



NEW CINGULAR WIRELESS PCS, LLC ("AT&T")

and

ARX WIRELESS INFRASTRUCTURE, LLC

**TECHNICAL REPORT
PROPOSED WIRELESS TELECOMMUNICATION FACILITY**

**64 PERSHING DRIVE
ANSONIA, CT 06401**

**NEW CINGULAR WIRELESS PCS, LLC
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MERIDEN, CT 06450**

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Introduction

New Cingular Wireless PCS, LLC ("AT&T") and Arx Wireless Infrastructure, LLC ("ARX") submit this Technical Report to the City of Ansonia ("City" or "Ansonia"), and to the City of Derby, pursuant to Connecticut General Statutes §16-50l. AT&T and ARX (collectively the "Applicants") propose to install a wireless telecommunications facility (the "Facility") on an approximately 0.39+- acre parcel located at 64 Pershing Drive, Ansonia, Connecticut, and owned by Kelly Nguyen (the "Property" or the "Site"). The Facility would consist of a 120' monopole structure (not to exceed 120' with antennas) within a fenced equipment compound (within an 1,800 square-foot leased area). The tower would accommodate the antenna arrays of AT&T, and three future wireless carriers. If approved, the Facility would provide enhanced wireless communications and improved 911 service in this area of Ansonia.

The purpose of this Technical Report is to provide the City with information concerning the Facility. Section 1 addresses the need for the proposed Facility. Section 2 details the site selection process, including an analysis of other sites considered and rejected by ARX. Section 3 describes the Site, the design of the Facility, and the environmental effects, if any, associated with the Facility.

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SECTION 1

Site Justification

The proposed Facility is necessary to allow AT&T to provide wireless service in this area of the City. AT&T is licensed by the Federal Communications Commission ("FCC") to provide wireless communication service throughout the State of Connecticut, including New Haven County. AT&T's FCC license requires the construction and build-out of its wireless networks within its federally licensed service areas, which includes the City of Ansonia.

There is a significant coverage deficiency in the existing AT&T wireless communications network along Pershing Drive and Division Street as well as other roads in the area and in the vicinity of the Site. A deficiency in coverage is evidenced by the inability to adequately and reliably transmit/receive quality calls and/or utilize data services offered by the network. Seamless reliable coverage provides users with the ability to successfully originate, receive, and maintain quality calls and data applications throughout a service area. Appropriate overlapping coverage is required for users to be able to move throughout the service area and reliably "hand-off" between cells to maintain uninterrupted connections. Analysis of the propagation modeling in Ansonia reveals that AT&T's network is unreliable throughout much of the area due to gaps in coverage, and that there is a service deficiency as a result. See *attached Radio Frequency Analysis Report prepared by C Squared Systems, LLC dated August 19, 2024 ("RF Report")*.

The proposed 120' monopole at 64 Pershing Drive, Ansonia, Connecticut, will allow AT&T to fill the coverage gaps and improve network reliability in Ansonia if it is permitted to locate antennas at a centerline height of 116' (AGL). With the development of the proposed Facility, residential and commercial customers would have reliable coverage for their voice and data needs as well as reliable coverage for E-911 services.

In addition to providing reliable wireless services, AT&T will enhance public safety by deploying FirstNet services from the proposed Facility. FirstNet is a federal agency with a mandate to create a nationwide, interoperable public safety broadband network for first responders. FirstNet selected AT&T to build, manage and operate the FirstNet network. By deploying FirstNet at this Facility, AT&T will provide prioritized, preemptive wireless services for first responders in this area of Ansonia.

The attached Statement of Need is comprised of an *RF Report* containing AT&T propagation plots that depict (1) coverage from existing and approved surrounding sites, and (2) coverage from the proposed Site in conjunction with existing and approved sites. Additional statistics regarding the overall area, population and roadway miles of expanded coverage in the community are included in the *RF Report*. See *attached RF Report*. The propagation plots contained in the *RF Report* demonstrate AT&T's need for a site in the area of the proposed Facility, and the effectiveness of the proposed Facility in meeting the need for wireless service in this area of Ansonia. No other existing structures were

identified and available that would be able to satisfy the coverage requirements needed for this area.

SECTION 2

Site Search Process and Selection

Connecticut General Statutes § 16-50¹ requires the Applicants to provide the City with a technical report considering, *inter alia*, “the site selection process.” When filing its application for a certificate of environmental compatibility and public need with the Connecticut Siting Council, the Applicants must include a statement that describes “the narrowing process by which other possible sites were considered and eliminated.” Regs., Conn. State Agencies § 16-50j-74(j). In accordance with these requirements, this Technical Report details the description of the general site search process, the identification of the target search area, and the alternative locations considered for development of the proposed Facility.

As a tower infrastructure provider, ARX is in direct consultation with individual carriers and uses its overall knowledge and understanding of existing wireless carrier networks to identify geographical areas where wireless service is unreliable. ARX only pursues a site search for a new tower when it is clear that a new tower facility will be required, and all other options have been evaluated and/or exhausted. When conducting a site search, ARX, in consultation with the appropriate wireless carrier radio frequency engineers, identifies search areas central to the necessary geographical coverage area. In this case, AT&T identified a need for wireless coverage in this area of Ansonia. AT&T will be a co-applicant with ARX.

ARX is sensitive to State and local desires to minimize the construction of new towers, and it does not pursue development of a new facility where an acceptable existing structure can be found. In general, ARX’s site acquisition personnel study the area in and near the search area to determine whether any suitable structure exists. If ARX cannot find a structure with appropriate height and structural capabilities, it turns to individual parcels that have appropriate environmental and land use characteristics. The list of potential locations is limited by the willingness of property owners to make their properties available for a telecommunications facility. Radio frequency engineers study potentially suitable and available locations to determine whether those locations will meet the technical requirements for a telecommunications facility. The list of possible alternative sites may be further narrowed by ARX’s analysis of potential environmental effects and benefits. The weight given to relevant factors varies for each search, depending on the nature of the area and the availability of potential sites.

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 Ansonia are provided below.

Site Search Process

A site search ring is selected in an area where wireless service problems have been identified. In any search ring or search area, ARX 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 a carrier's telecommunications antennas and related equipment at a location and elevation that satisfies its technical requirements. See *attached Existing Towers Package Within 4-Mile Radius prepared by Virtual Site Simulations, LLC dated September 17, 2024*.

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 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.

ARX identified and investigated eighteen (18) sites in and around the Ansonia site search area where the construction of a new tower might be feasible for radio frequency engineering purposes. The description of the individual sites investigated is set forth below. Where applicable, the reason for eliminating the property is also included. See *attached Site Search Summary and Rejected Sites Map prepared by Virtual Site Simulations, LLC*.

Sites Investigated

1. 64 Pershing Drive, Ansonia, CT

Owner: Kelly Nguyen

Map Lot and Block: 029/0005/000C

Book 546, Page 121

Zone: C

Property Size: 0.39 acres

This location is the Property on which the Applicants propose to construct the Facility. The Applicants determined that the Property is a viable location, both from an RF perspective and because the owner has agreed to lease the Property to ARX for the Facility. The proposed Facility location is in an undeveloped area on the northeastern edge of the Property to the rear of a car wash.

2. 62 Pershing Drive, Ansonia, CT

Owner: Khanh Tran

Map Lot and Block: 29/0005/000A

Book 572, Page 499

Zone: C

Property Size: 0.29 acres

This site is owned by the spouse of the owner of 64 Pershing Drive. ARX maintains an easement over this property for purposes of access to 64 Pershing Drive.

3. 66 Pershing Drive, Ansonia, CT

Owners: Joseph M. Brown and Joseph E. Brown, Sr.

Map Lot and Block: 029/0005/00B

Book 491, Page 317

Zone: C

Property Size: 0.39 acres

This property consists of a used car lot and commercial building which together occupy the entirety of the site. Accordingly, there is insufficient space on this lot for a cell tower.

4. 44 Pershing Drive, Ansonia, CT

Owner: Johnboy, LLC

Map Lot and Block: 029/0007/0000

Book 601, Page 184

Zone: C

Property Size: 0.14 acres

There is insufficient space on this lot for a cell tower.

5. 24 Pershing Drive, Ansonia, CT

Owners: Ansonia BK, LLC

Map Lot and Block: 029/0007/0000

Book 536, Page 1187

Zone: C

Property Size: 2.05 acres

This site was rejected due to a lack of interest from the owner.

6. 20 Pershing Drive, Ansonia, CT

Owner: Ansonia BK, LLC

Map Lot and Block: 025/0091/0001

Book 536, Page 1187

Zone: C

Property Size: 2.05 acres

This site was rejected due to a lack of interest from the owner.

7. 5 Pershing Drive, Ansonia, CT

Owner: Obsidian ML 4, LLC

Map Lot and Block: 026/0001/0000

Book 613, Page 446

Zone: C

Property Size: 0.9 acres

There is insufficient space on this lot for a cell tower.

8. 19 Pershing Drive, Ansonia, CT

Owner: Cumberland Farms, LLC

Map Lot and Block: 025/0089/0000

Book 520, Page 12

Zone: C

Property Size: 0.14 acres

There is insufficient space on this lot for a cell tower.

9. 161 O'Neill's Court, Ansonia, CT

Owner: Antonio Spadaro

Map Lot and Block: 025/0066/000

Book 563, Page 661

Zone: C

Property Size: 0.52 acres

This site was rejected due to a lack of interest from the owner.

10. 20 Pershing Drive, Ansonia, CT

Owner: 39 Pershing Associates, LLC

Map Lot and Block: 025/075/0000

Book 402, Page 860

Zone: C

Property Size: 0.9 acres

This site was rejected due to a lack of interest from the owner.

11. 47 Pershing Drive, Ansonia, CT

Owner: SACHDEVA, LLC

Map Lot and Block: 025/074/0000

Book 547, Page 42

Zone: C

Property Size: 0.14 acres

There is insufficient space on this lot for a cell tower.

12. 10 Hershey Drive, Ansonia, CT

Owner: Mueller Streamline Company

Map Lot and Block: 028/0002/0001

Book 411, Page 588

Zone: HI

Property Size: 4.96 acres

This site was rejected due to a lack of interest from the owner.

13. 100 Division Street, Ansonia, CT

Owner: RGMZ Ansonia Landing, LLC

Map Lot and Block: 026 0002 0006

Book 613, Page 168

Zone: C

Property Size: 6.62 acres

This site was rejected due to a lack of interest from the owner.

14. 40 Division Street, Derby, CT

Owner: 40 Division Street, LLC

Map Lot and Block: 7-12-16B

Book 650, Page 325

Zone: B-1

Property Size: 1.52 acres

This site was rejected due to a lack of interest from the owner.

15. 36 Division Street, Derby, CT

Owner: GKAP, LLC

Map Lot and Block: 7-12-16A

Book 711, Page 271

Zone: B-1

Property Size: 0.6 acres

This site was rejected due to a lack of interest from the owner.

16. 56 Division Street, Derby, CT

Owner: Monro Muffler Brake, Inc.

Map Lot and Block: 007-12-16

Book 251, Page 34

Zone: B-1

Property Size: 0.92 acres

This site was rejected due to a lack of interest from the owner.

17. 40 Pershing Drive, Derby, CT

Red Raider Derby, LLC

Map Lot and Block: 007-10 & 12-17

Book 728, Page 33

Zone: B-1

Property Size: 4.63 acres

This site was rejected due to a lack of interest from the owner.

18. 7 Pershing Drive, Derby, CT

Talmadge Street Associates, LLC

Map Lot and Block: 007-12-19

Book 655, Page 119

Zone: B-1

Property Size: 0.98 acres

This site was rejected due to a lack of interest from the owner.

SECTION 3
PROPOSED SITE AND FACILITY

**64 Pershing Drive,
Ansonia, Connecticut, CT 06401**

Map Block & Lot 029-0005-000C
0.39+/- Acres

GENERAL SITE AND FACILITY DESCRIPTION

The Site is an approximately 0.39+/- acre parcel, within a commercial area, with a designated land use as "C" (Central Commercial District). The proposed Facility location is in an undeveloped area on the northeastern edge of the Property to the rear of a car wash. The spouse of the owner of the Property also owns the abutting property to the north, on which an automotive repair shop is operated. Railroad tracks are situated to the east of the Property, and a retail store is situated to the south.

The Applicants are proposing to construct a telecommunications facility consisting of a 120' monopole with AT&T equipment and antennas, situated within a fenced equipment compound within an 1,800 square foot leased area. The Site is accessed from Pershing Drive, across 62 Pershing Drive (which is owned by Khanh Tran, the husband of the owner of the Site), onto 64 Pershing Drive. A 25'-wide easement originating off Pershing Drive would provide the Site with underground utilities and vehicular access. The vehicular access would be over an existing parking lot. The antennas affixed to the top of the monopole will consist of AT&T panel antennas, mounted in three sectors, at a centerline height of 116'. AT&T's Ground Mounted Equipment will consist of a 74" tall, 102" wide by 54" deep walk-up enclosure for radio equipment, along and a 20 kW diesel backup generator.

The Facility is designed for future shared use by other FCC licensed wireless carriers.

SITE EVALUATION REPORT

I. LOCATION

- A. COORDINATES: N 41° 20' 04.80" W 73° 04' 58.43"
(See attached FAA 1-A Certification)
- B. GROUND ELEVATION: 22.5 AMSL
(See attached FAA 1-A Certification)
- C. USGS MAP: Ansonia, CT.
- D. SITE ADDRESS: 64 Pershing Drive, Ansonia, Connecticut
- E. ZONING WITHIN 1/4 MILE OF SITE:

City of Ansonia:

B – Residence District
C – Central Commercial District
HI – Heavy Industrial District

City of Derby:

R-4 – Residential 4
R-5 – Residential 5
R-M – Residential Multiple
H/C – Hospital/Campus
B-1 – Business 1

II. DESCRIPTION

- A. SITE SIZE: 1,800 square feet
LESSOR'S PARCEL: 0.394 acres
- B. TOWER TYPE/HEIGHT: Monopole 120'
- C. SITE TOPOGRAPHY AND SURFACE: The proposed compound area is relatively level and is an area that has been previously developed and used for a parking area.

- D. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER:
Developed commercial area with railroad tracks east of the subject parcel.
- E. LAND USE WITHIN ¼ MILE OF SITE: Commercial, Residential, Retail and Industrial.

III. FACILITIES

- A. POWER COMPANY: United Illuminating Company
- B. POWER PROXIMITY TO SITE: 130' +/-.
- C. TELEPHONE COMPANY: Frontier Communications
- D. PHONE SERVICE PROXIMITY: 130' +/-.
- E. VEHICLE ACCESS TO SITE: Proposed 12' access drive over existing parking area.
- F. OBSTRUCTION: None.
- G. CLEARING AND FILL REQUIRED: To develop the site, the Applicants will need to prepare the compound area once the foundation has been placed. The Applicants do not anticipate any fill to be needed for this proposed location as it is relatively flat.

Cut & Fill Calculations (quantities in CY): 5 cubic yards of fill and 0 cubic yards of cut.

IV. LEGAL

- A. PURCHASE [] LEASE [X]
- B. OWNER: Kelly Nguyen
- C. ADDRESS: 64 Pershing Drive
- D. DEED ON FILE AT: City of Ansonia

FACILITIES AND EQUIPMENT SPECIFICATIONS (TOWER & EQUIPMENT)

I. TOWER SPECIFICATIONS

- A. MANUFACTURER:** TBD
- B. TYPE:** Monopole
- C. HEIGHT:** 120'
- D. DIMENSIONS:** TBD

II. TOWER LOADING

A. AT&T

- 1. ANTENNAS:** CCI and Ericsson Antennas
 - a. MODEL:** CCI TPA65R-BU8D Quantity of three (or equivalent)
ERICSSON AIR 6472 N77G Quantity of three (or equivalent)
CCI TPA65R-BU8D Quantity of three (or equivalent)

- b. DIMENSIONS:**

CCI	L 96" x W 21" x D 7.8
ERICSSON	L 36.4" x W 16.1" x D 7.5"
CCI	L 96" x W 21" x D 7.8

- 2. TOWER POSITION:** 116' AGL at the center of the antenna array.

- 3. TRANSMISSION LINES:** TBD

B. Future Carriers: 3 Additional Carriers

III. ENGINEERING ANALYSIS AND CERTIFICATION:

All work shall be in accordance with the 2022 Connecticut State Building Code, including the TIA/EIA-222 revision H "structural standards for steel antenna towers and supporting structures," and the current State Building Code. The foundation design will be based on soil conditions at the Site.

ENVIRONMENTAL ASSESSMENT STATEMENT

I. PHYSICAL IMPACT

A. WATER FLOW AND QUALITY

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the Facility. The Applicants have retained Davison Environmental to perform a wetlands inspection. The construction, operation, and maintenance of the Facility would not result in a likely adverse impact to any wetlands. No wetlands or watercourses were identified within 100-feet of the Site. See *attached Wetland Inspection prepared by Davison Environmental dated June 12, 2024*.

B. AIR QUALITY

Under ordinary operating conditions, the equipment located at this Facility would emit no air pollutants of any kind. For limited periods during power outages, a generator will be utilized.

C. LAND

Grading would be required for development of the Facility. The remainder of the Property would remain unchanged by the construction and operation of the Facility.

D. NOISE

The Facility equipment after construction would not emit any noise other than the installed heating, air conditioning, ventilation systems, and in the event of a power outage, the proposed self-contained diesel generators. Some noise is anticipated during the construction of the Facility, which is expected to take approximately 10 weeks.

E. POWER DENSITY

The Facility is compliant with FCC/ANSI standards. See *attached Calculated Radio Frequency Emissions Report prepared by C Squared Systems, LLC dated August 20, 2024*.

F. VISIBILITY

The attached *Visibility Analysis Package* prepared by Virtual Site Simulations, LLC (“VSS”) provides viewshed mapping and an evaluation of the proposed visibility within a one-mile radius of the Site. Visibility of the tower is predicted to include approximately 100 acres year-round ($\pm 4.97\%$ of the one-mile Study Area) and approximately 15.3 acres seasonally ($\pm 0.76\%$ of the one-mile Study Area). The viewshed mapping has been field verified via a balloon float. VSS also prepared a photographic simulation package which is contained in the *Visibility Analysis Package*. See attached *Visibility Analysis Package prepared by Virtual Site Simulations, LLC dated September 13, 2024*. In addition, the Federal Aviation Administration (“FAA”) has concluded that the Facility does not exceed obstruction standards and will not be a hazard to air navigation, based on conditions that ARX will meet. The FAA has further concluded that marking and lighting will not be necessary for this Facility. See attached *FAA Determination of No Hazard to Air Navigation dated September 30, 2024*.

G. SCHOOLS / DAYCARE CENTERS

There are no schools or daycare centers located within 250 feet of the Site. The Ansonia Middle School is located approximately .43 miles to the north and is the closest school to the proposed facility. The Valley YMCA Child Care Center is approximately .17 miles to the north and is the closest licensed daycare facility. See attached *Visibility Analysis Package prepared by Virtual Site Simulations, LLC dated September 13, 2024*, and *Schools & Daycares Package prepared by Virtual Site Simulations, LLC dated September 17, 2024*.

II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

ARX has also retained Environmental Corporation of America (“ECA”) to evaluate the Facility in accordance with the FCC’s regulations implementing the National Environmental Policy Act of 1969 (“NEPA”). In its preliminary report, ECA has concluded that there is no obvious evidence that adverse environmental impacts or effects would result from the Facility, as those impacts are defined in the FCC Rules contained in 47 CFR Sections 1.1301 through 1.1320. ECA has further concluded that it is unlikely that the Facility would adversely affect the two historic properties that are situated within the vicinity of the Site, and that the Facility would likely not be visible from those properties. See *ECA Preliminary FCC NEPA Environmental Review dated September 27, 2024*.

Additional scenic, natural and recreational resources will be addressed in the Application to the Siting Council.

Radio Frequency Analysis Report

CT2898
64 Pershing Drive, Ansonia, CT



August 19, 2024



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1. Overview

C Squared Systems was retained by New Cingular Wireless PCS, LLC (“AT&T”) to evaluate the proposed installation and operation of a new monopole at 64 Pershing Drive in Ansonia, CT to allow AT&T to install its antennas at 116 feet AGL.

AT&T is licensed by the FCC to provide wireless communications services throughout the State of Connecticut including the Town of Ansonia where the proposed facility would be located.

This report addresses AT&T’s need for the proposed wireless facility and confirms that there are no other suitable existing structures available that could address the coverage gaps in their wireless communications network.

The coverage analysis completed by C Squared Systems confirms: AT&T has a gap in reliable service in Ansonia, and that the Proposed Facility provides AT&T with coverage in that service gap. Included as attachments in this report are coverage maps detailing the existing network and expected coverage from the proposed facility, pertinent site information, terrain and network layout maps.

2. Technology Advances & Design Evolution

AT&T provides digital voice and data services using advanced 4th Generation (4G) services over LTE technology in the 700 MHz, 850 MHz, 1900 MHz, 2100 MHz, 2300 MHz and 3500 MHz frequency bands as allocated by the FCC. 5th Generation (5G) services are also being selectively rolled out on available frequencies in the 850 MHz, 1900 MHz, 2100 MHz, 2300 MHz and 3500 MHz bands. These data networks are used by mobile devices for fast web browsing, media streaming, and other applications that require broadband connections. The mobile devices that benefit from these advanced data networks are not limited to basic handheld phones, but also include devices such as smartphones, PDA’s, tablets, and laptop air-cards. 4G LTE services and devices have enabled AT&T customers to have even faster connections to people, information, and entertainment.

AT&T will also deploy FirstNet services from this facility. FirstNet is a federal agency with a mandate to create a nationwide, interoperable public safety broadband network for first responders. First responders across the country currently rely on more than 10,000 separate radio networks which oftentimes do not interoperate with one another. By deploying a nationwide broadband public safety network built specifically to meet the communications needs of first responders, the FirstNet network will provide a solution to the decades-long interoperability and communications challenges first responders have experienced, and which was highlighted by the 9/11 Commission’s 2004 Final Report.

FirstNet selected AT&T to build, manage and operate the National Public Safety Broadband Network (“NPSBN”) using FirstNet’s Band 14 spectrum (Call Sign WQQE234, 20 MHz of the 700 MHz spectrum), together with AT&T’s own wireless network. Using a combination of new and existing wireless facilities, AT&T provides prioritized, preemptive wireless services for first responders across Connecticut, New England and nationwide, while also improving 4G LTE coverage for AT&T customers.

AT&T’s 4G LTE technology is designed to thresholds of -83 dBm and -93 dBm for their 700 MHz LTE and -86 dBm and -96 dBm for their 1900 MHz LTE.¹ The stronger thresholds (-83 dBm and -86 dBm) yield greater throughputs and improved customer experience. The -93 dBm and -96 dBm thresholds are the minimum acceptable levels required to meet customer expectations for 4G service.

¹ The threshold range differences between the 700 MHz and 1900 MHz frequency bands directly correlates to the type of branch diversity receivers deployed in AT&T’s receiver design.

3. AT&T Coverage and Capacity Objective

There is a significant coverage deficiency in the existing AT&T wireless communications network along Pershing Drive and Division Street as well as other roads in the area and in the vicinity of the proposed location, referred to herein as the "targeted area". A deficiency in coverage is evidenced by the inability to adequately and reliably transmit/receive quality calls and/or utilize data services offered by the network. Seamless reliable coverage provides users with the ability to successfully originate, receive, and maintain quality calls and data applications throughout a service area. Appropriate overlapping coverage is required for users to be able to move throughout the service area and reliably "hand-off" between cells to maintain uninterrupted connections.

Due to terrain characteristics and the distance between the targeted area and the existing sites, AT&T's options to provide services in this area are quite limited (maps of the terrain in this area and the distance to neighboring AT&T sites from the proposed site are included as Attachments 1 & 2, respectively.). AT&T's network requires deployment of antennas throughout the area to be covered. These antennas are connected to receivers and transmitters that operate in a limited geographic area known as a "cell." AT&T's wireless network, including their wireless handsets and devices, operate by transmitting and receiving low power radio frequency signals to and from these cell sites. The signals are transferred to and from the landline telephone network and routed to their destinations by sophisticated electronic equipment. The size of the area served by each cell site is dependent on several factors, including the number of antennas used, the height at which the antennas are deployed, the topography of the land, vegetative cover and natural or man-made obstructions in the area. As customers move throughout the service area, the transmission from the portable devices is automatically transferred to the AT&T facility with the best connection to the device, without interruption in service provided that there is overlapping coverage from the cells.

In order to define the extent of the coverage gap to be filled, propagation modeling has been conducted in the area of Ansonia. Propagation modeling uses PC software to determine the network coverage based on the specific technical parameters of each site including, but not limited to, location, ground elevation, antenna models, antenna heights, and also databases of terrain and ground cover in the area. Drive testing consists of traveling along area roadways in a vehicle equipped with a sophisticated setup of test devices and receivers that collect a variety of network performance metrics. The data are then processed and mapped in conjunction with the propagation modeling to determine the coverage gaps.

Analysis of the propagation modeling in Ansonia reveals that AT&T's network is unreliable throughout much of the area due to gaps in coverage, and that there is a service deficiency as a result. In order to fill in these coverage gaps and improve the network reliability to Ansonia, a new facility is needed in the area.

Included in this report are Attachments 1 through 5, which are explained below to help describe AT&T's 4G network deployment in and around Ansonia, and the need for the proposed facility.

- Attachment 1: “*CT2898 Area Terrain Map*” details the terrain features around the area of deficient service being targeted by the proposed site in Ansonia. These terrain features play a key role in determining site designs and dictating the unique coverage achieved from a given location. This map is included to provide a visual representation of the ridges and valleys that must be considered when siting a wireless facility. The blue and green shades correspond to lower elevations, whereas the orange, red and white shades indicate higher elevations.
- Attachment 2: “*CT2898 Neighbor Site Data*” provides site specific information of existing neighboring sites used to perform the coverage analysis provided in Attachments 3 and 4.
- Attachment 3: “*CT2898 Existing 700 MHz LTE Coverage*” for the Current AT&T Network depicts 700 MHz LTE coverage from existing sites and demonstrates that there are currently gaps in 700 MHz LTE coverage effecting service within the targeted area. The coverage shown is where the signal strengths are: > -83 dBm (minimum level required reliable, high quality service and performance at 700 MHz) and, > -93 dBm (minimum required for adequate level of service at 700 MHz). In an effort to provide the required levels of coverage to these areas, AT&T is proposing to install a new monopole at 64 Pershing Drive in Ansonia CT.
- Attachment 4: “*CT2898 Existing 700 MHz LTE Coverage with Proposed Site*” shows how this proposed site would fill in the existing coverage gaps and improve AT&T's 700 MHz LTE network.
- Attachment 5: *Connecticut DOT Average Annual Daily Traffic Data* – Ansonia shows the available vehicular traffic volume data for the subject area from the Connecticut Department of Transportation. These data show as many as 13,200 and 18,500 vehicles per day passing through Pershing Drive and Division Street in the vicinity of the proposed facility.

Table 1 below lists the coverage statistics compiled for the AT&T's 700 MHz 4G LTE network with the deployment of the Proposed Site.

		Incremental Coverage from Proposed Site (700 MHz)	
Population: ²	(\geq -83 dBm)	2363	
	(\geq -93 dBm)	1488	
Business Pops: ³	(\geq -83 dBm)	1525	
	(\geq -93 dBm)	1361	
Area (mi²):	(\geq -83 dBm)	0.80	
	(\geq -93 dBm)	0.64	
Roadway (mi):	Main (-93 dBm):	1.6	
	Secondary (-93 dBm):	4.8	
	Total (-93 dBm):	6.4	

Table 1: Coverage Statistics

² Population figures are based upon 2020 US Census Block Data

³ Employee population counts are based upon the 2020 U.S. Census Bureau LEHD database.

4. Pertinent Site Data

Table 2 below details the site-specific information for the on-air AT&T macro-sites used to perform the coverage analysis and generate the coverage plots provided herein.

Site Name	Address	Town/City	Location		Antenna Centerline (ft AGL)	Structure Type	Status
			Latitude	Longitude			
CT2091	401 Wakelee Avenue	Ansonia	41.3561	-73.0920	169.04	Self-Support	On-Air
CT2256	85 Quaker Farms Road	Oxford	41.3840	-73.1374	150	Monopole	On-Air
CT2359	1 Deerfield Lane	Ansonia	41.3508	-73.0493	148	Monopole	On-Air
CT2159	800 Ogg Meadow Road	Orange	41.3079	-73.0323	152	Monopole	On-Air
CT2210	50 Olivia Street	Derby	41.3211	-73.0906	81	Rooftop	On-Air
CT5160	308 River Road	Shelton	41.2957	-73.0726	98	Stealth Tower	On-Air
CT5441	165 Birdseye Road	Shelton	41.3258	-73.1487	108	Monopole	On-Air
CT5543	31 Church Street	Fairfield	41.2949	-73.1466	90	Church	On-Air
CT2113	219 Nells Rock Road	Shelton	41.3042	-73.1183	162	Self-Support	On-Air
CT5431	Oliver Terrace	Shelton	41.2940	-73.1072	129	Monopole	On-Air
CT2898	64 Pershing Drive	Ansonia	41.3346	-73.0827	116	Monopole	Proposed

Table 2: AT&T Mobility Site Information Used in Coverage Analysis⁴

⁴ Some sites listed in this table are outside the plot view but are included for completeness of information.

5. Conclusion

AT&T has identified an area of deficient coverage affecting a significant portion of Ansonia, including key traffic corridors through the residential and business/retail areas of the Town. The proposed wireless facility at 64 Pershing Drive in Ansonia will bring the needed fill-in coverage to significant portions of Pershing Drive and Division Street as well as other roads in the area and to the vicinity of the proposed location.

No other existing structures were identified and available that would be able to satisfy the coverage requirements needed for this area.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate.

