ARX WIRELESS INFRASTRUCTURE, LLC

TECHNICAL REPORT
PROPOSED WIRELESS TELECOMMUNICATION FACILITY

1061-1063 BOSTON POST ROAD
MILFORD, CT 06614

Arx Wireless Infrastructure, LLC
110 Washington Ave
North Haven, CT 06473

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Introduction

Arx Wireless Infrastructure, LLC ("ARX") submits this Technical Report to the City of Milford ("City" or "Milford") pursuant to Connecticut General Statutes §16-50*l*. ARX proposes to install a wireless telecommunications facility (the "Facility") on an approximately 2.44+/- acre parcel located at 1061-1063 Boston Post Road, Milford and owned by Lee Partners, LLP (the "Property" or the "Site"). The Facility would consist of a 115 foot monopole structure (not to exceed 116' with antennas) within a 60 foot by 60 foot chain link fenced equipment compound. The tower would also accommodate the antenna arrays of Cellco Partnership, dba Verizon Wireless ("Verizon"), New Cingular Wireless PCS, LLC ("AT&T"), and two other wireless carriers. If approved, the Facility would provide enhanced wireless communications and the opportunity for improved 911 service in this area of Milford.

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 proposed Facility.

Correspondence and/or communications regarding this Technical Report should be addressed to the attorneys for ARX:

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Bridgeport, CT 06604
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Attention: David A. Ball, Esq.
Philip C. Pires, Esq.

SECTION 1

Site Justification

The proposed Facility is necessary to allow Verizon and AT&T to provide wireless service in the City of Milford and the nearby Interstate-95 ("I-95") corridor. Verizon and AT&T are licensed by the Federal Communications Commission ("FCC") to provide wireless communication service throughout the State of Connecticut, including New Haven County. Verizon and AT&T's FCC licenses require the construction and build-out of their wireless networks within their respective federally licensed service areas, which includes the City of Milford.

The proposed 115 foot monopole at 1061-1063 Boston Post Road, Milford, Connecticut, will allow Verizon and AT&T to provide necessary in-building residential and in-vehicle coverage, if they are permitted to locate at the 112 and 100 foot levels respectively. Verizon and AT&T's locations at the 112 and 100 foot levels respectively will provide much needed coverage in the area within the proposed coverage footprint, and in particular critical cell coverage for the nearby I-95 highway corridor and Route 1 in Milford. With the development of the proposed Facility, residential customers would have reliable in-vehicle and in-building coverage for their voice and data needs as well as reliable coverage for E-911 services.

Contained within the Statement of Need are Power Density Calculations (*see attached Calculated Radio Frequency Exposure report dated August 24, 2020*), propagation plots prepared by Verizon (*see attached Verizon Propagation Plots*), and propagation plots prepared by AT&T (*see attached Radio Frequency Analysis Report dated August 21, 2020*) that depict (1) coverage from existing and approved surrounding sites, and (2) coverage from the proposed Site in conjunction with existing and approved sites. (In its propagation plots, Verizon refers to the Site as "Forest Heights.") Together, these propagation plots demonstrate Verizon and AT&T's respective needs 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 Milford. Specifically, the proposed Site will provide a significant amount of cell coverage to I-95, Route 1, and the surrounding commercial and residential area.

Since 2004, Verizon and AT&T have had telecommunications equipment situated at 1052 Boston Post Road, Milford, on the rooftop of the site of a former Howard Johnson hotel. The Howard Johnson hotel has been out of business for over a year. The building on that property is planned to be demolished as part of a redevelopment project. In the last year, the carriers have worked with the owner of that site to explore alternative ways to accommodate their telecommunications equipment. However, once the property is redeveloped, Verizon has determined that the new antenna height is not sufficient to satisfy Verizon's coverage needs. Verizon has concluded that there will be no feasible alternative location on that property for the telecommunications equipment, and accordingly, the property at 1052 Boston Post Road has been deemed unusable. Once

the proposed Facility is constructed, Verizon and AT&T intend to relocate to the Site of the proposed Facility at 1061-1063 Boston Post Road. By relocating to the proposed Site, Verizon and AT&T will be able to satisfy their existing coverage objectives in the area and provide significant capacity relief to their respective wireless networks. The Facility located at the new Site at 1061-1063 Boston Post Road satisfies these important network service objectives.

SECTION 2

Site Search Process and Selection

Connecticut General Statutes § 16-50*l* requires ARX to provide the Town 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, ARX 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's radio frequency engineers, in consultation with the appropriate wireless carrier radio frequency engineers, identify search areas central to the necessary geographical coverage area. In this case, Verizon and AT&T identified a need for wireless coverage in this area of Milford, and have agreed to support an application by ARX to construct a new facility in this location to provide the coverage required.

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 industrial and commercial areas or 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 Milford 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.

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.

Sites Investigated

1. **Owner: 217 State-Milford, LLC c/o Mattone Group LLC**

   Map Block and Lot: 089 832 10

   Site Location: 1212 Boston Post Road

   Property Size: 7.73 acres

   This site was deemed unusable due to lack of interest from the owner.

2. **Owner: SR 230 Cherry Milford LLC**

   Map Block and Lot: 077 825 61

   Site Location: 230 Cherry Street

   Property Size: 10.86 acres

   This site was deemed unusable due to lack of interest from the owner.

3. **Owner: The Connecticut Post Limited Partnership (aka Connecticut Post Mall)**

   Map Block and Lot: 089 812 40A

   Site Location: 1201 Boston Post Road

   Property Size: 74.86 acres

   This site was deemed unusable due to lack of interest from the owner.

4. **Owner: PSOME, L.L.C.**

   Map Block and Lot: 077 832 3

   Site Location: 1064 Boston Post Road

   Property Size: .94 acres

   This site was deemed unusable due to lack of interest from the owner.

5. **Owner: Milford Cemetery Association**

   Map Block and Lot: 077 813 24

   Site Location: 271 Cherry Street

   Property Size: 21.08 acres

   ARX representative met with the landowner's president and maintenance person on March 11, 2020, but after careful consideration the landowner did not want to proceed with a lease.

6. **Owner: Schick Manufacturing Inc.**

   Map Block and Lot: 078 812 32A

   Site Location: 10 Leighton Road

   Property Size: 20.3 acres

   This site was deemed unusable due to lack of interest from the owner.

7. <u>Owner: Lee Partners, LLP</u>

Map Block and Lot: 077 813 25

Site Location: 1061-1063 Boston Post Rd.

Property Size: 2.44 acres

This property is ARX's proposed property for the installation of the wireless communication facility.

ARX determined that the subject Site is superior to the other properties in the area. The Property is an approximately 2.44 acre parcel of commercially developed land that is occupied by a restaurant and a tire store. There are no trees that will need to be removed and access is already existing.

SECTION 3

PROPOSED SITE AND FACILITY

1061-1063 Boston Post Road
Milford, CT 06460

Map Block and Lot: 077 813 25

2.44+/- Acres

GENERAL SITE AND FACILITY DESCRIPTION

The Site is an approximately 2.44+/- acre commercially developed parcel at 1061-1063 Boston Post Road in Milford, Connecticut. The Site is situated on the east side of Boston Post Road with Interstate 95 to the northwest. Located at the Site are a commercial restaurant and a commercial vehicle retail store.

ARX is proposing to construct a telecommunications facility consisting of a 115'-tall monopole with Verizon and AT&T antennas, situated within a 60' x 60' fenced (chain link) equipment compound within a 75’ x 75’ leased area, to be located in the rear of the property. A 20'-wide utility easement originating off Home Acres Avenue would provide the Site with underground utilities. Access to the Site would be off of Boston Post Road via a 25’ easement over an existing paved parking lot between the two buildings. The antennas affixed to the top of the monopole will consist of Verizon panel antennas, mounted in three sectors at a centerline height of 112’ (maximum height of 116') and AT&T panel antennas, mounted in three sectors at a centerline height of 100’.

SITE EVALUATION REPORT

I. LOCATION

A. COORDINATES: N 41°13' 54.32"
W 73°02' 34.55"

B. GROUND ELEVATION: 33 +/- feet AMSL (Proposed)

C. USGS MAP: 7.5 Minute Series Topographic Quadrangle Map, Milford, Connecticut, 2018

D. SITE ADDRESS: 1061-1063 Boston Post Road
Milford, CT 06460

E. ZONING CLASSIFICATION: Parcel is zoned Interchange Commercial District (ICD)

II. DESCRIPTION

A. COMPOUND SIZE: 3,600 square feet

B. TOWER TYPE/HEIGHT: 115 foot monopole with antenna to 116 feet

C. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER: The existing terrain consists of a commercially developed piece of Property consisting of two commercial buildings. There are no wetlands located on the Property.

D. LAND USE WITHIN ¼ MILE OF SITE: A mix of commercial industrial, retail residential development, and Interstate 95.

E. LOCATION OF ALL SCHOOLS NEAR SITE: The closest school is located at 260 Orange Avenue in Milford, approximately 0.59 miles from the proposed Site (Orange Avenue Elementary School). The nearest commercial day care center is located at 21 Plymouth Place in Milford, approximately 0.82 miles from the proposed Site (Sedona Daycare and Learning Center).

III. FACILITIES

A. POWER COMPANY: United Illuminating

B. POWER PROXIMITY TO SITE: Existing utility pole 2244 is immediately adjacent to the Site.

C. TELEPHONE COMPANY: Frontier Communications

D. PHONE SERVICE PROXIMITY: Existing utility pole 6751 is immediately adjacent to the site.

E. VEHICLE ACCESS TO SITE: Access to the proposed Facility would be across an existing paved parking lot between the two buildings.

F. OBSTRUCTION: None

IV. LEGAL

A. PURCHASE [ ] LEASE [X]

B. OWNER: Lee Partners, LLP

C. ADDRESS: 70 Lyon Street, New Haven, Connecticut 06511

D. DEED ON FILE AT: Book 2941/Page 144

FACILITIES AND EQUIPMENT SPECIFICATIONS
(TOWER & EQUIPMENT)

I. TOWER SPECIFICATIONS

A. MANUFACTURER: TBD

B. TYPE: Monopole

C. HEIGHT: 115’

D. DIMENSIONS: TBD

II. TOWER LOADING

A. VERIZON

1. MODEL: TBD
2. DIMENSIONS: TBD
3. ANTENNAS: 12 (twelve) antennas on a low profile mount
4. TOWER POSITION: 112 AGL at the center of the antenna array
5. TRANSMISSION LINES: TBD

B. AT&T

1. MODEL: TBD
2. DIMENSIONS: TBD
3. ANTENNAS: 12 (twelve) antennas on a low profile mount
4. TOWER POSITION: 100 AGL at the center of the antenna array
5. TRANSMISSION LINES: TBD

C. FUTURE CARRIERS – 2 additional carriers

III. ENGINEERING ANALYSIS AND CERTIFICATION:

All work shall be in accordance with the 2003 International Building Code as modified by the 2009 Connecticut supplement, including the TIA/EIA-222 revision F" "structural standards for steel antenna towers and supporting structures," 2005 Connecticut Fire Safety Code and 2009 amendments, National Electrical Code, and local codes. The foundation design will be based on soil conditions at the Site.

ENVIRONMENTAL ASSESSMENT STATEMENT

I. PHYSICAL IMPACT

A. WATER FLOW QUALITY AND WETLANDS

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the Facility. The construction, operation and maintenance of the Facility would not adversely impact any wetlands. There are no existing wetlands on the property. *See attached Wetland Inspection.*

B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used 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 proposed 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 generator. Some noise is anticipated during Facility construction, which is expected to take approximately ten weeks.

E. POWER DENSITY

Facility is compliant with FCC/ANSI standards. *See attached Statement of Need and Calculated Radio Frequency Exposure report dated August 24, 2020 containing Power Density Calculations.*

F. VISIBILITY

The Preliminary Visual Assessment provides initial viewshed mapping associated with the proposed Facility with predicted year-round visibility of less than 1% of the 8,042-acre study area within a two-mile radius of the Site. Visibility of the tower is limited and in many instances obscured. *See attached Preliminary Visual Assessment dated August 13, 2020.* In addition, the Federal Aviation Administration 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. *See attached Determination of No Hazard to Air Navigation dated July 15, 2020.*

II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

A. AVIAN RESOURCES EVALUATION / REQUEST FOR NDDB STATE LISTED SPECIES REVIEW

The Avian Resources Evaluation evaluates the Facility's compliance with recommended guidelines of the United States Fish and Wildlife Service ("USFWS") for minimizing the potential for telecommunications towers to impact bird species. No migratory bird species are anticipated to be impacted by the proposed development. The Site is not proximate to an Important Bird Area, and the proposed Facility will comply with the USFWS guidelines for minimizing the potential impacts to bird species. *See attached Avian Resources* Evaluation dated August 3, 2020. In addition, ARX has filed a Request for Natural Diversity Data Base ("NDDB") State Listed Species Review, which is pending. *See attached Request for NDDB State Listed Species Review dated August 3, 2020*.

B. PRELIMINARY ARCHAEOLOGICAL ASSESSMENT

Heritage Consultants, LLC ("Heritage") conducted a Preliminary Archaeological Assessment based on an examination of data obtained from the Connecticut State Historic Preservation Office (CT-SHPO) as well as GIS data. Heritage states that the proposed project area contains a "low/no probability" that it will contain archaeological resources, and that it is very unlikely that the proposed Facility will have any indirect adverse effects on the Riverside Historic District. Heritage concludes that no additional archaeological survey in this area will be required prior to construction. *See attached Preliminary Archaeological Assessment dated July 23, 2020*.

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

Calculated Radio Frequency Exposure

CT2327

1063 Boston Post Road, Milford, CT 06460

August 24, 2020

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of the city of Milford's Public Safety and AT&T antenna arrays on a new monopole tower located at 1063 Boston Post Road in Milford, CT. The coordinates of the tower are 41° 13' 54.32" N, 73° 02' 34.55" W.

AT&T is proposing the following:

1) Install six (9) multi-band antennas (three per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network ("NPSBN").

This report considers the planned antenna configuration for AT&T[1] to derive the resulting % Maximum Permissible Exposure of its proposed installation.

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 B contains excerpts from OET Bulletin 65 and defines 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.

[1] As referenced to AT&T's Radio Frequency Design Sheet updated 9/30/2019.

3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \left(\frac{1.6^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2}\right) \text{X Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

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

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. 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 consider 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. Calculation Results

Table 1 below outlines the cumulative power density information for the AT&T and Verizon equipment at the site. The proposed antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	% MPE
AT&T	100	770	1	3540	0.0144	0.5133	2.81%
AT&T	100	770	1	3155	0.0128	0.5133	2.50%
AT&T	100	770	1	1730	0.0070	0.5133	1.37%
AT&T	100	850	1	3155	0.0128	0.5667	2.27%
AT&T	100	1900	1	5876	0.0239	1.0000	2.39%
AT&T	100	2100	1	6443	0.0262	1.0000	2.62%
AT&T	100	2300	1	6153	0.0251	1.0000	2.51%
Verizon	112	770	1	1393	0.0045	0.5133	0.87%
Verizon CDMA	112	850	1	433	0.0014	0.5667	0.24%
Verizon LTE	112	850	1	1734	0.0056	0.5667	0.98%
Verizon	112	1900	1	3342	0.0107	1.0000	1.07%
Verizon	112	2100	1	3665	0.0117	1.0000	1.17%
						Total	**20.81%**

Table 1: Carrier Information

5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the highest expected percent of Maximum Permissible Exposure at ground level is **20.81% of the FCC General Population/Uncontrolled limit**.

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. 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 FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1 and ANSI/IEEE Std. C95.3.

August 24, 2020

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

Date

Attachment A: References

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

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

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

(A) Limits for Occupational/Controlled Exposure[2]

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 Exposure[3]

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 2: FCC Limits for Maximum Permissible Exposure (MPE)

[2] 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

[3] 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

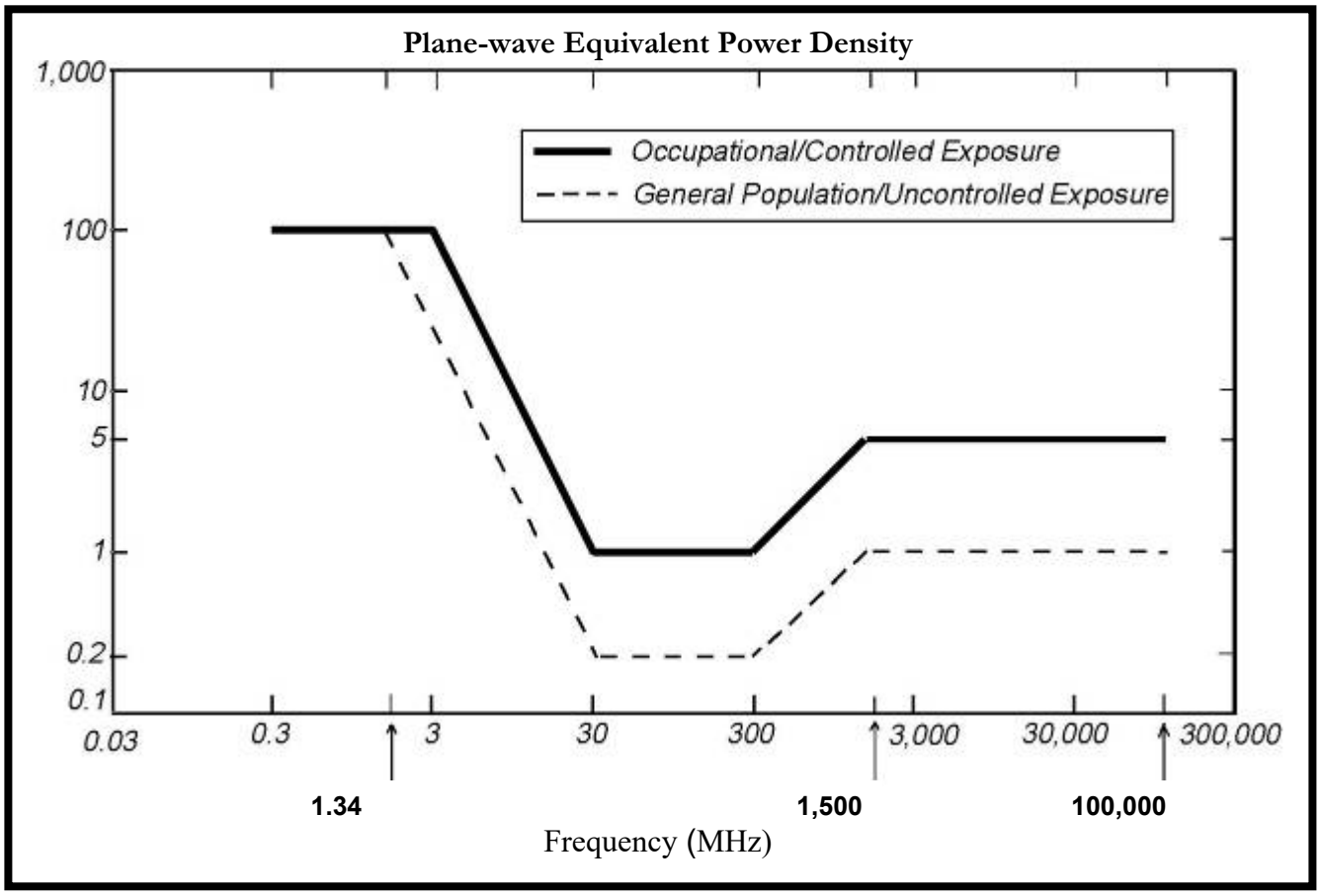
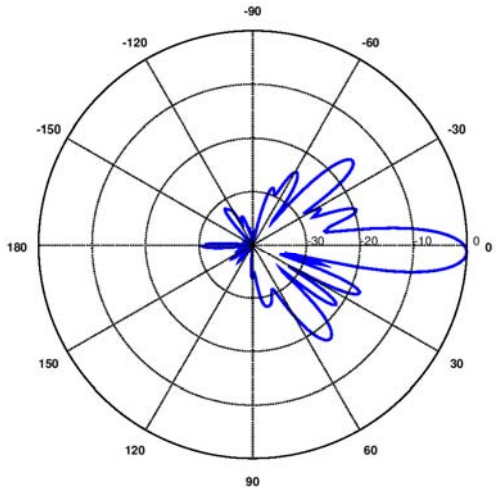
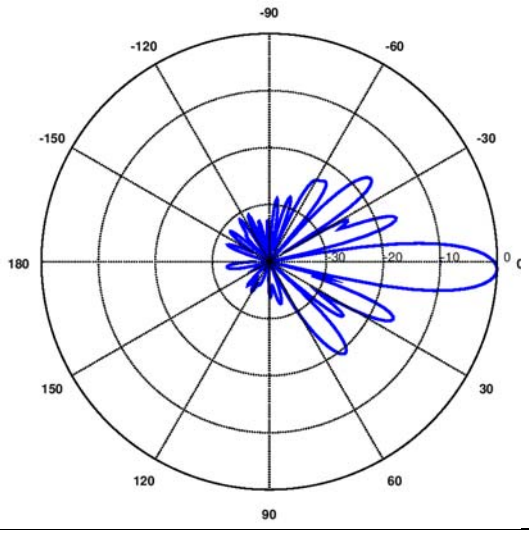
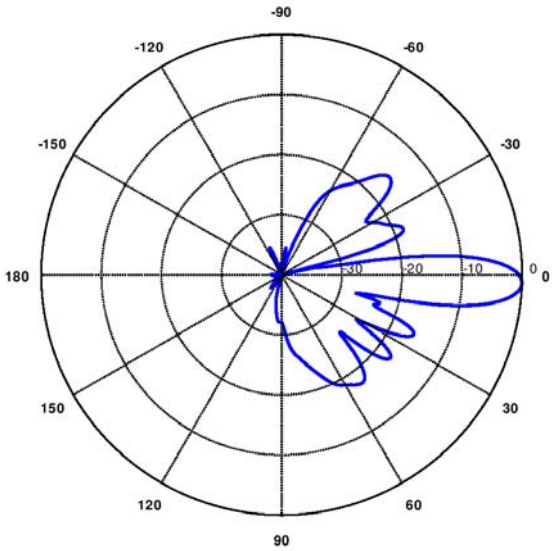


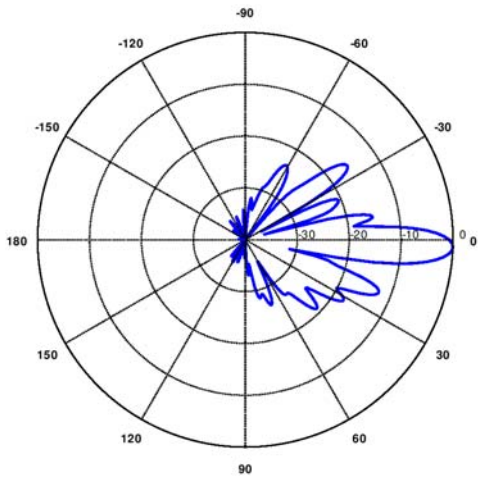
Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

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

750 MHz Manufacturer: CCI Products Model #: TPA-65R-BU8D Frequency Band: 698-806 MHz Gain: 13.45 dBd Vertical Beamwidth: 9.5° Horizontal Beamwidth: 74° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 21” x 7.8”	
750 MHz Manufacturer: CCI Products Model #: DMP-65R-BU8D Frequency Band: 698 - 798MHz Gain: 12.95 dBd Vertical Beamwidth: 9.5° Horizontal Beamwidth: 75° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 20.7” x 7.7”	
750 MHz Manufacturer: CCI Products Model #: HPA-65R-BU8A Frequency Band: 698 - 806 MHz Gain: 13.35 dBd Vertical Beamwidth: 9.7° Horizontal Beamwidth: 67° Polarization: Dual Linear 45° Size L x W x D: 96.0” × 11.7” × 7.7”	

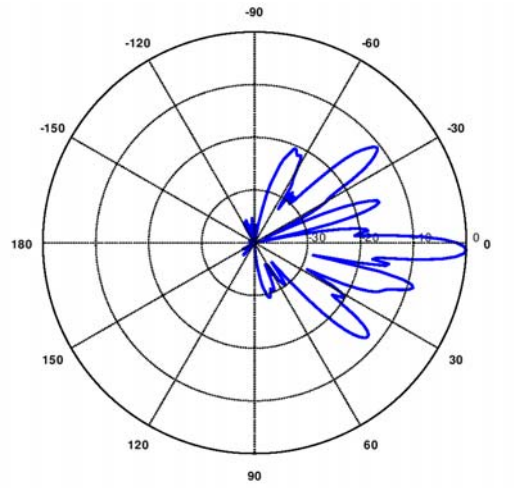
850 MHz

Manufacturer:	CCI Products
Model #:	DMP-65R-BU8D
Frequency Band:	824-896 MHz
Gain:	13.85 dBd
Vertical Beamwidth:	8.0°
Horizontal Beamwidth:	64°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” x 20.7” x 7.7”



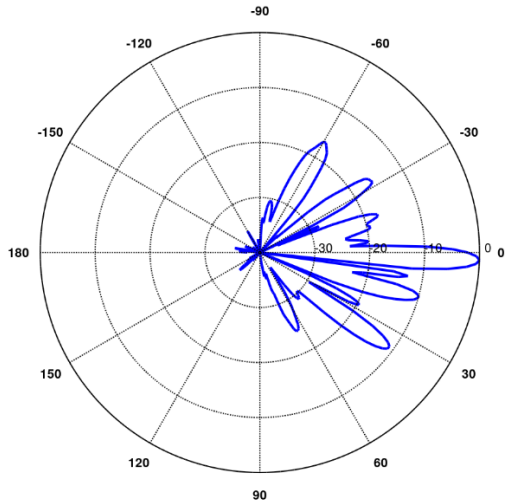
1900 MHz

Manufacturer:	CCI Products
Model #:	DMP-65R-BU8D
Frequency Band:	1850-1990 MHz
Gain:	15.65 dBd
Vertical Beamwidth:	5.1°
Horizontal Beamwidth:	68°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” x 20.7” x 7.7”

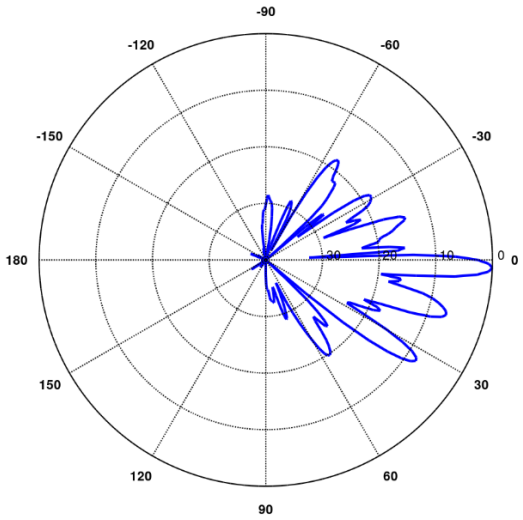


2100 MHz

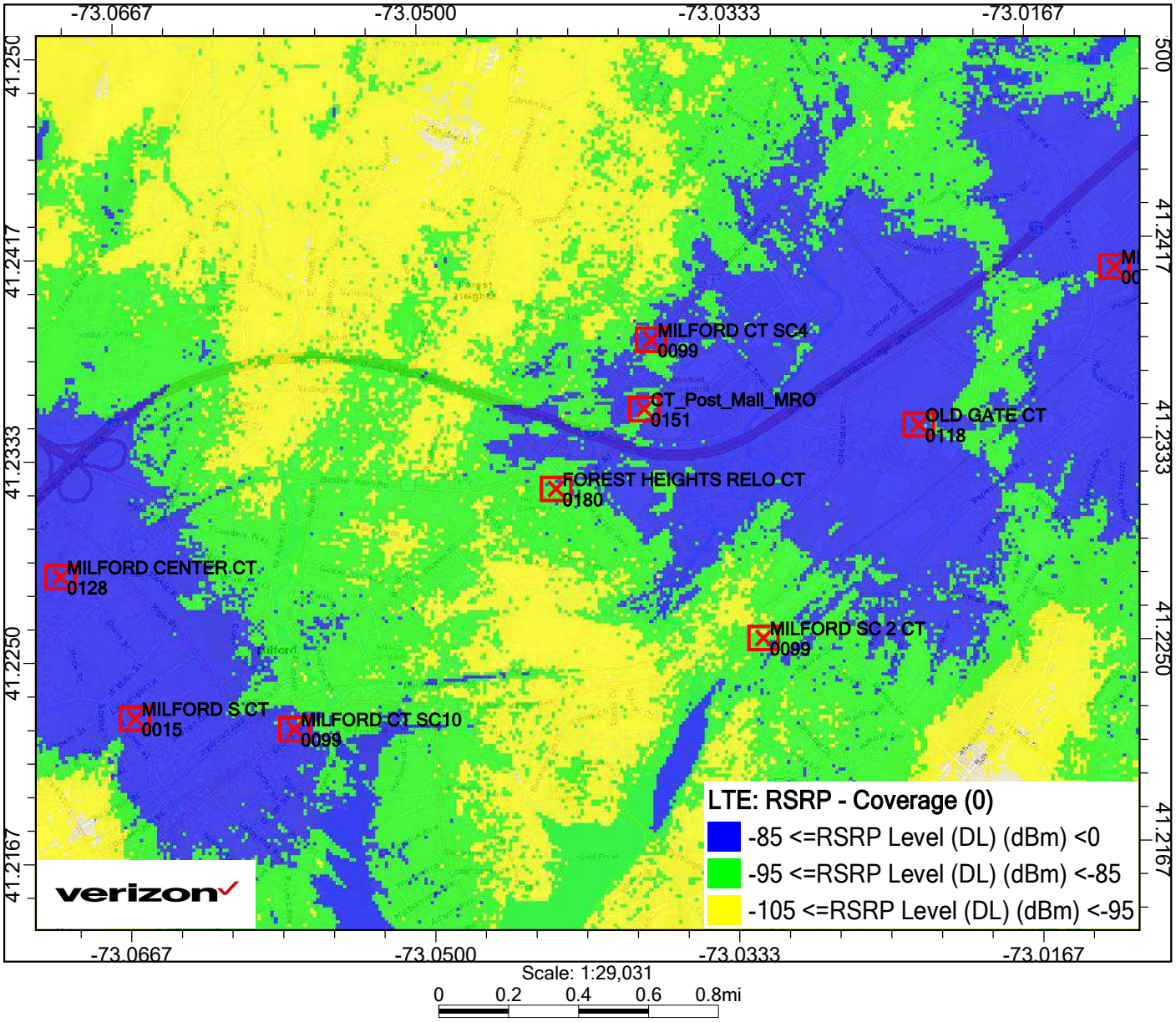
Manufacturer:	CCI Products
Model #:	TPA-65R-BU8D
Frequency Band:	1920 - 2180 MHz
Gain:	16.15 dBd
Vertical Beamwidth:	4.7°
Horizontal Beamwidth:	67°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” × 20.7” × 7.7”



