



March 26th, 2020

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

Regarding: Notice of Exempt Modification – Equipment Modification
Property Address: 430 John Street, Bridgeport, CT 06604
Applicant: Empire Telecom on behalf of AT&T (“AT&T”, Site # CT2176)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 146-foot building at the above-referenced address 41.1761031, longitude -73.1945819 °. Said underlying property is owned by Alison Skipper / AT&T Towers located at 575 Morosgo Drive Atlanta, GA.

AT&T desires to modify its existing telecommunications facility by adding: (3) CB-C23SR-43 Combiners, (3) SDARS Remote Radios, (1) Main Unit, (3) Parapet Mounted unistruts and ancillary equipment and cables. The centerline height of the existing AT&T antennas and ancillary tower-mounted equipment is and will remain at 148-feet.

Please accept this application as notification pursuant to R.C.S.A. §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.C.S.A. §16-50j-73, a copy of this letter is being sent to the town Mayor, Joseph P. Ganim; Zoning Administrator, Dennis Buckley; and the property owner, AT&T Towers attention to Alison Skipper.

The planned modifications to AT&T’s facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72 (b)(2). Specifically:

1. The planned modification will not result in an increase in the height of the existing structure. The modified equipment will be installed at the existing height of 148 feet on the 146-foot rooftop.
2. The proposed modifications will not involve any changes to AT&T’s ground-space footprint, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibels or more, or to levels that exceed state and local criteria.

AT&T at 239 Middlesex Turnpike Road, Manchester, CT 06040
March 26th, 2020

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (enclosed) for AT&T's modified facility is herein provided.
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 AT&T's proposed modifications. Please see enclosed structural analysis completed by completed by Vertical Resource Group, Inc., dated December 11th, 2019; stamped December 11th, 2019.

For the foregoing reasons, AT&T respectfully requests that the proposed installation be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,

Moriah King

Site Acquisition Specialist
Empire Telecom USA LLC
16 Esquire Road | Billerica, MA 01862
Mobile: 339-234-8975
Email: moking@empiretelecomm.com

Enclosures: Exhibit 1 – Field Card and GIS Map
Exhibit 2 – Construction Drawings
Exhibit 3 – Structural Analysis
Exhibit 4 – RF Emissions Analysis Report Evaluation

cc:

Joseph P. Ganim – Mayor
Margaret E. Morton Government Center
999 Broad Street, Bridgeport, CT 06604

Dennis Buckley - Zoning Administrator
City Hall, Zoning Department
45 Lyon Terrace, Room 210 Bridgeport, CT 06604

Alison Skipper
AT&T Towers
575 Morosgo Drive Atlanta, GA

Account # 161958927

Label Details

Label Number:
[9410803699300119995367](#)

Terms
Acceptance Cutoff: 03/27/2020 4:30 PM
Acceptance Time: 03/28/2020 2:25 PM
Expected Date: 03/30/2020 11:58 PM
Delivery Status: Delivered to Agent for Final Delivery

Label Actions

[USPS Tracking®](#)
[Ship Again](#)

Need help

[File an insurance claim](#)
[Request a Service Refund](#)

Return Address:
 NCRA OLIVER
 EMPIRE TELECOM
 16 ESQUIRE RD
 N BILLERICA, MA 01862-2527
 noliver@empiretelecomm.com

Delivery Address:
 AT&T
 575 MOROSGO DR NE
 ATTN: AT&T TOWERS
 ATLANTA, GA 30324-3300

Package:
 Ship Date: 03/27/20
 Value: \$1.00
 Weight: 2 lbs 0 oz
 From: 01862

Service:
 Priority Mail® 2-Day
 Flat Rate Envelope
 Signature Confirmation

Transaction Number:	487633579	Postage Cost	\$7.75
Transaction Type:	Label	Signature Confirmation	\$2.65
Payment Method:	VISA-4143	Label Total:	\$10.40
Payment Status:	Account Charged	Order Total:	\$10.40

Timestamp	Message
03-27-2020 13:13:18	LABEL PRINTED
03-27-2020 13:13:08	Getting Payment
03-27-2020 13:10:20	Setting Payment

Account # 161958927

Label Details

Label Number:
[9405503699300277672459](#)

SCAN® Form: 9478703889300346347602

Terms
Acceptance Cutoff: 03/09/2020 4:30 PM
Acceptance Time: 03/28/2020 2:25 PM
Expected Date: 03/11/2020 11:58 PM

Delivery Status: Delivered, In/At Mailbox
 2020-03-30
 12:07:00.0

[USPS Tracking®](#)
[Ship Again](#)

Need help

[File an insurance claim](#)
[Request a Service Refund](#)

Return Address:
 MORIAH KING
 EMPIRE TELECOM
 16 ESQUIRE RD
 N BILLERICA, MA 01862-2527
 ne_sa_deliverable@empiretelecomm.com

Delivery Address:
 JOSEPH F GANNIM
 CITY OF BRIDGEPORT
 999 BROAD ST
 BRIDGEPORT, CT 06604-4320

Package:
 Ship Date: 03/09/20
 Value: \$50.00
 From: 01662

Service:
 Priority Mail® 2-Day
 Flat Rate Envelope
 USPS Tracking®

Transaction Number:	486918961	Postage Cost	\$7.75
Transaction Type:	Label	USPS Tracking®	Free
Payment Method:	VISA-4862	Label Total:	\$7.75
Payment Status:	Account Charged	Order Total:	\$31.00

Timestamp	Message
03-09-2020 09:20:15	LABEL REPRINTED
03-09-2020 09:19:57	LABEL PRINTED
03-09-2020 09:19:32	Getting Payment
03-09-2020 09:19:02	Setting Payment

Create Label

Preferences

Shipping History

Address Book

Account # 161258927

Label Details

Label Number:

9405503699300277672466

SCAN® Form: 9475703699300346347802

Terms

Acceptance Cutoff: 03/09/2020 4:30 PM

Acceptance Time: 03/29/2020 2:26 PM

Expected Date: 03/11/2020 11:59 PM

Delivery Status: **Delivered, Front Desk/Reception/Mail Room**

Label Actions / 2020-03-30 12:48:00.0

[USPS Tracking®](#)
[Ship Again](#)

Need help

[File an Insurance claim](#)
[Request A Service Refund](#)

Return Address:

MORIAH KING
EMPIRE TELECOM
16 ESQUIRE RD
N BILLERICA, MA 01862-2527
ne_sa_delivcrable@empiretelecomm.com

Delivery Address:

DENNIS BUCKLEY
CITY OF BRIDGEPORT ZONING DEPARTMENT
45 LYON TER
RM 210
BRIDGEPORT, CT 06604-4023

Package:

Ship Date: 03/09/20
Value: \$50.00
From: 01862

Service:

Priority Mail® 2-Day
Flat Rate Envelope
USPS Tracking®

Transaction Number: **485916961**

Transaction Type: Label

Payment Method: VISA-4382

Payment Status: Account Charged

Postage Cost: \$7.75
USPS Tracking®: Free

Label Total: **\$7.75**

Order Total: **\$31.00**

Timestamp	Message
03-09-2020 09:20:15	LABEL REPRINTED
03-09-2020 09:19:58	LABEL PRINTED
03-09-2020 03:19:32	Getting Payment
03-09-2020 09:19:02	Setting Payment



Legend

- Parcels
- Streetname
- Roadways
 - Local
 - Collector
 - Minor Collector
 - Minor Arterial
 - Major Collector
 - PA Other
 - PA Other Expwy
 - PA Interstate

283.9 0 141.95 283.9 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Connecticut Metropolitan Council of Governments

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION



430 JOHN ST

Location 430 JOHN ST

Mblu 28/ 923/ 28/ /

Acct# R-0148800

Owner AT&T CAPITAL SERVICES

Assessment \$3,567,480

Appraisal \$5,096,400

PID 6088

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$4,168,270	\$928,130	\$5,096,400
Assessment			
Valuation Year	Improvements	Land	Total
2018	\$2,917,790	\$649,690	\$3,567,480

Owner of Record

Owner AT&T CAPITAL SERVICES
Co-Owner ATTN PROPERTY TAX DEPT
Address 1010 PINE 9E-L-01
 ST LOUIS, MO 63101

Sale Price \$0
Certificate
Book & Page 9130/0149
Sale Date 10/22/2014
Instrument 25

