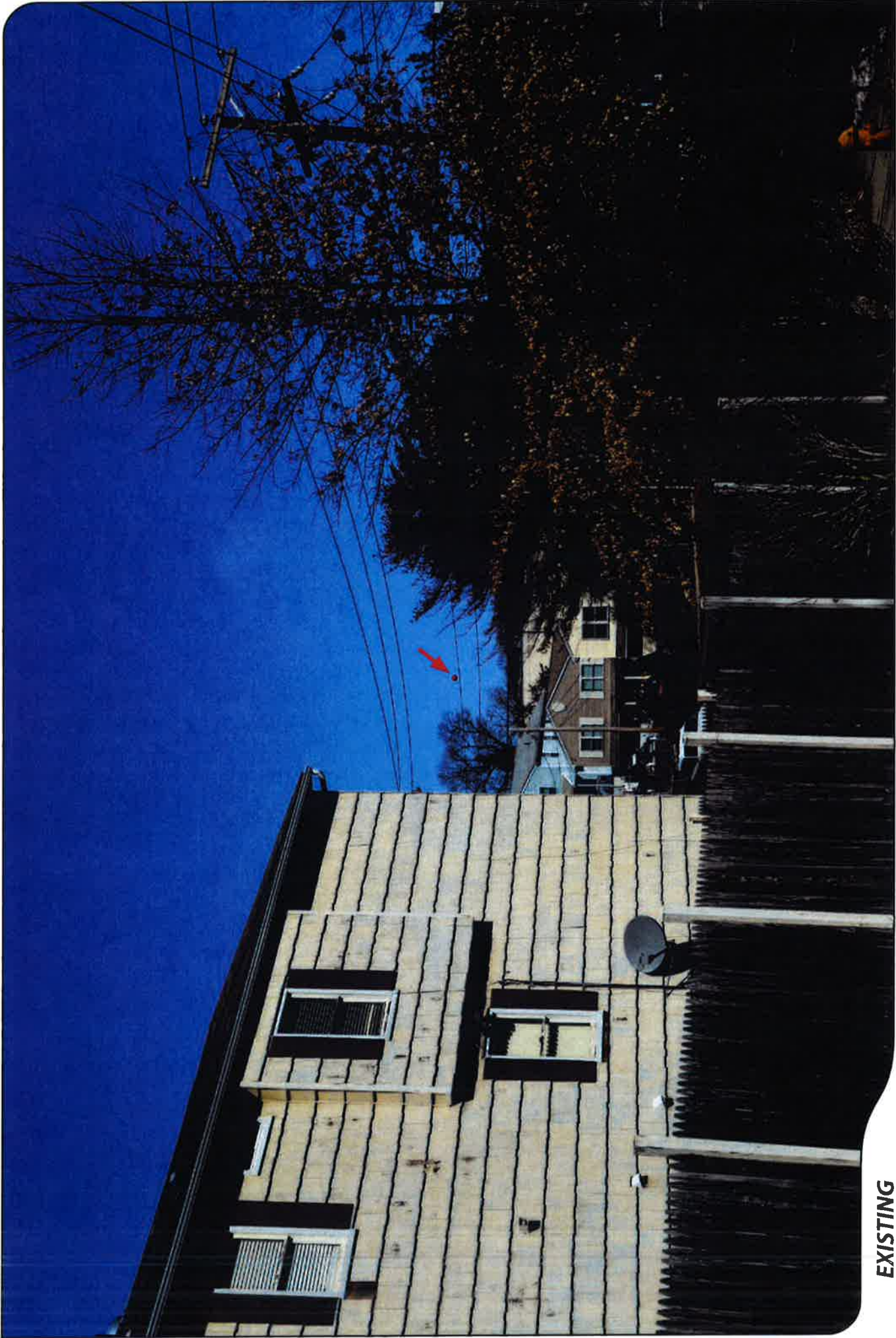
PHOTO
9

LOCATION
ASYLUM STREET

ORIENTATION
WEST

DISTANCE TO SITE
+/- 0.25 MILE

VISIBILITY
SEASONAL



EXISTING

PHOTO

10

LOCATION