2310 MHz	
Manufacturer:	CCI Products
Model #:	HPA-65R-BU8A
Frequency Band:	2300 - 2400 MHz
Gain:	15.85 dBd
Vertical Beamwidth:	4.0°
Horizontal Beamwidth:	60°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” × 11.7” × 7.7”

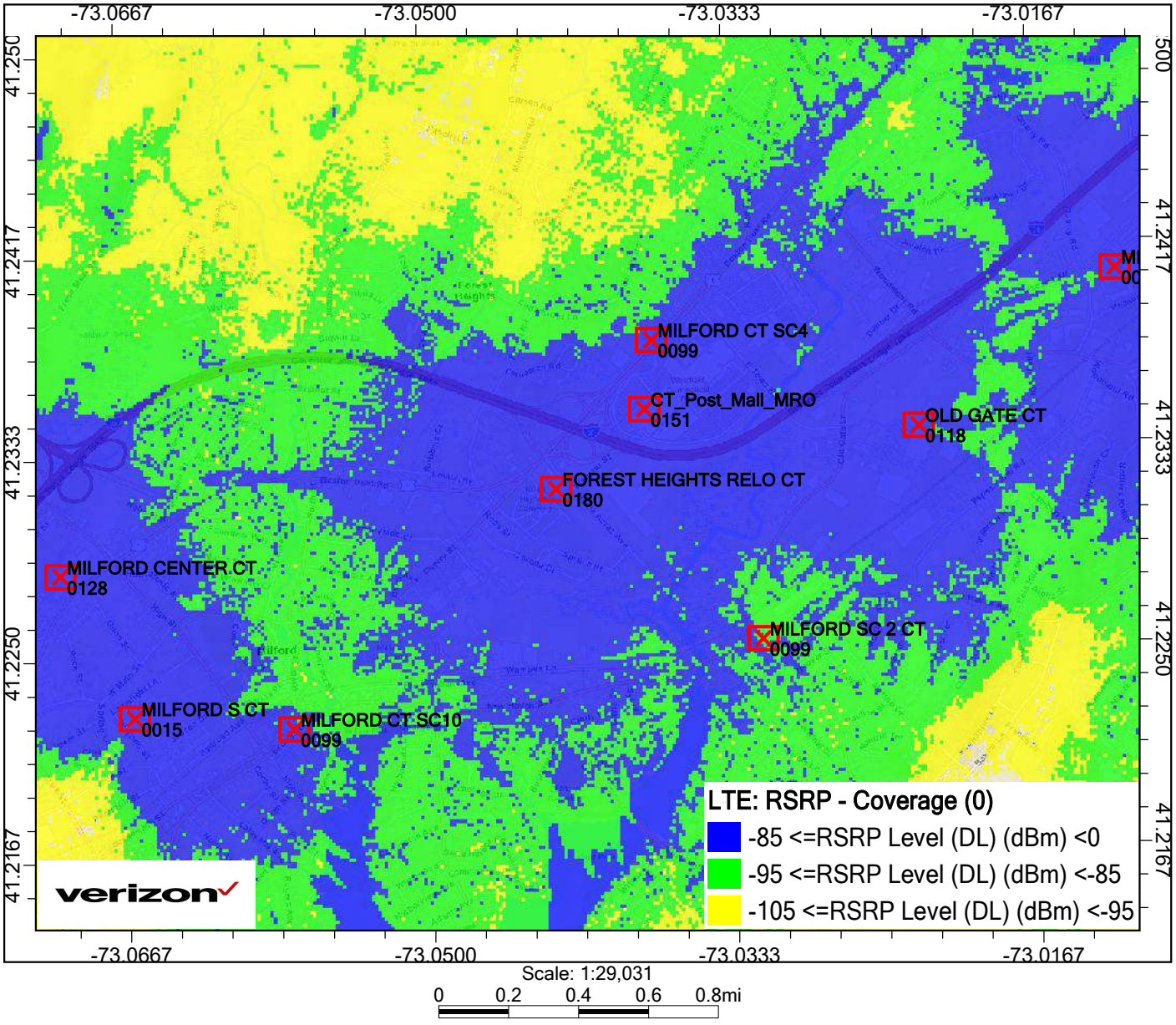


W/O Forest Heights, 700 MHz

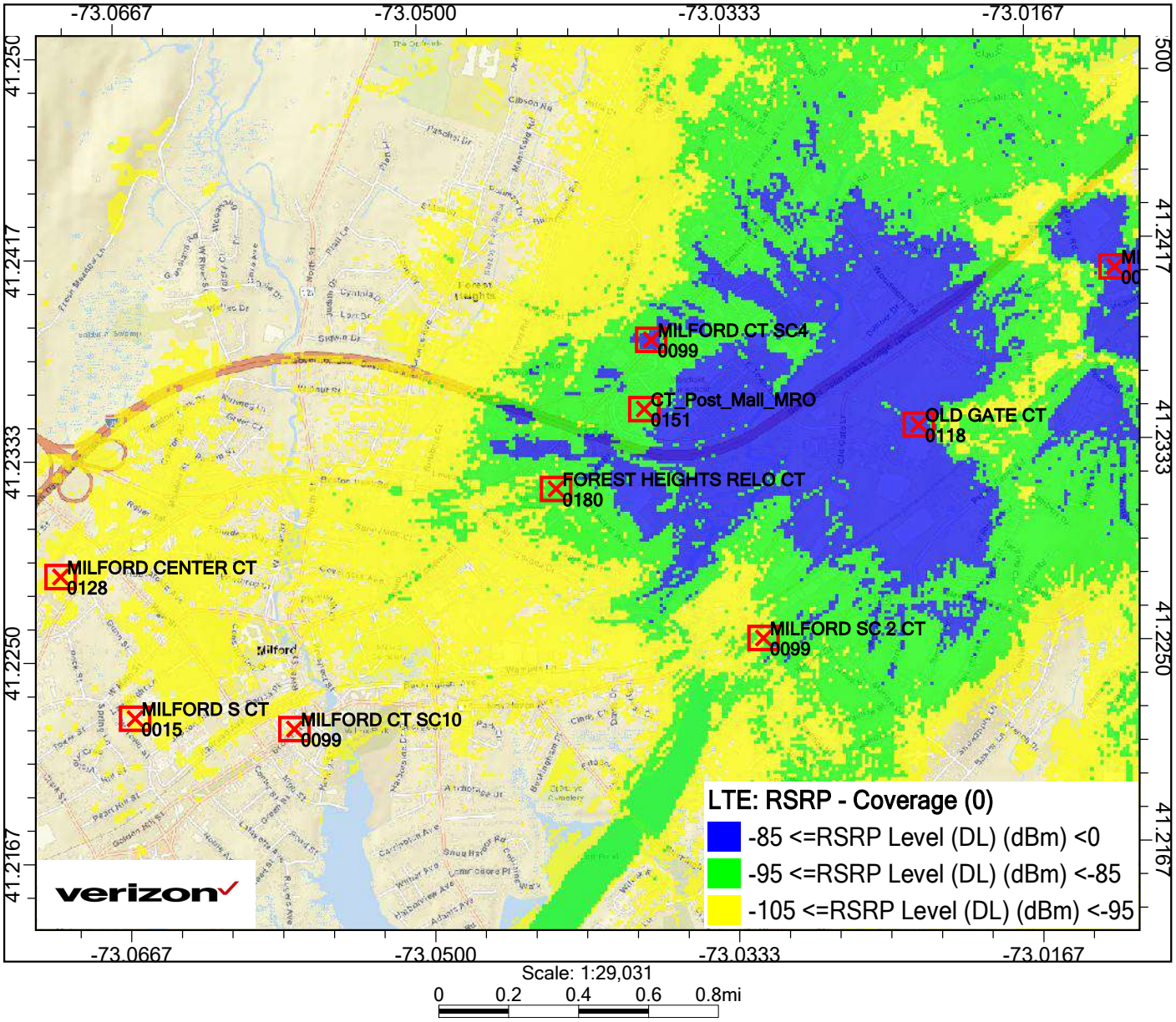


Composite, 700 MHz

110'

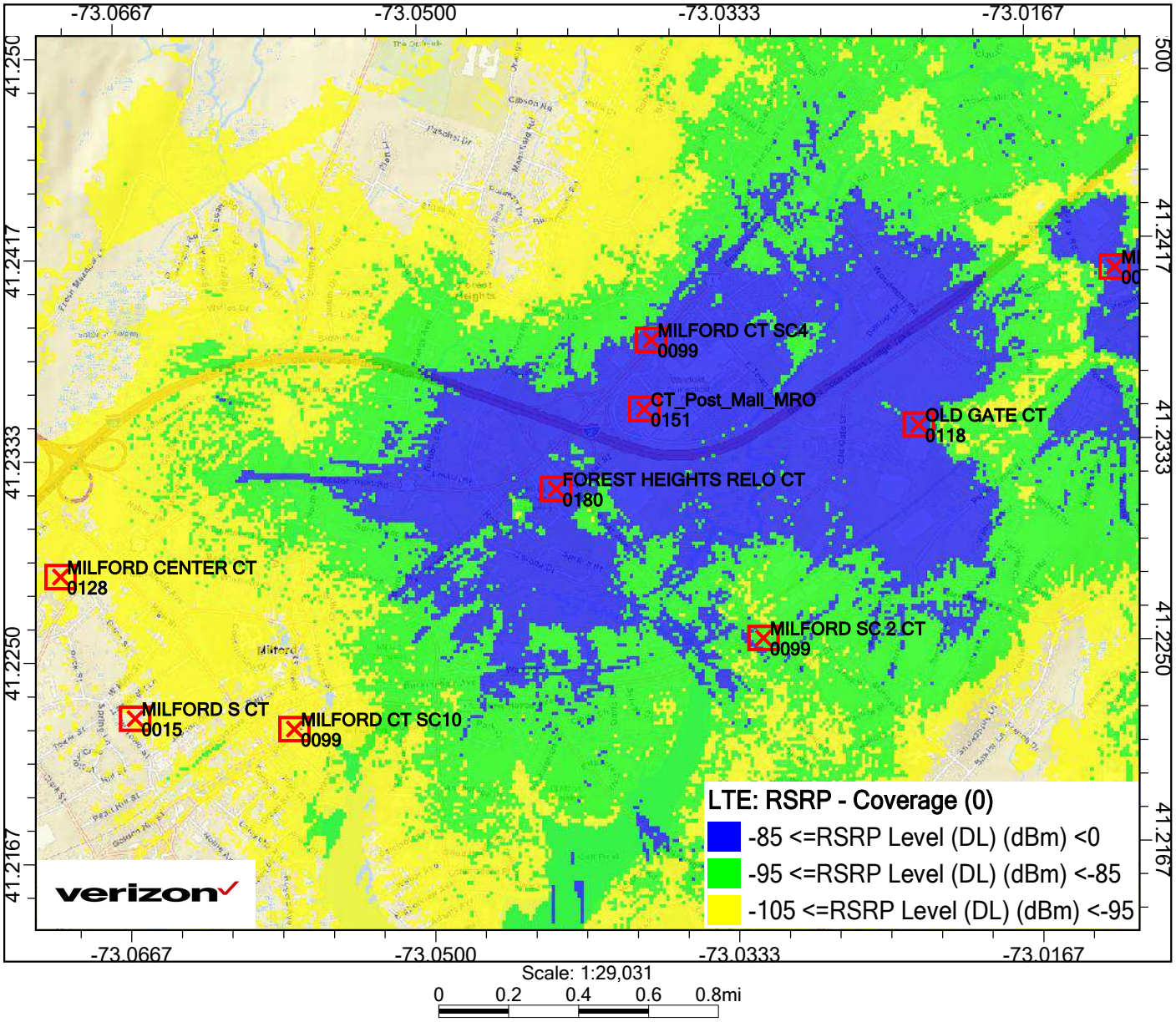


W/O Forest Heights, PCS

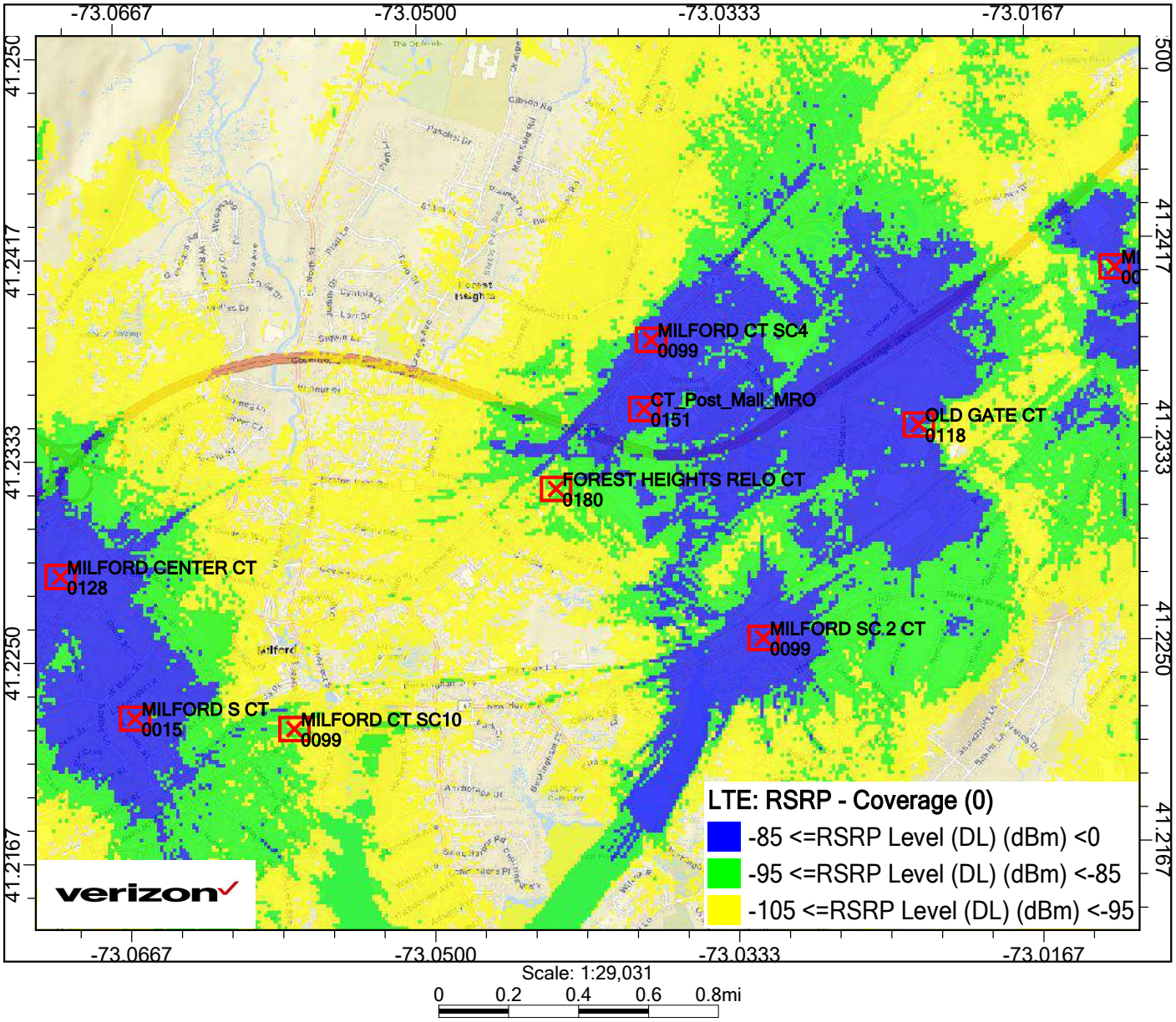


Composite, PCS

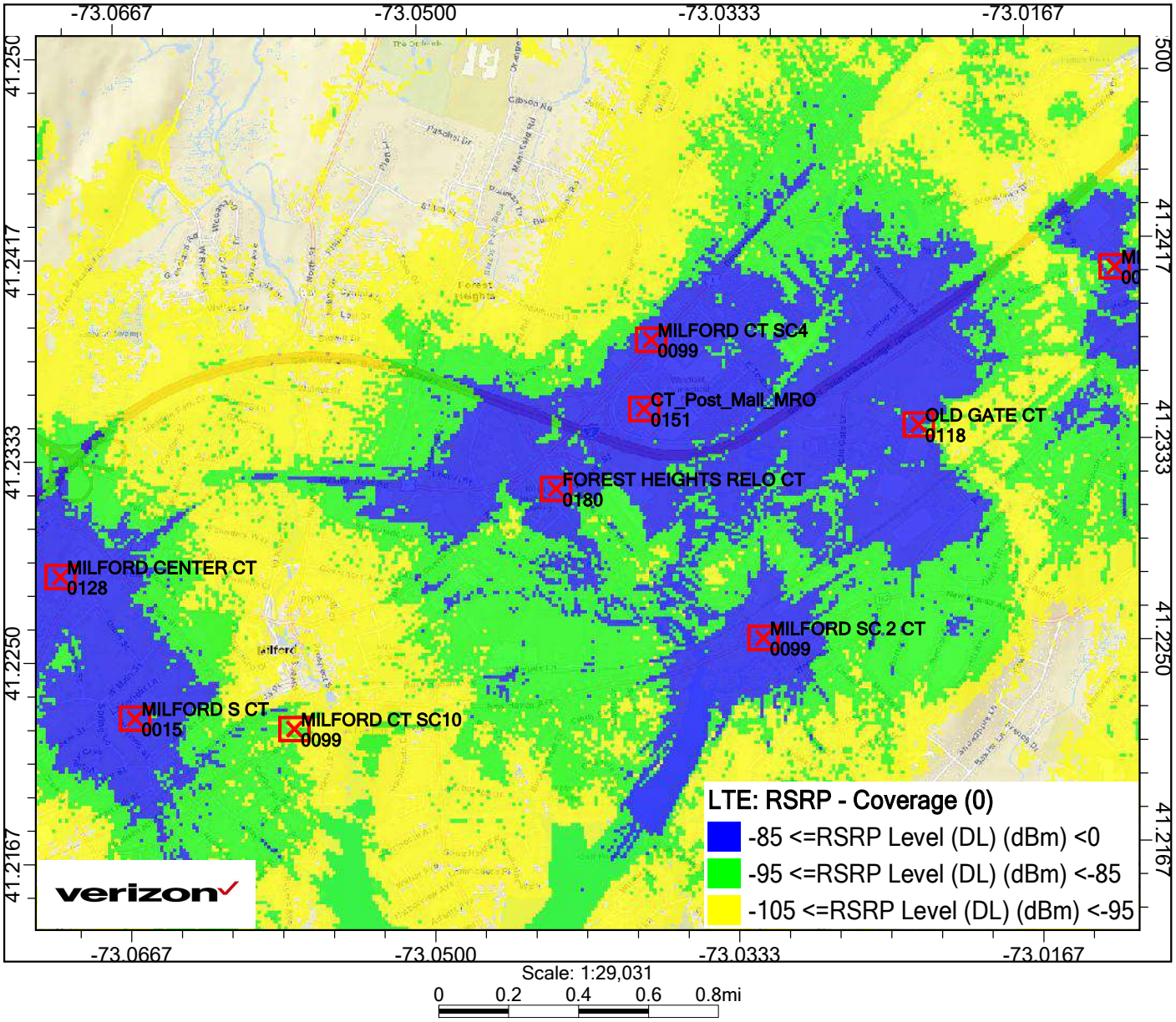
110'



W/O Forest Heights, AWS



Composite, AWS
110'



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

Radio Frequency Analysis Report

CT2327
1063 Boston Post Road, Milford, CT 06460

August 21, 2020

C Squared Systems, LLC
65 Dartmouth Drive, A3
Auburn, NH 03032

Phone: (603) 644-2800
Fax: (603) 644-2801
Support@csquaredsystems.com

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LIST OF ATTACHMENTS

1. Overview

This RF Report has been prepared on behalf of New Cingular Wireless PCS, LLC ("AT&T") in support of the pending application for a new wireless telecommunications facility at 1063 Boston Post Road in the City of Milford, Connecticut. The proposed facility is needed to fill a coverage gap that will be created in AT&T's network within the City of Milford upon the removal of AT&T's existing wireless facility at the Howard Johnson Lodge at 1052 Boston Post Road (CT2216). The permanent facility will also provide prioritized, preemptive wireless services for first responders.

AT&T proposes to install a permanent wireless facility on a new monopole at centerline elevation of 100' above ground level ("AGL"). The proposed location has been selected as suitable to address a substantial gap in 4G LTE coverage for AT&T's network in the area when the facility at the hotel is decommissioned.

This report concludes that the proposed site will serve as an adequate replacement to the coverage and capacity that will be lost in Milford when AT&T's existing facility located at the Howard Johnson Lodge at 1052 Boston Post Road is decommissioned. The areas at risk of becoming gaps in service include Boston Post Road (US Hwy 1), New Haven Avenue and the surrounding business/retail areas in the proximity of the existing and proposed replacement site.

Included as Attachments in this report are coverage maps detailing the existing network and expected coverage from the proposed facility, pertinent site information, a terrain map, and a network layout map.

2. Technology Advances & Design Evolution

AT&T provides digital voice and data services using 3rd Generation (3G) UMTS technology in the 800 MHz and 1900 MHz frequency band, and advanced 4th Generation (4G) services over LTE technology in the 700 MHz and 1900 MHz frequency bands as allocated by the FCC. 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.

It is important to note that with AT&T's migration from 3G to 4G services come changes in the base station infrastructure and resultant changes in the operating thresholds required by the LTE network. In the past, AT&T has presented receive signal thresholds of -74 dBm for their in-building coverage threshold and -82 dBm for their in-vehicle coverage threshold. Those thresholds were based on network requirements to support 2G/3G data speeds and past usage demand. Today, customers expect low latency and faster data speeds as evidenced by increasing data usage trends and customer demand.

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.

3. Coverage & Capacity Objectives

The decommissioning of CT2216 would significantly increase the coverage deficiency in the existing AT&T wireless communications network in the city of Milford, CT. This coverage deficiency includes but is not limited to the following:

- Boston Post Road (US Highway 1);
- New Haven Avenue;
- Cherry Street;
- The surrounding residential neighborhoods in the vicinity of the roads and areas described above.

The area of lost coverage described above is referred to herein as the "targeted area".

A substantial hardship will result with the decommissioning of AT&T's site CT2216, removing coverage and service to residents and commuters in Milford. The purpose of the proposed facility is to provide a permanent, remedial solution for the subject area.

Due to terrain characteristics and the distance between the targeted coverage 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 & 3). 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.

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

In order to define the extent of the coverage gap to be filled once CT2216 is decommissioned, both propagation modeling and real-world drive testing has been conducted in the area of Milford. 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 and drive testing in Milford reveal that AT&T's network will be unreliable once CT2216 is taken down 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 Milford, a new facility is needed in the area.

Table 1 below approximates the current coverage gap of AT&T's 700 MHz LTE technology in the vicinity of the proposed site.

	Coverage from Decommissioned Site	
Population:[2]	(≥ -93 dBm)	3188
Business Pops: [3]	(≥ -93 dBm)	5269
Area (mi²):	(≥ -93 dBm)	1.69
Roadway (mi):	Main (-93 dBm):	7.27
	Secondary (-93 dBm):	12.28
	Total (-93 dBm):	**19.55**

Table 1: Coverage from Decommissioned Site

[2] Population figures are based upon 2010 US Census Block Data

[3] Employee population counts are based upon the 2011 U.S. Census Bureau LEHD database.

Included with this report are Attachments 1-7, which are explained below to help describe AT&T's network in and around Milford, and the need for the proposed facility.

- Attachment 1: "*CT2327 Area Terrain Map"* details the terrain features around the area of deficient service being targeted by the proposed site in Milford. 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 green and blue shades correspond to lower elevations, whereas the orange, red and white shades indicate higher elevations.
- Attachment 2: "Neighbor Site Data" provides site specific information of existing neighboring sites used to perform the coverage analysis provided in Attachments 4 - 6.
- Attachment 3: *Map of Distance to Neighbor Sites – Milford* provides an overview of AT&T's network of sites in the area, with distances shown from the proposed CT2327 site to the existing sites in the surrounding area.
- Attachment 4: *"Existing 700 MHz LTE Coverage" for the Current AT&T Network* depicts 700 MHz LTE coverage from existing sites. 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).
- Attachment 5: *"700 MHz LTE Coverage without CT2216 Site"* shows how decommissioning this site would create a significant coverage gap for this area of Milford.
- Attachment 6: *"700 MHz LTE Coverage with CT2327 Site"* shows the composite coverage from the proposed facility when integrated into the network. Table 2 provides the details of this fill-in coverage.
- Attachment 7: *Connecticut DOT Average Annual Daily Traffic Data – Milford* shows the available vehicular traffic volume data for the subject area from the Connecticut Department of Transportation. This data shows as many as 35,000 vehicles per day passing through Boston Post Road just north of the proposed site.

Table 2 below lists the coverage statistics compiled for the AT&T's 700 MHz LTE network with the proposed deployment of the proposed permanent facility at an antenna centerline of 100 feet.

	Coverage Recovered with Proposed Site	
Population:[4]	(≥ -93 dBm)	3188
Business Pops: [5]	(≥ -93 dBm)	5269
Area (mi²):	(≥ -93 dBm)	1.69
Roadway (mi):	Main (-93 dBm):	6.66
	Secondary (-93 dBm):	11.95
	Total (-93 dBm):	**18.61**

Table 2: Coverage Recovered by Proposed Site

[4] Population figures are based upon 2010 US Census Block Data

[5] Employee population counts are based upon the 2011 U.S. Census Bureau LEHD database.

4. Conclusion

AT&T has identified an area of deficient coverage affecting a significant portion of Milford, CT, including key traffic corridors through the residential areas of the town. The proposed Milford permanent facility will bring the needed fill-in coverage to significant portions of Route 1 (Boston Post Road), New Haven Road, Cherry Street and the residential neighborhoods in the vicinity of these roads, all of which will be impacted by the decommissioning of AT&T's existing site CT2216.

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

As discussed in this report and depicted in the attached plots, the proposed permanent AT&T site will provide a substantial portion of the coverage being lost in this area and maintain effective connectivity to the rest of AT&T's existing network.

5. Statement of Certification

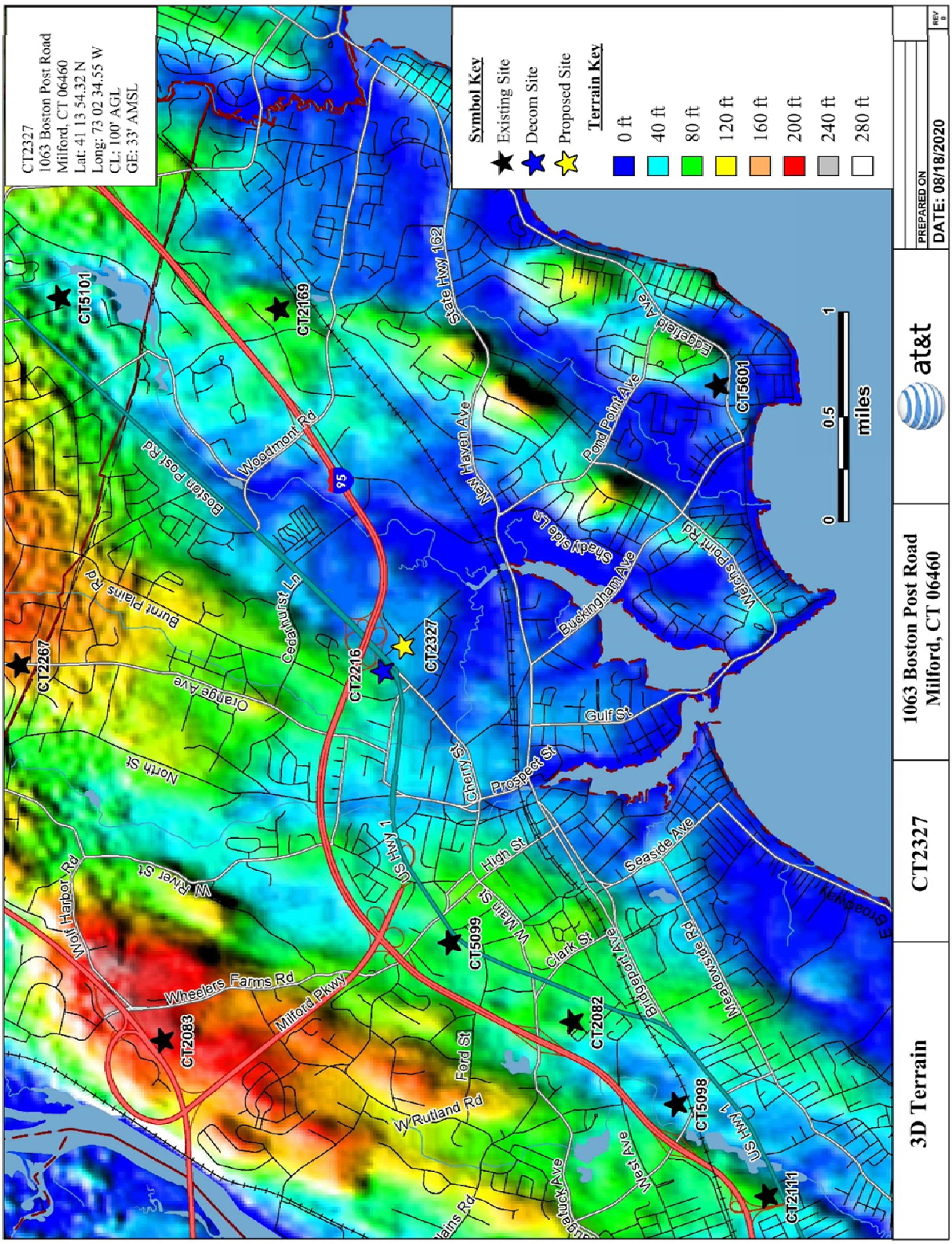
I certify to the best of my knowledge that the statements in this report are true and accurate.