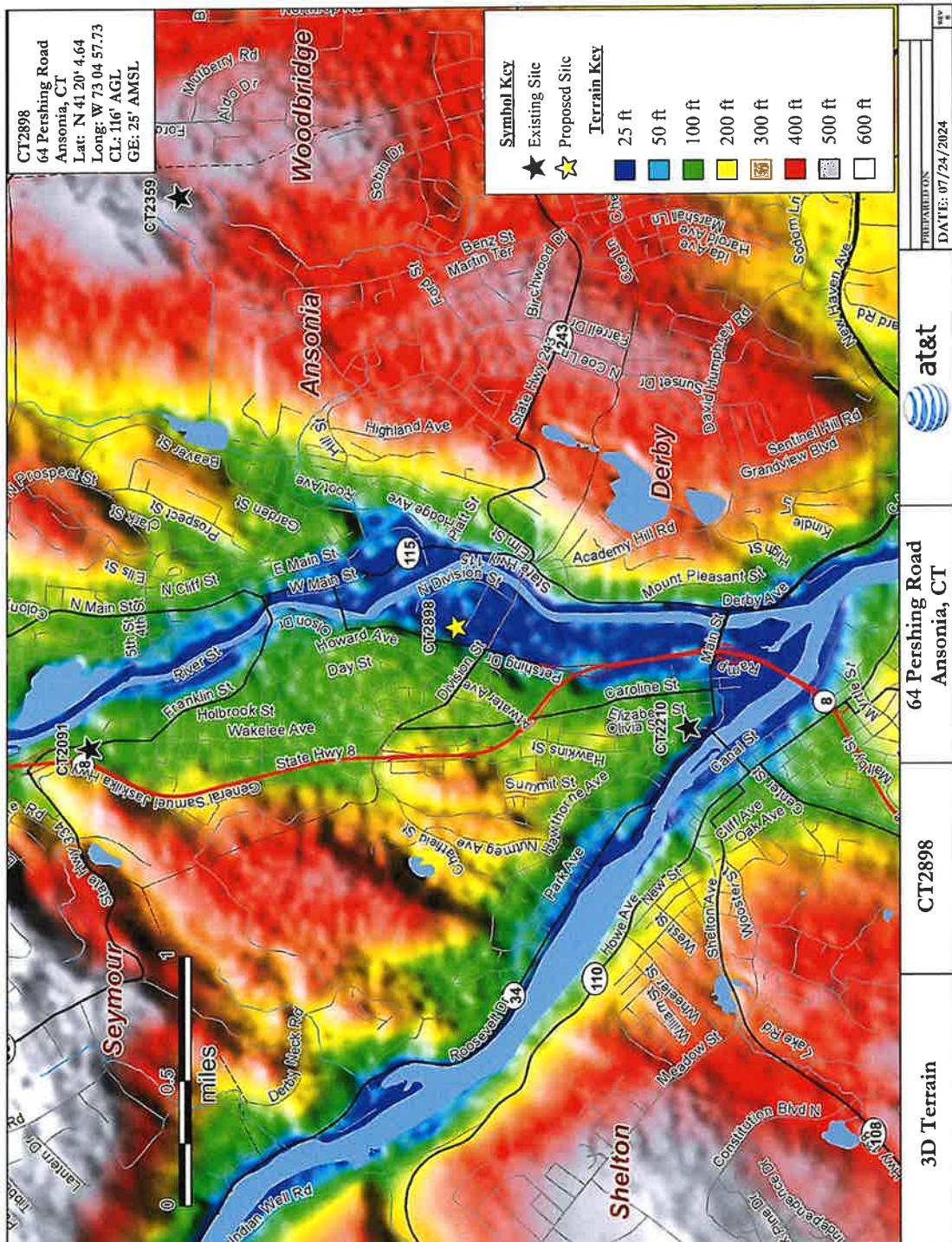


August 19, 2024

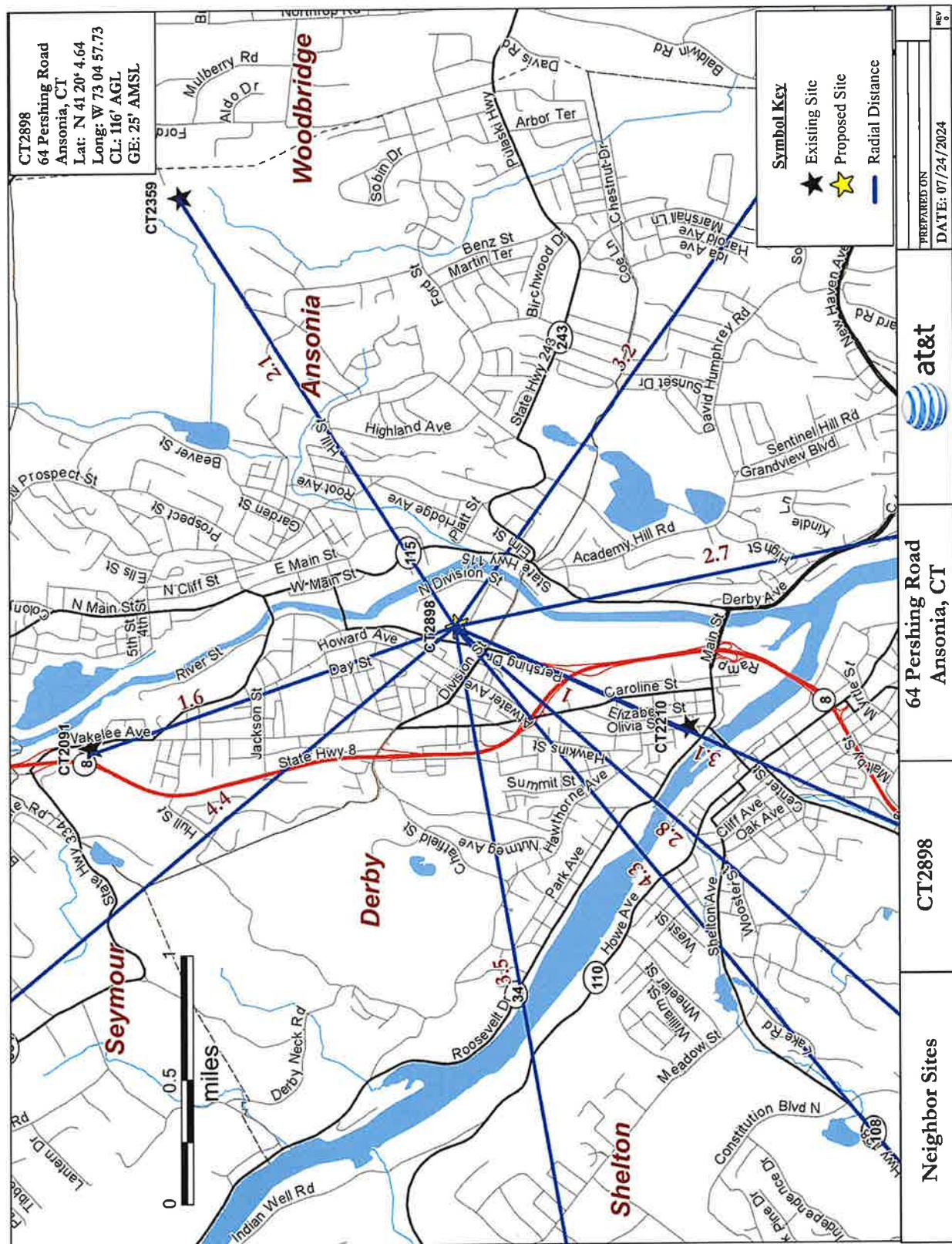
Martin J. Lavin
C Squared Systems, LLC

Date

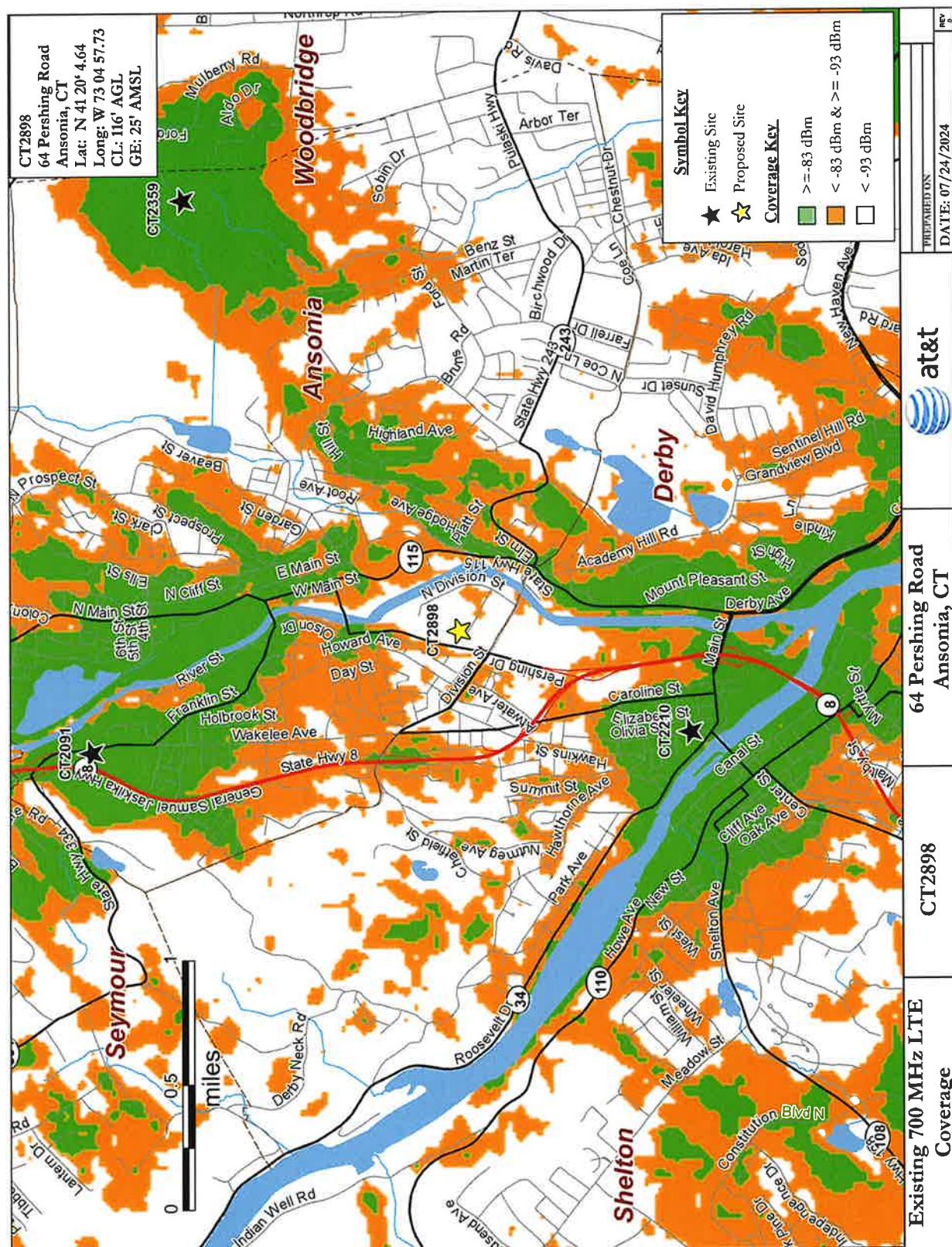
7. Attachments



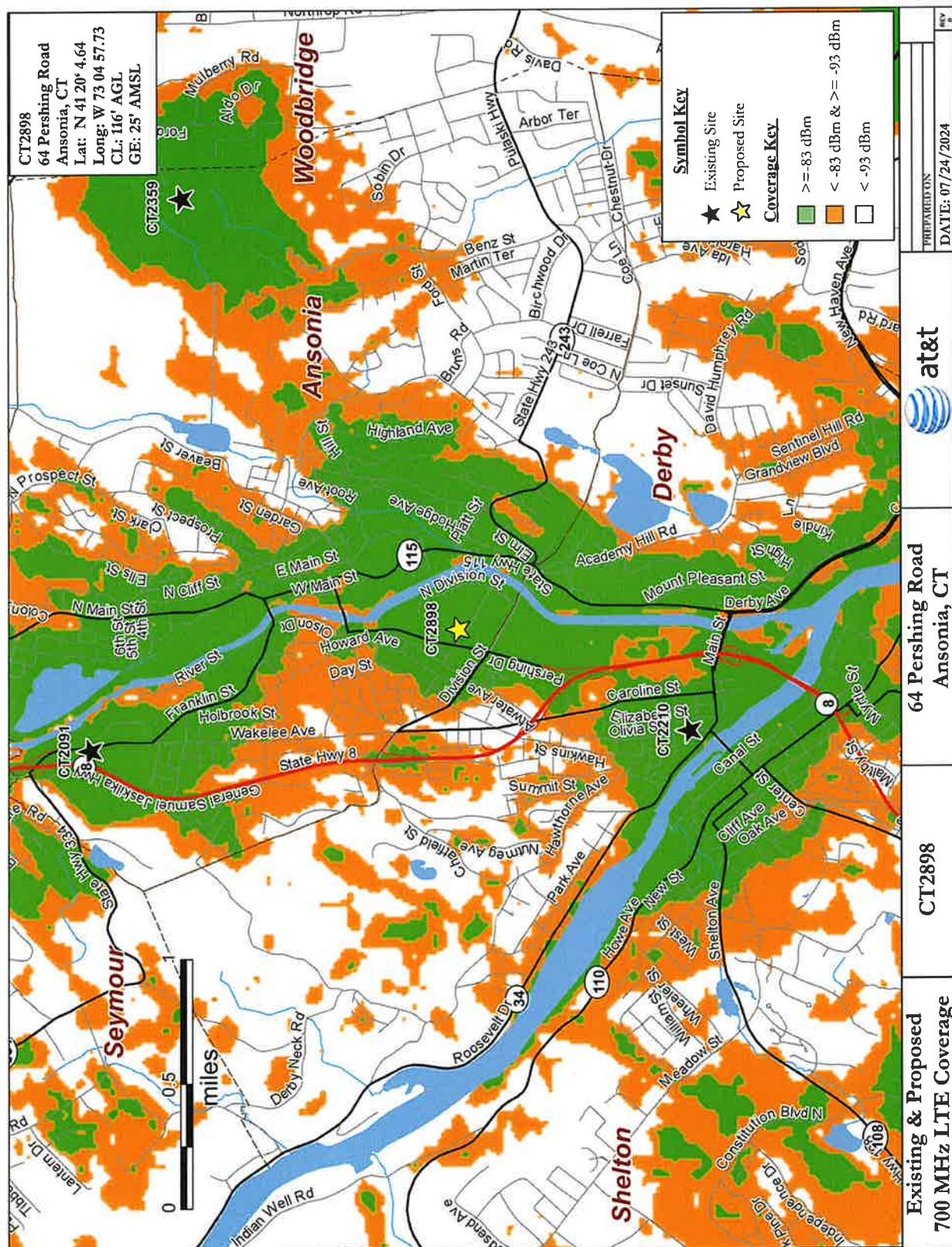
Attachment 1: CT2898 - Area Terrain Map



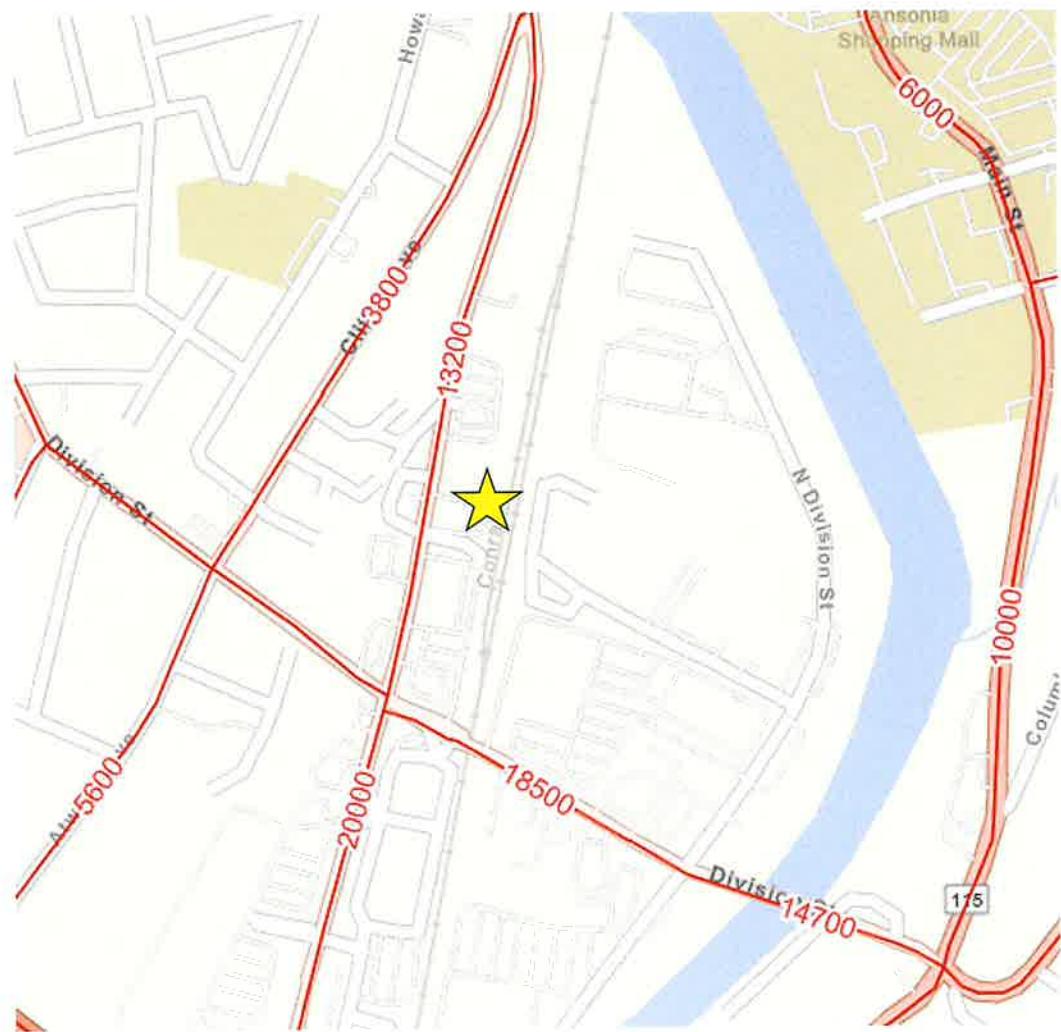
Attachment 2: CT2898 - Neighbor Site Data



Attachment 3: CT2898 - Existing 700 MHz LTE Coverage" for the Current AT&T Network



Attachment 4: CT2898 - Existing 700 MHz LTE Coverage with Proposed Site" for the AT&T Network



Attachment 5: Connecticut DOT Average Annual Daily Traffic Data – CT2898

Existing Towers Package

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401

- Map created 9/17/24



Package prepared by:

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

www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com



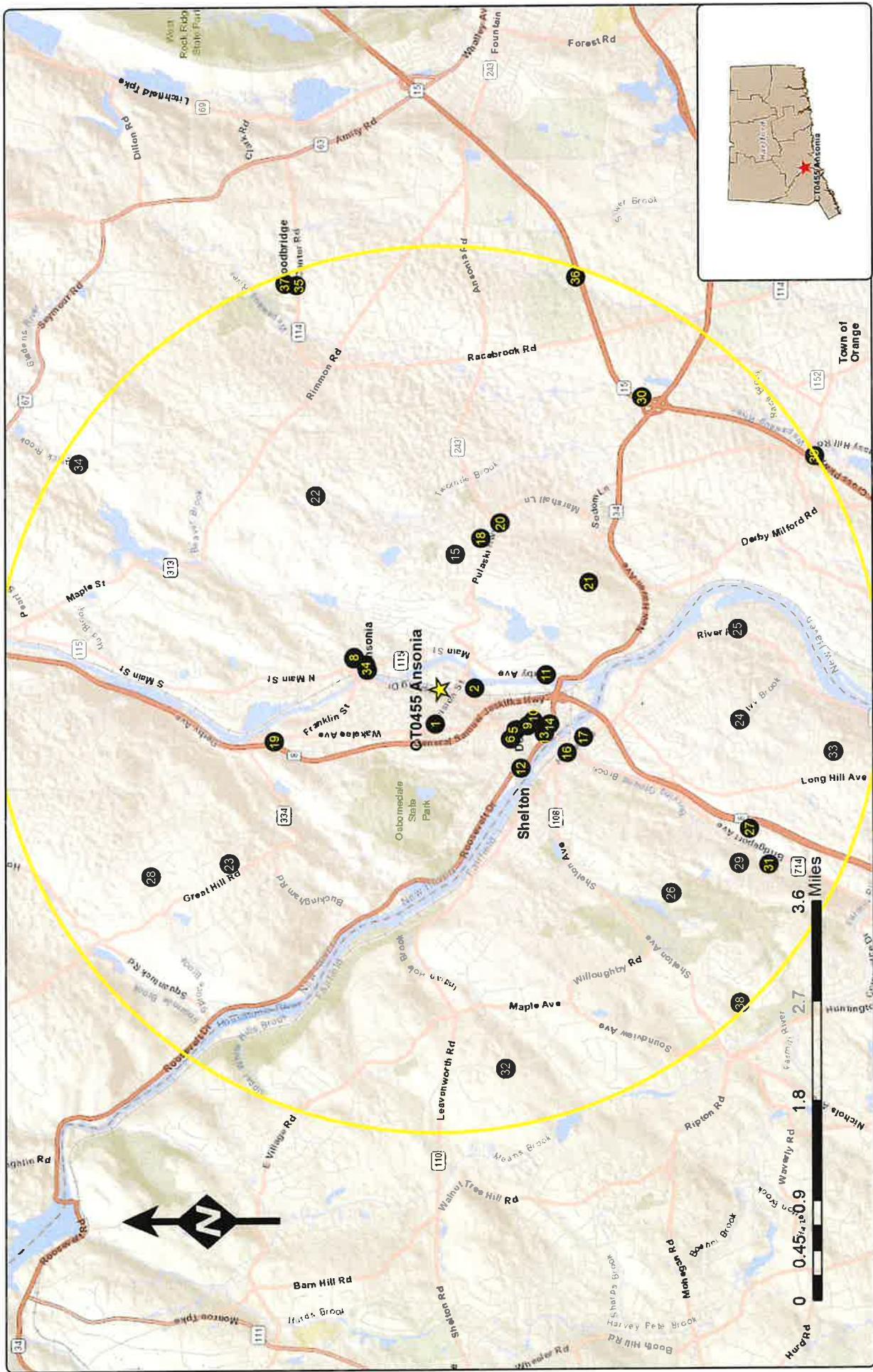
ARX

WIRELESS

VSS

Virtual Site Simulations

Your Virtual Data Partner



WIRELESS



VSS

Your Visual Data Partner

Existing Site Locations

Existing Towers

Number	Address	Town	Latitude	Longitude	Owner	Height	Type
1	130 Division Street	Derby	41.33505	-73.0889			rooftop
2	20 Divison Street	Derby	41.32995	-73.08269			rooftop
3	22 West Main Street	Ansonia	41.34398	-73.07955		45'	
4	497 East Main Street	Ansonia	41.34417	-73.07861			rooftop
5	212 Elizabeth Street	Derby	41.32456	-73.08997			steeple
6	74 Cottage Street	Derby	41.32527	-73.09155	town	65	power mount
7	44 South Cliff Street	Ansonia	41.34574	-73.0775	First Congregation Church	94'	rooftop
8	56 South Cliff Street	Ansonia	41.3457	-73.07732	Christ Episcopal Church		church steeple
9	17 Fifth Street	Derby	41.32305	-73.08925			steeple
10	123 Minerva Street	Derby	41.32229	-73.08839			Steeple
11	137 Derby Avenue	Derby	41.32061	-73.08042			steeple
12	134 Roosevelt Drive	Derby	41.32389	-73.09664			smokestack
13	50 Olivia Street	Derby	41.32084	-73.09058			rooftop
14	33 Elizabeth Street	Derby	41.32015	-73.08894			rooftop
15	59 Finney Street	Ansonia	41.33248	-73.05943		80'	rooftop
16	475-479 Howe Ave. (Route 110)	Shelton	41.31788	-73.09395	Verizon	40	small cell
17	Howe Avenue	Shelton	41.31571	-73.09124	UI	60	wood pole
18	21 Birchwood Drive	Ansonia	41.32917	-73.05667	Radio Communications Corp.	60	gl
19	401 Wakelee Street	Ansonia	41.35615	-73.09193	American Tower	196	self-supporting lattice
20	80 Pulaski Highway	Ansonia	41.32665	-73.05402	UI	79	wood utility pole
21	71 (72) Pleasant View Road	Derby	41.315	-73.06444	SBA	120'	flagpole
22	1 Deerfield Lane	Ansonia	41.35075	-73.04925	SBA	169	monopole
23	80 Great Hill Road	Seymour	41.36192	-73.11311	Cable Holdco Exchange III, LLC	250	guyed lattice
24	2 Mountain View Drive	Shelton	41.29525	-73.08829			rooftop
25	309 River Road	Shelton	41.29553	-73.07257	t-mobile	120	stealth-flagpole
26	219 Nell's Rock Rd.	Shelton	41.30417	-73.11833	AT&T	162	self-supporting

Number	Address	Town	Latitude	Longitude	Owner	Height	Type
							lattice
27	70 Platt Road/30 Oliver Terrace	Shelton	41.29391	-73.10715	AT&T	140	monopole
28	140 Botsford Road	Seymour	41.37209	-73.11535	Town of Seymour	160'	self-supporting lattice
29	Old Kings Highway (off English Lane)	Shelton	41.29528	-73.11315	TCI	195	guyed lattice
30	Ogg Meadow Road	Orange	41.30806	-73.03225	Crown	160	monopole
31	465 Bridgeport Avenue	Shelton	41.2914	-73.1134			in-building IP access
32	162 (165) Birdseye Road	Shelton	41.32578	-73.14867	SBA	120	monopole
33	Wesley Heights Road	Shelton	41.28298	-73.09381	UI	79'	power mount
34	85 Acorn Hill Road	Woodbridge	41.38173	-73.04365	Town of Woodbridge	109	tower
35	11 Meetinghouse Lane	Woodbridge	41.35338	-73.01273	Town of Woodbridge	91	tower
36	1116 Johnson Rd/1027 Racebrook Road	Woodbridge	41.31675	-73.01147	Crown Castle	150	monopole
37	4 Meetinghouse Lane	Woodbridge	41.35486	-73.01243	Town of Woodbridge	105	steeple
38	Lane Street	Shelton	41.29514	-73.13739	Verizon	120	monopole
39	700 Grassy Hill Road	Orange	41.28546	-73.04256	Sprint	140	monopole



WIRELESS

CT0455
ANSONIA CT

PROPOSED 120' MONOPOLE TOWER AND COMPOUND 64 PERSHING DRIVE ANSONIA, CONNECTICUT 06401

USGS TOPOGRAPHIC MAP**VICINITY MAP****CODE REFERENCES**

- 2022 Connecticut State Building Code
- 2021 International Building Code
- 2021 International Existing Building Code
- 2021 International Residential Code
- 2021 International Mechanical Code
- 2021 International Residential Code
- 2021 International Energy Conservation Code
- 2020 National Electrical Code (NFPA 70)
- 2017 ICC A117.1 Accessible and Usable Buildings & Facilities

CSC TECH REPORT DOCUMENTS

WIRELESS

Site Number:
CT0455Site Name:
ANSONIA64 PERSHING DRIVE
ANSONIA, CONNECTICUT
06401Prepared For:
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Tel: 203.744.5388
Email: drroberts.architects@outlook.com

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Douglas J. Roberts, AIA, LEED AP

J. Roberts, AIA, LEED AP

Rev. No. 1

Project No.: 2024-02

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Email: drroberts.architects@outlook.com

SHEET INDEX		CURRENT SHEET NAME	CURRENT REVISION	CURRENT REVISION DATE
SHEET NUMBER		T-001	2	Sept. 25, 2024
		TITLE SHEET		
		SURVEY AND BUTTER'S PLAN	2	Sept. 25, 2024
		SITE PLAN	2	Sept. 25, 2024
		COMPOUND PLAN AND ELEVATION	2	Sept. 25, 2024

SCOPE OF WORK

ARX WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS FOR PROPOSED TELECOMMUNICATION SITE:

1. ADD 120' TALL MONOPOLE TOWER ON EXISTING FOUNDATION.
2. ADD 120' TALL MONOPOLE TOWER ON EXISTING FOUNDATION.
3. 120' MONOPOLE FOR TOWER CARRIER PLATFORMS WITH ANTENNAS AND AUXILIARY EQUIPMENT.
4. POWER AND TELCO SERVICES WILL BE ROUTED UNDERGROUND FROM EXISTING OVERHEAD UTILITY BOX TO AN APPROVED 14'x4' HUB.

ATI IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENT ON THE PROPOSED TELECOMMUNICATION SITE:

1. AWARE IN EQUIPMENT SHELTER ON A CONCRETE SLAB.
2. BACKUP DIESEL GENERATOR ON A CONCRETE SLAB.
3. ANTENNA AND AUXILIARY EQUIPMENT ON A 12'x12' PLATFORM.