GODDARD AVENUE

ORIENTATION

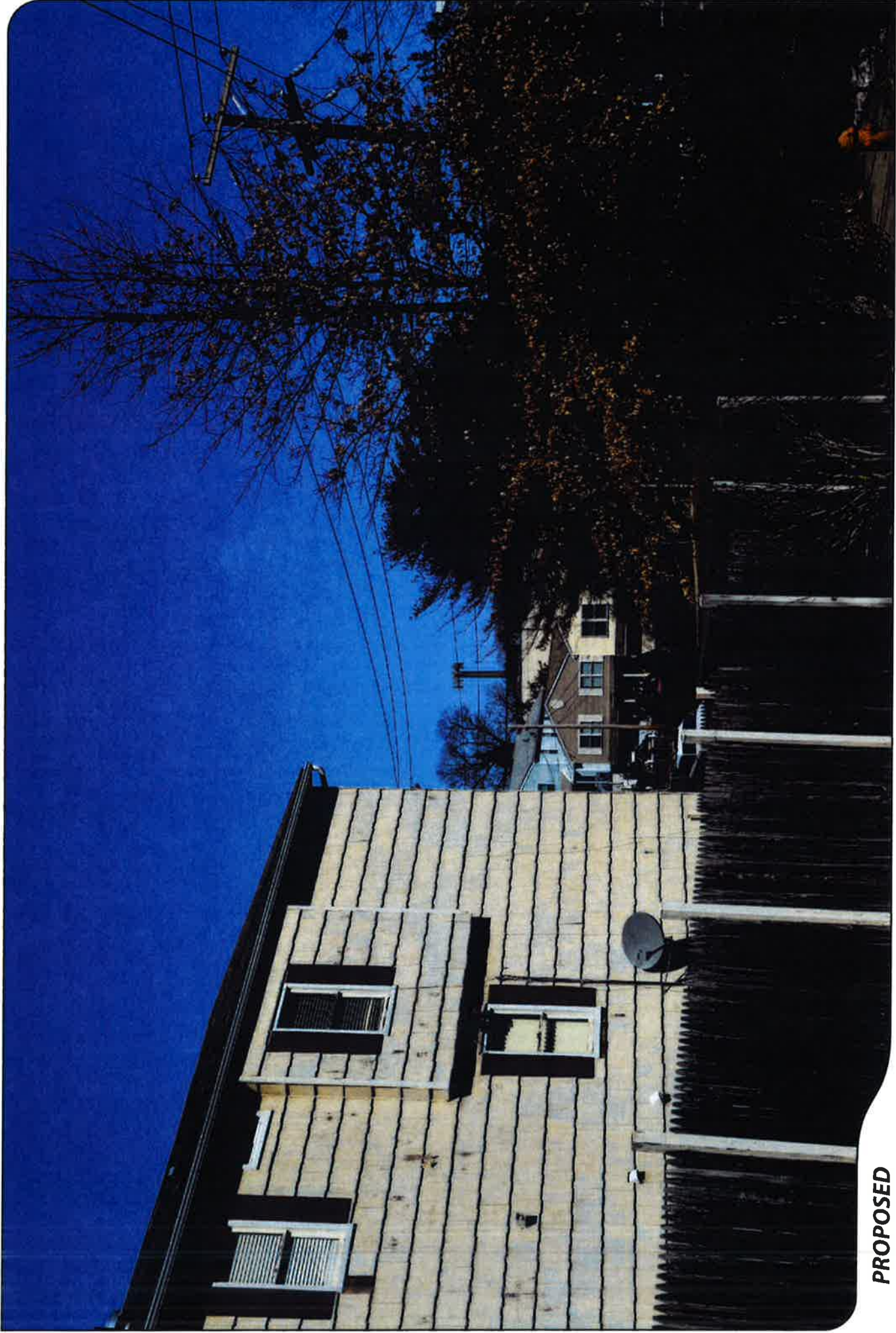
NORTH

DISTANCE TO SITE

+/- 0.20 MILE

VISIBILITY

YEAR ROUND



PROPOSED

PHOTO

10

LOCATION

GODDARD AVENUE

