



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

November 15, 2018

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification for Verizon DO Macro: 881364
Verizon Site ID: Newington 2 CT
123 Costello Rd. Newington, CT 06111
Latitude: 41° 39' 18.72"/ Longitude: 72° 43' 17.19"

Dear Ms. Bachman:

Verizon currently maintains twelve (12) antennas at the 114-foot level of the existing 145-foot monopole tower at 123 Costello Rd. Newington, CT 06111. The tower is owned by Crown Castle. Costello Industries Inc. owns the property. Verizon now intends to replace nine (9) RRH's with six (6) new RRH's. These RRH's would be installed at the 114-foot level of the tower. Verizon also intends to install three (3) dual mounting brackets.

This facility was approved by the Town of Newington in 1999 and an email was sent to the town planning official on 11/15/2018 to ascertain the original zoning documents.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to Town planner Tanya Lane, Town of Newington, Craig Minor, Town Planner, Town of Newington, the property owner and Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

The Foundation for a Wireless World.

CrownCastle.com

Melanie A. Bachman

November 13, 2018

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5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Verizon respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes

Tab 2: Exhibit-2: Structural Modification Report

Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: Tanya Lane, Town
Manager,
131 Cedar Street
Newington, CT
06111

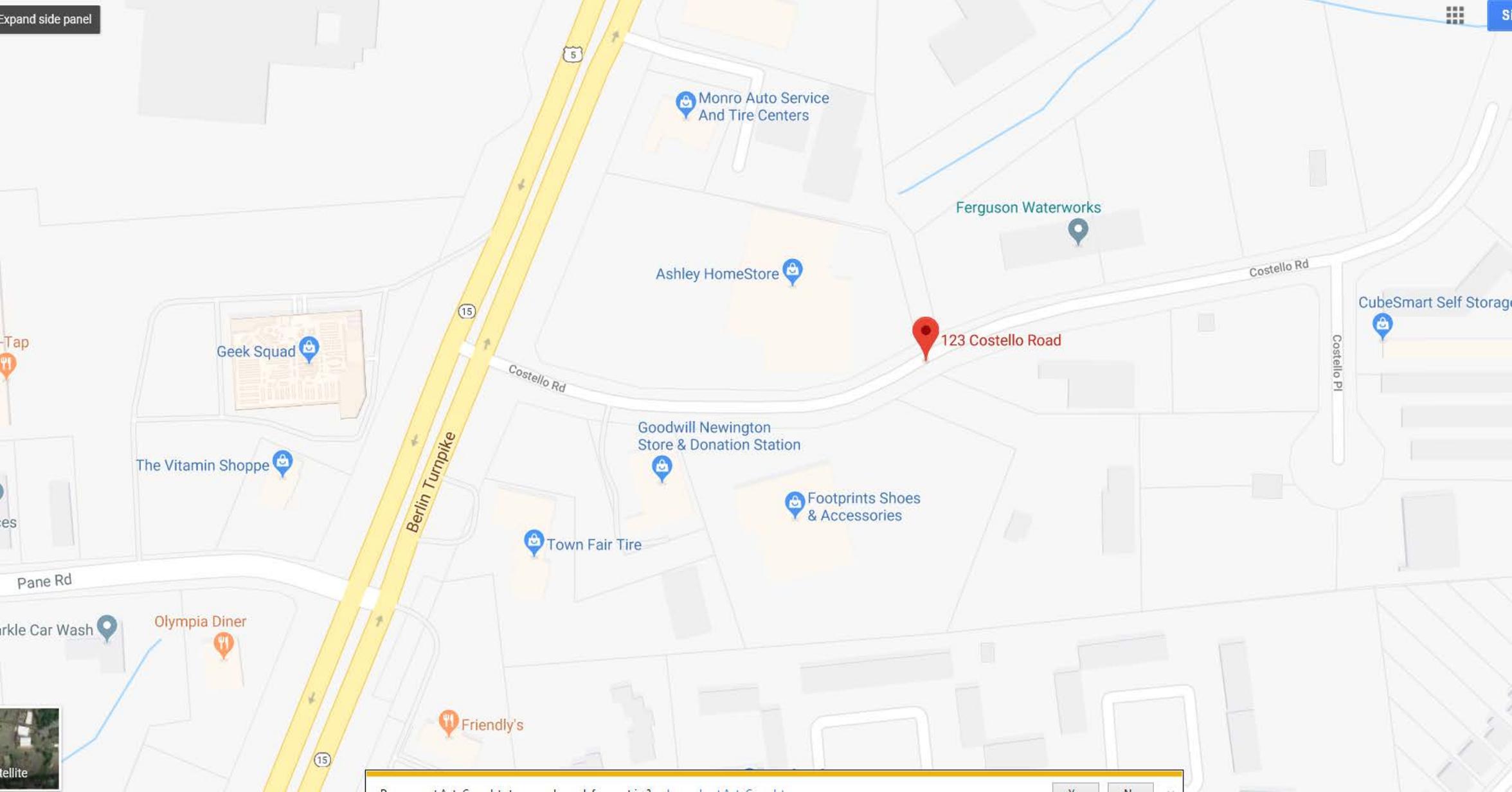
Craig Minor, Town Planner
131 Cedar Street
Newington, CT
06111

Costello Industries Inc.
123 Costello Rd.
Newington, CT 06111

Melanie A. Bachman

November 13, 2018

Page 3



Tap

es

Pane Rd

arkle Car Wash

tellite

Geek Squad

The Vitamin Shoppe

Olympia Diner

Friendly's

Berlin Turnpike

Costello Rd

Town Fair Tire

Goodwill Newington Store & Donation Station

Footprints Shoes & Accessories

Ashley HomeStore

Monro Auto Service And Tire Centers

Ferguson Waterworks

123 Costello Road

Costello Rd

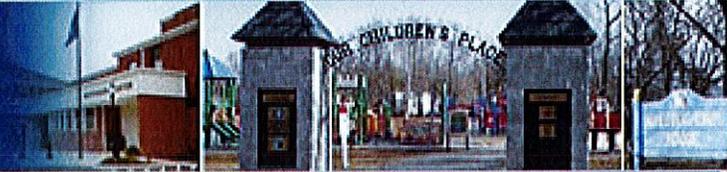
Costello Pl

CubeSmart Self Storage

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2015.

Town of Newington

ASSESSOR'S OFFICE



Information on the Property Records for the Municipality of Newington was last updated on 11/15/2018.