REVISION SCHEDULE

REV. NO.	DESCRIPTION	DATE
1	Initial Submission	Sept. 25, 2024
2	Final Submittal	Sept. 25, 2024

TITLE SHEET

Drawing By: Zachary J. Roberts

Drawing Date: August 1, 2024

Reviewed By: Noelle M. Rose

Revised By: Noelle M. Rose

Scales: 1:1000

Sheet Title:

Sheet Number:

Revision:

Drawing No.: T-001

Page No.: 2



WELT 33

Site Number:
CT0455

Sno-Nano
ANSONIA

64 PERSHING DRIVE
ANSONIA, CONNECTICUT
06301
Prepared For:
ARX WIRELESS
1110 Washington Avenue
Fourth Floor
New Haven, Connecticut 06510

Prepared For:
ARX WIRELESS
1110 Washington Avenue

40 KBO

Project No. 40044-001
Douglas J. Roberts - Architect
110 Washington Avenue
Fourth Floor
North Haven, CT 06473
Tel: 203.234.6268
Email: dtr0245 - arch4044@msn.com

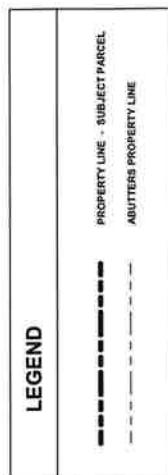
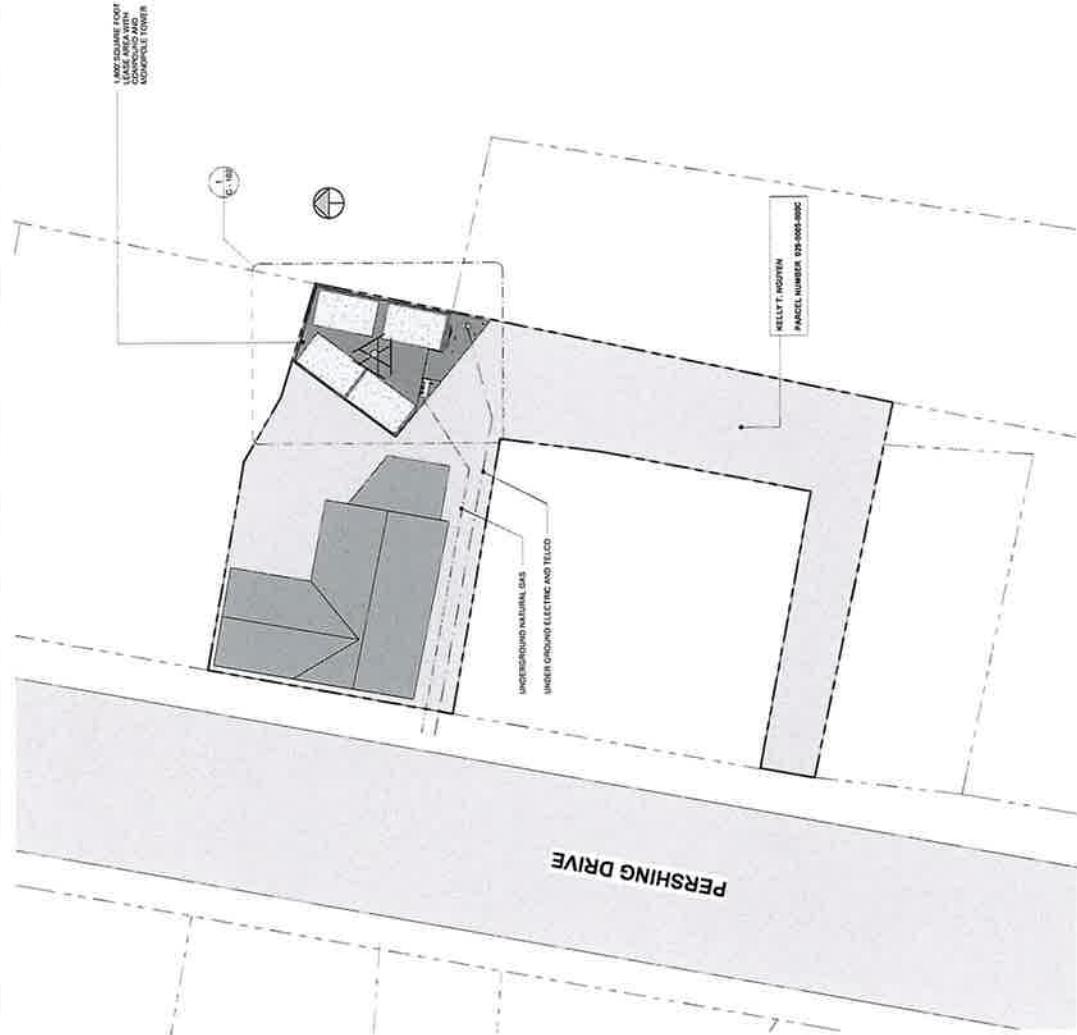


100 *Journal of Aging Studies*

Robert

13

CSC TECH REPORT DOCUMENTS



SITE PLAN	
Drawing No.	Zachery J. Roberts
Drawing Date	August 1, 2004
Reviewed By	Heidi Brown
Project Name	2004 Q2
Scale:	As indicated
Sheet Title:	

Revision 2
Sheet Number C-101
Drawing Number 101-11
Drawing Title: 101-11



WIRELESS

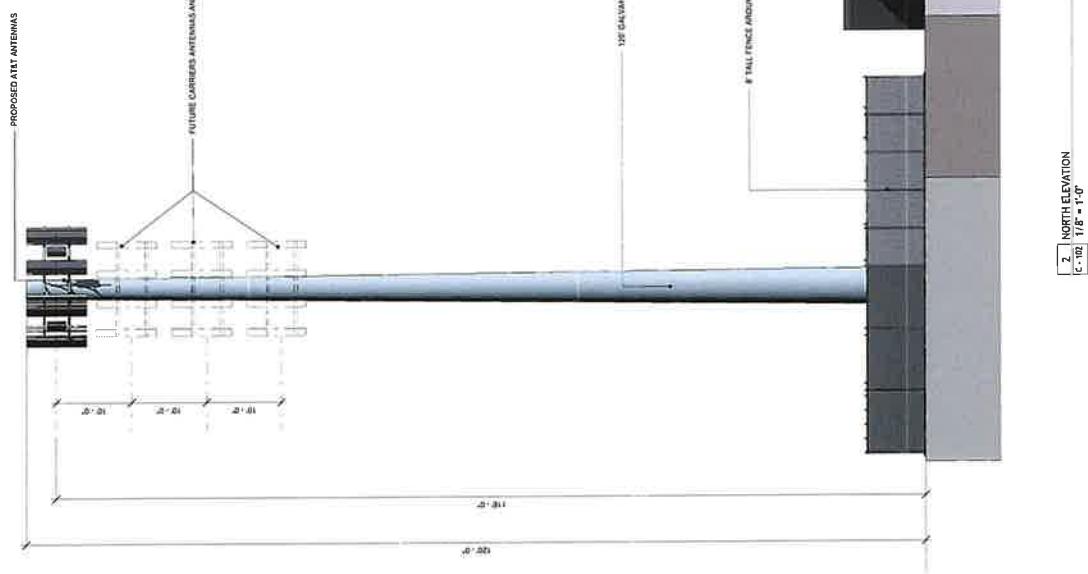
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CT0455Site Name:
ANSONIA14 PREHENSING DRIVE
ANSONIA, CONNECTICUT
06401
Prepared For:
ARX WIRELESS
110 Washington Avenue
Fourth Floor
North Haven, CT 06473

Project No. 2024.02

DOUGLAS J. ROBERTS - ARCHITECT
110 Washington Avenue
Fourth Floor
North Haven, CT 06473
Tel: 203.234.6388
Email: info@architectrob.comDouglas J.
Roberts
Architect

Key Plan

Drawing No.	2024-02
Drawing Date	August 25, 2024
Prepared By	Architect
Project No.	2024-02
Scale	1'0" = 1'-0"
Sheet Title	COMPOUND PLAN AND ELEVATION

Drawing No. 2024-02
Drawing Date: August 25, 2024
Prepared By: Architect
Project No.: 2024-02
Scale: 1'0" = 1'-0"
Sheet Title: COMPOUND PLAN
AND ELEVATION
Sheet Number: C - 102
Revision: 2**CSC TECH REPORT DOCUMENTS**

NORTHEAST SURVEY CONSULTANTS PC

3 FERRY STREET, STUDIO 1 EAST, EASTHAMPTON, MA 01027 (413) 203-5144

1-A CERTIFICATION

Client: ARX Wireless
110 Washington Avenue
Fourth Floor
North Haven, CT 06473

Site Number/Name: CT0455 Ansonia
Site Address: 64 Pershing Drive
Ansonia, CT 06401

Type of Survey: GPS Survey Ground Survey

Horizontal Datum: NAD83 - expressed in degrees of Latitude and Longitude
Vertical Datum: NAVD88 - expressed in feet Above Mean Sea Level (AMSL)

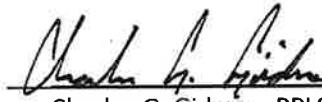
Structure Type: Self-Support Tower Monopole Tower Guyed Tower
 Wood Pole Water Tank Smoke Stack
 Roof Top Church Steeple Temporary Site
 Silo Other:

Center of Structure: Latitude 41°20'04.80" N 41.3346667° N
Longitude 73°04'58.43" W 73.0828960° W

Proposed Ground Elevation at Prop. Structure: 0.0' (AGL) 22.5' (AMSL)
RAD Center of Proposed AT&T Antennas: 116.0' (AGL) 138.5' (AMSL)
Top of Proposed Structure: 120.0' (AGL) 142.5' (AMSL)

Certification: I certify that the latitude and the longitude are accurate to within +/- 20 feet horizontally, and that the ground elevation is accurate to within +/- 3 feet vertically. The horizontal coordinates are based upon the North American Datum of 1983 (NAD 83) and are expressed in degrees of Latitude and Longitude. The elevations are based on the North American Vertical Datum of 1988 and are expressed in feet Above Mean Sea Level (AMSL).

Signature:


Charles G. Gidman, RPLS # 70103

Date:

August 2, 2024





Wetland Delineation • Wetland Assessment & Permitting • Wildlife Surveys • Fisheries & Aquatics • GIS Mapping • Forestry

June 12, 2024

Mr. Keith Coppins
ARX Wireless
110 Washington Avenue
North Haven, Connecticut 06473

RE: Wetland Inspection, CT0455 – 94 Pershing Drive, Ansonia

Mr. Coppins,

At your request, I conducted an inspection on the above-referenced site on June 6, 2024. The purpose of the inspection was to identify and delineate Connecticut jurisdictional wetlands and watercourses. The inspection was conducted by a soil scientist according to the requirements of the Connecticut Inland Wetlands and Watercourses Act (P.A. 155). Wetlands are defined as areas of poorly drained, very poorly drained, floodplain, and alluvial soils, as delineated by a soil scientist. Watercourses are defined as bogs, swamps, or marshes, as well as lakes, ponds, rivers, streams, etc., whether natural or man-made, permanent or intermittent.

The site is located within an area of dense commercial development, on a small undeveloped wooded area to the rear of a car wash. No wetlands or watercourses were identified (or delineated) within 100-feet of the site. Soils on the property are comprised of Udorthents-Urban land complex. Udorthents is a miscellaneous land type used to denote moderately well to excessively drained earthen material which has been so disturbed by cutting, filling, or grading that the original soil profile can no longer be discerned. Urban land is a miscellaneous land type consisting mostly of buildings, paved roads and parking lots. Typically included with this unit are small, intermingled areas disturbed by cutting, filling, or grading such that the original soil profile can no longer be discerned.

If you have any questions regarding these findings, please feel free to contact me.

Respectfully submitted,

Matthew Davison, PSS, PWS, CPESC
matt@davisonenvironmental.com
www.davisonenvironmental.com

Attachments: NRCS Soil Survey Mapping
Site Location Map

NRCS Soil Survey Mapping

Soil Map—State of Connecticut, Western Part
(64 Pershing Dr, Ansonia)



MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)		Soil Area
Soils		Soil Map Unit Polygons		Stony Spot
		Soil Map Unit Lines		Very Stony Spot
		Soil Map Unit Points		Wet Spot
Special Point Features		Blowout		Other
		Borrow Pit		Special Line Features
		Clay Spot		Water Features
		Closed Depression		Streams and Canals
		Gravel Pit		Transportation
		Gravelly Spot		Rails
		Landfill		Interstate Highways
		Lava Flow		US Routes
		Marsh or swamp		Major Roads
		Mine or Quarry		Local Roads
		Miscellaneous Water		Background
		Perennial Water		Aerial Photography
		Rock Outcrop		
		Saline Spot		
		Sandy Spot		
		Severely Eroded Spot		
		Sinkhole		
		Slide or Slip		
		Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Western Part
Survey Area Data: Version 1, Sep 15, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
306	Udorthents-Urban land complex	0.7	48.8%
307	Urban land	0.8	51.2%
Totals for Area of Interest		1.5	100.0%

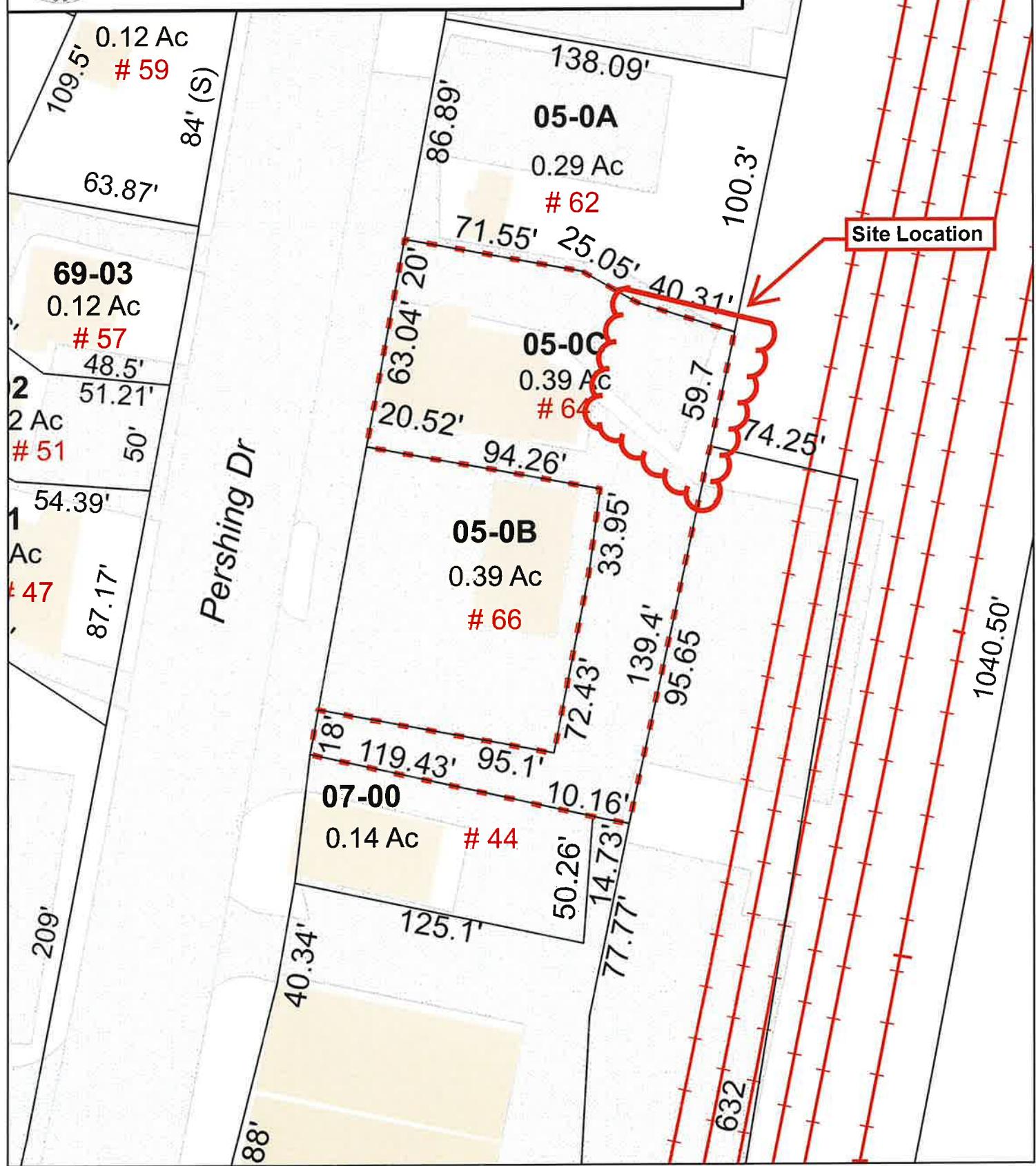
Site Location Map



City of Ansonia, Connecticut- Parcel Map

Parcel: 029-0005-000C

Address: 64 PERSHING DR



Approximate Scale: 1 inch = 50 feet

0 25 50 75 100
Feet

Map Produced: July 2023

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The City of Ansonia and its mapping contractors assume no legal responsibility for the information contained herein.



C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions Report



CT2898

64 Pershing Drive, Ansonia, CT

August 20, 2024

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6. Conclusion.....	6
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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of AT&T's antenna arrays mounted at 116' on a proposed monopole tower located at 64 Pershing Drive in Ansonia, CT. The coordinates of the monopole tower are 41° 20' 4.64" N, 73° 04' 57.73" W.

AT&T is proposing the following:

- 1) Install nine (9) multi-band antennas, three (3) per sector to support its commercial LTE and 5G network.

This report considers the antenna configuration for AT&T's proposed installation to calculate the resulting % Maximum Permissible Exposure (MPE) at ground level around the proposed facility.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment A contains references for OET Bulletin 65 and the other documents that define the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{\text{GRF}^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

$R = \text{Radial Distance} = \sqrt{(H^2 + V^2)}$

$H = \text{Horizontal Distance from antenna in meters}$

$V = \text{Vertical Distance from radiation center of antenna in meters}$

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Antenna Inventory

Table 1 below outlines AT&T's proposed antenna configuration for the site. The associated data and antenna patterns for these specific antenna models are included in Attachment C.

Operator	Sector / Azimuth	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
AT&T	Alpha / 30°	722	80	15.6	2905	TPA65R-BU8D	74	0	8	116
		763	160	15.6	5809		74			
		1900	240	18.1	15496		67			
		2100	240	18.3	16226		67			
		739	120	15.7	4458	OPA65R-BU8D	75	0	6	116
		850	120	16.6	5485		63			
		2300	100	18.3	6761		54			
		3500	200	19.1	16257	AIR 6472	-	0	3	116
		3700	200	18.9	15525		-			
	Beta / 150°	722	80	15.6	2905	TPA65R-BU8D	74	0	6	116
		763	160	15.6	5809		74			
		1900	240	18.1	15496		67			
		2100	240	18.3	16226		67			
		739	120	15.7	4458	OPA65R-BU8D	75	0	6	116
		850	120	16.6	5485		63			
		2300	100	18.3	6761		54			
		3500	200	19.1	16257	AIR 6472	-	0	3	116
		3700	200	18.9	15525		-			
	Gamma / 260°	722	80	15.6	2905	TPA65R-BU8D	74	0	6	116
		763	160	15.6	5809		74			
		1900	240	18.1	15496		67			
		2100	240	18.3	16226		67			
		739	120	15.7	4458	OPA65R-BU8D	75	0	6	116
		850	120	16.6	5485		63			
		2300	100	18.3	6761		54			
		3500	200	19.1	16257	AIR 6472	-	0	3	116
		3700	200	18.9	15525		-			

Table 1: Proposed Antenna Inventory¹²

¹ As referenced to AT&T's Radio Frequency Design Sheet updated 04/11/2024 and Lease Exhibit prepared by ARX Wireless, dated 05/28/2024.

² Transmit power assumes 0 dB of cable loss.

5. Calculation Results

The calculated power density results are shown in Figure 1 below. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3,000 feet horizontal distance from the site. In addition to the other worst-case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas was completed using a local maximum off beam antenna gain (within ± 5 degrees of the true mathematical angle) to incorporate a realistic worst-case scenario.

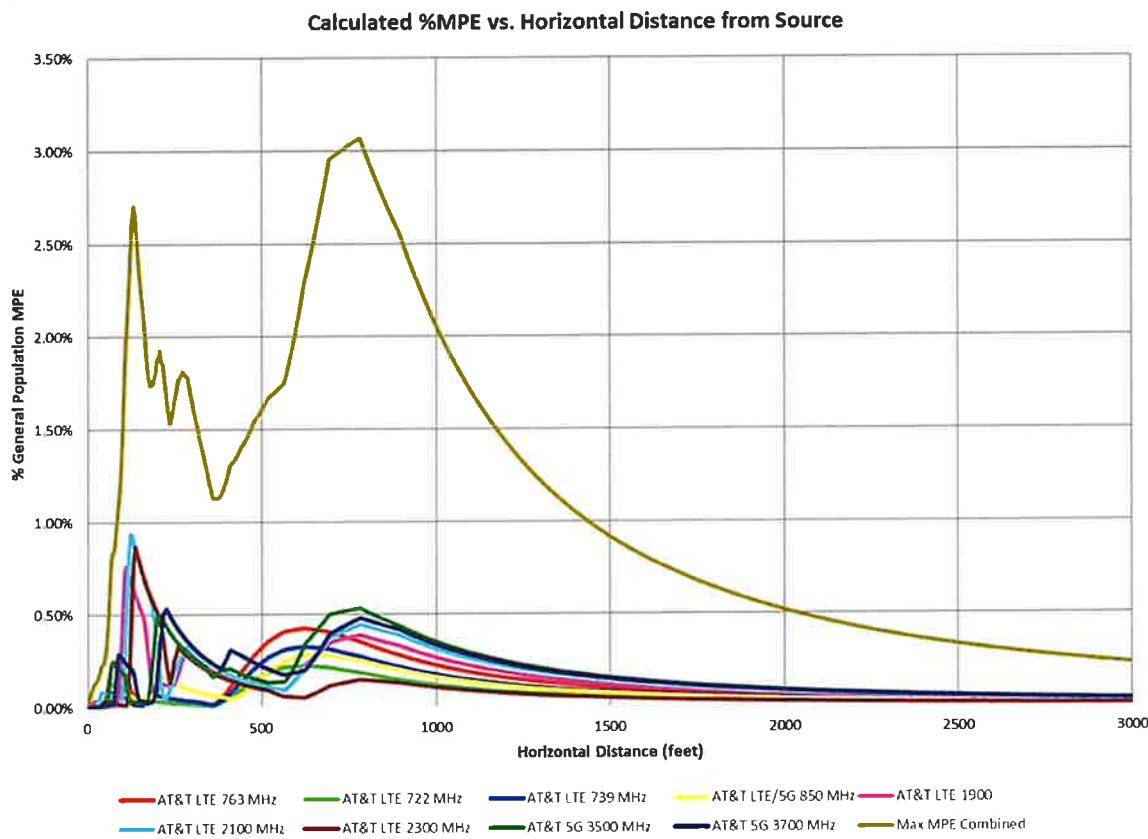


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (3.07% of the General Population limit) is calculated to occur at a horizontal distance of 782 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1500 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 782 feet from the site (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, a six foot height offset was considered in this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the final configuration. The results presented in Figure 1 and Table 2 assume level ground elevation from the base of the tower out to the horizontal distances calculated.

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm ²)	Limit (mW/cm ²)	% MPE
AT&T 5G 3500 MHz	1	200.0	116.0	782	0.005336	1.000	0.53%
AT&T 5G 3700 MHz	1	200.0	116.0	782	0.004806	1.000	0.48%
AT&T LTE 1900 MHz	1	240.0	116.0	782	0.003884	1.000	0.39%
AT&T LTE 2100 MHz	1	240.0	116.0	782	0.004457	1.000	0.45%
AT&T LTE 2300 MHz	1	100.0	116.0	782	0.001488	1.000	0.15%
AT&T LTE 722 MHz	1	80.0	116.0	782	0.000901	0.481	0.19%
AT&T LTE 739 MHz	1	120.0	116.0	782	0.001352	0.493	0.27%
AT&T LTE 763 MHz	1	160.0	116.0	782	0.001803	0.509	0.35%
AT&T LTE/5G 850 MHz	1	120.0	116.0	782	0.001435	0.567	0.25%
						Total	3.07%

Table 2: Maximum Percent of General Population Exposure Values^{3,4}

³ Frequencies listed are representative of the operating band and are not the specific operating frequency.

⁴ The total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

6. Conclusion

The above analysis verifies that RF exposure levels from the site with AT&T's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **3.07%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 782 feet away from the site.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



August 19, 2024

Date

Report Prepared By: Ram Acharya
RF Engineer
C Squared Systems, LLC



August 20, 2024

Date

Reviewed/Approved By: Martin Lavin
Senior RF Engineer
C Squared Systems, LLC

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2019, IEEE Standard Safety Levels With Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2021, IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁵

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁶

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 3: FCC Limits for Maximum Permissible Exposure

⁵ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁶ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

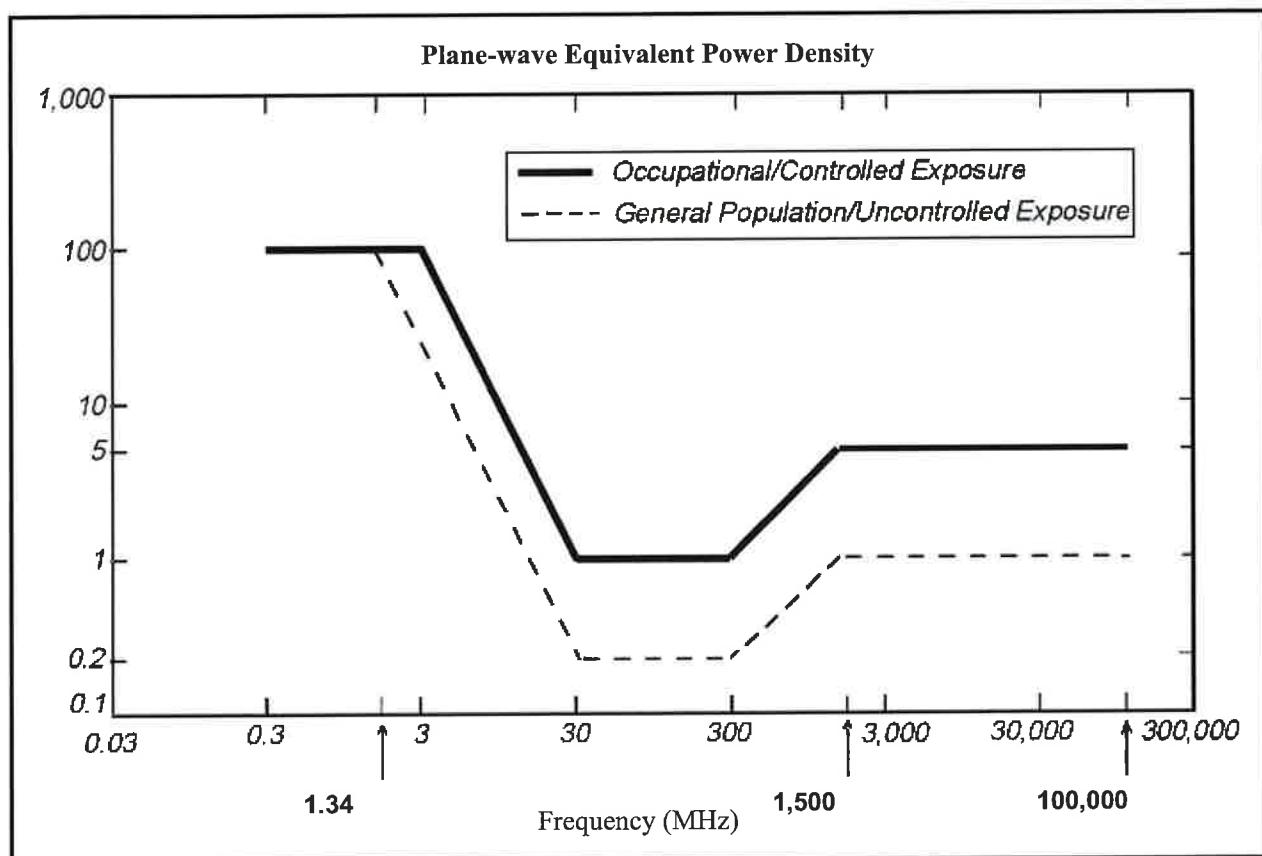
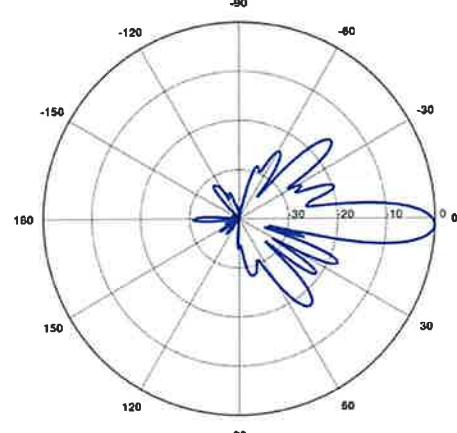
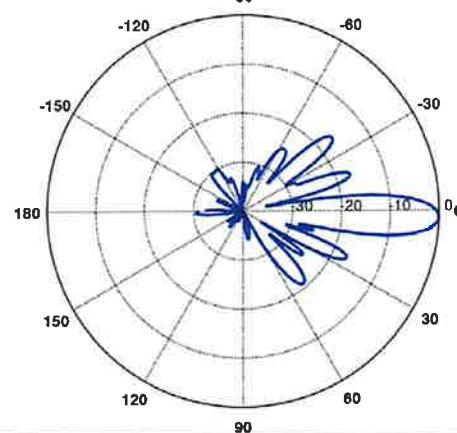
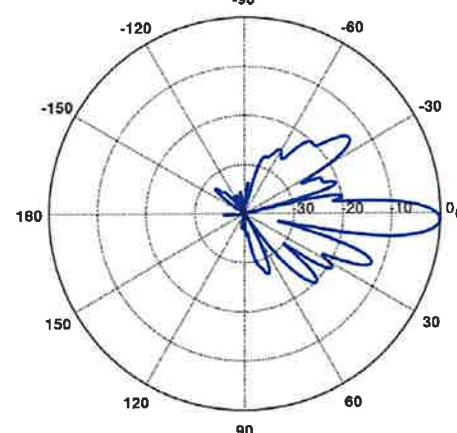


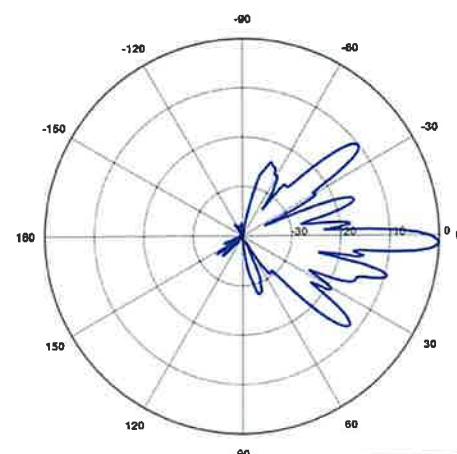
Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Model Data Sheets and Electrical Patterns

<p>722/763 MHz</p> <p>Manufacturer: CCI Model #: TPA65R-BU8D Frequency Band: 698-806 MHz Gain: 15.6 dBi Vertical Beamwidth: 9.5° Horizontal Beamwidth: 74° Polarization: ±45° Dimensions (L x W x D): 96" x 20.7" x 7.7"</p>	
<p>739 MHz</p> <p>Manufacturer: CCI Model #: OPA65R-BU8D Frequency Band: 698-806 MHz Gain: 15.7 dBi Vertical Beamwidth: 9.5° Horizontal Beamwidth: 75° Polarization: ±45° Dimensions (L x W x D): 96" x 20.7" x 7.7"</p>	
<p>850 MHz</p> <p>Manufacturer: CCI Model #: OPA65R-BU8D Frequency Band: 824-896 MHz Gain: 16.6 dBi Vertical Beamwidth: 8.0° Horizontal Beamwidth: 63° Polarization: ±45° Dimensions (L x W x D): 96" x 20.7" x 7.7"</p>	

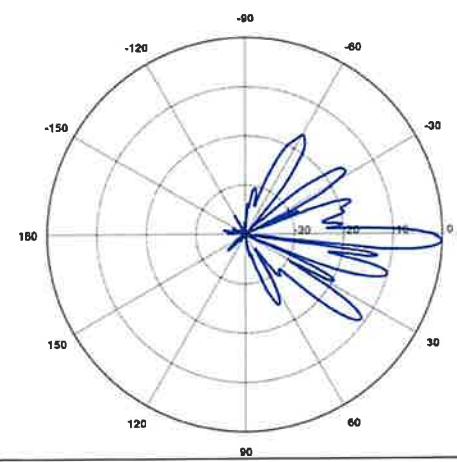
1900 MHz

Manufacturer: CCI
 Model #: TPA65R-BU8D
 Frequency Band: 1850-1990 MHz
 Gain: 18.1 dBi
 Vertical Beamwidth: 5.1°
 Horizontal Beamwidth: 67°
 Polarization: ±45°
 Dimensions (L x W x D): 96" x 20.7" x 7.7"



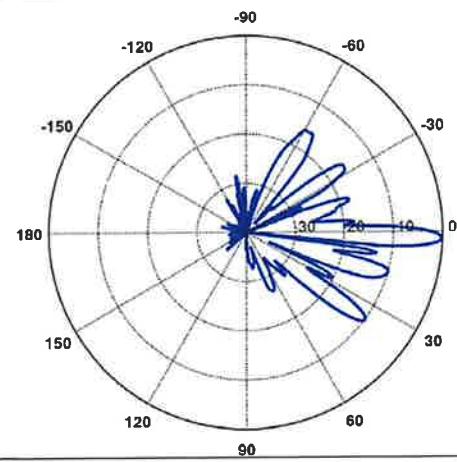
2100 MHz

Manufacturer: CCI
 Model #: TPA65R-BU8D
 Frequency Band: 1920-2180 MHz
 Gain: 18.3 dBi
 Vertical Beamwidth: 4.7°
 Horizontal Beamwidth: 67°
 Polarization: ±45°
 Dimensions (L x W x D): 96" x 20.7" x 7.7"



2300 MHz

Manufacturer: CCI
 Model #: OPA65R-BU8D
 Frequency Band: 2300-2400 MHz
 Gain: 18.3 dBi
 Vertical Beamwidth: 4.1°
 Horizontal Beamwidth: 54°
 Polarization: ±45°
 Dimensions (L x W x D): 96" x 20.7" x 7.7"



Visibility Analysis Package

Proposed Wireless Telecommunications Facility:

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401



- Proposed new 120 ft AGL antenna structure
- Viewshed map completed 9/13/24

Package prepared by:

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

www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com

Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.