August 21, 2020

Martin J. Lavin
C Squared Systems, LLC

Date

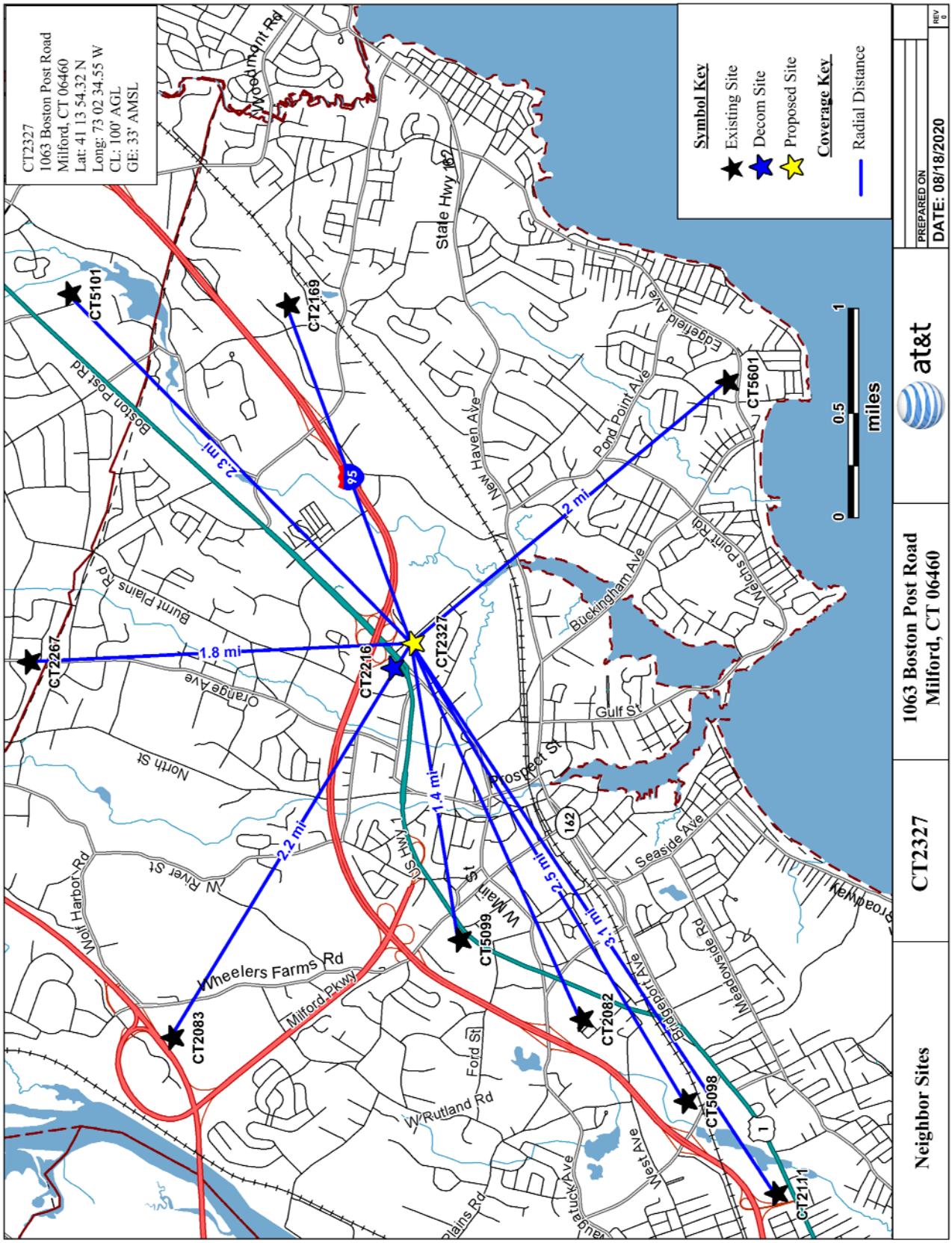
6. Attachments



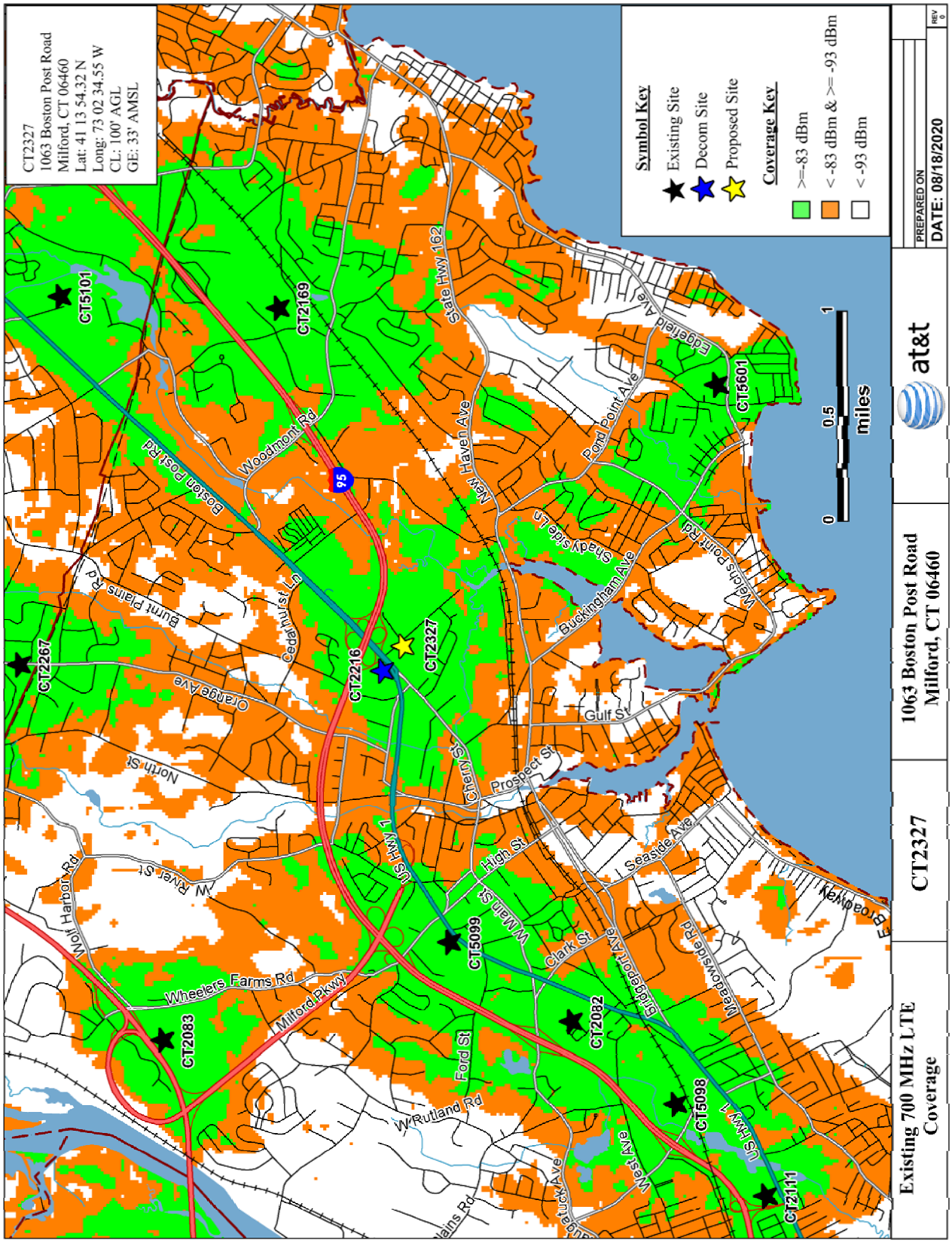
Attachment 1: CT2327 Area Terrain Map

Site Name	Address	City, State	Location		Antenna Height (ft AGL)	Structure Type	Status
			Latitude	Longitude			
CT2082	Bona Street	Milford, CT	41.22	-73.0773	136	Monopole	On-Air
CT2083	528 Wheelers Farm Road	Milford, CT	41.2484	-73.079	98	Monopole	On-Air
CT2111	438 Bridgeport Avenue	Milford, CT	41.2066	-73.0933	103	Monopole	On-Air
CT2169	203 Research Drive	Milford, CT	41.2404	-73.0119	167	Monopole	On-Air
CT2216	1052 Boston Post Road	Milford, CT	41.2332	-73.0452	58	Rooftop	On-Air, to Be Decommissioned
CT2267	298 Ridge Road	Orange, CT	41.2584	-73.0442	111	Utility	On-Air
CT5098	111 School House Road	Milford, CT	41.2128	-73.0848	125	Monopole	On-Air
CT5099	434 Boston Post Road	Milford, CT	41.2285	-73.0701	141	Self-Support	On-Air
CT5101	617 South Orange Center Road	Orange, CT	41.2555	-73.0108	182	Monopole	On-Air
CT5601	234 Melba Street	Milford, CT	41.21	-73.019	105	Stealth	On-Air
CT2327	**1063 Boston Post Road**	**Milford, CT**	**41.2317**	**-73.0429**	**100**	**Monopole**	**Proposed**

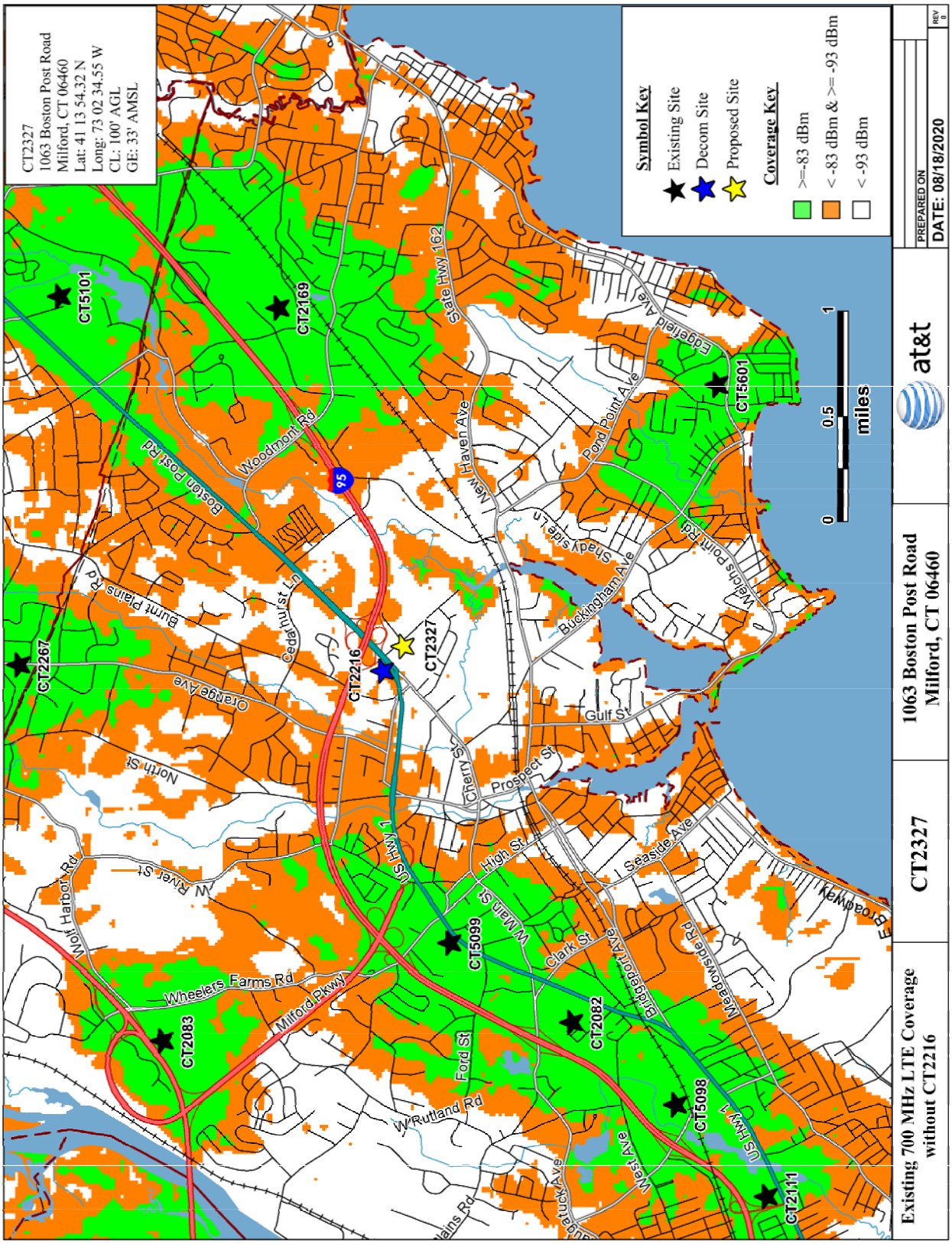
Attachment 2: CT2327 Neighbor Site Data



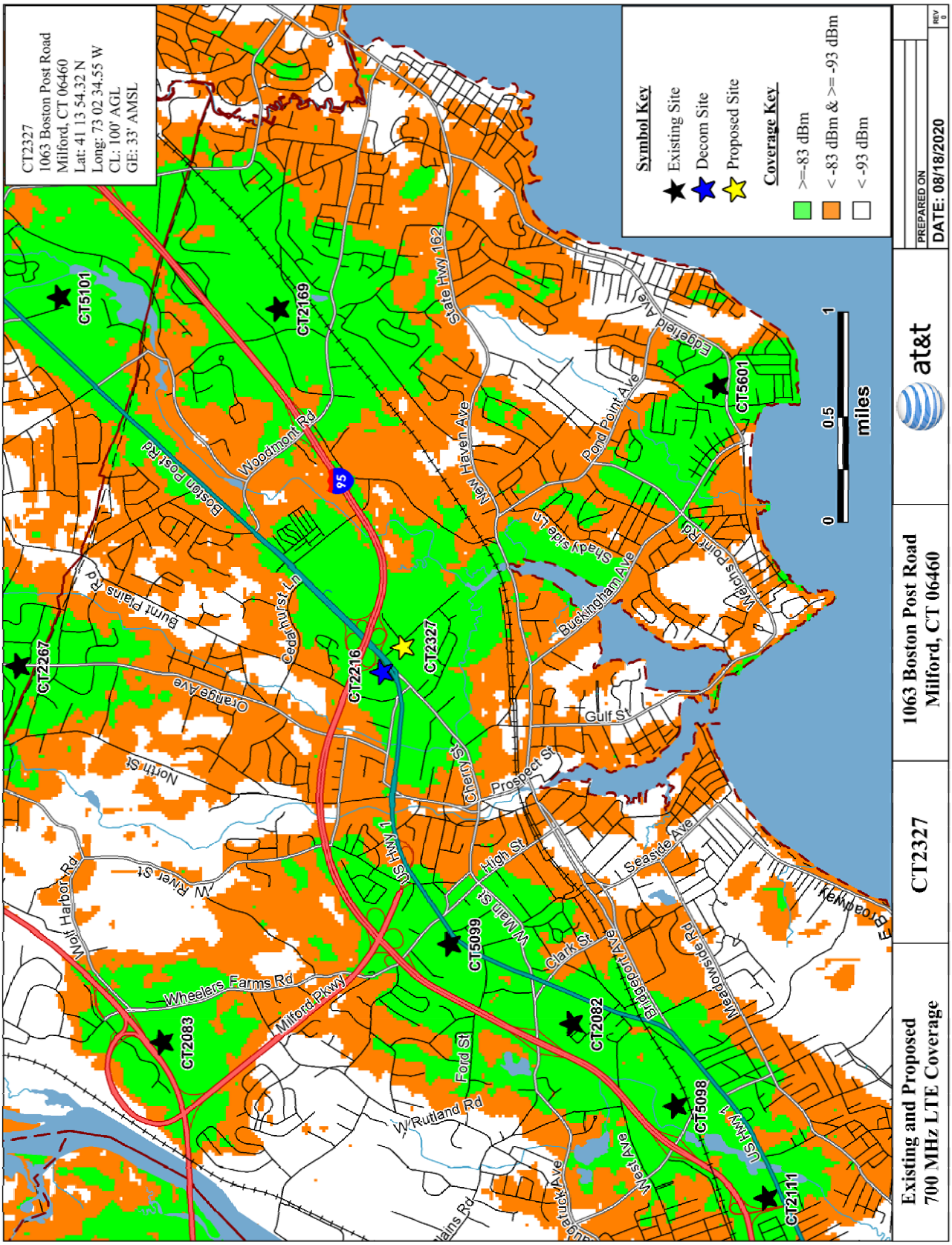
Attachment 3: CT2327 Neighbor Sites Map



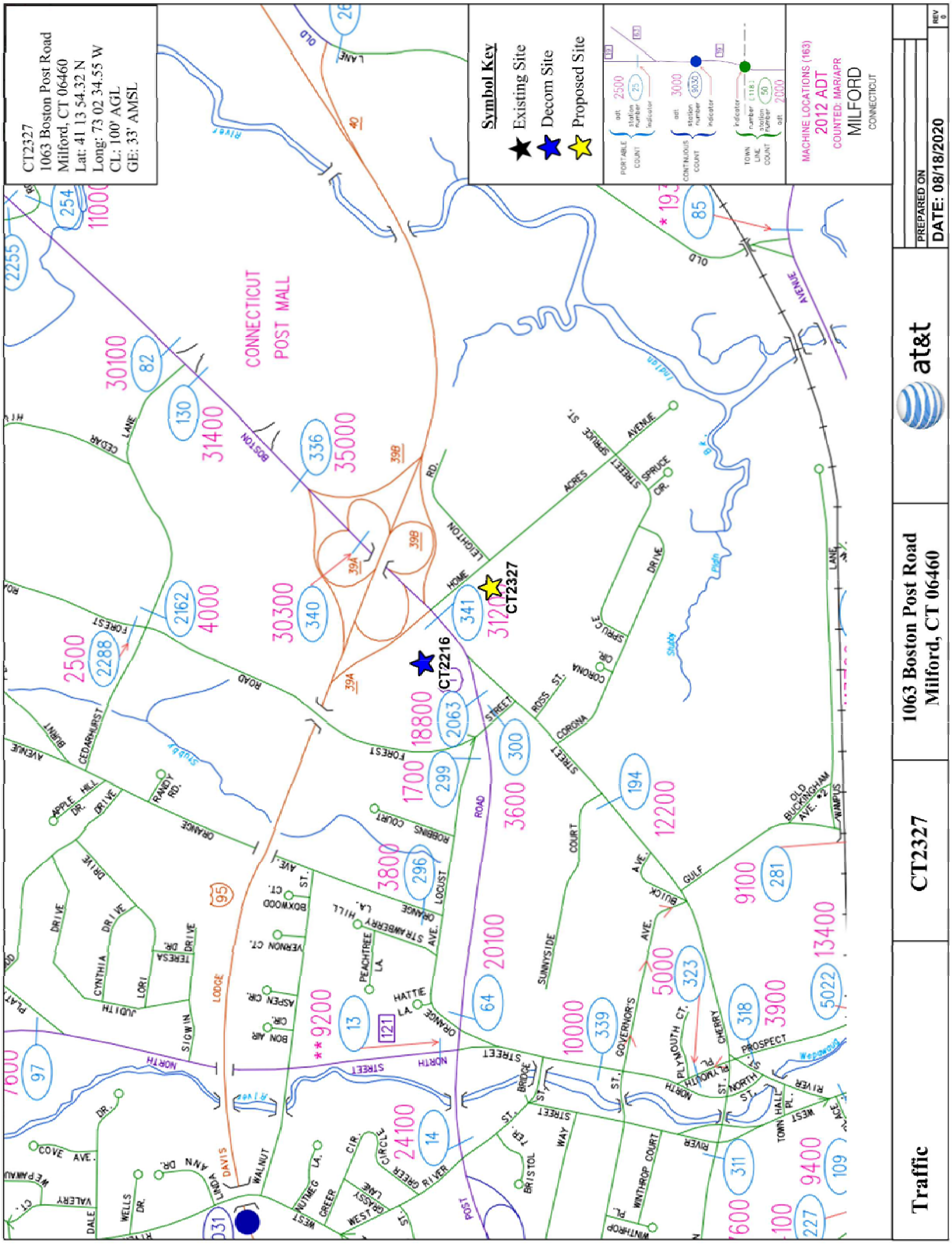
Attachment 4: CT2327 Existing 700 MHz LTE Coverage for Current AT&T Network



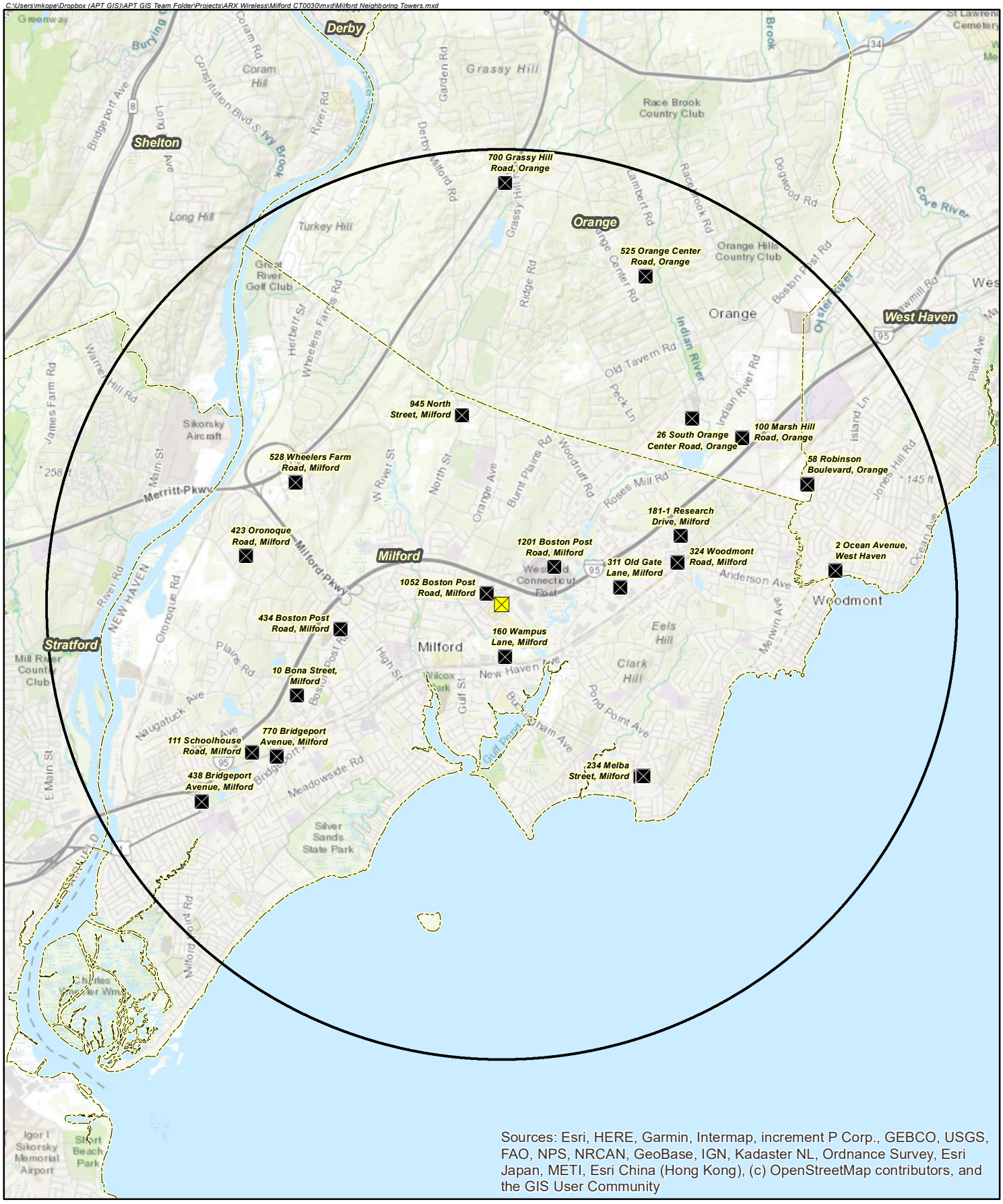
Attachment 5: CT2327 Existing 700 MHz LTE Coverage without CT2216 (Decommissioned)



Attachment 6: CT2327 Existing 700 MHz LTE Coverage with Proposed Site



Attachment 7: Connecticut DOT Average Annual Daily Traffic Data – Milford



Legend

- Proposed Facility
- Existing Towers Within 4 Miles of Proposed Facility
- 4-Mile Radius
- Municipal Boundary

Existing Adjacent Towers

Proposed Wireless
Telecommunications Facility
CT0033/Milford
1063 Boston Post Road
Milford, Connecticut

Base Map Source: ESRI World Topographic Map
Data Sources: CSC Tower Database, Updated March 2020;
FCC ASR GIS Database, Updated 2012
Map Scale:1 inch = 6,000 feet
Map Date: July 2020

6,000 3,000 0 6,000 Feet

ALL-POINTS TECHNOLOGY CORPORATION

Legend

- Site
- 2500-Foot Radius
- Municipal Boundary

N
W E
S

2,000 1,000 0 2,000 Feet

Municipal Boundary Map with 2,500-Foot Radius

Proposed Wireless
Telecommunications Facility
CT0033/Milford
1063 Boston Post Road
Milford, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 2,000 feet
Map Date: July 2020

PROJECT SUMMARY

SCOPE OF WORK:	ARX WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS: 115 FOOT TOWER AND FOUNDATION 60'x60' FENCED COMPOUND POWER AND TELCO UTILITIES VERIZON EQUIPMENT ON 7'-6"x4' CONCRETE PAD TWELVE (12) VERIZON ANTENNAS, SIX (9) RADIOS (RRH) WITH ASSOCIATED CABLING AND APPURTENANCES. VERIZON GENERATOR ON 3'-6"x8' CONCRETE PAD AT&T EQUIPMENT CABINETS WITH GENERATOR ON 13'x8' CONCRETE PAD, NINE (9) AT&T ANTENNAS, ONE (1) DISH ANTENNA AND NINE (9) RRHs WITH ASSOCIATED CABLING AND APPURTENANCES.
SITE ADDRESS:	1063 BOSTON POST ROAD MILFORD, CT 06460
LATITUDE: LONGITUDE:	N41° 13' 54.32" W73° 02' 34.55"
PROPERTY OWNER:	LEE PARTNERS, LLP 1061-1063 BOSTON POST ROAD MILFORD, CT 06460
MAP/LOT/BLOCK:	077 813 25
POWER COMPANY: TELEPHONE COMPANY:	UNITED ILLUMINATION FRONTIER COMMUNICATIONS
TOWER OWNER/APPLICANT:	ARX WIRELESS INFRASTRUCTURE, LLC. 110 WASHINGTON AVENUE NORTH HAVEN, CT 06473

ARX WIRELESS

TECHNICAL REPORT
SITE NUMBER: CT0030
SITE NAME: MILFORD

TECH REPORT

ARX WIRELESS

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

STATE OF CONNECTICUT
DOUGLAS J. ROBERTS
No. 14310
LICENSED ARCHITECT

CHECKED BY:	DJR
APPROVED BY:	DJR

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
5	08/10/2020	ISSUED FOR REVIEW	KAM
4	08/04/2020	ISSUED FOR REVIEW	KAM
3	08/03/2020	ISSUED FOR REVIEW	KAM
2	07/14/2020	ISSUED FOR REVIEW	KAM
1	07/06/2020	ISSUED FOR REVIEW	KAM
0	06/19/2020	ISSUED FOR REVIEW	KAM

