

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 WIRELESS :
TELECOMMUNICATIONS FACILITY AT 192 :
MAIN STREET, NORWICH, CONNECTICUT : OCTOBER 11, 2019

AMENDED
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 (the “Amended Petition”) that the installation of a “small cell” telecommunications facility at 192 Main Street in Norwich, Connecticut (the “Property”) would not have a substantial adverse environmental effect and would not require the issuance of a Certificate of Environmental Compatibility and Public Need (“Certificate”) under Connecticut General Statutes (“C.G.S.”) Section 16-50k(a).

This filing seeks to amend the proposed small cell installation at the Property, previously approved by the Council in Petition No. 1364.

II. Factual Background

The Property is a .30-acre parcel at the northeast corner of Broadway and Main Street in Norwich, Connecticut and is owned by Wauregan Development LLC. Cellco refers to this cell site as its “Norwich SC4 Facility”. The Property is located in the Chelsea Central (CC) zone

district and is occupied by a four-story mixed use (commercial and residential) building. The Property is surrounded by similar commercial and residential uses. *See Attachment 1 – Amended Site Vicinity and Site Schematic Maps (Aerial Photograph).*

III. Proposed Norwich SC4 Facility

Cellco is licensed to provide wireless telecommunications services in the 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency ranges in Norwich and throughout the State of Connecticut. The proposed Norwich SC4 Facility will transmit in Cellco's 1900 and 2100 frequency ranges. Cellco currently maintains three (3) existing wireless facilities in the area around the Property including its Norwich 2 facility – a roof-top facility at 101 High Street in Norwich; its Norwich West facility – an existing tower at 202 North Wawecus Hill Road in Norwich; and its Montville 4 facility – a tower site at 57 Cook Road in Montville. Cellco has identified a need for capacity relief for each of these existing facilities and determined that the proposed Norwich SC4 will satisfy that need.

The proposed Norwich SC4 Facility will consist of a single panel-type antenna and a remote radio head (“RRH”) on a tower mast attached to the upper portion of the northerly facade of the building. The tower mast, antenna and RRH will all be painted to match the color of the building. Power and telephone service to the Norwich SC4 Facility will extend from existing service inside the building. The tower mast and panel antenna will not extend above the building’s façade. (*See* Cellco’s Amended Project Plans included in Attachment 2). Specifications for Cellco’s new antenna and RRH are included in Attachment 3.

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 a tower mast supporting a single panel antenna and RRH, painted to match the building, will not involve a significant alteration in the physical and environmental characteristics of the Property.

2. Visual Effects

Cellco submits that the proposed Norwich SC4 Facility would not have an adverse visual impact on existing views of the building at the Property or to the character of the community. (An amended Visual Assessment & Photo-Simulations (“Visual Assessment”) is included as a part of this filing in Attachment 4). The proposed antenna, RRH and mast will be painted to match the red brick exterior of the building, ultimately minimizing its visual impact.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed installation will be well below the standards adopted by the Federal Communications Commission (“FCC”). Included in Attachment 5 is an amended worst-case General Power Density calculation that demonstrates that Cellco’s Norwich SC4 Facility will operate well within the FCC safety standard.

4. FAA Notification Not Required

The proposed façade-mounted tower mast, including the panel antenna will not extend above the façade of the building. Notification to the FAA of Cellco's improvements is, therefore, not required.

B. Notice to the City, Property Owner and Abutting Landowners

On October 11, 2019, a copy of this Amended Petition was sent to Norwich's Mayor, Peter A. Nystrom; Deanna Rhodes, Norwich's City Planner; and Wauregan Development LLC, the owner of the Property. Copies of the letters sent to the Mayor Nystrom, Ms. Rhodes and Wauregan Development LLC are included in Attachment 6.

A copy of this Amended Petition was also sent to the owners of land that abut the Property. A sample abutter's letter and the list of those abutting landowners to whom notice was sent is included in Attachment 7.

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 a façade-mounted tower mast, supporting a panel antenna and RRH and related equipment described above 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.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

ATTACHMENT 1



Legend

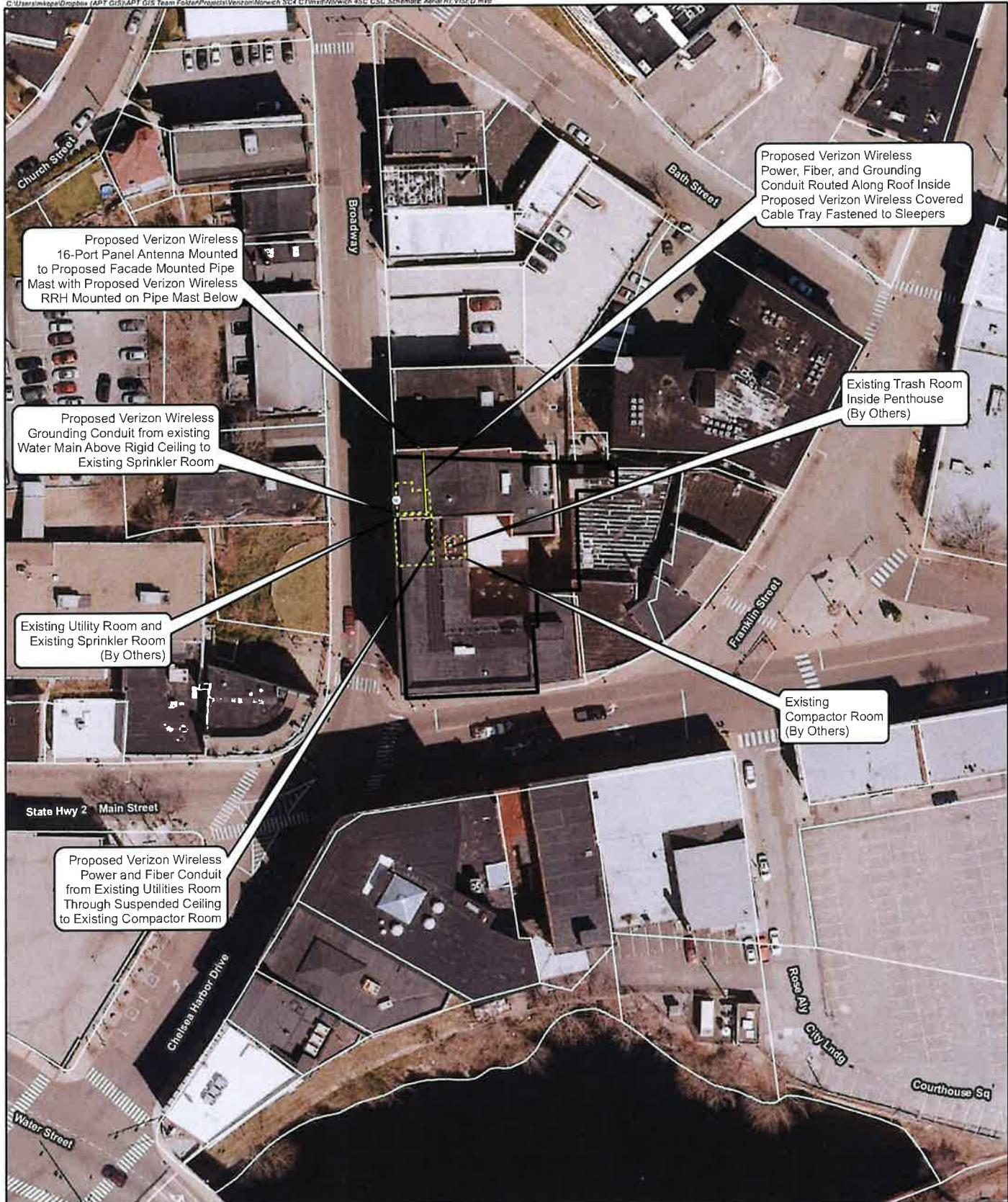
- Proposed Verizon Wireless Small Cell Facility
- Surrounding Verizon Wireless Facilities
- Municipal Boundary

Site Vicinity Map

Proposed Wireless
Telecommunications Facility
Norwich SC4 CT
192 Main Street
Norwich, Connecticut

verizon[®]





Legend

- Proposed Verizon Wireless Equipment
- Proposed Verizon Wireless Conduit
- Approximate Location of Existing Water Main (By Others)
- Existing Trash Room (By Others)
- Existing Basement Level Rooms (By Others)

- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)



Site Schematic

Proposed Wireless Telecommunications Facility
Norwich SC4 CT
192 Main Street
Norwich, Connecticut

verizon

ATTACHMENT 2



NORWICH SC4 CT
20181897566

192 MAIN STREET
NORWICH, CT 06360

INSTALLATION OF ROOF-TOP WIRELESS TELECOMMUNICATIONS FACILITY

PROJECT INFORMATION

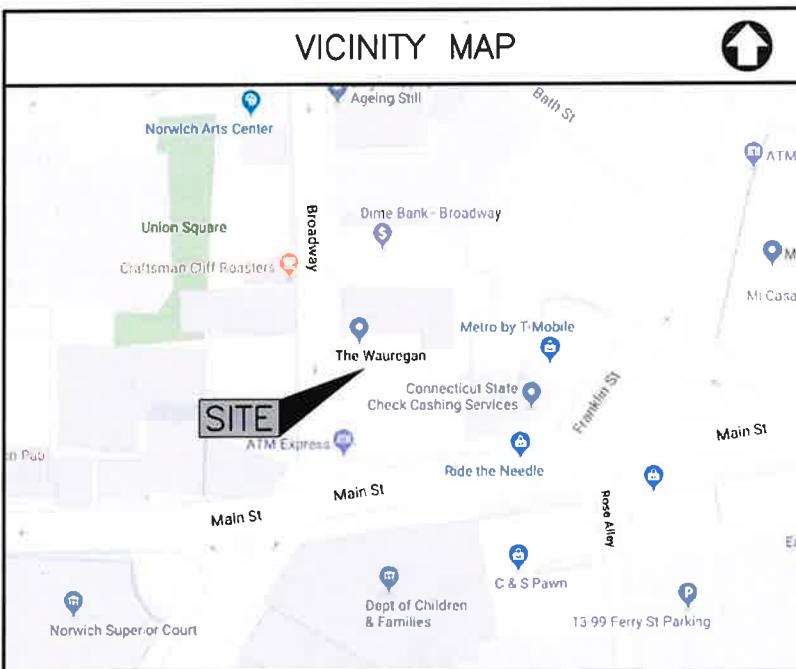
SITE NAME: NORWICH SC4 CT
SITE ADDRESS: 192 MAIN STREET
NORWICH, CT 06360
COORDINATES: LATITUDE: 41° 31' 29.41" N (NAD 83)
LONGITUDE: 72° 04' 32.02" W (NAD 83)
GROUND ELEVATION: 25' ± A.M.S.L. (NAVD88)

SCOPE OF WORK

1. INSTALL (1) PANEL ANTENNA ON NORTH BUILDING FAÇADE.
2. INSTALL (1) RRH ON NORTH BUILDING FAÇADE.
3. INSTALL (1) HOFFMAN DEMARC ON EXISTING PENTHOUSE WALL.

