

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
 :
 :
 A PETITION OF CELLCO PARTNERSHIP : PETITION NO. ____
 D/B/A VERIZON WIRELESS FOR A :
 DECLARATORY RULING ON THE NEED TO :
 OBTAIN A SITING COUNCIL CERTIFICATE :
 FOR THE INSTALLATION OF A SMALL :
 CELL TELECOMMUNICATIONS FACILITY :
 AT 790 MAIN STREET, WILLIMANTIC, :
 CONNECTICUT : DECEMBER 18, 2014

PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), Cellco Partnership d/b/a Verizon Wireless (“Cellco”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) to install a new “small cell” telecommunications facility on an existing mixed use (commercial and residential) building at 790 Main Street in Willimantic (Town of Windham), Connecticut (the “Property”). The Property is owned by Franklin Hall, LLC (“Owner”). Cellco has designated this site as its “Willimantic SC1 Facility”.

II. Factual Background

The Property is a 0.24-acre parcel in Windham’s B-1 zone and is surrounded by other commercial and residential uses and buildings in downtown Willimantic. *See Attachment 1 –*

Site Vicinity and Site Schematic Maps (Aerial Photograph).

Cellco currently maintains two (2) cell sites within approximately one mile of the proposed Willimantic SC1 Facility. Cellco's existing Eastern CT State University (ECSU) cell site consists of antennas at approximately 74 feet above ground level (AGL) on an existing water tank at 104 Tower Road. Cellco's Willimantic cell site consists of antennas at the 185-foot level on an existing tower at 349 Mountain Street. As depicted on coverage maps included in Attachment 2, Cellco currently maintains 2100 MHz wireless service along Main Street and throughout downtown Willimantic. The Beta sector antennas of Cellco's ECSU cell site and Alpha sector antennas at the Willimantic cell site are, however, currently operating at their respective capacity limits (a/k/a exhausting). The ECSU campus and Willimantic downtown area have been identified as data traffic concentration areas that contribute to this existing capacity problem. In an effort to resolve this capacity problem and provide customers with improved wireless service in the area, Cellco proposes to install a mast-mounted small cell facility on the roof of the building at the Property.

III. Proposed Willimantic SC1 Facility

Cellco is licensed to provide wireless telecommunications services in the 850 MHz, 1900 MHz, 700 MHz and 2100 MHz frequency ranges throughout the State of Connecticut. Initially, the proposed Willimantic SC1 Facility described above will provide wireless service in Cellco's 2100 MHz frequency range only. Coverage plots showing Cellco's service in Willimantic today and the coverage footprint for the proposed Willimantic SC1 Facility are included in Attachment 2.

The proposed Willimantic SC1 Facility would consist of two small antenna masts attached to the northeast and northwest corners of the roof of the building. Each mast would

support a panel-type antenna and a Remote Radio Head (“RRH”). Equipment associated with the Willimantic SC1 Facility will be located inside a small cabinet on the ground to the rear of the building. The cabinet will be located beneath a portion of an exterior stair platform and enclosed by a 8’ x 6’ security fence. Power and telephone service to the Willimantic SC1 Facility will extend from existing service inside the building. (See Cellco’s Project Plans included in Attachment 3). Specifications for the small cell antenna (Commscope Model HBX-6513DS-VTM) and RRH (Model 2X60-AWS) are included in Attachment 4.

IV. Discussion

A. The Proposed Facility Modifications Will Not Have A Substantial Adverse Environmental Effect

The Public Utility Environmental Standards Act (the “Act”), C.G.S. § 16-50g *et seq.*, provides for the orderly and environmentally compatible development of telecommunications towers in the state to avoid “a significant impact on the environment and ecology of the State of Connecticut.” C.G.S. § 16-50g. To achieve these goals, the Act established the Council, and requires a Certificate of Environmental Compatibility and Public Need for the construction of cellular telecommunication towers “that may, as determined by the council, have a substantial adverse environmental effect”. C.G.S. § 16-50k(a).

1. Physical Environmental Effects

Cellco respectfully submits that the installation of two (2) small masts, each supporting a single small cell panel-type antenna and RRH and the installation of an equipment cabinet on the ground to the rear of the existing building, will not involve a significant alteration in the physical and environmental characteristics of the Property. No new ground disturbance of any kind is necessary or proposed as a part of the Willimantic SC1 Facility installation. The proposed equipment cabinet is located in a previously disturbed area adjacent to the building, beneath an

exterior stair platform.

2. Visual Effects

The installation of two (2) small masts each supporting a single antenna and RRH on the roof of the existing building at the Property would have minimal visual effects on the Property and the surrounding area. The masts, antennas and RRHs would all be painted to match the color of the red brick façade of the building. The equipment cabinet will be enclosed by a fence, with privacy slats. (See Limited Visual Assessment and Photo-Simulations (“Visual Report”) included in Attachment 5). As discussed in the attached Visual Report, the visibility of Cellco’s small cell antennas would be limited to nearby locations along Main Street and the painting of the antennas, RRHs and mast will minimize visual effects. As such, Cellco has determined that the small cell facility components would not be highly visible nor have a significant impact on aesthetics in the area.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed installation will be far below the standards adopted by the Federal Communications Commission (“FCC”). Included in Attachment 6 is a General Power Density table, including a calculation that demonstrates that the Willimantic SC1 Facility will operate well within the FCC safety standard.

4. FAA Summary Report

Included in Attachment 7 is a Federal Airways & Airspace Summary Report verifying that the two new mast and antenna installations on the roof of the building at the Property would not constitute an obstruction or hazard to air navigation and that notification to the FAA is not required.

B. Notice to the Windham Mayor, Property Owner and Abutting Landowners

On December 18, 2014, a copy of this Petition was sent to Mayor Ernest Eldridge of the Town of Windham and to Franklin Hall, LLC, the Owner. Included in Attachment 8 are copies of the letters sent to Mayor Eldridge and Franklin Hall, LLC.

Notice of Cellco's intent to file this Petition, along with a copy of the Project Plans and Site Schematic Map was also sent to the owners of land that abuts the Property. A sample abutter's letter, and the list of those abutting landowners who were sent notice of the filing of the Petition is included in Attachment 9.

V. Conclusion

Based on the information provided above, Cellco respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of two (2) small masts, panel-type small cell antennas and RRHs on the roof of the building and a small equipment cabinet to the rear of the building will not have a substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

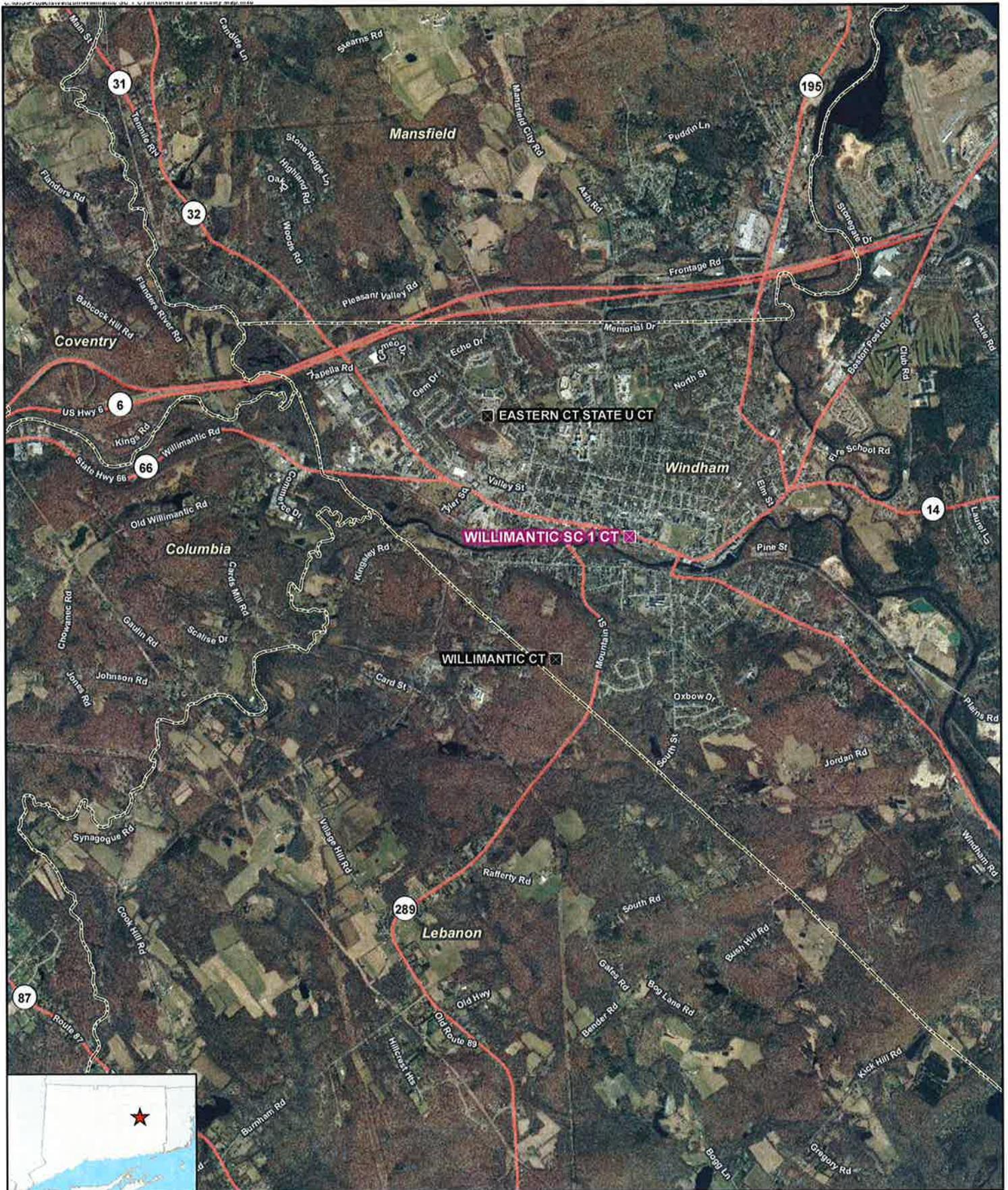
Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS

By 

Kenneth C. Baldwin, Esq.
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280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

ATTACHMENT 1



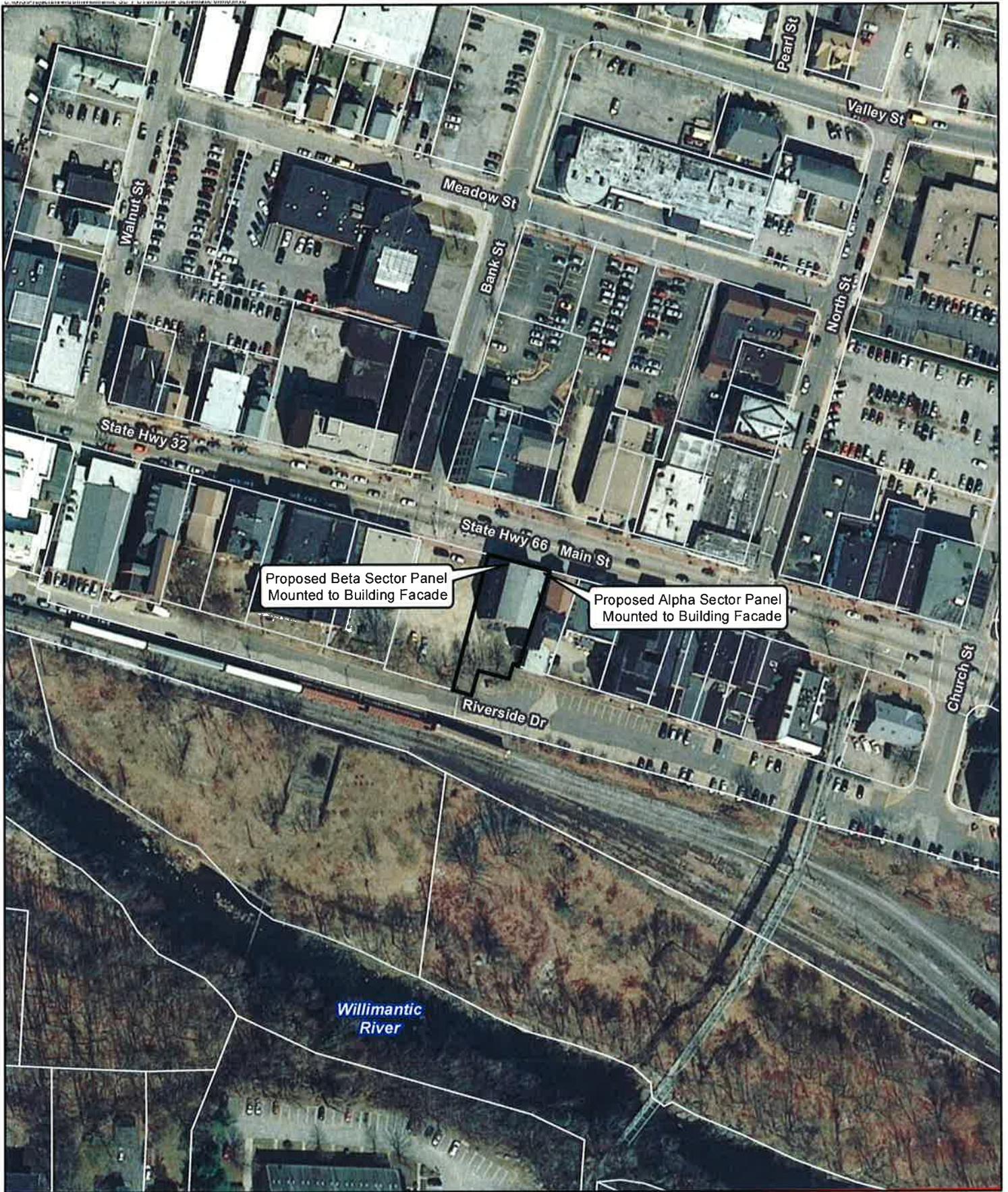
Legend

- Proposed Verizon Wireless Facility
- Surrounding Verizon Wireless Facilities
- Subject Property
- Municipal Boundary

Site Vicinity Map

Proposed Wireless
 Willimantic SC 1 CT
 790 Main Street
 Willimantic, Connecticut





Proposed Beta Sector Panel Mounted to Building Facade

Proposed Alpha Sector Panel Mounted to Building Facade

Legend
 Subject Property

Site Schematic

Proposed Wireless
 Willimantic SC 1 CT
 790 Main Street
 Willimantic, Connecticut

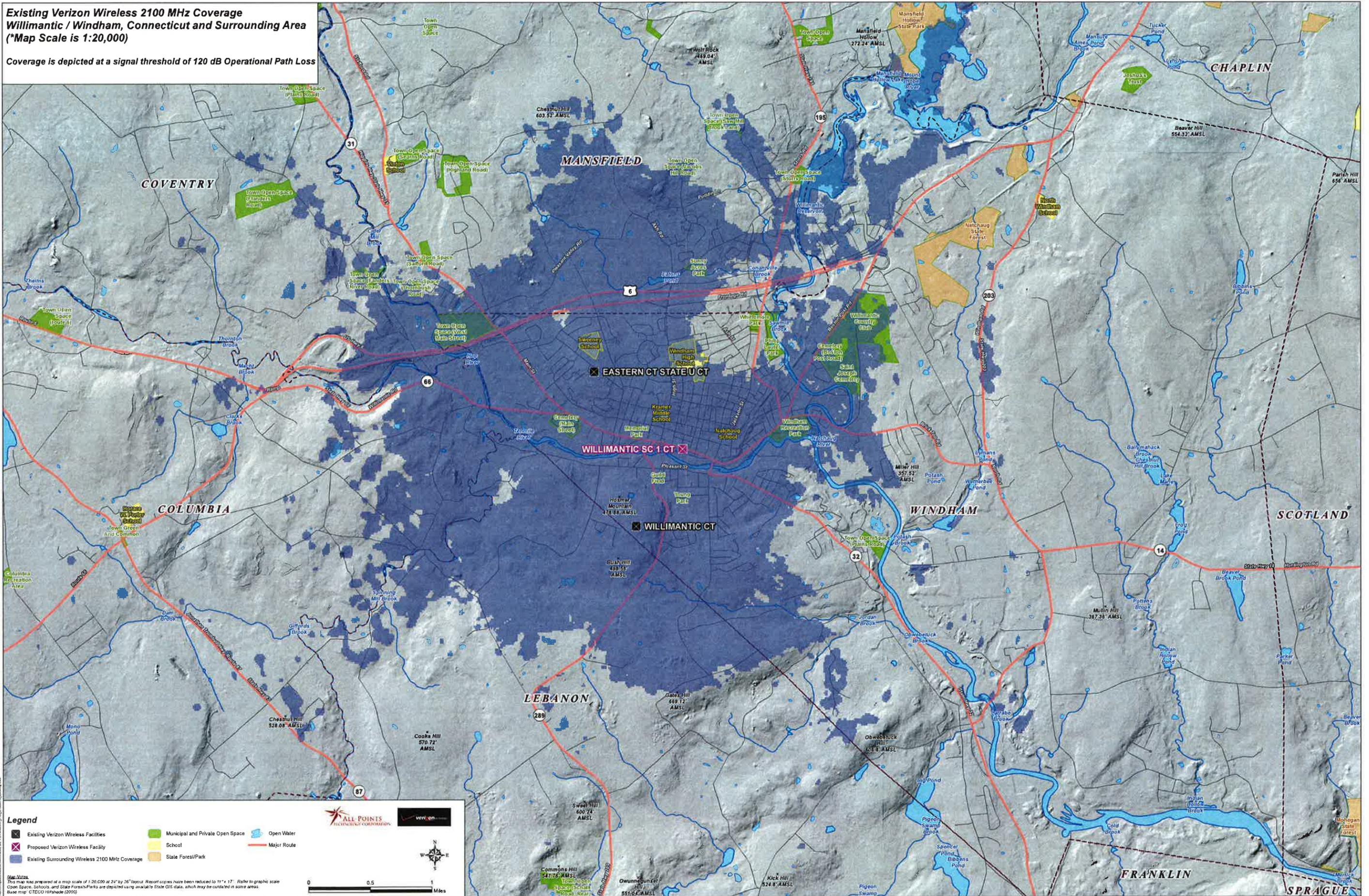
Map Notes:
 Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 150 feet
 Map Date: November 2014



ATTACHMENT 2

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

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



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

ALL POINTS
TECHNOLOGY CORPORATION

verizon

Map Scale: 1:20,000

Scale: 0 0.5 1 Miles

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

ATTACHMENT 3

ATTACHMENT 4

Product Specifications



HBX-6513DS-VTM

Andrew® Teletilt® Antenna, 1710–2180 MHz, 65° horizontal beamwidth, RET compatible

- Rugged, reliable design with excellent passive intermodulation suppression

Electrical Specifications

Frequency Band, MHz	1710–1880	1850–1990	1920–2180
Gain, dBi	15.0	15.0	15.5
Beamwidth, Horizontal, degrees	68	66	64
Beamwidth, Vertical, degrees	15.0	14.1	13.5
Beam Tilt, degrees	0–18	0–18	0–18
USLS, dB	16	16	16
Front-to-Back Ratio at 180°, dB	28	30	28
CPR at Boresight, dB	20	19	19
CPR at Sector, dB	7	8	8
Isolation, dB	30	30	30
VSWR Return Loss, dB	1.4 15.6	1.4 15.6	1.4 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	1710–1880	1850–1990	1920–2180
Gain by all Beam Tilts, average, dBi	14.3	14.4	14.6
Gain by all Beam Tilts Tolerance, dB	±0.7	±0.7	±0.8
	0° 14.7	0° 14.8	0° 15.2
Gain by Beam Tilt, average, dBi	9° 14.4	9° 14.6	9° 14.6
	18° 13.5	18° 13.5	18° 13.7
Beamwidth, Horizontal Tolerance, degrees	±2.1	±1.4	±3.1
Beamwidth, Vertical Tolerance, degrees	±1.2	±0.7	±1
USLS, dB	17	17	18
Front-to-Back Total Power at 180° ± 30°, dB	24	24	23
CPR at Boresight, dB	20	18	18
CPR at Sector, dB	6	8	10