SITE NAME:
CT0030 MILFORD

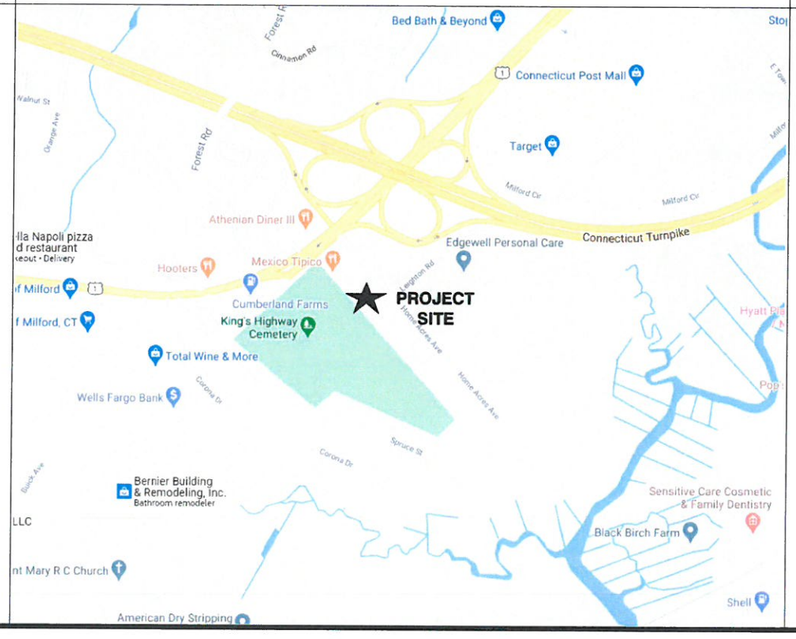
SITE ADDRESS:
1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE
SITE PLAN

SHEET NUMBER
T-1

DRAWING INDEX

VICINITY MAP



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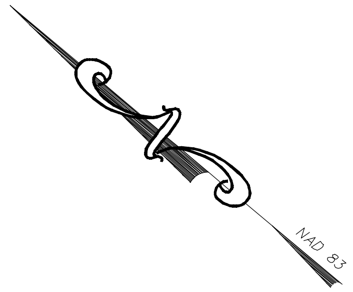
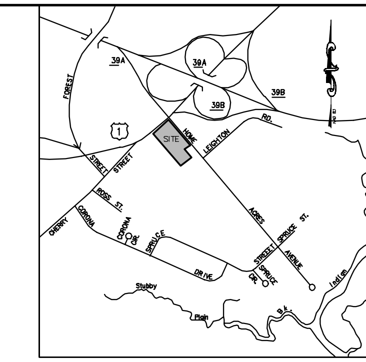
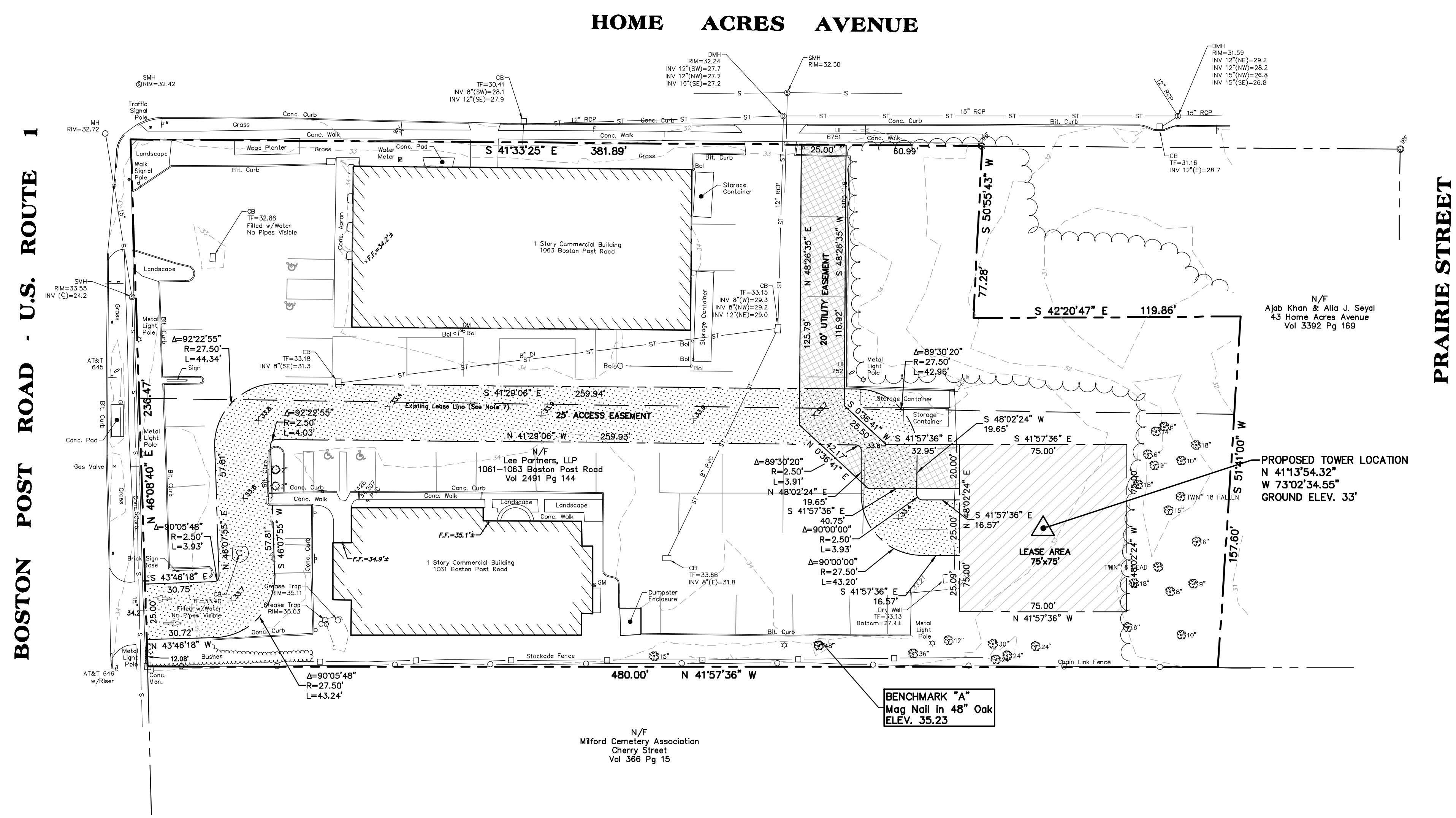
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.





LOCATION MAP

NOT TO SCALE

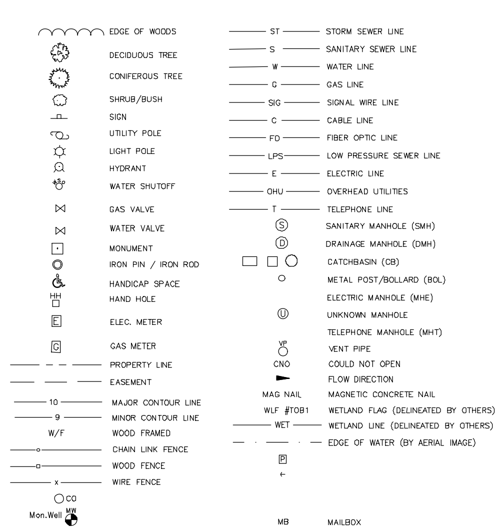


HOME ACRES AVENUE
BOSTON POST ROAD - U.S. ROUTE 1
PRAIRIE STREET
S 41°33'25" E 381.89'
N/F
Lee Partners, LLP
1061–1063 Boston Post Road
Vol 2491 Pg 144
1 Story Commercial Building
1063 Boston Post Road
1 Story Commercial Building
1061 Boston Post Road
25' ACCESS EASEMENT
20' UTILITY EASEMENT
S 41°29'06" E 259.94'
N 41°29'06" W 259.93'
N/F
Ajab Khan & Aila J. Seyal
43 Home Acres Avenue
Vol 3392 Pg 169
S 42°20'47" E 119.86'
S 50°55'43" W 77.28'
S 51°41'00" W 157.60'
PROPOSED TOWER LOCATION
N 41°13'54.32"
W 73°02'34.55"
GROUND ELEV. 33'
LEASE AREA
75'x75'
S 41°57'36" E 75.00'
N 41°57'36" W 75.00'
480.00' N 41°57'36" W
N 46°08'40" E 236.47'
BENCHMARK "A"
Mag Nail in 48" Oak
ELEV. 35.23
N/F
Milford Cemetery Association
Cherry Street
Vol 366 Pg 15
Stockade Fence
Chain Link Fence

NOTES:

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20 AS AMENDED, AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. THE TYPE OF SURVEY IS A PROPERTY SURVEY AND A T-2 TOPOGRAPHIC SURVEY, THE BOUNDARY DETERMINATION CATEGORY IS A RESURVEY. THE SURVEY CONFORMS TO A-2 HORIZONTAL ACCURACY, T-2 TOPOGRAPHIC ACCURACY AND V-3 VERTICAL ACCURACY.
2. BEARINGS REFER TO THE CONNECTICUT COORDINATE SYSTEM (NAD 83) AS DERIVED USING GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) SURVEY METHODS IN MAY, 2020.
3. ELEVATIONS REFER TO THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88) AS DERIVED USING GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) SURVEY METHODS IN MAY, 2020.
4. REFERENCE IS MADE TO THE FOLLOWING MAP:
   A. "PRELIMINARY SUBDIVISION PLAN, PROPERTY OF LEE PARTNERS LLP & JOHN D. & ILDA M. VELEZ, 1063 BOSTON POST ROAD & 43 HOME ACRES AVENUE, MILFORD, CONNECTICUT"; SCALE: 1"=30'; DATED: MAY 24, 2002; REVISED THROUGH: DECEMBER 9, 2003; PREPARED BY: GODFREY-HOFFMAN ASSOCIATES, LLC.
5. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.
6. REFERENCE IS MADE TO TITLE COMMITMENT NO. 31660901 PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, DATED MAY 21, 2020.
7. PROPERTY IS SUBJECT TO THE TERMS AND CONDITIONS OF A LEASE AS RECORDED IN VOL. 2667 PG. 439 AND LISTED IN TITLE COMMITMENT NO. 31660901, SCHEDULE B, PART II, ITEM 9.

EXISTING CONDITIONS LEGEND



EDGE OF WOODS
DECIDUOUS TREE
CONIFEROUS TREE
SHRUB/BUSH
SIGN
UTILITY POLE
LIGHT POLE
HYDRANT
WATER SHUTOFF
GAS VALVE
WATER VALVE
MONUMENT
IRON PIN / IRON ROD
HANDICAP SPACE
HAND HOLE
ELEC. METER
GAS METER
PROPERTY LINE
EASEMENT
MAJOR CONTOUR LINE
MINOR CONTOUR LINE
WOOD FRAMED
CHAIN LINK FENCE
WOOD FENCE
WIRE FENCE
STONEWALL
STORM SEWER LINE
SANITARY SEWER LINE
WATER LINE
GAS LINE
SIGNAL WIRE LINE
CABLE LINE
FIBER OPTIC LINE
LOW PRESSURE SEWER LINE
ELECTRIC LINE
OVERHEAD UTILITIES
TELEPHONE LINE
SANITARY MANHOLE (SMH)
DRAINAGE MANHOLE (DMH)
CATCHBASIN (CB)
METAL POST/BOLLARD (BOL)
ELECTRIC MANHOLE (MHE)
UNKNOWN MANHOLE
TELEPHONE MANHOLE (MHT)
VENT PIPE
CND COULD NOT OPEN
FLOW DIRECTION
MAG NAIL MAGNETIC CONCRETE NAIL
WLF #TOB1 WETLAND FLAG (DELINEATED BY OTHERS)
WET WETLAND LINE (DELINEATED BY OTHERS)
EDGE OF WATER (BY AERIAL IMAGE)
MB MAILBOX

GRAPHIC SCALE 1"= 30

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

GORDON R. MATSON, PLS — LICENSE NO. 70445

TRUE AND VALID COPIES OF THIS MAP OR PLAN MUST BEAR THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR. UNAUTHORIZED REPRODUCTION OR ALTERATION IS FORBIDDEN.

Embossed Seal

REVISIONS	
DATE	DESCRIPTION
08-18-20	REVISE ACCESS & UTILITY EASEMENTS
08-06-20	REVISE EASEMENT & LEASE AREA LABELS
07-14-20	REVISE ACCESS & UTILITY EASEMENT
06-30-20	REVISE LEASE AREA & TOWER LOCATION
06-25-20	TREE LOCATIONS ADDED
06-17-20	REVISE ACCESS & UTILITY EASEMENT

STATE OF CONNECTICUT · GORDON R. MATSON · 70445 · LICENSED LAND SURVEYOR

PROPERTY AND TOPOGRAPHIC SURVEY

PROPOSED TOWER SITE

1063 BOSTON POST ROAD - U. S. ROUTE 1

CITY OF MILFORD

COUNTY OF NEW HAVEN — STATE OF CONNECTICUT

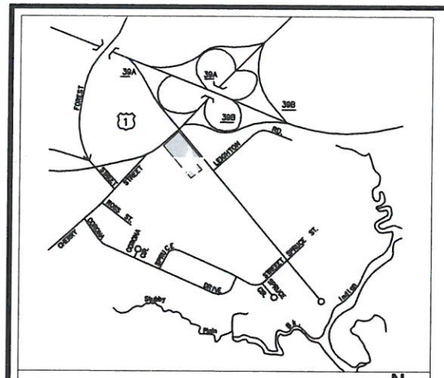
Weston & Sampson

Weston & Sampson Land Surveyors Inc.
273 Dividend Road Rocky Hill, CT 06067 (860) 513 1473

CAD FILE: ENG20-0481 AECOM MILFORD

DATE: JUNE 16, 2020 — SHEET 1 OF 1

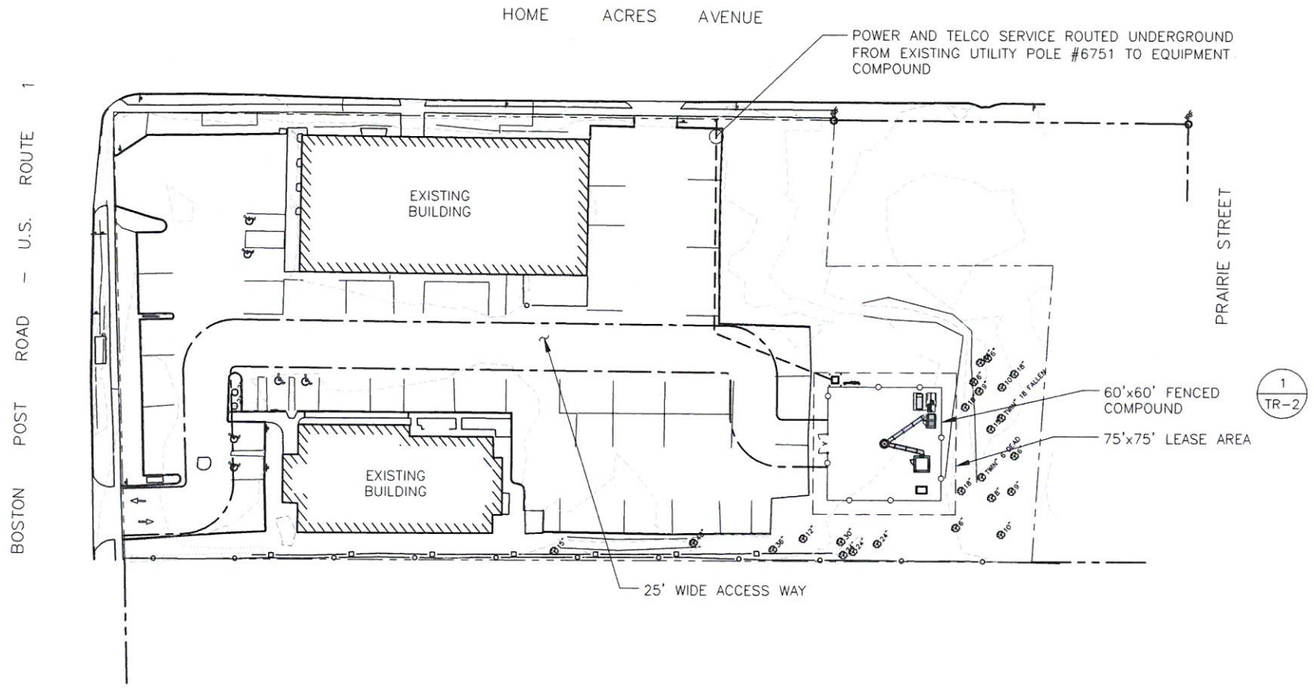
SCALE: 1"=30' — DRAWING No.

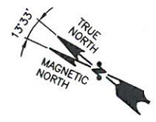


VICINITY MAP
SCALE: N.T.S

N

CENTER OF STRUCTURE COORDINATES: LAT: N41° 13' 54.32" LONG: W73° 02' 34.55"





SITE PLAN 1 TR-1
22x34 SCALE: 1"=40'-0"
11x17 SCALE: 1"=80'-0"

GRAPHIC SCALE
0 20 40 80 120 FEET

TECH REPORT

ARX WIRELESS

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

STATE OF CONNECTICUT
DOUGLAS J. ROBERTS
No. 4310
REGISTERED ARCHITECT

CHECKED BY: DJR

APPROVED BY: DJR

SUBMITTALS

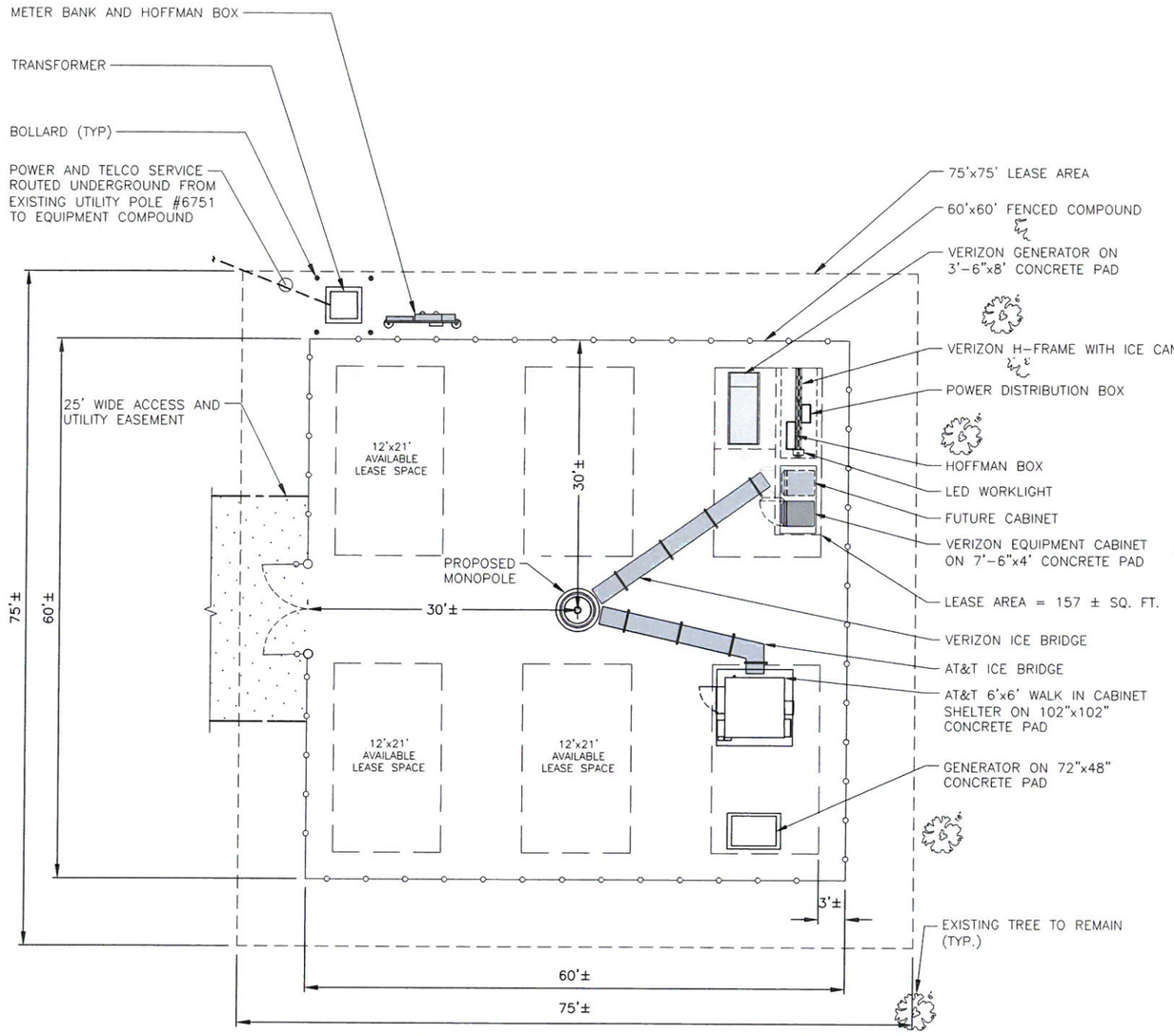
REV.	DATE	DESCRIPTION	BY
5	08/10/2020	ISSUED FOR REVIEW	KAM
4	08/04/2020	ISSUED FOR REVIEW	KAM
3	08/03/2020	ISSUED FOR REVIEW	KAM
2	07/14/2020	ISSUED FOR REVIEW	KAM
1	07/06/2020	ISSUED FOR REVIEW	KAM
0	06/19/2020	ISSUED FOR REVIEW	KAM

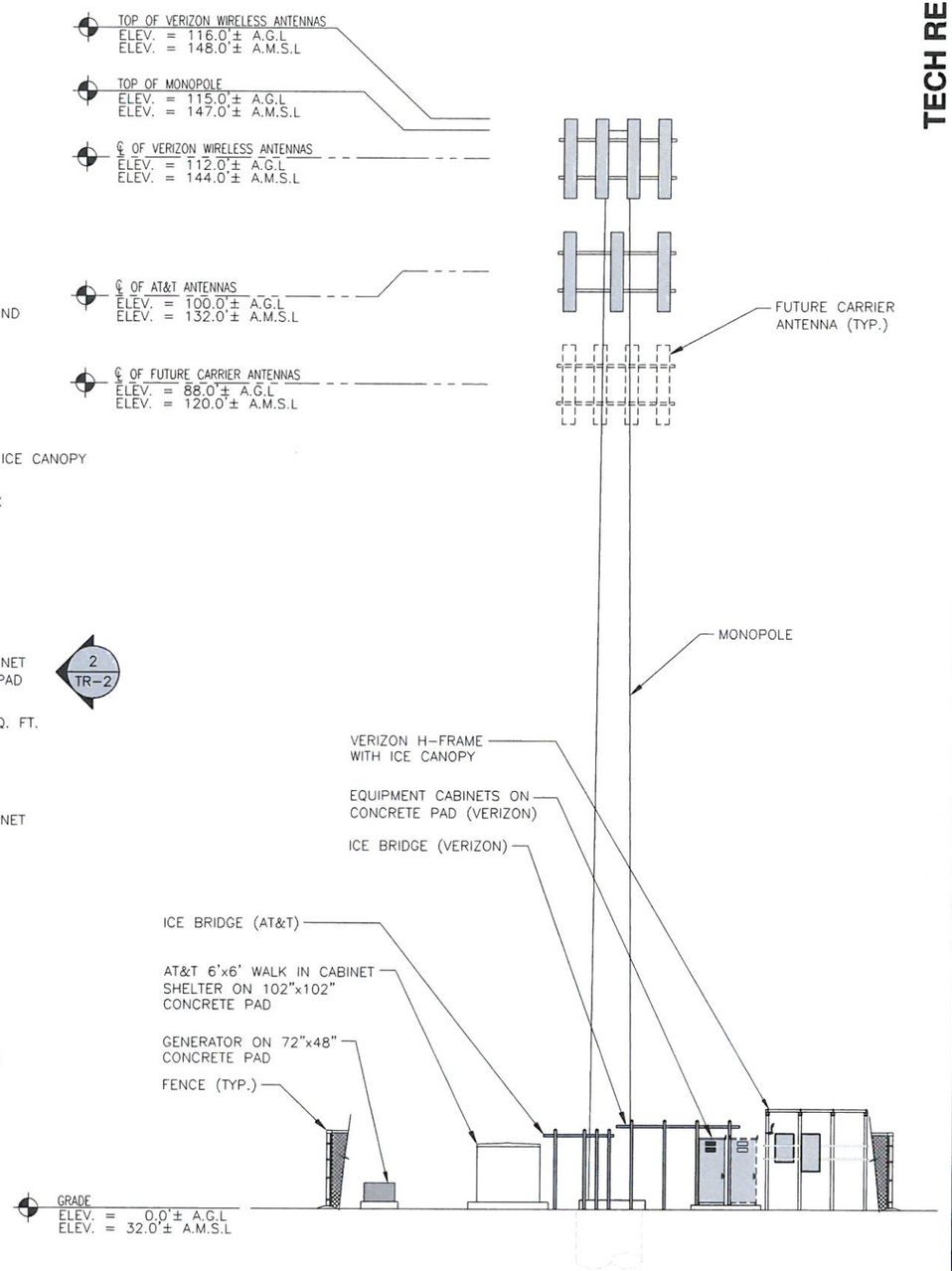
SITE NAME:
CT0030 MILFORD

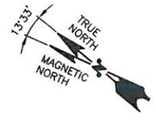
SITE ADDRESS:
1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE
SITE PLAN

SHEET NUMBER
TR-1







COMPOUND PLAN (1 / TR-2)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET

NORTH ELEVATION (2 / TR-2)
22x34 SCALE: 1"=10'-0"
11x17 SCALE: 1"=20'-0"

GRAPHIC SCALE
0 5 10 20 30 FEET

TECH REPORT

ARX WIRELESS

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

STATE OF CONNECTICUT
DOUGLAS J. ROBERTS
No. 43310
LICENSED ARCHITECT

CHECKED BY: DJR

APPROVED BY: DJR

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
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4	08/04/2020	ISSUED FOR REVIEW	KAM
3	08/03/2020	ISSUED FOR REVIEW	KAM
2	07/14/2020	ISSUED FOR REVIEW	KAM
1	07/06/2020	ISSUED FOR REVIEW	KAM
0	06/19/2020	ISSUED FOR REVIEW	KAM

SITE NAME:
CT0030 MILFORD

SITE ADDRESS:
1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE
COMPOUND PLAN AND ELEVATION

SHEET NUMBER
TR-2

WETLAND INSPECTION

August 1, 2020 **APT Project No.: CT631120**

Prepared For: ARX Wireless
110 Washington Avenue
North Haven, CT 06473
Attn: Keith Coppins

Site Name: CT0030 - Milford

Site Address: 1063 Boston Post Road, Milford, Connecticut

Date of Investigation: 6/9/2020

Field Conditions: **Weather:** sunny**,** high 70's
Soil Moisture: dry to moist

Wetland/Watercourse Delineation Methodology[1]:
☒Connecticut Inland Wetlands and Watercourses

Municipal Upland Review Area:
Wetlands: 100 feet **Watercourses:** 100 feet

The wetlands inspection was performed by[2]:

Matthew Gustafson, Registered Soil Scientist

Enclosures: Wetland Inspection Field Form & Wetland Inspection Map

This report is provided as a brief summary of findings from APT's wetland investigation of the referenced Study Area that consists of proposed development activities and areas generally within 200 feet.[3] If applicable, APT is available to provide a more comprehensive wetland impact analysis upon receipt of site plans depicting the proposed development activities and surveyed location of identified wetland and watercourse resources.

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1 *Wetlands and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance.*

2 All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.

3 *APT has relied upon the accuracy of information provided by ARX Wireless and its contractors regarding proposed lease area and access road/utility easement locations for identifying wetlands and watercourses within the study area.*

Attachments

- Wetland Inspection Field Form
- Wetland Inspection Map

Wetland Inspection Field Form

Wetlands Identified within Study Area:	Yes ☐ No ☒	
Nearest Wetland Resource:	±1,320 feet to the south	
Identification Method:	Remote sensing ☒ Type: CTDEEP Wetland Mapping	Field identified ☒

SITE CONDITIONS:

DEVELOPED ☒

Paved ☒	Gravel ☒	Maintained Lawn ☒
Agriculture ☐	Cultivated ☐	Hayfield/Pasture ☐
Comments: A majority of the Site is occupied by existing paved surfaces and commercial retail development. Southeastern extents of the Site consist of gravel surfaces transitioning to edge upland forest.		

UNDEVELOPED UPLAND HABITAT ☒

Forest ☒	Scrub/Shrub ☐	Field ☐
Other: None		
Comments: None		

SOILS:

Are field identified soils consistent with NRCS mapped soils?	Yes ☒	No ☐
If no, describe field identified soils		

NEAREST WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☒	Palustrine ☐
Lacustrine ☐	Marine ☐	
Comments: None		

CLASS:

Emergent ☒	Scrub-shrub ☐	Forested ☐
Open Water ☒	Disturbed ☒	Wet Meadow ☐
Comments: None		

WATERCOURSE TYPE:

Perennial ☒	Intermittent ☐	Tidal ☐
Watercourse Name: Stubby Plain Brook		
Comments: Tidally influenced perennial watercourse which feeds the Indian River. Generally drains east within an emergent salt water marsh.		

Wetland Inspection Field Form (Cont.)