ORIENTATION

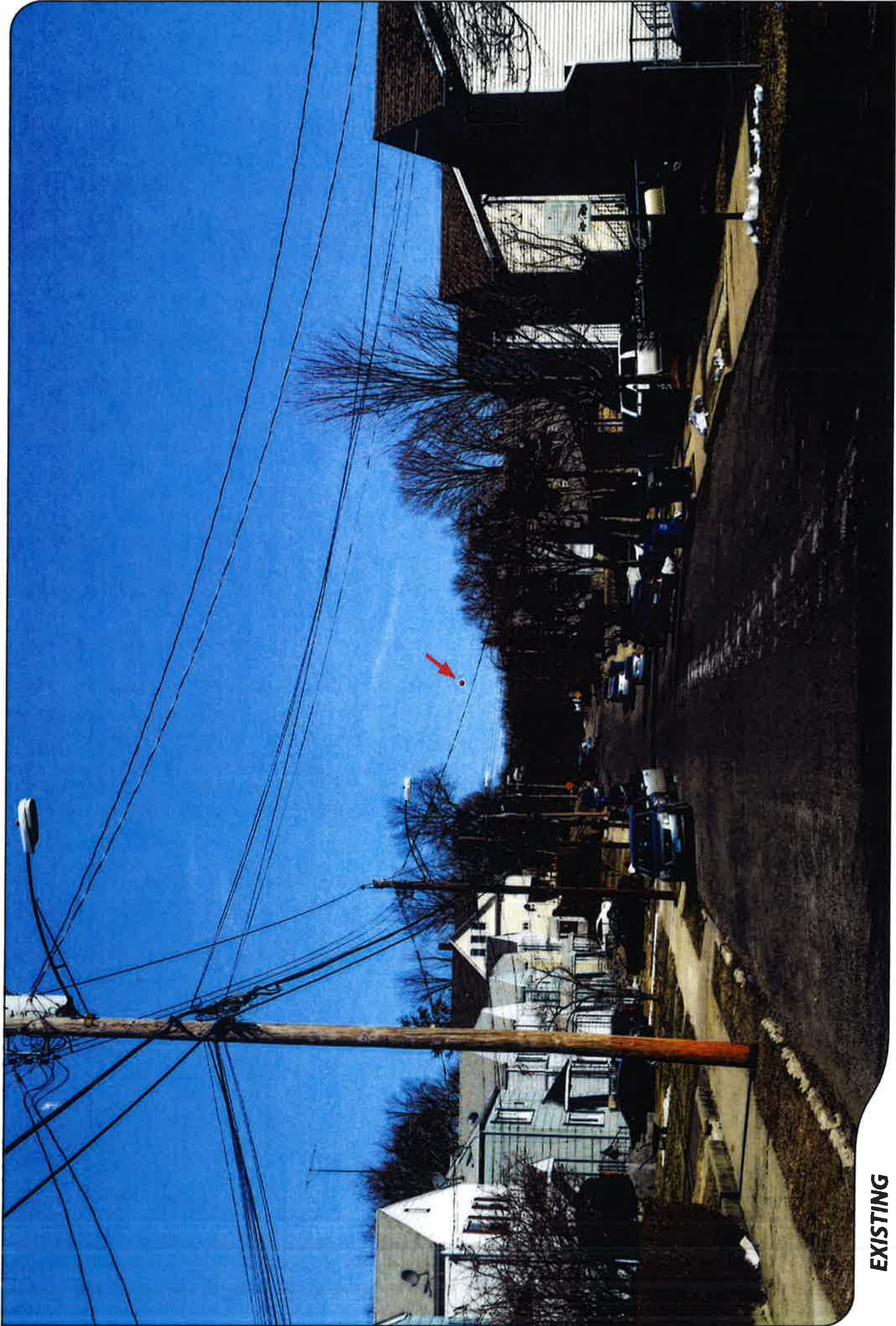
NORTH

DISTANCE TO SITE

+/- 0.20 MILE

VISIBILITY

YEAR ROUND



EXISTING

PHOTO
11

LOCATION
HORACE STREET AT KENT STREET