DIRECTIONS

DIRECTIONS:
FROM WALLINGFORD, CT
HEAD NORTH ON ALEXANDER DR TOWARD BARNES INDUSTRIAL RD S, TURN RIGHT
ONTO BARNES RD AND HEAD NORTH FOR 0.1 MILES TO CT-68 E, TURN RIGHT
AND HEAD EAST ON CT-68 FOR 1.8 MILES TO I-91, HEAD NORTH ON I-91
FOR 17.3 MILES TO EXIT 25-26 (CT-3) TOWARDS GLASTONBURY, HEAD EAST
ON CT-3 FOR 2.4 MILES TO EXIT ONTO CT-2 TOWARDS NORWICH, HEAD
SOUTHEAST ON CT-2 FOR 20.0 MILES, THEN CONTINUE EAST ON CT-2 FOR
13.7 MILES TO CT-2/CT-32/WASHINGTON ST EXIT, TURN RIGHT AND HEAD
SOUTHEAST ON WASHINGTON ST FOR 0.5 MILES TO BROADWAY, TAKE SLIGHT
LEFT AND CONTINUE ON BROADWAY FOR 0.6 TO UNION ST, TAKE SLIGHT RIGHT
ONTO UNION AND HEAD SOUTH FOR 0.5 MILES TO MAIN ST, TURN LEFT ONTO
MAIN ST AND DESTINATION WILL BE ON THE LEFT.

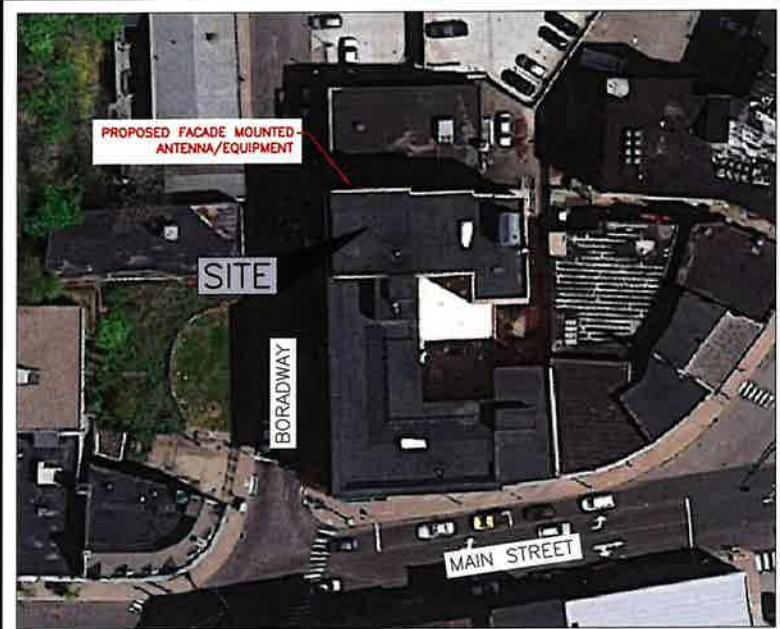


SHEET INDEX

PROJECT TEAM

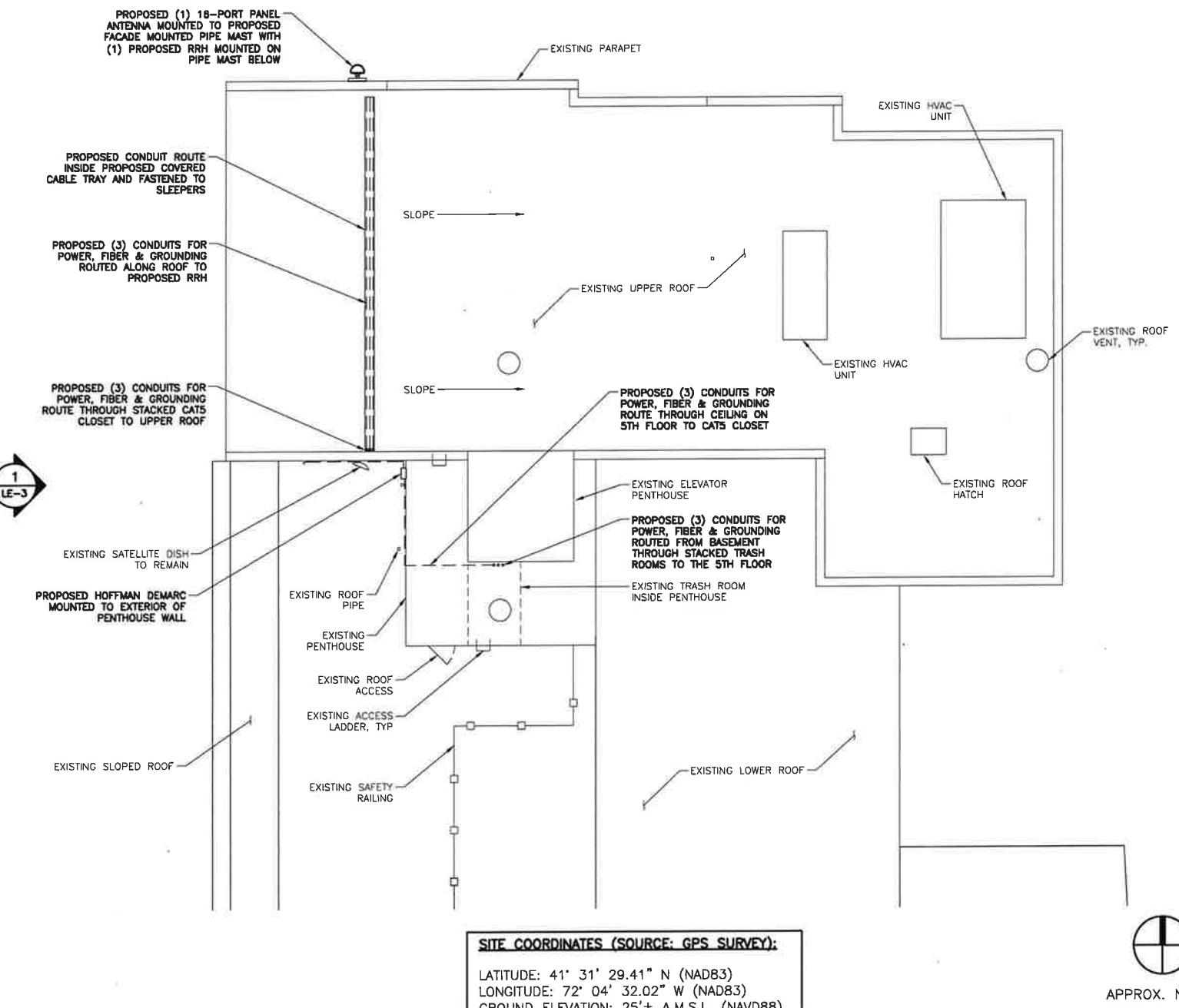
APPLICANT:	CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492
PROPERTY OWNER:	WAUREGAN DEVELOPMENT, LLC. 95 REEF ROAD FAIRFIELD, CT 06824
ARCHITECT & ENGINEER:	EBI CONSULTING 21 B STREET BURLINGTON, MA 01803 (781) 273-2500
SITE ACQUISITION:	EBI CONSULTING 21 B STREET BURLINGTON, MA 01803 (781) 273-2500
LEGAL COUNSEL:	KENNETH C. BALDWIN, ESQ ROBINSON & COLE LLP (860) 275-8345

APPLICANT:	verizon		
20 ALEXANDER DRIVE WALLINGFORD, CT 06492			
PREPARED BY:			
 EBI Consulting environmental engineering due diligence			
21 B Street Burlington, MA 01803 Tel: (781) 273-2500 Fax: (781) 273-3311 www.ebiconsulting.com			
ENGINEER STAMP/SIGNATURE			
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SUBMITTALS			
NO.	DATE	DESCRIPTION	BY
A	03/20/19	FOR ZONING REVIEW	SM
B	07/30/19	PER NEW RFDS	AC
EBI JOB NO:			
8118000576			
SITE INFO:			
NORWICH SC4 CT 20181897566 192 MAIN STREET NORWICH, CT 06360			
SHEET TITLE:			
TITLE SHEET			
DRAWN BY: SM	SHEET NO:		
CHECKED BY: TS	T-1		
DATE: 02/22/19			



1 KEY PLAN

THIS PHOTO IS INSERTED TO
SHOW EXISTING CONDITIONS –
SEE ELEVATION AND DETAILS FOR
EQUIPMENT LAYOUT AND INFO



2 SITE PLAN

APPLICANT:

verizon[®]

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

PREPARED BY:

EBI Consulting
environmental | engineering | due diligence
21 B Street | Burlington, MA 01803
Tel: (781) 273-2500 | Fax: (781) 273-3311
www.ebiconsulting.com

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY
A	03/20/19	FOR ZONING REVIEW	SM
B	07/30/19	PER NEW RFDS	AC

EBI JOB NO:
8118000576

SITE INFO:

NORWICH SC4 CT
20181897566
192 MAIN STREET
NORWICH, CT 06360

SHEET TITLE:

SITE PLAN

DRAWN BY:

SM

CHECKED BY:

TS

DATE:

02/22/19

Z-1

11x17 SCALE: 1/16" = 1'-0"
22x34 SCALE: 1/8" = 1'-0"

APPLICANT:

verizon[✓]

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

PREPARED BY:

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SUBMITTALS

BI JOB NO:

ITE INFO:

NORWICH SC4 CT
20181897566
192 MAIN STREET
NORWICH, CT 06360

HEFT TITL E:

PARTIAL BASEMENT LEVEL
& BR LEVEL FLOOR PLAN

1

APPROX. NORTH

1000

ALE: $1/8'' = 1'-0''$

Z-2

11x17 SCALE: $1/8"$ = $1'-0"$
22x34 SCALE: $1/4"$ = $1'-0"$

1 PARTIAL BASEMENT LEVEL & BR LEVEL FLOOR PLAN

MAIN STREET



APPROX. NORTH

DRAWN BY: SM	SHEET NO:
CHECKED BY: TS	
DATE: 02/22/19	Z-2

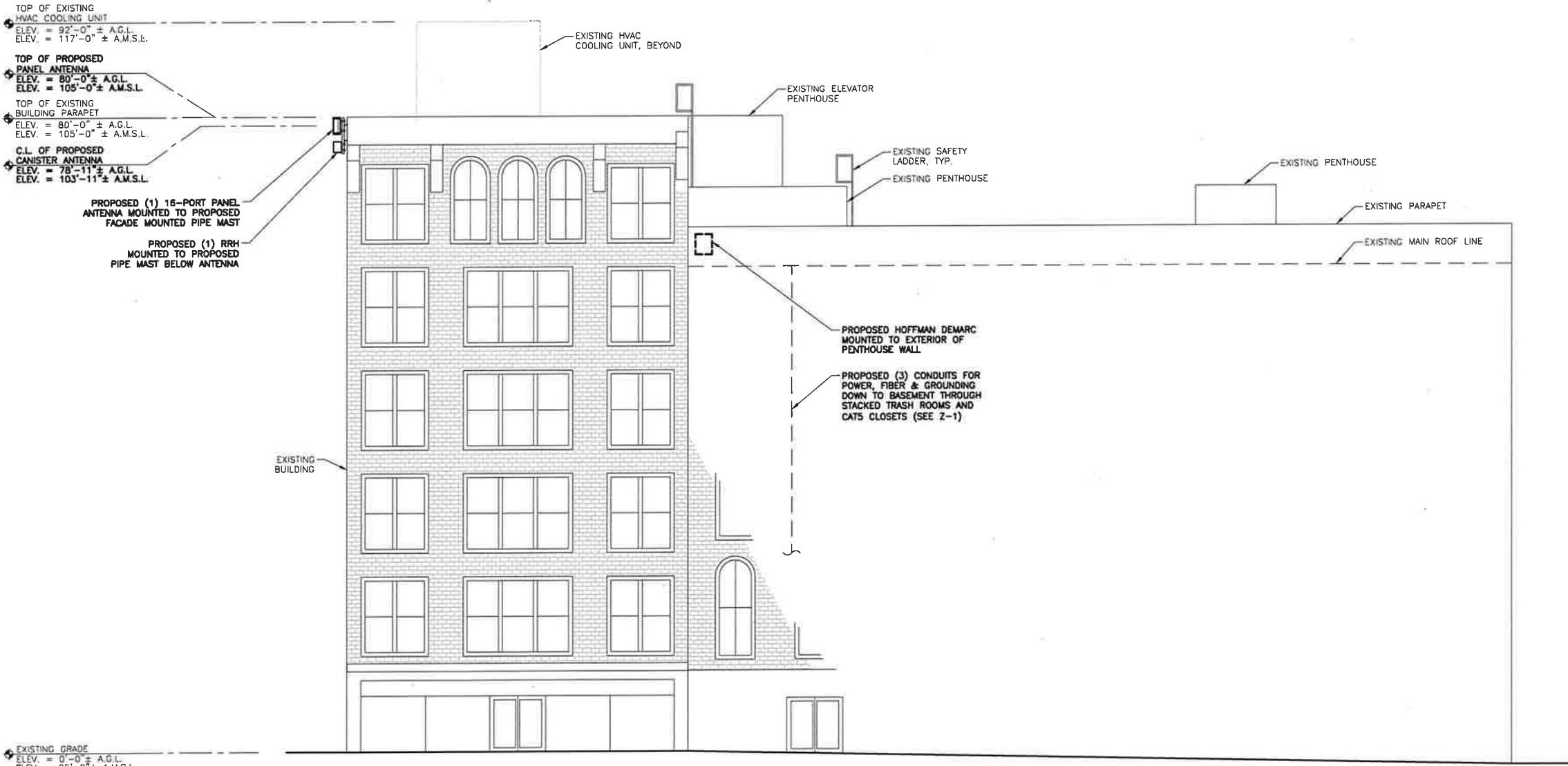
APPLICANT:

verizon

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

PREPARED BY:

EBI Consulting
environmental | engineering | due diligence
21 B Street | Burlington, MA 01803
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SUBMITTALS

NO.	DATE	DESCRIPTION	BY
A	03/20/19	FOR ZONING REVIEW	SM
B	07/30/19	PER NEW RFDS	AC

EBI JOB NO:
8118000576

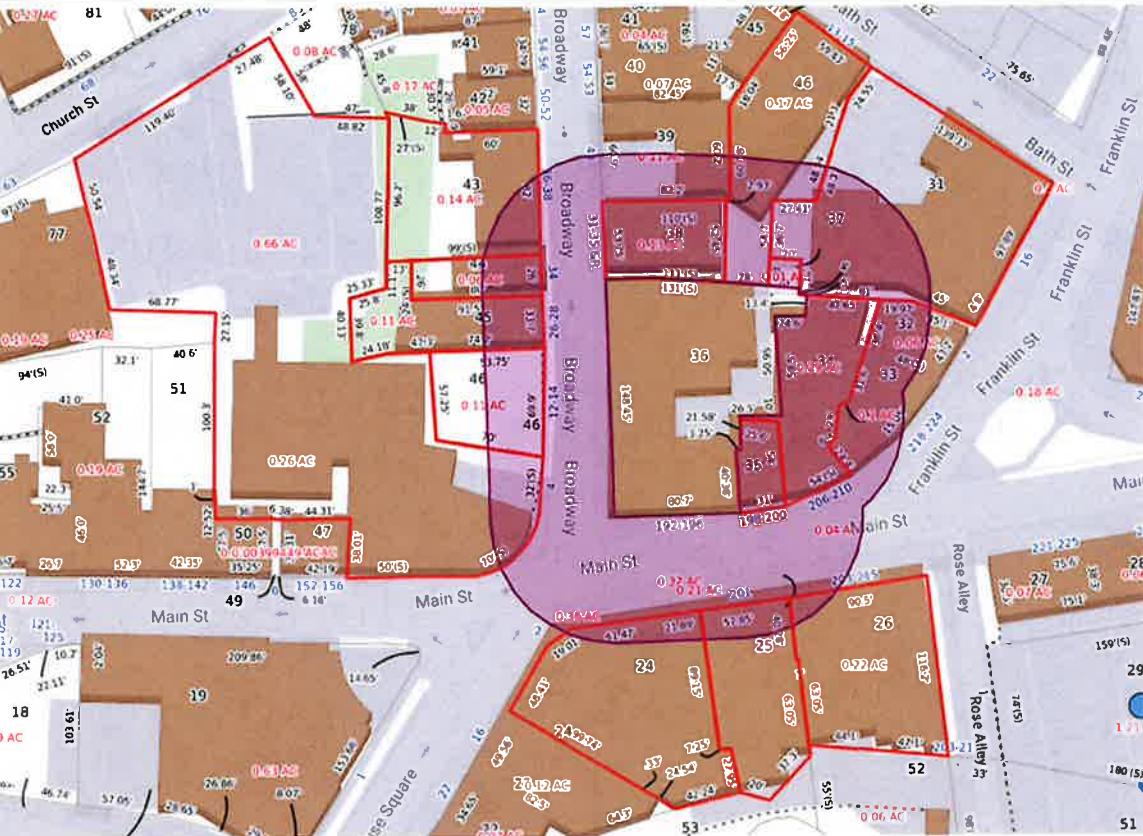
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NORWICH SC4 CT
20181897566
192 MAIN STREET
NORWICH, CT 06360

SHEET TITLE:

WEST ELEVATION

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CHECKED BY: TS	
DATE: 02/22/19	



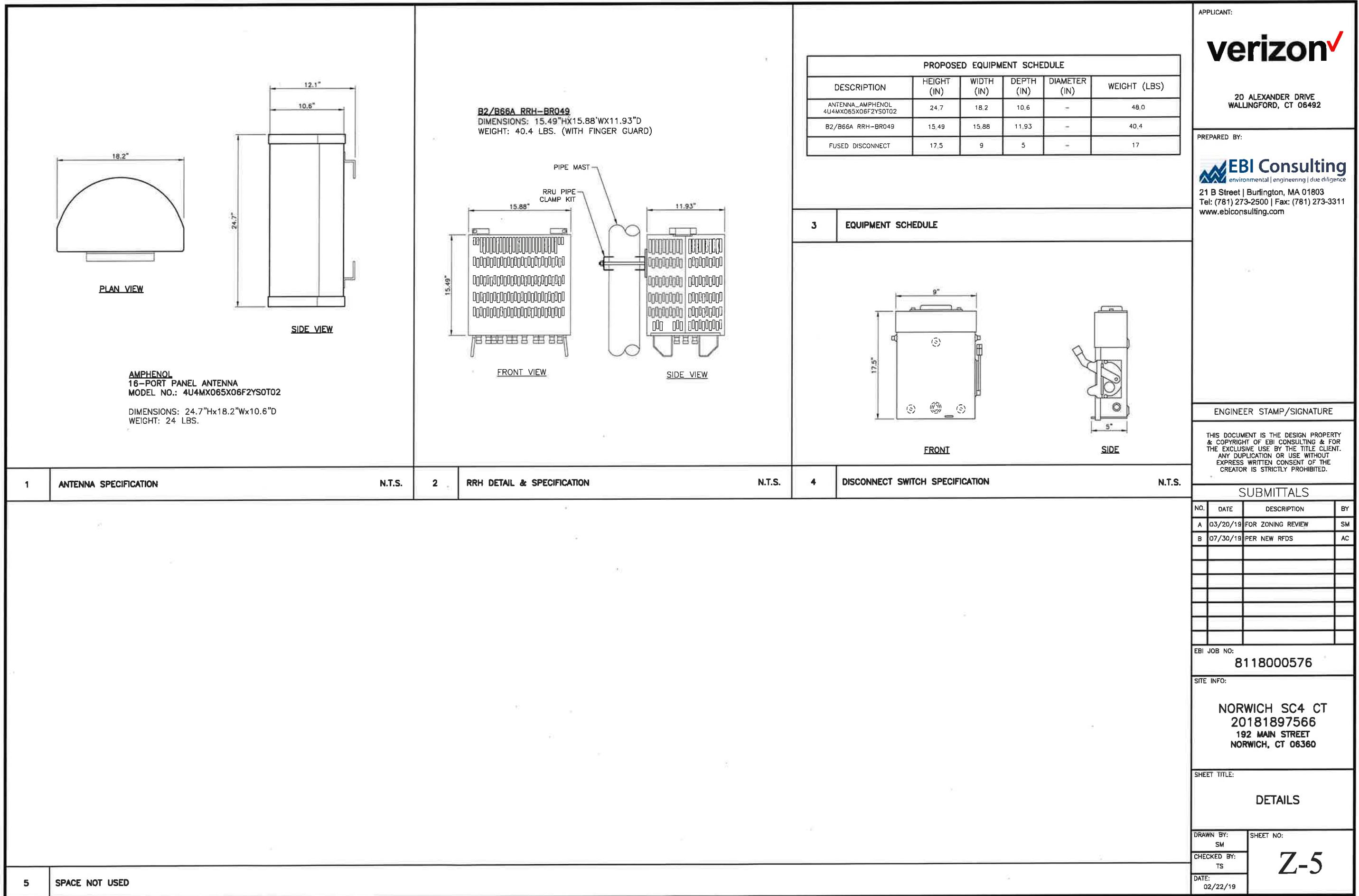
APPROX. NORTH

APPLICANT:			
verizon			
20 ALEXANDER DRIVE WALLINGFORD, CT 06492			
PREPARED BY:			
EBI Consulting environmental engineering due diligence 21 B Street Burlington, MA 01803 Tel: (781) 273-2500 Fax: (781) 273-3311 www.ebiconsulting.com			
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SUBMITTALS			
NO.	DATE	DESCRIPTION	BY
A	03/20/19	FOR ZONING REVIEW	SM
B	07/30/19	PER NEW RFDS	AC
EBI JOB NO: 8118000576			
SITE INFO:			
NORWICH SC4 CT 20181897566 192 MAIN STREET NORWICH, CT 06360			
SHEET TITLE:			
ABUTTERS MAP & LIST			
DRAWN BY: SM		SHEET NO:	
CHECKED BY: TS			
DATE: 02/22/19		Z-4	