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

General Specifications

Antenna Brand	Andrew®
Antenna Type	Metro Cell
Band	Single band
Brand	DualPol® Teletilt®
Operating Frequency Band	1710 – 2180 MHz

Product Specifications

COMMSCOPE®

HBX-6513DS-VTM

POWERED BY



Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Low loss circuit board
Radome Material	PVC, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	2
Wind Loading, maximum	119.0 N @ 150 km/h 26.8 lbf @ 150 km/h
Wind Speed, maximum	241.5 km/h 150.1 mph

Dimensions

Depth	83.0 mm 3.3 in
Length	695.0 mm 27.4 in
Width	166.0 mm 6.5 in
Net Weight	2.8 kg 6.2 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 1.1 Actuator HBX-6513DS-R2M

Model with Factory Installed AISG 2.0 Actuator HBX-6513DS-A1M

RET System Teletilt®

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system



Included Products

DB390 — Pipe Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Use for narrow panel antennas. Includes two pipe mounts.

DB5098 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members

ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET RRH2X60-AWS FOR BAND 4 APPLICATIONS

The Alcatel-Lucent RRH2x60-AWS is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent RRH2x60-AWS is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals

along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-AWS integrates all the latest technologies. This allows to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent RRH2x60-AWS is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

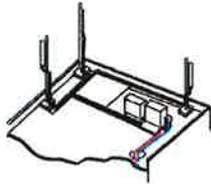
EASY INSTALLATION

The RRH2x60-AWS includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

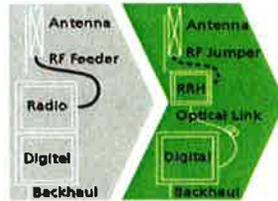
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent RRH2x60-AWS is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

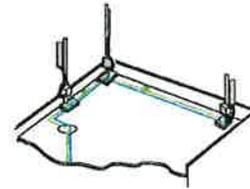
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-AWS is compact and weighs about 20 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-AWS integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- RRH2x60-AWS is optimized for LTE operation
- RRH2x60-AWS is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and

silent solutions, with minimum impact on the neighborhood, which ease the deployment

- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 510x285x186mm (27 l with solar shield)
- Weight : 20 kg (44 lbs)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption (ETSI average traffic load reference) : 250W @2x60W

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisy chaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 20km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B, CE Mark – European Directive : 2002/95/EC (ROHS); 2002/96/EC (WEEE); 1999/5/EC (R&TTE)
- Health : EN 50385

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AT THE SPEED OF IDEAS™

ATTACHMENT 5

Limited Visual Assessment and Photo-Simulations

WILLIMANTIC SC1
790 MAIN STREET
WILLIMANTIC, CT



Prepared in November 2014 by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06141

Prepared for Verizon Wireless



LIMITED VISUAL ASSESSMENT & PHOTO-SIMULATIONS

At the request of Cellco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed a limited visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a small cell wireless telecommunications Facility at 790 Main Street in Willimantic, Connecticut (the "Property").

Project Setting

The Property is located in downtown Willimantic on the south side of Main Street in a commercial district. The Property is currently improved with a multi-story commercial building. The proposed Facility would include the installation of two single canister antennas mounted to pipe masts affixed to the east and west exterior building walls, respectively. Each sector would also include a remote radio head mounted behind the pipe mast below the antenna. A ground-mounted equipment cabinet would be located to the rear of the building (on its south side) under an existing stairwell within a seven-foot tall, screened fence-enclosure.

Methodology

On November 19, 2014, APT personnel conducted a field reconnaissance to photo-document existing conditions. Three (3) nearby locations were selected to represent where the existing building is visible and depict proposed conditions with the proposed small cell installation. At each photo location, the geographic coordinates of the **camera's position** were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with lens set to 50 mm.

"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm."¹

Three-dimensional computer models were developed for the building and proposed small cell components from AutoCAD information. Photographic simulations were then generated to portray scaled renderings of the proposed installation. Using field data, site plan information and image editing software, the proposed Facility was scaled to the correct location and height, relative to the existing structure and surrounding area. For presentation purposes in this report, all of the photographs were produced in an approximate 7-inch by 10.5-inch format². A photolog map and copies of the existing conditions and photo-simulations are attached.

¹ Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

² When viewing in this format size, we believe it is important to provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph and depicting the subject in a way similar to what an observer might see, to the greatest extent possible.

Conclusions

The visibility of the proposed small cell installation would be limited primarily to nearby locations along Main Street where the northeast and northwest façades of the building are visible today. The antennas associated with the two sectors would extend approximately four feet above the top of the roof's eaves along its sides and the decorative finial fronting Main Street would serve to block most, if not all, direct perpendicular views. Painting the Facility to match the brick color of the building will also assist in further minimizing visual impacts. The ground equipment's placement beneath the rear stairwell is in a location that is typically accessible for employees and tenants and not typically accessible to the general public. Its function as a telecommunications cabinet would be unnoticeable to the casual observer because it would be concealed within the screening fence. Based on the results of **this assessment**, it is APT's opinion that the proposed installation of Verizon Wireless equipment at the Property would not be highly visible or have a significant impact on aesthetics in the area.

Limitations

This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen. The photo-simulations provide a representation of the Facility under similar settings as those encountered during the field reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the reconnaissance included mostly sunny skies and the photo-simulations presented in this report provide an accurate portrayal of the Facility during comparable conditions.

ATTACHMENTS

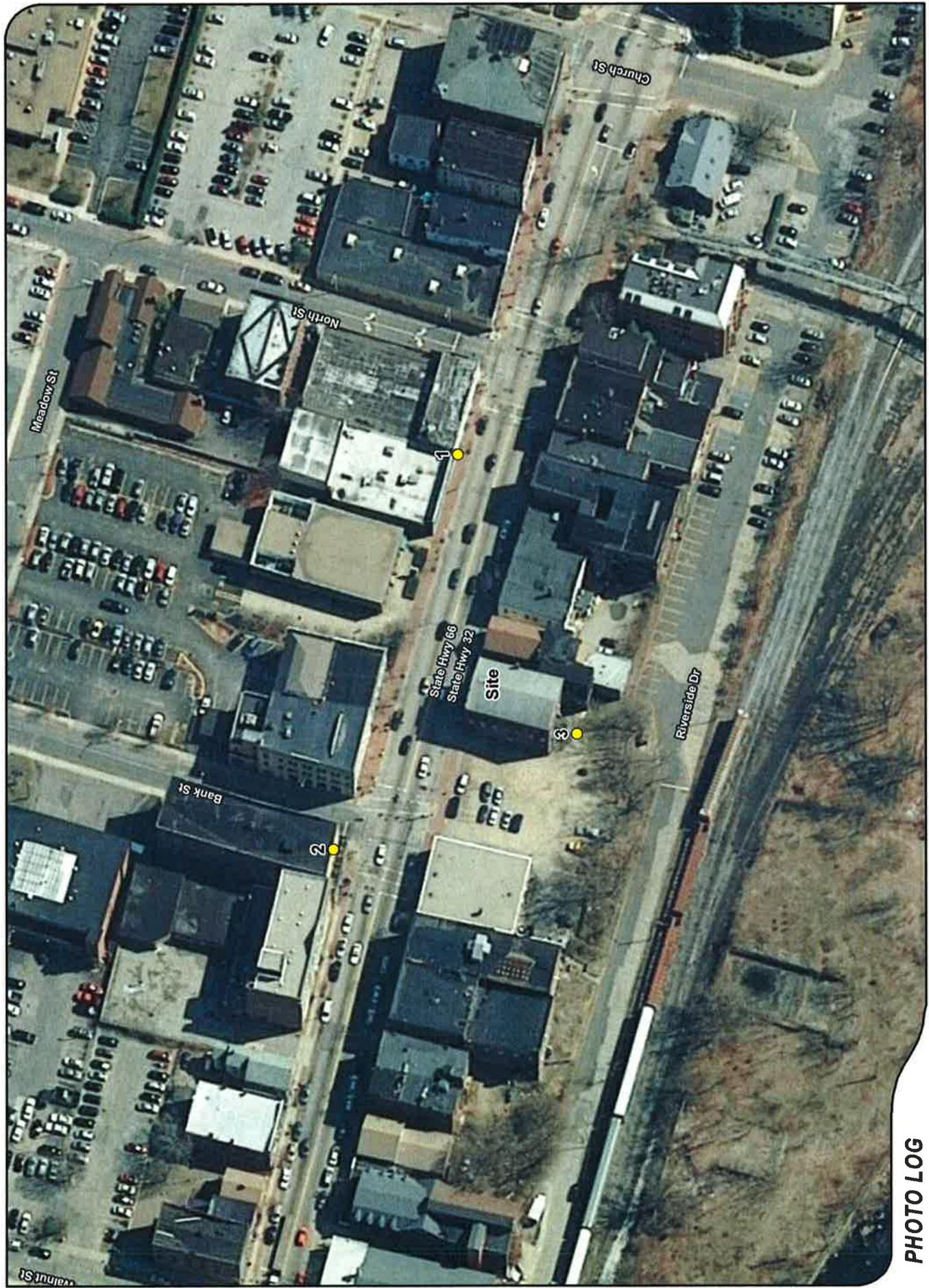
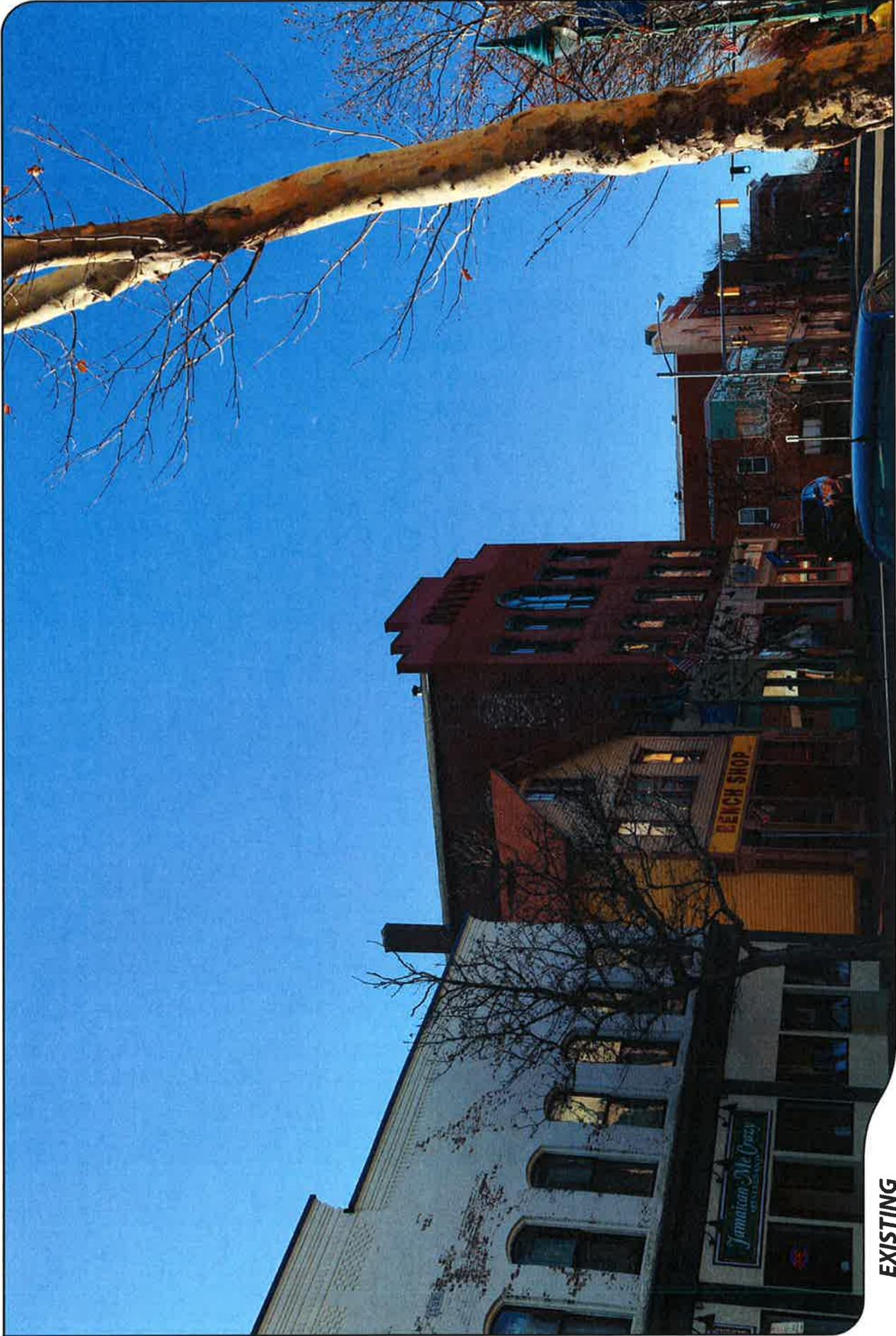