ORIENTATION
NORTH

DISTANCE TO SITE
+/- 0.23 MILE

VISIBILITY
YEAR ROUND



PROPOSED

PHOTO

11

LOCATION

HORACE STREET AT KENT STREET

ORIENTATION

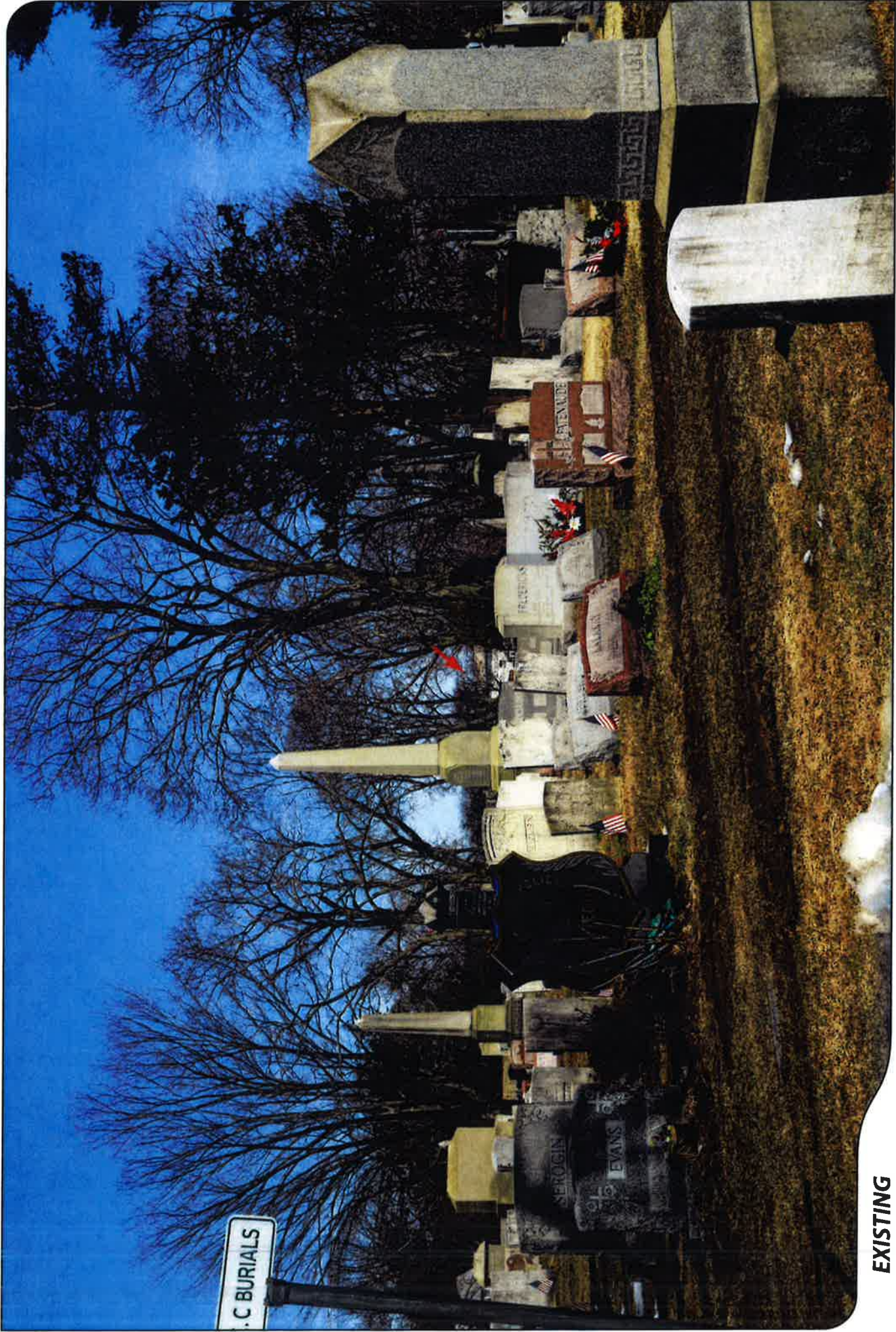