Parcel Information

Location:	123 COSTELLO RD	Property Use:	Industrial	Primary Use:	Office Warehouse
Unique ID:	C0685500	Map Block Lot:	32/018/00A	Acres:	2.84
490 Acres:	0.00	Zone:	PD	Volume / Page:	1304/ 147
Developers Map / Lot:	S/E 2020 & 2815	Census:			

Value Information

	Appraised Value	Assessed Value
Land	382,500	267,750

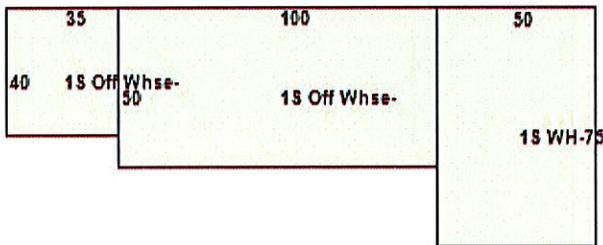
	Appraised Value	Assessed Value
Buildings	212,671	148,870
Detached Outbuildings	287,500	201,250
Total	882,671	617,870

Owner's Information

Owner's Data

COSTELLO INDUSTRIES INC
PO BOX 370125
WEST HARTFORD CT 06137--012

Building 1



Category:	Industrial	Use:	Warehouse	GLA:	10,150
Stories:	1.00	Construction:	Steel	Year Built:	1975
Heating:	Unit Heater/AC	Fuel:	Natural Gas	Cooling Percent:	0
Siding:	Concrete Block	Roof Material:	Other	Beds/Units:	0

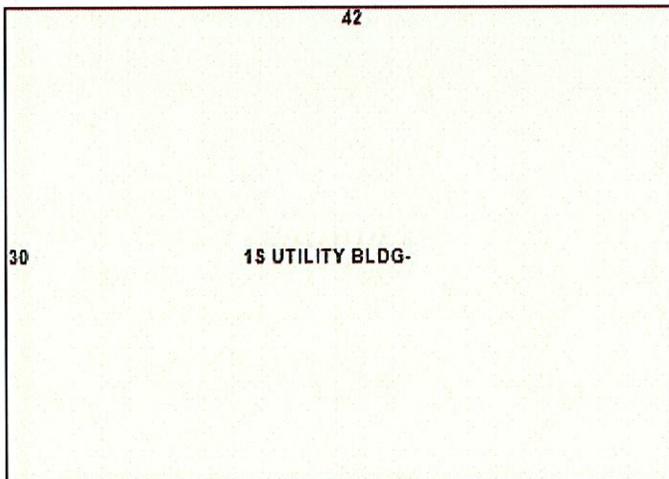
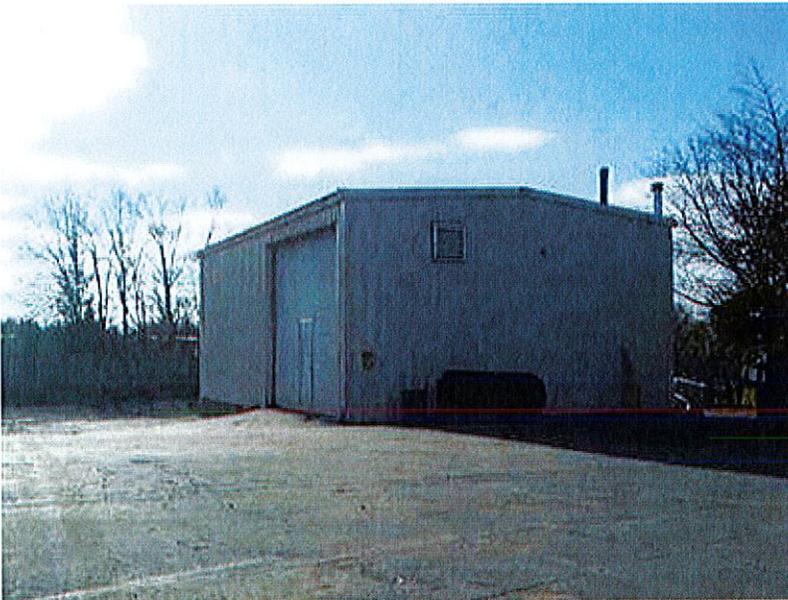
Special Features

Overhead Doors

2

Attached Components

Building 2



Category: Industrial

Use: Utility Building

GLA: 1,260

Stories:	1.00	Construction:	Steel	Year Built:	1981
Heating:	Unit Heater/AC	Fuel:	Natural Gas	Cooling Percent:	0
Siding:	Metal	Roof Material:	Other	Beds/Units:	0

Special Features

Overhead Doors	1
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Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Paving	1975	1.00	25,000.00	25,000
Cell Tower	1975	0.00	0.00	1

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
COSTELLO INDUSTRIES INC	1304	147	09/03/1999	Quit Claim	No	\$0
TAGATAC SANDRA	1304	144	09/03/1999	Quit Claim	No	\$0
COSTELLO INDUSTRIES INC	573	98	03/31/1986		No	\$0
COSTELLO INDUSTRIES INC	399	332	08/18/1980		No	\$0

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
COSTELLO INDUSTRIES INC	385	280	12/18/1979		No	\$0
COSTELLO INDUSTRIES INC	385	278	12/18/1979		No	\$0
COSTELLO INDUSTRIES INC	314	129	06/06/1977		No	\$0
COSTELLO CONSTRUCTION CORP THE	284	147	02/19/1976		No	\$0
COSTELLO CONSTRUCTION CORP THE	271	180	06/17/1975		No	\$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
B-16-927	Foundation	12/12/2016		Closed	Verizon Wireless is looking to replace antenna panels and Remote Radio Heads to existing Cell Tower
B-16-909	Other	12/05/2016		Closed	AT&T to replace three (3) antennas and replace six (6) Triplexors to their existing antennas equipm
E-16-425	Electrical	09/22/2016		Imported Record	INSTALL NEW OUTLETS & LIGHTING IN NEW ADDITION. INSTALL NEW 150A 3PH SUBPANEL IN ADDITION TO FEED
B-16-527	Comm Renovations	05/30/2016		Closed	REPLACE (3) NEW AIR 32 ANTENNA
B-16-531	Comm Renovations	05/30/2016		Closed	BUILD NEW ADDITION ABUTTING EXISTING BUILDING
TB-16-150	Other	03/15/2016		Closed	AT&T (3) ANTENNAS AND (3) RRU'S
B-16-23	Addition	02/19/2016		Closed	T-MOBILE (3) NEW ANTENNAS

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
TB-14-114	Remodel	03/07/2014		Closed	ANTENNAS MODIFACATION
TB-13-447	Other	07/26/2013		Closed	6 ANTENNAS CELL TOWER
TB-13-173	Remodel	04/19/2013		Closed	REPLACE (3) ANTENNAS MONOPOLE
B-13-51	Remodel	03/07/2013		Closed	CONCRETE PAD TO 9'X10'
B-12-318	Addition	07/05/2012		Closed	
	Remodel	09/16/2010		Closed	REMOVE & REPLACE 12 EXISTING VERIZON
76610	Other	12/02/2008		Closed	100 AMP TELECOMMUNICATIONS EQUIP
61582	Building	03/27/2001		Closed	FOUND FOR PRE-F
60016	Building	05/16/2000		Closed	ANTENNA'S EXIST
58584	Building	08/23/1999		Closed	REPLACE TOWER