SPECIAL AQUATIC HABITAT:

Vernal Pool Yes ☐ No ☒ Potential ☐	Other ☐
Vernal Pool Habitat Type: None	
Comments: None	

GENERAL COMMENTS:

All-Points Technology Corp., P.C. ("APT") understands that ARX Wireless is proposing to construct a wireless telecommunications facility within southeastern portion of a commercial retail developed parcel. The location for the proposed facility generally occurs within existing degraded gravel surfaces currently being used as overflow parking and storage. Adjacent forested areas to the south, consisting of mature hardwood upland forest, may also require some clearing to accommodate the proposed facility. Access to the facility would be provided by existing paved access that serves the existing commercial retail establishments.

No wetlands or watercourses are located within or immediately adjacent to the subject property. The nearest wetland area consists of a tidally influenced riparian corridor associated with Stubby Plain Brook located ±1,320 feet south of the subject property. This feature generally drains east into the Indian River and eventually into Long Island Sound. Areas bordering the perennial watercourse generally consist of emergent marshes dominated by various reed and cattails.

As a result of the significant distance from the proposed communication facility to the nearest wetland resource, the proposed development would not adversely impact wetland or watercourse resources.

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\ARX Wireless\Milford CT0030\mxd\Milford Wetland Inspection Map.mxd

Legend

- Proposed Lease Area
- Proposed Access and Utility Easement
- Tidal Wetland (CT DEEP)
- Subject Property
- Approximate Parcel Boundary

Wetland Inspection Map

Proposed Wireless
Telecommunications Facility
CT0033
1063 Boston Post Road
Milford, Connecticut

N
W E
S

400 200 0 400
Feet

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: June 2020

ALL-POINTS TECHNOLOGY CORPORATION

ALL-POINTS TECHNOLOGY CORPORATION

PRELIMINARY VISUAL ASSESSMENT

Date: August 13, 2020

To: ARX Wireless
110 Washington Avenue
North Haven, CT 06473

From: Brian Gaudet

Re: Proposed Telecommunications Facility
1063 Boston Post Road
Milford, Connecticut

ARX Wireless ("ARX") has identified a proposed location for development of a wireless telecommunications facility at 1063 Boston Post Road in Milford, Connecticut (the "Host Property"). The proposed Facility would include a 115-foot tall steel monopole, with antennas extending to 116 feet, and equipment within a ±60-foot by ±60-foot fenced compound (the "Facility") located in the southern portion of the Host Property.

The Host Property is a single parcel located immediately south of U.S Route 1 ("Boston Post Road") and west of Home Acres Avenue. It is developed with two 1-story commercial buildings and a parking lot. Residential neighborhoods are located to the southeast of the Host Property along Home Acres Road. King's Highway Cemetery is directly south of the Host Property; additional residential developments lie farther to the south beyond the cemetery. A large industrial warehouse is located to the east beyond the residential properties off Leighton Road. Commercial development extends along Boston Post Road in both directions from the Host Property. Interstate 95 ("I-95"; Exit 39 interchange) is north of the Host Property.

At the request of ARX, All-Points Technology Corporation, P.C. ("APT") has prepared initial viewshed mapping to provide a preliminary evaluation of the visibility associated with the proposed Facility. To conduct this assessment, a predictive computer model was developed specifically for this project using ESRI's ArcMap Geographic Information System ("GIS")[1] software and available GIS data. The predictive model provides an initial estimate of potential visibility throughout a pre-defined "Study Area", in this case a two-mile radius surrounding the proposed Facility location.

The predictive model incorporates project and Study Area-specific data, including the Facility location, its ground elevation and the proposed Facility height, as well as the surrounding topography, existing vegetation, and structures (the primary features that can block direct lines of sight). The Study Area extends into the neighboring municipality of Orange to the north. I-95 and Boston Post Road bisect the Study Area in roughly a northeast to southwest direction.

[1] ArcMap is a Geographic Information System desktop application developed by the Environmental Systems Research Institute for creating maps, performing spatial analysis, and managing geographic data.

A digital surface model ("DSM"), capturing both the natural and built features on the Earth's surface, was generated for the extent of the Study Area utilizing State of Connecticut 2016 LiDAR[2] LAS[3] data points. LiDAR is a remote-sensing technology that develops elevation data by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the "returns" can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," or "building". Derived from the 2016 LiDAR data, the LAS datasets contain the corresponding elevation point data and return classification values. The Study Area DSM incorporates the first return LAS dataset values that are associated with the highest feature in the landscape, typically a treetop, top of a building, and/or the highest point of other tall structures.

Once the DSM was generated, ESRI's Viewshed Tool was utilized to identify locations within the Study Area where the proposed Facility may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells[4] within the DSM that can be seen from an observer location. Cells where visibility was indicated were extracted and converted from a raster dataset to a polygon feature which was then overlaid onto an aerial photograph and topographic base map. Since the DSM includes the highest relative feature in the landscape, isolated "visible" cells are often indicated within heavily forested areas (e.g., from the top of the highest tree) or on building rooftops during the initial processing. It is recognized that these areas do not represent typical viewer locations and overstate visibility. As such, the resulting polygon feature is further refined by extracting those areas. The viewshed results are also cross-checked against the most current aerial photographs to assess whether significant changes (a new housing development, for example) have occurred since the time the LiDAR-based LAS datasets were captured.

The results of the preliminary analysis are intended to provide a representation of those areas where portions of the Facility may potentially be visible to the human eye without the aid of magnification, based on a viewer eye-height of five (5) feet above the ground and the combination of intervening topography, trees and other vegetation, and structures. However, the Facility may not necessarily be visible from all locations within those areas identified by the predictive model, which has limitations. For instance, it is important to note that the computer model cannot account for mass density, tree diameters and branching variability of trees, or the degradation of views that occurs with distance. As a result, some areas depicted on the viewshed maps as theoretically offering potential visibility of the Facility may be over-predicted because the quality of those views is not sufficient for the human eye to recognize the Facility or discriminate it from other surrounding or intervening objects.

The preliminary viewshed mapping results indicate that predicted year-round visibility associated with the proposed Facility could include up to approximately 76 acres (less than one percent of the 8,042-acre Study Area). The predicted year-round visibility occurs primarily within 0.25 mile of the Facility to the north, west and east along Boston Post Road and I-95, and to the south in a portion of the cemetery. Additional year-round views are predicted further to the east of the Facility from select locations in the vicinity of Old Gate Lane. Similarly, limited areas of year-round visibility are predicted at distances of up to 0.6 mile to the west and intermittently between 0.7 mile and 2.0 miles to the south and east.

The maps provided as attachments offer a preliminary basis for understanding the extent of visibility that may occur throughout the Study Area, but they do not address the character of those potential views. Note also that the results of the computer model have not been field verified. Our experience is that the computer

[2] Light Detection and Ranging.

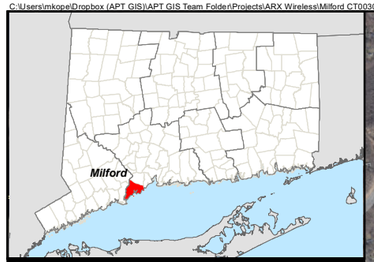
[3] An LAS file is an industry-standard binary format for storing airborne LiDAR data.

[4] Each DSM cell size is 1 square meter.

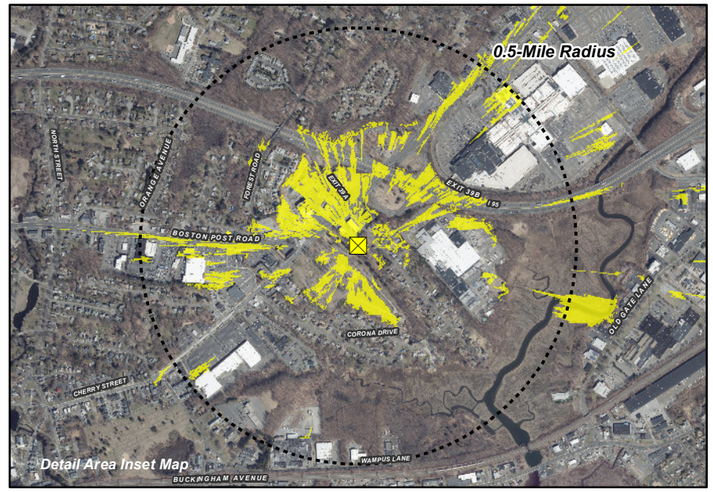
model's sensitivity typically results in the initial mapping being over-predictive of the Facility's viewshed. These initial results will be field-verified and presented in ARX's application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need.

Attachments

C:\Users\mkopel\Dropbox (APT GIS)\APT GIS Team Folder\Projects\ARX Wireless\Milford CT0030\mxd\Preliminary Milford Viewshed Aerial 116FT.mxd



Statewide and Regional Overview Map



Preliminary Viewshed Analysis Map

Proposed Wireless Telecommunications Facility
CT0030/Milford
1063 Boston Post Road
Milford, Connecticut

Proposed facility height is 116 feet AGL.
Forest canopy height is derived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres.
Information provided on this map has not been field verified
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: August 2020

Legend

- Proposed Site
- Study Area (2-Mile Radius)
- Predicted Year-Round Visibility (76 Acres)
- Municipal Boundary
- Trail
- Scenic Highway
- DEEP Boat Launches
- Municipal and Private Open Space Property
- State Forest/Park

Protected Open Space Property

- Federal
- Land Trust
- Municipal
- Private
- State

Data Sources:

Physical Geography / Background Data

A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points. The DSM captures the natural and built features on the Earth's surface.

Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

Dedicated Open Space & Recreation Areas

Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007; Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

Other

CTDOT Scenic Strips (based on Department of Transportation data)

Notes

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

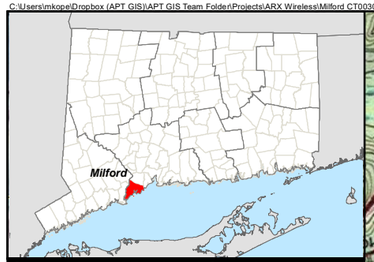
Limitations

This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM and 2019 digital aerial photographs only. No in-field verification has been completed. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

0.5 0.25 0 0.5 Miles

ALL-POINTS TECHNOLOGY CORPORATION

C:\Users\mkopel\Dropbox (APT GIS)\APT GIS Team Folder\Projects\ARX Wireless\Milford CT0030\mxd\Preliminary Milford Viewshed USGS 116FT.mxd



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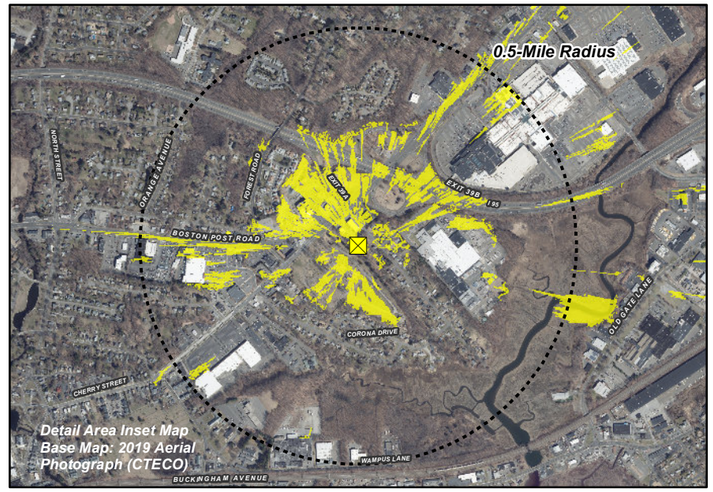

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CT0030/Milford
1063 Boston Post Road
Milford, Connecticut

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Forest canopy height is derived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres.
Information provided on this map has not been field verified
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Ansonia, CT (1984) and Milford, CT (1984)
Map Date: August 2020

Legend

- Proposed Site
- Study Area (2-Mile Radius)
- Predicted Year-Round Visibility (76 Acres)
- Municipal Boundary
- Trail
- Scenic Highway
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Notes

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Limitations

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0.5 0.25 0 0.5 Miles

ALL-POINTS TECHNOLOGY CORPORATION

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

Aeronautical Study No.
2020-ANE-3659-OE

Issued Date: 07/15/2020

Keith Drucker
Arx Wireless Infrastructure, LLC
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:	Tower CT0030 - Milford
Location:	Milford, CT
Latitude:	41-13-54.21N NAD 83
Longitude:	73-02-34.28W
Heights:	33 feet site elevation (SE)
	160 feet above ground level (AGL)
	193 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:

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 L Change 2.

This determination expires on 01/15/2022 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, effective 21 Nov 2007, 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 our office at (816) 329-2525, or natalie.schmalbeck@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-ANE-3659-OE.

Signature Control No: 443324731-445536259 (DNE)
Natalie Schmalbeck
Technician

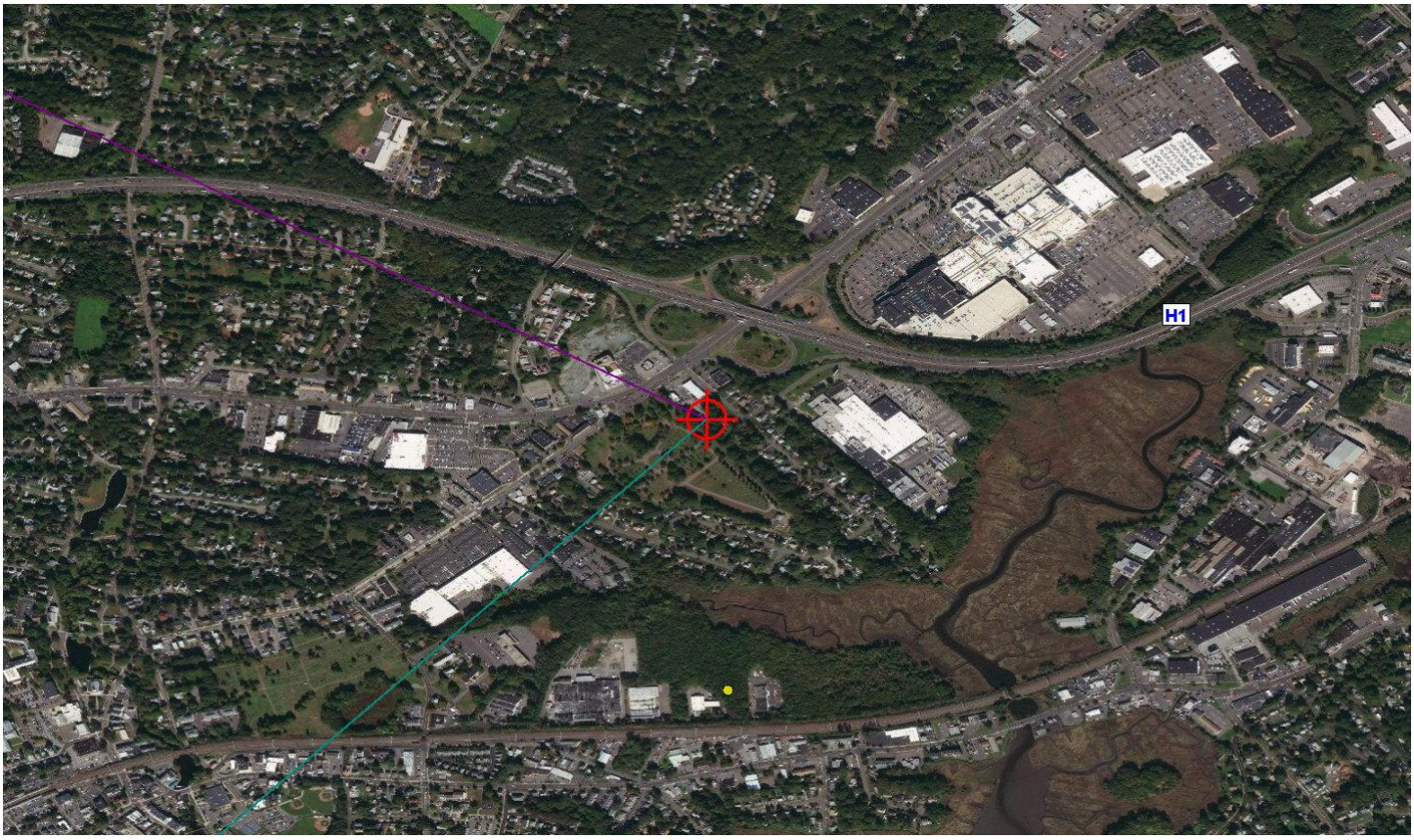
Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2020-ANE-3659-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

Verified Map for ASN 2020-ANE-3659-OE



AVIAN RESOURCES EVALUATION

August 3, 2020

To: ARX Wireless
110 Washington Ave
North Haven, CT 06473

Re: Proposed CT0030 Milford CT
1063 Boston Post Road, Milford, CT
APT Project No. CT631120

ARX Wireless proposes to construct a new wireless telecommunications facility ("Facility") at 1063 Boston Post Road in Milford, Connecticut (the "Host Property"). The Host Property consists of an approximately 2.44-acre parcel that is cleared and developed and is occupied by active commercial uses. The Facility would include a ±160-foot tall monopole tower within a ±75-foot by ±75-foot area that includes a new ±60-foot by ±60-foot gravel based fenced equipment compound. The new tower and equipment compound will allow for the future collocation of multiple service providers.

The purpose of this evaluation is to document the proposed Facility's proximity to avian resource areas and evaluate its compliance with recommended guidelines of the United States Fish and Wildlife Service ("USFWS") for minimizing the potential for telecommunications towers to impact bird species.

All-Points Technology Corporation, P.C. ("APT") reviewed several publicly available sources of avian data for the state of Connecticut to provide the following information with respect to potential impacts on migratory birds associated with the proposed development. This desktop analysis and attached graphics identify avian resources and their proximities to the Host Property. Information within an approximate 3-mile radius of the Host Property is graphically depicted on the attached Avian Resources Map. Some of the avian data referenced herein are not located in proximity to the Host Property and are therefore not visible on the referenced map due to its scale. In those cases, the distances separating the Host Property from the resources are identified in the discussions below.

Proximity to Important Bird Areas

The National Audubon Society has identified 27 Important Bird Areas ("IBAs") in the state of Connecticut. IBAs are sites that provide essential habitat for breeding, wintering, and/or migrating birds. To achieve this designation, an IBA must support species of conservation concern, restricted-range species, species vulnerable due to concentration in one general habitat type or biome, or species vulnerable due to their occurrence at high densities as a result of their congregatory behavior[1]. The closest IBA to the host Property is Silver Sands State Park and Charles Island in Milford located approximately 1.9 miles to the southwest.

[1] http://web4.audubon.org/bird/iba/iba_intro.html

Silver Sands State Park is comprised of woodland edge, grassland, beach, and restored salt marsh and dune areas. It is a very important area for both wintering and nesting birds as it provides nesting areas that are relatively isolated from human interference. The marsh and intertidal habitats of the area provide foraging areas for migrant shorebirds. Due to its distance from the Site, this IBA would not experience an adverse impact from the proposed development of the Facility.

Supporting Migratory Bird Data

Beyond Audubon's IBAs, the following analysis and attached graphics identify several additional avian resources and their proximities to the Host Property. Although these data sources may not represent habitat indicative of IBAs, they may indicate possible bird concentrations[2] or migratory pathways.

Critical Habitat

Connecticut Critical Habitats depict the classification and distribution of 25 rare and specialized wildlife habitats in the state. They represent a compilation of ecological information collected over many years by state agencies, conservation organizations and individuals. These habitats range in size from areas less than one acre to areas that are tens of acres in extent. The Connecticut Critical Habitats information can highlight ecologically significant areas and target areas of species diversity for land conservation and protection, but are not necessarily indicative of habitat for bird species. The nearest Critical Habitat to the proposed Facility is a Salt Marsh area associated with Gulf Pond and Indian River approximately 0.4 miles to the east. This Critical Habitat would not experience an adverse impact from the proposed development of the Facility even though it is within relatively close proximity to the Site.

Avian Survey Routes and Points

Breeding Bird Survey Route

The North American Breeding Bird Survey is a cooperative effort between various agencies and volunteer groups to monitor the status and trends of North American bird populations. Routes are randomly located to sample habitats that are representative of an entire region and do not necessarily represent concentrations of avifauna or identification of critical avian habitats. Each year during the height of the avian breeding season (June for most of the United States), participants skilled in avian identification collect bird population data along roadside survey routes. Each survey route is approximately 24.5 miles long and contains 50 stops located at 0.5-mile intervals. At each stop, a three-minute count is conducted. During each count, every bird seen or heard within a 0.25-mile radius is recorded. The resulting data is used by conservation managers, scientists, and the general public to estimate population trends and relative abundances and to assess bird conservation priorities. The nearest survey route to the host Property is the Long Hill Breeding Bird Survey Route (Route #18013) located approximately 10.7 miles to the northwest. This ±25-mile long bird survey route begins on the Easton/Trumbull town line and generally winds its way north through Monroe, Newtown, and Southbury before terminating in Roxbury. In this case, its distance from the Site would negate any potential adverse impact resulting from development of the Facility.

Hawk Watch Site

[2] "Bird concentrations" is related to the USFWS *Revised Voluntary Guidelines for communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning* (September 27, 2013) analysis provided at the end of this document.

The Hawk Migration Association of North America ("HMANA") is a membership-based organization committed to the conservation of raptors through the scientific study, enjoyment and appreciation of raptor migration. HMANA collects hawk count data from almost 200 affiliated raptor monitoring sites throughout the United States, Canada and Mexico, identified as "Hawk Watch Sites." In Connecticut, Hawk Watch Sites are typically situated on prominent hills and mountains that tend to concentrate migrating raptors. The nearest Hawk Watch Site, Boothe Memorial Park, is located in Stratford, approximately 3.5 miles to the northwest of the proposed Facility.

Most hawks migrate during the day (diurnal) to take advantage of two theorized benefits: (1) diurnal migration allows for the use of updrafts or rising columns of air, called thermals, to gain lift without flapping thereby reducing energy loss; and (2) day migrants can search for prey and forage as they migrate.

Based on the distance separating this Hawk Watch Site and hawk migration behavior occurring during the daytime under favorable weather conditions when thermals form, no adverse impacts to migrating hawks are anticipated from development of the Facility.

Bald Eagle Survey Route

Bald Eagle Survey Routes consist of locations of midwinter bald eagle counts from 1986 to 2005 with an update provided in 2008. The associated database includes information on statewide, regional and national trends. Survey routes are included in the database only if they were surveyed in at least four consecutive years and where at least four eagles were counted in a single year. The nearest Bald Eagle Survey Route is the Housatonic River Survey Route Number 2, located approximately 3.4 miles west of the Site.

Bald eagle migration patterns are complex, dependent on age of the individual, climate (particularly during the winter) and availability of food.[3] Adult birds typically migrate alone and generally as needed when food becomes unavailable, although concentrations of migrants can occur at communal feeding and roost sites. Migration typically occurs during the middle of the day (10:30–17:00) as thermals provide opportunities to soar up with limited energy expense; Bald Eagle migration altitudes are estimated by ground observers to average 1,500 to 3,050 meters.[4] Four adults tracked by fixed-wing aircraft in Montana averaged 98 km/d during spring migration and migrated at 200 to 600 meters above the ground (McClelland et al. 1996).[5]

The USFWS's *National Bald Eagle Management Guidelines* (May 2007) recommend a 660-foot buffer to bald eagle nests if the activity will be visible from the nest with an additional management practice recommendation of retaining mature trees and old growth stands, particularly within 0.5 mile from water. No known bald eagle nests occur in the vicinity of the Host Property so the 660-foot bald eagle nest buffer would not apply.

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[3] Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506 [Accessed 09/09/13].

[4] Harmata, A. R. 1984. Bald Eagles of the San Luis valley, Colorado: their winter ecology and spring migration. Ph.D. Thesis. Montana State Univ. Bozeman.

[5] Mcclelland, B. R., P. T. McClelland, R. E. Yates, E. L. Caton, and M. E. McFadden. 1996. Fledging and migration of juvenile Bald Eagles from Glacier National Park, Montana. J. Raptor Res. 30:79-89.

No adverse impacts to migrating bald eagle are anticipated from development of the Facility. This conclusion is based on the relatively short (160-foot) height of the Facility, eagle migration patterns during the daytime under favorable weather conditions when thermals form, and compliance with USFWS bald eagle management guidelines.

Flyways

The Host Property is located in New Haven County, approximately 1.5 miles south of Long Island Sound. The Connecticut coast lies within the Atlantic Flyway, one of four generally recognized regional primary migratory bird flyways (Mississippi, Central and Pacific being the others). This regional flyway is used by migratory birds travelling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, and Connecticut's coast serves as a vital stopover habitat. Migratory land birds also stop along coastal habitats before making their way inland. Smaller inland migratory flyways ("secondary flyways") are often concentrated along major riparian areas as birds use these valuable stopover habitats to rest and refuel as they make their way further inland to their preferred breeding habitats. The Connecticut Migratory Bird Stopover Habitat Project (Stokowski, 2002)[6] identified potential flyways along the Housatonic, Naugatuck, Thames, and Connecticut Rivers. This study paralleled a similar earlier study conducted by the Silvio O. Conte National Fish & Wildlife Refuge (Neotropical Migrant Bird Stopover Habitat Survey[7]), which consisted of collection of migratory bird data along the Connecticut River and the following major Connecticut River tributaries: Farmington, Hockanum, Scantic, Park, Mattabesset, Salmon, and Eightmile Rivers. Of these potential flyways, the nearest to the Host Property is the Housatonic River, located approximately 3.2 miles to the west. These major riparian corridors may provide secondary flyways as they likely offer more food and protection than more exposed upland sites, particularly during the spring migration.[8] The Indian River riparian corridor, located 0.4 miles southeast of the Host Property, is not identified as a potential flyway but potentially forms a secondary flyway as birds move northward from the Housatonic River corridor during the spring migration.

Siting of tower structures within flyways can be a concern, particularly for towers much taller than that proposed, and even more particularly for taller towers with guy wires and lighting. The majority of studies on bird mortality associated with towers focuses on very tall towers (greater than 1000 feet above grade), illuminated with non-flashing lights, and guyed. These types of towers, particularly if sited in major migratory pathways, can result in significant bird mortality (Manville, 2005)[9]. The proposed Facility is not this type of tower, being an unlit and unguyed monopole structure only 160 feet in height. More recent studies of short communication towers (<300 feet) reveal that they rarely kill migratory birds.[10] Studies of

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[6] Stokowski, J.T. 2002. Migratory Bird Stopover Habitat Project Finishes First Year. Connecticut Wildlife, November/December 2002. P.4.

[7] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/index.html

[8] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey. http://www.science.smith.edu/stopoverbirds/Chapter5_Conclusions&Recommendations.html

[9] Manville, A.M. II. 2005. Bird strikes and electrocutions at power lines, communications towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002. C.J. Ralph and T.D. Rich, editors. USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany CA. pp. 1-51-1064.

[10] Kerlinger, P. 2000. Avian Mortality at Communication Towers: A Review of Recent Literature, Research, and Methodology. Prepared for U.S. Fish and Wildlife Service Office of Migratory Bird Management.

mean flight altitude of migrating birds reveal flight altitudes of 410 meters (1350 feet), with flight altitudes on nights with bad weather between 200 and 300 meters above ground level (656 to 984 feet).[11]

No adverse impacts to migrating bird species are anticipated with development of the Facility, based on its design (unlit and unguyed), relatively short (160-foot) height, and the distances separating the Host Property from the potential Housatonic and Indian River flyways. The design and height of the proposed Facility would also mitigate the potential for migratory bird impacts should either river be used as a secondary flyway.

Waterfowl Focus Areas

The Atlantic Coast Joint Venture ("ACJV") is an affiliation of federal, state, regional and local partners working together to address bird conservation planning along the Atlantic Flyway. The ACJV has identified waterfowl focus areas recognizing the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these waterfowl focus areas. The nearest waterfowl focus area to the Host Property is the Lower Housatonic River Great Meadows area, located approximately 2.6 miles to the northwest. Please refer to the attached Connecticut Waterfowl Focus Areas Map. Based on the distance of this waterfowl focus area to the Host Property, no impact to migratory waterfowl would result from development of the proposed Facility.

DEEP Migratory Waterfowl Data

The Connecticut Department of Energy and Environmental Protection ("DEEP") created a Geographic Information System ("GIS") data layer in 1999 identifying concentration areas of migratory waterfowl at specific locations in Connecticut. The intent of this data layer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This data layer identifies conditions at a particular point in time and has not been updated since 1999.

The nearest migratory waterfowl area, Gulf Pond in Milford, is located approximately 0.6 miles to the southeast of the Host Property. The associated species are identified as American black duck, Canada goose, canvasback, and green wing teal. Potential impacts to this migratory waterfowl area are mitigated by the proposed Facility's short (160-foot) height and the fact that it would be unlit and unguyed.

DEEP Natural Diversity Data Base

DEEP's Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state listed species and to help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. The locations of species and natural communities

[11] Mabee, T.J., B.A. Cooper, J.H. Plissner, D.P. Young. 2006. Nocturnal bird migration over an Appalachian ridge at a proposed wind power project. Wildlife Society Bulletin 34:682-690.

depicted on the maps are based on data collected over the years by DEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded areas on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowners' rights whenever species occur on private property.

No known areas of state-listed species are currently depicted on the most recent DEEP NDDB Maps (June 2020) within 0.25-mile of the Site. Therefore, in accordance with the DEEP's and Connecticut Siting Council's NDDB review policy, consultation with DEEP is not required. As a result, the proposed development is not anticipated to adversely impact any state threatened, endangered or species of special concern.