1 ABUTTERS MAP 11X17 SCALE: N.T.S.

Site Address	Owner Name	Owner Address	Owner City	Owner State	Owner Zip
206-210 MAIN ST	US AIHUA INTERNATIONAL GROUP LLC	206 MAIN ST	NORWICH	CT	06360
16 FRANKLIN ST	THAYER DEVELOPMENT GROUP LLC	55-59 CHRYSTIE ST SUITE#503	NEW YORK	NY	10002
31-35 BROADWAY REAR	NORWICH CITY OF	100 BROADWAY	NORWICH	CT	06360
34 BROADWAY	ROSE TOWN PROPERTIES LLC	45 BANK ST	NEW LONDON	CT	06320
36-48 BROADWAY	CHELSEA RELIANCE REALTY INC	40 BROADWAY	NORWICH	CT	06360
31-35 BROADWAY	DIME BANK	290 SALEM TPK	NORWICH	CT	06360
13-15 BATH ST	WAUREGAN DEVELOPMENT LLC	95 REEF ROAD	FAIRFIELD	CT	06824
201 MAIN ST	WOMENS INSTITUTE REALTY OF CONNECTICUT	75 CHARTER OAK AVE STE 1-200	HARTFORD	CT	06106
14-24 BROADWAY	TRINICAP PROPERTIES 5 LLC	PO BOX 132	FALMOUTH	MA	02540
26-28 BROADWAY	26-28 BROADWAY LLC	212 BETTS AVE	BRONX	NY	10473
2 COURTHOUSE SQ	NASSI CONNECTICUT REALTY LLC	111 OAK ST	HARTFORD	CT	06106
4 BROADWAY	TRINICAP PROPERTIES 5 LLC	PO BOX 132	FALMOUTH	MA	02541
198-200 MAIN ST	WAUREGAN DEVELOPMENT LLC	95 REEF RD	FAIRFIELD	CT	06824
203-215 MAIN ST	LORD FAMILY NOMINEE TRUST	241 MAIN ST	NORWICH	CT	06360

2 ABUTTERS LIST



ATTACHMENT 3

4U4MX065X06F^xys0

Features

- Fixed tilt panel antenna with 16 connectors
- Ultra-wide band performance
- Ideal solution for Small Cell applications
- This antenna meets the requirements of the U-NII



PRODUCT OVERVIEW	Frequency Range (MHz)	MID				CBRS		LAA					
		(4x) 1695-2700				(2x) 3550-3700		(2x) 5150-5925					
Array	Y1	Y2	Y3	Y4	P1	P2	O1	O2					
Connector	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16					
Polarization	XPOL	XPOL	XPOL	XPOL	XPOL	XPOL	XPOL	XPOL					
Electrical Downtilt	2°, 4°, 6°				0°		0°						
Azimuth Beamwidth (avg)	70°				40°		71°						
Total Connector Count	16 PORTS												
Connector Type	4.3-10 FEMALE												
Dimensions	627.4 x 462.3 x 269.2 mm (24.7 x 18.2 x 10.6)												

ELECTRICAL SPECIFICATIONS Mid Band

		Y1 Y2 Y3 Y4			
		(4x) 1695-2700			
Frequency Range		MHz		(4x) 1695-2700	
Frequency Sub-Range		MHz		1850-1990	
Polarization		---		(4x) ±45°	
Gain	BASTA	dB	13.6 ± 0.8	14.1 ± 0.7	14.2 ± 0.7
	MAX	dB	14.4	14.8	14.9
Azimuth Beamwidth (3 dB)		degrees	79.4° ± 15.7°	78.8° ± 16.1°	76.2° ± 14.7°
Elevation Beamwidth (3 dB)		degrees	20.7° ± 2.5°	19.8° ± 2.8°	18.7° ± 2.4°
Electrical Downtilt		degrees	(x) 2°, 4°, 6°		
Impedance		Ohms	50Ω		
VSWR		---	≤ 1.5:1		
Passive Intermodulation 3rd Order for 2x20 W Carriers		dBc	< -153		
Upper Sidelobe Suppression		dB	> 12		
Maximum Power Per Port		Watts	(8x) 300 W		
Isolation	Intraband	dB	25	25	25
	Interband	dB	28	28	28

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

4U4MX065X06F^{xys0}

ELECTRICAL SPECIFICATIONS CBRS Band

			P1	P2
Frequency Range	MHz		(2x) 3550-3700	
Polarization	--		(2x) ±45°	
Gain	BASTA	dBi	10.5 ± 0.8	
	MAX	dBi	11.3	
Azimuth Beamwidth (3 dB)	degrees		40.4° ± 11.8°	
Elevation Beamwidth (3 dB)	degrees		33.7° ± 4.5°	
Electrical Downtilt	degrees		(y) 0°	
Impedance	Ohms		50Ω	
VSWR	--		≤ 1.5:1	
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBc		N/A	
Upper Sidelobe Suppression	dB		N/A	
Maximum Power Per Port	Watts		(4x) 300 W	
Isolation	Intraband	dB	25	
	Interband	dB	28	

ELECTRICAL SPECIFICATIONS LAA Band

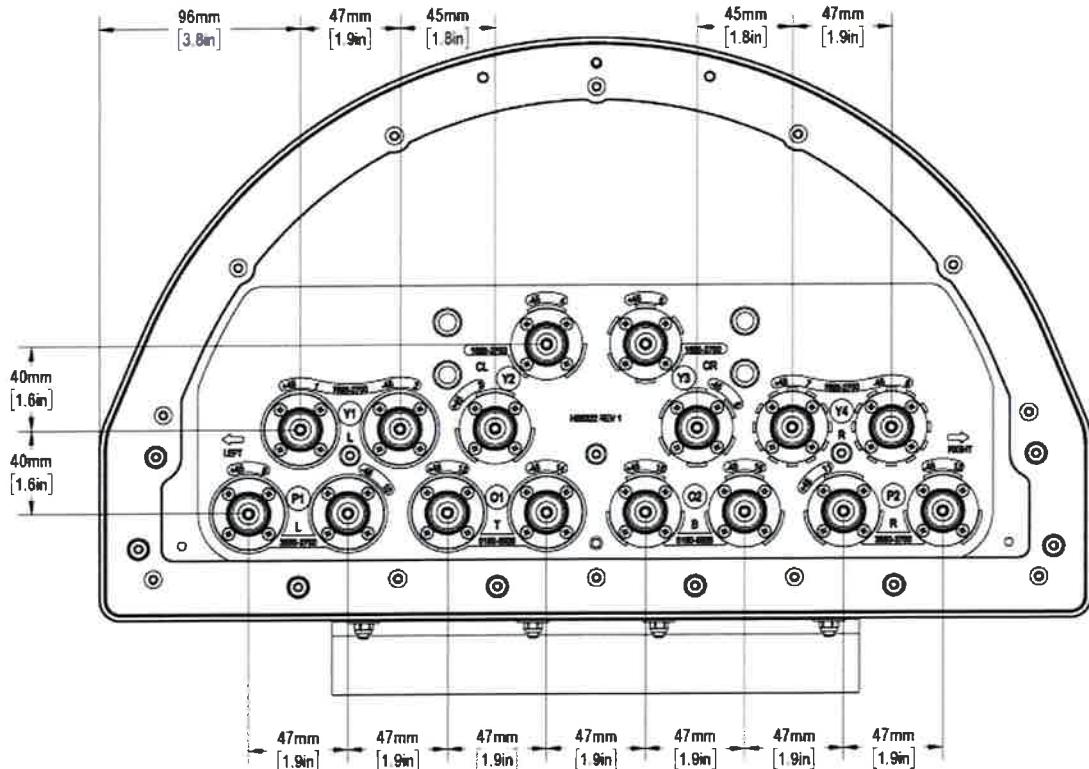
			O1	O2
Frequency Range	MHz		(2x) 5150-5925	
Polarization	--		(2x) ±45°	
Gain	BASTA	dBi	4.1 ± 1.3	
	MAX	dBi	5.4	
Azimuth Beamwidth (3 dB)	degrees		71.0° ± 15.3°	
Elevation Beamwidth (3 dB)	degrees		23.2° ± 4.7°	
Electrical Downtilt	degrees		(y) 0°	
Impedance	Ohms		50Ω	
VSWR	--		≤ 1.5:1	
Passive Intermodulation 3rd Order for 2x20 W Carriers	dBm (dBc)		N/A	
Upper Sidelobe Suppression	dB		U-NII Compliant	
Maximum Power Per Port	Watts		(4x) 2 W	
U-NII Compliant	--		Yes	
Isolation	Intraband	dB	25	
	Interband	dB	28	