PHOTO LOG

Legend

- Photo Location





EXISTING

PHOTO

1

LOCATION

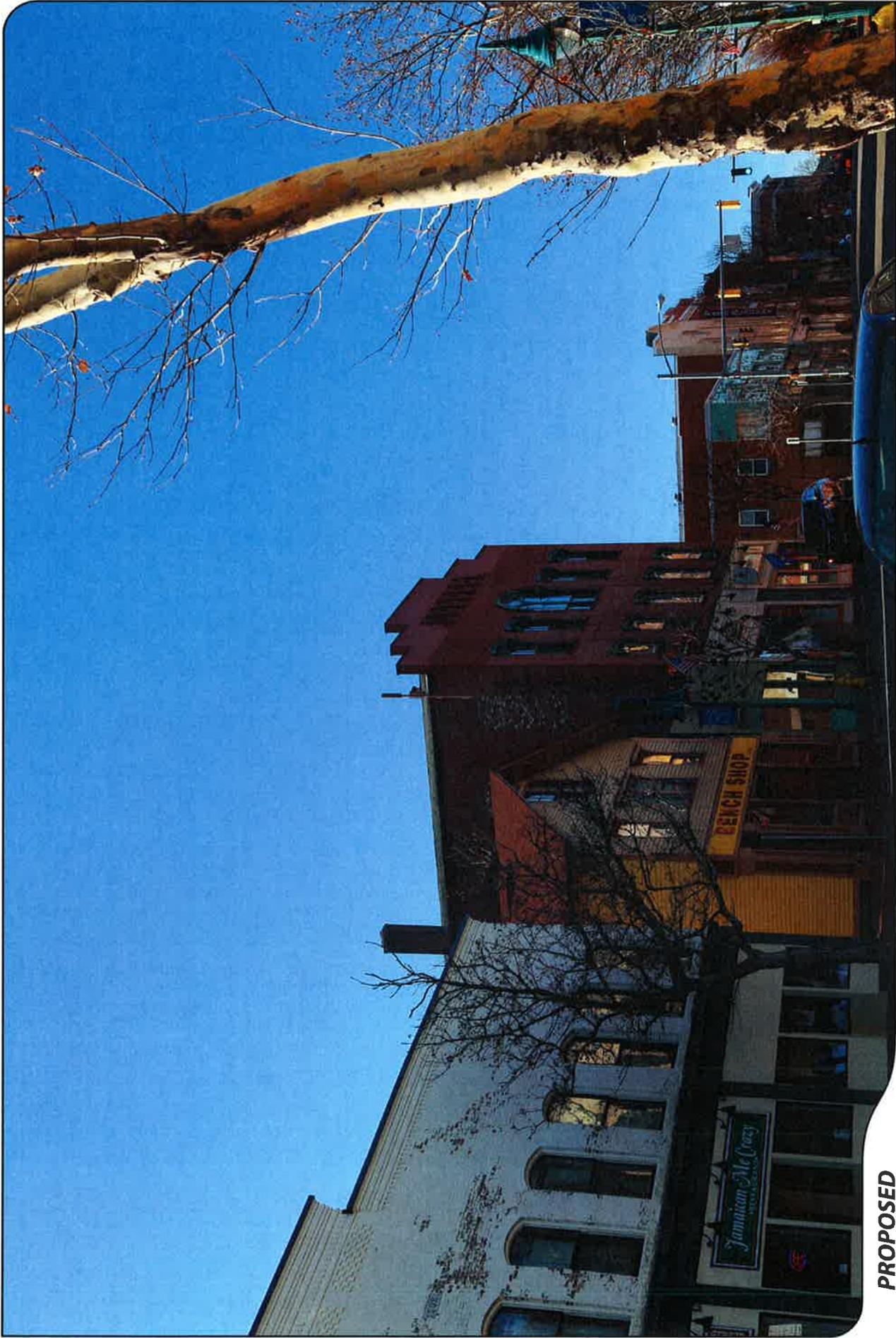
MAIN STREET

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 197 FEET



PROPOSED

PHOTO

1

LOCATION

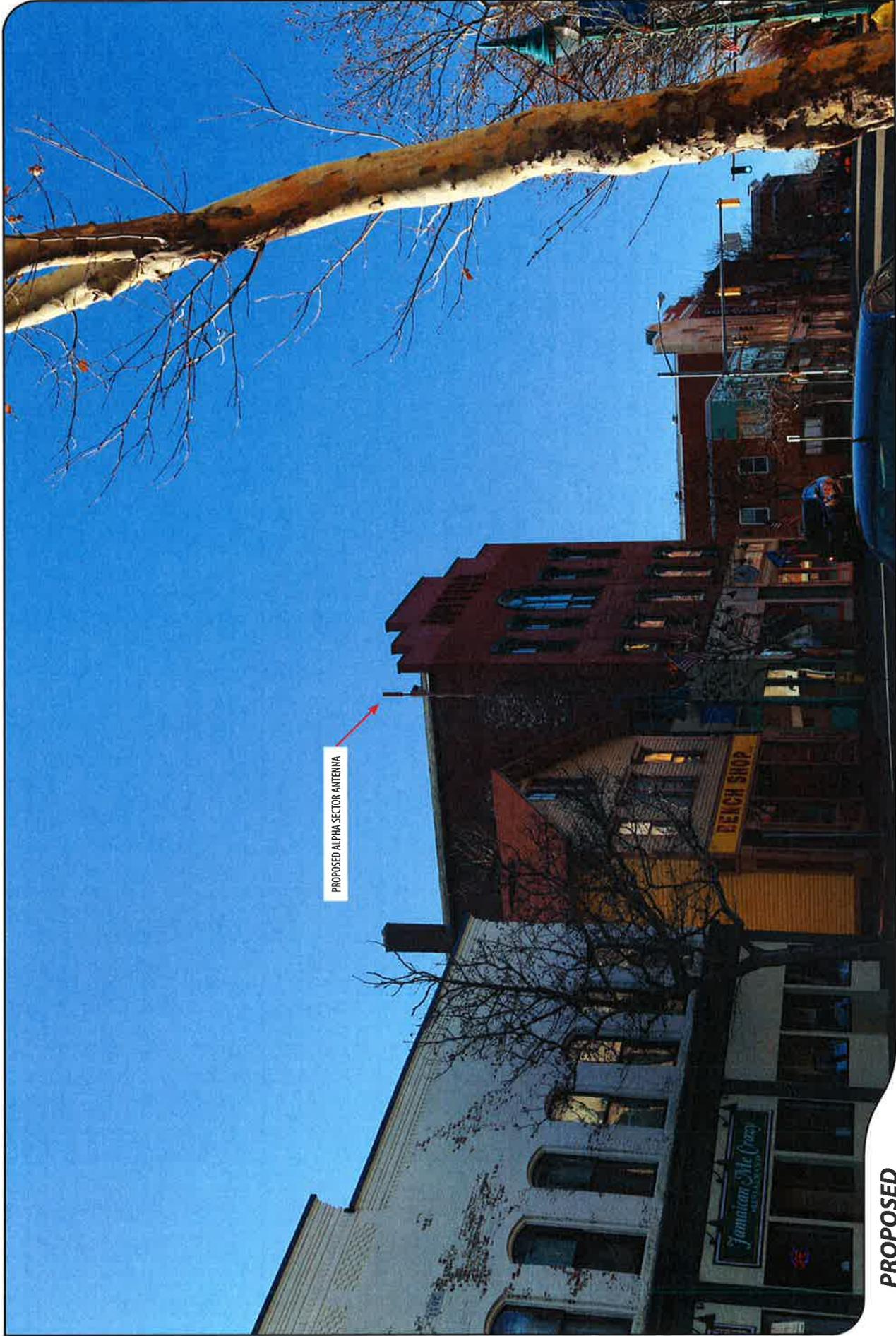
MAIN STREET

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 197 FEET



PROPOSED

PHOTO

1

LOCATION

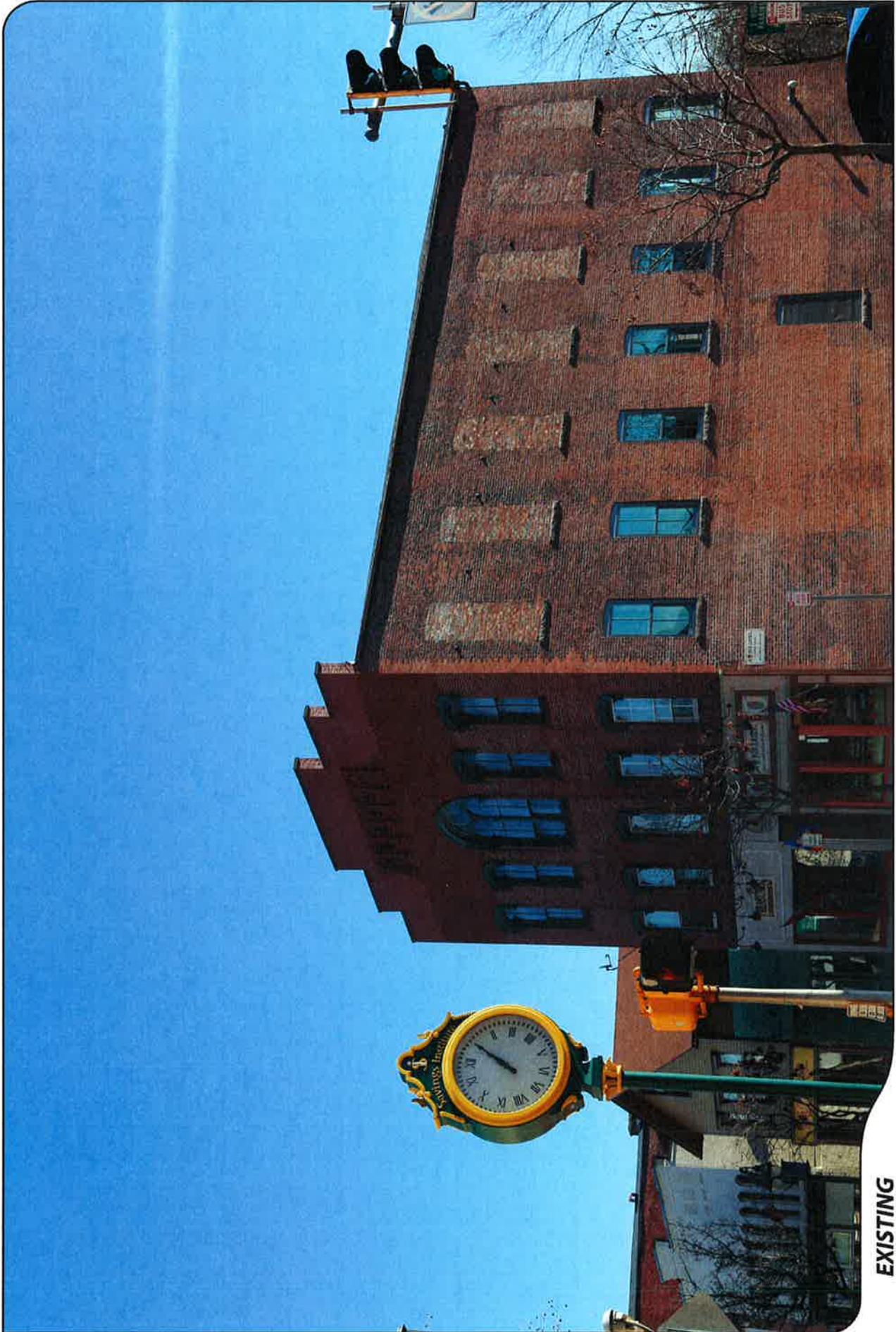
MAIN STREET

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 197 FEET



EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
2	BANK STREET AT MAIN STREET	SOUTHEAST	+/- 175 FEET



PROPOSED

PHOTO

2

LOCATION

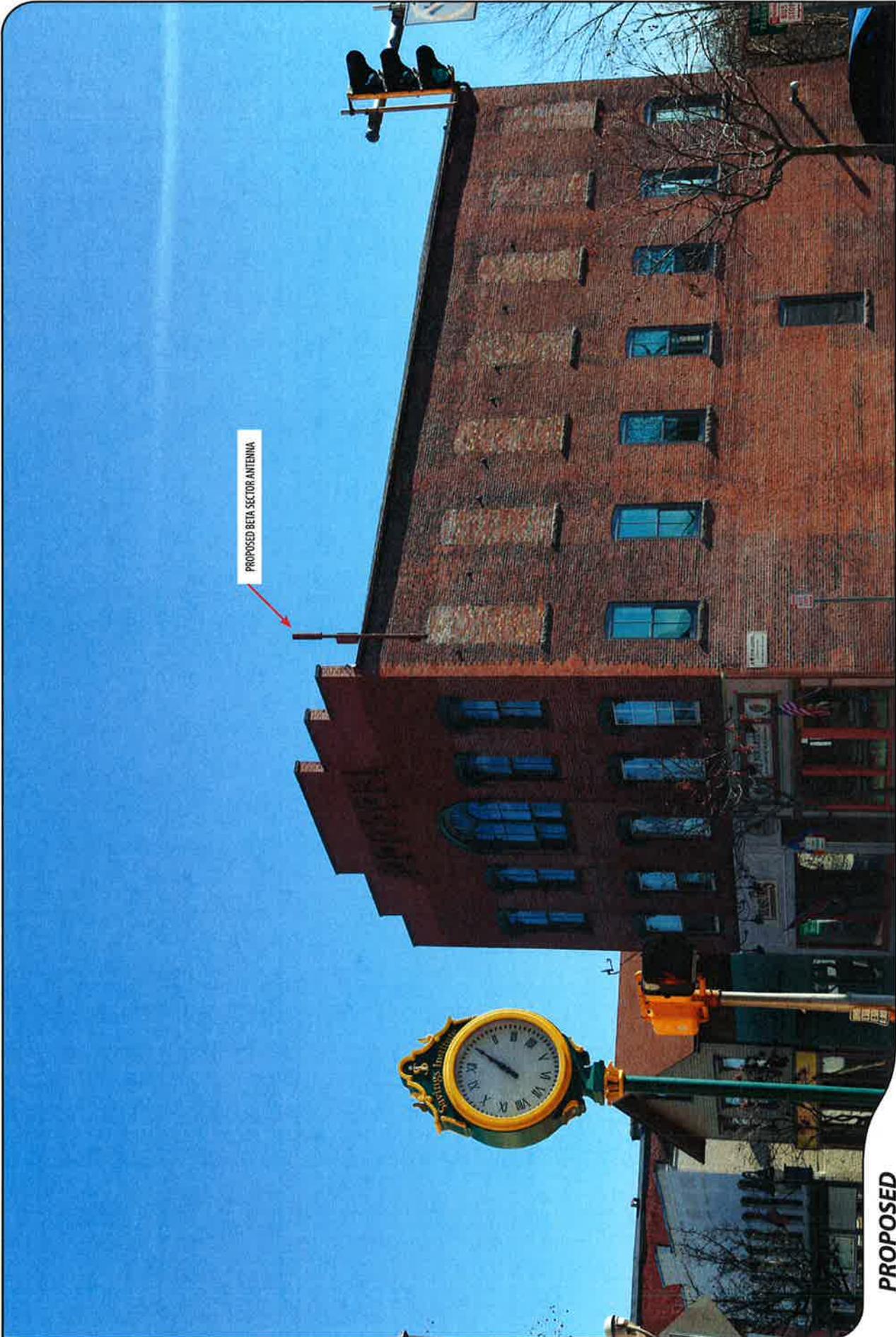
BANK STREET AT MAIN STREET

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 175 FEET

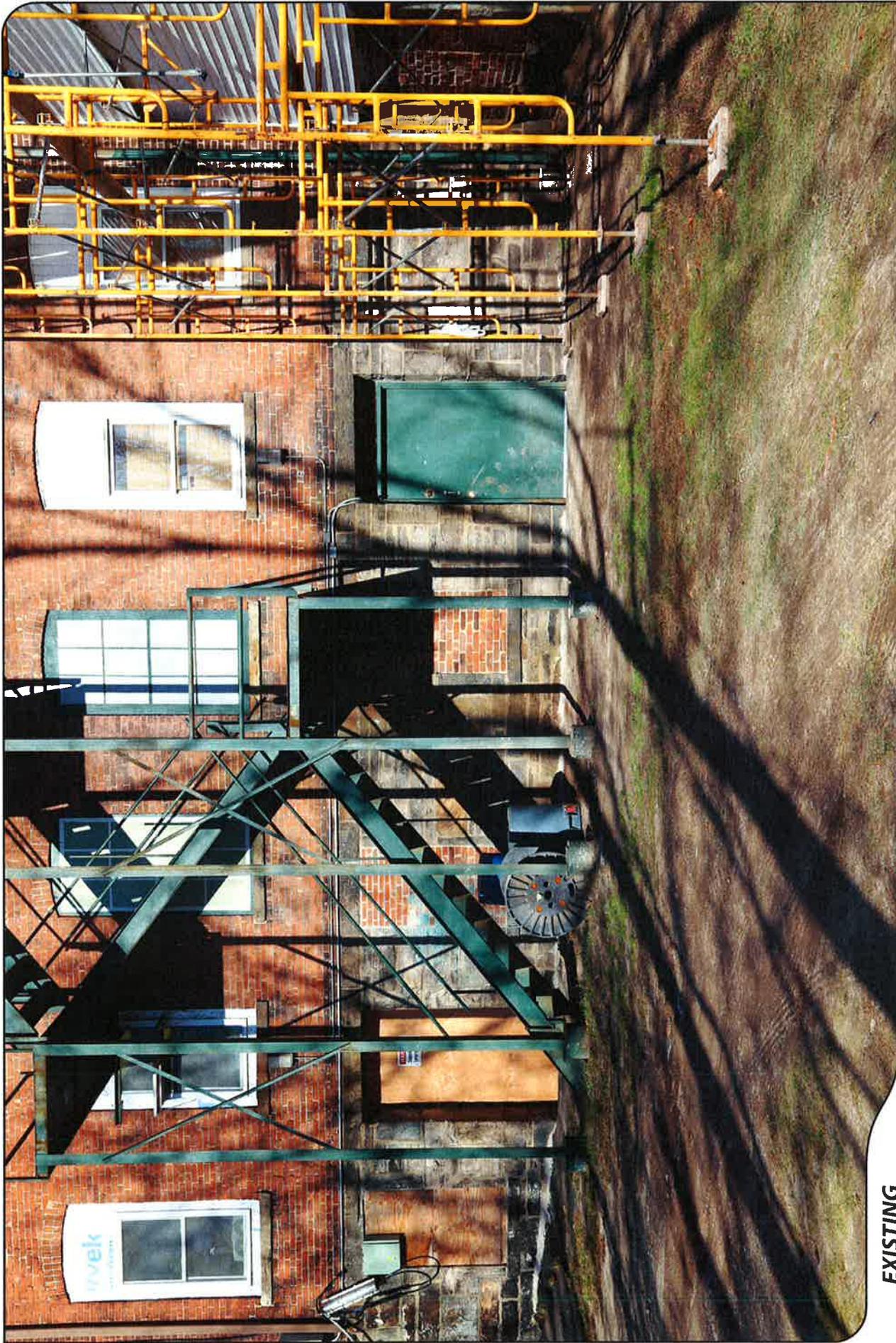


PROPOSED BETA SECTOR ANTENNA

PROPOSED

PHOTO 2	LOCATION BANK STREET AT MAIN STREET	ORIENTATION SOUTHEAST	DISTANCE TO SITE +/- 175 FEET
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EXISTING

PHOTO

3

LOCATION

HOST PROPERTY

ORIENTATION

NORTH

DISTANCE TO SITE

+/- 20 FEET



PROPOSED

PHOTO

3

LOCATION

HOST PROPERTY

ORIENTATION

NORTH

DISTANCE TO SITE

+/- 20 FEET



PROPOSED

PHOTO

3

LOCATION

HOST PROPERTY

ORIENTATION

NORTH

DISTANCE TO SITE

+/- 20 FEET

ATTACHMENT 6

General Power Density

Site Name: Willimantic SC 1, CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW PCS	1970	0	570	0	0	0.0000	1.0	0.00%
VZW Cellular	869	0	476	0	0	0.0000	0.5793333333	0.00%
VZW AWS	2145	1	1133	1133	46	0.1926	1.0	19.26%
VZW 700	746	0	1050	0	0	0.0000	0.4973333333	0.00%

Total Percentage of Maximum Permissible Exposure

19.26%

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

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 7

WILLIMANTIC_SC_1_CT.txt

* Federal Airways & Airspace *
* Summary Report: New Construction *