USFWS Communications Towers Compliance

In April 2018, the USFWS prepared its *Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning*. These suggested best practices were developed to assist tower companies in developing their communication systems in a way that minimizes the risk to migratory birds and threatened and endangered species. The following avoidance and minimization measures, when used comprehensively, are recommended by USFWS to reduce the risk of bird mortality at communication towers. APT offers the following responses to each of the USFWS recommendations which are abridged from the original document.

1. *Collocation of the communications equipment on an existing communication tower or other structure (e.g., billboard, water and transmission tower, distribution pole, or building mount) is strongly recommended. This recommendation is intended to reduce the number of towers across the landscape.*

   Collocation opportunities on existing towers or non-tower structures are not available in the area while achieving the required radio frequency ("RF") coverage objectives.

2. *Contact with USFWS Field Office. Communicate project plans to nearest USFWS Field Office.*

   APT completed consultation protocols in accordance with Federal Communications Commission ("FCC") rules implementing the National Environmental Policy Act ("NEPA") and Section 7 of the Endangered Species Act through the USFWS Information, Planning, and Conservation System ("IPaC"). Based on the results of the IPaC review, no federally-listed bird species were identified. However, one federally-listed threatened species is known to occur in the vicinity of the host property: northern long-eared bat ("NLEB"; *Myotis septentrionalis*). As a result of this preliminary finding, APT performed an evaluation to determine if development of the proposed Facility would result in a likely adverse effect to NLEB.

   The Host Property is not within 150 feet of a known occupied maternity roost tree and is not within 0.25 mile of a known NLEB hibernaculum.[12] The nearest NLEB habitat resource to the proposed activity is located in Branford, approximately 16.1 miles to the northwest. Therefore, this project would not adversely affect NLEB.

3. *Placement. All new towers should be sited to minimize environmental impacts to the maximum extent practicable.*

[12] Based on review of DEEP's publicly-available *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* mapping (dated 2/1/16) and correspondence with NDDB.

a. Place new towers within existing "antenna farms" (i.e., clusters of towers) when possible.

There are no existing "antenna farms" in the Site vicinity that would satisfy the RF coverage objectives.

b. Select already degraded areas for tower placement.

The Site is within a previously disturbed area adjacent to a paved parking lot.

c. Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., state or federal refuges, staging areas, rookeries, and Important Bird Areas), or in known migratory bird movement routes, daily movement flyways, areas of breeding concentration, in habitat of threatened or endangered species, or key habitats for Birds of Conservation Concern.

The Site is not within wetlands, a known bird concentration area, migratory or daily movement flyway, or habitat of threatened/endangered species; nor would the development result in fragmentation of a core forest habitat that could potentially provide habitat for Birds of Conservation Concern.

d. Towers should avoid ridgelines, coastal areas, wetlands or other known bird concentration areas.

The Site is not located within ridgeline areas, coastal areas, wetlands or other known bird concentration areas.

e. Towers and associated facilities should be designed, sited, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". In addition, several shorter, un-guyed towers may be preferable to one, tall guyed, lit tower.

The proposed Facility will be sited, designed, and constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible, thus minimizing habitat fragmentation or the creation of barriers or excessive disturbance. The proposed Facility would consist of a 160-foot tall monopole structure, which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard".

4. Construction. During construction, the following considerations can reduce the risk of take of birds:

a. Schedule all vegetation removal and maintenance (e.g., general landscaping activities, trimming, grubbing) activities outside of the peak bird breeding season to reduce the risk of bird take.

Development of the Site will not require removal of trees because it is within an existing cleared area. Although vegetation removal will be minimal, avoidance of removal during peak breeding season will be observed if feasible. However, due to the duration and ambiguity of this window, it may not be possible.

b. When vegetation removal activities cannot avoid the bird breeding season, conduct nest clearance surveys:

i. Surveys should be conducted no more than five days prior to the scheduled activity to ensure recently constructed nests are identified;

ii. Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance; and

iii. If active nests are identified within or in the vicinity of the project site, avoid the site until nestlings have fledged or the nest fails. If the activity must occur, establish a buffer zone around the nest and no activities will occur within that zone until nestlings have fledged.

All guidelines will be followed if vegetation removal activities cannot be performed outside of the bird breeding season.

c. Prevent the introduction of invasive plants during construction to minimize vegetation community degradation by:

i. Use only native and local (when possible) seed stock for all temporary and permanent vegetation establishment; and

ii. Use vehicle wash stations prior to entering sensitive habitat areas to prevent accidental introduction of non-native plants.

No plants identified by the Connecticut Invasive Species Council as invasive plant species will be used for either temporary or permanent vegetation establishment. No vehicle wash stations are required since no sensitive habitat areas are located at the Site.

5. Tower Design. Tower design should consider the following attributes:

a. Tower Height. It is recommended that new towers should be not more than 199 ft. above ground level (AGL). This height increases the mean free airspace between the top of the tower and average bird flight height, even in weather conditions with reduced cloud ceiling;

b. Guy Wires. We recommend using free standing towers such as lattice towers or monopole structures.

c. Lighting System. Lights are a primary source of bird aggregation around towers, thus minimizing all light is recommended, including:

i. No tower lighting is the preferred option if Federal Aviation Administration (FAA) regulations and lighting standards (FAA 2015, Patterson 2012) permit.

ii. If taller (> 199 ft. AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used.

iii. Security lighting for on-ground facilities, equipment, and infrastructure should be motion or heat-sensitive, down-shielded, and of a minimum intensity to reduce nighttime bird attraction and eliminate constant nighttime illumination while still allowing safe nighttime access to the site.

The proposed Facility would consist of a 160-foot tall monopole structure, which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard". Security lighting for on-ground facilities would be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer to eliminate constant nighttime illumination.

Summary and Conclusions

Based on the results of this desk-top evaluation, no migratory bird species are anticipated to be impacted by the proposed development. The Site is not proximate to an Important Bird Area and the proposed Facility would comply with the USFWS guidelines for minimizing the potential impacts to bird species.

Figures

- Avian Resources Map
- Connecticut Waterfowl Focus Areas Map

Avian Resources Map

Proposed Wireless
Telecommunications Facility
CT0033
1063 Boston Post Road
Milford, Connecticut

Proposed CT0030 Facility
Lat: 41° 13' 54.21" N
Long: 73° 02' 34.28" W
+/- 33' AMSL

Legend

- Proposed Facility
- Bald Eagle Site*
- Hawk Watch Site
- Important Bird Site
- Important Bird Area
- Bald Eagle Survey Route
- Breeding Bird Survey Route*
- Migratory Waterfowl (CTDEEP, 1999)
- Protected Open Space (CTDEEP, 2011)
- Federal Open Space (CTDEEP, 2004)*

CT DEP Property (CT DEEP, 12/2010)

- State Forest
- State Park
- DEP Owned Waterbody*
- State Park Scenic Reserve*
- Historic Preserve*
- Natural Area Preserve*
- Fish Hatchery*
- Flood Control*
- State Park Trail*
- Water Access
- Wildlife Area
- Wildlife Sanctuary*
- Other
- Open Water
- Town Boundary
- State Boundary

*None within mapped extents

Avian Source Information:
Bald Eagle Sites: U.S. Geological Survey, National Biological Information Infrastr, 2008, Midwinter Bald Eagle Counts, 1986-2005 (update 2008).
Hawk Watch Sites: Hawk Migration Association of North America (HMANA), Hawk Count website: http://hawkcount.org/sitesel.php?country=USA&stateprov=Connecticut
Migratory Waterfowl: CTDEEP GIS, 1999
Important Bird Sites/Areas: National Audubon Society, Audbon Connecticut http://ct.audubon.org/BirdSci_IBAs.html
Breeding Bird Survey Routes: Patuxent Wildlife Research Center of the U.S. Geological Survey and the Canadian Wildlife Service's National Wildlife Research Centre http://www.nationalatlas.gov/mld/bbsrtsl.html

Base Map Source: ESRI Shaded Relief

Map Date: June 2020

N W E S

0.5 0.25 0 0.5 Miles

ALL-POINTS TECHNOLOGY CORPORATION

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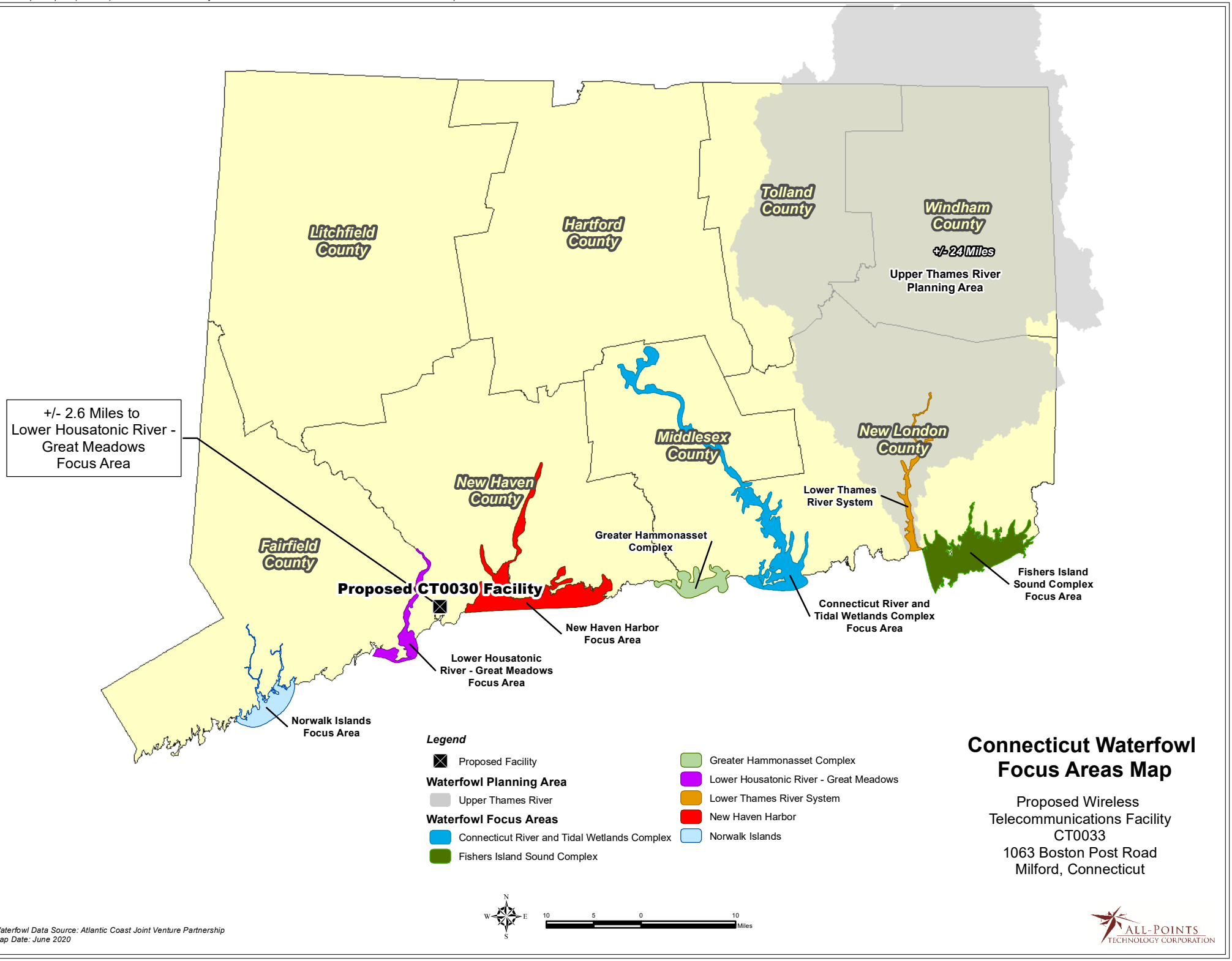


Connecticut Waterfowl Focus Areas Map

Proposed Wireless Telecommunications Facility
CT0033
1063 Boston Post Road
Milford, Connecticut

Waterfowl Data Source: Atlantic Coast Joint Venture Partnership
Map Date: June 2020

ALL-POINTS TECHNOLOGY CORPORATION

Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division

CPPU USE ONLY
App #:_____
Doc #:_____
Check #: No fee required
Program: **Natural Diversity Database** **Endangered Species**
Hardcopy _____ **Electronic** _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the instructions (DEEP-INST-007) to ensure proper handling of your request.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:

☒ Yes ☐ No **Enter the date** of the map reviewed for pre-screening: June 2020_____

This form is being submitted for a :

☒ *New* NDDB request ☐ *Renewal/Extension* of a NDDB Request, ***without*** *modifications and within* ***two years*** *of issued NDDB determination* (no attachments required) [*CPPU Use Only - NDDB-Listed Species Determination* # 1736]	☐ *New* **Safe Harbor Determination** (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ☐ *Renewal/Extension* of an existing Safe Harbor Determination ☐ With modifications ☐ Without modifications (no attachments required) [*CPPU Use Only - NDDB-Safe Harbor Determination* # 1736]
Enter NDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:

Part II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.*
(www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1. Requester*

Company Name: ARX Wireless, LLC

Contact Name: Keith Coppins, Managing Director and CEO

Address: 110 Washington Avenue

City/Town: North Haven State: CT Zip Code: 06473

Business Phone: (914) 744-6543 ext.

**E-mail: kcoppins@arxwireless.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

☐ Individual ☐ Federal Agency ☐ State agency ☐ Municipality ☐ Tribal

☒ *business entity (* if a business entity complete i through iii):

i) Check type ☐ corporation ☐ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other:

ii) Provide Secretary of the State Business ID #: 1320050 This information can be accessed at the Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) ☐ Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☐ Engineer ☐ Facility owner ☒ Applicant
☐ Biologist ☐ Pesticide Applicator ☐ Other representative:

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name: All-Points Technology Corporation, P.C.

Contact Person: Dean Gustafson Title: Senior Biologist

Mailing Address: 567 Vauxhall Street Extension – Suite 311

City/Town: Waterford State: CT Zip Code: 06385

Business Phone: (860) 552-2033 ext.

**E-mail: dgustafson@allpointstech.com

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION

Site Name or Project Name: Milford CT0030

Town(s): Milford

Street Address or Location Description:
1063 Boston Post Road

Size in acres, or site dimensions: Subject Property: ±2.44 acres; Project Area: ±0.2 acre

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: 41.231756 Longitude: -73.042931

Method of coordinate determination (check one):

☐ GPS ☐ Photo interpolation using CTECO map viewer ☒ Other (specify): survey

2a. Describe the current land use and land cover of the site.

The Subject Property is currently developed by commercial retail businesses consisting of two buildings and paved access/parking areas. The southeastern end of the Subject Property consists of a cleared area and upland forest patch.

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

☒ Industrial/Commercial 100% ☐ Residential _____ ☐ Forest _____

☐ Wetland _____ ☐ Field/grassland _____ ☐ Agricultural _____

☐ Water _____ ☐ Utility Right-of-way _____

☐ Transportation Right-of-way _____ ☐ Other (specify): _____

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Cellular/Communications tower installation/maint. , If other describe: _____

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☒ No If yes, explain.

Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

ARX Wireless is proposing to construct a new communications facility within an existing cleared area at the edge of a paved parking lot in the southeast end of the Subject Property. The proposed facility will include a ±160-foot tall monopole tower within a ±60-foot by ±60-foot gravel based fenced equipment compound. The new tower and equipment compound will allow for the future collocation by multiple wireless service providers.

Typical equipment used to construct this facility include excavator, crane, various sized trucks and support vehicles. Typical methods include minor grading, excavation/forming/pouring of concrete tower foundation, erection of tower, construction of compound, installation of equipment platform, generator and supporting electrical equipment, installation of utilities and construction of gravel access.

Erosion control measures will follow the CTDEEP 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and stormwater will be treated in general accordance with the CTDEEP 2004 Connecticut Stormwater Quality Manual.

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

5. Provide a contact for questions about the project details if different from Part II primary contact.

   Name:

   Phone:

   E-mail:

Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- ☐ Preliminary screening was negative but an NDDB review is still requested
- ☐ Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- ☐ Request regards a preliminary site assessment or project feasibility study
- ☐ Request relates to land acquisition or protection
- ☐ Request is associated with a *renewal* of an existing permit or authorization, with no modifications

Group 2. If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, *and* C.

- ☒ Request is associated with a *new* state or federal permit or authorization application or registration
- ☐ Request is associated with modification of an existing permit or other authorization
- ☐ Request is associated with a permit enforcement action
- ☐ Request regards site management or planning, requiring detailed species recommendations
- ☐ Request regards a state funded project, state agency activity, or CEPA request

☐ **Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s):
Connecticut Siting Council, Certificate of Environmental Compatibility and Public Need and FCC, NEPA

Related State DEEP Permit Number(s), if applicable: N/A

State DEEP Enforcement Action Number, if applicable: N/A

State DEEP Permit Analyst(s)/Engineer(s), if known: N/A

Is this request related to a previously submitted NDDB request? ☐ Yes ☒ No

If yes, provide the previous NDDB Determination Number(s), if known: _____

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

☒ Attachment A:	**Overview Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
☒ Attachment B:	**Detailed Site Map:** fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
☒ Attachment C:	**Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)** ☒ Section i: Supplemental Site Information and supporting documents ☒ Section ii: Supplemental Project Information and supporting documents
☐ Attachment D:	**Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)**

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

	August 3, 2020
Signature of Requester (a typed name will substitute for a handwritten signature)	Date
Keith Coppins	Managing Director and CEO
Name of Requester (print or type)	Title (if applicable)
Dean Gustafson	August 3, 2020
Signature of Preparer (if different than above)	Date
Dean Gustafson, All-Points Technology Corp.	Senior Biologist
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: **deep.nddbrequest@ct.gov**

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

The proposed project would be located within an existing cleared area adjacent to a commercial retail parking lot. Some tree clearing will be required to accommodate the wireless communications facility, which would occur to a small upland forest patch.

☒ **Site Photographs (optional) attached**

☒ **Site Plan/sketch of existing conditions attached**

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species ☐ Yes ☒ No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name: _____

Habitat and/or species targeted by survey: _____

Dates when surveys were conducted: _____

☐ **Reports of biological surveys attached**

☐ **Documentation of biologist's qualifications attached**

☐ **NDDB Survey forms for any listed species observations attached**

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

   The proposed construction of the wireless communications facility is anticipated to occur over an approximated 3-month period.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

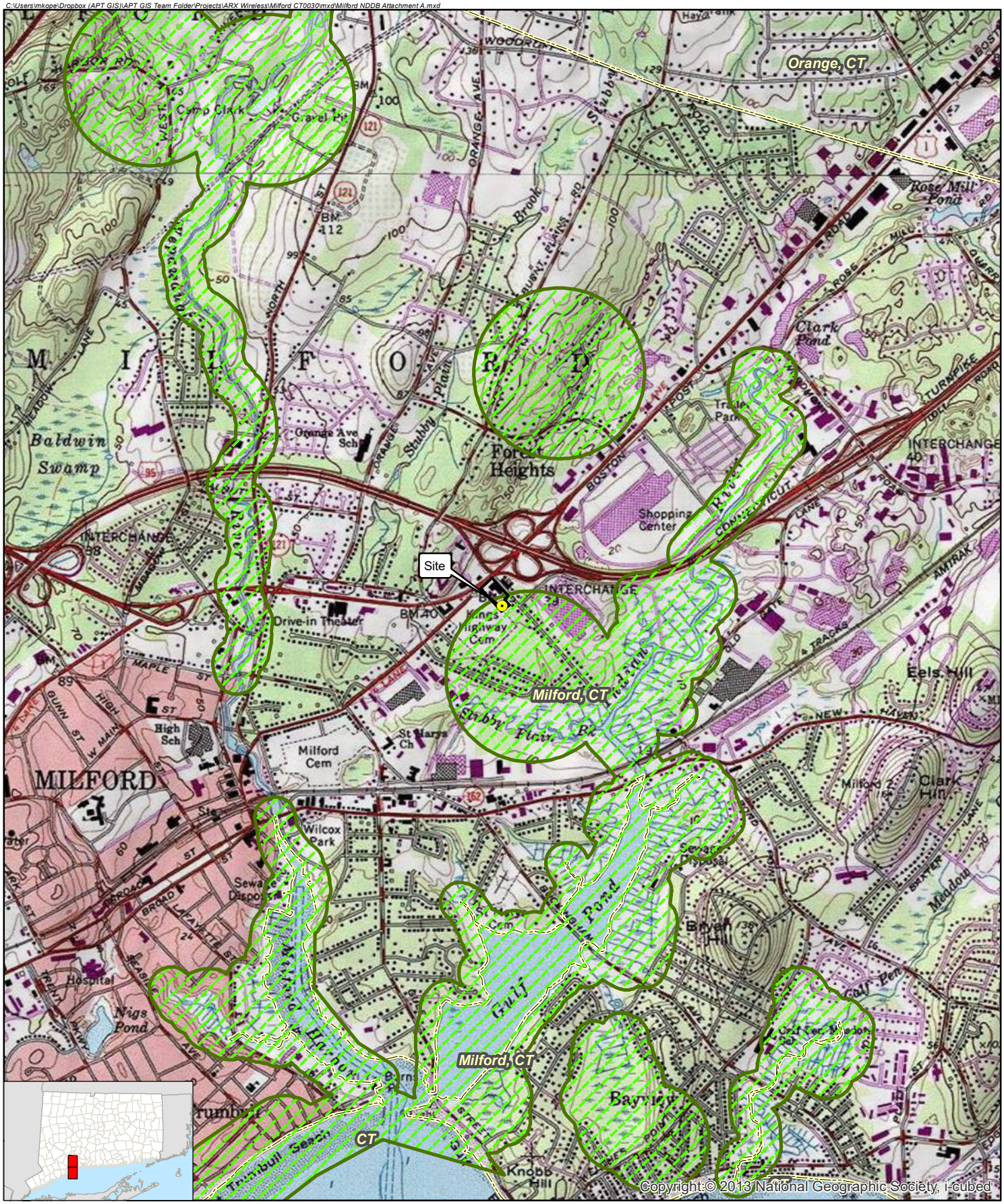
   No significant grading of soils is required for this project as the area is relatively level. Some minor tree clearing would occur.

☒ **Annotated Site Plan attached**

Attachment A

Locus Map

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\ARX Wireless\Milford CT0030\mxd\Milford NDDB Attachment A.mxd



Legend

- Proposed Monopole
- Subject Property
- Natural Diversity Database (updated June 2020)
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Ansonia, CT (1984) and Milford, CT (1984)
Map Scale: 1:24,000
Map Date: June 2020

N
W E
S
1,000 500 0 1,000
Feet

Attachment A: Overview Map

Proposed Wireless Telecommunications Facility
CT0033
1063 Boston Post Road
Milford, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

Attachment B

Detailed Site Map

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\ARX Wireless\Milford CT0030\mxd\Milford NDDB Attachment B.mxd

Legend

- Proposd Monopole
- Proposed Access and Utility Easement
- Proposed Lease Area
- Natural Diversity Database (updated June 2020)
- Subject Property
- Approximate Parcel Boundary (CTDEEP)

Attachment B:
Detailed Site Map

Proposed Wireless
Telecommunications Facility
CT0033
1063 Boston Post Road
Milford, Connecticut

Map Notes:
**Legend Item Not Located Within Mapped Area*
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 100 feet
Map Date: June 2020

N
W E
S

100 50 0 100
Feet

ALL-POINTS TECHNOLOGY CORPORATION

Attachment C

Supplemental Information

- Project Site Plans
- Photo Documentation

PROJECT SUMMARY

SCOPE OF WORK:	ARX WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS: 124 FOOT TOWER AND FOUNDATION 60'x60' FENCED COMPOUND POWER AND TELCO UTILITIES VERIZON EQUIPMENT ON 7'-6"x4' CONCRETE PAD TWELVE (12) VERIZON ANTENNAS, SIX (9) RADIOS (RRH) WITH ASSOCIATED CABLING AND APPURTENANCES. VERIZON GENERATOR ON 3'-6"x8' CONCRETE PAD AT&T EQUIPMENT CABINETS WITH GENERATOR ON 13'x8' CONCRETE PAD, NINE (9) AT&T ANTENNAS, ONE (1) DISH ANTENNA AND NINE (9) RRHs WITH ASSOCIATED CABLING AND APPURTENANCES.
SITE ADDRESS:	1063 BOSTON POST ROAD MILFORD, CT 06460
LATITUDE: LONGITUDE:	N41° 13' 54.32" W73° 02' 34.55"
PROPERTY OWNER:	LEE PARTNERS, LLP 1061-1063 BOSTON POST ROAD MILFORD, CT 06460
TAX MAP#:	VOL 2491 / PAGE 144
POWER COMPANY: TELEPHONE COMPANY:	UNITED ILLUMINATION FRONTIER COMMUNICATIONS
TOWER OWNER/APPLICANT:	ARX WIRELESS INFRASTRUCTURE, LLC. 110 WASHINGTON AVENUE NORTH HAVEN, CT 06473

ARX WIRELESS

d.b.a. verizon

WIRELESS COMMUNICATIONS FACILITY

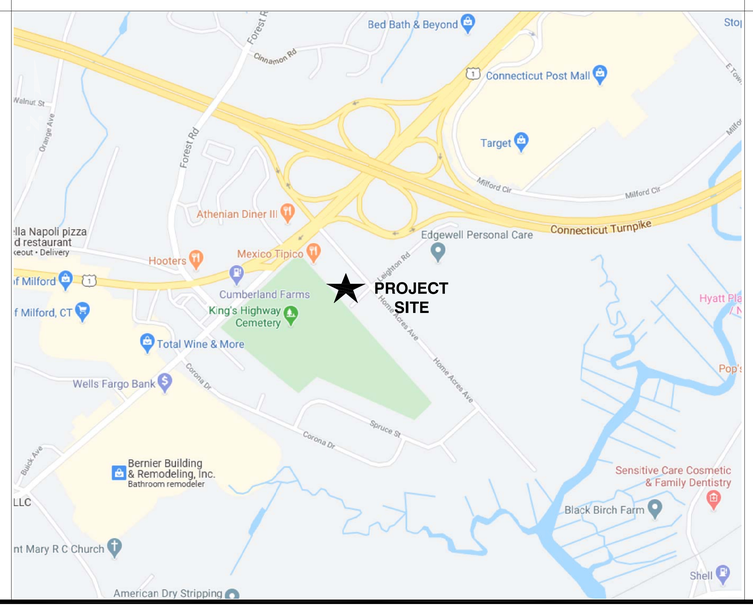
AT&T

TECH REPORT
SITE NUMBER: CT0030
SITE NAME: MILFORD

DRAWING INDEX

		REV
T-1	TITLE SHEET	1
	SURVEY	
TR-1	SITE PLAN	1
TR-2	COMPOUND PLAN AND ELEVATION	1

VICINITY MAP



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF ARX WIRELESS. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

TECH REPORT

ARX WIRELESS

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

CHECKED BY: DJR

APPROVED BY: DJR

SUBMITTALS

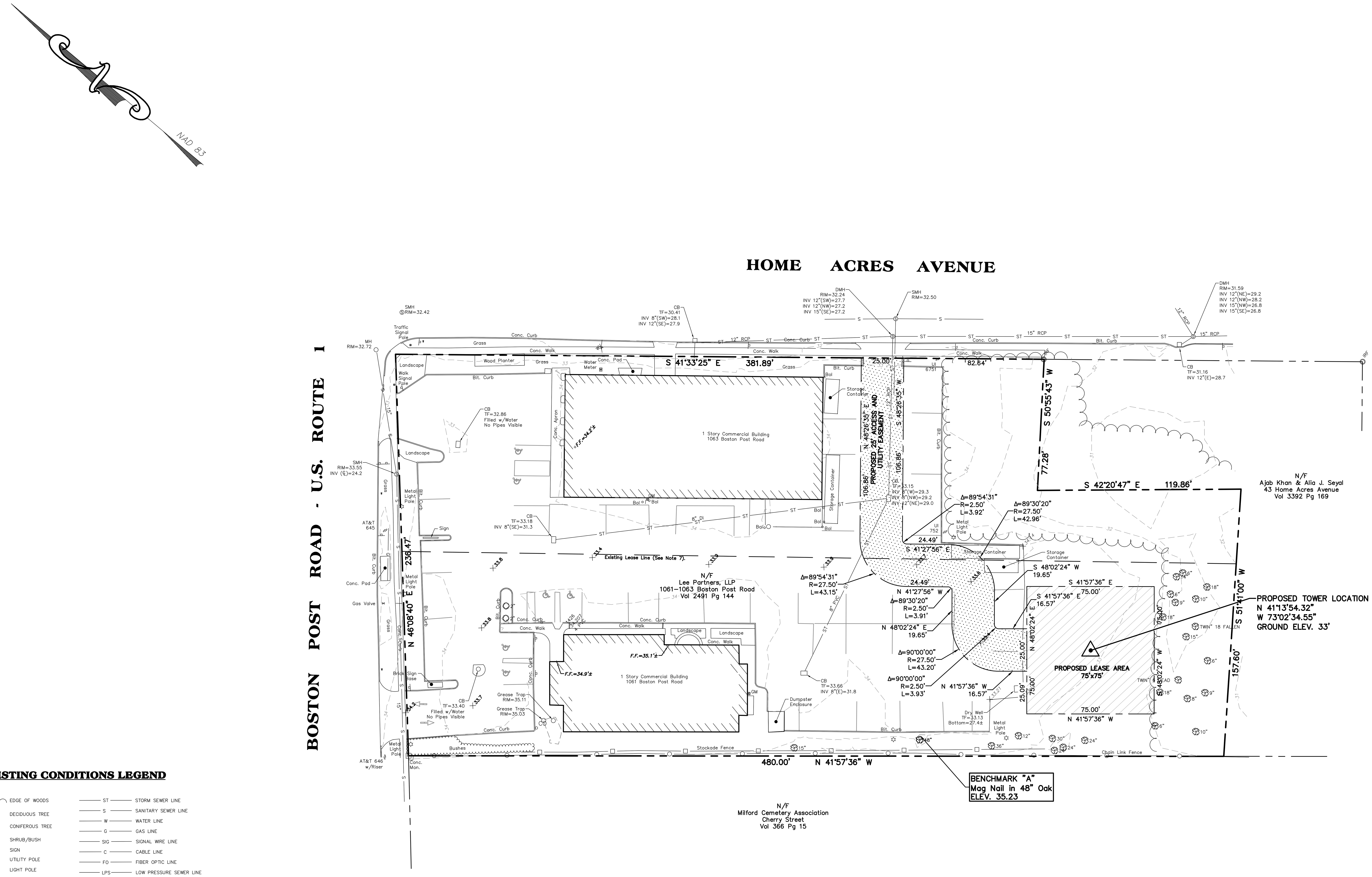
REV.	DATE	DESCRIPTION	BY
1	07/06/2020	ISSUED FOR REVIEW	KAM
0	06/19/2020	ISSUED FOR REVIEW	KAM