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4U4MX065X06F^xy_s0

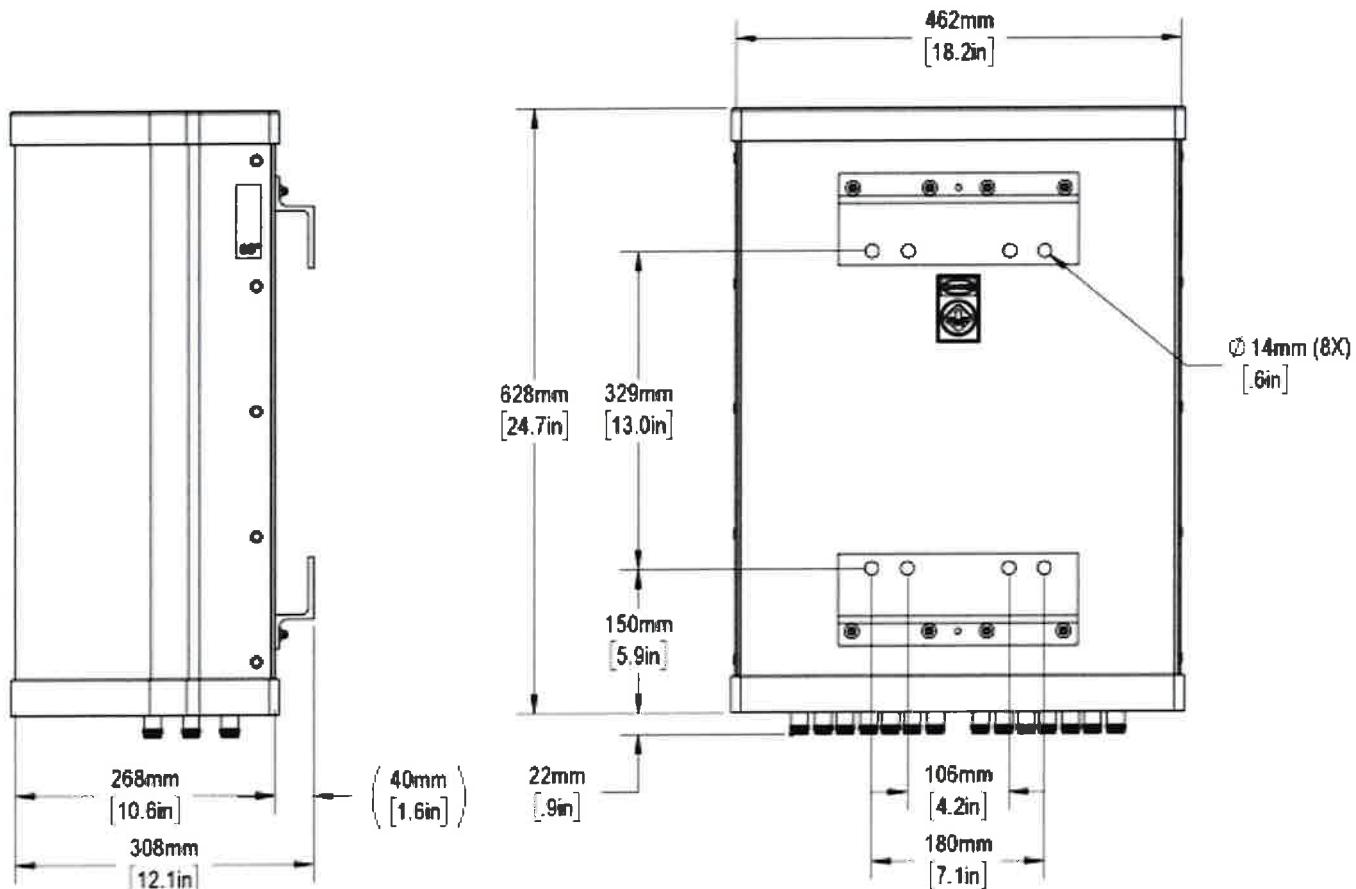
MECHANICAL SPECIFICATIONS

Antenna	Length	mm (in)	627.4 (24.7)
	Width	mm (in)	462.3 (18.2)
	Depth	mm (in)	269.2 (10.6)
Net Weight - Antenna Only		kg (lbs)	10.9 (24)
	Calculation	km/h (mph)	160 (100)
Windload	Front	N (lbf)	309 (69)
	Side	N (lbf)	144 (32)
Survival Wind Speed		km/h (mph)	241 (150)
Wind Area	Front	m ² (ft ²)	0.25 (2.7)
	Side	m ² (ft ²)	0.11 (1.2)
	Type	---	4.3-10 Female
Connector	Quantity	---	16
	Position	---	Bottom
Radome Color	---		Grey
Operating Temperature	degrees		-40 to +60 C (-40 to +140 F)
Lightning Protection (Grounding Type)	---		Direct Ground



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4U4MX065X06F^xy_s0


INSTALLATION Please read all installation notes before installing this product.


Always attach the antenna using all mounting points.

Do not install the antenna with the connectors facing upwards.

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

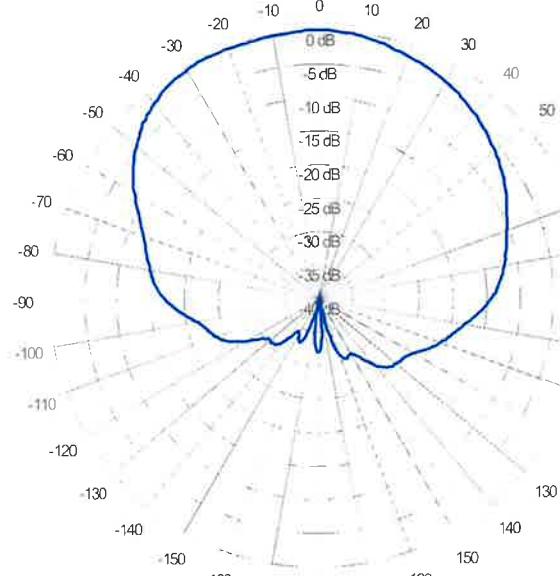
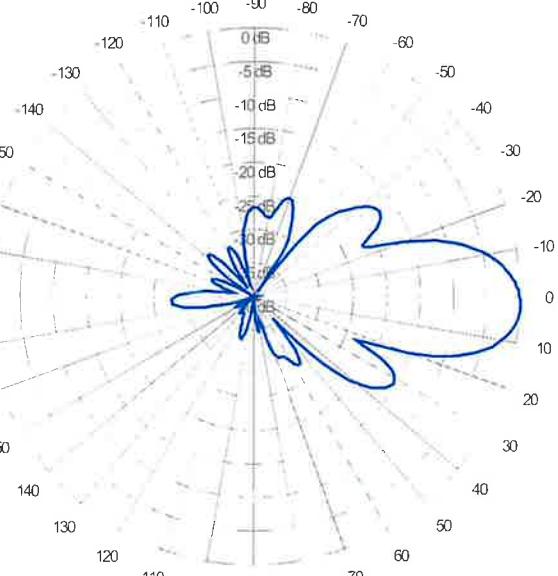
65°

24.7 in

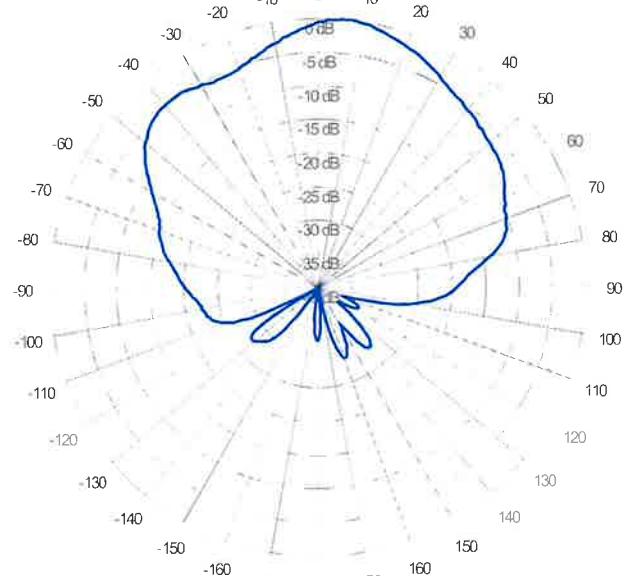
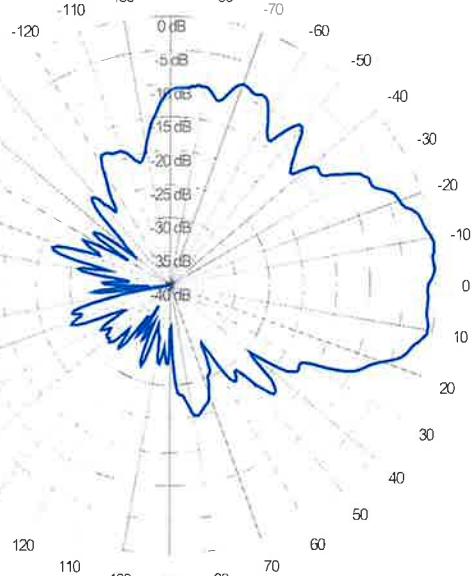
FIXED TILT

4U4MX065X06F^xy_s0

MID BAND


AZIMUTH
1695-2700 MHz

ELEVATION
1695-2700 MHz

CBRS BAND


AZIMUTH
3550-3700 MHz

ELEVATION
3550-3700 MHz

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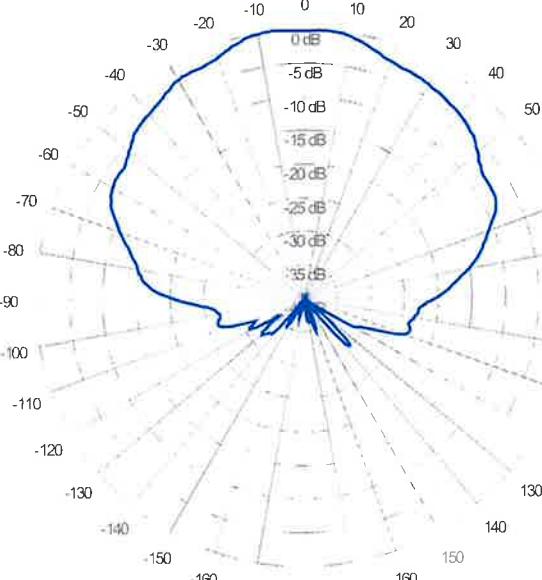
65°

24.7 in

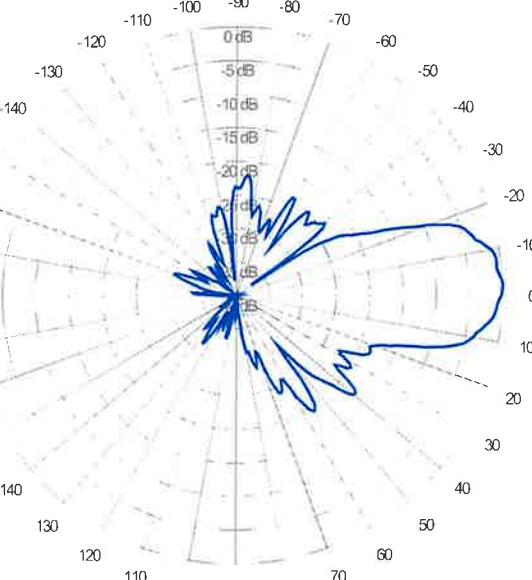
FIXED TILT

4U4MX065X06Fxys0

LAA BAND



AZIMUTH
5150-5925 MHz

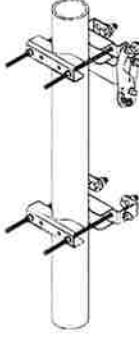


ELEVATION
5150-5925 MHz

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

4U4MX065X06Fxys0

MOUNTING KITS Select from the following mounting options when ordering.

MODEL NUMBER	DESCRIPTION	FITS PIPE DIAMETER	WEIGHT
36210006	 <p>2-POINT, SCISSOR TILT, MOUNTING & DOWNTILT BRACKET KIT</p>	40-115 mm (1.57-4.5 in)	4.1 kg (9 lbs)

ORDERING OPTIONS Select from the following ordering options

SELECT MOUNTING KIT	SELECT DEGREE OF ELECTRICAL DOWNTILT FOR EACH BAND			ORDER MODEL NUMBER
	MID BAND	CBRS BAND	LAA BAND	
ANTENNA ONLY - NO MOUNTING KIT	2°	0°	0°	4U4MX065X06F20s0
	4°	0°	0°	4U4MX065X06F40s0
	6°	0°	0°	4U4MX065X06F60s0
	Y1 & Y2 = 2° Y3 & Y4 = 6°	0°	0°	4U4MX065X06FAAs0
	Y1 & Y2 = 2° Y3 & Y4 = 4°	0°	0°	4U4MX065X06FBBs0
	Y1 & Y2 = 4° Y3 & Y4 = 6°	0°	0°	4U4MX065X06FCCs0
ANTENNA WITH 36210006 MOUNTING KIT 2-Point, Scissor Tilt, Mounting & Downtilt Bracket Kit	2°	0°	0°	4U4MX065X06F20s0-T
	4°	0°	0°	4U4MX065X06F40s0-T
	6°	0°	0°	4U4MX065X06F60s0-T
	Y1 & Y2 = 2° Y3 & Y4 = 6°	0°	0°	4U4MX065X06FAAs0-T
	Y1 & Y2 = 2° Y3 & Y4 = 4°	0°	0°	4U4MX065X06FBBs0-T
	Y1 & Y2 = 4° Y3 & Y4 = 6°	0°	0°	4U4MX065X06FCCs0-T

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

SAMSUNG

Dual-Band Radio Unit AWS/PCS (B66/B2) RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Key Technical Specifications

Duplex Type: FDD

Operating Frequencies:

B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)

B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)

Instantaneous Bandwidth:

70MHz(B66) + 60MHz(B2)

RF Chain: 4T4R/2T4R/2T2R

Output Power: Total 320W

DU-RU Interface: CPRI (10Gbps)

Dimensions: 380 x 380 x 255mm (36.8L)