NORTH

DISTANCE TO SITE

+/- 0.23 MILE

VISIBILITY

YEAR ROUND



EXISTING

PHOTO

12

LOCATION

LAKEVIEW CEMETERY

ORIENTATION

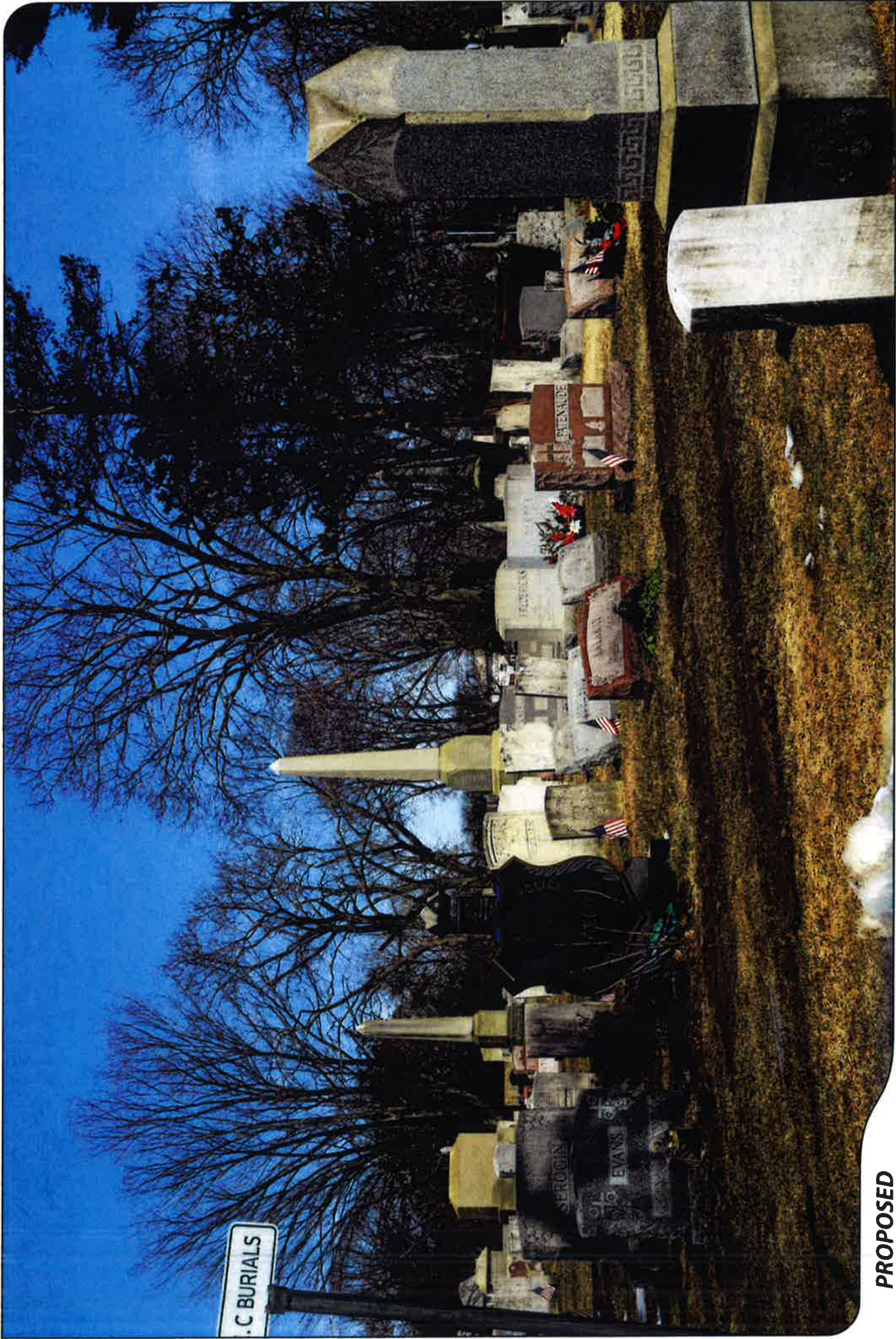