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
AT&T CAPITAL SERVICES	\$0		9130/0149	25	10/22/2014
SOUTHERN NEW ENGLAND TEL	\$0		1164/0144		09/18/1958

Building Information

Building 1 : Section 1

Year Built: 1958
Living Area: 98,169
Replacement Cost: \$13,005,078
Building Percent Good: 30

Replacement Cost
Less Depreciation: \$3,901,520

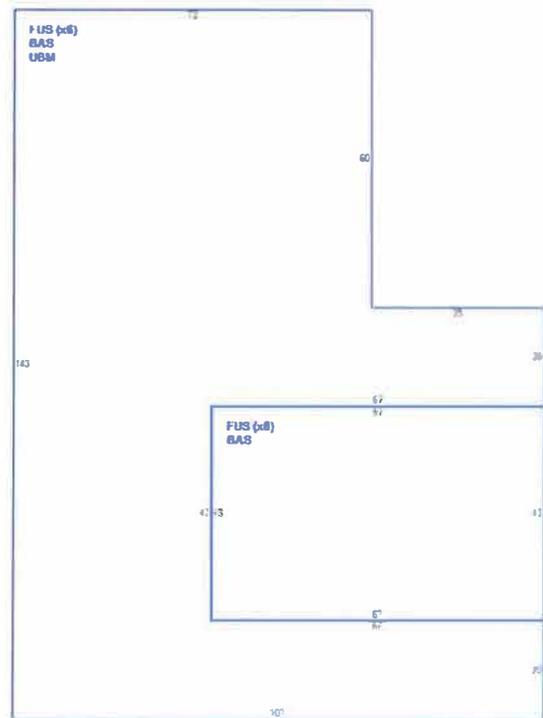
Building Attributes	
Field	Description
STYLE	Prof. Office
MODEL	Comm/Ind
Grade:	Good
Stories:	7
Occupancy:	1.00
Exterior Wall 1:	Pre-Cast Concr
Exterior Wall 2:	
Roof Struct:	Flat
Roof Cover:	Tar + Gravel
Interior Wall 1:	Drywall
Interior Wall 2:	
Interior Floor 1:	Terrazzo Monol
Interior Floor 2:	Carpet
Heating Fuel:	Gas
Heating Type:	Forced Air
AC Type:	Central
Struct Class	
Bldg Use:	Industrial Mdl 94
Ttl Rooms:	
Ttl Bedrms:	00
Ttl Baths:	0
Ttl Half Baths:	0
Ttl Xtra Fix:	0
1st Floor Use:	
Heat/AC:	Heat/Ac Pkgs
Frame Type:	Steel
Baths/Plumbing:	Average
Ceiling/Wall:	Ceil & Walls
Rooms/Prtns:	Average
Wall Height:	14.00
% Comn Wall:	

Building Photo



(<http://images.vgsi.com/photos2/BridgeportCTPhotos/A00100162181.JPG>)

Building Layout



(ParcelSketch.aspx?pid=6088&bid=6088)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
FUS	Finished Upper Story	84,968	84,968
BAS	First Floor	13,201	13,201
UBM	Unfin Basement	10,320	0
		108,489	98,169

Extra Features

Extra Features

Legend

Code	Description	Size	Value	Bldg #
ELV2	Pass	8.00 STOPS	\$60,000	1
ELV2	Pass	8.00 STOPS	\$60,000	1
SPR2	Sprk-Wet Concealed	98169.00 SF	\$95,710	1

Land

Land Use

Use Code 300C
Description Industrial Mdl 94
Zone DCB
Neighborhood CBD
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 1.65
Frontage 0
Depth 0
Assessed Value \$649,690
Appraised Value \$928,130

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	Paving Asph			56710.00 SF	\$51,040	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$4,168,270	\$928,130	\$5,096,400
2016	\$4,168,270	\$928,130	\$5,096,400
2015	\$4,168,270	\$928,130	\$5,096,400

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$2,917,790	\$649,690	\$3,567,480
2016	\$2,917,790	\$649,690	\$3,567,480
2015	\$2,917,790	\$649,690	\$3,567,480

Vertical Resources Group, Inc.

December 11, 2019

David P. Cooper
 Director of Program Management
Empire Telecom
 16 Esquire Street
 Billerica, MA 01862

SUBJECT: RF Mod/IP Repeater Analysis Document
Existing ±146'-0" Tall 7 story existing building
 Site ID: CT2176 Bridgeport
 430 John Street, Bridgeport, CT 06604
 Our File: CT2176-IPRepeater

The following is to confirm we have reviewed aforementioned building's rooftop for AT&T Mobility's proposed addition of new Sirius-XM Commscope (3) ION-M23 radios, (3) CBC23SR43 combiners equipment on existing unistrut frame supports atop an existing ±146' tall building.

Code: Connecticut Building Code 2016, I.B.C. 2015, ASCE7-12, EIA-222-G
Risk Category: II
Exposure Category: 'C'
Topographic Category: 1
Wind Speed: 125 Mph (CT B.C. 2016 ultimate gust), 97 Mph (nominal 3 sec gust IBC 1609.3.1) 100Mph (EIA-222-G), 3 sec. Gust Speed
Ice: 3/4" ø radial
Snow: P_G = ground snow load = 30 Psf (CT B.C. 2016)
Load Combination: 1.2D + 1.0D_G + 1.6W₀
 1.2D + 1.0D_G + 1.0D_i + 1.0W_i
Antenna Mount Type: Custom wall mounted clamp halves/rectangular tubes secured to roof parapet with 1/2" ø Hilti Hit-I HY20 adhesive anchors

Penthouse Existing & Proposed Loading (appurtenances): *install height of ±148' Alpha / ±148' Beta / ±148' Gamma*

(e) 3-Powerwave 7770 (UMTS850)	55.0"x11.0"x5.0"	35 Lbs	50 Lbs (ice)
(e) 3-Kathrein 800-10964 (LTEb14/AWS)	59.0"x20.0"x6.9"	84Lbs	90 Lbs (ice)
(e) 3-Quintel QS665122 (LTE700de/PCS/850/WCS)	72.0"x12.0"x9.6"	111 Lbs	88 Lbs (ice)
(e) 2-Andrew SBNHH1D65A (LTE700bc)	55.0"x11.9"x7.1"	33 Lbs	60 Lbs (ice)
(e) 1-KMW AMXCD146500T (LTE700bc)	48.0"x11.8"x5.9"	36 Lbs	49 Lbs (ice)
(e) 6-Powerwave LGP21401 (UMTS850)	14.4"x9.0"x2.7"	19 Lbs	12 Lbs (ice)
(e) 6-CCI TPX070821 (LTE850/700de)	5.8"x9.6"x2.0"	7 Lbs	6 Lbs (ice)
(e) 1-Commscope WCSIMFTAMT (Sirius XM)	15.4"x10.6"x6.9"	34 Lbs	19 Lbs (ice)
(P) 3-Commscope IONM23SDARS (Sirius XM)	32.7"x6.0"x5.8"	48 Lbs	24 Lbs (ice)
(P) 3-Commscope CBC23SR43 (Sirius XM)	12.0"x6.3"x2.1"	6 Lbs	7 Lbs (ice)
(e) 3-Ericsson RRUS-11 (LTE700bc)	19.7"x17.0"x7.2"	51 Lbs	33 Lbs (ice)
(e) 3-Ericsson RRUS-32 (LTEWCS)	27.2"x12.1"x7.0"	53 Lbs	33 Lbs (ice)
(e) 3-Ericsson RRUS-32b2 (LTEPCS)	27.2"x12.1"x7.0"	53 Lbs	33 Lbs (ice)
(e) 3-Ericsson RRUS-32b66 (LTEAWS)	27.2"x12.1"x7.0"	53 Lbs	33 Lbs (ice)
(e) 3-Ericsson RRUS-4478 (LTE700b14)	18.1"x13.4"x8.3"	59 Lbs	27 Lbs (ice)
(e) 3-Raycap DC6-48-60-18-8F	24"x12.0"x12.0"	32 Lbs	39 Lbs (ice)