Information Published With Permission From The Assessor



verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

NEWINGTON 2 CT

123 COSTELLO RD.
NEWINGTON, CT 06111
EXISTING MONOPOLE

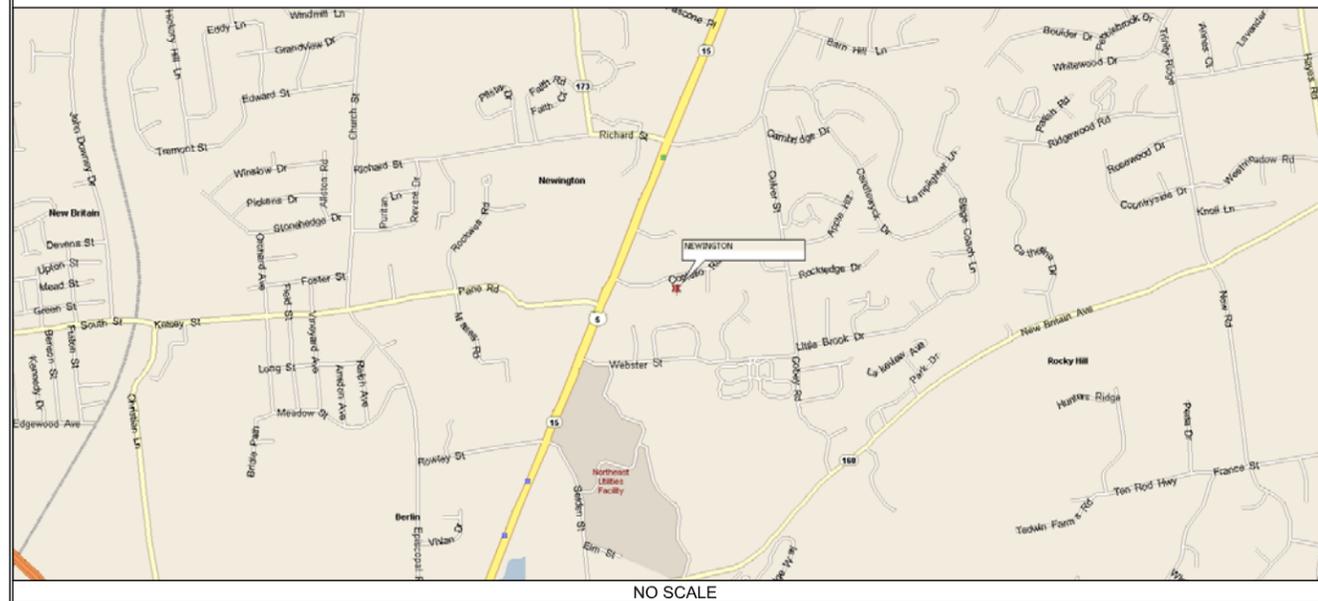
verizon

NEWINGTON 2 CT 123 COSTELLO RD. NEWINGTON, CT 06111

PROJECT SUMMARY

SITE NAME: NEWINGTON 2 CT
SITE ADDRESS: 123 COSTELLO RD.
NEWINGTON, CT 06111
TOWER OWNER: CROWN CASTLE
2000 CORPORATE DR
CANONSBURG, PA 15317
881364
BU NUMBER: 032/018/00A
C0685500
MAP NUMBER: 032/018/00A
LOT NUMBER: C0685500
CUSTOMER/APPLICANT: VERIZON WIRELESS
400 FRIEBERG PARKWAY
WESTBOROUGH, MA 01581
DAN MYZYRI
(617) 945-7288
CONTACT: DAN MYZYRI
(617) 945-7288
NAD83
LATITUDE: 41° 39' 18.72" N
LONGITUDE: 72° 43' 17.19" W
ELEVATION: 134'
CURRENT ZONING: PD
A&E FIRM: B+T GROUP
1717 S. BOULDER, SUITE 300
TULSA, OK 74119
STEVE THORNHILL
(918) 587-4630
OCCUPANCY TYPE: UNMANNED
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT
FOR HUMAN HABITATION.

LOCATION MAP



DRIVING DIRECTIONS

DEPART FROM BRADLEY INTERNATIONAL: HEAD NORTH ON NORTH ST TOWARD LIGHT LN. TURN RIGHT ONTO ELLA GRASSO TURNPIKE. TURN LEFT ONTO ELM ST. TURN RIGHT ONTO OLD COUNTY RD. CONTINUE ONTO KENNEDY RD. CONTINUE STRAIGHT TO STAY ON KENNEDY RD. TURN RIGHT TO MERGE ONTO I-91 S TOWARD HARTFORD. TAKE EXIT 28 TO MERGE ONTO CT-15 S/US-5 S TOWARD BERLIN TURNPIKE/WETHERSFIELD/NEWINGTON. CONTINUE ONTO CT-15 S/US-5 S/BERLIN TURNPIKE PASS BY BOSTON MARKET (ON THE RIGHT IN 1.8 MI). TURN LEFT ONTO COSTELLO RD DESTINATION WILL BE ON THE RIGHT. ARRIVE AT NEWINGTON.

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	0
A-1	COMPOUND PLAN AND TOWER ELEVATION	0
A-2	EQUIPMENT DETAILS	0

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
OWNER:		
R.F. ENGINEER:		
CONSTRUCTION MGR.:		
LEASING & ZONING:		
VERIZON WIRELESS:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11x17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL CONNECTICUT ONE CALL
(800) 922-4455
CALL 3 WORKING DAYS
BEFORE YOU DIG!