* Non-Antenna Structure *

Airspace User: Your Name

File: WILLIMANTIC_SC_1_CT

Location: Willimantic, CT
Distance: ? Statute Miles
Direction: ?° (true bearing)

Latitude: 41°-42'-43.4" Longitude: 72°-12'-50.08"

SITE ELEVATION AMSL.....263 ft.
STRUCTURE HEIGHT..... 48 ft.
OVERALL HEIGHT AMSL.....311 ft.

NOTICE CRITERIA

- FAR 77.9(a): NNR (DNE 200 ft AGL)
- FAR 77.9(b): NNR (DNE Notice Slope)
- FAR 77.9(c): NNR (Not a Traverse Way)
- FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for IJD
- FAR 77.9: NNR (No Expected TERPS® impact 9B8)
- FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required
NNR = Notice Not Required
PNR = Possible Notice Required (depends upon actual IFR procedure)
For new construction review Air Navigation Facilities at bottom of this report.

Notice to the FAA is not required at the analyzed location and height for slope, height or Straight-In procedures. Please review the 'Air Navigation' section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

- FAR 77.17(a)(1): DNE 499 ft AGL
- FAR 77.17(a)(2): DNE - Airport Surface
- FAR 77.19(a): DNE - Horizontal Surface
- FAR 77.19(b): DNE - Conical Surface
- FAR 77.19(c): DNE - Primary Surface
- FAR 77.19(d): DNE - Approach Surface
- FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: IJD: WINDHAM

Type: A RD: 12971.25 RE: 246.6
FAR 77.17(a)(1): DNE
FAR 77.17(a)(2): DNE - Height No Greater Than 200 feet AGL.
VFR Horizontal Surface: DNE
VFR Conical Surface: DNE
VFR Approach Slope: DNE
VFR Transitional Slope: DNE

The structure is within VFR - Traffic Pattern Airspace Climb/Descent Area. Structures exceeding the greater of 350' AAE, 77.17(a)(2), or VFR horizontal and conical surfaces will receive a hazard determination from the FAA. Maximum AMSL of Climb/Descent Area is 596 feet.

VFR TRAFFIC PATTERN AIRSPACE FOR: 9B8: SALMON RIVER AIRFIELD