Proposed Wind Load:

$$F = (q_z)(G_H)(C_A)(A_A)$$

$$G_H = 0.85 \quad C_A = \text{Table 2-8}$$

$$q_z = (0.00256)(K_z)(K_{ZT})(K_D)(V^2)(I)$$

$$K_z = 1.37 \quad K_D = 0.95 \quad V = 97 \text{ mph}$$

$$K_{ZT} = 1.0 \quad I = 1.0$$

$$q_z = 0.00256(1.37)(1.0)(0.95)(97)^2(1.0) = 31.3 \text{ Lbs/Ft}^2$$

$$F_B = (q_z)(G_H)(C_A)(A_A) = (31.3 \text{ Lbs/Ft}^2)(0.85)(C_A)(A_A) = 26.6 \text{ Lbs/Ft}^2 * C_A * A_A$$

$$F_I = (q_z)(G_H)(C_A)(A_A) = (8.3 \text{ Lbs/Ft}^2)(0.85)(C_A)(A_A) = 7.0 \text{ Lbs/Ft}^2 * C_A * A_A$$

Verification of Antenna/RRU Mounts Alpha/Beta/Gamma Sectors

Total Bare Weight of Appurtenances/sector = 670 Lbs
 Total Ice Weight on Appurtenances/sector = 553 Lbs
 Total Bare Weight of one Pipe Mount = 89 Lbs (Alpha/Beta/Gamma)
 Total Ice Weight on one Pipe Mount = 65 Lbs (Alpha/Beta/Gamma)
 Total weight to be supported by one pipe mount = (111Lbs+88Lbs+89Lbs+65Lbs) = 353 Lbs
 $F_{Bare WindF K7770} = 26.6Lbs/Ft^2 * C_A * A_A = (26.6Lbs/Ft^2)(1.31*4.2Ft^2) = 146Lbs$
 $F_{Bare WindF Q665122} = 26.6Lbs/Ft^2 * C_A * A_A = (26.6Lbs/Ft^2)(1.35*6.0Ft^2) = 215Lbs$
 $F_{Bare WindF K10964} = 26.6Lbs/Ft^2 * C_A * A_A = (26.6Lbs/Ft^2)(1.22*8.2Ft^2) = 266Lbs$
 $F_{Bare WindS K7770} = 26.6Lbs/Ft^2 * C_A * A_A = (26.6Lbs/Ft^2)(1.31*1.9Ft^2+1.2*0.8Ft^2) = 92Lbs$
 $F_{Bare WindS Q665122} = 26.6Lbs/Ft^2 * C_A * A_A = (26.6Lbs/Ft^2)(1.35*4.8Ft^2+1.2*0.8Ft^2) = 198Lbs$
 $F_{Bare WindS K10964} = 26.6Lbs/Ft^2 * C_A * A_A = (26.6Lbs/Ft^2)(1.22*2.8Ft^2+1.2*0.8Ft^2) = 116Lbs$
 $F_{Iced WindF K7770} = 7.0Lbs/Ft^2 * C_A * A_A = (7.0Lbs/Ft^2)(1.33*4.9Ft^2) = 46Lbs$
 $F_{Iced WindF Q665122} = 7.0Lbs/Ft^2 * C_A * A_A = (7.0Lbs/Ft^2)(1.37*6.9Ft^2) = 66Lbs$
 $F_{Iced WindF K10964} = 7.0Lbs/Ft^2 * C_A * A_A = (7.0Lbs/Ft^2)(1.24*9.0Ft^2) = 79Lbs$
 $F_{Iced WindS K7770} = 7.0Lbs/Ft^2 * C_A * A_A = (7.0Lbs/Ft^2)(1.33*2.6Ft^2+1.2*1.3Ft^2) = 35Lbs$
 $F_{Iced WindS Q665122} = 7.0Lbs/Ft^2 * C_A * A_A = (7.0Lbs/Ft^2)(1.37*5.6Ft^2+1.2*1.3Ft^2) = 65Lbs$
 $F_{Iced WindS K10964} = 7.0Lbs/Ft^2 * C_A * A_A = (7.0Lbs/Ft^2)(1.24*3.5Ft^2+1.2*1.3Ft^2) = 42Lbs$

Alpha/Beta/Gamma sector max applied moment on ±8'-0" long main RHS2.875"Ø (with 6' overhang) from wind, ice & dead load:

$M_{XBare Dead} = 1.2*(M_{BARE1}) + 1.2*(W_{Bare}*L^2/2) = 1.2(864LbsFt) = 1037 LbsFt$
 $M_{FBare Wind} = 1.6*[(W^2/2)] + 1.6*[F_{Bare WindFront}*L] = 1.6*(1122LbsFt) = 1795 LbsFt$
 $M_{Xiced Dead} = (M_{Bare Dead}) + (M_{ICED1}) + (W_{ICED}*L^2/8) = (1037LbsFt + 644LbsFt) = 1681 LbsFt$
 $M_{Yiced Wind} = 1.0*(M_{Iced Wind1}) + 1.0*(W_{Iced Wind}*L^2/2) = (350LbsFt) = 350 LbsFt$
 $M_{max BARE} = 2832 LbsFt$ $M_{max ICE} = 2031LbsFt$
 $M_{RX \& YAXIS} = (RHS4.0"Ø ASTM A53 = \Phi(S_x)(F_y) = (0.9)(2.39^{*3})(35Ksi) = 6273 LbsFt$
 $M_{RX \& YAXIS} = 6273 LbsFt > M_{FBare Wind} = 2832 LbsFt$ **OK!**

Existing pipe mount supports secured to clamp halves/rectangular tube roof parapet brackets can support AT&T loads

Existing clamp halves/rectangular tubes secured to roof parapet with ½"Ø Hilti Hit-I HY20 adhesive anchors with 3½" min embedment.

- Considering 2 Hit-HY20 anchors per HSS roof parapet wall bracket

Max Shear on ½"Ø Hilti Hit-I HY20 anchors $V_F = 353Lbs$
 Max Shear Capacity of ½"Ø Hilti Hit-I HY20 anchors $V_R = 1635Lbs$
 $V_R = 1635 Lbs > V_F = 353 Lbs$ **OK!**
 Max Tension on ½"Ø Hilti Hit-I HY20 anchors $T_F = 625 Lbs$
 Max Tensile Capacity of ½"Ø Hilti Hit-I HY20 anchors $T_R = 1160 Lbs$
 $T_R = 1160 Lbs > T_F = 625 Lbs$ **OK!**

Check for combined tension & shear

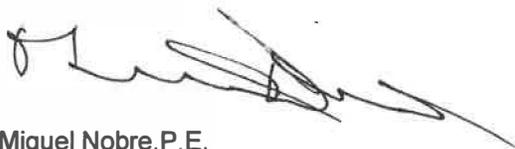
$V_F/V_R + T_F/T_R = 353/1635 + 625/1160 = 0.75 < 1.0$ **OK!**

*Existing Hilti ½"Ø Hit-I HY20 wall anchors are installed 2 per pipe mount wall bracket, 4 total, can support proposed loads *

Based on these results, we can confirm that the present ±146'-0" tall concrete/masonry framed building roof parapet, associated AT&T Mobility mounts, currently loaded to approximately 75% capacity, can accommodate AT&T existing & proposed loads outlined above in appurtenance loading, in apparent agreement with the Connecticut Building Code 2016, EIA-222-G with respect to individual member capacities.

We trust the forgoing information will meet your requirements.

Yours very truly,



Miguel Nobre, P.E.





SITE SAFE
RF COMPLIANCE EXPERTS



8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 • 703.276.1169 fax
info@sitesafe.com • www.sitesafe.com



**Empire Telecom on behalf of
AT&T Mobility, LLC
Site FA – 10035020
Site ID – CTL02176
USID – 60436
Site Name – BRIDGEPORT CENTRAL
SBC CO
(MRCTB037931)**

**430 John Street
Bridgeport, CT 06604**

Latitude: N41-10-33.97
Longitude: W73-11-40.50
Structure Type: Rooftop

Report generated date: January 30, 2020
Report by: Leo Romero
Customer Contact: Nora Oliver

**AT&T Mobility, LLC will be compliant when the
remediation recommended in Section 5.2 or
other appropriate remediation is implemented.**

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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Max Cumulative Simulated RFE Level on the Rooftop	5,972.0% General Public Limit 1" in front of AT&T Mobility, LLC's Beta Sector Antenna #7
Max Cumulative Simulated RFE Level on the Rooftop Walking Surface	5,972.0% General Public Limit 1" in front of AT&T Mobility, LLC's Beta Sector Antenna #7
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
Compliant per FCC Rules and Regulations?	Will Be Compliant
Compliant per AT&T Mobility, LLC's Policy?	No

The following documents were provided by the client and were utilized to create this report:

RFDS: 10035020.PM201.RFDS.PRELIMINARY.CT2176

CD's: 10035020.AE201.FINAL S&S CDS.RFMod REPEATER..Rev1.09232019.CT2176

RF Powers Used: MAX RRH Powers

1.2 Fall Arrest Anchor Point Summary

Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	Y	40	N

1.3 Signage Summary

a. Pre-Site Visit AT&T Signage (Existing Signage)

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)	3								
Alpha	2				2	1			X
Beta	2				2				X
Gamma	2				2				X

Note: All existing signage was documented during a previous site visit on 6/21/2016.

b. Proposed AT&T Signage

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)									
Alpha						8			X
Beta						9			X
Gamma						8			X

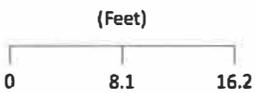
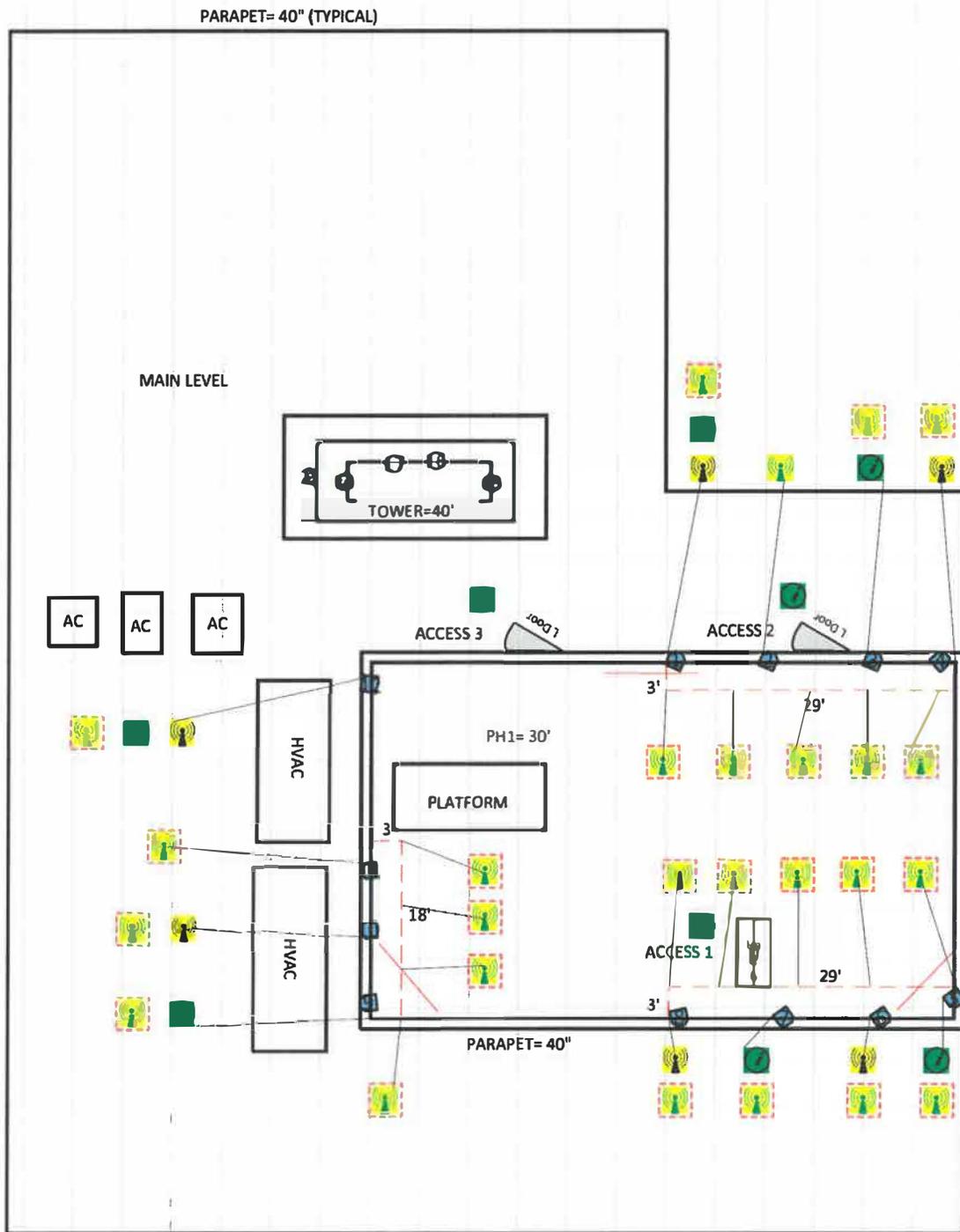


2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- AT&T Mobility, LLC Contribution

Site Scale Map For: BRIDGEPORT CENTRAL SBC CO



www.sitesafe.com
 Site Name: BRIDGEPORT CENTRAL SBC CO
 1/30/2020 2:25:39 PM

Carrier Identification	
	AT&T MOBILITY LLC
	VERIZON WIRELESS
	T-MOBILE
	SPRINT
	UNKNOWN CARRIER

Sign Legend	
	Caution 1
	Caution 2
	Notice 2
	Notice 1
	Warning
	Warning 2
	Info 1
	Info 2
	RSP

Barrier

Proposed Barriers/ Signs



3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
1	AT&T MOBILITY LLC	KMW AM-X-CD-14-65-00T	Panel	737	LTE	0	67	4	60	TPO	Watt	0	1	879.3	11.66	34'	0°	6°
2	AT&T MOBILITY LLC	Kathrein-Scala 800-10964	Panel	763	LTE	0	64.9	4.9	160	TPO	Watt	0	1	2208.6	11.4	33.5'	0°	6°
2	AT&T MOBILITY LLC	Kathrein-Scala 800-10964	Panel	2100	LTE	0	60.7	4.9	160	TPO	Watt	0	1	5273.8	15.18	33.5'	0°	2°
3	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	722	LTE	0	69	6	80	TPO	Watt	0	1	1119.7	11.46	33'	0°	3°
3	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	850	LTE	0	63	6	80	TPO	Watt	0	1	997.9	10.96	33'	0°	6°
3	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	LTE	0	68	6	160	TPO	Watt	0	1	4169.8	14.16	33'	0°	0°
3	AT&T MOBILITY LLC	Quintel QS66512-2*	Panel	2300	LTE	0	64	6	100	TPO	Watt	0	1	2857.6	14.56	33'	0°	3°
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	23	82	4.6	40	TPO	Watt	0	1	566.3	11.51	33.7'	0°	0°
5	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	737	LTE	120	66	4.6	60	TPO	Watt	0	1	807.5	11.29	33.7'	0°	6°
6	AT&T MOBILITY LLC	Kathrein-Scala 800-10964	Panel	763	LTE	120	64.9	4.9	160	TPO	Watt	0	1	2208.6	11.4	33.5'	0°	6°
6	AT&T MOBILITY LLC	Kathrein-Scala 800-10964	Panel	2100	LTE	120	60.7	4.9	160	TPO	Watt	0	1	5273.8	15.18	33.5'	0°	8°
7	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	722	LTE	120	69	6	80	TPO	Watt	0	1	1119.7	11.46	33'	0°	3°
7	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	850	LTE	120	63	6	80	TPO	Watt	0	1	997.9	10.96	33'	0°	6°
7	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	LTE	120	68	6	160	TPO	Watt	0	1	4169.8	14.16	33'	0°	0°
7	AT&T MOBILITY LLC	Quintel QS66512-2*	Panel	2300	LTE	120	64	6	100	TPO	Watt	0	1	2857.6	14.56	33'	0°	3°
8	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	143	82	4.6	40	TPO	Watt	0	1	566.3	11.51	33.7'	0°	0°
9	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	737	LTE	240	66	4.6	60	TPO	Watt	0	1	807.5	11.29	33.7'	0°	2°
10	AT&T MOBILITY LLC	Kathrein-Scala 800-10964	Panel	763	LTE	240	64.9	4.9	160	TPO	Watt	0	1	2208.6	11.4	33.5'	0°	2°
10	AT&T MOBILITY LLC	Kathrein-Scala 800-10964	Panel	2100	LTE	240	60.7	4.9	160	TPO	Watt	0	1	5273.8	15.18	33.5'	0°	4°
11	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	722	LTE	240	69	6	80	TPO	Watt	0	1	1119.7	11.46	33'	0°	3°
11	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	850	LTE	240	63	6	80	TPO	Watt	0	1	997.9	10.96	33'	0°	2°
11	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	LTE	240	68	6	160	TPO	Watt	0	1	4169.8	14.16	33'	0°	0°
11	AT&T MOBILITY LLC	Quintel QS66512-2*	Panel	2300	LTE	240	64	6	100	TPO	Watt	0	1	2857.6	14.56	33'	0°	3°
12	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	263	82	4.6	40	TPO	Watt	0	1	566.3	11.51	33.7'	0°	0°
13	AT&T MOBILITY LLC (Canceled)	Generic Microwave	Aperture	10795		225	2	8	0	TPO	Watt	0	0	0	44.96	45'	0°	0°
14	AT&T MOBILITY LLC (Canceled)	Generic Microwave	Aperture	10875		225	2	8	0	TPO	Watt	0	0	0	44.96	45'	0°	0°



Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az	Hor BW (Deg)	Ant Len	Power	Power Type	Power Unit	Loss	TX Count	Total ERP (Watts)	Ant Gain (dBi)	Z	MDT	EDT
15	AT&T MOBILITY LLC (Canceled)	Generic Microwave	Aperture	10875		30	2	8	0	TPO	Watt	0	0	0	44.96	45'	0°	0°
16	UNKNOWN CARRIER	Generic Yagi	Yagi	150		0	76	3	100	ERP	Watt	0	0	100	9.11	46.5'	0°	0°
17	UNKNOWN CARRIER	Andrew DB224	Omni	150		0	360	21.5	100	ERP	Watt	0	0	100	5.96	37.3'	0°	0°

Note: The Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience. Proposed equipment is tagged as (Proposed) under Operator or Antenna Make & Model.

*Note: AT&T plans to add 2300 MHz SDARS remotes to antennas 3, 7 and 11.

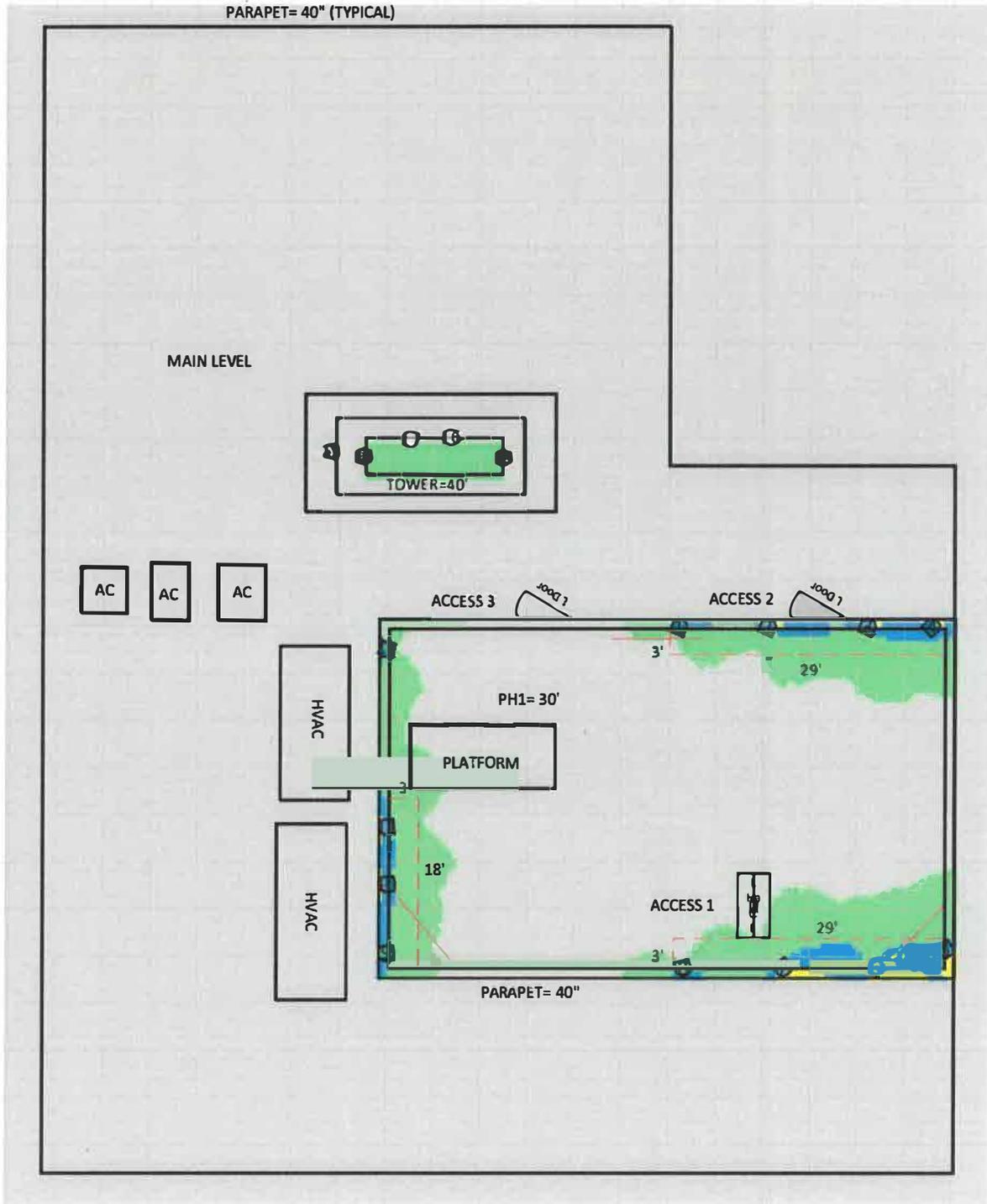
4 Emission Predictions

In the RF Exposure Simulations below, all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

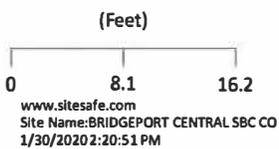
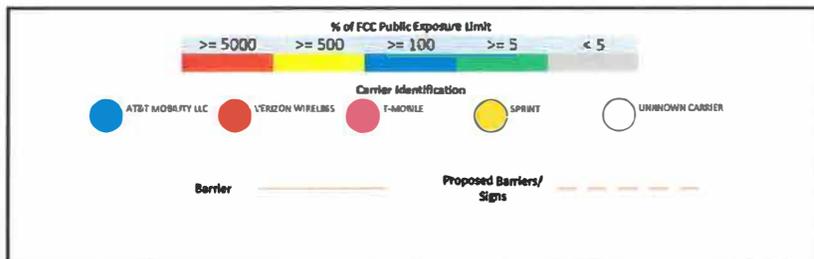
- MAIN LEVEL = 0'
- PH1 = 30'
- Tower = 40'

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: BRIDGEPORT CENTRAL SBC CO Composite Diagram