PROJECT NO: 79205.002.01
CHECKED BY: RPS

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	8/17/18	JDP	PRELIMINARY REVIEW
0	10/15/18	JDP	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/19



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-1
REVISION: 0



verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

NEWINGTON 2 CT

123 COSTELLO RD.
NEWINGTON, CT 06111
EXISTING MONOPOLE

PROJECT NO: 79205.002.01
CHECKED BY: RPS

ISSUED FOR:

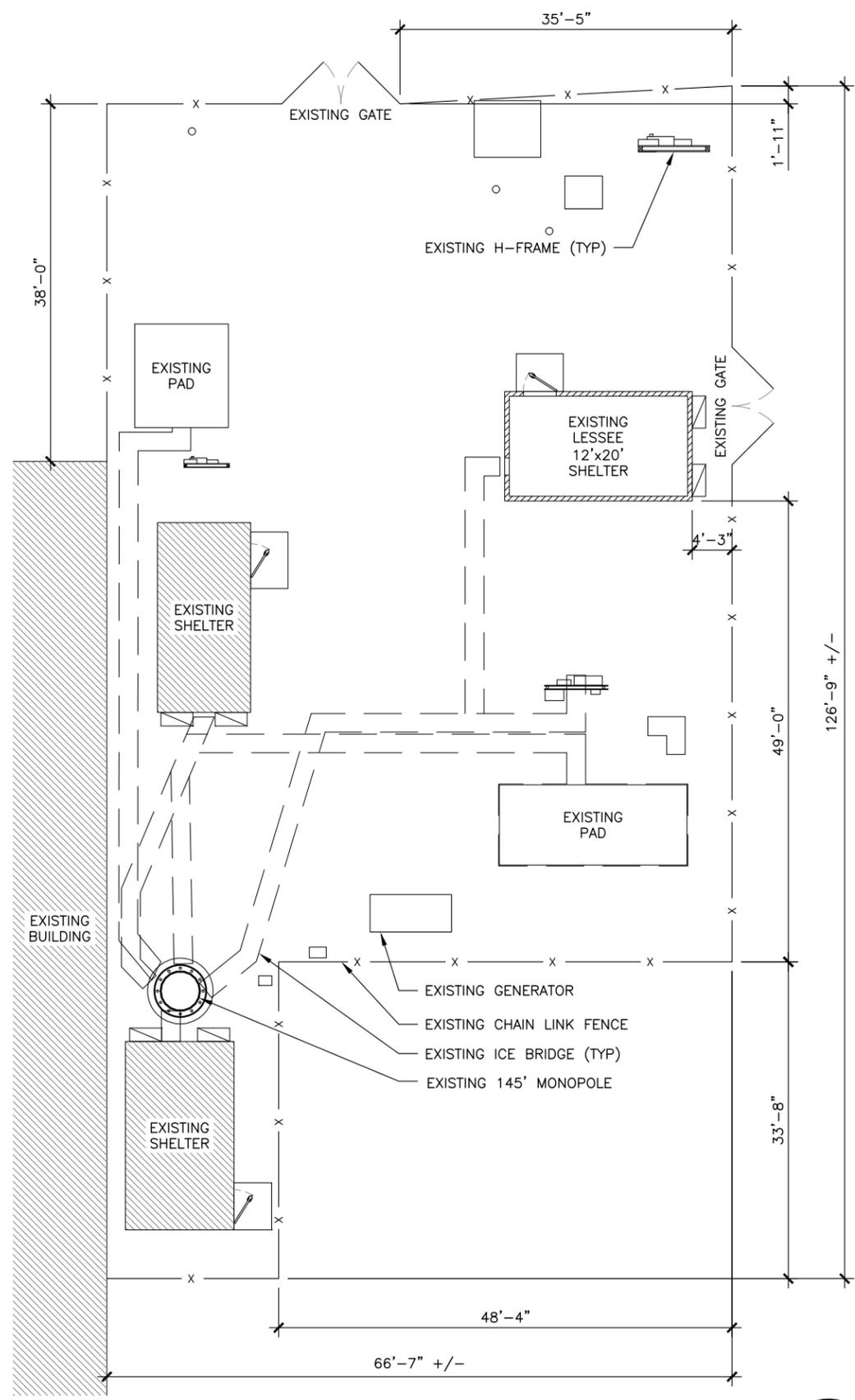
REV	DATE	DRWN	DESCRIPTION
A	8/17/18	JDP	PRELIMINARY REVIEW
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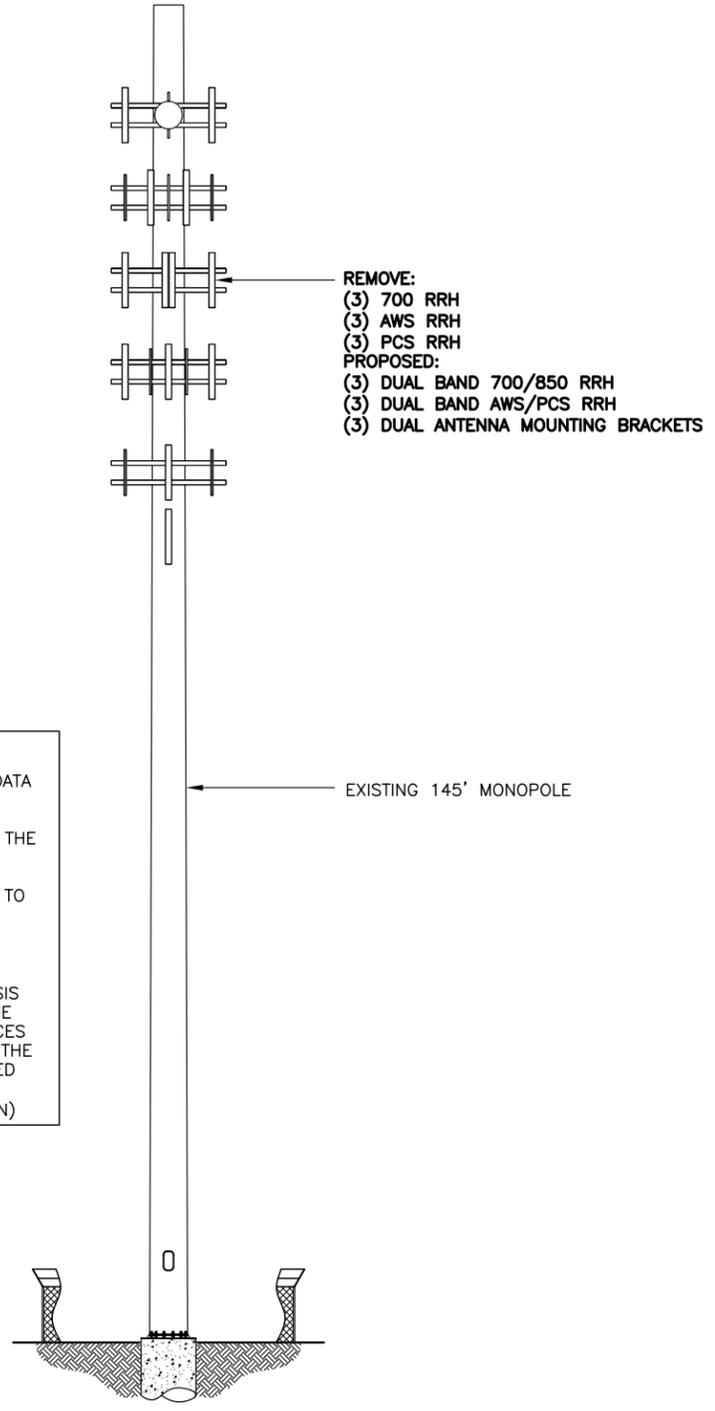
SHEET NUMBER: **A-1** REVISION: **0**