Weight: 38.3kg

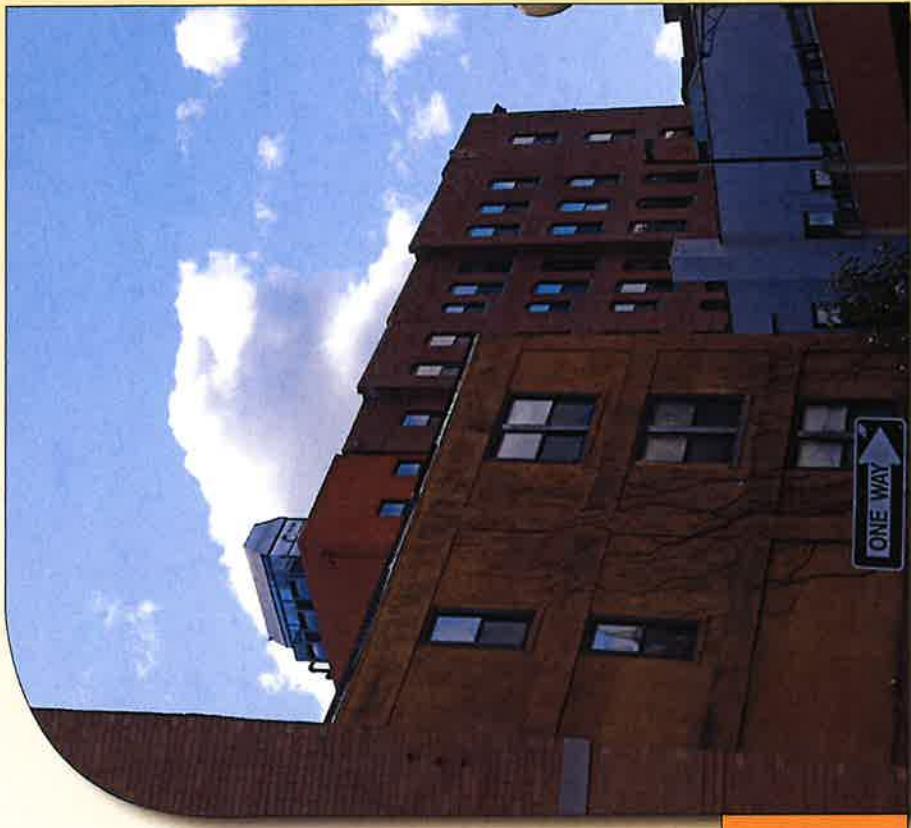
Input Power: -48V DC

Operating Temp.: -40 - 55°(w/o solar load)

Cooling: Natural convection

ATTACHMENT 4

Visual Assessment and Photo-Simulations



NORWICH SC4 CT
192 MAIN STREET
NORWICH, CT 06360

Prepared in October 2019 by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419

Prepared for Verizon Wireless



VISUAL ASSESSMENT & PHOTO-SIMULATIONS

At the request of Celco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. (“APT”) completed this visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a small cell wireless telecommunications facility (“Facility”) at 192 Main Street in Norwich, Connecticut (the “Host Property”).

Project Setting

The Host Property is located northeast of the Main Street and Broadway intersection within the Downtown Norwich Historic District.¹ The Host Property is currently developed with a large, five- and six-story, brick residential apartment building (*The Wauregan*). The surrounding land use consists primarily of street-level commercial development with residential apartments. See *Figure 1 – Site Location Map*. The proposed Facility would include one (1) 16-port panel antenna and one (1) remote radio head (“RRH”) mounted to a pipe-mast on the northern-facing exterior wall of the building near its northwest corner. The panel antenna would be located at a centerline height of approximately 78' 11" above ground level (“AGL”). The top of the antenna would extend to a height of approximately 80' 0" AGL. The top of the antenna would match the height of an existing parapet wall that extends around the perimeter of the building’s rooftop. The top of an existing HVAC unit (unrelated to the proposed Facility) on the building’s roof is located at an approximate height of 92' 0" AGL. APT’s architectural historian conducted an independent review of the design and has recommended that the antenna and RRH be painted to match the existing red brick façade of the building.

Methodology

On October 4, 2019, APT personnel completed a field reconnaissance and photo-documented existing conditions. 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 using a focal length of 50 mm for consistency. The Canon EOS 6D is a full-framed camera which includes a lens receptor of the same size as the film used in 35mm cameras. As such, the images produced are comparable to those taken with a conventional 35 mm camera.

Three-dimensional computer models were developed for the building and proposed wireless telecommunication components from AutoCAD information. The configuration of the proposed Facility is depicted in Figure 2 (Zoning Drawings Revision B; dated 7/30/19 and prepared by EBI Consulting) which were provided to APT by Verizon Wireless. 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. A photolog map and copies of the existing conditions and photo-simulations are attached.

¹ The Downtown Norwich Historic District is listed on the National Register of Historic Places.



Legend

- Site
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)

Figure 1 - Site Location Map

Proposed Wireless
Telecommunications Facility
Norwich SC4 CT
192 Main Street
Norwich, Connecticut

verizon

Map Notes:
Base Map Source: CT ECO 2016 Imagery
Map Scale: 1 inch = 300 feet
Map Date: October 2019



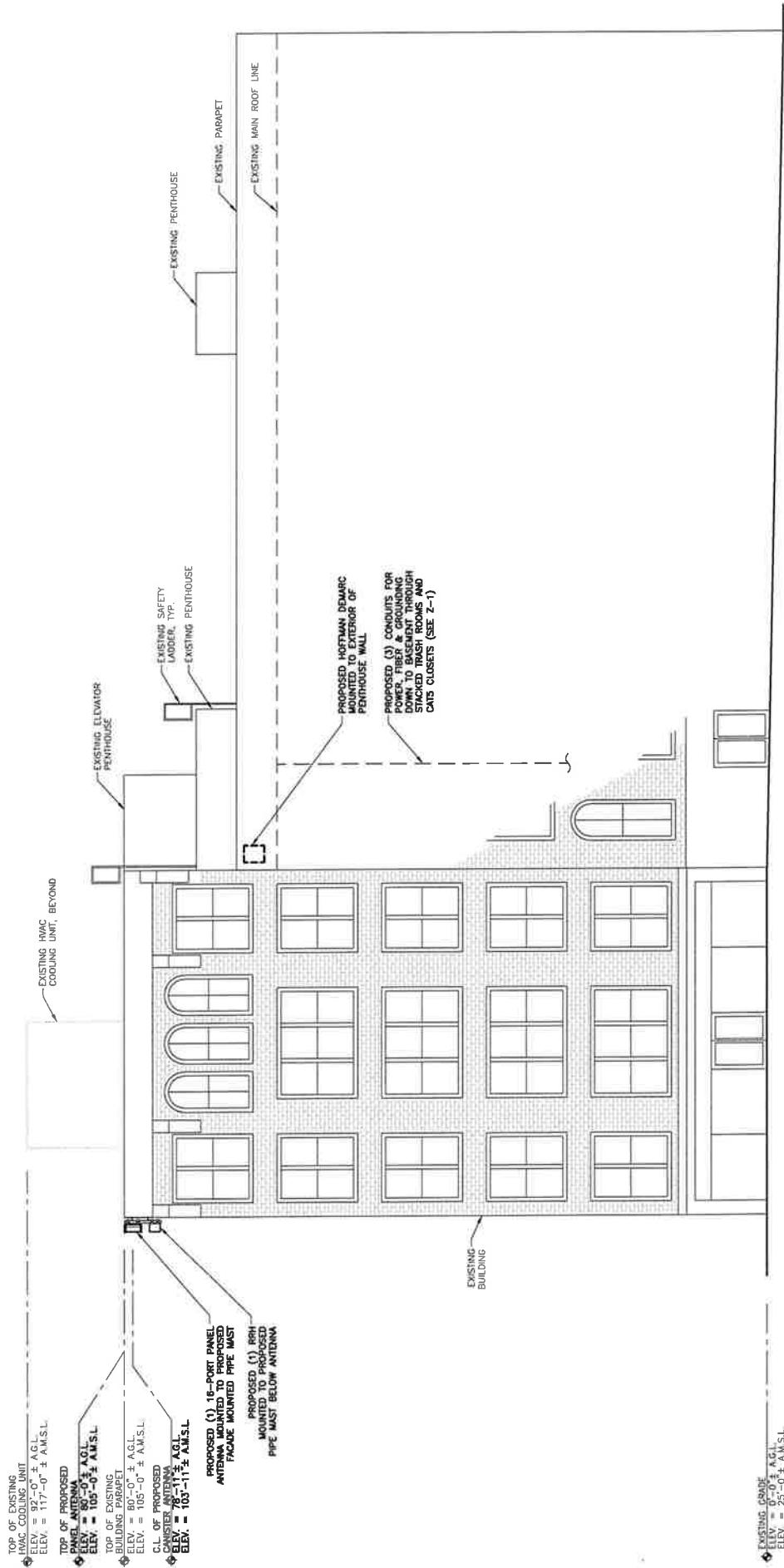


FIGURE 2 - PROPOSED EQUIPMENT ELEVATION PLAN

Details extracted from technical drawings prepared by EBI Consulting dated 7-30-19. NOT TO SCALE.

Photograph Locations

A total of four (4) photographs are presented herein that document existing conditions and demonstrate the general extent of visibility associated with the proposed Facility. Two (2) photo-locations were simulated and present generally unobstructed view lines towards the proposed Facility. The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, and the distance from where the photo was taken relative to the proposed Facility. The photo locations are depicted on the photo-log map provided in the attachment to this report.

View	Location	Orientation	Distance to Site
1	Broadway	Southeast	±254 Feet
2	Bath Street	Southwest	±261 Feet
3	Franklin Street*	West	±253 Feet
4	Main Street*	Northeast	±372 Feet

*Not Visible from this location

Conclusions

The visibility of the proposed Facility would be primarily limited to locations immediately north of the Host Property, where the top of the building can be seen today. The dense urban development creates corridors of visibility from adjoining roads, as several tall, intervening buildings restrict direct lines of sight from nearby street-level locations to the south. The addition of the small cell Facility would be fairly inconspicuous since the antenna and RRH would be painted to match the existing red brick exterior of the building, ultimately minimizing its visual impacts.

The location and design of the proposed Facility would not substantially alter the general appearance of the building as it exists today. Based on the results of this assessment, it is our opinion that the proposed installation of the Verizon Wireless Facility will not have an adverse visual impact on existing views of this building or the character of the community.

Limitations

The photo-simulations provide a representation of the Facility under similar settings as those encountered during the reconnaissance. They are however static in nature and do not necessarily characterize the prevailing views from all locations within a given area. For example, moving a few feet in either direction from a specific photo location may significantly alter the view, including obscuring the Facility altogether. 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.