NORTHWEST

DISTANCE TO SITE

+/- 0.57 MILE

VISIBILITY

SEASONAL



PROPOSED

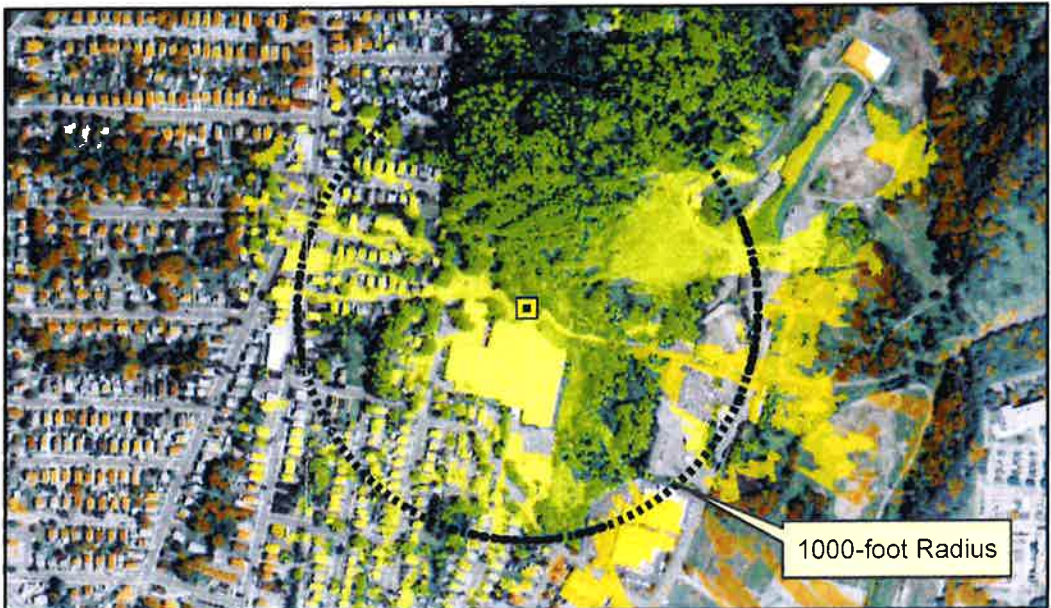
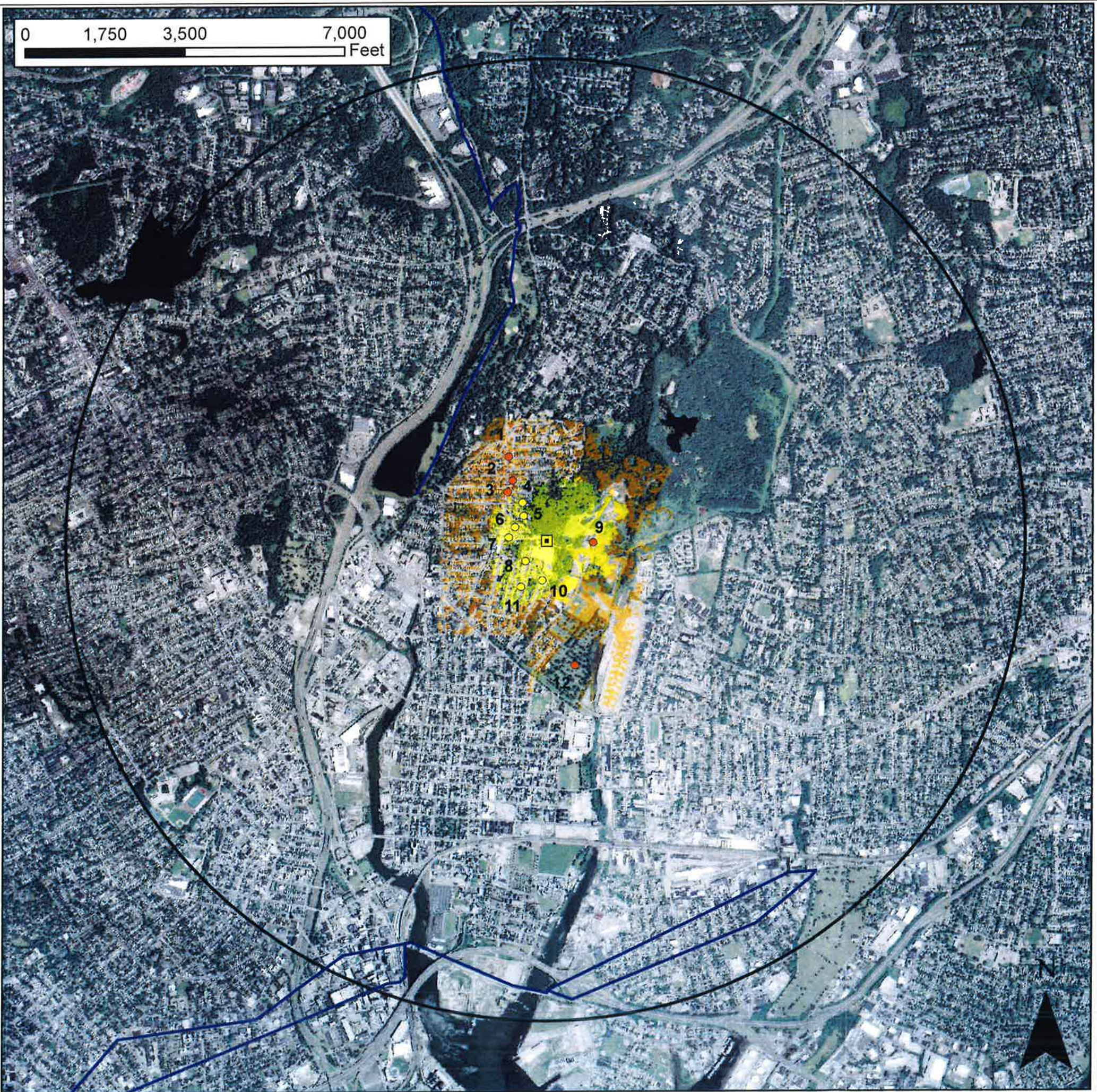
PHOTO
12