- ◆ TOP OF TOWER
ELEV. = 145'
- ◆ (E) ANTENNAS
ELEV. = 133'
- ◆ (E) ANTENNAS
ELEV. = 124'
- ◆ (E) LESSEE ANTENNAS
ELEV. = 114'
- ◆ (E) ANTENNAS
ELEV. = 105'
- ◆ (E) ANTENNAS
ELEV. = 94'
- ◆ (E) ANTENNAS
ELEV. = 87'

NOTES:

- CONTRACTOR TO VERIFY EXACT COAX AND ANTENNA INSTALLATION AND ANTENNA HEIGHT WITH LATEST RF DATA SHEETS PRIOR TO INSTALLATION.
- STRUCTURAL ANALYSIS DONE BY OTHERS.
- VERIZON SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED STATE STRUCTURAL ENGINEER CERTIFYING THAT THE EXISTING TOWER AND PROPOSED IMPROVEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL NEW WORK THAT WILL BE DONE IN COMPLIANCE WITH THE CURRENT EDITION OF BUILDING CODES AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY AND ALL IMPROVEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWING OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.CAP AND WEATHERPROFF UNUSED ANTENNA PORTS.
- ESTIMATED HYBRIFLEX CABLE LENGTH: XXX' (EACH RUN)



1 COMPOUND PLAN
SCALE: 1"=20'



2 FINAL TOWER ELEVATION
SCALE: 1"=20'



400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

NEWINGTON 2 CT

123 COSTELLO RD.
NEWINGTON, CT 06111
EXISTING MONOPOLE

PROJECT NO: 79205.002.01
CHECKED BY: RPS

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
A	8/17/18	JDP	PRELIMINARY REVIEW
0	10/15/18	JDP	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/19

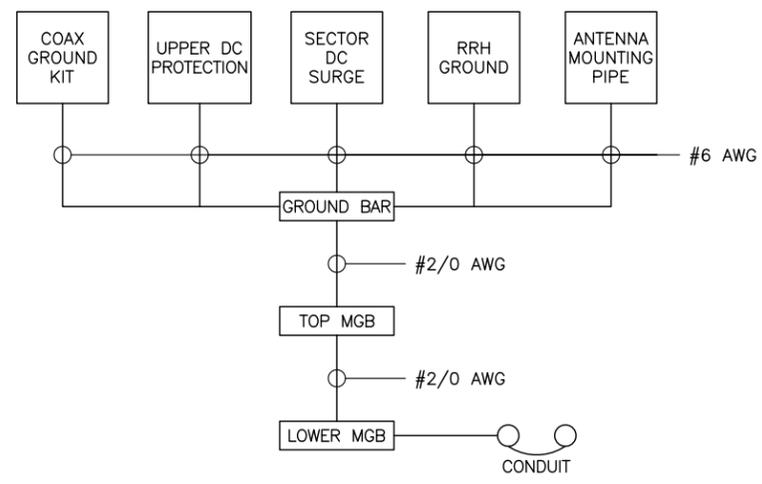


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **A-2** REVISION: **0**

- NOTE:
1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS AND HARDWARE ACCORDING WITH MANUFACTURE'S RECOMMENDATIONS.
 2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES AND RRHs IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
 3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANT INSTALLED SAFETY DEVICES.
 4. EQUIPMENT TO BE INSTALLED AT VERIZON'S RAD. CENTER IN ACCORDANCE WITH TOWER STRUCTURAL ANALYSIS (ANALYSIS BY OTHERS).

PLUMBING DIAGRAM
NOT AVAILABLE AT TIME
OF ISSUE



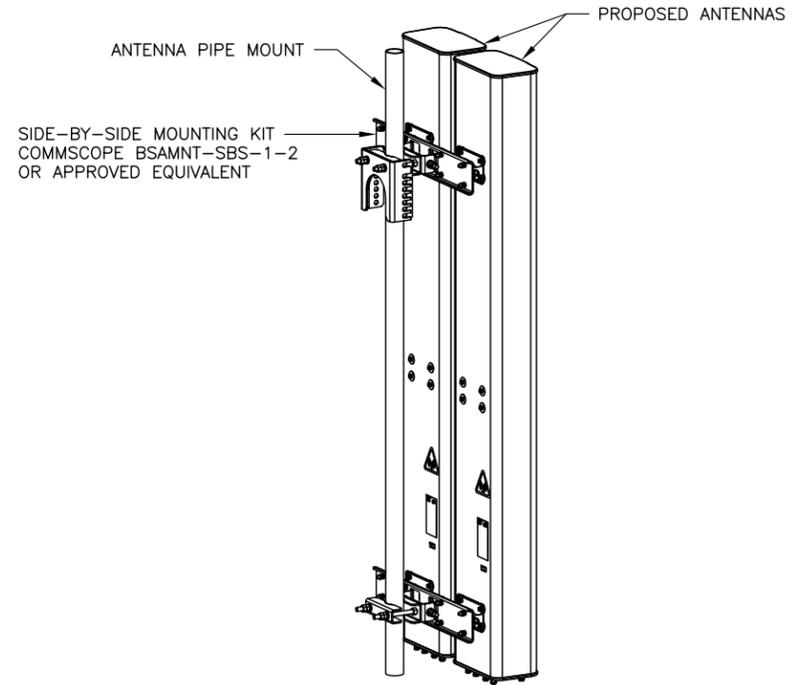
- NOTE:
1. BOND ANTENNA GROUNDING KIT CABLES TO TOP CIBE.
 2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIBE.
 3. TYPICAL FOR ALL SECTORS.

1 ANTENNA SYSTEM LAYOUT
SCALE: N.T.S.

2 GROUNDING SCHEMATIC DIAGRAM
SCALE: N.T.S.

REMOTE RADIO HEAD DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
B5/B13 RRH-BR04C	-	-	-	-
B2/B66A RRH-BR049	-	-	-	-

RRH SPECIFICATIONS
NOT AVAILABLE AT TIME
OF ISSUE



3 RRH SPECIFICATIONS
SCALE: N.T.S.

4 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.

From: [McKay, Kristian](#)
To: ["cminor@newingtonct.gov"](mailto:cminor@newingtonct.gov)
Subject: Original Zoning approval Request
Date: Thursday, November 15, 2018 11:43:00 AM
Attachments: [Original BP.pdf](#)

Hello Mr. Minor,

I work for Crown Castle and have an inquiry regarding the original zoning documents for a tower and I am hoping your office can provide more information.