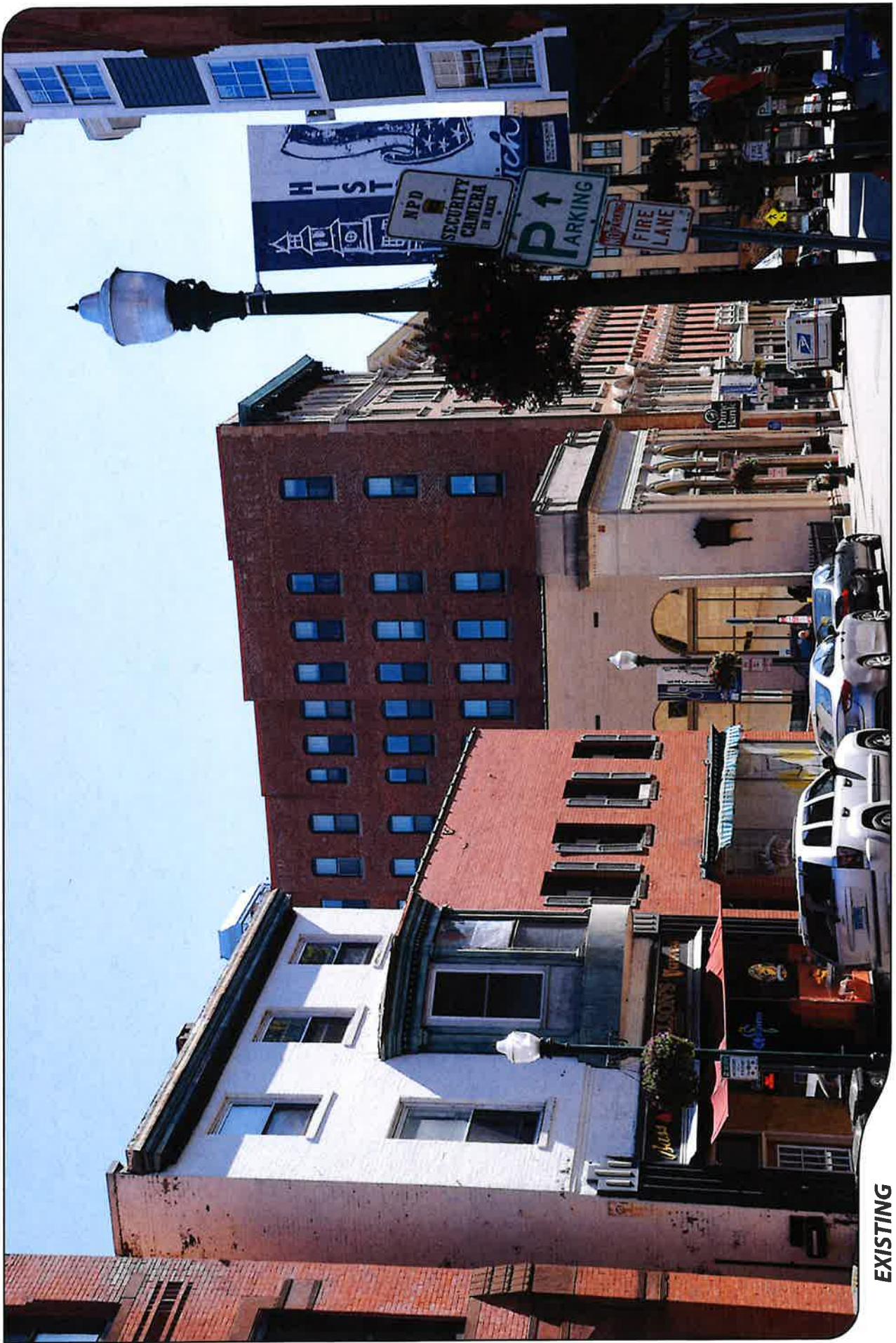
ATTACHMENTS



PHOTO LOG

Legend

- Site
- Visible
- Not Visible



PHOTO

1

LOCATION

BROADWAY

ORIENTATION

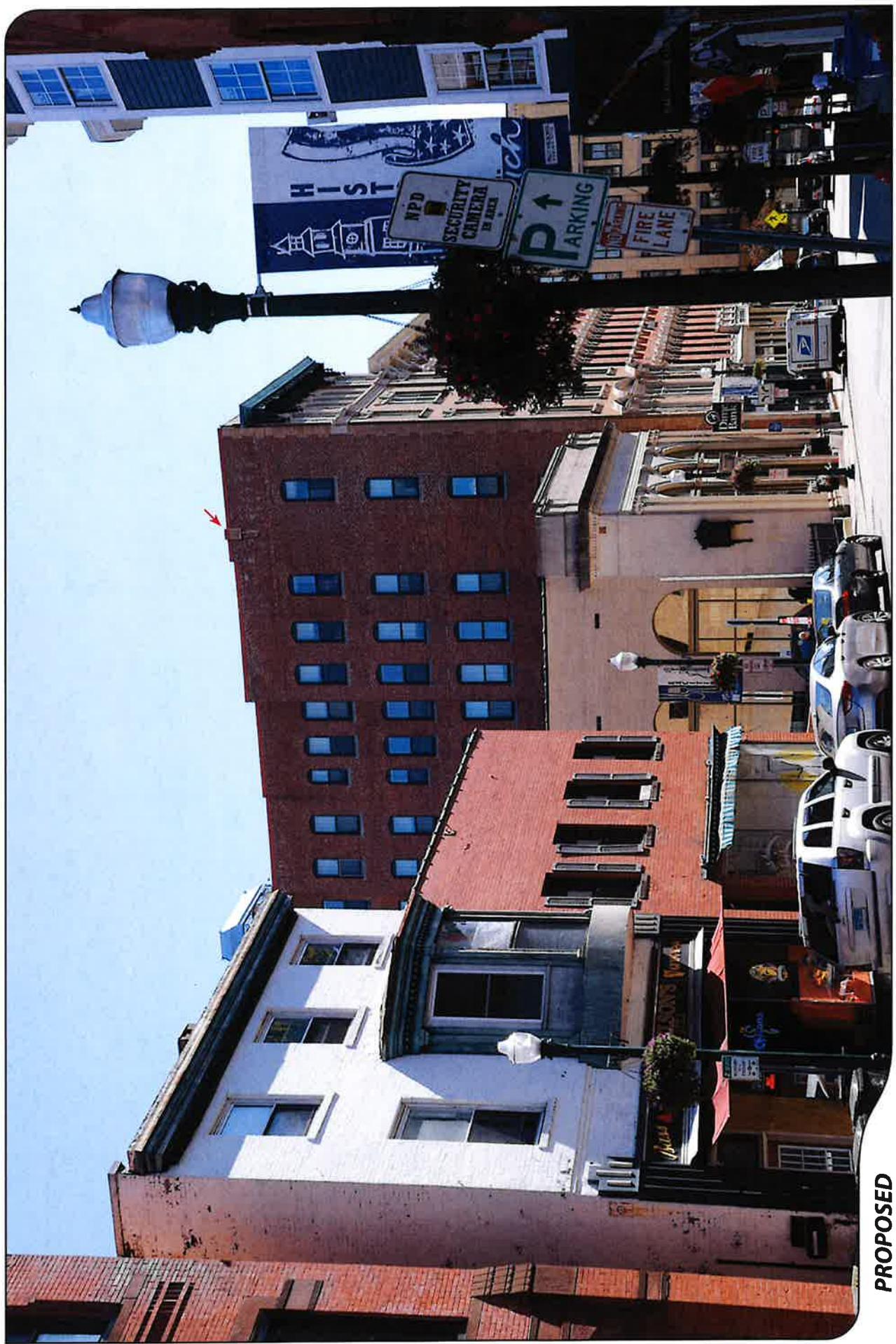
SOUTHEAST

+/- 254 FEET

EXISTING

ALL-POINTS
TECHNOLOGY CORPORATION

verizon



PROPOSED

PHOTO

1

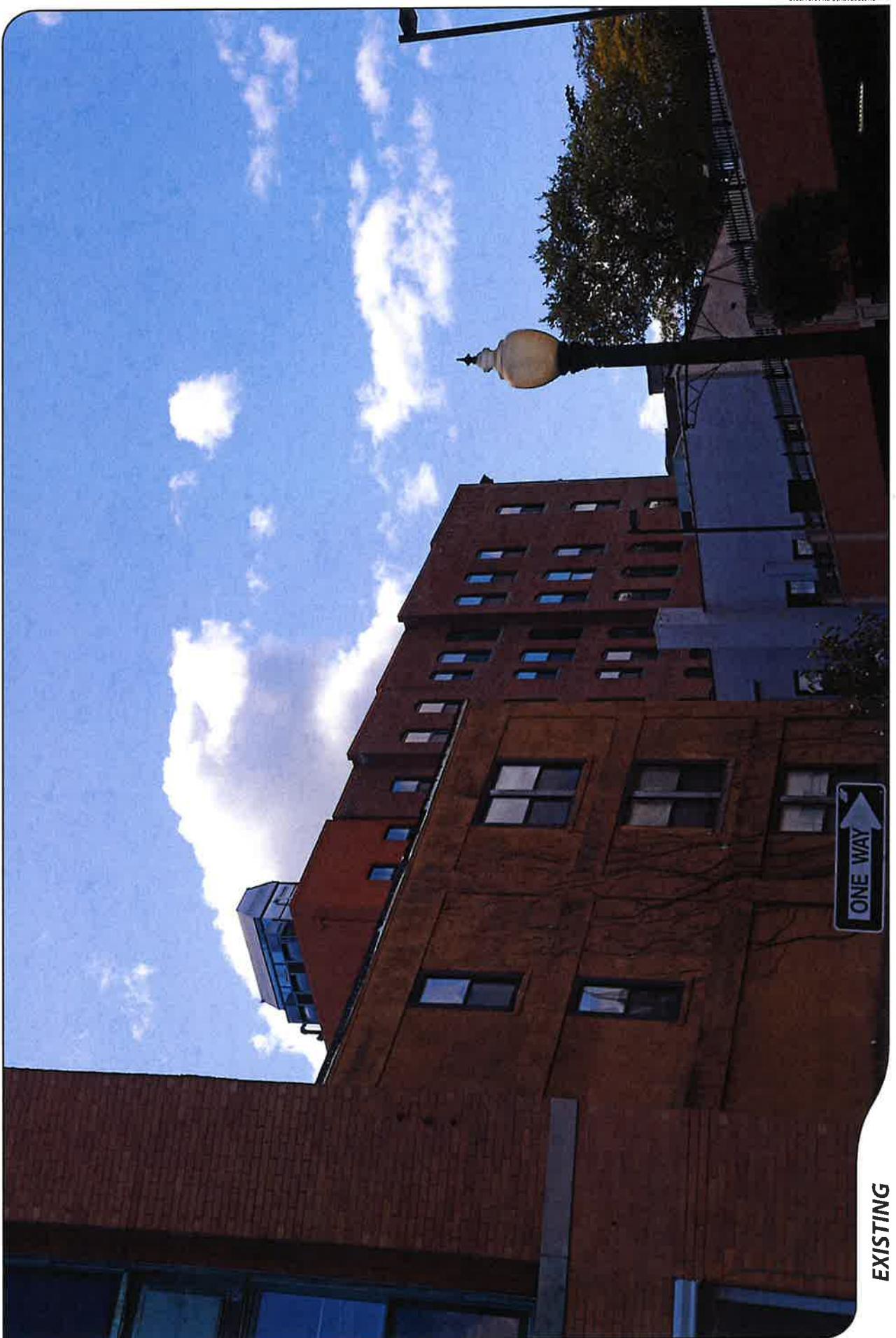
LOCATION
BROADWAY

ORIENTATION
SOUTHEAST

DISTANCE TO SITE
+/- 254 FEET

ALL-POINTS
TECHNOLOGY CORPORATION

verizon



PHOTO

2

EXISTING

LOCATION

BATH STREET

ORIENTATION

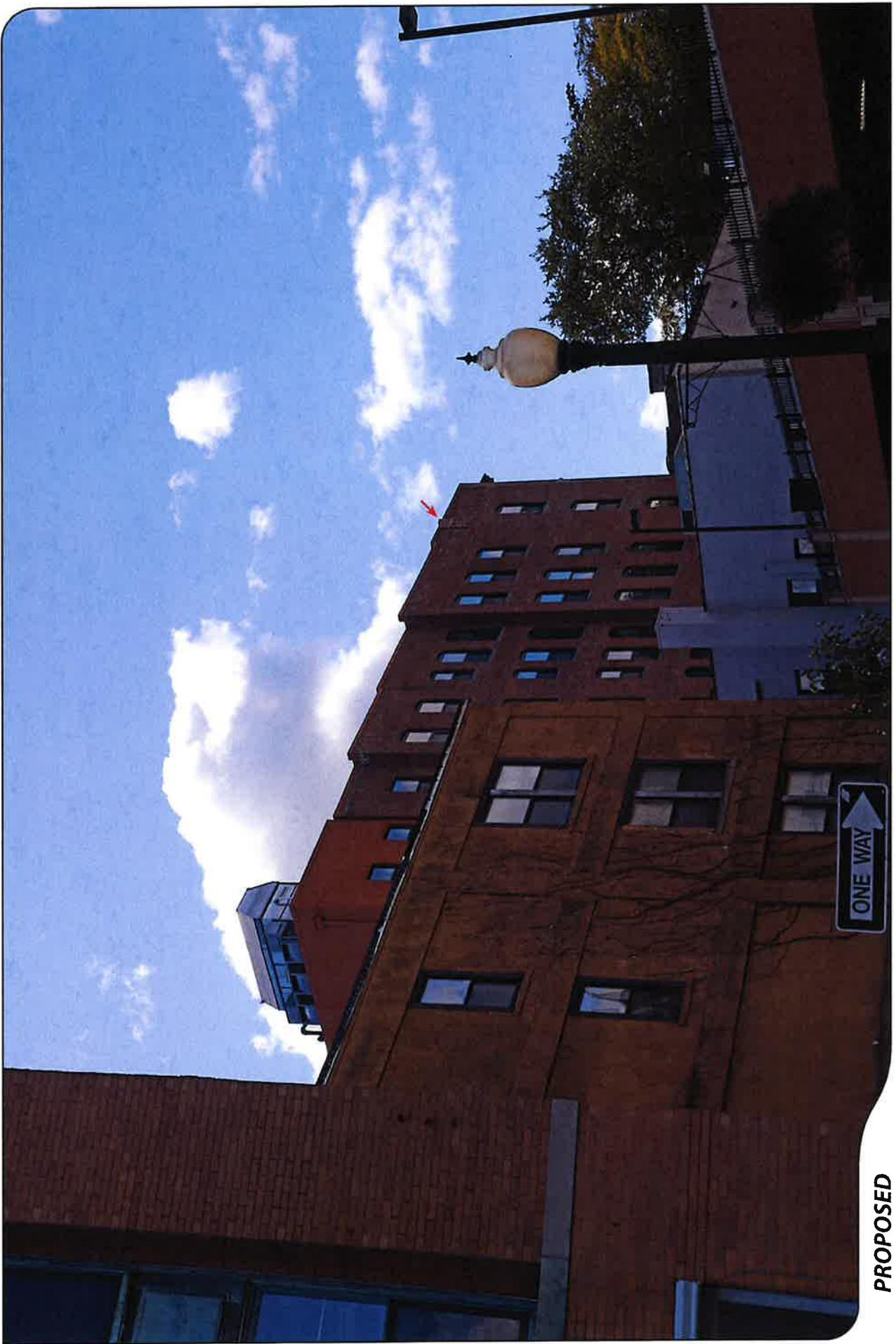
SOUTHWEST

DISTANCE TO SITE

+/- 261 FEET

ALL-POINTS
TECHNOLOGY CORPORATION

verizon



PROPOSED

PHOTO

2

LOCATION

BATH STREET

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 261 FEET

ALL-POINTS
TECHNOLOGY CORPORATION

verizon



EXISTING

PHOTO

LOCATION

FRANKLIN STREET

ORIENTATION

WEST

DISTANCE TO SITE

+/- 253 FEET





PHOTO

LOCATION
MAIN STREET

ORIENTATION
NORTHEAST
+/- 372 FEET

NOT VISIBLE FROM THIS LOCATION

ALL-POINTS
TECHNOLOGY CORPORATION

verizon

ATTACHMENT 5

Site Name: NORWICH SC 4 CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target (feet)	Calculated Power Density (mW/cm^2)	Maximum Permissible Exposure*	Fraction of MPE (%)
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	3461	3461	85.25	0.1713	1.0	17.13%
VZW Cellular	869		1854.58	0	85.25	0.0000	0.5793333333	0.00%
VZW AWS	2145	1	3461	3461	85.25	0.1713	1.0	17.13%
VZW 700	746		2749.6	0	85.25	0.0000	0.4973333333	0.00%

Total Percentage of Maximum Permissible Exposure

34.25%

*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, including the following assumptions:

1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

ATTACHMENT 6

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

Also admitted in Massachusetts

October 11, 2019

Via Certificate of Mailing

Peter Albert Nystrom, Mayor
City of Norwich
100 Broadway
Norwich, CT 06360

Re: **Amended Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Installation of a Small Cell Wireless Telecommunications Facility at 192 Main Street, Norwich, Connecticut**

Dear Mayor Nystrom:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed an Amended Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to establish a new “small cell” wireless telecommunications facility at 192 Main Street in Norwich (the “Property”). This small cell facility, originally approved by the Council in Petition No. 1364, on April 25, 2019, has been modified, relocating the wireless antenna from the roof of the building to the north-facing building façade. Cellco now seeks Council approval for the Amended Petition.

The modified facility will consist of a tower mast attached to the northerly façade of the building. The mast will support a single panel antenna and a remote radio head (“RRH”). The façade-mounted tower mast, antenna and RRH will be painted to match the exterior of the building and will not extend above the top of the parapet wall.

A copy of the full Petition is attached for your review. Landowners whose parcels abut the Property were also sent notice of this filing along with a copy of the Petition.

19103036-v2

Robinson + Cole

Peter Albert Nystrom, Mayor

October 11, 2019

Page 2

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

Sincerely,

A handwritten signature in black ink, appearing to read "K C Baldwin".

Kenneth C. Baldwin

Attachment

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

Also admitted in Massachusetts

October 11, 2019

Via Certificate of Mailing

Deanna Rhodes, City Planner
City of Norwich
23 Union Street
Norwich, CT 06360

Re: Amended Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Installation of a Small Cell Wireless Telecommunications Facility at 192 Main Street, Norwich, Connecticut

Dear Ms. Rhodes:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed an Amended Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to establish a new “small cell” wireless telecommunications facility at 192 Main Street in Norwich (the “Property”). This small cell facility, originally approved by the Council in Petition No. 1364, on April 25, 2019, has been modified, relocating the wireless antenna from the roof of the building to the north-facing building façade. Cellco now seeks Council approval for the Amended Petition.