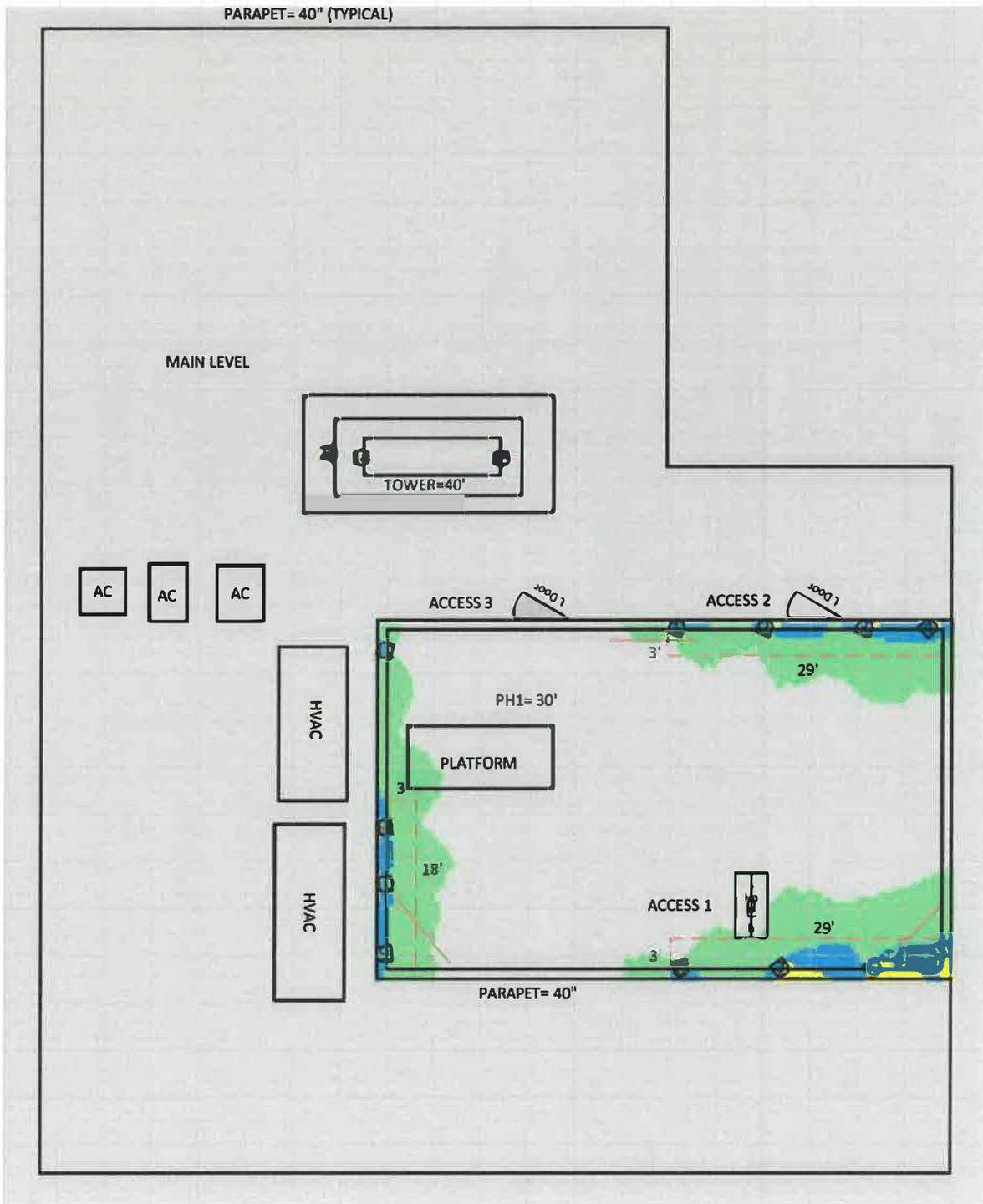


% of FCC Public Exposure Limit
Spatial average 0' - 6'

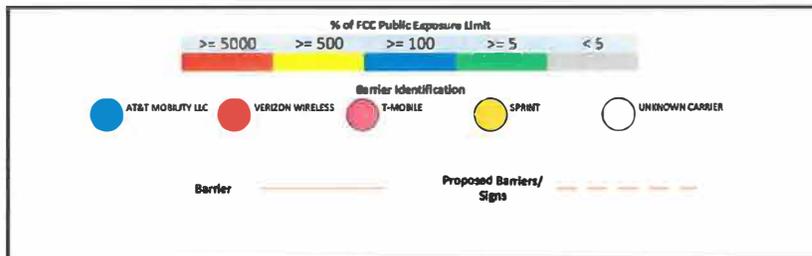


Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

RF Exposure Simulation For: BRIDGEPORT CENTRAL SBC CO
 AT&T Mobility, LLC Contribution



% of FCC Public Exposure Limit
 Spatial average 0' - 6'



Sitesafe OET-65 Model
 Near Field Boundary:
 1.5 * Aperture
 Reflection Factor: 1
 Spatially Averaged

5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC's RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

AT&T Mobility, LLC Proposed Alpha Sector Location

(3) Yellow Caution 2 sign(s) required one each on antennas #1, #3 and #4.

Remove the existing Information 1 and Caution signs.

Remove the existing barrier and install a barrier that is 32' long, comprised of (2) segment(s) and an estimated (6) stanchions as depicted in the site scale map.

Install (5) total Caution 2 sign(s) on the proposed barrier stanchions.

- 3' segment: (1) Caution 2 sign(s)
- 29' segment: (4) Caution 2 sign(s)

AT&T Mobility, LLC Proposed Beta Sector Location

(4) Yellow Caution 2 sign(s) required one each on antennas #5, #6, #7 and #8.

Remove the existing Information 1 and Caution signs.

Remove the existing barrier and install a barrier that is 32' long, comprised of (2) segment(s) and an estimated (6) stanchions as depicted in the site scale map.

Install (5) total Caution 2 sign(s) on the proposed barrier stanchions.

- 3' segment: (1) Caution 2 sign(s)
- 29' segment: (4) Caution 2 sign(s)

AT&T Mobility, LLC Proposed Gamma Sector Location

(4) Yellow Caution 2 sign(s) required one each on antennas #9, #10, #11 and #12.

Remove the existing Information 1 and Caution signs.

Remove the existing barrier and install a barrier that is 21' long, comprised of (2) segment(s) and an estimated (5) stanchions as depicted in the site scale map.

Install (4) total Caution 2 sign(s) on the proposed barrier stanchions.

- 3' segment: (1) Caution 2 sign(s)
- 18' segment: (3) Caution 2 sign(s)



Recommended per AT&T Mobility, LLC's Policy:

Site Access Location

Sitesafe recommends that all AT&T Mobility, LLC signage be removed from all access points, as they are not required by AT&T Mobility, LLC's signage policy.

Notes:

- Signage on the barriers should be placed on the stanchions no more than 8' apart from each other.
- Any existing signage that conflicts with the proposed signage in this report should be removed per AT&T Signage Posting Rules.
- Areas where the predicted RF emission level is above 5000% General Public MPE level are located within the near field of the antennas and are restricted by the antenna mounts. Thus, Caution 2 signs are sufficient.
- Ensure all existing signage and barriers documented in this report still exist at the site, unless otherwise indicated.



6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Site Safe, LLC, in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Leo Romero.

January 30, 2020

A handwritten signature in black ink, appearing to read "Anthony Handley", written in a cursive style.

Anthony Handley



Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for evaluating the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996, the FCC periodically reviews these rules and regulations as per their congressional mandate.

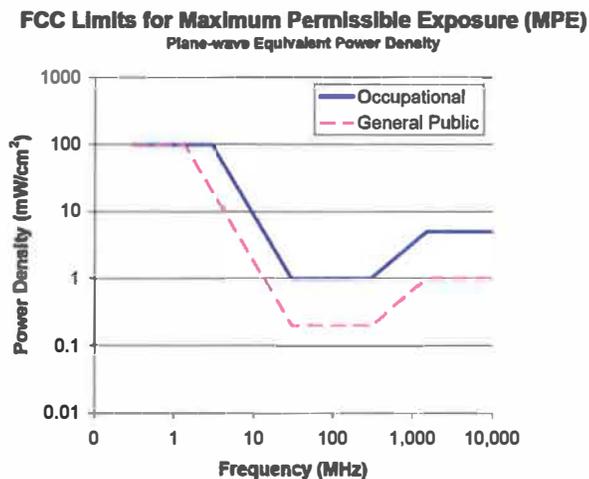
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

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

Limits for General Population/Uncontrolled Exposure (MPE)

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

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

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lockout/Tagout procedure aimed to control the unexpected energization or startup of machines when maintenance or service is being performed.



Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3-foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram(s): Section 4 of this report contains RF Diagram(s) that outline various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit. **Gray areas are accessible to anyone.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

If trained occupational personnel require access to areas that are delineated as above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Appendix F – Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

Gain (of an antenna) – The ratio of the maximum power in a given direction to the maximum power in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antenna as compared to an omnidirectional antenna.

General Population/Uncontrolled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **unaware** of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.



Occupational/Controlled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency Exposure or Electromagnetic Fields – Electromagnetic waves that are propagated from antennas through space.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy a 6-foot tall human body will absorb while present in an electromagnetic field of energy.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.



Appendix G – References

The following references can be followed for further information about RF Health and Safety.