We are applying for CSC Zoning Approval for Verizon to modify their antennas and new requirements ask that we procure original zoning documents from the jurisdiction, if possible. However, if these documents are not available, please let me know.

The tower is located at 123 Costello Rd. and according to lease documents it would have been constructed sometime in 1999. Costello Industries Inc. currently owns the property. I have attached the original building permit which I hope will help.

If you have any questions, please don't hesitate to call or e-mail me.

Thank you,

Kristian McKay
Real Estate Specialist – East Area
T: (704) 405-6612 | M: (704) 713-5728 | F: (724) 416-6496

CROWN CASTLE
3530 Toringdon Way, Suite 300, Charlotte, NC 28277
Crowncastle.com

BUILDING PERMIT
TOWN OF NEWINGTON, CONNECTICUT

Date: AUGUST 23, 1999

ESTIMATED COST: \$79000.00
FEE PAID: \$1185.00 CK #1828

Permit No.: 58584

PERMISSION IS HEREBY GRANTED TO: NORTHEAST TOWERS INC., 170 RIVER ROAD,
UNIONVILLE, CT 06085

FOR: REPLACE EXISTING RADIO TOWER SAME LOCATION SAME HEIGHT 156 FT. O/A FROM
GRADE.

**BUILDING, STREET, AND EACH SIDE OF LOT LINE TO BE IN ACCORDANCE WITH CERTIFIED
ENGINEER'S PLAN ON FILE.**

Location: 123 COSTELLO ROAD

Owner: COSTELLO INDUSTRIES

NOTE: The recipient of this permit accepts this permit on the condition that the, as owner or as representing the owner, agrees to comply with all Building & Zoning Ordinances of the Town of Newington & the State Statutes of the State of Connecticut regarding the use, occupancy & type of building to be constructed & agrees that this building is to be located the proper distance from all street lines, side yard lines & required distances from all other zones & is located in a zone in which the building & its use is allowed.

**NOTE: CALL BUILDING DEPARTMENT FOR REQUIRED INSPECTIONS.
24 HOUR NOTICE IS REQUIRED (865-8580)**

BUILDING DEPARTMENT, TOWN OF NEWINGTON

B. Peter Hobbs 8-24-99
B. Peter Hobbs, Chief Building Official

LOCATION OF JOB: 123 COSTELLO ROAD

Permit No.: 58584

Bldr: NORTHEAST TOWERS INC
170 RIVER ROAD
UNIONVILLE, CT 06085

Owner: COSTELLO INDUSTRIES

Plans Submitted: (X) Yes () No	Date: 08/18/1999	C.O. Issued:
Plans/Application Reviewed by: RGH	Date: 08/19/1999	C.I. Issued:
Project: Residential/Com-Industrial		
REPLACE EXISTING RADIO TOWER SAME LOCATION SAME HEIGHT 156 FT. O/A FROM GRADE.		
Fndtn-Seal/Drain	Framing:	
Sill Anchor:	Fire-Dem/Wall:	
Vents:	Insulation:	
Erosion/Control:	Floor Slab:	
Anti-track/Dust:	Fire Place:	
Fin. Grades:	Wall Bd.:	
Footings:	Final Inspection:	
Rebars:	C.O. Inspection:	
Footing Drains:		

Date: **October 29, 2018**

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300,
Charlotte, NC 28277
(704) 405-6607



Tectonic
1279 Route 300
Newburgh, NY 12550
(845) -567-6656

Subject: Mount Analysis Report

Carrier Designation: Verizon Wireless Equipment Change-Out
Carrier Site Number: 37437
Carrier Site Name: NEWINGTON 2 CT

Crown Castle Designation: Crown Castle BU Number: 881364
Crown Castle Site Name: Newington
Crown Castle JDE Job Number: 518918
Crown Castle Order Number: 450299 Rev 0

Engineering Firm Designation: Tectonic Project Number: 9500.881364

Site Data: 123 Costelo Road, Newington, Hartford County, CT 06111
Latitude 41° 39' 18.72" Longitude -72° 43' 17.19"

Structure Information: Tower Height & Type: 145 ft MP
Mount Elevation: 114 ft
Mount Type: 14 ft Platform

Dear Charles,

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) is pleased to submit this “**Mount Analysis Report**” to determine the structural integrity of Verizon wireless’s antenna mounting system with the proposed appurtenance and equipment addition on the above mentioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore, is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

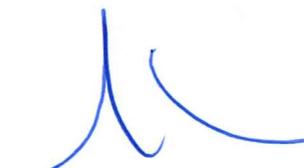
The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform **Sufficient ***
*Sufficient upon completion of the changes listed in the “Recommendations” section of this report

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per section 1609.3.1 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C with a maximum topographic factor, Kzt, of 1.0 and Risk Category II were used in this analysis.

Mount structural analysis prepared by: Saurabh Mundhada / KZ

Respectfully Submitted by:


Antonio A. Gualtieri, P.E.
Executive Vice President

 29/18

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6) APPENDIX B

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7) APPENDIX C

Software Analysis Output

1) INTRODUCTION

The existing mount is a 14 ft wide Low Profile Platform, mapped by Northeast Union Inc. It is installed at the 114 ft elevation of the 145 ft existing monopole tower.

2) ANALYSIS CRITERIA

Building Code: 2016 Connecticut State Building Code
TIA-222 Revision: TIA-222-G
Risk Category: II
Wind Speed: 97 mph
Exposure Category: C
Topographic Category at Base: 1
Topographic Category at Mount: 1
Ice Thickness: 1.00 in
Wind Speed with Ice: 50 mph
Live Loading Wind Speed: 30 mph
Live Loading at Mid/End-Points: 250 lbs
Man Live Loading at Mount Pipes: 500 lbs

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount Details
114	116	1	Lucent	KS24019-L112A	Platform Mount with support rail and vertical stabilizer kit
	115	6	Andrew	SBNHH-1D65B	
		6	Antel	BXA-80063/4CFX5	
		2	RFS	DBT1-6Z-8AB-0Z	
		3	Samsung Telecommunications	RFV01U-D1A	
		3	Samsung Telecommunications	RFV01U-D2A	

Note:

- 1) Support Rail and Vertical Stabilizer kit has been considered installed in the mount analysis in accordance with the previous analysis report referenced herein.

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER STRUCTURAL ANALYSIS REPORTS	Paul J. Ford and Company	7830172	CCISITES
SITE PHOTOS	-	-	CCISITES
MOUNT ANALYSIS REPORT	Dewberry Engineers Inc.	-	ON FILE

3.1) Analysis Method

RISA-3D (17.0.0), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Proprietary excel sheets were used to calculate appurtenance and member loading for various load cases. Selected output from the analysis is included in Appendix B.