LOCATION
LAKEVIEW CEMETERY

ORIENTATION
NORTHWEST

DISTANCE TO SITE
+/- 0.57 MILE

VISIBILITY
SEASONAL



Viewshed Map – Aerial Base

Proposed Wireless Telecommunications Facility
380 Horace Street, Bridgeport, CT

Proposed facility height is 90 feet AGL.
Forest canopy height is derived from LiDAR data.
Study area encompasses a two-mile radius and
includes 8,042 acres of land.

Map compiled 5/11/2015

Map information field verified by APT on 3/24/2015.

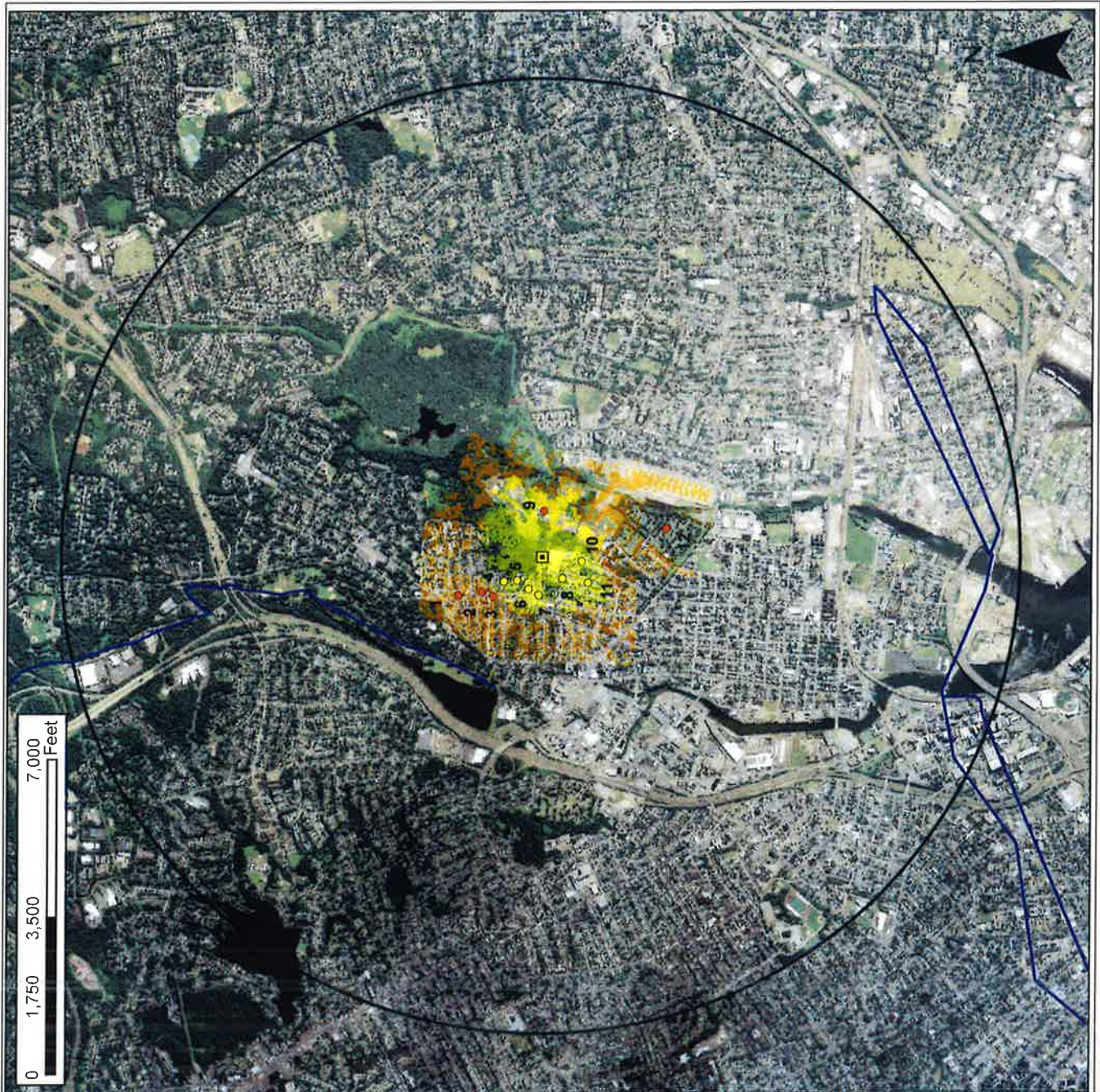
Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower
- Photo Locations**
- Seasonal Views
- Year-round Views
- Trails
- Predicted Seasonal Visibility (40 Acres)
- Predicted Year-Round Visibility (41 Acres)
- Towns
- 2-Mile Study Area