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A copy of the full Petition is attached for your review. Landowners whose parcels abut the Property were also sent notice of this filing along with a copy of the Petition.

19103106-v2

Robinson + Cole

Deanna Rhodes, City Planner

October 11, 2019

Page 2

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

Sincerely,

A handwritten signature in black ink, appearing to read "K C Baldwin".

Kenneth C. Baldwin

Attachment

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

Also admitted in Massachusetts

October 11, 2019

Via Certificate of Mailing

Wauregan Development LLC
95 Reef Road
Fairfield, CT 06824

Re: **Amended Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Installation of a Small Cell Wireless Telecommunications Facility at 192 Main Street, Norwich, Connecticut**

Dear Sir or Madam:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed an Amended Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to establish a new “small cell” wireless telecommunications facility at 192 Main Street in Norwich (the “Property”). This small cell facility, originally approved by the Council in Petition No. 1364, on April 25, 2019, has been modified, relocating the wireless antenna from the roof of the building to the north-facing building façade. Cellco now seeks Council approval for the Amended Petition.

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A copy of the full Petition is attached for your review. Landowners whose parcels abut the Property were also sent notice of this filing along with a copy of the Petition.

19103158-v2

Robinson+Cole

Wauregan Development LLC

October 11, 2019

Page 2

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

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Baldwin".

Kenneth C. Baldwin

Attachment

ATTACHMENT 7

KENNETH C. BALDWIN

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

Also admitted in Massachusetts

October 11, 2019

Via Certificate of Mailing

«Name_and_Address»

Re: **Amended Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Installation of a Small Cell Wireless Telecommunications Facility at 192 Main Street, Norwich, Connecticut**

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed an Amended Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to establish a new “small cell” wireless telecommunications facility at 192 Main Street in Norwich (the “Property”). This small cell facility, originally approved by the Council in Petition No. 1364, on April 25, 2019, has been modified, relocating the wireless antenna from the roof of the building to the north-facing façade. Cellco now seeks Council approval for the Amended Petition.

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October 11, 2019

Page 2

This notice is being sent to you because you are listed on the City Assessor's records as an owner of land that abuts the Property. If you have any questions regarding the Petition, the Council's process for reviewing the 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.

Sincerely,



Kenneth C. Baldwin

Attachment

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

ABUTTING PROPERTY OWNERS

**192 MAIN STREET
NORWICH, CONNECTICUT**

	Property Address	Owner's and Mailing Address
1.	31-35 Broadway	Dime Bank 290 Salem Turnpike Norwich, CT 06360
2.	13-15 Bath Street	Wauregan Development LLC 95 Reef Road Fairfield, CT 06824
3.	16 Franklin Street	Thayer Development Group LLC 55-59 Chrystie Street, Suite 503 New York, NY 10002
4.	206-210 Main Street	US AIHUA International Group 206 Main Street Norwich, CT 06360
5.	198-200 Main Street	Wauregan Development LLC 95 Reef Road Fairfield, CT 06824
6.	203-215 Main Street	Lord Family Nominee Trust Jeffrey Lord and Kathryn Lord TRS 241 Main Street Norwich, CT 06360
7.	201 Main Street	Womens Institute Realty of Connecticut 75 Charter Oak Avenue, Suite 1-200 Hartford, CT 06106
8.	2 Courthouse Square	Nassi Connecticut Realty LLC c/o Ronald Peikes 111 Oak Street Hartford, CT 06106

	Property Address	Owner's and Mailing Address
9.	4 Broadway	Trinicap Properties 5 LLC P.O. Box 132 Falmouth, MA 02541
10.	14-24 Broadway	Trinicap Properties 5 LLC P.O. Box 132 Falmouth, MA 02541
11.	26-28 Broadway	26-28 Broadway LLC 212 Betts Avenue Bronx, NY 10473
12.	34 Broadway	Rose Town Properties LLC 45 Bank Street New London, CT 06320
13.	36-48 Broadway	Chelsea Reliance Realty Inc. 40 Broadway Norwich, CT 06360
14.	31-35 Broadway - Rear	City of Norwich 100 Broadway Norwich, CT 06360