Type: A RD: 76663.63 RE: 535.6
 FAR 77.17(a)(1): DNE
 FAR 77.17(a)(2): Does Not Apply.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Approach Slope: DNE
 VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)
 FAR 77.17(a)(3) Departure Surface Criteria (40:1)
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)
 FAR 77.17(a)(4) MOCA Altitude Enroute Criteria
 The Maximum Height Permitted is 1100 ft AMSL

PRIVATE LANDING FACILITIES

FACIL IDENT TYP NAME	BEARING TO FACIL	RANGE IN NM	DELTA ARP ELEVATION	FAA IFR
OCT2 HEL WINDHAM HOSPITAL No Impact to Private Landing Facility Structure 0 ft below heliport.	298.69	.61	-19	
CT69 HEL NASIN No Impact to Private Landing Facility Structure is beyond notice limit by 2777 feet.	51.57	1.28	+69	

AIR NAVIGATION ELECTRONIC FACILITIES

APCH BEAR	FAC IDNT	ST TYPE	AT	FREQ	VECTOR	DIST (ft)	DELTA ELEVA ST	LOCATION	GRND ANGLE
269	IJD	LOCALIZER	I	108.3	34.25	13790	+72 CT	RWY 27 WINDHAM	.30
	IJD	CO	Y	133.67	37.76	14035	+55 CT	WILLIMANTIC	.22
	ORW	VOR/DME	I	110.0	134.11	81599	+1 CT	NORWICH	0.00
	HFD	VOR/DME	R	114.9	254.04	94712	-538 CT	HARTFORD	-.33
	PUT	VOR/DME	R	117.4	48.53	134255	-341 CT	PUTNAM	-.15
	GON	VOR/DME	R	110.8	162.37	145970	+302 CT	GROTON	.12
	BDL	RADAR	ON		303.03	152063	+75 CT	BRADLEY INTL	.03
	BDL	VORTAC	D	109.0	302.97	153937	+151 CT	BRADLEY	.06
	PVD	RADAR	Y	2735.	88.71	168086	-265 RI	THEODORE FRANCIS	-.09
	MAD	VOR/DME	R	110.4	221.92	195480	+91 CT	MADISON	.03
	CEF	VORTAC	R	114.0	334.45	196258	+70 MA	WESTOVER	.02
	ORH	RADAR WXL	Y		24.44	224263	-692 MA	WORCESTER	-.18

CFR Title 47, §1.30000-§1.30004

AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.
 Movement Method Proof as specified in §73.151(c) is not required.

WILLIMANTIC_SC_1_CT.txt

Please review 'AM Station Report' for details.

Nearest AM Station: WILI @ 2085 meters.