Site Safe, LLC

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

http://ec.europa.eu/health/ph_risk/committees/04_scenihp/docs/scenihp_o_022.pdf

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-Ionizing Radiation

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED COMMUNICATIONS FACILITY MODIFICATIONS INCLUDING:
 - (P) SIRIUS-XM NEW COMBOSCOPE ION-423 SWAYS REMOVE RADIO ON PARAPET MOUNTED UNISTRUTS (1/3SECT, 3 TOT.)
 - (P) SIRIUS-XM NEW COMBOSCOPE CB223SR-43 CORNER ON PARAPET MOUNTED UNISTRUTS (1/3SECT, 3 TOT.)
 - (P) AT&T ALPHA/BETA/GAMMA LIEVICS RRUS-32 TRM-A PORT TO BE CONNECTED TO NEW COMBOSCOPE SW/MCS DRLEXER (CB223SR4) (1/3SECT, 3 TOT.) IN SHED/ITE.
 - SIRIUS-XM TO BROADCAST NEW *CommsScope* BACK
 - ADD 2.5A BREAKER IN AT&T POWER PLANT FOR SIRIUS-XM EQUIPMENT

SITE NUMBER: CT2176
SITE NAME: BRIDGEPORT - CENTRAL SBC CO
SITE ADDRESS: 430 JOHN STREET BRIDGEPORT, CT 06604
TOWER OWNER: AT&T CAPITAL SERVICES, INC. 2000 W. AT&T CENTER DRIVE LOCATION MA 23E HOFFMAN ESTATES, IL 60196
APPLICANT: AT&T 550 COCHITUATE RD SUITES 13 & 14 FRAMINGHAM, MA 01701
NOC CONTACT: TEL 866-915-5600
COORDINATES: LAT. N41° 10' 33.9" LONG. W73° 11' 40.5" ±148"
RAD CENTER: N/A
SITE REFERENCE: N/A
SITE PARCEL NO.: N/A
CURRENT ZONING: N/A
HORIZONTAL DATUM: (NAD) 1983



at&t

SITE NUMBER: CT2176 FA: 10035020
SITE NAME: BRIDGEPORT -CENTRAL SBC CO
PROJECT: RF MOD // IP REPEATER MRTCB037931

DRAWING INDEX

REV

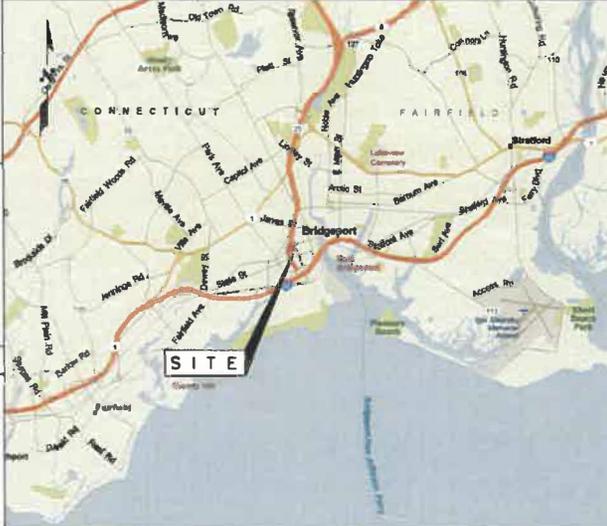
01	TITLE SHEET	3
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03	SITE PLAN & EQUIPMENT PLAN	3
04	ELEVATION VIEW & ANTENNA LAYOUT	3
05	GROUNDING DETAILS	3

LOCATION MAP

APPLICABLE BUILDING CODES AND STANDARDS

DIRECTIONS: FROM ROCKY HILL, TAKE I-91 SOUTH. TAKE I-91 SOUTH EXIT 1 TOWARDS I-95 SOUTH. PROCEED SOUTH ON I-95. TAKE I-95 SOUTH EXIT 27 TOWARDS LAFAYETTE ST. PROCEED NORTH ON LAFAYETTE ST. TURN LEFT ON JOHN ST. BUILDING ON RIGHT

SITE ACCESS: LOCKED GATE



SUBCONTRACTOR'S WORK SHALL COMPLY WITH PROJECT STANDARDS AND SPECIFICATIONS. SUBCONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
CONNECTICUT STATE BUILDING CODE

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE LATEST EDITION
SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
AMERICAN NATIONAL STANDARDS INSTITUTE/TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA) 222-F DR G AS APPLICABLE, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - OC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811

CONTACT & UTILITY INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	MIGUEL NOBRE	VRG	(508) 981-9590
SITE ACQUISITION:	DAVID COOPER	EMPIRE	(617) 639-4908
CONSTRUCTION:	GREG OORVAN	EMPIRE	(484) 683-1750
UTILITIES			
POWER:	WORK REQUEST GROUP	NATIONAL GRID	(800) 375-7405
TELCO:		VERIZON	(800) 941-9800

VRG
VERTICAL RESOURCES GRP.

489 Washington Street
Auburn, MA 01501
Tel. (508) 981-9590
Fax (508) 519-8939
vrg@vrgrp.com

EMPIRE telecom
EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2176
SITE NAME: BRIDGEPORT
PROJECT: RF MOD // IP

430 JOHN STREET
BRIDGEPORT, CT 06604
FAIRFIELD COUNTY



at&t
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

REV.	DATE	REVISION	BY	CHK	APP'D
01	01/06/09	GENERAL REVISION	G.J.P.	G.A.M.	
02	01/22/09	GENERAL REVISION	E.L.P.	G.A.M.	
03	01/23/10	GENERAL REVISION	E.L.P.	G.A.M.	
04	01/21/10	FOR CONSTRUCTION	E.L.P.	G.A.M.	
05		REVISION		CHK	APP'D
SCALE	DATE	REVISION	BY	CHK	APP'D



AT&T		
TITLE SHEET		
DWG. NUMBER	DRAWING NUMBER	REV.
CT176-#10035020	01	3

GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - PRIME CONTRACTOR
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AIAI WIRELESS
 CM - ORIGINAL EQUIPMENT MANUFACTURER
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE C&I SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
 ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND T&I PLAN DRAWING. ROUTING OF CONDUIT FOR POWER AND T&I SHALL BE APPROVED BY OWNER OF SITE.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE REPAIRED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

SITE WORK GENERAL NOTES

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PITS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE, BUT NOT BE LIMITED TO: A) FALL PROTECTION B) COMPRESSED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, BRUSH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE OWNER SPECIFICATION FOR SITE SIGNAGE.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED BY ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION. SEE DETAIL 303.
- THE AREAS OF THE OWNER'S PROPERTY OBTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTIONS' GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP) UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BRACING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 'MANUAL OF STEEL CONSTRUCTION'.
- ALL WELDING SHALL BE PERFORMED USING EPOXY ELECTRODES AND WELDING SHALL CONFORM TO AWSC WHERE FALLET WELD SIZES ARE NOT SHOWN. PROVIDE THE WELDING SIZE PER TABLE J7.4 IN THE AISC 'MANUAL OF STEEL CONSTRUCTION'. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4") CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. STEEL FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP).
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- INSTALLATION OF CONCRETE EXPANSION/REDUCE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, CONE OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL. WHEN DRILLING HOLES IN CONCRETE, SPECIAL INSPECTIONS, REQUIRED BY CODES/BODIES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/REDUCE ANCHORS SHALL BE STAINLESS STEEL, OR HOT-DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RUSSEL/REDHEAD, 1/2" OR APPROVED EQUAL.
- ALL STRUCTURAL STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 330, ASTM A108, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED.
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 REINFORCING WIRE FABRIC UNLESS NOTED OTHERWISE. SPICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD. INFO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS.
 CONCRETE CAST AGAINST EARTH.....3 IN.
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #8 AND LARGER.....2 INCH
 #5 AND SMALLER & W/F.....1 1/2 INCH
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR PAI
 CAST AGAINST THE GROUND:
 SLAB AND WALL.....3/4 INCH
 BEAMS AND COLUMNS.....1 1/2 INCH
- A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/REDUCE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, CONE OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL. WHEN DRILLING HOLES IN CONCRETE, SPECIAL INSPECTIONS, REQUIRED BY CODES/BODIES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/REDUCE ANCHORS SHALL BE STAINLESS STEEL OR HOT-DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RUSSEL/REDHEAD, 1/2" OR APPROVED EQUAL.
- CONCRETE COVER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (BC 1305.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:
 (A) RESULTS OF CONCRETE COVER TESTS PERFORMED AT THE SUPPLIER'S PLANT.
 (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
 FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH #.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.
- ALL CONCRETE SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL. EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MOISTURE PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBGRADE SHALL BE UNIFORM AND LEVELLED. PROMOTE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CALSHED WITH 100R PASSING 1" SIEVE.
- AS AN ALTERNATIVE TO ITEMS 2 AND 3, PROOF ROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/28) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BR 552). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.
- COMPACTION CRITERIA FOR OTHER FILL AREAS ON SITE SHALL MEET THE SAME REQUIREMENTS AS NOTED ABOVE.
- SOIL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

ELECTRICAL INSTALLATION NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNCS.
- EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND TI CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PERMANENT LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR IMPACTY CIRCUIT, AND BRANCH CIRCUIT TO NUMBERS (I.E., PANELBOARD AND CIRCUIT #S), NO HAND WRITTEN LABELS ALLOWED.
- PANELBOARDS (D NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED. NO HAND WRITTEN LABELS ALLOWED.
- ALL THE WIRING SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKETS LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (80°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, AHS/IEEE, AND NEC.