Introduction

At the request of Arx Wireless, LLC, Virtual Site Simulations, LLC (VSS) was contracted to provide a Viewshed Analysis Report for a proposed monopole type telecommunications facility located at 64 Pershing Drive Ansonia, CT 06401. Hereafter referred to as "the Site". The proposed tower facility would contain a 120 foot above ground level ("AGL") monopole type antenna structure with accommodations for up to four carriers. Associated unmanned equipment will be contained within an approximately 1800 Sq ft fenced compound area immediately surrounding the base of the proposed tower.

Site Description and Setting

The proposed Monopole type telecommunications facility is located on a +/- .39 Acre property designated by the tax assessor as parcel number 029-0005-000C, owned by Kelly T. Nguyen, 68 Pershing Drive, Ansonia CT0640 and is currently zoned C - commercial. The Site is approximately .46 miles northwest of Ct. Route 8 N at exit 17 Seymour Avenue. The site is located within a mostly Commercial/Retail area XXXX with mixed use and single-family homes. The subject property currently contains a Car Wash. The nearest residential use space is a mixed-use building across Pershing Drive approximately 225 Ft to the west. Osbornedale State Park, .77 miles to the west and the Naugatuck River is approximately .26 miles to the east at its closest point.

The Ansonia Middle School, 115 Howard Ave, Ansonia, CT 06401 is located .43 miles to the north and is the closest school to the proposed facility. The Valley YMCA Child Care Center, 32 Howard Ave, Ansonia, CT 06401 is located .17 miles to the north of the site and is the closest licensed daycare facility.

There are no CT Blue Blazed Trails within the study area.

There are no schools or licensed daycare facilities within 250 ft of the proposed facility.

Methodology

Determination of Study Area

In order to complete this analysis a study area must first be determined. For this site, a one-mile study area (2010.6 acre) was selected based on years of experience in modeling the visibility of telecommunication structures. Typical views from beyond this distance, in this type of Topography, are distant and partially obscured and are therefore omitted from the analysis. This is done to focus on areas within the defined study area that will have a larger visual impact.

The Viewshed Analysis was conducted within the predefined study area using three-dimensional computer modeling software described below.

Computer Modeling – Data Processing

Once the study area is selected, a combination of Ortho Image based, and Lidar based datasets are assembled.

Ortho Imagery is remotely sensed imagery that has been geometrically corrected. This geometric correction, or orthorectification, is required to adjust for lens distortion, camera tilt, and topographical relief. An orthorectified image is an extremely accurate view of the surface of the Earth. This allows for the measurement of true distance, precise digitization, and the exact placement of geographic symbols and analysis results.

LiDAR, or light detection ranging is a remote sensing method that maps structure including vegetation height, density and other characteristics across a region. Think of it as radar using laser light instead of radio waves. LiDAR directly measures the height and density of vegetation on the ground as well as the bare-earth topology.

The datasets are clipped to the study area and processed to create the 3d models necessary to perform this analysis. For Leaf On/Leaf off analysis three different models need to be created:

1. **A Digital Elevation Model (“DEM”)- a 3d model of existing bare earth topography (i.e. no surface features, like trees and buildings)**
2. **A Leaf-On Digital Surface Model (“DSM ”)- a 3d model of existing topography that includes all surface features measured (i.e. building and trees)**
3. **A Leaf-Off Digital Surface Model- a 3d model of existing topography that includes all surface features measured with specific analysis done to remove datapoints from deciduous trees/bushes (see Leaf Off considerations section below).**

It is important to note that by using lidar data to create these models, building heights, existing tree canopy heights and other land cover is not averaged or assumed but measured from lidar dataset. Several different software packages are used in this processing, most notably, ESRI ArcGIS platform is used to interpret Lidar data, perform image analysis and create a Digital Surface Model (“DSM ”) and a corresponding Digital Elevation Model (“DEM”). These datasets are then used to perform a viewshed analysis.

Image Analysis Leaf Off considerations

In this case where Leaf Off analysis is necessary, an extra step is required to adjust DSM to remove leaves. There are many different methods that can be used to perform this analysis. Image analysis of Ortho Imagery taken at the same time as lidar measurement data was chosen as the best approximation for the purposes of this analysis. It has been proven to yield a reasonable approximation of what views would be likely in the leaf off condition. This analysis is used to differentiate between deciduous and non-deciduous (coniferous) trees and ground cover.

Once completed the calculated deciduous areas are removed from the DSM. This Leaf Off DSM is then used to perform the Leaf Off viewshed analysis.

Viewshed Analysis- IVSview®

The primary software used for the viewshed analysis is IVSview® VVS, LLC’s proprietary Interactive Viewshed Analysis Tool. This software allows the user to perform viewshed analysis on imported maps and datasets on multiple levels at the same time. These

calculations determine not only if the tower will be seen, but also how much of the tower will be visible from those locations. The IVSview® results have been field verified at thousands of locations with all topography types (i.e. urban, rural, mixed etc.) throughout New England. And, when compared to other viewshed analysis software packages, it has proven to provide a more realistic comprehensive representation of potential views.

The datasets are imported as layers within the software mapping program. Once imported, spatial analysis tools are used to evaluate each position within those layers from which the proposed facility may be visible. These tools allow for the input of viewing reference height (assumed to be 5 Ft AGL) and tower height(s). The tools also consider any layers that have been imported that may affect viewing location (i.e. topography, tree canopy, ground cover, buildings, roads etc.) IVSview® is then applied, and visibility models are created. The results of this computer model are then graphically layered on topographic and aerial maps.

These maps can be found in Attachment A.

On-site Observation & Documentation

A balloon test was conducted on Friday, September 13, 2024 and used as the visual reference for site observations from random locations throughout the study area. The balloon test consisted of flying a 3 Ft. diameter helium filled balloon to the top elevation of the proposed tower. Balloon diameter was measured using a custom set of calipers. A red balloon was used to provide the best contrast between it and surrounding sky or vegetation. The balloon was tethered to a location at the approximate location of the proposed tower, and its elevation was set by measuring the length of the tether. The elevation was verified using the Leica DISTO D2 Laser distometer.

Balloon test accuracy is very wind dependent. The balloon test was therefore scheduled on a day with wind conditions below the accepted threshold of 10mph. A preliminary viewshed analysis was done using the method outlined above to determine what areas were predicted to have views of the proposed site and to verify the computer model. Drive-by visual reconnaissance of the Study Area was then conducted using the preliminary viewshed analysis as a guide and existing tower as a reference. Locations where the Balloon was visible and not visible were photo documented and a GPS track

of reconnaissance areas was made. Reconnaissance areas were limited to public areas/roads, no private property was used in the on-site observations of this test.

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

Photographic Documentation

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

The simulations and documentation photos are plotted on the Viewshed Analysis Map (Attachment A) attached and shown in the Photo Simulation Package (Attachment B).

¹ "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 24 x 35mm image, the normal focal length is about 50mm" Warren Bruce Photography, West Publishing Company, Egan, MN c 1993 (page 70)

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

A List of Photo Documents provided is listed in table below:

CT0455 – Ansonia, Connecticut - Photolog Visibility Chart

Image No	Approximate Address	Distance from Tower	Visibility	Approximate amount of tower visible(ft)
1	Howard Ave	0.15 Miles	Year Round	5
2	State Rte 727	0.17 Miles	Year Round	30
3	Atwater Ave	0.23 Miles	Not Visible	NA
4	Howard Ave	0.27 Miles	Not Visible	NA
5	Main St	0.31 Miles	Year Round	35
6	Seymour Ave	0.37 Miles	Not Visible	NA
7	Atwater Ave	0.38 Miles	Not Visible	NA
8	Day St	0.39 Miles	Not Visible	NA
9	Main St	0.41 Miles	Year Round	30
10	Seymour Ave	0.44 Miles	Not Visible	NA
11	Platt St	0.47 Miles	Not Visible	NA
12	Orangewood W	0.47 Miles	Year Round	55
13	Olson Dr	0.49 Miles	Not Visible	NA
14	Salemi Dr & Opp Central St	0.53 Miles	Not Visible	NA
15	Elizabeth St	0.66 Miles	Not Visible	NA
16	Main St	0.66 Miles	Not Visible	NA
17	Central St	0.7 Miles	Not Visible	NA
18	E Main St	0.7 Miles	Not Visible	NA
19	Howard Ave	0.73 Miles	Not Visible	NA
20	Prindle Ave	0.73 Miles	Not Visible	NA
21	Cornerstone Dr	0.75 Miles	Not Visible	NA
22	Silver Hill Rd	0.76 Miles	Not Visible	NA
23	Prindle Ave	0.78 Miles	Not Visible	NA
24	Wakelee Ave	0.78 Miles	Not Visible	NA
25	Chatfield St	0.8 Miles	Not Visible	NA
26	Hawkins St	0.83 Miles	Not Visible	NA
27	Highland Ave	0.9 Miles	Not Visible	NA
28	State Park	0.93 Miles	Not Visible	NA
29	Silver Hill Rd	0.98 Miles	Not Visible	NA
30	Derby Ave	1.01 Miles	Not Visible	NA

Visibility Analysis Results

The results of the viewshed analysis for the proposed telecommunications facility are provided on the visibility analysis maps attached at the end of this report within Attachment A. The maps are provided in two ways, one set of maps comparing leaf-on, leaf-off conditions (single color for each) and a second set of maps showing proposed total visibility by height (IVSview® multi -level viewshed) as an overview.

Year-Round Visibility:

Predicted estimate of year-round views (Summer, leaf-on condition) of the proposed tower facility are from approximately 100 acres or approximately 4.97 % of the 1-mile radius, 2010.6 Acre study area. The majority of those specific views (57.8 Acres, 2.88 %) are of the upper most portion (50 %) of the proposed tower. (see Attachment A - IVSview® for multi -level viewshed leaf-on prediction). The majority of remaining views are predicted to be contained within the commercial/ industrial/mixed use area surrounding the site, the area along Pershing Drive, and along the adjacent Naugatuck River area.

The nearest residential area (mixed use) immediately to the west of the site along and perpendicular to Division Street (=-700 ft), are predicted to have sporadic views of the upper most portion of the tower. Osbornedale State Park, .77 miles to the west is predicted to have no year-round views of the proposed facility due to the existing topography and forested areas between the properties. The nearest school, The Ansonia Middle School is located .43 miles to the north, no views are predicted from the school grounds.

Seasonal Visibility:

Predicted estimate seasonal views (Winter, leaf-off condition) of the proposed facility are from an additional 15.3 acres (.76 %). Total predicted seasonal views 115.3 Acres or approximately 5.73 % of the 1-mile radius, 2010.6 Acre study area. The majority of the additional leaf-off views are scattered along the edges of predicted leaf-on visibility. (see - IVSview® leaf-off prediction). The nearest residential area (mixed use) with

predicted seasonal views of the proposed facility, the area along and perpendicular to Division Street, are predicted to have obstructed views of the tower through existing tree canopy/existing structures. Additional leaf off visibility is predicted in the residential area approximately .5 miles to the southeast. These specific views are expected to be intermittent and obscured by existing topography.

Documentation

Sources used for Visibility Analysis located at:

CT0455 Ansonia
64 Pershing Drive Ansonia
CT 06401

Maps and datasets /consulting documents:

United States Geological Survey - USGS Topographical quadrangles (2011-2012)
National Resource Conservation Service -NAIP aerial photography (2010, 2012)

CRCOG Ortho-imagery – (2021)

UCONN- Center for Land Use Education and Research
- LiDAR data (2019)

DEEP- Connecticut Department of Energy and Environmental Protection
- Open Space (2010)
- DEEP Property (2017)
- Historic Places (2012)

United States Census (2010) – Landmark Polygon Features
Connecticut Forest & Park Association (CFPA) – Blue Blazed Trails (2024)

Connecticut.Gov eLicensing Website – Child Daycare & Group Daycare Homes Roster (2024)

Environmental Systems Research Institute Inc (ESRI) – CT state boundaries/counties (2010)

Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Limitations:

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

Attachment A - Leaf-On & Leaf-Off Viewshed Mapping Package



Proposed Wireless Telecommunications Facility:

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401

- Proposed new 120 ft AGL antenna structure
- Viewshed map completed 9/12/24
- Balloon test and viewshed verification completed 9/13/24

Package prepared by:

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

www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com

Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.



Proposed Facility:

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401

Facility Location  1 Mile Radius 

Leaf-On TowerVisibility 

4.97 % Visible **100** Acres

Leaf-Off Tower Visibility 

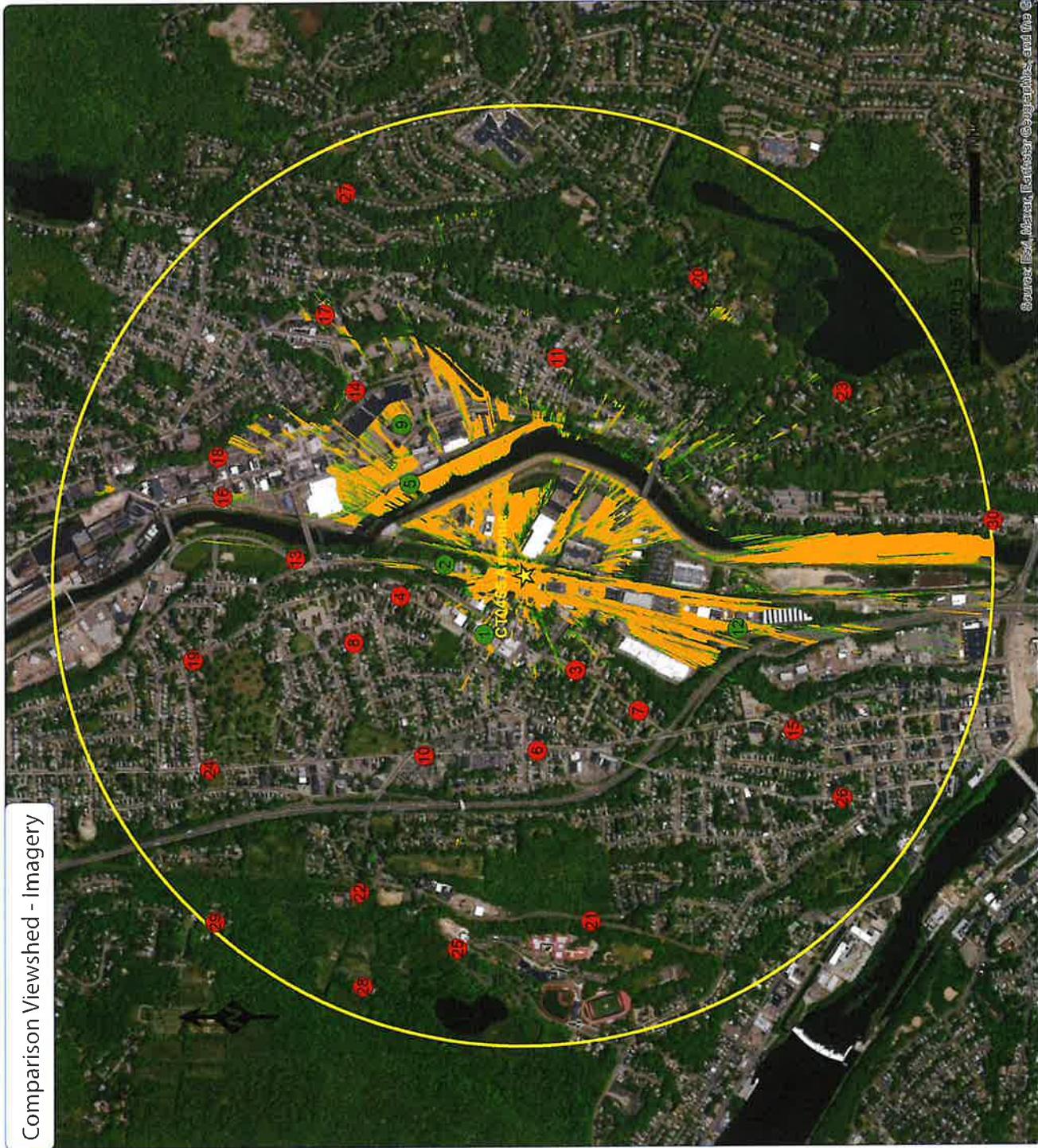
5.73 % Visible **115.3** Acres

Statistics:

PROJ_DESC=Geographic (Lat/Long) / WGS84 / arc degrees
PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
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PIXEL_HEIGHT=0.0000014 arc degrees(+/- .6 ft)
RADIUS (FT)= 1 Mile
TRANSMITTER_HEIGHT (FT-AGL)= 120
RECEIVER_HEIGHT (FT-AGL)= 5 Ft

Notes:

- map compiled by VSS, LLC on: 9/12/24
- Tower location(lat/long NAD 83):41.334667 -73.082897
- Data Sources noted on documentation page attached



Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.

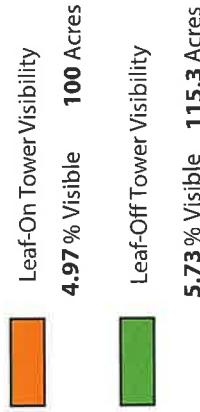


 ARX
VIEWSHED

Proposed Facility:

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401

Facility Location  1 Mile Radius

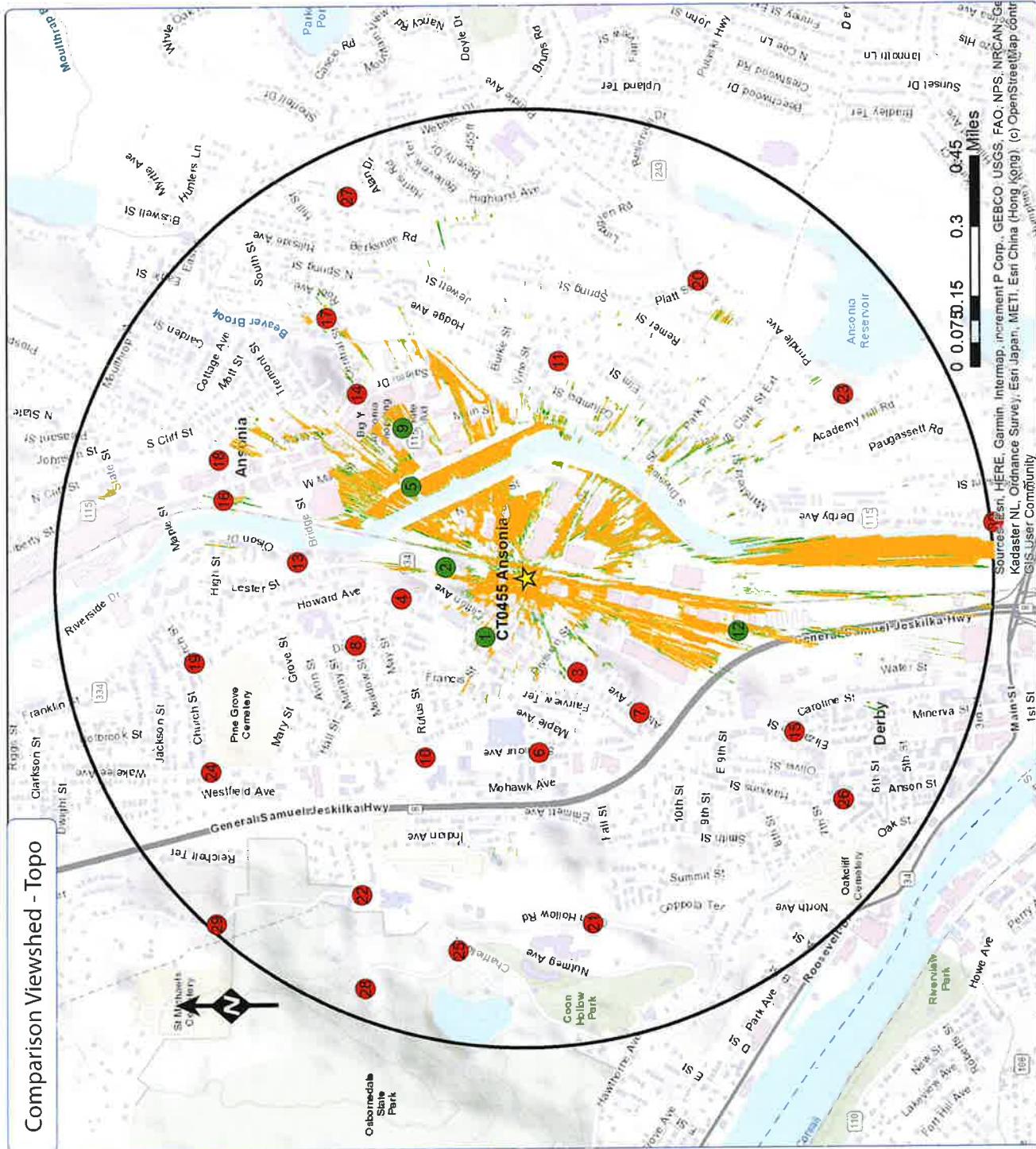


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PIXEL_HEIGHT=0.0000014 arc degrees(+/- .6 ft)
RADIUS (FT)= 1 Mile
TRANSMITTER_HEIGHT (FT-AGL)= 5 Ft
RECEIVER_HEIGHT (FT-AGL)=

Notes:
- map compiled by VSS, LLC on: 9/12/24
- Tower location (lat/long NAD 83): 41.334667 -73.082897
- Data Sources noted on documentation page attached

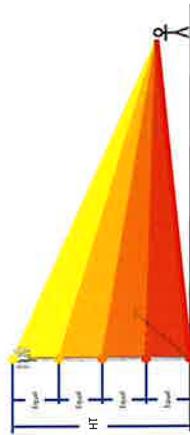


 WIRELESS



Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.

IVSview® Color Legend



- ★ Facility Location
- 1 Mile Radius
- Photo location -Balloon visible
- -Year Round Visibility
- Photo location -Balloon visible
- -Obstructed Visibility
- Photo location -Balloon NOT visible



Statistics:

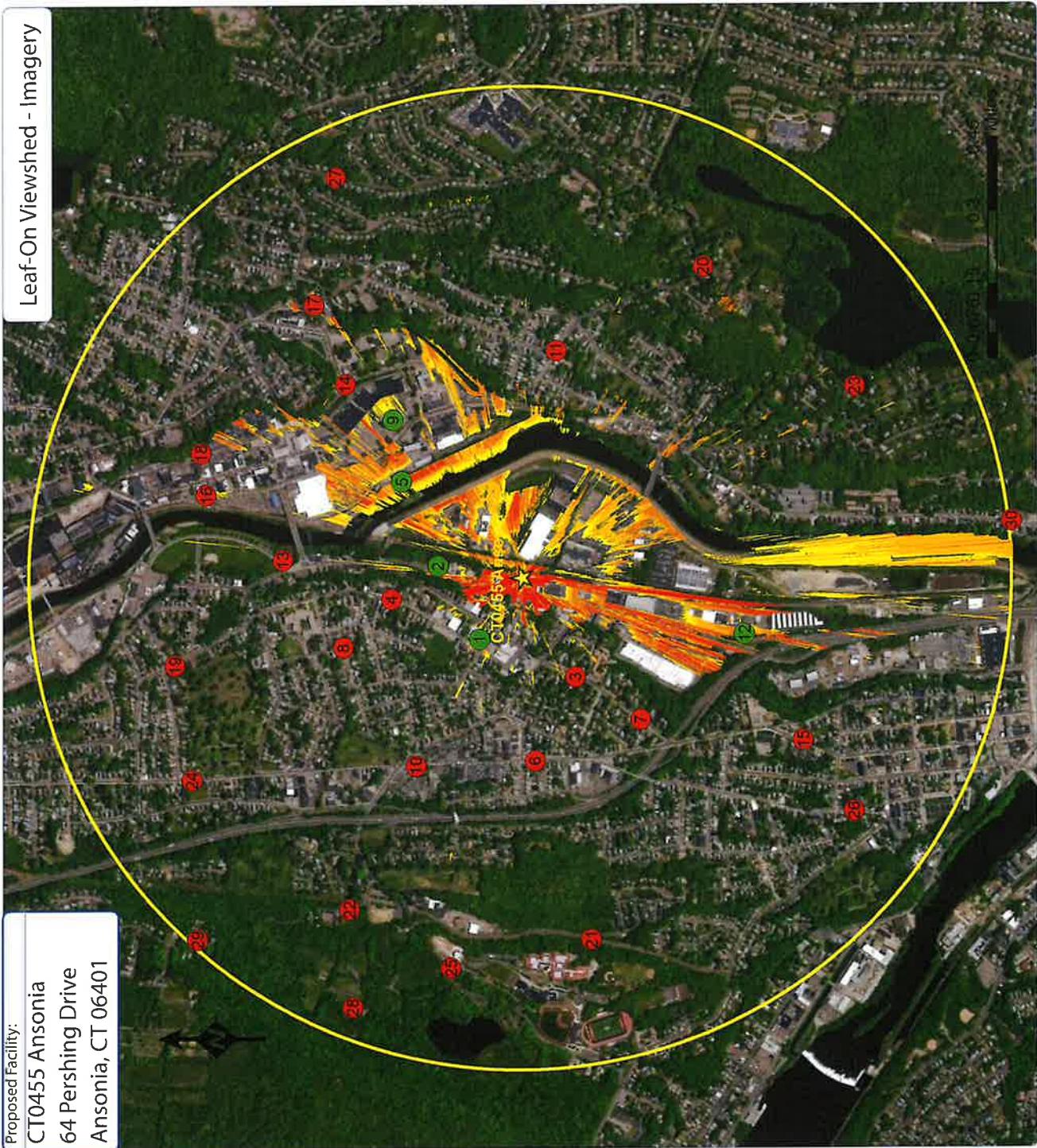
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 PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
 PIXEL_WIDTH=0.0000013 arc degrees (+/- .6 ft)
 PIXEL_HEIGHT=0.0000014 arc degrees (+/- .6 ft)
 RADIUS (FT)= 1 Mile
 TRANSMITTER_HEIGHT (FT-AGL)= 120
 RECEIVER_HEIGHT (FT-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 4.97%

Notes:
 - map compiled by VSS, LLC on: 9/12/24
 - Tower location(lat/long NAD 83): 41.334667 -73.082897
 - Data Sources noted on documentation page attached



4

Leaf-On Viewshed - Imagery



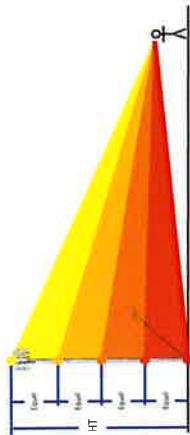
VSS-IVS- Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.