SITE NAME:
CT0030 MILFORD

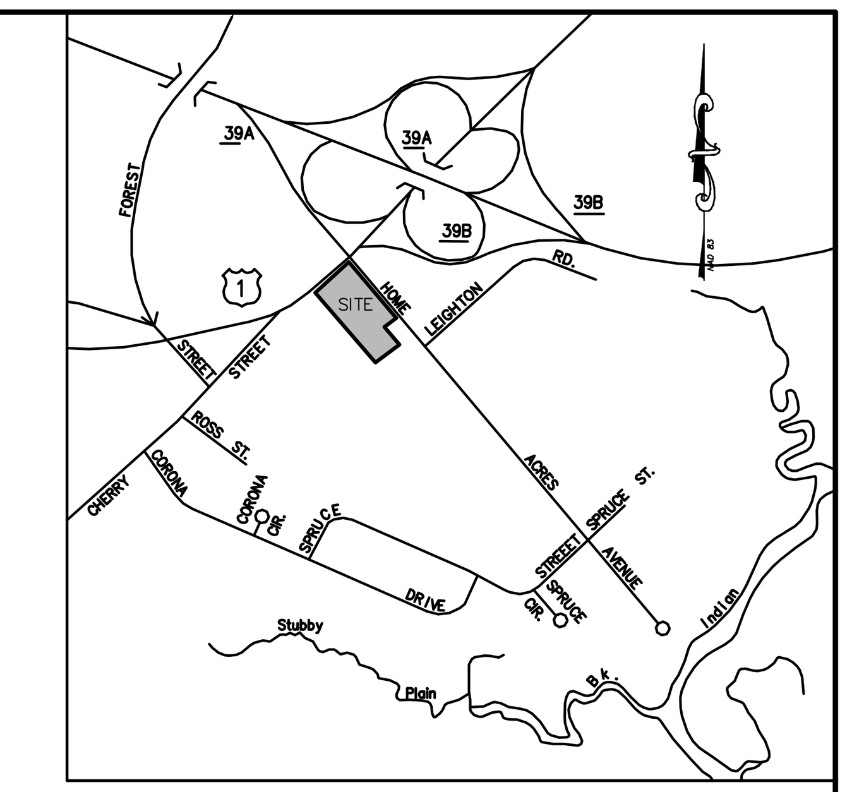
SITE ADDRESS:
1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE
SITE PLAN

SHEET NUMBER
T-1



NAD 83
HOME ACRES AVENUE
BOSTON POST ROAD - U.S. ROUTE 1
PRAIRIE STREET
S 41°33'25" E 381.89'
480.00' N 41°57'36" W
N 46°08'40" E 236.47'
1 Story Commercial Building
1063 Boston Post Road
1 Story Commercial Building
1061 Boston Post Road
N/F
Lee Partners, LLP
1061-1063 Boston Post Road
Vol 2491 Pg 144
N/F
Ajab Khan & Alia J. Seyal
43 Home Acres Avenue
Vol 3392 Pg 169
N/F
Milford Cemetery Association
Cherry Street
Vol 366 Pg 15
PROPOSED 25' ACCESS AND UTILITY EASEMENT
PROPOSED LEASE AREA
75'x75'
PROPOSED TOWER LOCATION
N 41°13'54.32"
W 73°02'34.55"
GROUND ELEV. 33'
BENCHMARK "A"
Mag Nail in 48" Oak
ELEV. 35.23
S 42°20'47" E 119.86'
S 50°55'43" W 77.28'
S 51°41'00" W 157.60'
Existing Lease Line (See Note 7)



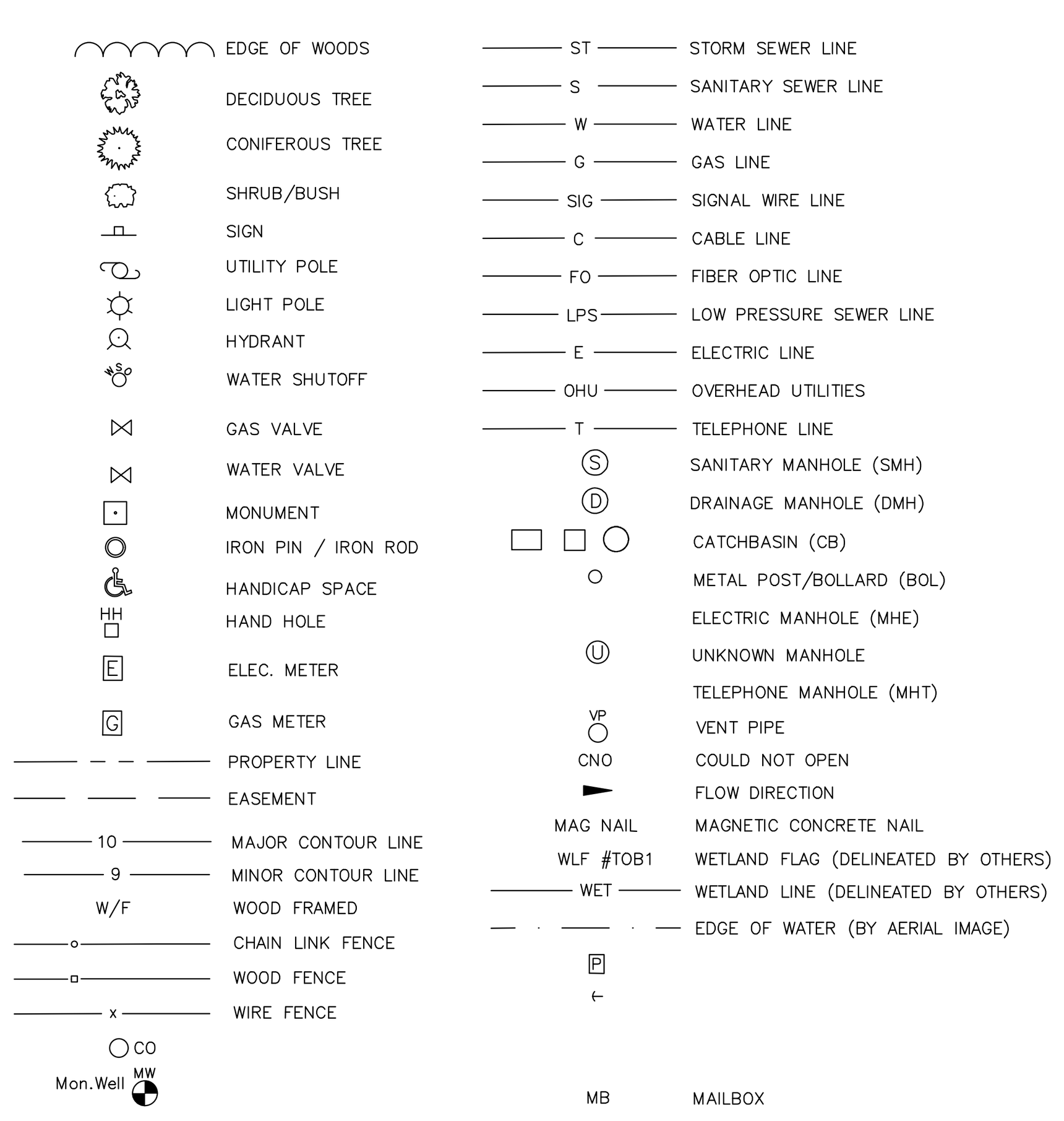
LOCATION MAP

NOT TO SCALE

NOTES:

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20 AS AMENDED, AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. THE TYPE OF SURVEY IS A PROPERTY SURVEY AND A T-2 TOPOGRAPHIC SURVEY, THE BOUNDARY DETERMINATION CATEGORY IS A RESURVEY. THE SURVEY CONFORMS TO A-2 HORIZONTAL ACCURACY, T-2 TOPOGRAPHIC ACCURACY AND V-3 VERTICAL ACCURACY.
2. BEARINGS REFER TO THE CONNECTICUT COORDINATE SYSTEM (NAD 83) AS DERIVED USING GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) SURVEY METHODS IN MAY, 2020.
3. ELEVATIONS REFER TO THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88) AS DERIVED USING GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) SURVEY METHODS IN MAY, 2020.
4. REFERENCE IS MADE TO THE FOLLOWING MAP:
   A. "PRELIMINARY SUBDIVISION PLAN, PROPERTY OF LEE PARTNERS LLP & JOHN D. & ILDA M. VELEZ, 1063 BOSTON POST ROAD & 43 HOME ACRES AVENUE, MILFORD, CONNECTICUT"; SCALE: 1"=30'; DATED: MAY 24, 2002; REVISED THROUGH: DECEMBER 9, 2003; PREPARED BY: GODFREY-HOFFMAN ASSOCIATES, LLC.
5. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.
6. REFERENCE IS MADE TO TITLE COMMITMENT NO. 31660901 PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, DATED MAY 21, 2020.
7. PROPERTY IS SUBJECT TO THE TERMS AND CONDITIONS OF A LEASE AS RECORDED IN VOL. 2667 PG. 439 AND LISTED IN TITLE COMMITMENT NO. 31660901, SCHEDULE B, PART II, ITEM 9.

EXISTING CONDITIONS LEGEND



EDGE OF WOODS
DECIDUOUS TREE
CONIFEROUS TREE
SHRUB/BUSH
SIGN
UTILITY POLE
LIGHT POLE
HYDRANT
WATER SHUTOFF
GAS VALVE
WATER VALVE
MONUMENT
IRON PIN / IRON ROD
HANDICAP SPACE
HAND HOLE
ELEC. METER
GAS METER
PROPERTY LINE
EASEMENT
MAJOR CONTOUR LINE
MINOR CONTOUR LINE
WOOD FRAMED
CHAIN LINK FENCE
WOOD FENCE
WIRE FENCE
STONEWALL
STORM SEWER LINE
SANITARY SEWER LINE
WATER LINE
GAS LINE
SIGNAL WIRE LINE
CABLE LINE
FIBER OPTIC LINE
LOW PRESSURE SEWER LINE
ELECTRIC LINE
OVERHEAD UTILITIES
TELEPHONE LINE
SANITARY MANHOLE (SMH)
DRAINAGE MANHOLE (DMH)
CATCHBASIN (CB)
METAL POST/BOLLARD (BOL)
ELECTRIC MANHOLE (MHE)
UNKNOWN MANHOLE
TELEPHONE MANHOLE (MHT)
VENT PIPE
COULD NOT OPEN
FLOW DIRECTION
MAGNETIC CONCRETE NAIL
WETLAND FLAG (DELINEATED BY OTHERS)
WETLAND LINE (DELINEATED BY OTHERS)
EDGE OF WATER (BY AERIAL IMAGE)
MAILBOX

GRAPHIC SCALE 1"= 30

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

GORDON R. MATSON, PLS — LICENSE NO. 70445

TRUE AND VALID COPIES OF THIS MAP OR PLAN MUST BEAR THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR. UNAUTHORIZED REPRODUCTION OR ALTERATION IS FORBIDDEN.

Embossed Seal

REVISIONS

DATE	DESCRIPTION
06-30-20	REVISE LEASE AREA & TOWER LOCATION
06-25-20	TREE LOCATIONS ADDED
06-17-20	REVISE ACCESS & UTILITY EASEMENT

STATE OF CONNECTICUT — GORDON R MATSON — 70445 — LICENSED LAND SURVEYOR

PROPERTY AND TOPOGRAPHIC SURVEY

PROPOSED TOWER SITE

1063 BOSTON POST ROAD - U. S. ROUTE 1

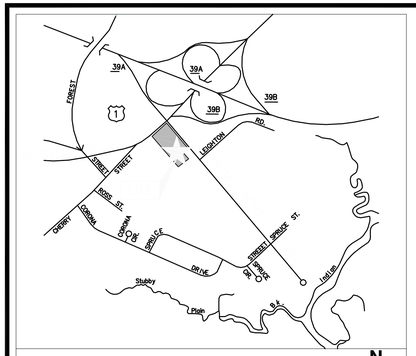
CITY OF MILFORD

COUNTY OF NEW HAVEN — STATE OF CONNECTICUT

Weston & Sampson

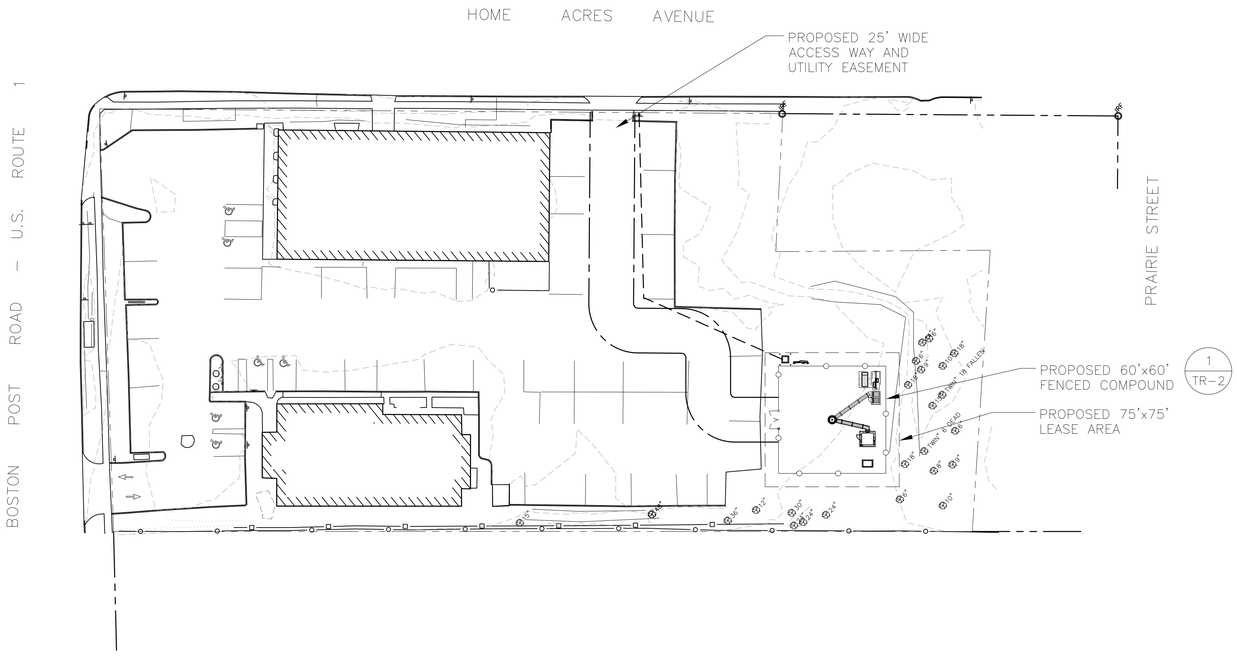
Weston & Sampson Land Surveyors Inc.
273 Dividend Road Rocky Hill, CT 06067 (860) 513 1473

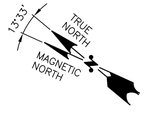
CAD FILE: ENG20-0481 AECOM MILFORD
DATE: JUNE 16, 2020
SHEET 1 OF 1
SCALE: 1"=30'
DRAWING No.



VICINITY MAP
SCALE: N.T.S

CENTER OF STRUCTURE COORDINATES:	LAT:	N41° 13' 54.32"
	LONG:	W73° 02' 34.55"





SITE PLAN
22x34 SCALE: 1"=40'-0"
11x17 SCALE: 1"=80'-0"
1
TR-1

GRAPHIC SCALE
0 20 40 80 120 FEET

TECH REPORT

ARX WIRELESS

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

CHECKED BY: DJR

APPROVED BY: DJR

SUBMITTALS

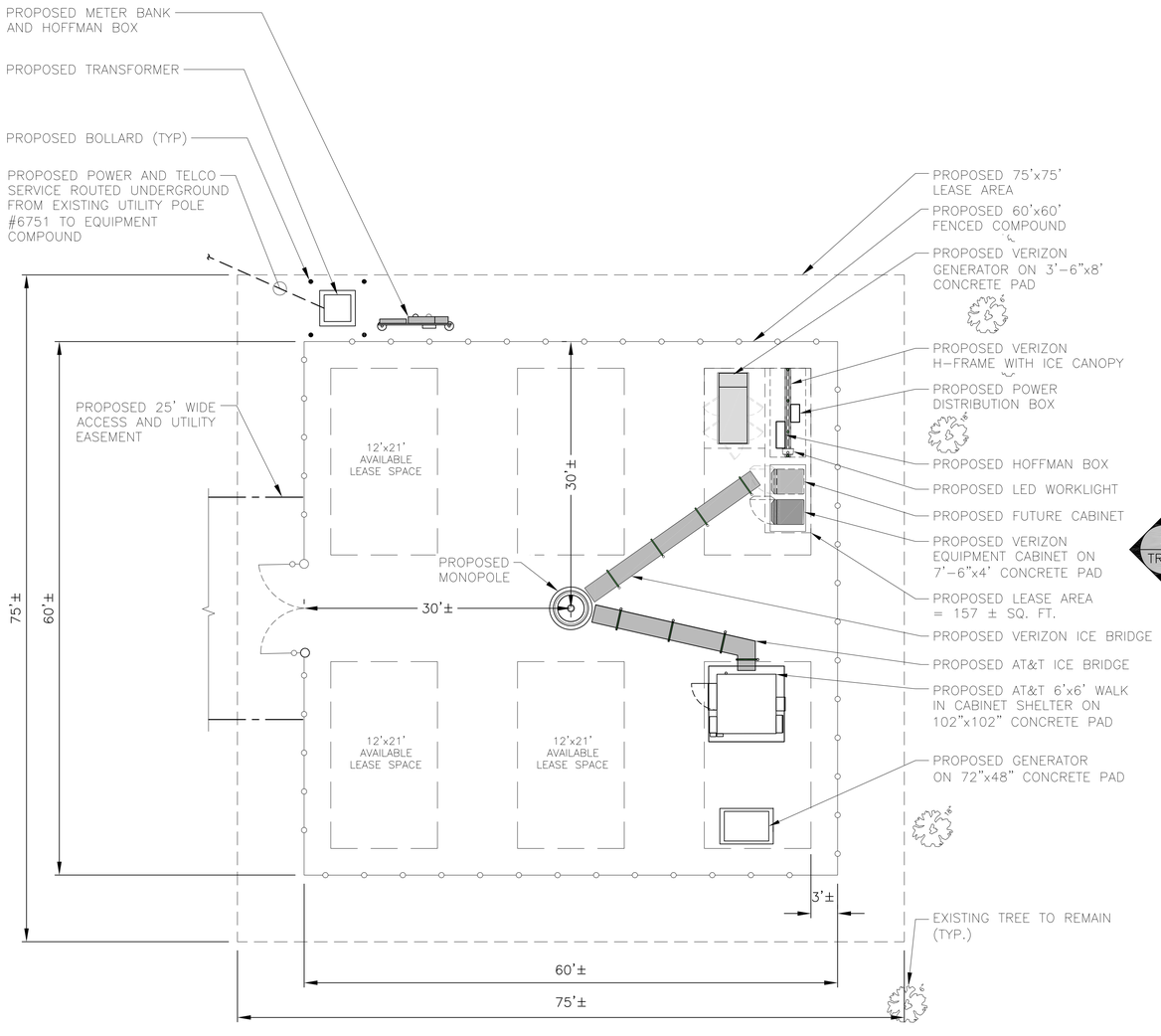
REV.	DATE	DESCRIPTION	BY
1	07/06/2020	ISSUED FOR REVIEW	KAM
0	06/19/2020	ISSUED FOR REVIEW	KAM

SITE NAME:
CT0030 MILFORD

SITE ADDRESS:
1063 BOSTON POST ROAD
MILFORD, CT 06460

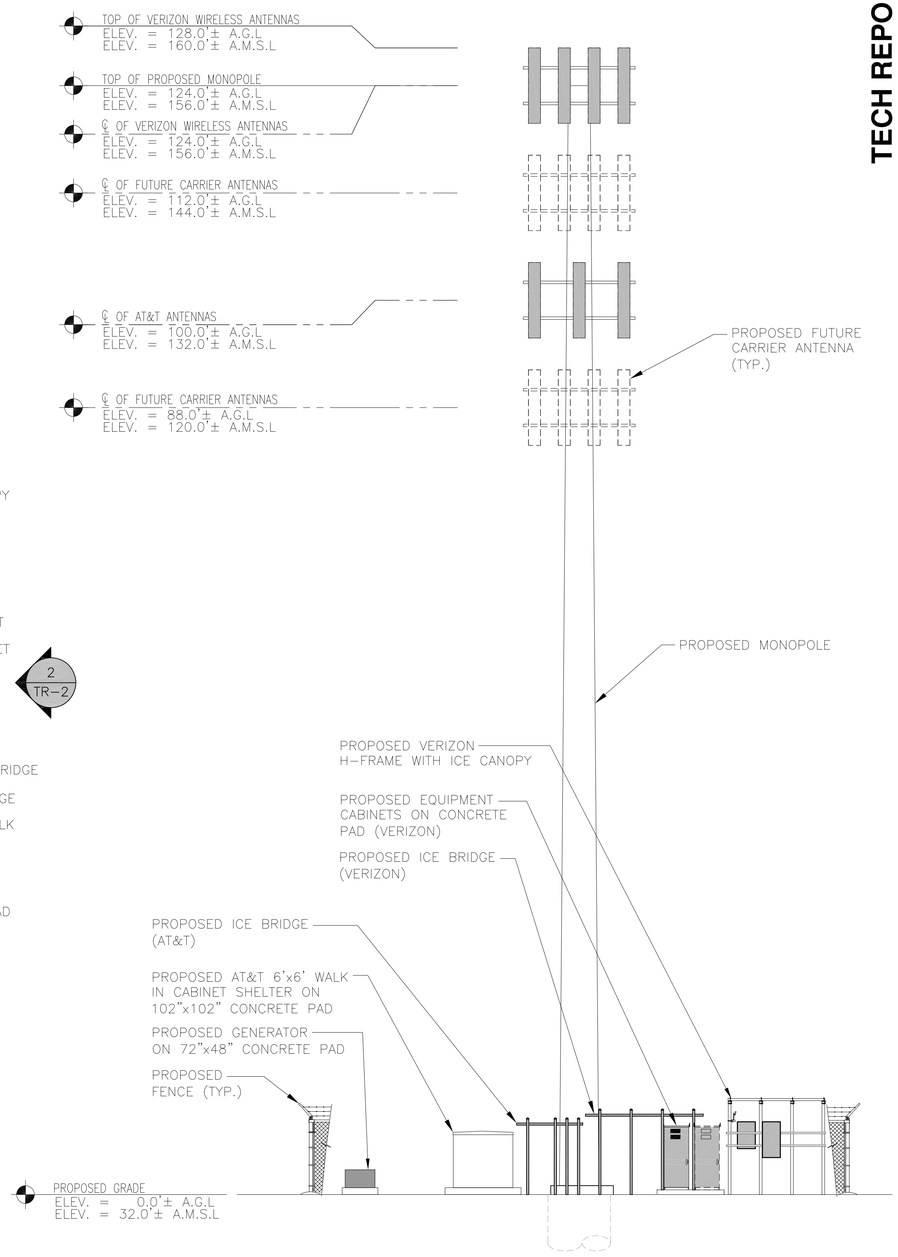
SHEET TITLE
SITE PLAN

SHEET NUMBER
TR-1



COMPOUND PLAN 1 TR-2
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE
0 4 8 16 24 FEET



NORTH ELEVATION 2 TR-2
22x34 SCALE: 1"=10'-0"
11x17 SCALE: 1"=20'-0"

GRAPHIC SCALE
0 5 10 20 30 FEET

TECH REPORT

ARX WIRELESS

AECOM
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
(860)-529-8882

CHECKED BY: DJR

APPROVED BY: DJR

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/06/2020	ISSUED FOR REVIEW	KAM
0	06/19/2020	ISSUED FOR REVIEW	KAM

SITE NAME:
CT0030 MILFORD

SITE ADDRESS:
1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE
COMPOUND PLAN AND ELEVATION

SHEET NUMBER
TR-2

PHOTO DOCUMENTATION
ARX Milford CT0033
1063 Boston Post Road, Milford, CT
Photos taken on June 9, 2020

Photo 1: View of proposed wireless communications facility in clearing off edge of existing commercial retail development parking lot looking southeast.

Photo 2: View of upland forest adjacent to proposed wireless commutations facility looking east.

July 23, 2020

Ms. Deb Leonardo
All-Points Technology Corporation
567 Vauxhall Street Extension, Suite 311
Waterford, Connecticut 06385

RE: Preliminary Archaeological Assessment of a Proposed Telecommunications Facility Located at 1063 Boston Post Road, Milford Connecticut

Ms. Leonardo:

Heritage Consultants, LLC (Heritage), is pleased to provide All-Points Technology Corporation (All-Points) with the following preliminary archaeological assessment of a proposed telecommunications facility located at 1063 Boston Post Road in Milford, Connecticut (Figure 1). The project entailed completion of a cultural resources summary based on the examination of data obtained from the Connecticut State Historic Preservation Office (CT-SHPO), as well as GIS data, maintained by Heritage. This investigation is based upon project location information provided by All-Points. The objectives of this study were to gather and present data regarding previously identified cultural resources situated within 0.8 km (0.5 mi) of the proposed project area and to investigate the proposed project parcel in terms of its natural and historical characteristics so that the need for completing additional cultural resources investigations could be evaluated.

The proposed cellular facility is situated in a developed portion of Milford south of Boston Post Road (Route 1) and behind two existing commercial properties. Home Acres Avenue is located to the east and Prarie Street is located to the south. King's Highway Cemetery, which was established in 1926, is located to the west of the project area. A review of historic maps depicting the proposed facility area show that the road network in the project region was well developed by the mid to late nineteenth century. The present day Boston Post Road alignment is shown in the 1856 map and appears again, relatively unchanged, in the later 1868 map (Figures 2 and 3). The 1856 and 1868 maps suggest that the proposed project area is locate on what were outlying parcels of land in the nineteenth century.

Aerial imagery dating from 1934 shows the project area during the initial part of the twentieth century, and it includes the nearby King's Highway Cemetery in its early stages. Also shown are the current Home Makers Avenue and Prarie Street road alignments. The aerial image depicts an area consisting mainly of open fields with several small buildings or dwellings spread out across the landscape (Figure 4). By 1951, aerial imagery shows the cemetery to the west was further developed to contain the roads and pathways seen today. Also observed are several commercial buildings that were constructed just to the north of the proposed communications facility, as well as an increase in smaller residential dwellings to the south of the project area. As of 1951, the area to the east of the project area was occupied by several fields and what appears to have been an orchard or nursery just west of the Indian River (Figure 5). By 2004, the King's Highway Cemetery to the west of the project area increased its size by expanding to the south. The fields and orchards by the Indian River to the east were replaced by an industrial complex and a parking

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area was installed to the north of the project location. (Figure 6). The area immediately around the proposed facility remained relatively unchanged between 2004 and 2019, with the exception that the above referenced parking area was extended to the area immediately adjacent to the. This may have impacted the project area (Figure 7).

Background research for the current project also included a review of previously identified archaeological sites and National/State Register of Historic Places properties/districts sites within 0.8 km (0.5 mi) of the proposed cellular communications facility (Figures 8 and 9). This review revealed that while there are no known or previously recorded archaeological sites or State Register of Historic Places sites near the proposed project area, a small portion of the River Park National Register Historic District falls within 0.8 km (0.5 mi) of the proposed cellular communications facility. The River Park Historic District encompasses the residential and institutional center of Milford; it is located between the Boston Post Road on the north and Milford harbor on the south. It contains 192 buildings and sites, 168 of which contribute to the historic character of the district. The style of domestic architecture in the River Park Historic District is limited, with most surviving houses being modest, vernacular versions of architectural styles in vogue after 1850. The most common architectural styles represented in the district include Greek Revival, Victorian, and Colonial Revival. The historic district is considered significant in that it illustrates the development of the town from settlement to the early twentieth century. Despite being located just under 1.6 km (1 mi) of the northeastern limits of the historic district, it is highly unlikely that the proposed project will have any indirect impacts on the River Park Historic District due to distance and intervening vegetation between the two.