Airspace® Summary Version 14.9.372

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11-18-2014
12:55:59

ATTACHMENT 8

December 18, 2014

Via Certified Mail, Return Receipt Requested

Ernest Eldridge, Mayor
Town of Windham
979 Main Street
P.O. Box 94
Willimantic, CT 06226-0094

Re: **Installation of a Small Cell Telecommunications Facility at 790 Main Street,
Willimantic, Connecticut**

Dear Mr. Eldridge:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a “small cell” telecommunications facility at 790 Main Street in Willimantic (the “Property”).

The proposed small cell would consist of two (2) small antenna masts attached to and extending four (4) feet above the roof of the building. Each mast would support a panel-type antenna and a remote radio head. Equipment associated with the antennas will be located inside a small equipment cabinet located on the ground to the rear of the building. The cabinet will be located beneath an exterior stair platform and enclosed by a security fence.

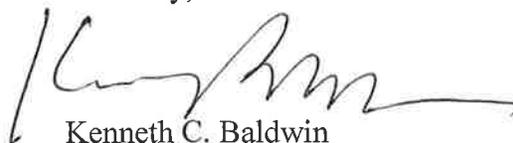
A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts 790 Main Street were also sent notice of this filing along with a copy of the Petition’s project plans and an aerial photograph of the site.

Robinson+Cole

Ernest Eldridge
December 18, 2014
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Baldwin', with a long horizontal flourish extending to the right.

Kenneth C. Baldwin

KCB/kmd
Attachment
Copy to:
Sandy M. Carter

December 18, 2014

Via Certified Mail, Return Receipt Requested

Franklin Hall, LLC
796 Main Street, Suite #7
Willimantic, CT 06226

**Re: Installation of a Small Cell Telecommunications Facility at 790 Main Street,
Willimantic, Connecticut**

Dear Sir or Madam:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a “small cell” telecommunications facility at 790 Main Street in Willimantic (the “Property”).

The proposed small cell would consist of two (2) small antenna masts attached to and extending four (4) feet above the roof of the building. Each mast would support a panel-type antenna and a remote radio head. Equipment associated with the antennas will be located inside a small equipment cabinet located on the ground to the rear of the building. The cabinet will be located beneath an exterior stair platform and enclosed by a security fence.

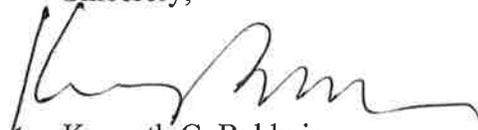
A copy of Cellco’s Petition is attached for your review. Landowners whose property abuts 790 Main Street were also sent notice of this filing along with a copy of the Petition’s project plans and an aerial photograph of the site.

Robinson+Cole

Franklin Hall, LLC
December 18, 2014
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

KCB/kmd
Attachment
Copy to:
Sandy M. Carter

ATTACHMENT 9

KENNETH C. BALDWIN

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

Also admitted in Massachusetts

December 18, 2014

Via Certified Mail, Return Receipt Requested

«Name_and_Address»

Re: Notice of Intent to File a Petition for Declaratory Ruling with the Connecticut Siting Council for the Installation of a “Small Cell” Telecommunications Facility at 790 Main Street, Willimantic, Connecticut

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new “small cell” telecommunications facility at 790 Main Street in Willimantic (the “Property”).

The proposed small cell facility would consist of two (2) small antenna masts attached to and extending approximately four feet above the roof of the building. Each mast would support a panel-type antenna and a remote radio head. Equipment associated with the antennas will be located inside a small equipment cabinet located on the ground to the rear of the building. The cabinet will be located beneath an exterior stair platform and will be enclosed by a security fence. A set of Project Plans for Cellco’s proposed small cell facility and an aerial photograph of the Property are attached for your review.

This notice is being sent to you because you are listed as an owner of land that abuts the Property. If you have any questions regarding the Petition, the Council’s process for reviewing the proposed Petition or the details of the filing itself, please feel free to contact me at the number listed above. You may also contact the Council directly at 860-827-2935.

December 18, 2014
Page 2

Sincerely,

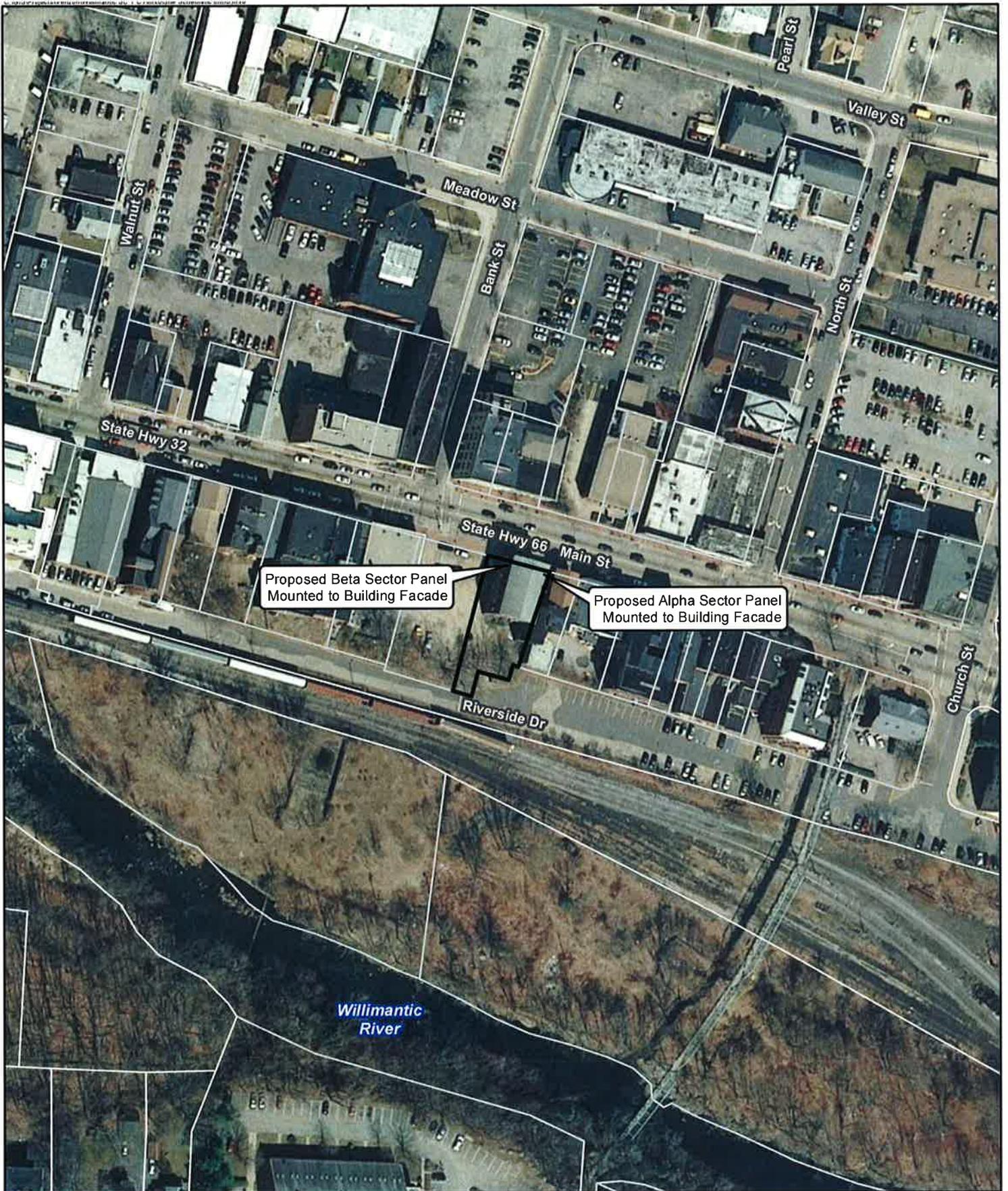
A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is written in a cursive style with a long horizontal flourish at the end.

Kenneth C. Baldwin

Attachment

Copy to:

Sandy M. Carter



Proposed Beta Sector Panel
Mounted to Building Facade

Proposed Alpha Sector Panel
Mounted to Building Facade

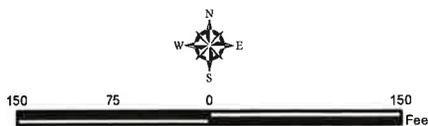
Legend

 Subject Property

Site Schematic

Proposed Wireless
Willimantic SC 1 CT
790 Main Street
Willimantic, Connecticut

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 150 feet
Map Date: November 2014



Cellco Partnership

d.b.a. **verizon** wireless
WIRELESS COMMUNICATIONS FACILITY
WILLIMANTIC SC1
790 MAIN STREET
WILLIMANTIC, CT 06226

SITE DIRECTIONS

FROM: 89 EAST RIVER AVENUE
 EAST HARTFORD, CONNECTICUT

TO: 790 MAIN STREET
 WILLIMANTIC, CONNECTICUT

1. TURN LEFT ONTO THE CP-3 E RAMP TO HOVORCH
2. TURN LEFT ONTO THE CP-3 E RAMP TO HOVORCH
3. TURN LEFT ONTO THE CP-3 E RAMP TO HOVORCH
4. TURN LEFT TO CONTINUE TOWARD 1-94 E
5. CONTINUE ONTO 1-94 E TOWARD PROVIDENCE
6. CONTINUE ONTO 1-94 E TOWARD PROVIDENCE/WILLIMANTIC
7. TURN LEFT TO GO ON ON 65A E
8. FOLLOW 65A E TOWARD PROVIDENCE/WILLIMANTIC
9. TURN LEFT TO GO ON ON 65A E
10. TAKE THE EXIT TOWARD CT-180/AVENUE OF CONNECTICUT/STORRS
11. CONTINUE ONTO WEST ST
12. CONTINUE ONTO WEST ST
13. TURN LEFT ONTO WEST ST, AND THE DESTINATION WILL BE ON THE RIGHT