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IVSview® Color Legend



★ Facility Location ○ 1000 Ft Radius

- Photo location -Balloon visible
- Year Round Visibility
- Photo location -Balloon visible
- Obstructed Visibility
- Photo location -Balloon NOT visible



Statistics:

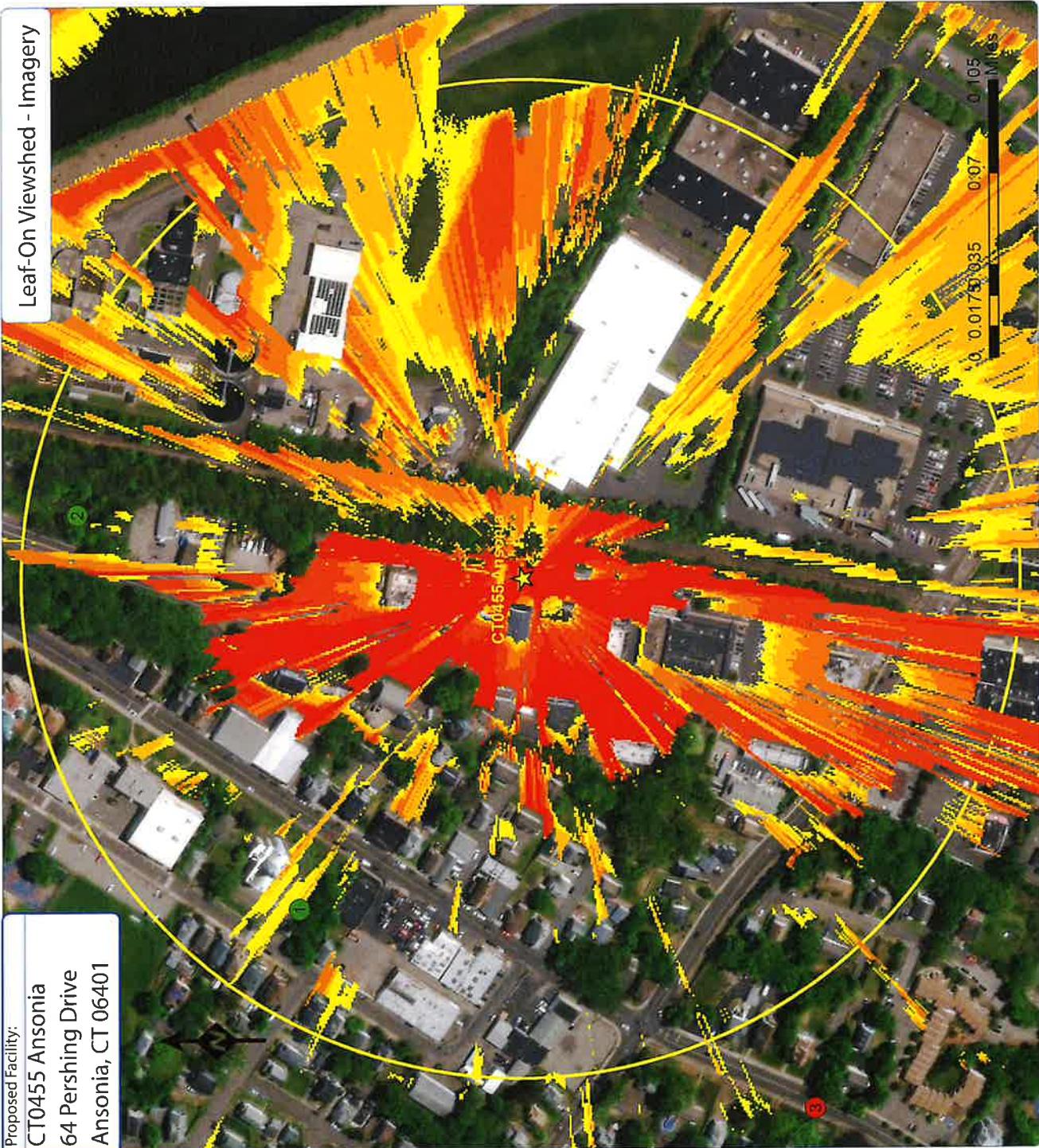
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 PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
 PIXEL_WIDTH=0.0000013 arc degrees (+/- .6 ft)
 PIXEL_HEIGHT=0.00000014 arc degrees(+/- .6 ft)
 RADIUS (FT)= 1000 Feet
 TRANSMITTER_HEIGHT (FT+AGL)= 120
 RECEIVER_HEIGHT (FT+AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 4.97%

Notes:

- map compiled by VSS, LLC on : 9/12/24
- Tower location(lat/long NAD 83): 41.334667 -73.082897
- Data Sources noted on documentation page attached



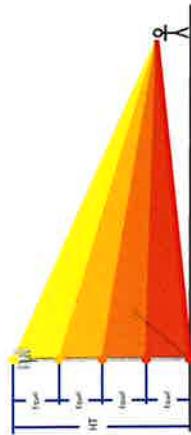
Leaf-On Viewshed - Imagery



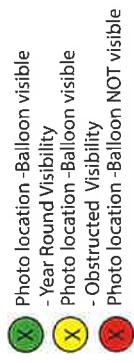
VSS-IVS-Interactive Viewshed Analysis is output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.



IVSview® Color Legend



★ Facility Location 1000 Ft Radius



Statistics:

PROJ_DESC=Geographic (Lat/Long) / WGS84 / arc degrees
PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
PIXEL_WIDTH=0.0000013 arc degrees (+/- 6 ft)
PIXEL_HEIGHT=0.0000014 arc degrees(+/- .6 ft)
RADIUS (FT)= 10000 Feet
TRANSMITTER_HEIGHT (FT-AGL)= 120
RECEIVER_HEIGHT (FT-AGL)= 5 Ft
PERCENT_VISIBLE (%)= 4.97%

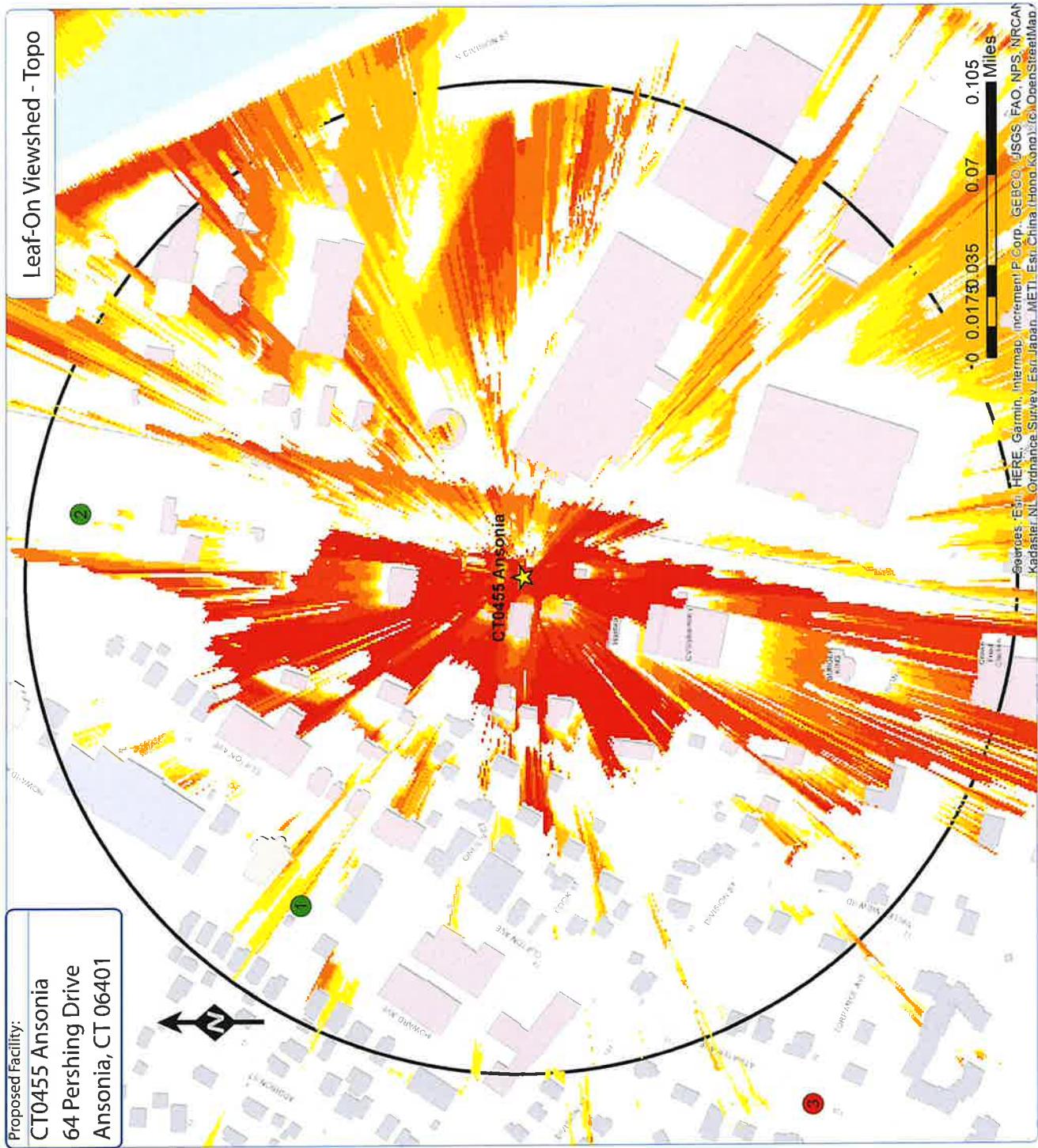
Notes:

- map compiled by VSS, LLC on : 9/12/24
- Tower location(lat/long NAD 83): 41.334667 -73.082897
- Data Sources noted on documentation page attached



7

Leaf-On Viewshed - Topo



VSS-IVS- Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site visits as needed.

 VSS

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IVSview® Color Legend



★ Facility Location 1 Mile Radius

- Photo location -Balloon visible -Year round visibility
- Photo location -Balloon visible -Obstructed Visibility
- Photo location -Balloon NOT visible



Statistics:

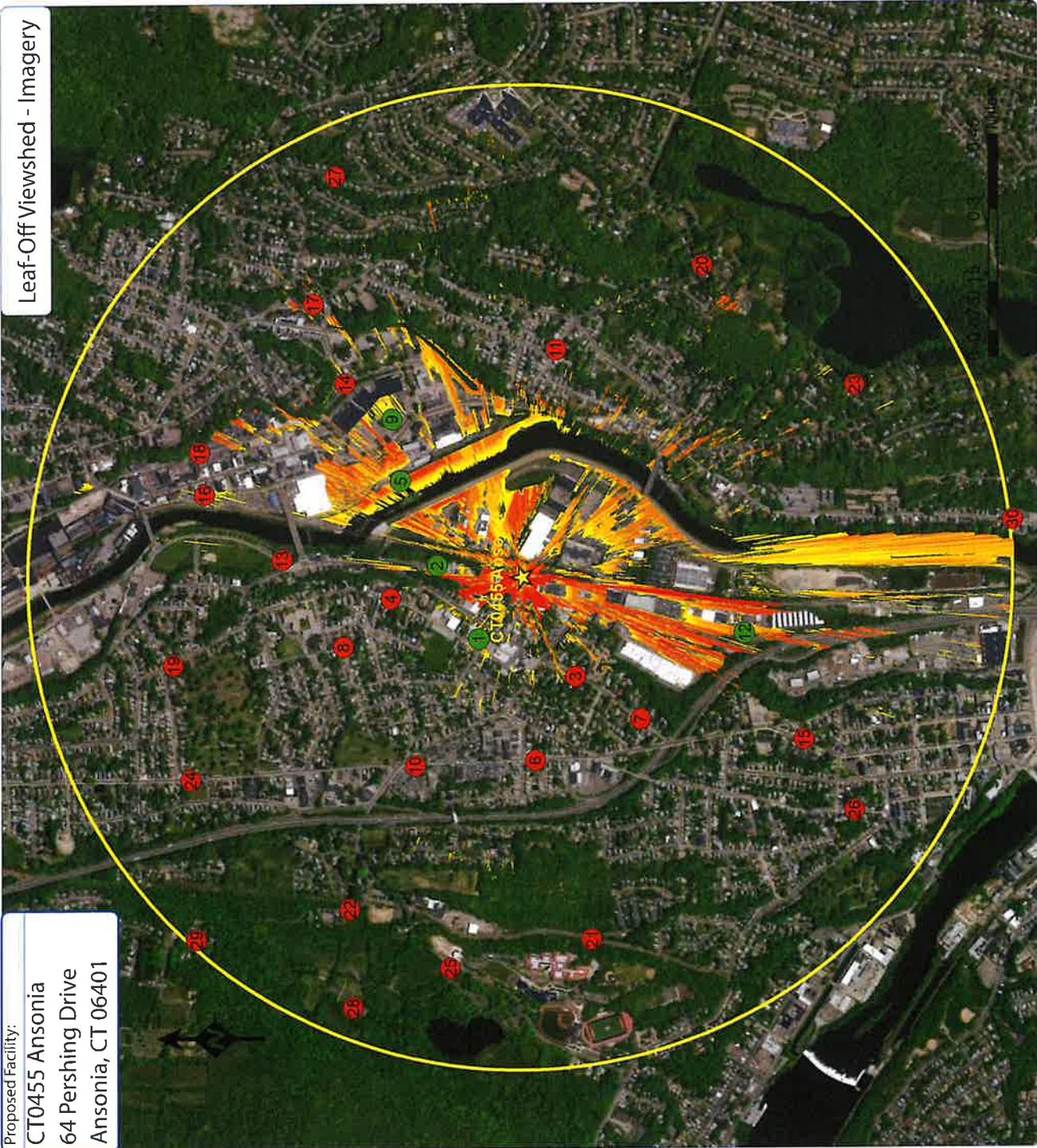
PROJ_DESC=Geographic (Lat/Long) /WGS84 / arc degrees
 PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
 PIXEL_WIDTH=-0.0000013 arc degrees (-/- .6 ft)
 PIXEL_HEIGHT=0.0000014 arc degrees (+/- .6 ft)
 RADIUS (FT)= 1Mile
 TRANSMITTER_HEIGHT (Ft-AGL)= 120
 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 5.73%

Notes:

- map compiled by VSS, LLC on :9/12/24
- Tower location(lat/long NAD 83):41.334667 -73.082897
- Data Sources noted on documentation page attached



Leaf-Off Viewshed - Imagery



VSS-IVS- Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.



IVSview® Color Legend



★ Facility Location ○ 1000 Ft Radius

- Photo location -Balloon visible
- Year Round Visibility
- Photo location -Balloon visible
- Obstructed Visibility
- Photo location -Balloon NOT visible



Statistics:

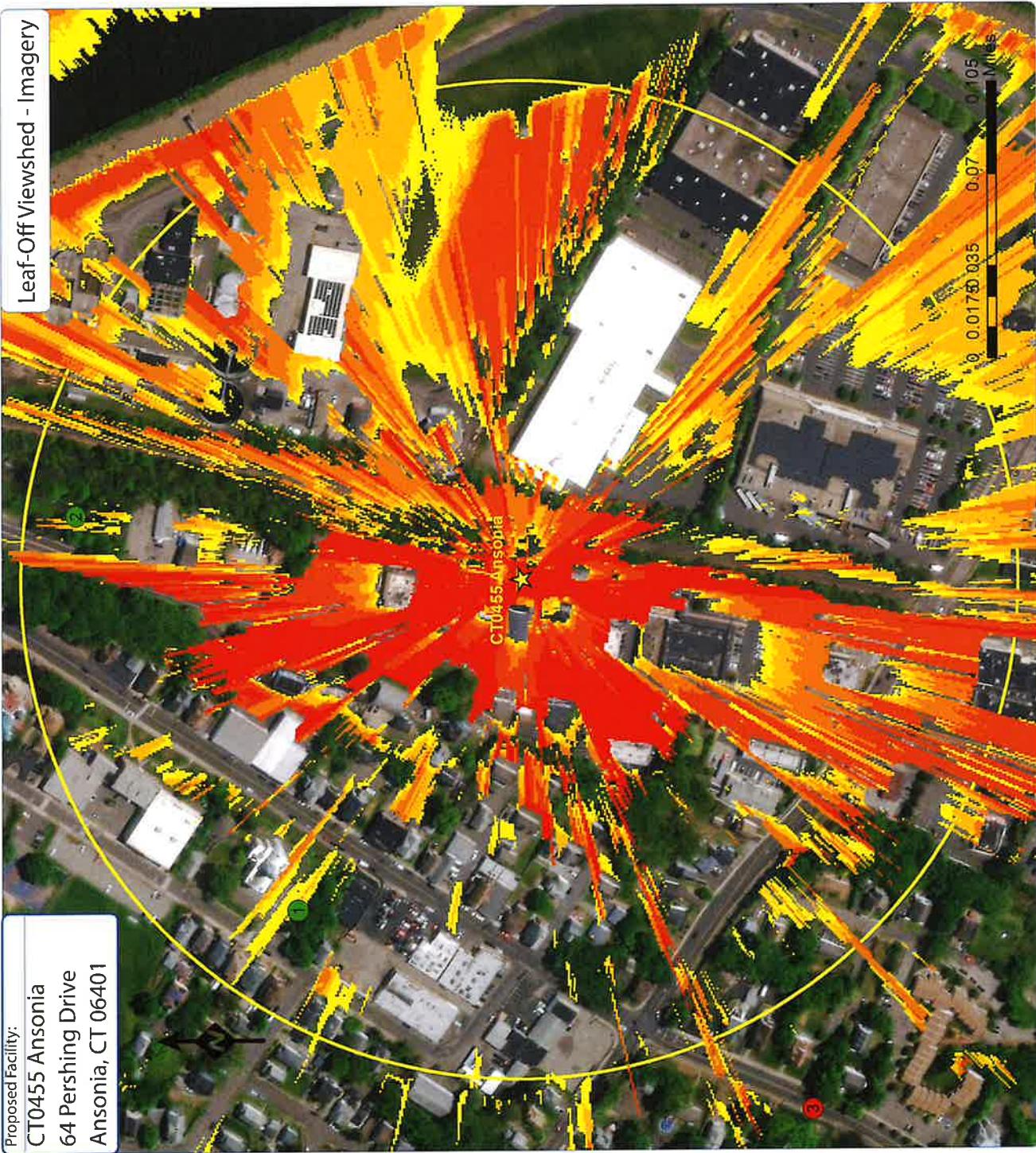
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 PIXEL_HEIGHT=0.0000014 arc degrees (+/- .6 ft)
 RADIUS (FT)= 1000 Feet
 TRANSMITTER_HEIGHT (FT-AGL)= 120
 RECEIVER_HEIGHT (FT-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 5.73%

Notes:

- map compiled by VSS, LLC on : 9/12/24
- Tower location(lat/long NAD 83): 41.334667 -73.082897
- Data Sources noted on documentation page attached



Leaf-Off Viewshed - Imagery



VSS-IVS- Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.



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IVSview® Color Legend



- Photo location -Balloon visible
- Year Round Visibility
- Photo location -Balloon visible
- Obstructed Visibility
- Photo location -Balloon NOT visible

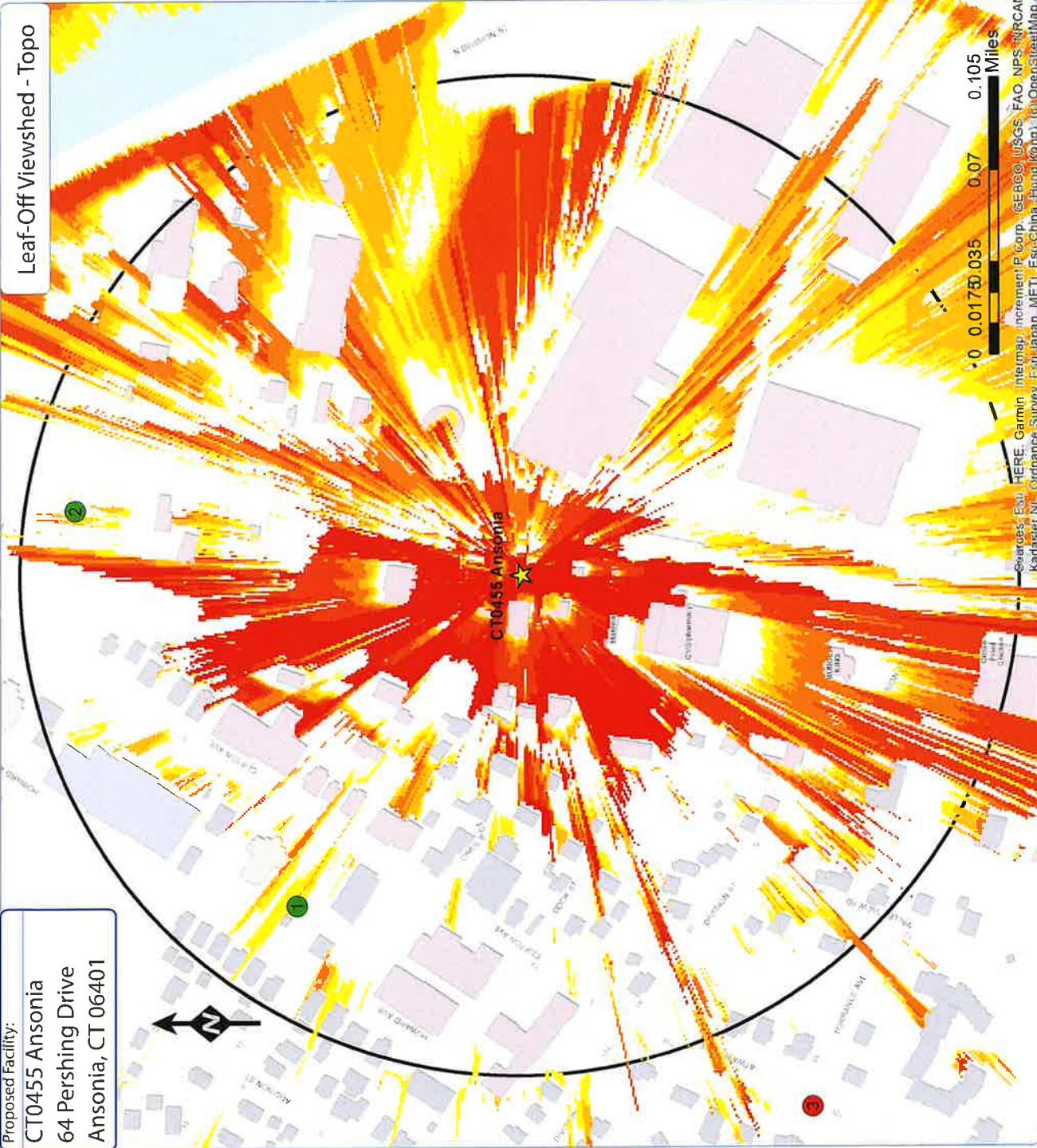


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 PIXEL_HEIGHT=0.0000014 arc degrees (+/- .6 ft)
 RADIUS (FT)= 1000 Feet
 TRANSMITTER_HEIGHT (FT-AGL)= 120
 RECEIVER_HEIGHT (FT-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 5.73%

Notes:

- map compiled by VSS, LLC on :9/12/24
- Tower location(lat/long NAD 83): 41.334667 -73.082897
- Data Sources noted on documentation page attached



VSS-IVS-Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.



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Attachment B - Photographic Simulation Package



Proposed Wireless Telecommunications Facility:

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401

- Balloon Test Conducted 9/13/24
- Proposed New 120ft AGL Monopole

Package prepared by:

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

www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com

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



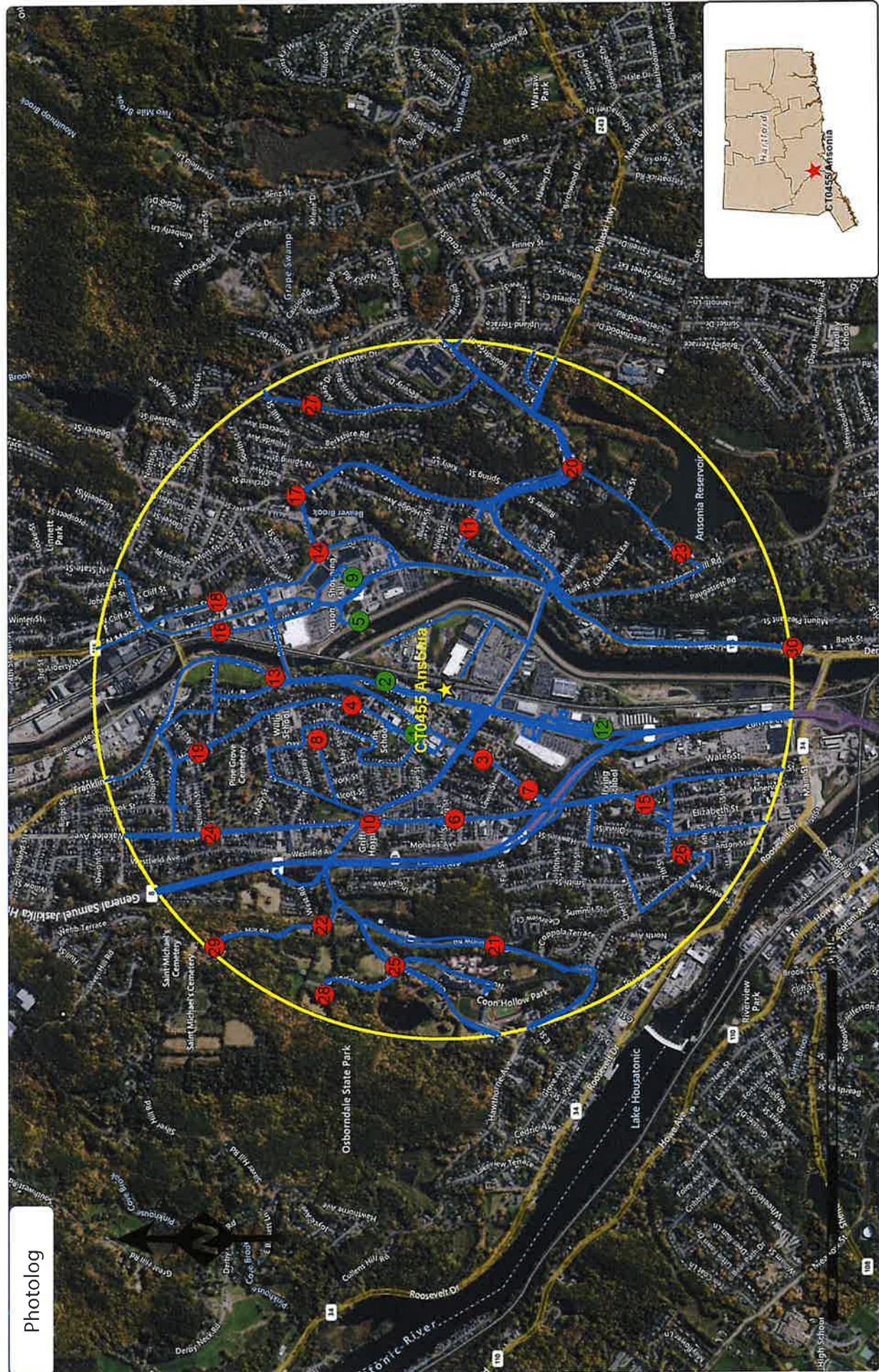


Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution

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VSS



Wireless Telecommunications Facility:

- CT0455 Ansonia
- 64 Pershing Drive
- Ansonia, CT 06401

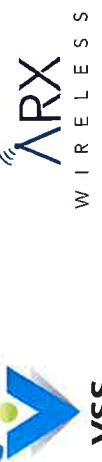
Existing



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
1	Howard Ave	41.33589	-73.0853	0.15 Miles	North-West	124 Year Round

Site: CT0455 Ansonia

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



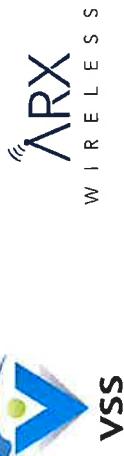
Simulation



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
1	Howard Ave	41.33589 -73.0853	0.15 Miles	North-West	124	Year Round

Site: CT0455 Ansonia

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



Existing



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility	Year Round
2	State Rte 727	41.33712	-73.08243	0.17 Miles	North	188	

Site: CT0455 Ansonia

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



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© 2014 Virtually Smart Solutions, Inc.