In addition, soils located within the project area were examined as part of this review. The soils belong to the Haven Urban Land Complex. This soils complex is found on areas with 0 to 8 percent slopes; it has developed on outwash plains and terraces within valleys, and it generally been impacted by development throughout the historic era. (Figure 10). A typical profile for Haven Urban land complex is as follows: Ap--0 to 18 cm is silt loam; Bw1-18 to 36 cm is silt loam; Bw2-36 to 50 cm is silt loam; BC-50 to 61 cm is fine sandy loam; and 2C-61 to 152 cm is stratified very gravelly sand to gravelly fine sand. Pedestrian survey of the project area was completed on July 16, 2020. It included a thorough walkdown and photo documentation of the lease area and proposed tower location (Photos 1 through 13). This field walkover revealed that the project area is indeed situated immediately adjacent to the parking lot noted above. Field data collected also suggested that the project location has been disturbed in the past and that the depositional integrity of the area is likely very low.

In sum, a review of data collected from the archives at the CT-SHPO and during the pedestrian walkover, as well as archival information maintained by Heritage, revealed that the proposed project area possesses a low/no probability to contain archaeological resources due to ground disturbances due to the gradual development of the area beginning in the nineteenth century and continuing through the twentieth. Although a small portion of the Riverside Historic District falls within 0.8 km (0.5 mi) of the proposed telecommunications facility, it is very unlikely that the proposed facility will have any indirect adverse effects on the on the Riverside Historic District. As a result, it is the professional opinion of Heritage that no additional archaeological survey of this area is recommended prior to construction. If you have any questions regarding this Technical Memorandum, or if we may be of additional assistance with this or any

other projects you may have, please do not hesitate to call me at 860-299-6328 or email me at dgeorge@heritage-consultants.com. We are at your service.

Sincerely,

David R. George, M.A., R.P.A.

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Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the cellular communications facility in Milford, Connecticut.

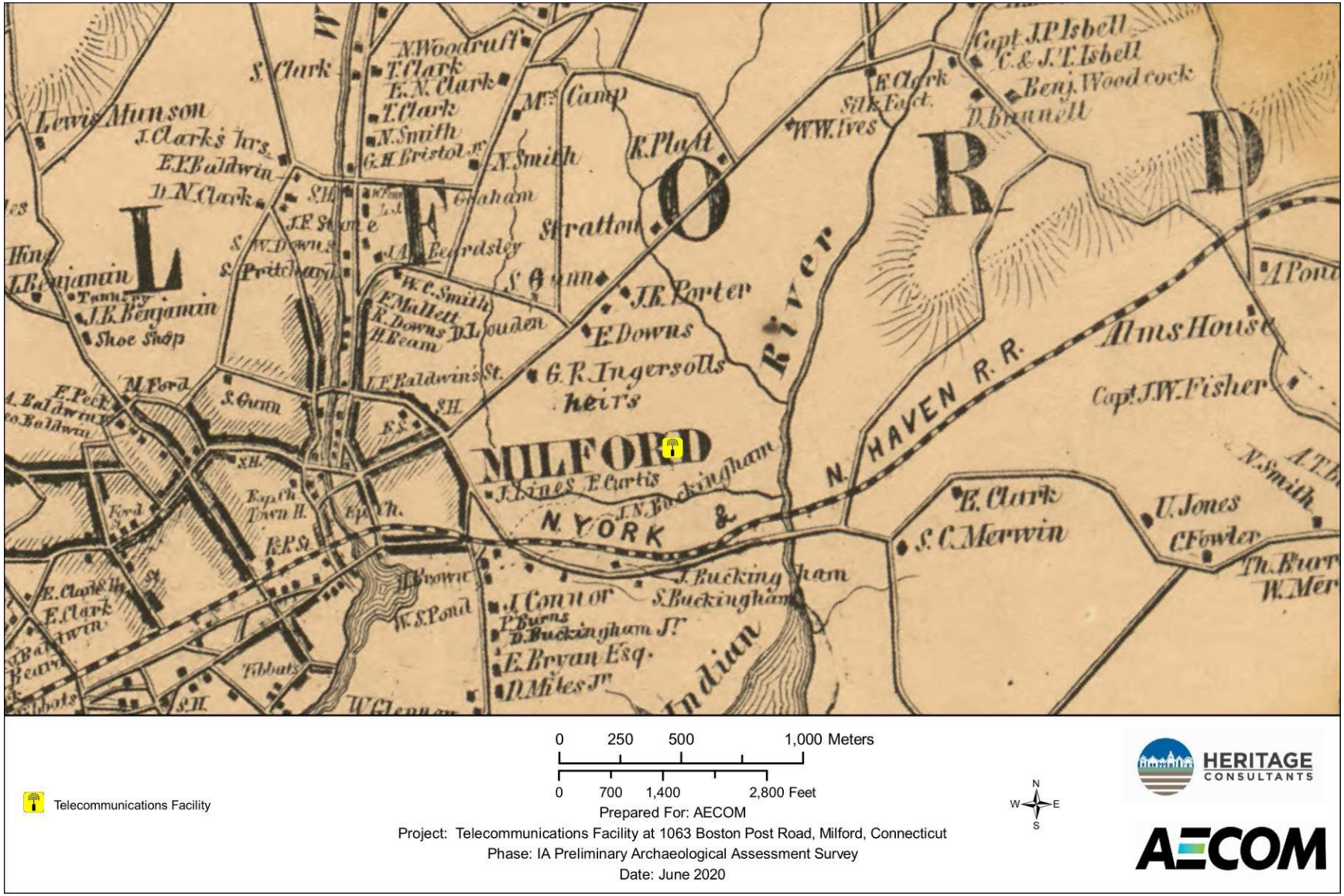

Figure 2. Excerpt from an 1856 historic map showing the location of the cellular communications facility in Milford, Connecticut.

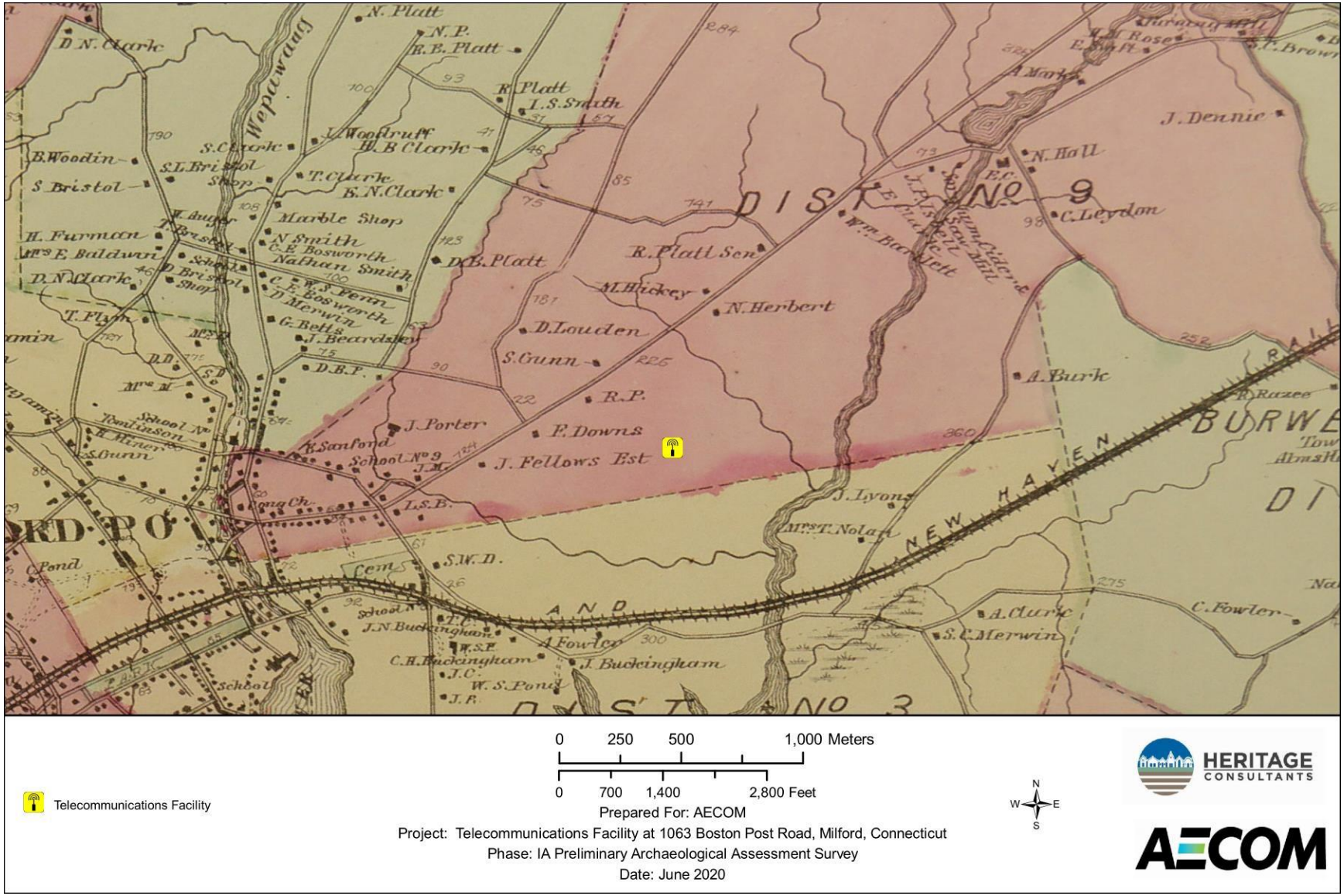

Figure 3. Excerpt from an 1868 historic map showing the location of the cellular communications facility in Milford, Connecticut.

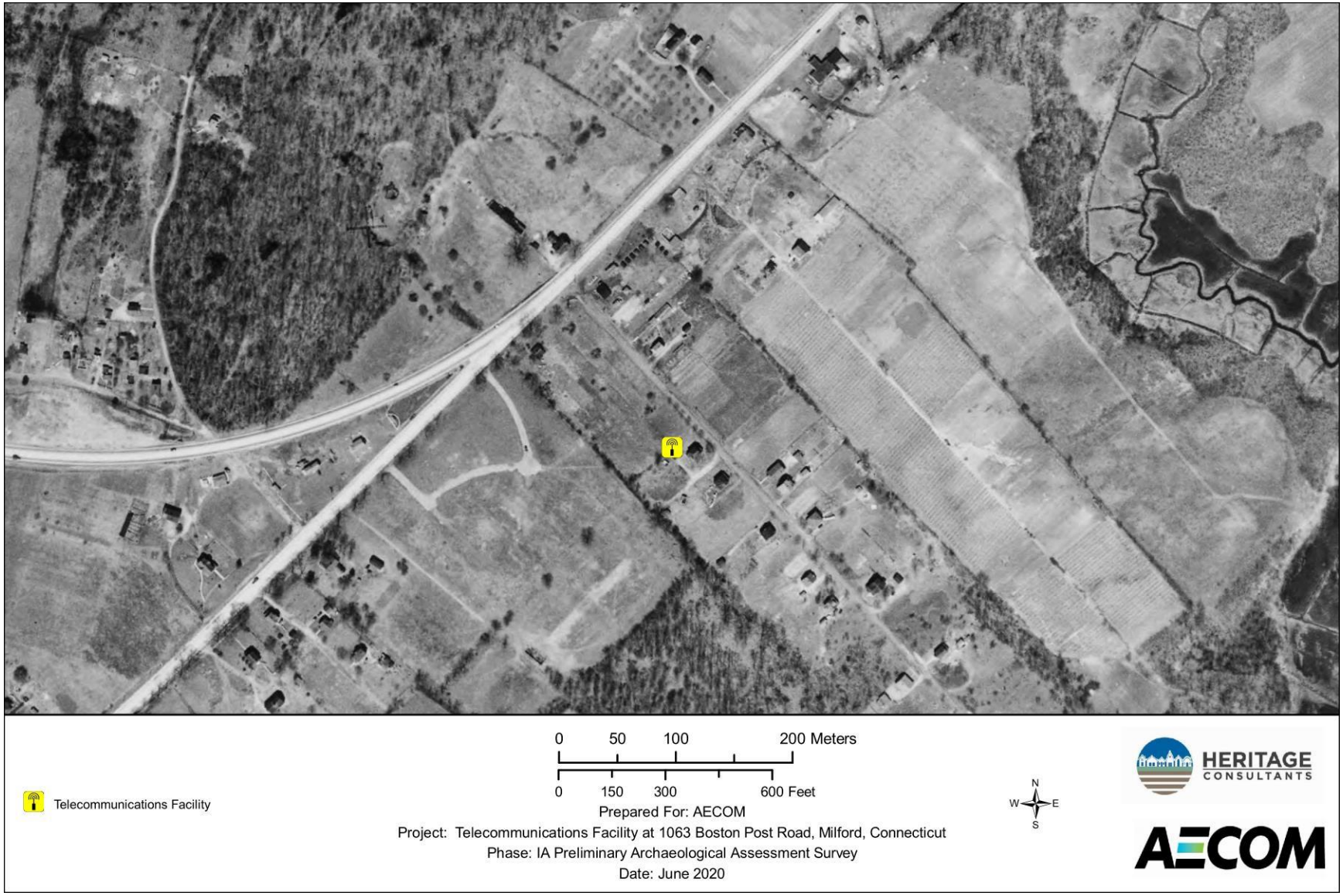

Figure 4. Excerpt from a 1934 aerial photograph showing the location of the cellular communications facility in Milford, Connecticut.

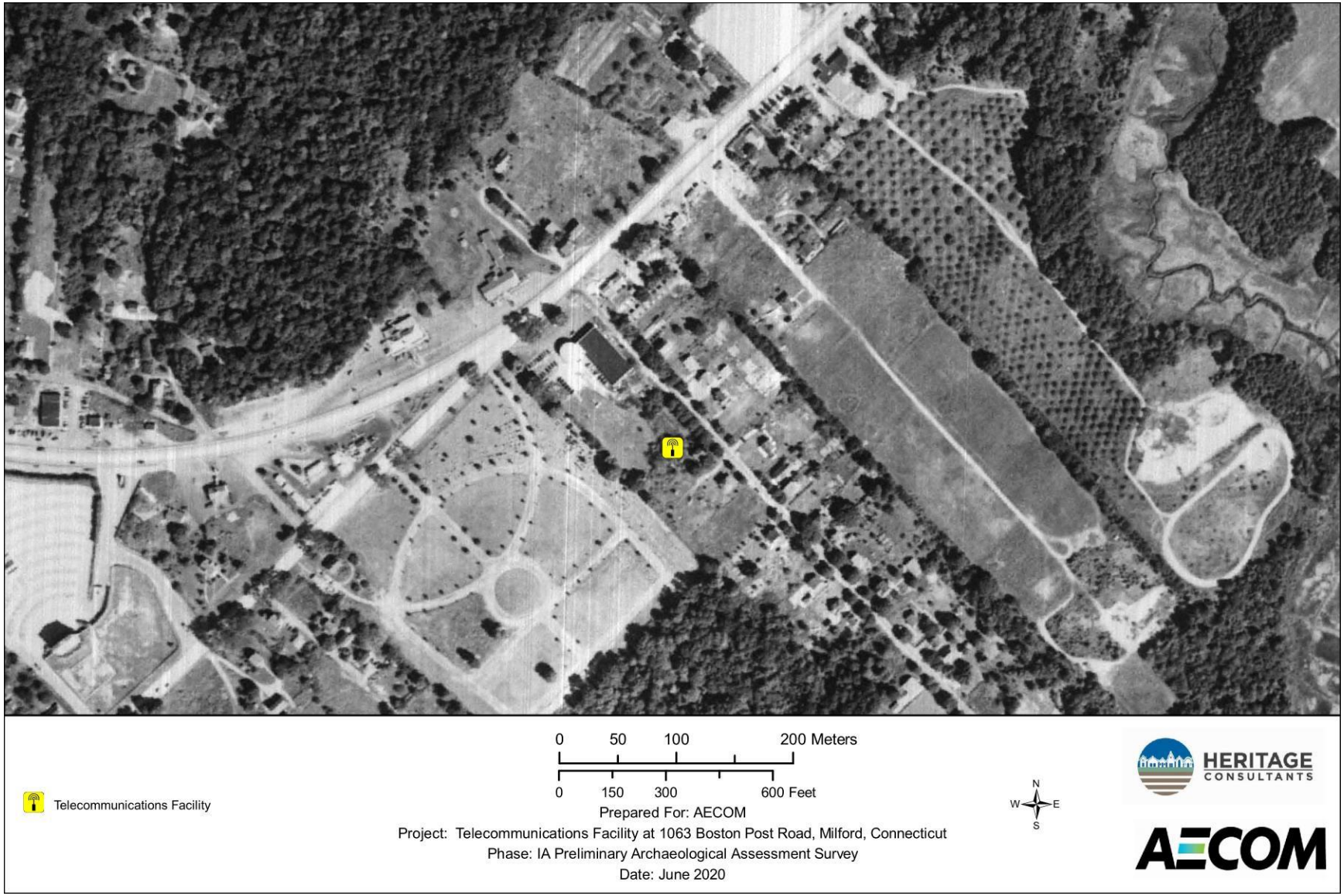

Figure 5. Excerpt from a 1951 aerial photograph showing the location of the cellular communications facility in Milford, Connecticut.

Figure 6. Excerpt from a 2004 aerial photograph showing the location of the cellular communications facility Milford, Connecticut.

Figure 7. Excerpt from a 2019 aerial photograph showing the location of the cellular communications facility in Milford, Connecticut.

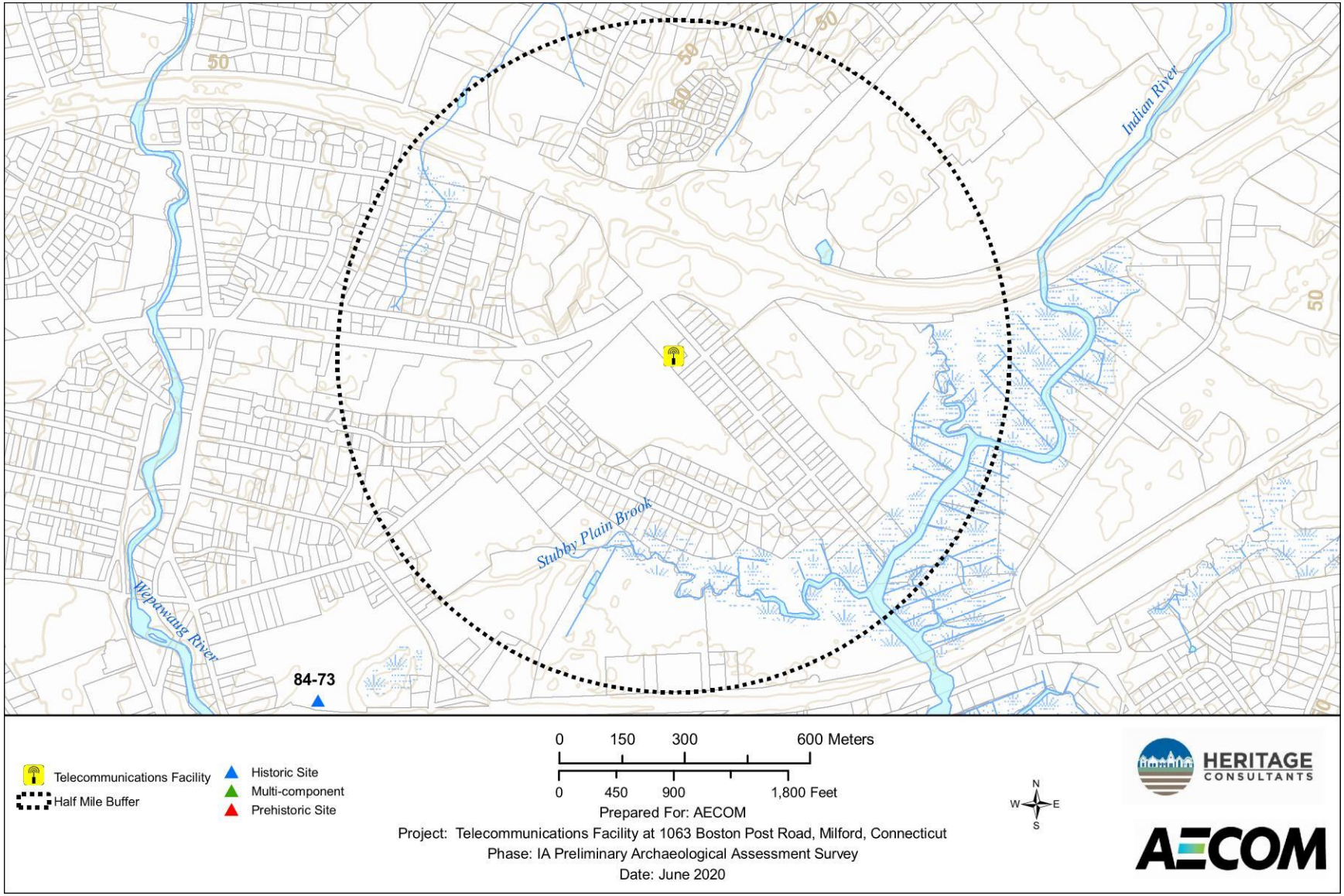

Figure 8. Digital map showing the location of previously identified archaeological sites in the vicinity of the cellular communications facility in Milford, Connecticut.

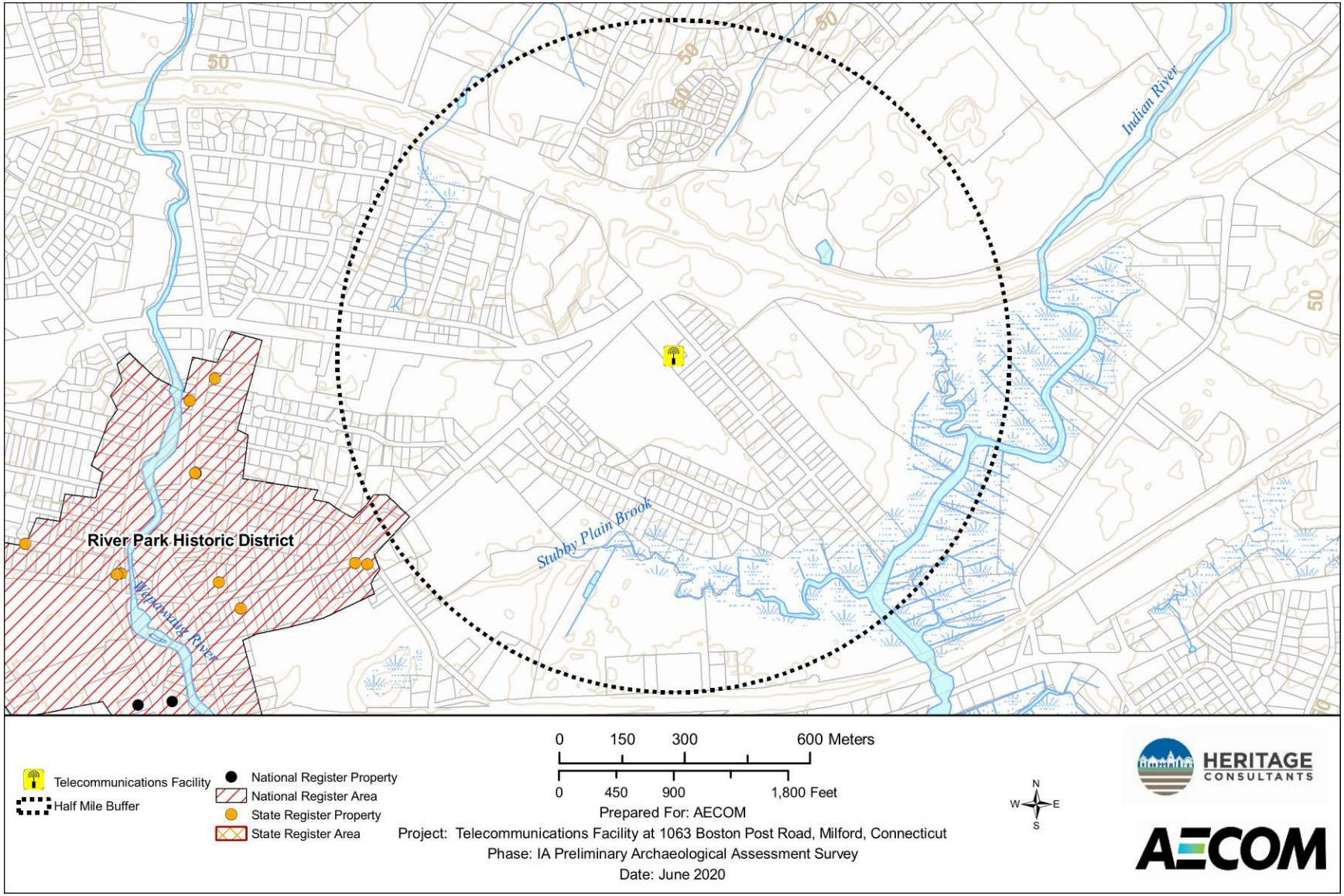

Figure 9. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the cellular communications facility in Milford, Connecticut.

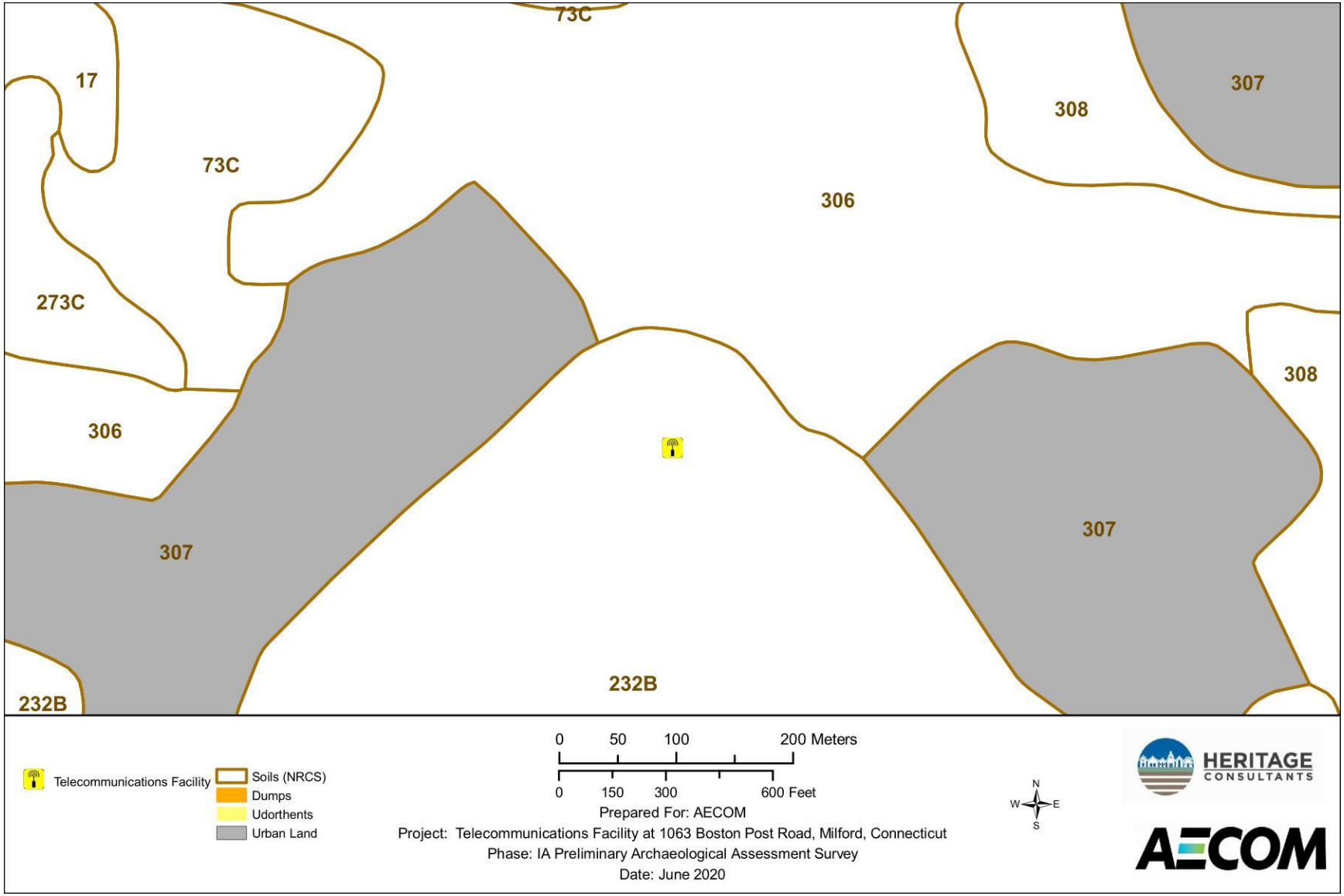

Figure 10. Map of soils located in the vicinity of the cellular communications facility in Milford, Connecticut.

Figure 11. Map of photo locations associated with the proposed cellular communications facility in Milford, Connecticut.

Photo 1. View from proposed monopole location facing north.

Photo 2. View from proposed monopole location facing west.

Photo 3. View from proposed monopole location facing south.

Photo 4. View from proposed monopole location facing east.

Photo 5. Overview photo of proposed monopole compound location. View is west.

Photo 6. Overview photo of proposed monopole compound location. View is north.

Photo 7. Overview photo of proposed monopole compound location. View is east.

Photo 8. Overview photo of proposed monopole compound location. View is south.

Photo 9. Southeast view of proposed monopole compound location.

Photo 10. Southwest view of proposed monopole compound location.

Photo 11. Northwest view of proposed monopole compound location.

Photo 12. Northwest view of proposed monopole compound location.