ELECTRICAL INSTALLATION NOTES (cont.)

- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNEXPOSED/UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, AHS/IEEE, AND NEC.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HIBRID COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE RAINDUT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- META RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING. SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.



489 Washington Street
 Auburn, MA 01501
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EMPIRE TELECOM USA, LLC
 16 ESQUIRE ROAD
 BILLERICA, MA 01821

SITE NUMBER: CT2176
SITE NAME: BRIDGEPORT
PROJECT: RF MOD // IP
 430 JOHN STREET
 BRIDGEPORT, CT 06804
 FAIRFIELD COUNTY

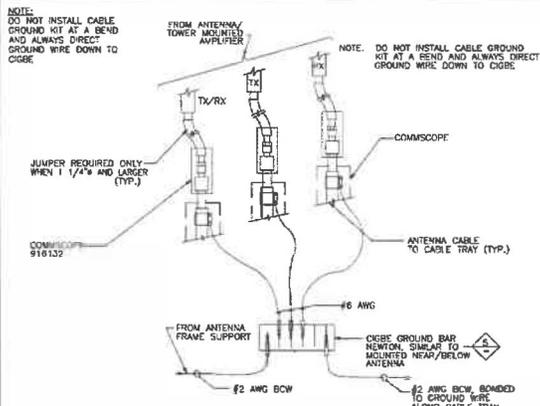


at&t
 550 COCHITUATE RD
 SUITES 13 & 14
 FRAMINGHAM, MA 01701

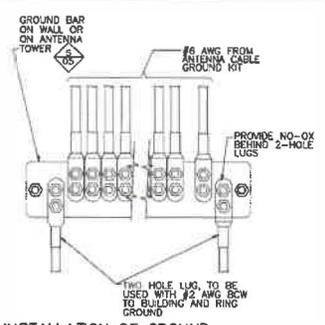
11/30/20	GENERAL REVISIONS	E.L.P.	C.A.M.
11/22/20	GENERAL REVISIONS	E.L.P.	C.A.M.
11/23/19	GENERAL REVISIONS	E.L.P.	C.A.M.
09/21/19	FOR CONSTRUCTION	E.L.P.	C.A.M.
REV. 34/1	REVISION	BY: D.M.	APP'D:
SCALE	DESIGNED BY: M.N.	DRAWN BY: G.A.M.	



AT&T		
NOTES		
SHEET NUMBER	DRAWING NUMBER	REV.
CT2176-02	02	3



CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE)
SCALE: N.T.S.

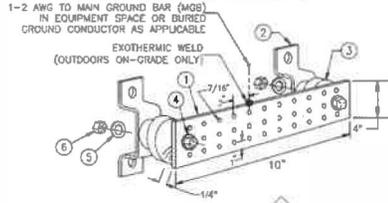


INSTALLATION OF GROUND WIRE TO GROUND BAR
SCALE: N.T.S.

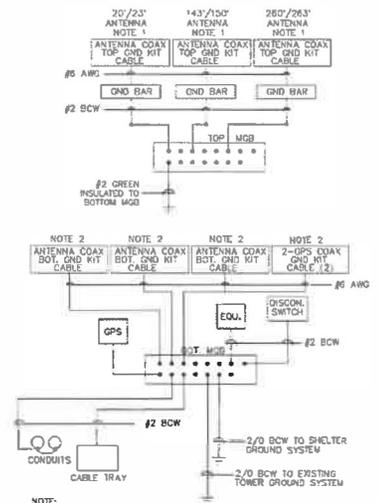


GROUNDING CONNECTION DETAIL
SCALE: N.T.S.

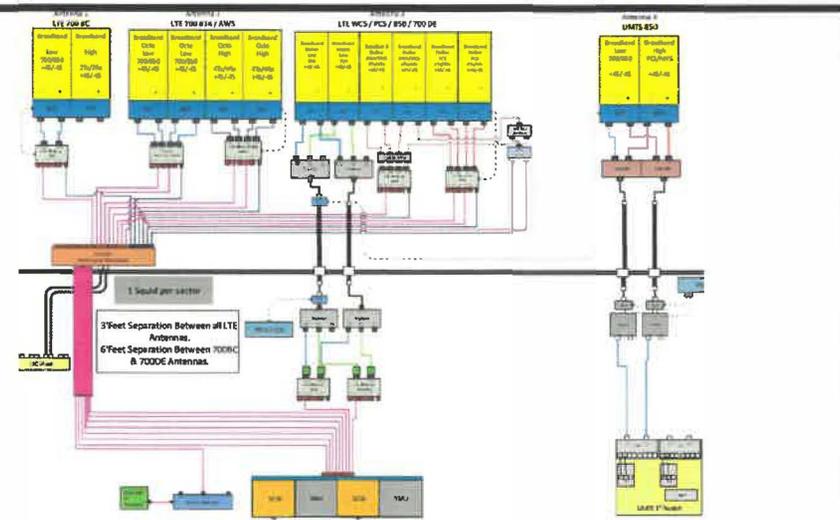
ITEM	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x12"	PRE DRILLED GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3081-4	INSULATORS
4	2	3012-13	15/8"-11x4" N.H.C.S.
5	4	3015-8	5/8" LOCKWASHER
6	2	3014-8	5/8"-11 HEX NUT



GROUND BAR DETAIL
SCALE: N.T.S.

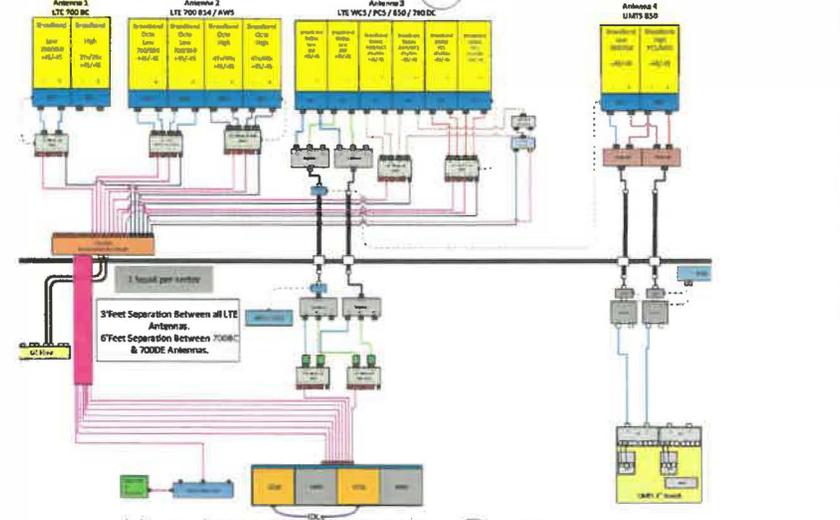


SCHEMATIC GROUNDING DIAGRAM
SCALE: N.T.S.



(P) ALPHA PLUMBING DIAGRAM
SCALE: N.T.S.

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS
2. INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS



(P) BETA/GAMMA PLUMBING DIAGRAM
SCALE: N.T.S.

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS
2. INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS

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EMPIRE telecom

EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2176
SITE NAME: BRIDGEPORT
PROJECT: RF MOD // IP

430 JOHN STREET
BRIDGEPORT, CT 06604
FAIRFIELD COUNTY

at&t

550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

DATE	REVISION	BY	CHKD
11/20/20	GENERAL REVISIONS	E.L.P. G.A.M.	
01/22/20	GENERAL REVISIONS	E.L.P. G.A.M.2	
09/23/19	GENERAL REVISIONS	E.L.P. G.A.M.	
09/23/19	FOR CONSTRUCTION	E.L.P. G.A.M.2	
08/28/19	DESIGN	By: E.L.P. G.A.M.	

DESIGNED BY: M.S. DRAWN BY: G.A.M.



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GROUNDING DETAILS

JOB NUMBER	DRAWING NUMBER	REV.
CT176-Plumbing	05	3