3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Tables 1 and the referenced drawings.
- 3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 4) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Tectonic should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform)

Notes	Component	Critical Member	Mount Centerline (ft)	% Capacity	Pass / Fail
1	Face Horizontal	22	114	86	Pass
	Top Rail	36		58	Pass
	Standoff Boom	31		39	Pass
	Stabilizer	20		12	Pass
	Grating Support	32		60	Pass
	Corner Grating	59A		26	Pass
	Mount Pipe	5		76	Pass

Structure Rating (max from all components) =	86%
---	------------

Note:

- 1) See additional documentation in "Appendix C - Analysis Output" for calculations supporting the % capacity consumed.

4.1) Recommendations

The existing platform mount will have sufficient capacity to support the proposed loading configuration once, the following modifications are implemented:

- a) The support rail and vertical stabilizer kit has been installed in accordance with the previous analysis report, referenced herein.

No structural modifications are required at this time provided that the above-listed changes are completed.



Date: September 15, 2018

Holly Haas
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 East Broad st., Suite 600
Columbus, OH 43215
(614) 221-6679

Subject: Structural Analysis Report

Carrier Designation: Verizon Wireless Co-Locate
Carrier Site Number: 119665
Carrier Site Name: Newington 2 CT

Crown Castle Designation:
Crown Castle BU Number: 881364
Crown Castle Site Name: Newington
Crown Castle JDE Job Number: 345509
Crown Castle Work Order Number: 1628355
Crown Castle Order Number: 309400 Rev. 13

Engineering Firm Designation: Paul J. Ford and Company Project Number: 37518-2864.002.7805

Site Data: 123 Costelo Road, Newington, Hartford County, CT
Latitude 41° 39' 18.72", Longitude -72° 43' 17.19"
145 Foot - Monopole Tower

Dear Holly Haas,

Paul J. Ford and Company is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration

Sufficient Capacity

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 with a maximum Topographic Factor, Kzt, of 1.0 were used in this analysis.

Respectfully submitted by:


Udaykiran Yerra
Structural Designer *RMF*

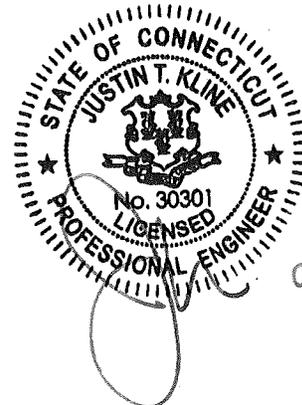


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1) INTRODUCTION

This tower is a 145 ft Monopole tower designed by SUMMIT.

2) ANALYSIS CRITERIA

Building Code:	2016 Connecticut State Building Code
TIA-222 Revision:	TIA-222-G
Risk Category:	II
Wind Speed:	97 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
114.0	116.0	1	lucent	KS24019-L112A	1	1-5/8
	114.0	3	alcatel lucent	B25 RRH4X30		
		3	alcatel lucent	RRH2x60-700		
		3	alcatel lucent	RRH4X45-AWS4 B66		
		9	andrew	SBNHH-1D65B w/ Mount Pipe		
		1	rfs celwave	DB-T1-6Z-8AB-0Z		
		3	antel	BXA-80063/4CFx5 w/ Mount Pipe		
		1	rfs celwave	DB-T1-6Z-8AB-0Z		
		1	tower mounts	Platform Mount [LP 712-1]		
		1	tower mounts	Handrail Kit HRK14		
		3	tower mounts	Vertical Stabilizer Kit PV-VSK		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
133.0	139.0	2	andrew	VHLP2.5-11	6 2	5/16 1/2
		2	dragonwave	HORIZON COMPACT		
		2	samsung telecommunications	WIMAX DAP HEAD		
	135.0	3	argus technologies	LLPX310R-V1 w/ Mount Pipe		
		1	motorola	TIMING 2000		
		1	samsung telecommunications	WIMAX DAP HEAD		
		133.0	1	tower mounts		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
124.0	124.0	3	alcatel lucent	TD-RRH8x20-25	4	1-1/4
		3	rfs celwave	APXVSP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
		3	rfs celwave	IBC1900BB-1		
		3	rfs celwave	IBC1900HG-2A		
		1	tower mounts	Platform Mount [LP 712-1]		
122.0	122.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz	--	--
		1	tower mounts	Pipe Mount [PM 601-3]		
	118.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER		
105.0	105.0	3	cci antennas	OPA-65R-LCUU-H6 w/ Mount Pipe	1 2 12	3/8 3/4 1-5/8
		3	ericsson	RRUS 32 B30		
		6	ericsson	RRUS-11		
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		6	powerwave technologies	LGP2140X		
		1	raycap	DC6-48-60-18-8F		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 712-1]		
94.0	95.0	3	commscope	LNx-6515DS-A1M w/ Mount Pipe	1 12	1-1/4 1 5/8
		3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe		
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RRUS 11 B12		
	94.0	1	tower mounts	Platform Mount [LP 712-1]		
87.0	87.0	3	kathrein	742 213 w/ Mount Pipe	6	1 5/8
		1	tower mounts	Pipe Mount [PM 601-3]		
77.0	77.0	1	symmetricom	58532A	1	1/2
		1	tower mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti, 08/10/1999	1425352	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Summit/PJF, 5153/29299-105, 08/11/1999	1425473	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Summit, 5153, 08/10/1999	1425417	CCISITES
4-POST-MODIFICATION INSPECTION	ETS, 160020, 02/29/2016	6120832	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37515-0757.007.7700, 11/11/2015	5976614	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.4.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) For existing modifications: monopole was modified in conformance with the referenced modification drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	145 - 140	Pole	TP24.923x24x0.1875	Pole	0.2%	Pass
L2	140 - 135	Pole	TP25.847x24.923x0.1875	Pole	1.4%	Pass
L3	135 - 130	Pole	TP26.77x25.847x0.1875	Pole	4.9%	Pass
L4	130 - 125	Pole	TP27.709x26.77x0.25	Pole	6.0%	Pass
L5	125 - 120	Pole	TP28.648x27.709x0.25	Pole	10.5%	Pass
L6	120 - 115	Pole	TP29.588x28.648x0.25	Pole	15.4%	Pass
L7	115 - 110	Pole	TP30.527x29.588x0.25	Pole	22.9%	Pass
L8	110 - 105	Pole	TP31.466x30.527x0.25	Pole	30.4%	Pass
L9	105 - 100	Pole	TP32.405x31.466x0.25	Pole	39.8%	Pass
L10	100 - 95	Pole	TP33.345x32.405x0.25	Pole	48.3%	Pass
L11	95 - 90	Pole	TP34.284x33.345x0.25	Pole	58.1%	Pass
L12	90 - 89.25	Pole	TP35.27x34.284x0.25	Pole	59.5%	Pass
L13	89.25 - 84.25	Pole	TP34.851x33.925x0.3125	Pole	52.6%	Pass
L14	84.25 - 79.25	Pole	TP35.777x34.851x0.3125	Pole	59.1%	Pass
L15	79.25 - 74.25	Pole	TP36.703x35.777x0.3125	Pole	65.3%	Pass
L16	74.25 - 69.25	Pole	TP37.629x36.703x0.3125	Pole	71.0%	Pass
L17	69.25 - 64.25	Pole	TP38.555x37.629x0.3125	Pole	76.3%	Pass
L18	64.25 - 59.25	Pole	TP39.482x38.555x0.3125	Pole	81.4%	Pass
L19	59.25 - 58.08	Pole	TP39.698x39.482x0.3125	Pole	82.5%	Pass
L20	58.08 - 57.83	Pole + Reinf.	TP39.745x39.698x0.4125	Reinf. 2 Tension Rupture	83.1%	Pass
L21	57.83 - 52.83	Pole + Reinf.	TP40.671x39.745x0.4188	Reinf. 2 Tension Rupture	87.7%	Pass
L22	52.83 - 49.5	Pole + Reinf.	TP42.26x40.671x0.4125	Reinf. 2 Tension Rupture	90.6%	Pass
L23	49.5 - 43.25	Pole + Reinf.	TP41.82x40.663x0.475	Reinf. 2 Tension Rupture	86.3%	Pass
L24	43.25 - 38.25	Pole + Reinf.	TP42.746x41.82x0.475	Reinf. 2 Tension Rupture	89.7%	Pass
L25	38.25 - 33.25	Pole + Reinf.	TP43.672x42.746x0.475	Reinf. 2 Tension Rupture	92.8%	Pass
L26	33.25 - 31.25	Pole + Reinf.	TP44.042x43.672x0.475	Reinf. 2 Tension Rupture	94.0%	Pass
L27	31.25 - 31	Pole + Reinf.	TP44.089x44.042x0.5375	Reinf. 1 Compression	74.1%	Pass
L28	31 - 26	Pole + Reinf.	TP45.015x44.089x0.5375	Reinf. 1 Compression	76.5%	Pass
L29	26 - 21	Pole + Reinf.	TP45.941x45.015x0.525	Reinf. 1 Compression	78.8%	Pass
L30	21 - 16	Pole + Reinf.	TP46.867x45.941x0.525	Reinf. 1 Compression	81.0%	Pass
L31	16 - 11	Pole + Reinf.	TP47.793x46.867x0.525	Reinf. 1 Compression	83.0%	Pass
L32	11 - 6	Pole + Reinf.	TP48.719x47.793x0.5188	Reinf. 1 Compression	84.9%	Pass
L33	6 - 4.75	Pole + Reinf.	TP48.95x48.719x0.5188	Reinf. 1 Compression	85.4%	Pass
L34	4.75 - 4.5	Pole + Reinf.	TP48.997x48.95x0.5875	Reinf. 3 Compression	79.6%	Pass
L35	4.5 - 0	Pole + Reinf.	TP49.83x48.997x0.575	Reinf. 3 Compression	81.1%	Pass
					Summary	
				Pole	82.5%	Pass
				Reinforcement	94.0%	Pass
				Overall	94.0%	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	85.9	Pass
1	Base Plate	0	89.4	Pass
1	Base Foundation Steel	0	63.4	Pass
1	Base Foundation Soil Interaction	0	62.3	Pass
1	Flange Connection	130	7.3	Pass