Simulation



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
2	State Rte 727	41.33712	-73.08243	0.17 Miles	North	188 Year Round

Site: CT0455 Ansonia

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



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
3	Atwater Ave	41.33306 -73.08676	0.23 Miles	South-West	61	Not Visible

Site: CT0455 Ansonia

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



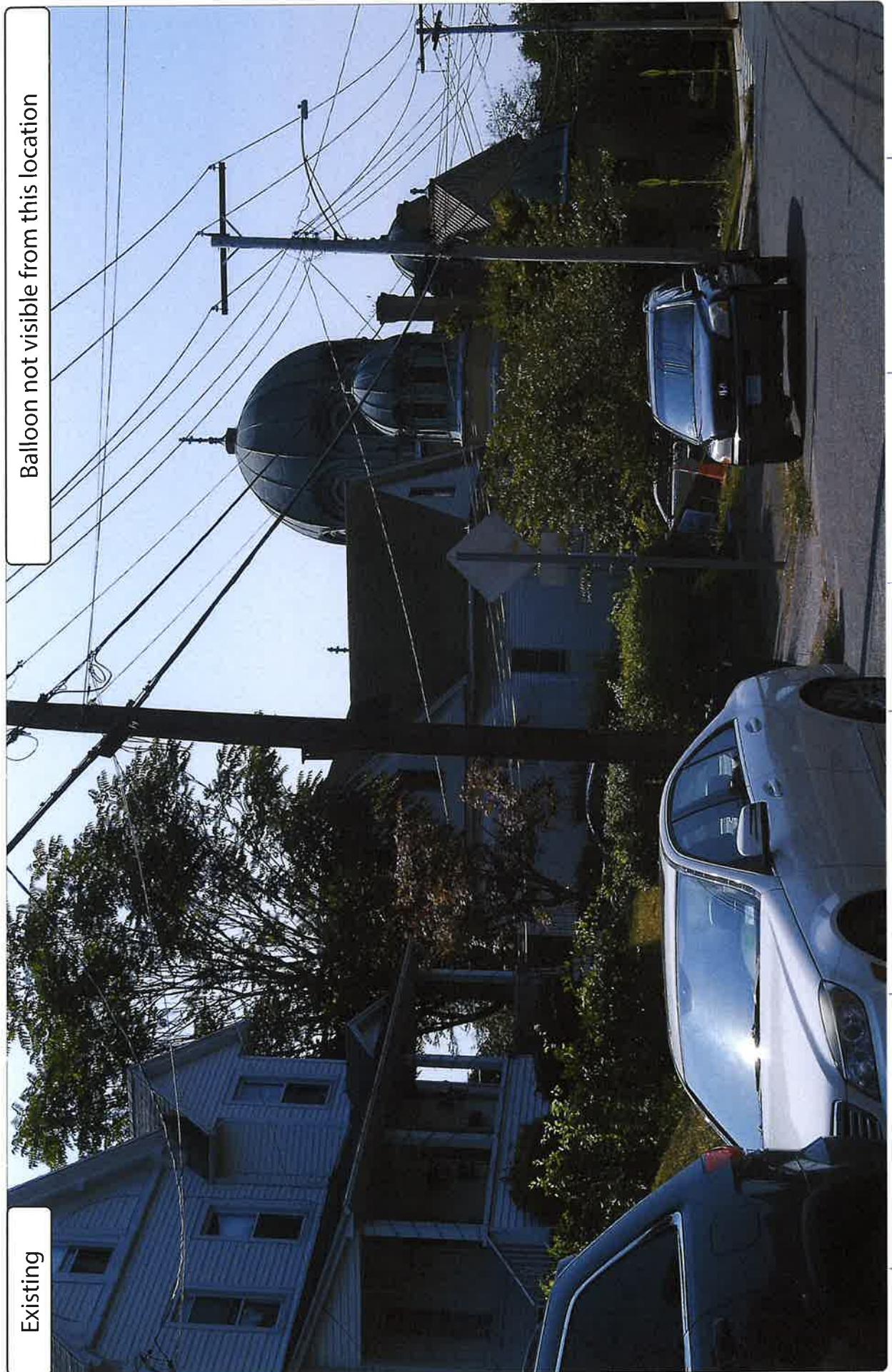


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
4	Howard Ave	41.33848 -73.08373	0.27 Miles	North	171	Not Visible

Site: CT0455 Ansonia

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



Existing



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
5	Main St	41.3382 -73.07912	0.31 Miles	North-East	219	Year Round

Site: CT0455 Ansonia

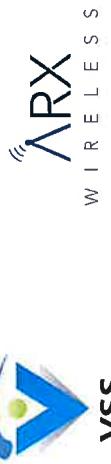


Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution

Simulation



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
5	Main St	41.3382 -73.07912	0.31 Miles	North-East	219	Year Round

Site: CT0455 Ansonia

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



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ARX

Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
7	Atwater Ave	41.33113 -73.08841	0.38 Miles	South-West	50	Not Visible

Site: CT0455 Ansonia

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



© 2012 VSS

Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
8	Day St	41.33991 -73.08561	0.39 Miles	North	159	Not Visible

Site: CT0455 Ansonia

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



WIRELESS

VSS

Existing

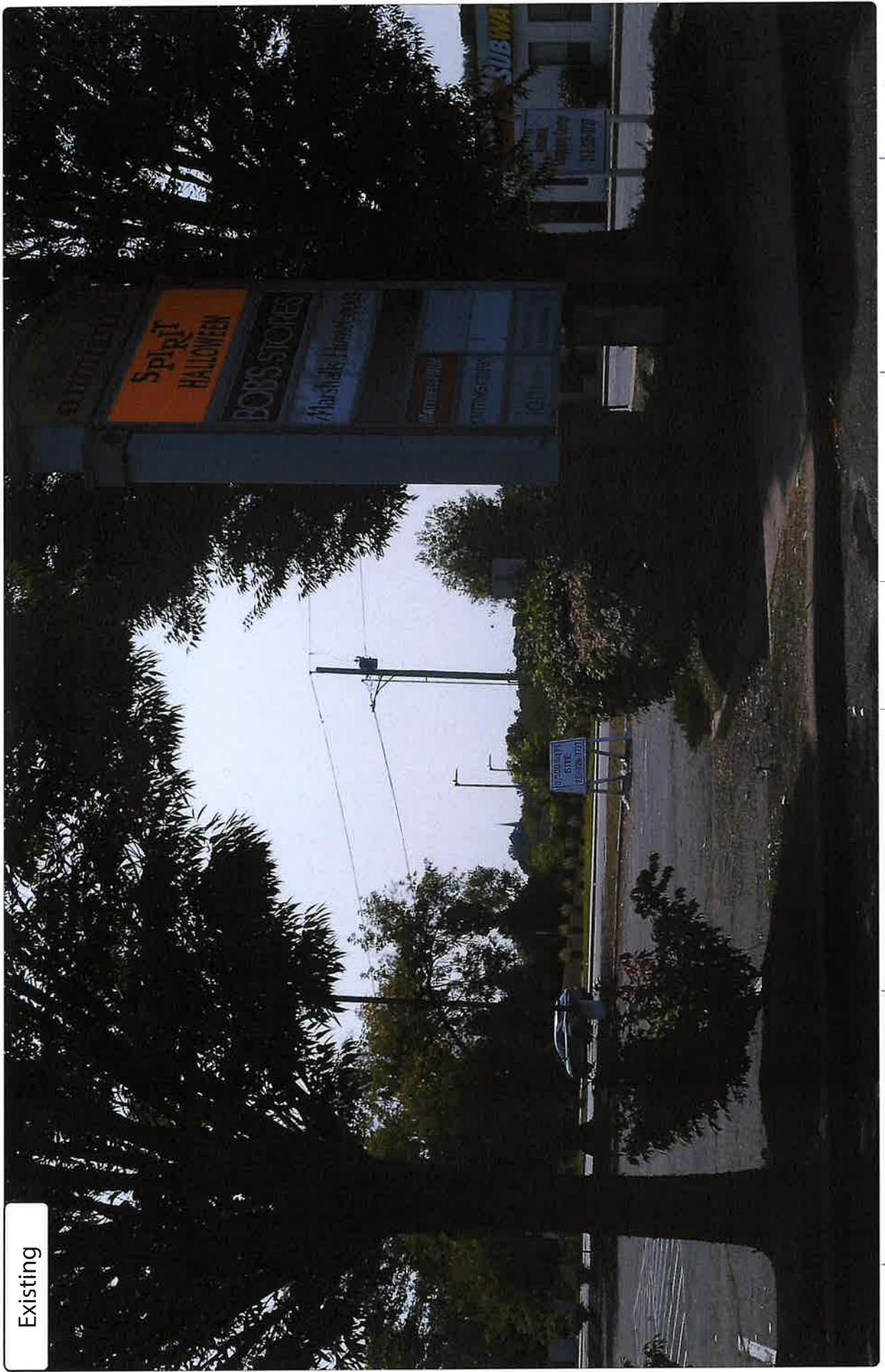


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility	Year Round
9	Main St	41.33846	-73.07671	0.41 Miles	North-East	231	

Site: CTO455 Ansonia

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



© 2013 Virtual Data Services



WIRELESS

Simulation

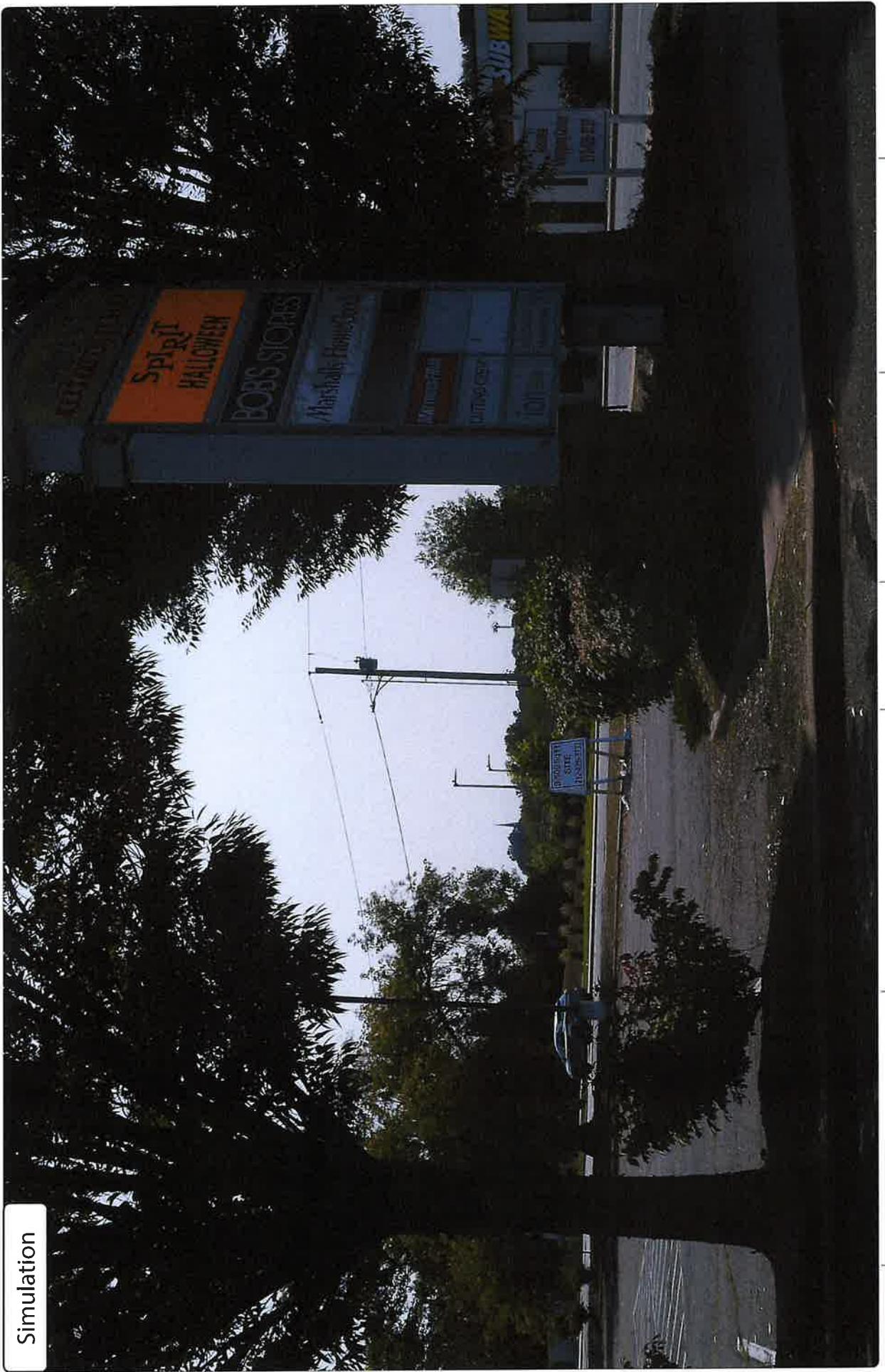
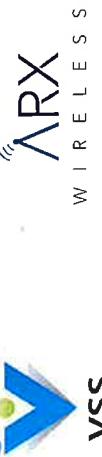


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
9	Main St	41.33846 -73.07671	0.41 Miles	North-East	231	Year Round

Site: CT0455 Ansonia

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



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Wireless Data Partner

Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
10	Seymour Ave	41.3374 -73.09023	0.44 Miles	North-West	119	Not Visible

Site: CT0455 Ansonia

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



W R E L E S S

Existing

Balloon not visible from this location

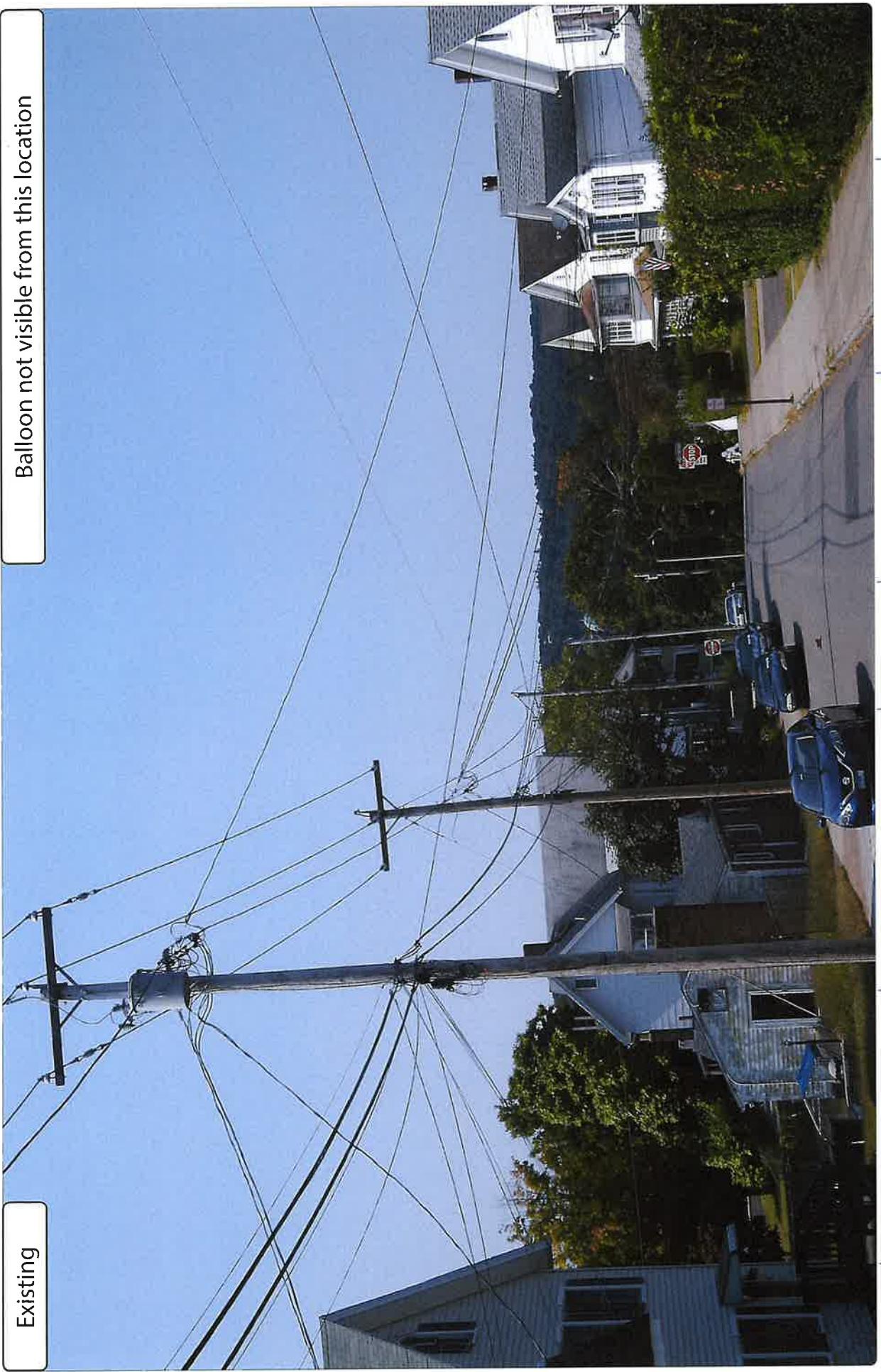


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
11	Platt St	41.33365 -73.07399	0.47 Miles	East	279	Not Visible

Site: CT0455 Ansonia

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



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VSS

Your Visual Data Partner

Existing



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility	Year Round
12	Orangewood W	41.32807 -73.08507	0.47 Miles	South	14		

Site: CT0455 Ansonia

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



WIRELESS



VSS
Your Visual Data Partner

Simulation

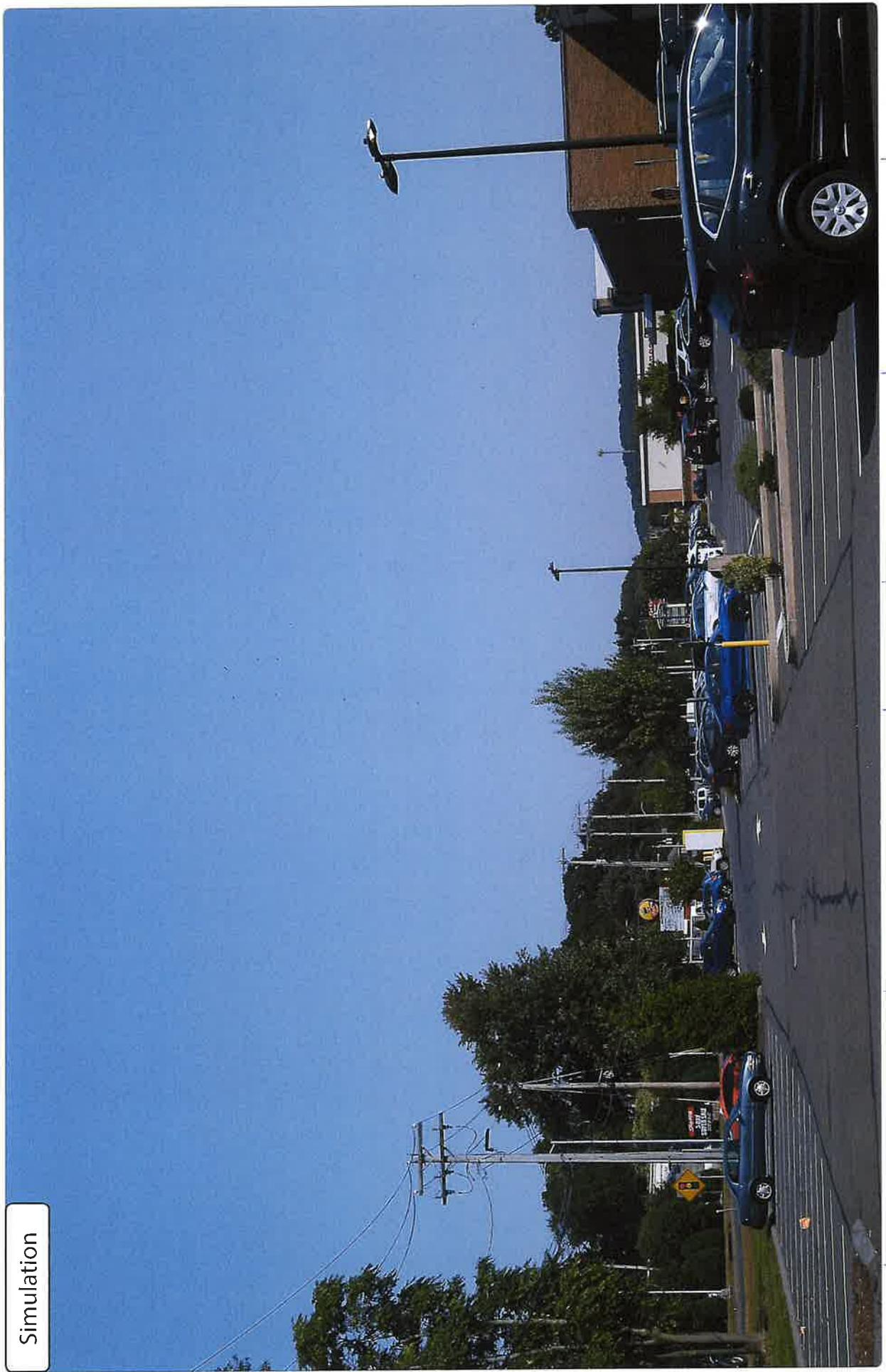


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
12	Orangewood W	41.32807 -73.08507	0.47 Miles	South	14	Year Round

Site: CT0455 Ansonia

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



WIRELESS

Visual Site Planner

Existing

Balloon not visible from this location

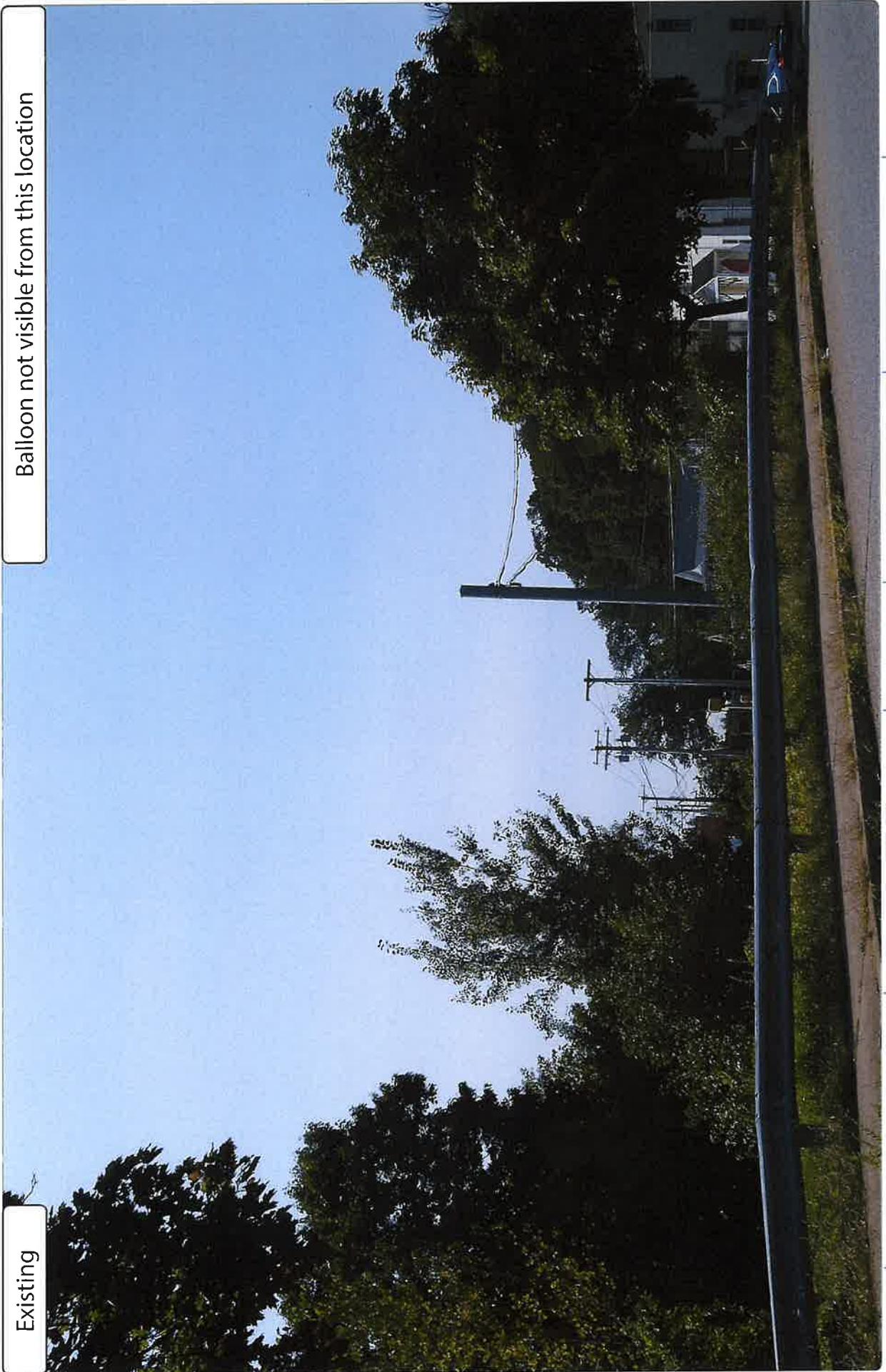


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
13	Olson Dr	41.34169 -73.0822	0.49 Miles	North	184	Not Visible

Site: CT0455 Ansonia

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



Existing

Balloon not visible from this location

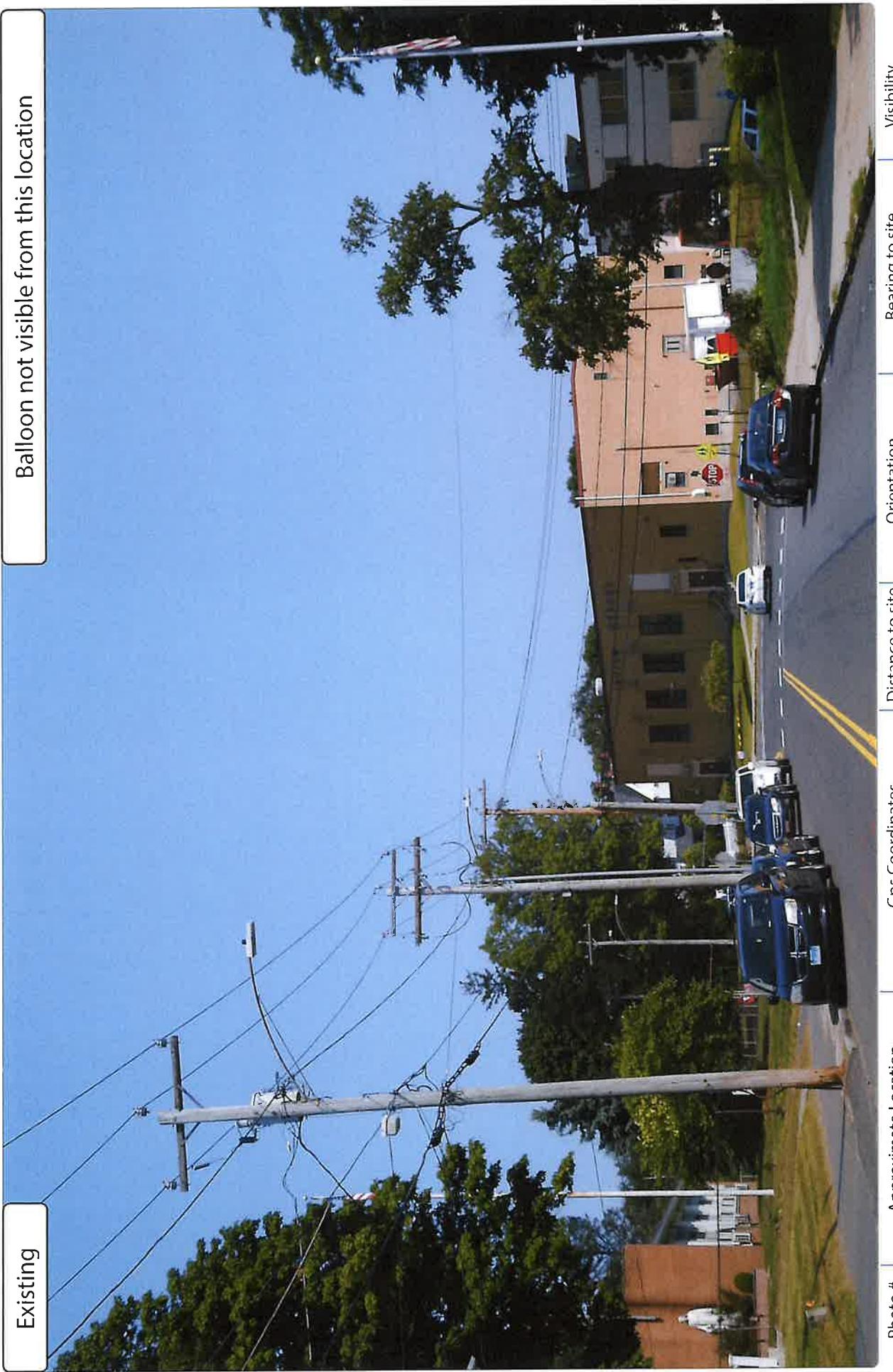


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
15	Elizabeth St	41.32633 -73.08921	0.66 Miles	South-West	30	Not Visible

Site: CTO455 Ansonia

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



WIRELESS

Open Visual Data Partner

Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
16	Main St	41.34396	-73.07966	0.66 Miles	North	195

Site: CT0455 Ansonia

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



WIRELESS

VSS

Existing

Balloon not visible from this location

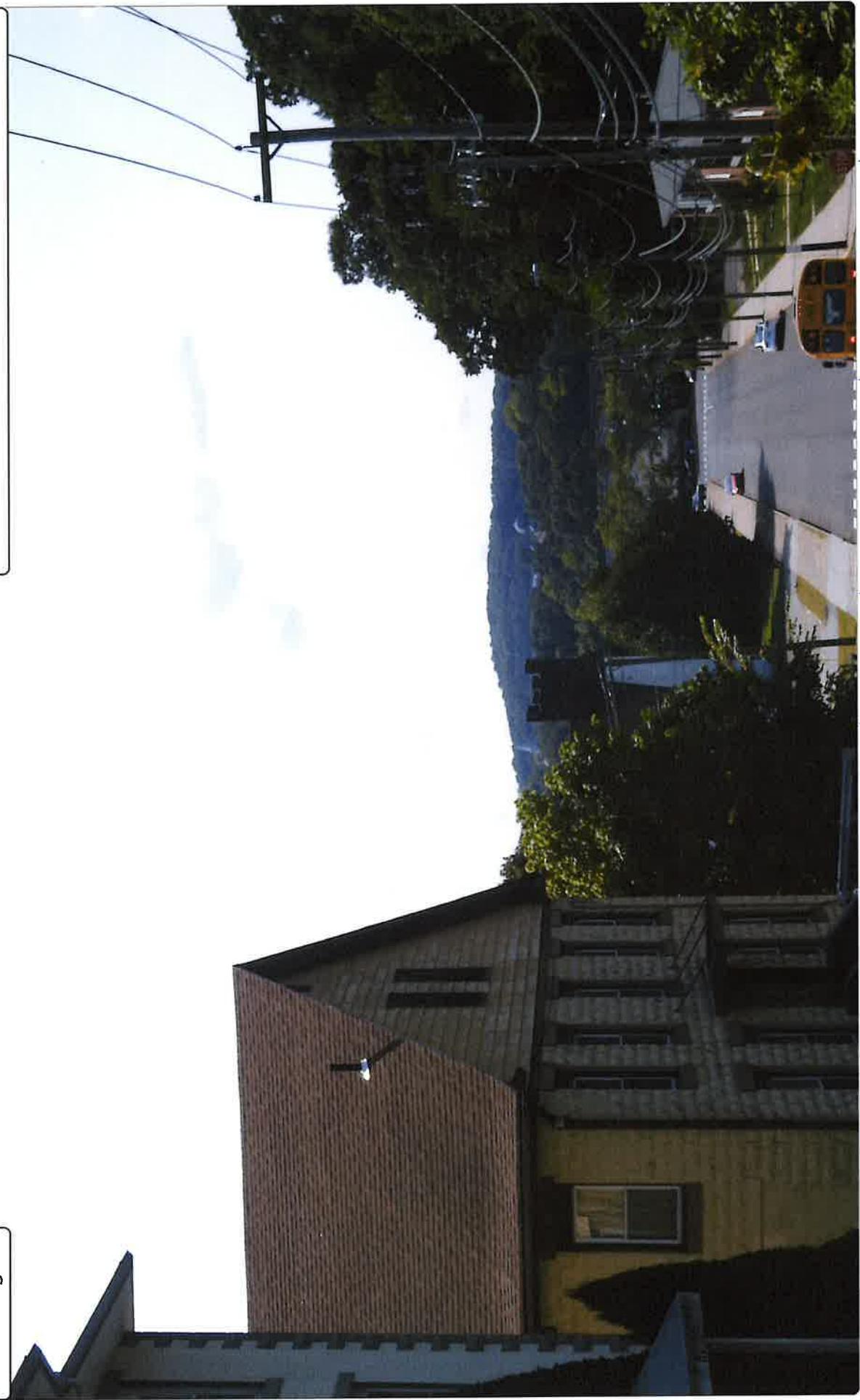


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
17	Central St	41.34082	-73.07221	0.7 Miles	North-East	233