Location



Viewshed Map – Aerial Base

Proposed Wireless Telecommunications Facility
 380 Horace Street, Bridgeport, CT

Proposed facility height is 90 feet AGL.
 Forest canopy height is derived from LIDAR data.
 Study area encompasses a two-mile radius and includes 8,042 acres of land.

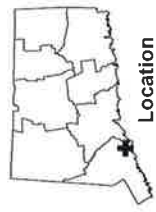
Map compiled 5/11/2015

Map information field verified by APT on 3/24/2015.

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
- Seasonal Views
- Year-round Views
- Trails
- Predicted Seasonal Visibility (40 Acres)
- Predicted Year-Round Visibility (41 Acres)
- Towns
- 2-Mile Study Area



DOCUMENTATION

SOURCES CONSULTED FOR VIEWSHED MAPS

380 Horace Street
Bridgeport, Connecticut

Physical Geography / Background Data

- Digital elevation model (DEM) derived from 0.64-meter USGS lidar data obtained from NOAA
- Forest areas are generated with TerrSet (Clark University) image processing from the lidar data and 2012 NRCS/NAIP digital orthophotos with 1-foot pixel resolution
- Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP and the towns

United States Geological Survey

*USGS topographic quadrangle maps – Bridgeport (1984)

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 & West –

The Guide to the Blue-Blazed Hiking Trails of Eastern Connecticut Western 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

Viewshed analysis conducted using Clark University's TerrSet. 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, tree canopy and structures. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating the lidar DEM, 2012 digital 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

General Power Density

Site Name: BRIDGEPORT EAST, CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW PCS	1970	1	1186	1186	90	0.0527	1.0	5.27%
VZW Cellular	869	9	331	2979	90	0.1323	0.5793333333	22.83%
VZW AWS	2145	1	1750	1750	90	0.0777	1.0	7.77%
VZW 700	746	1	499	499	90	0.0222	0.4973333333	4.45%
Total Percentage of Maximum Permissible Exposure								40.32%

*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/cm² = milliwatts per square centimeter
 ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 5

Cellco Partnership d/b/a Verizon Wireless
380 Horace Street
Bridgeport, Connecticut

Bridgeport East 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 central Bridgeport 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 located in densely populated 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 Bridgeport East Facility

Cellco currently maintains five (5) wireless telecommunications facilities within approximately 1.5 miles of the proposed Bridgeport East Facility. These facilities include: North Bridgeport 2, a roof-top facility at 120 Huntington Turnpike in Bridgeport; Stratford West, a tower at 23 Stonybrook Road in Stratford; East Bridgeport Relo, a roof-top facility at 267 Grant Street in Bridgeport; Bridgeport Washington Park, a roof-top facility at 480 Barnum Street in Bridgeport; and Bridgeport, antennas inside a church steeple at 2012 Main Street in Bridgeport.

These proposed Bridgeport East Facility will provide much-needed capacity relief to Cellco's existing East Bridgeport cell site (Alpha and Gamma sector antennas), Bridgeport Washington Park (Alpha sector antennas) and North Bridgeport 2 (Gamma sector antennas). Each of these sites is currently operating beyond their capacity limits, resulting in a significant reduction in reliable wireless service in the area.

Identification of the Bridgeport East Search Area

The purpose of the proposed Bridgeport East Facility is to provide some coverage relief at 1900 MHz and 2100 MHz frequencies and additional network capacity along portions of Routes 1, 8 and 127 in the area, and to the surrounding industrial, commercial and residential land uses in central Bridgeport. (See attached Search Area Maps).

Sites Investigated

Cellco investigated two alternative site locations in central Bridgeport. A listing of the sites investigated is provided below.

1. **380 Horace Street, Bridgeport, CT:** Cellco entered into a lease agreement with the owner for this parcel for the Bridgeport East Facility.
2. **475 Asylum Street, Bridgeport, CT:** This parcel, the former City of Bridgeport land fill, was considered and rejected.