Structure Rating (max from all components) =	94.0%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The monopole and its foundation have sufficient capacity to carry the existing, reserved, and proposed loads. No modifications are required at this time.

Intra-ocular Densit

Site Name: In-ton CT

Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
CS								
Carrier								
Carrier								
S								

Total Percentage of Maximum Permissible Exposure

is adopted from FCC on 47 CFR Section as defined on CR Report and Intra-ocular SI

Maximum

cm milliatts or second

Radiated

so that the maximum is included in the assumptions

the closest point is distance from antenna as of

continuous transmission from a carrier channel for an indefinite period and

the RF energy is assumed to be directed so that it is of

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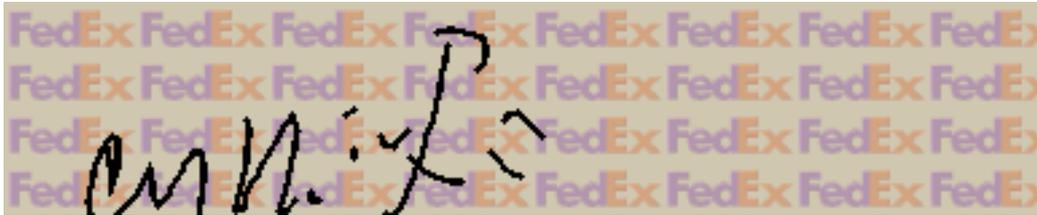
November 16, 2018

Dear Customer:

The following is the proof-of-delivery for tracking number **773735712435**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	C.DAIZ	Delivery location:	78 GARFIELD ST NEWINGTON, CT 06111
Service type:	FedEx Priority Overnight	Delivery date:	Nov 16, 2018 10:46
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	773735712435	Ship date:	Nov 15, 2018
		Weight:	0.5 lbs/0.2 kg

Recipient:
Craig Minor
Town Of Newington
131 Cedar St.
NEWINGTON, CT 06111 US

Shipper:
Kristian McKay
3530 Toringdon Way
STE 300
CHARLOTTE, NC 28277 US

Reference 1766.6680

Thank you for choosing FedEx.



November 16,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **773735704106**.

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Status:	Delivered	Delivered to:	Receptionist/Front Desk
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Service type:	FedEx Priority Overnight	Delivery date:	Nov 16, 2018 10:44
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	773735704106	Ship date:	Nov 15, 2018
		Weight:	0.5 lbs/0.2 kg

Recipient:
Tanya Lane
Town Of Newington
131 Cedar St.
NEWINGTON, CT 06111 US

Shipper:
Kristian McKay
3530 Toringdon Way
STE 300
CHARLOTTE, NC 28277 US

Reference 1766.6680

Thank you for choosing FedEx.



November 16, 2018

Dear Customer:

The following is the proof-of-delivery for tracking number **773735757864**.

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Service type:	FedEx Priority Overnight	Delivery date:	Nov 16, 2018 10:46
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	773735757864	Ship date:	Nov 15, 2018
		Weight:	0.5 lbs/0.2 kg

Recipient:
Frank Costello
Costello Industries
123 Costello Rd.
NEWINGTON, CT 06111 US

Shipper:
Kristian McKay
3530 Toringdon Way
STE 300
CHARLOTTE, NC 28277 US

Reference 1766.6680

Thank you for choosing FedEx.