Site: CT0455 Ansonia

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

ARX

WIRELESS



VSS

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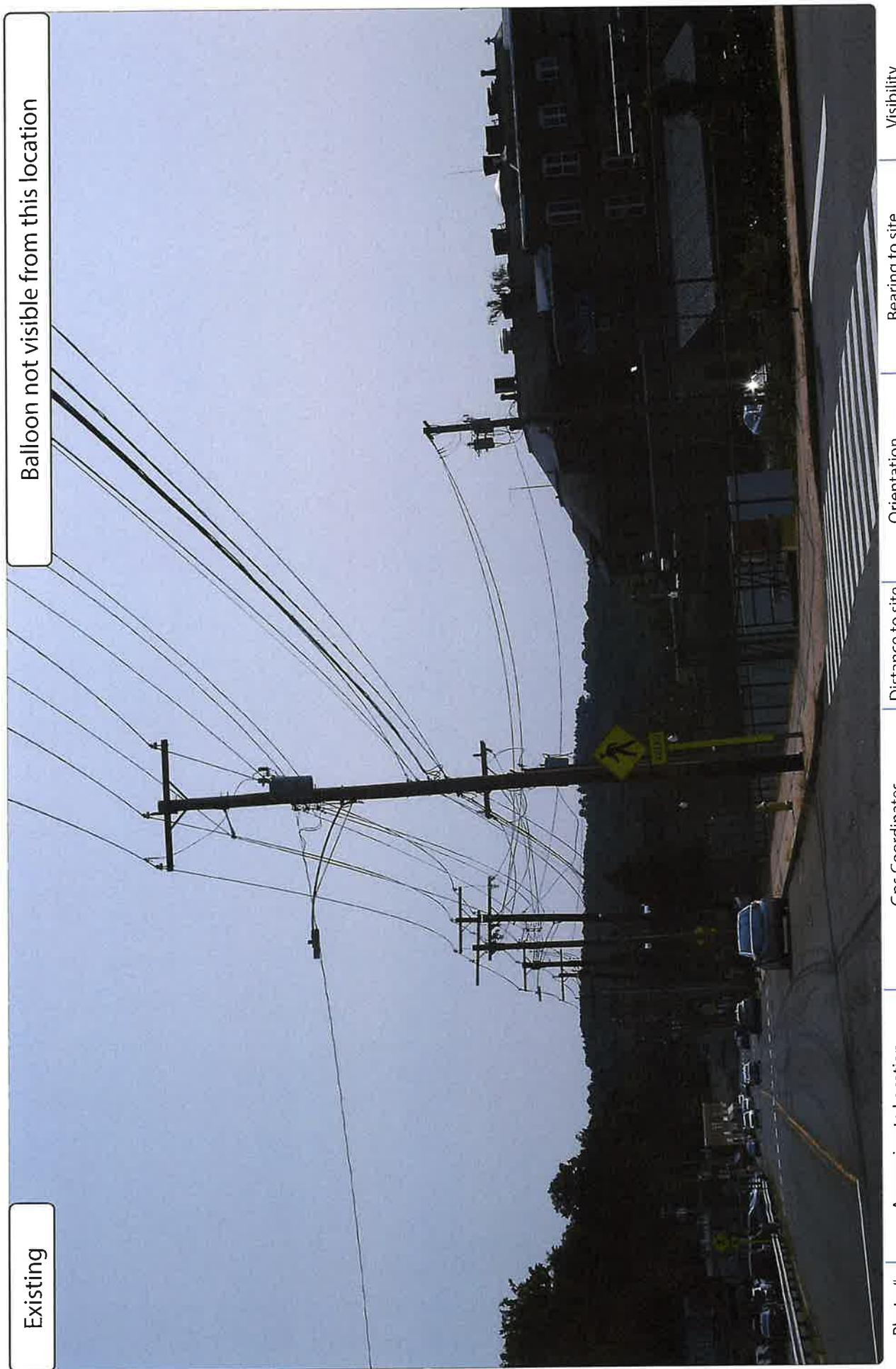
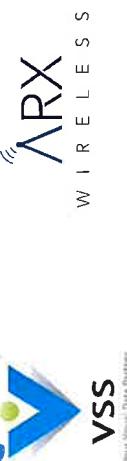


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
18	E Main St	41.34411 -73.07801	0.7 Miles	North	201	Not Visible

Site: CT0455 Ansonia

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



Existing

Balloon not visible from this location

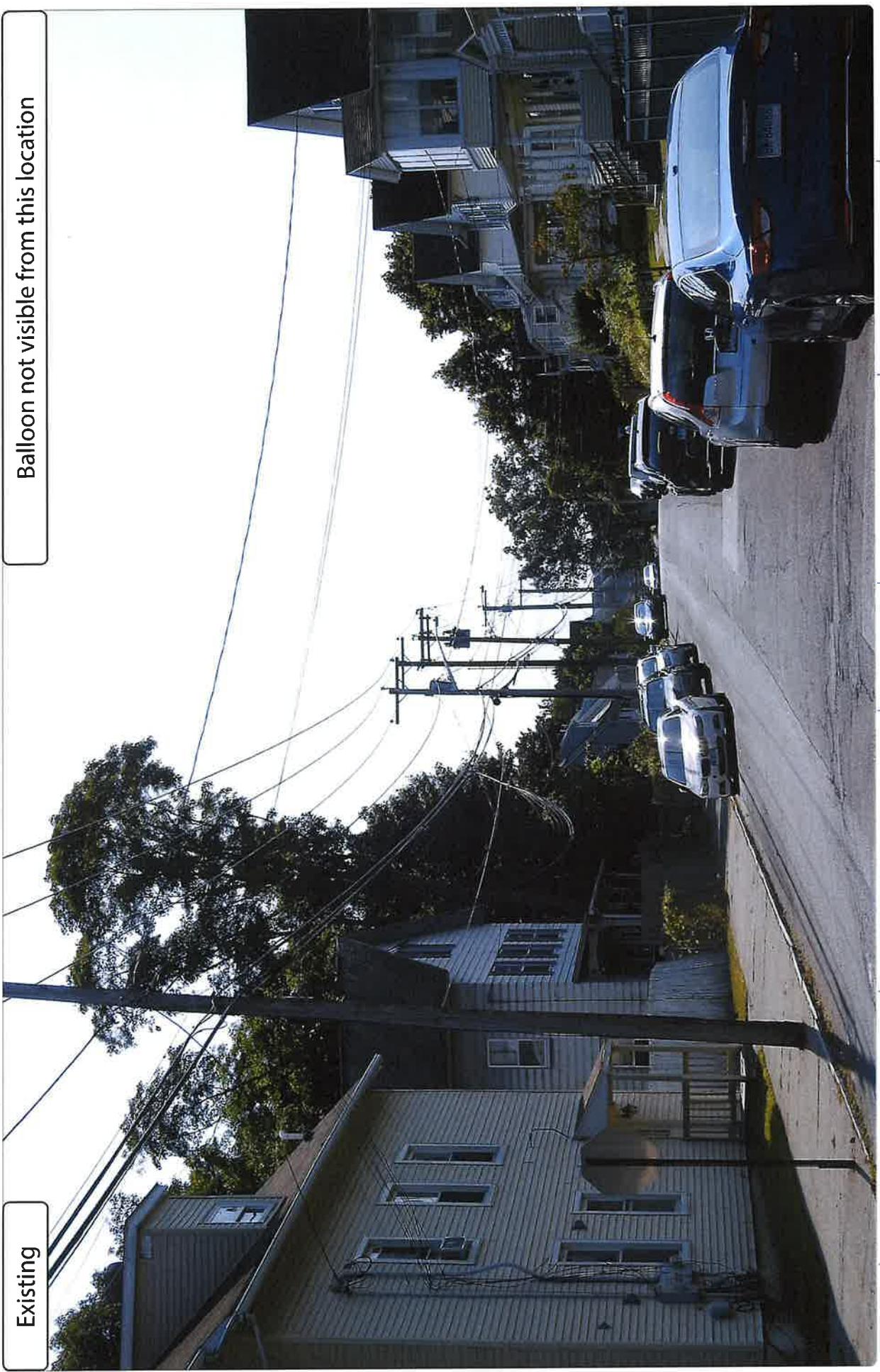


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
19	Howard Ave	41.34487	-73.08632	0.73 Miles	North	166 Not Visible

Site: CTO455 Ansonia

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

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Existing

Balloon not visible from this location



Photo # 20 Approximate Location Prindle Ave

Gps Coordinates 41.32932 -73.0707

Distance to site 0.73 Miles

Orientation South-East

Bearing to site 300

Visibility Not Visible

Site: CT0455 Ansonia

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



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WIRELESS

Existing



Balloon not visible from this location

Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
21	Cornerstone Dr	41.33256	-73.09702	0.75 Miles	West	79 Not Visible

Site: CT0455 Ansonia

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



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
22	Silver Hill Rd	41.3397	-73.09585	0.76 Miles	North-West	117

Site: CT0455 Ansonia

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



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Your Visual Data Partner

Existing

Balloon not visible from this location

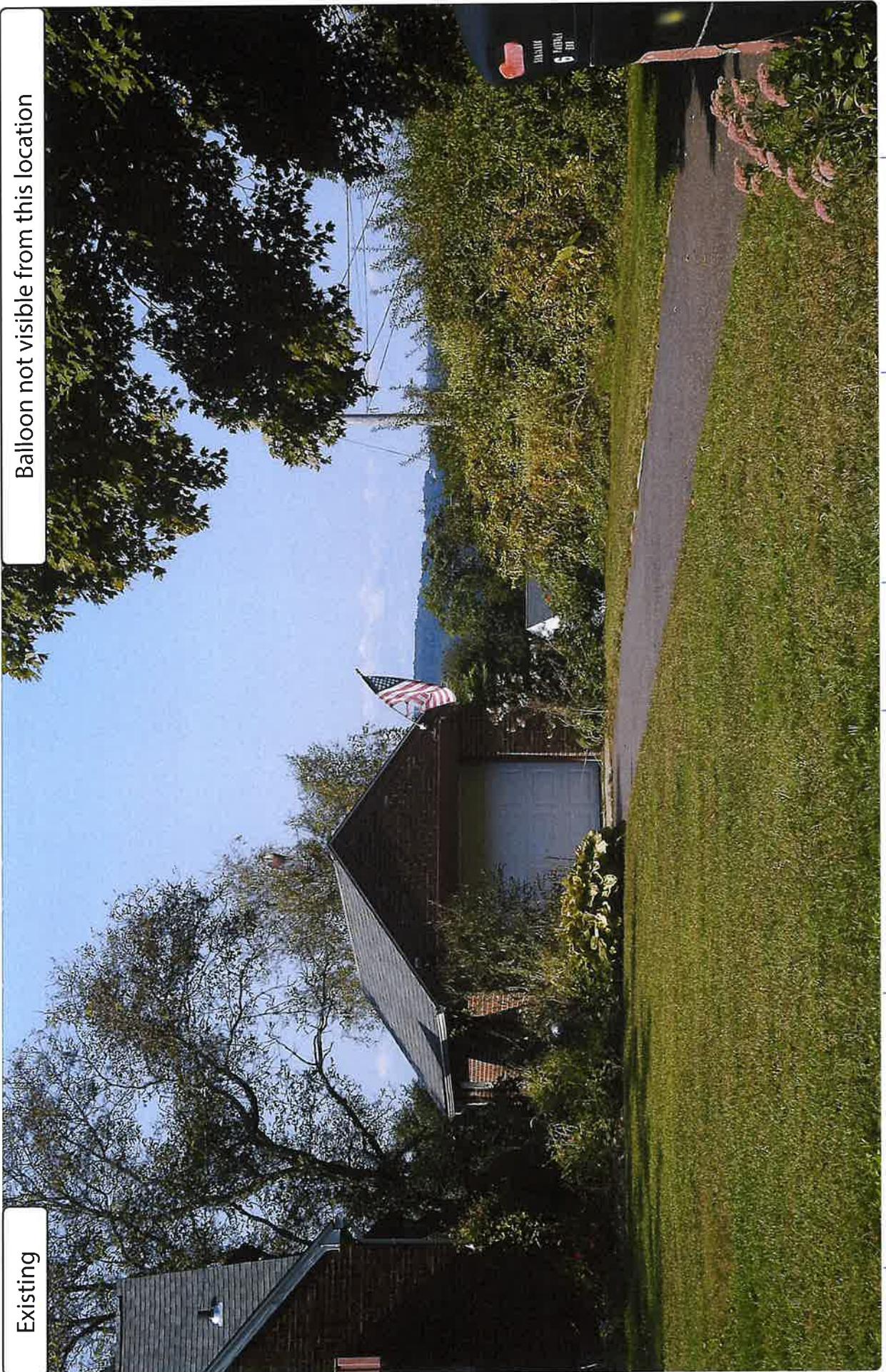
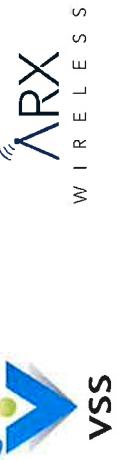


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
23	Prindle Ave	41.32485	-73.07538	0.78 Miles	South-East	330

Site: CT0455 Ansonia

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



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
24	Wakelee Ave	41.34435	-73.09079	0.78 Miles	North-West	149

Site: CT0455 Ansonia

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Wireless Data Systems

Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
25	Chatfield St	41.3367	-73.09814	0.8 Miles	West	100

Site: CTO455 Ansonia

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



WIRELESS

Virtual Site Solutions

Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
26	Hawkins St	41.32483 -73.09197	0.83 Miles	South-West	35	Not Visible

Site: CT0455 Ansonia

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



WIRELESS

From: Visual Site Simulations

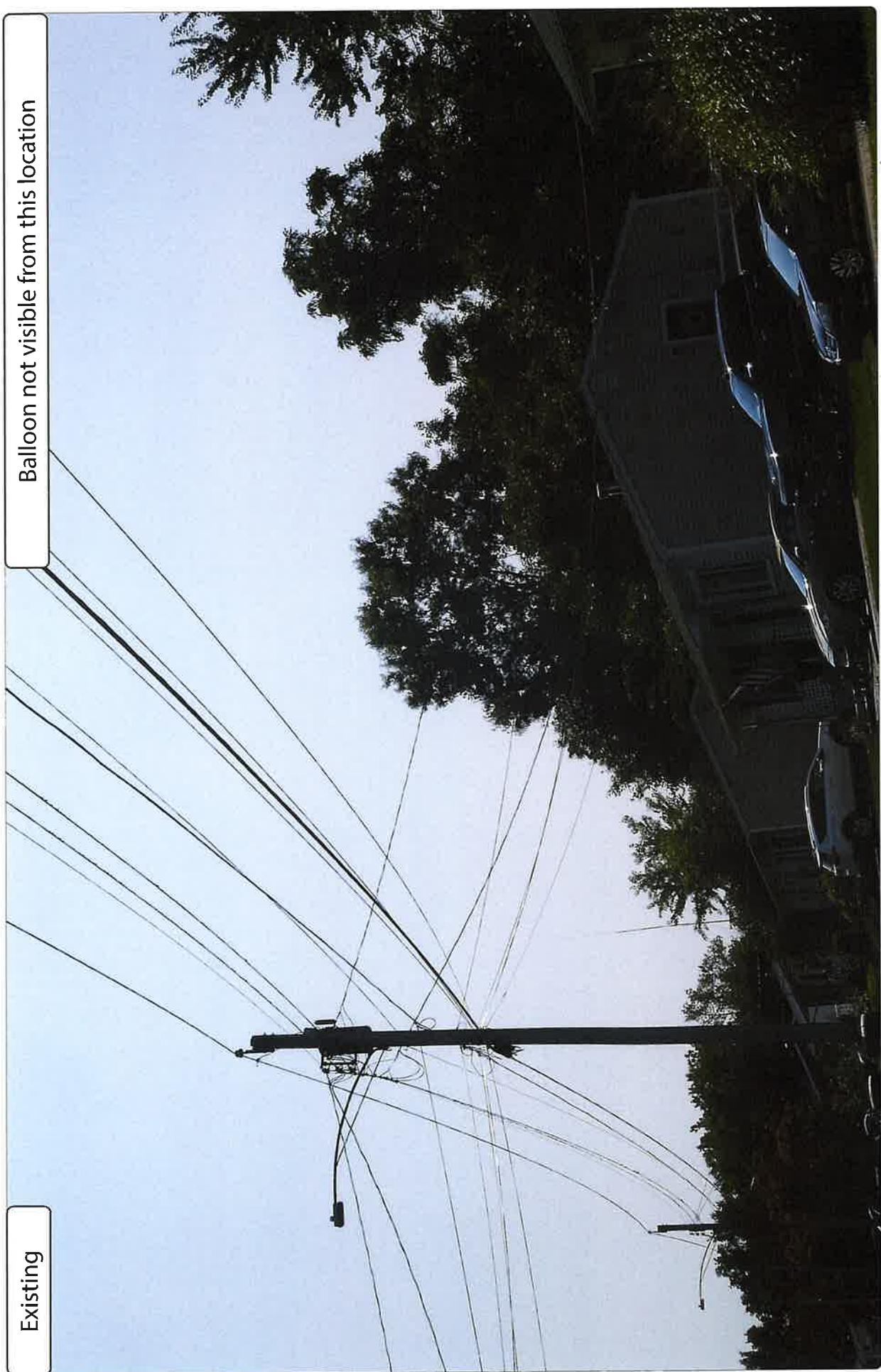


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
27	Highland Ave	41.34018 -73.06722	0.9 Miles	North-East	245	Not Visible

Site: CT0455 Ansonia

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WIRELESS

Existing

Balloon not visible from this location

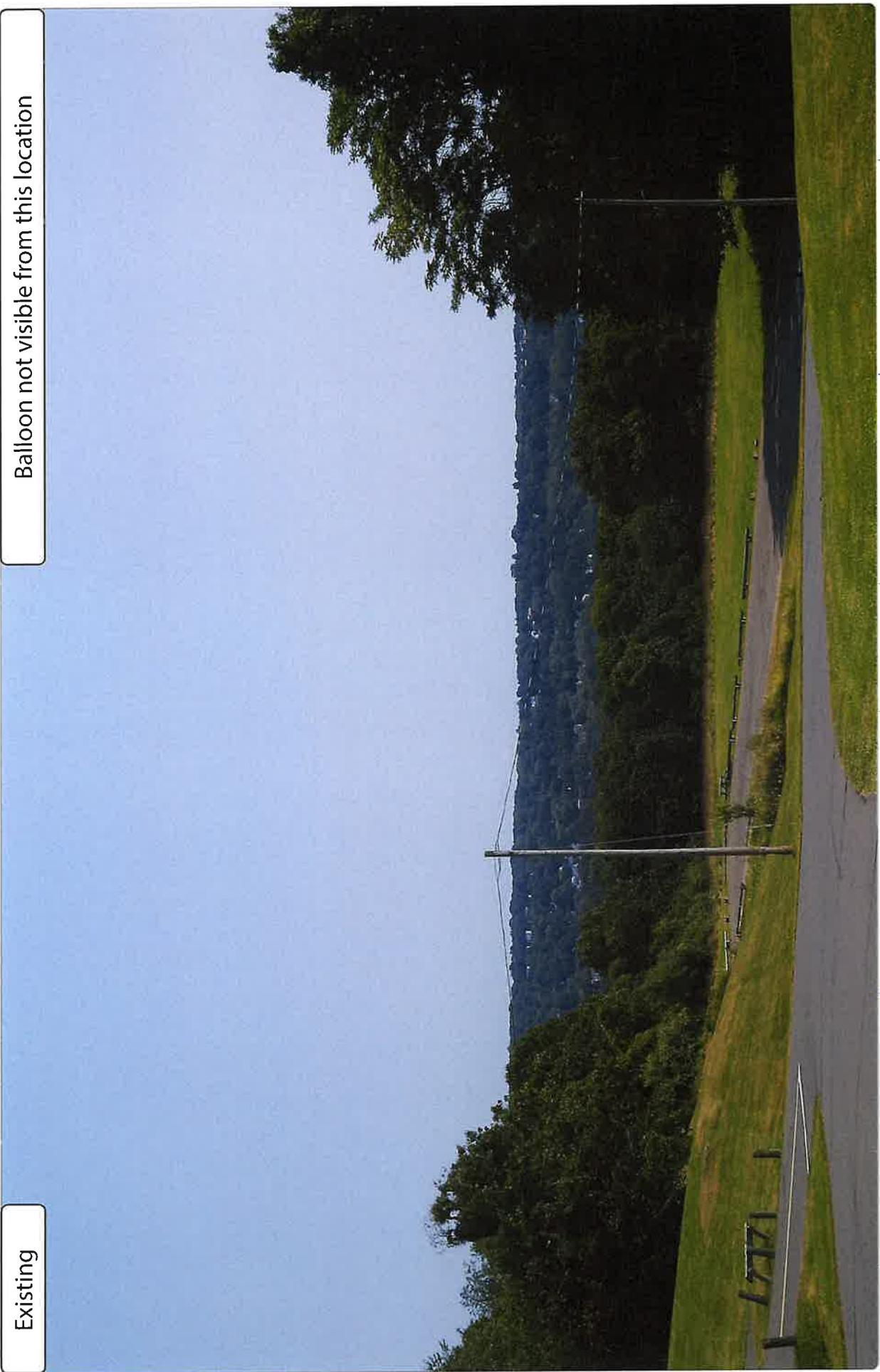
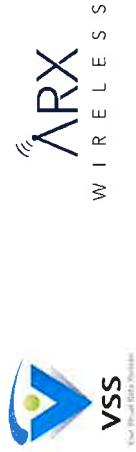


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
28	State Park	41.33959	-73.09967	0.93 Miles	West	111 Not Visible

Site: CTO455 Ansonia

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



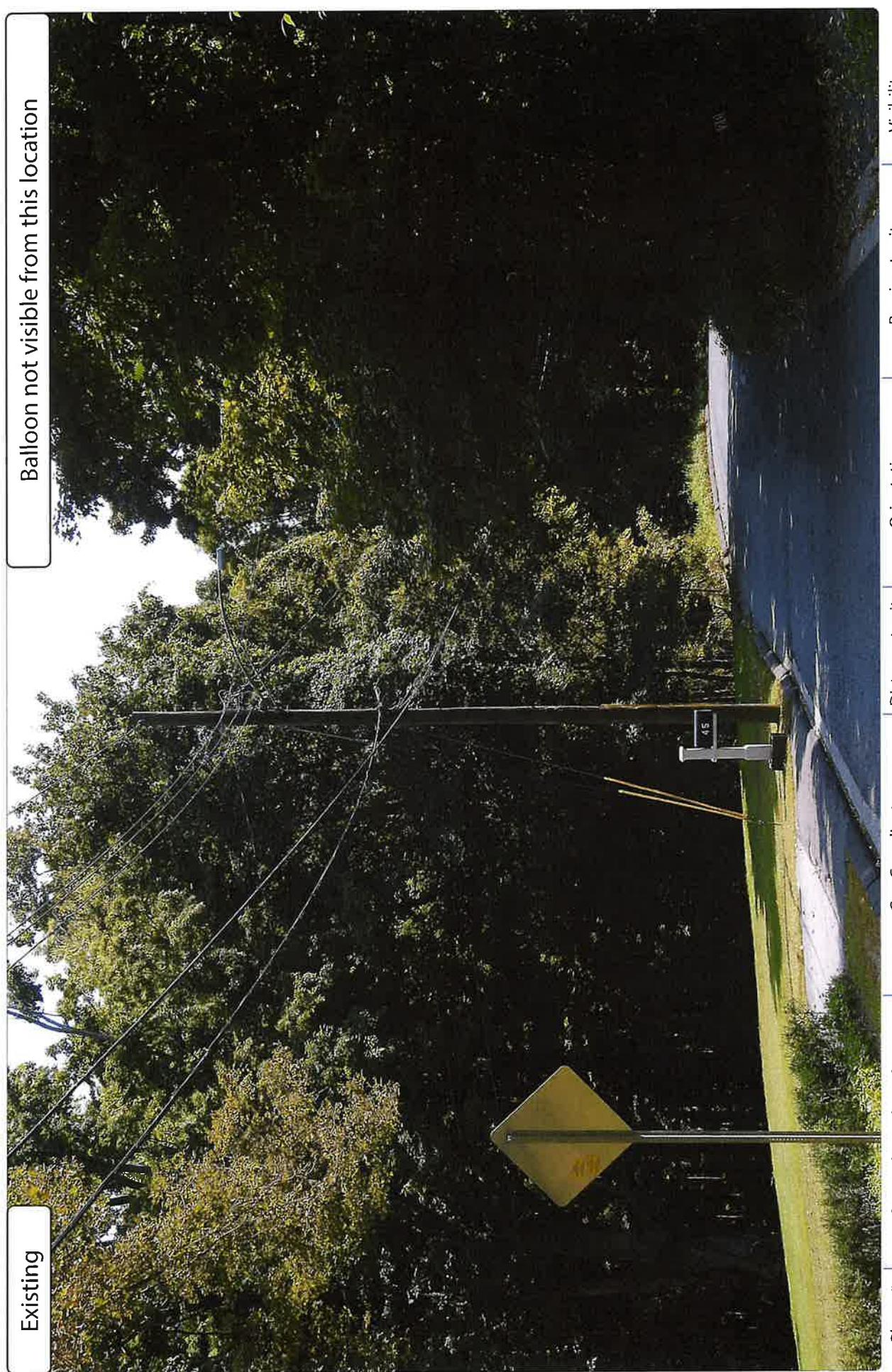


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
29	Silver Hill Rd	41.34417 -73.09703	0.98 Miles	North-West	132	Not Visible

Site: CT0455 Ansonia

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WIRELESS

Existing

Balloon not visible from this location

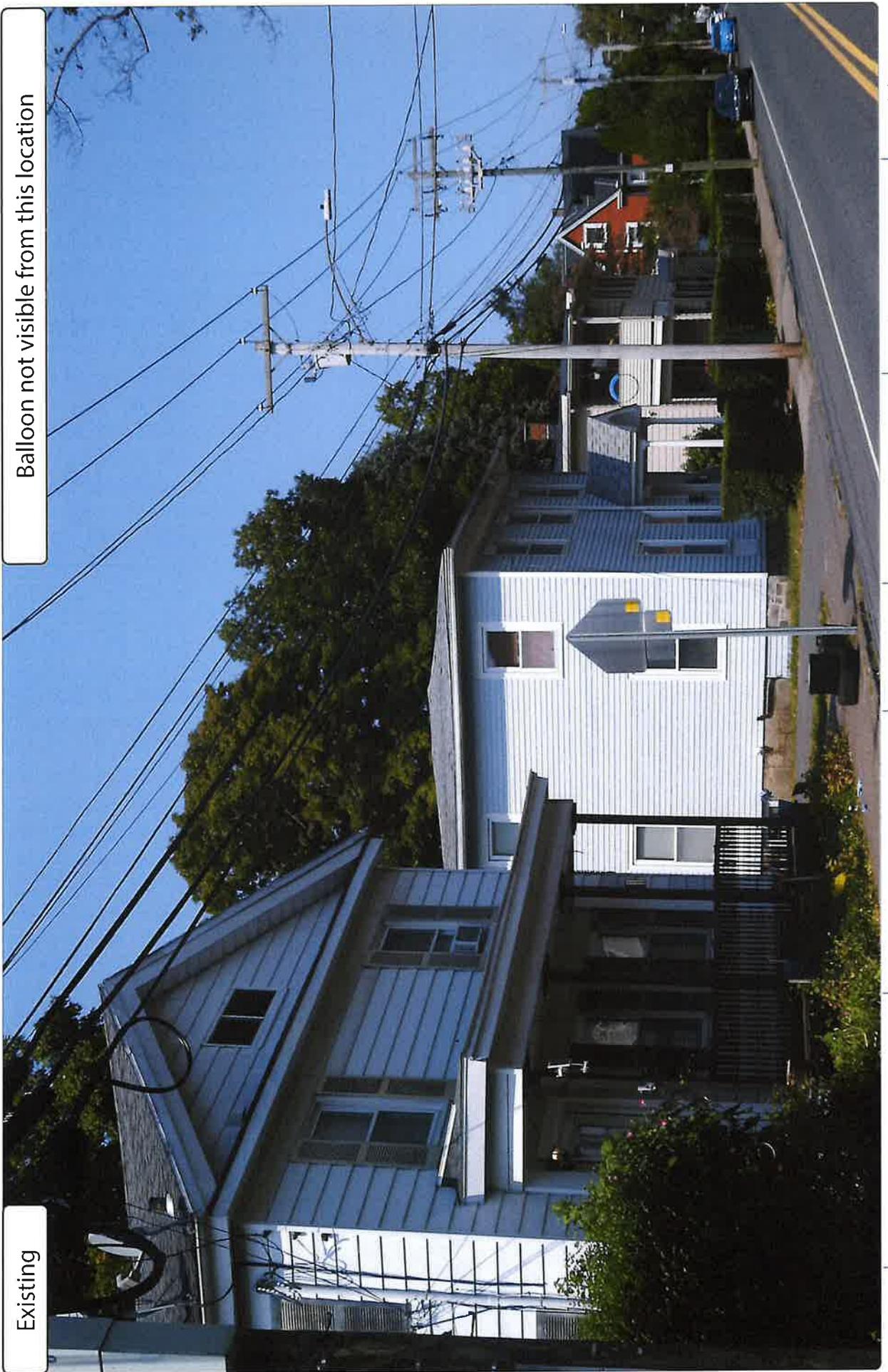


Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
30	Derby Ave	41.32018 -73.08065	1.01 Miles	South	353	Not Visible

Site: CT0455 Ansonia

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

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Visual Site Services



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2024-ANE-3120-OE

Issued Date: 09/30/2024

Kyle Edge
ARX WIRELESS
110 Washington Avenue
North Haven, CT 06473

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Monopole CT0455 Ansonia
Location: Ansonia, CT
Latitude: 41-20-04.80N NAD 83
Longitude: 73-04-58.40W
Heights: 22 feet site elevation (SE)
120 feet above ground level (AGL)
142 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

At least 10 days prior to start of construction (7460-2, Part 1)
 Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 03/30/2026 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact Victoria Rosenthal-Williams, at (404) 305-6071, or Victoria.M-CTR.Rosenthal-Wil@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-ANE-3120-OE.

Signature Control No: 628402388-634570883

(DNE)

Julie A. Morgan
Manager, Obstruction Evaluation Group

Attachment(s)
Case Description
Frequency Data
Map(s)

cc: FCC

Case Description for ASN 2024-ANE-3120-OE

Propose to build a 120' monopole with the leased area for future carrier colocation and ground equipment within the leased area.