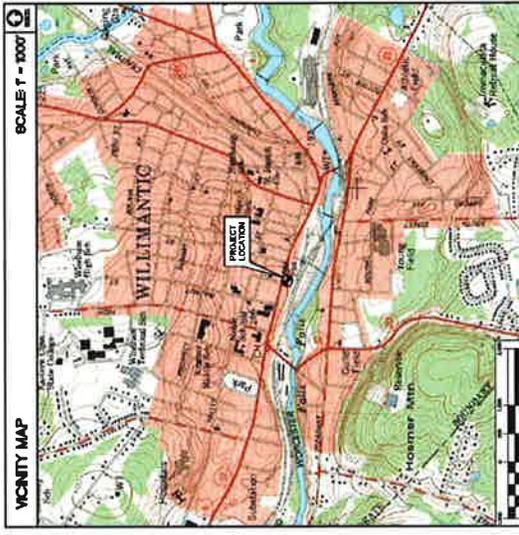
GENERAL NOTES

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

SITE INFORMATION

THE SCOPE OF WORK SHALL INCLUDE:

1. THE INSTALLATION OF A PROPOSED CELCO PARTNERSHIP EQUIPMENT CABINET LOCATED AT CORNER WITHIN PROPOSED FENCED ENCLOSURE.
2. A TOTAL OF TWO (2) PROPOSED CELCO PARTNERSHIP ANTENNAS TO BE INSTALLED ON THE ROOF OF BUILDING AT A CHIMNEY ELEVATION OF 244' AGL.
3. POWER AND TELLER UNITS SHALL BE ROUTED FROM DEMANDS LOCATED WITHIN OR ADJACENT TO THE BUILDING TO THE PROPOSED ANTENNA LOCATIONS. THE LOCATION OF THE UNITS SHALL BE DETERMINED BY THE LOCAL UTILITY COMPANY AND WILL BE COORDINATED WITH THE LOCAL UTILITY COMPANY.
4. FINAL DESIGN OF ANTENNA MOUNTS SHALL BE INCLUDED IN THE DEMO PLANS.
5. THE PROPOSED WIRELESS SPECTRUM INSTALLATION WILL BE CONSIDERED IN ACCORDANCE WITH THE 2004 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2008 CONNECTICUT SUPPLEMENT.



PROJECT SUMMARY

SITE NAME: WILLIMANTIC SC1
SITE ADDRESS: 790 MAIN STREET
 WILLIMANTIC, CT 06226
PROPERTY OWNER: 790 MAIN STREET, SUITE 7
 WILLIMANTIC, CT 06226
APPLICANT: CELCO PARTNERSHIP
 89 EAST RIVER AVENUE
 EAST HARTFORD, CT 06108
CONTACT PERSON: CELCO PARTNERSHIP
 89 EAST RIVER AVENUE
 EAST HARTFORD, CT 06108
TOWER COORDINATES: LATITUDE 41°-42'-43.47"
 LONGITUDE 72°-48'-30.7"
 UTM ZONE 18Q UTM EASTING
 COORDINATES AND ANTENNA ELEVATION
 REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
C-1	ANTENNA MAP	0
C-2	SITE PLAN, ELEVATIONS AND ANTENNA MOUNTING CONFIGURATION	0

Cellco Partnership
 790 MAIN STREET
 WILLIMANTIC, CT 06226

WILLIMANTIC SC1
 WIRELESS COMMUNICATIONS FACILITY

Cellco Partnership
 89 EAST RIVER AVENUE
 EAST HARTFORD, CT 06108

DATE: 12/22/14
 SCALE: AS NOTED
 JOB NO.: 14274000

TITLE SHEET

T-1

REV.	DATE	BY	CHKD.	DESCRIPTION
0	12/22/14	AM	AM	ISSUED FOR PER - CLIENT REVIEW

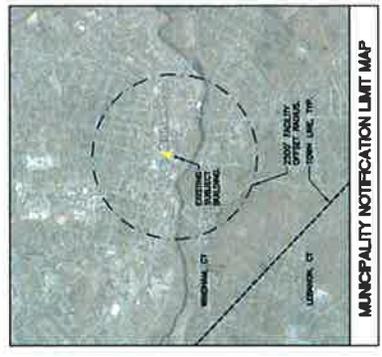
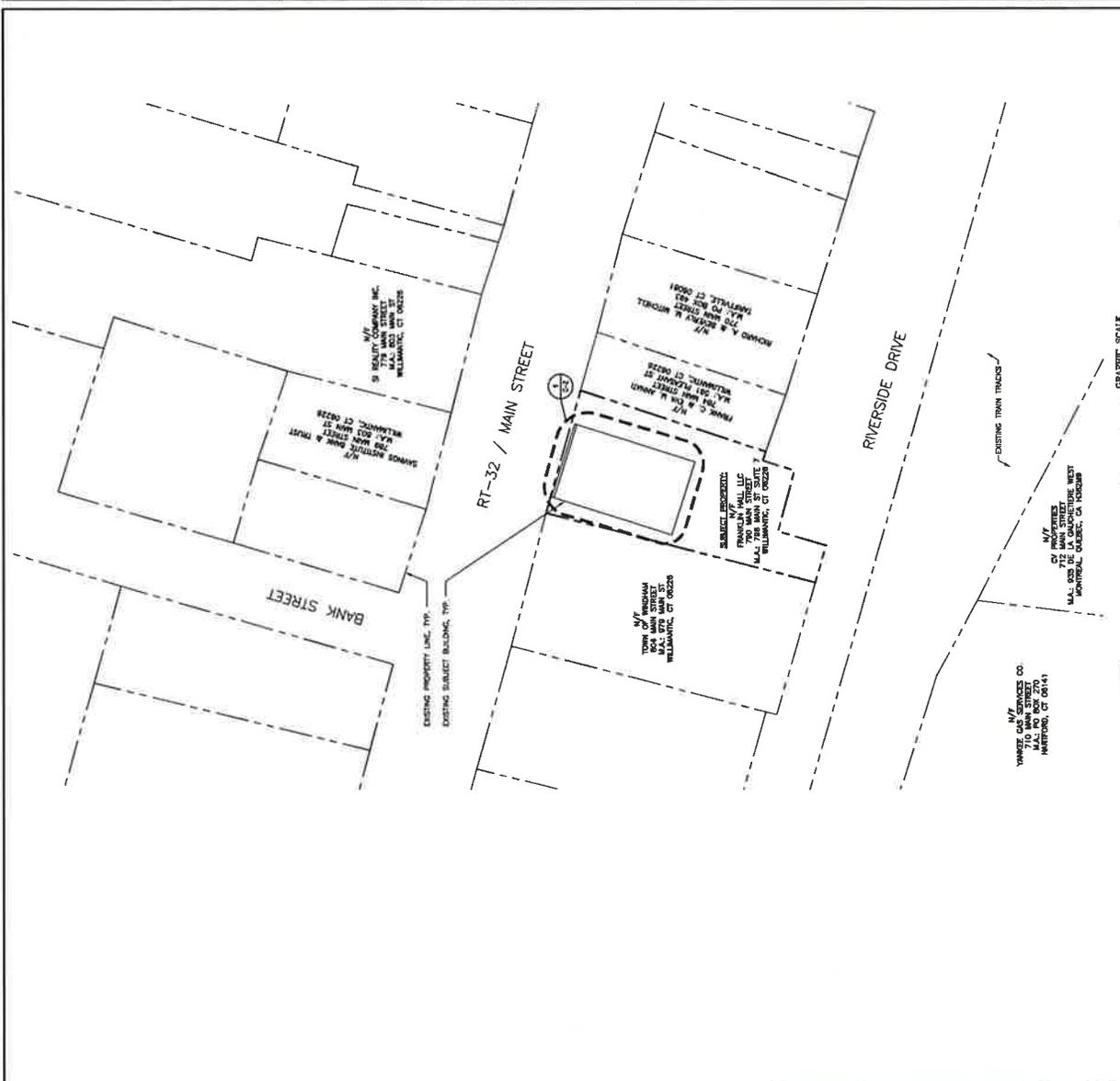
DATE:	12/20/14
SCALE:	AS NOTED
DRAWN BY:	AMANDA WILSON
CHECKED BY:	AMANDA WILSON
JOB NO.:	14121000

Calico Partnership d/b/a Verizon Wireless
 WILLIAMANTIC SCI
 780 MAIN STREET
 WILLIAMANTIC, CT 06226

DATE: 12/20/14
 DRAWN BY: AMANDA WILSON
 CHECKED BY: AMANDA WILSON
 JOB NO.: 14121000

DATE: 12/20/14
 DRAWN BY: AMANDA WILSON
 CHECKED BY: AMANDA WILSON
 JOB NO.: 14121000

REV.	DATE	BY	DESCRIPTION
1	12/01/14	AM	ISSUED FOR DEC - CLERK REVIEW



MUNICIPALITY NOTIFICATION LIMIT MAP

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

**ABUTTERS LIST
MAP 13-3/BLOCK 61/LOT 17**

**790 MAIN STREET
WILLIMANTIC, CONNECTICUT**

	<u>Map/Lot</u>	<u>Property Address</u>	<u>Owner and Mailing Address</u>
1.	13-3/61/16	804 Main Street	Town of Windham 979 Main Street Willimantic, CT 06226
2.	13-3/61/18	784 Main Street	Frank C. and Eva M. Annati 591 Pleasant Street Willimantic, CT 06226
3.	13-3/60/9	769 Main Street	SI Realty Company Inc. 803 Main Street Willimantic, CT 06226
4.	13-3/60/2	779 Main Street	SI Realty Company Inc. 803 Main Street Willimantic, CT 06226
5.	13-3/60/10	789 Main Street	Savings Institute Bank and Trust 803 Main Street Willimantic, CT 06226
6.	13-3/60/11	803 Main Street	Savings Institute Bank and Trust 803 Main Street Willimantic, CT 06226
7.	13-3/61/28	Main Street	Town of Windham 979 Main Street Willimantic, CT 06226