Frequency Data for ASN 2024-ANE-3120-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Sectional Map for ASN 2024-ANE-3120-OE



Schools & Daycares Package

CT0455 Ansonia
64 Pershing Drive
Ansonia, CT 06401

- Map created 9/17/24



Package prepared by:

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

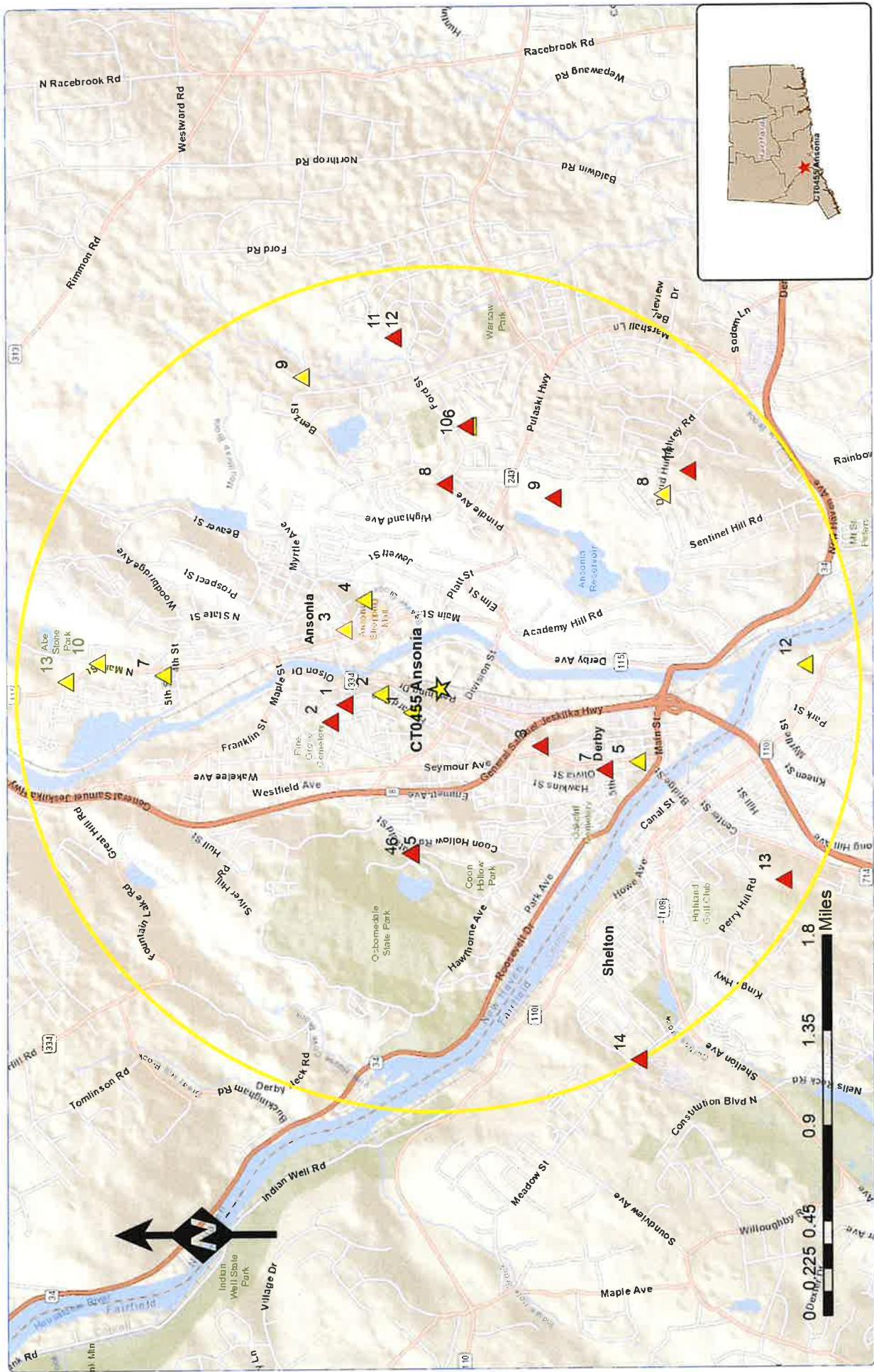
www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com



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CT0455 Ansonia Schools

OBJECTID	School_Nam	Address	Town
1	Ansonia Middle School	115 Howard Ave.	Ansonia
2	Ansonia School District	42 Grove Street	Ansonia
3	Irving School	9 Garden Place	Derby
4	Derby High School	75 Chatfield Street	Derby
5	Little Raiders University	75 Chatfield Street	Derby
6	Derby Middle School	73 Chatfield Street	Derby
7	Derby School District	35 Fifth Street	Derby
8	Emmett O'Brien Technical High School	141 Prindle Ave.	Ansonia
9	Ansonia High School	20 Pulaski Hwy.	Ansonia
10	Prendergast School	59 Finney St.	Ansonia
11	Bradley School	155 David Humphreys Rd.	Derby
12	Mead School	75 Ford St.	Ansonia
13	Perry Hill Elementary School	60 Perry Hill Road	Shelton
14	Shelton School District	124 Meadow St	Shelton

CT0455 Day Care

Number	Name	Address	City	Type
1	VALLEY YMCA CHILD CARE CENTER	32 HOWARD AVE	ANSONIA	Child Care Center
2	LOWER NAUGATUCK VALLEY SCHOOL EARLY CH ED	80 HOWARD AVE	ANSONIA	Child Care Center
3	KIDDIE CARE CLUBHOUSE	375 MAIN ST # B	ANSONIA	Child Care Center
4	JULIA DAY NURSERY AND KINDERGARTEN	76 CENTRAL ST	ANSONIA	Child Care Center
5	LEARNING STUDIO	1 THOMPSON PL	DERBY	Child Care Center
6	VALLEY YMCA SCHOOL AGE CHILD CARE- ANSONIA	59 FINNEY ST	ANSONIA	Child Care Center
7	ABUNDANCE OF JOY LEARNING CENTER	195 N MAIN ST	ANSONIA	Child Care Center
8	VALLEY YMCA SCHOOL AGE CHILD CARE-DERBY	155 DAVID HUMPHREY RD # S	DERBY	Child Care Center
9	REDWING POND HOUSE PRESCHOOL	21 MILAN ST	ANSONIA	Child Care Center
10	BRIGHTPATH - OXFORD	290 MAIN ST	OXFORD	Child Care Center
11	VALLEY YMCA SCHOOL AGE CHILD CARE-ANSONIA	75 FORD ST	ANSONIA	Child Care Center
12	TEAM SHELTON SCHOOL READINESS-GROVE ST	54 GROVE ST	SHELTON	Child Care Center
13	KIDDIE CARE CLUBHOUSE INFANT AND TODDLER CARE	362 MAIN ST	ANSONIA	Group Child Care Home



ENVIRONMENTAL CORPORATION OF AMERICA

ENVIRONMENTAL | GEOTECHNICAL | WETLANDS | ECOLOGY | CULTURAL RESOURCES

September 27, 2024

ARX Wireless, LLC
110 Washington Avenue
North Haven, CT 06473

Attention: **Mr. Cory Samples**

Subject: **Preliminary FCC NEPA Environmental Review**
Proposed Telecommunications Facility
ARX Wireless Site Ansonia (CT0455)
64 Pershing Drive
Ansonia, New Haven County, Connecticut
ECA Project No. 24-003006

Dear Mr. Samples,

Environmental Corporation of America (ECA) is pleased to provide this Preliminary FCC NEPA Environmental Review report.

Background

ECA understands that ARX Wireless is considering the development of a telecommunications facility located at 41° 20' 4.8" N, 73° 4' 58.4" W. See Attachment A for a map of the subject site.

Purpose

The purpose of this report is to identify potential concerns relative to FCC NEPA requirements to be used in the site selection process for a proposed telecommunications facility.

Scope of Work

The scope of work consisted of a review of FCC NEPA categories, which included:

- A desktop review of available online resources including USGS topographic maps, the USGS National Map Viewer, Critical Habitat Map for Threatened & Endangered Species, United States Fish and Wildlife Service protected species data, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), and United States Fish and Wildlife Service National Wetland Inventory (NWI) maps.
- A review of data provided by the Connecticut State Historic Preservation Office (CT SHPO) online viewer, ConnCRIS, in order to identify standing structures.
- A Preliminary FCC NEPA Environmental Review report was prepared to document our findings relative to:
 - Wilderness Areas and Wildlife Preserves
 - Federally Protected Species and Critical Habitat
 - Historic Properties
 - Floodplains

- o Surface Features and Wetlands

Results

ECA reviewed the resources listed above to evaluate any potential considerations related to FCC NEPA environmental requirements. The findings and notable observations from the information reviewed are provided in the table below.

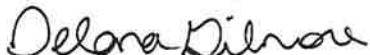
NEPA Category	Findings / Notable Observations
Wilderness Areas and Wildlife Preserves	No wilderness areas or wildlife preserves are identified within 1 mile of the provided coordinates.
Federal Protected Species and Critical Habitat	The only identified federally listed or proposed species for the project area is the tricolored bat (<i>Perimyotis subflavus</i>). The proposed telecommunications facility is located in a paved and gravel area behind a commercial business operating on the parent tract, which would not provide suitable habitat for this species. No critical habitat is located within the project vicinity.
Historic Properties	There are two NHRP listed or eligible properties identified within the ½-mile Area of Potential Effects (APE) for visual effects of the provided coordinates. Based on a viewshed assessment, the proposed telecommunications facility would not likely be visible from these Historic Properties due to distance and intervening vegetation. Therefore, it is unlikely that the proposed undertaking would adversely affect these properties.
Native American Information	Consultation with tribes would be required in order to determine if the proposed undertaking would affect Indian religious sites.
Floodplains	The project area is located within an area with reduced flood risk due to levees (Zone X).
Surface Features and Wetlands	Naugatuck River are located 1,250 feet to the east of the project area. Impacts to these features are not anticipated. No mapped wetlands are located in the project vicinity, and soils are classified as well drained. Impacts to surface features or wetlands is unlikely.

Summary

Based on the information reviewed, ECA has found no obvious evidence that adverse environmental impacts or effects, as defined in the FCC Rules contained in 47 CFR Sections 1.1301 through 1.1320, would result from the proposed undertaking.

We appreciate this opportunity to provide you with these professional services. If you have any questions regarding this report or the project in general, please call at your convenience.

Sincerely yours,
Environmental Corporation of America



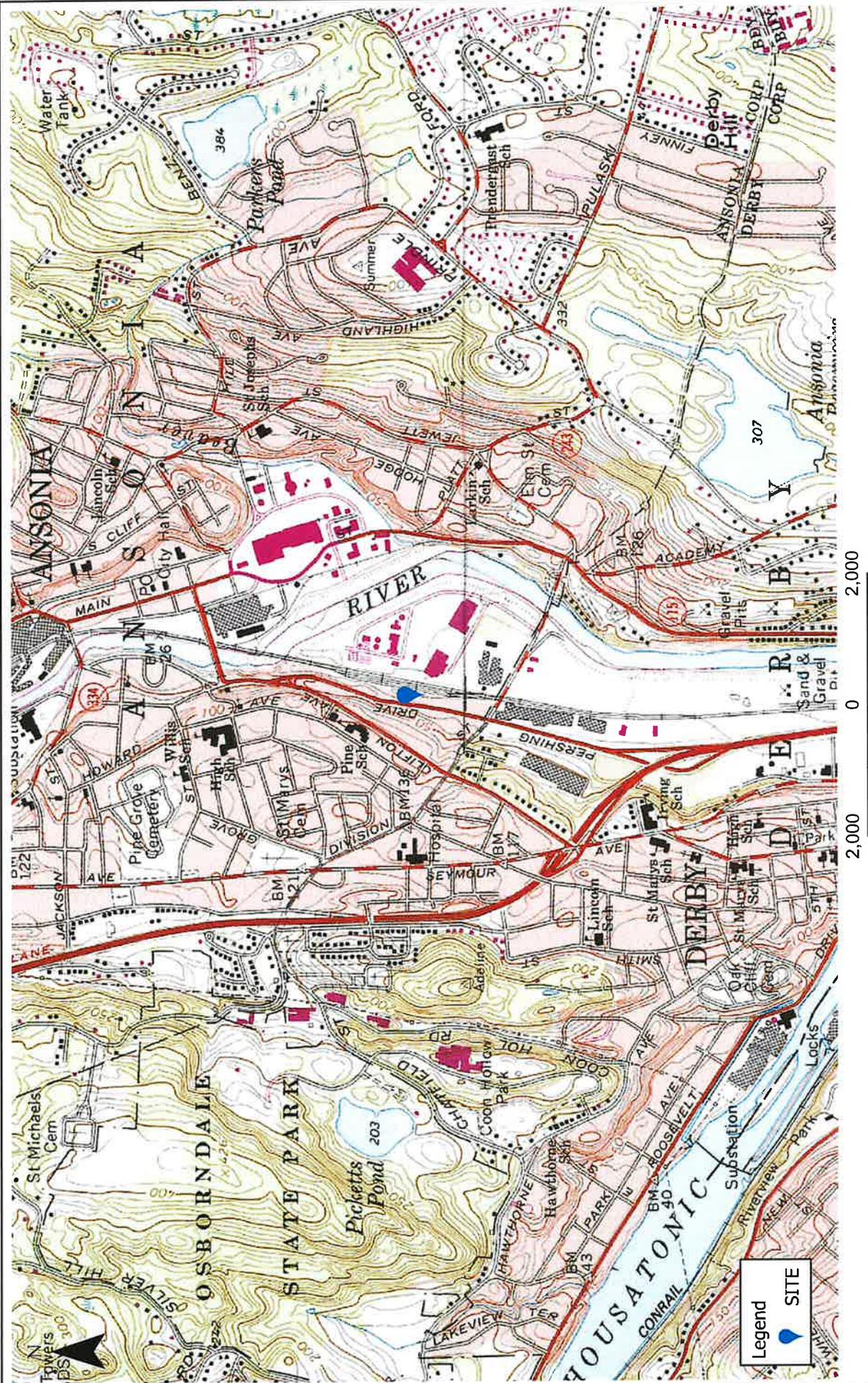
Delana Gilmore, MA, RPA
Project Manager



Eric Johnson
Principal Scientist

Attachment A

National Map Viewer

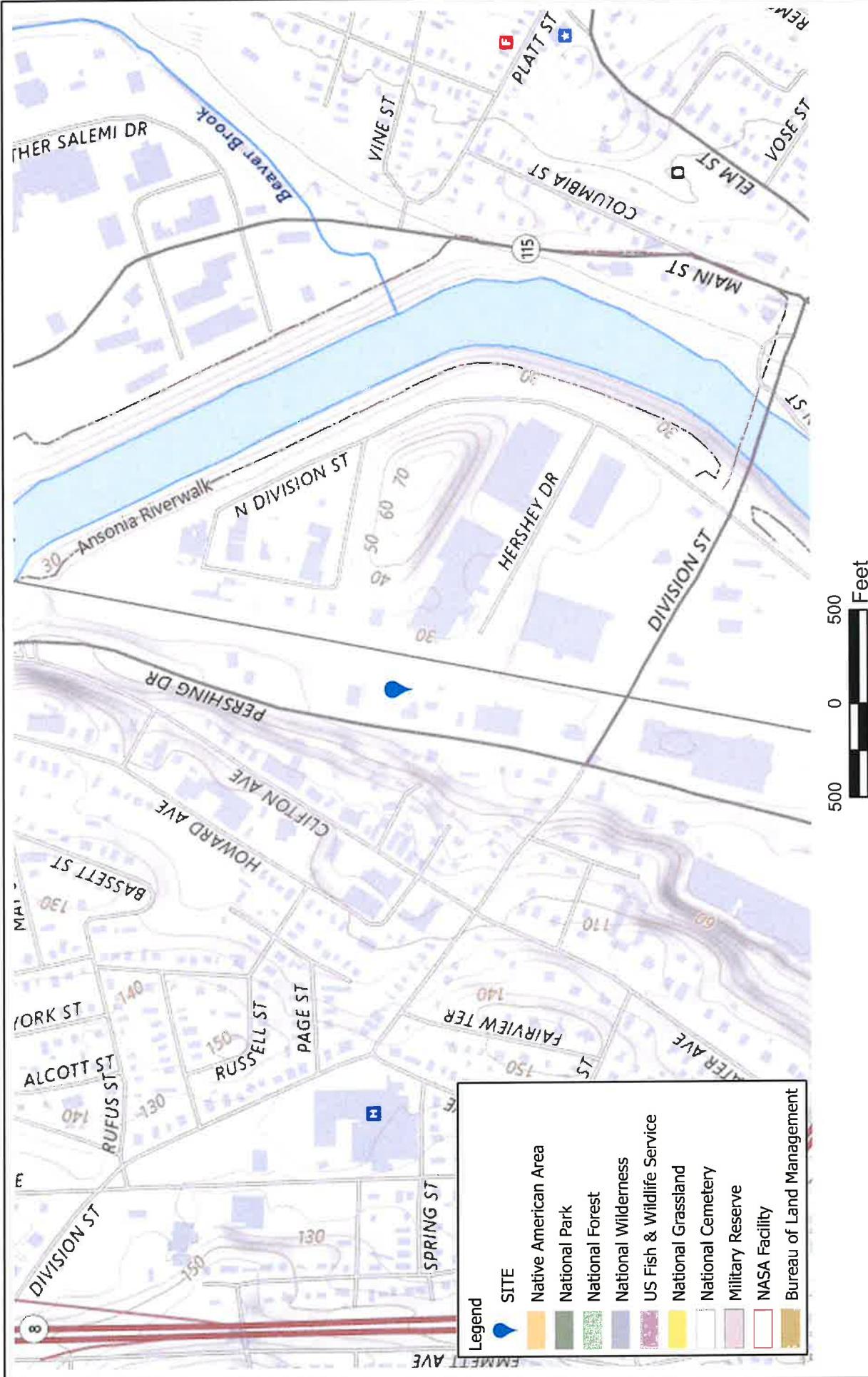


ECA

ECA ID: 24-003006

USGS Topographic Map

Source: USGS Topographic Map 7.5-Minute Series, Ansonia, CT (1964 photorevised 1984).



Source: USGS The National Map

The National Map

ECA

ECA ID: 24-003006

Attachment B

Protected Species Information



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104



In Reply Refer To:

09/26/2024 15:54:20 UTC

Project Code: 2024-0149833

Project Name: Ansonia

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the **“New England Field Office Endangered Species Project Review and Consultation”** website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at newengland@fws.gov with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2024-0149833

Project Name: Ansonia

Project Type: Communication Tower New Construction

Project Description: Telecommunications Structure

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@41.33454685,-73.08305867732248,14z>



Counties: New Haven County, Connecticut

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

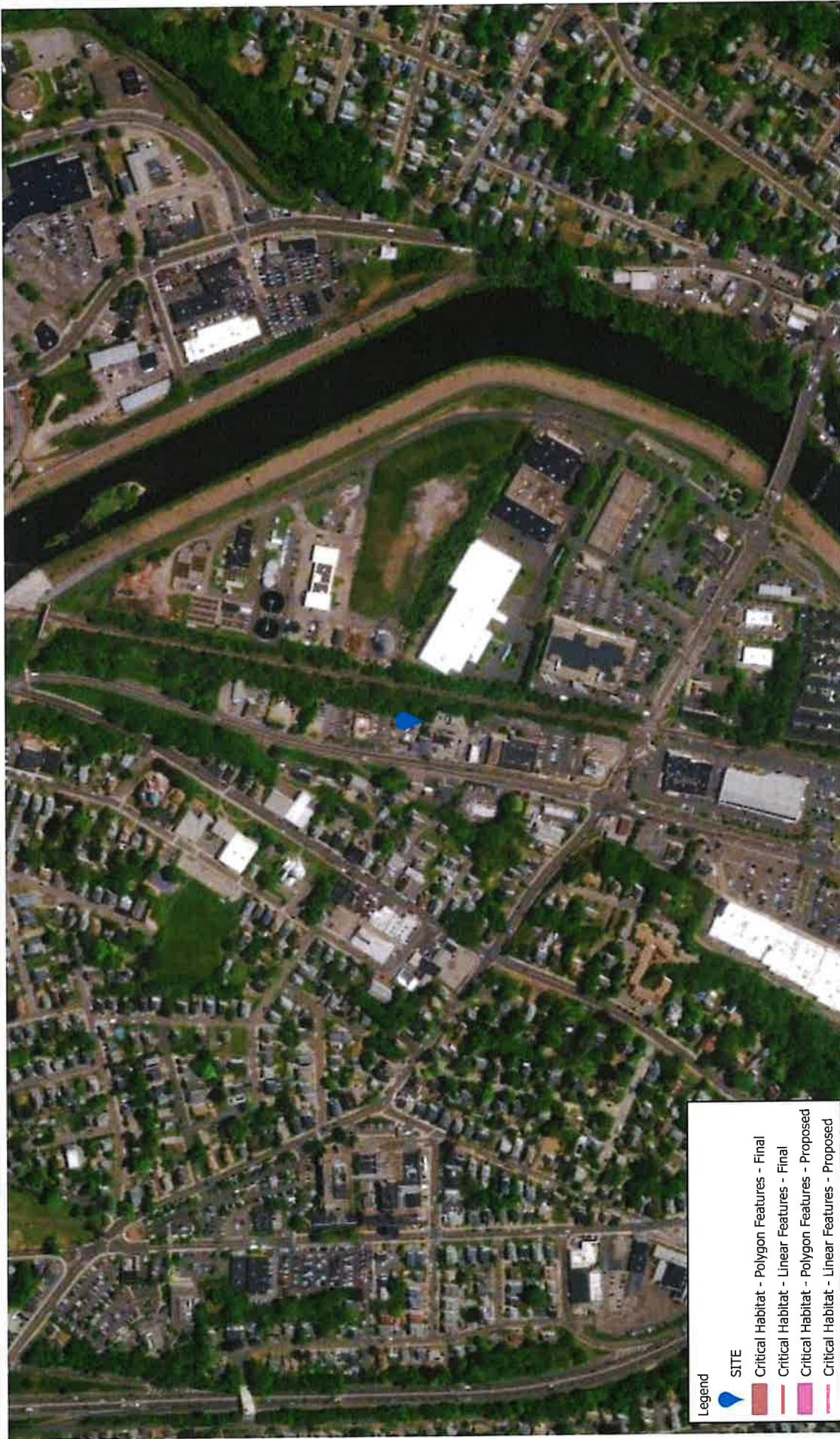
CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Federal Communications Commission
Name: Delana Gilmore
Address: 1375 Union Hill Industrial Ct
Address Line 2: Suite A
City: Alpharetta
State: GA
Zip: 30004
Email: delana.gilmore@eca-usa.com
Phone: 7706672040



500 0 500
Feet

Critical Habitat for Threatened & Endangered Species

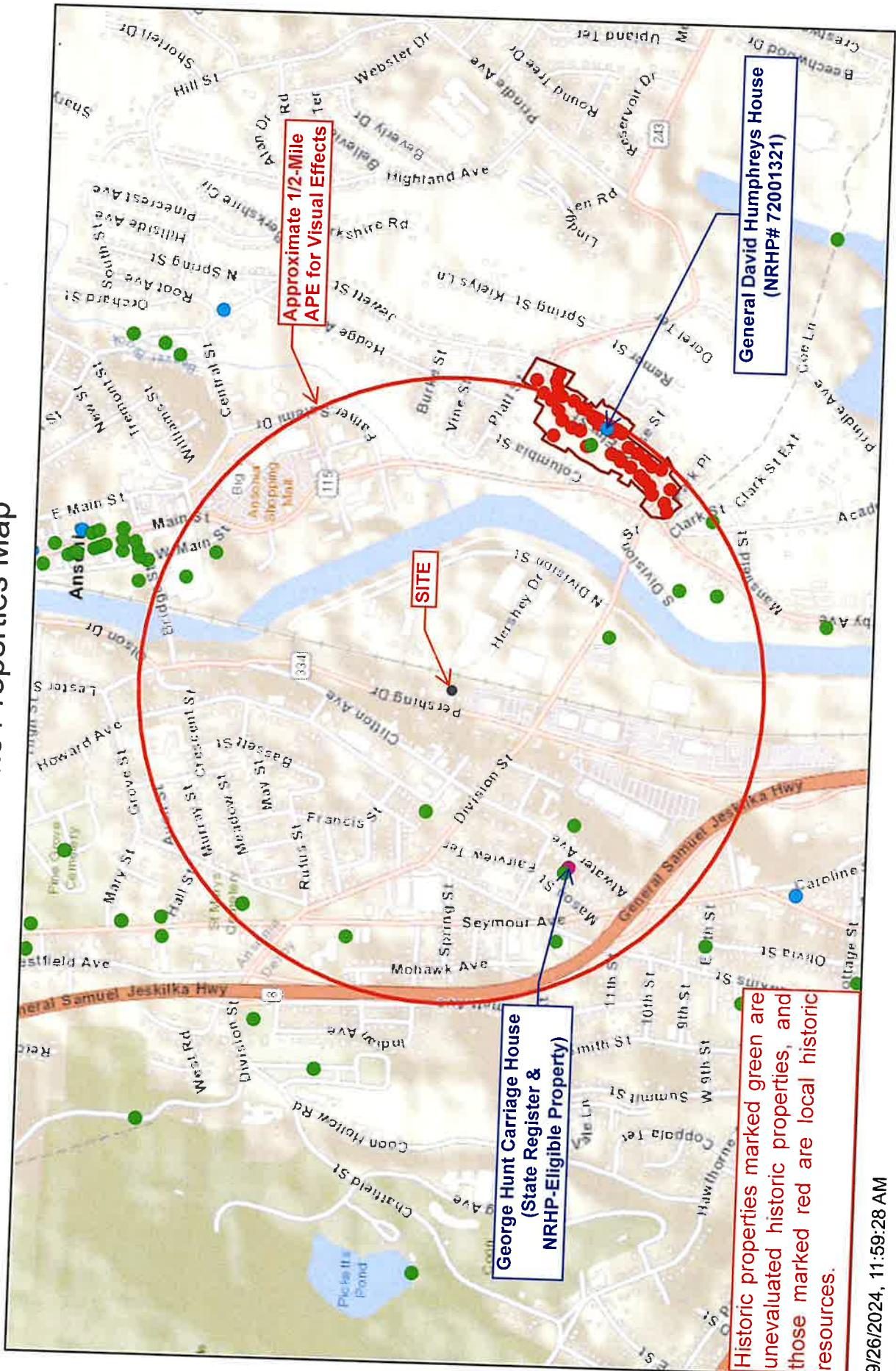
ECA ID: 24-003006

ECA

Attachment C

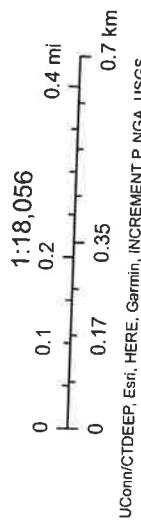
SHPO Information

Historic Properties Map



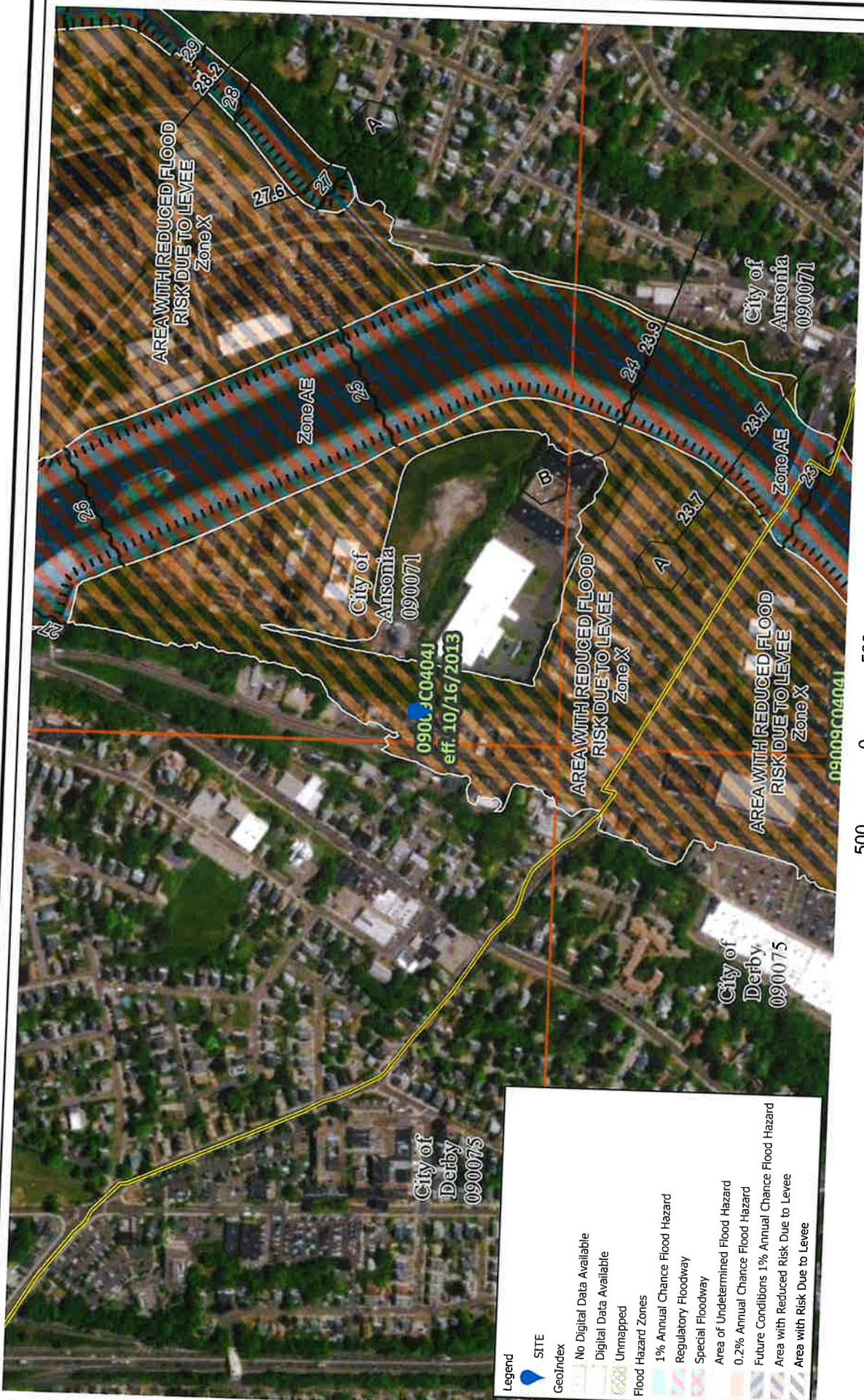
- Above Ground Resources
- National Register
- State Register

- Inventoried
- Uninventoried



Attachment D

Floodplain Information



FEMA Floodplain Map

ECA ID: 24-003006

ECA

Attachment E

Wetlands Information



Wetlands Map

ECA ID: 24-003006

ECA