

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kristine Sullivan
 Land Use Analyst
 Town of Woodbridge
 11 Meetinghouse Lane
 Woodbridge, CT 06525



9590 9402 1864 6104 9428 69

2. Article Number (Transfer from service label)

7016 1370 0000 4741 4252

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

11-17-17

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Terry Gilbertson
 Zoning Enforcement Officer
 Town of Woodbridge
 11 Meetinghouse Lane
 Woodbridge, CT 06525



9590 9402 1864 6104 9428 76

2. Article Number (Transfer from service label)

7016 1370 0000 4741 4269

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

11-17-17

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Restricted Delivery

Domestic Return Receipt

Track Another Package +

Tracking Number: 70161370000047414276

Remove X

Your item was delivered to an individual at the address at 2:08 pm on November 20, 2017 in WOODBRIDGE, CT 06525.

Delivered

November 20, 2017 at 2:08 pm
DELIVERED, LEFT WITH INDIVIDUAL
WOODBRIDGE, CT 06525

Get Updates 

Text & Email Updates



Tracking History



Product Information



See Less 

Can't find what you're looking for?

Go to our **FAQs** (<http://faq.usps.com/?articleId=220900>) section to find answers to your tracking questions. **How can I help you?**

The easiest tracking number is the one you don't have to know.

With Informed Delivery[®], you never have to type in another tracking number. Sign up to:

- See images* of incoming mail.
- Automatically track the packages you're expecting.
- Set up email and text alerts so you don't need to enter tracking numbers.
- Enter USPS Delivery Instructions[™] for your mail carrier.

Sign Up

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*NOTE: Black and white (grayscale) images show the outside, front of letter-sized envelopes and mailpieces that are processed through USPS automated equipment.

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FAQs > (<http://faq.usps.com/?articleId=220900>)

Track Another Package +

Tracking Number: 70161370000047414245

Remove X

Expected Delivery on

FRIDAY




17 NOVEMBER 2017 ⓘ

by **8:00pm** ⓘ

 **Delivered**

November 17, 2017 at 12:31 pm
DELIVERED, FRONT DESK/RECEPTION
CLIFTON PARK, NY 12065

Get Updates ▾

Text & Email Updates	<p>ASK USPS® </p>
Tracking History	<p>Tracking Number: 70161370000047414245</p>
Product Information	<p> Good news. It looks like this package was delivered. </p>
<p>See Less ^</p>	<p>What tracking questions can I help you with?</p> <p><i>More Information:</i></p> <ul style="list-style-type: none"> <u>My package is missing</u> <u>My package is damaged</u> <u>Get Informed Delivery®</u> <p>Can't find what you're looking for?</p> <p>Type here Send</p>

Go to our **FAQs** (<http://faq.usps.com/?articleId=220900>) section to find answers to your tracking questions.

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With Informed Delivery[®], you never have to type in another tracking number. Sign up to:

- See images* of incoming mail.
- Automatically track the packages you're expecting.
- Set up email and text alerts so you don't need to enter tracking numbers.
- Enter USPS Delivery Instructions[™] for your mail carrier.

Sign Up

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7016 1370 0000 4741 4245

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CERTIFIED MAIL® RECEIPT
Domestic Mail Only

CTS103
BWE

For delivery information, visit our website at www.usps.com®.

CLIFTON PARK, NY 12065

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee as appropriate)	\$2.75
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.03

Total Postage and Postage and Fees \$4.06

Sent To Paul Pedicone

Associate Project Manager

Crown Castle

3 Corporate Park Drive, Suite 101

Clifton Park, NY 12065

PS Form 3800, A



7016 1370 0000 4741 4252

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

CTS103
BWE

For delivery information, visit our website at www.usps.com®.

WOODBRIDGE, CT 06525

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee as appropriate)	\$2.75
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.03

Total Postage and Postage and Fees \$5.13

Sent To Kristie Sullivan

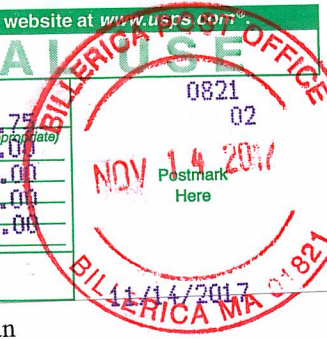
Land Use Analyst

Town of Woodbridge

11 Meetinghouse Lane

Woodbridge, CT 06525

PS Form 3800, A



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U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

CTS103
BWE

For delivery information, visit our website at www.usps.com®.

WOODBRIDGE, CT 06525

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee as appropriate)	\$2.75
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.24

Total Postage and Postage and Fees \$5.49

Sent To Beth Heller

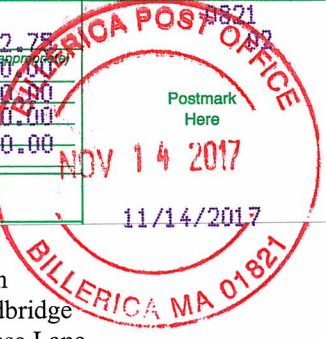
First Selectman

Town of Woodbridge

11 Meetinghouse Lane

Woodbridge, CT 06525

PS Form 3800, A



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CTS103
BWE

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WOODBRIDGE, CT 06525

Certified Mail Fee	\$3.35
Extra Services & Fees (check box, add fee as appropriate)	\$2.75
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.03

Total Postage and Postage and Fees \$5.13

Sent To Tracy Gilbertson

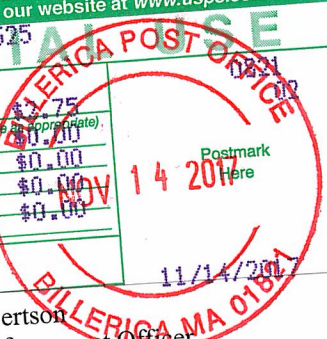
Zoning Enforcement Officer

Town of Woodbridge

11 Meetinghouse Lane

Woodbridge, CT 06525

PS Form 3800, A





November 14, 2017

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

Regarding: Notice of Exempt Modification – RRH Installation
Property Address: 50 Woodfield Road, Woodbridge, CT 06525
AT&T Site: CT5163/FA 10071344

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing monopole at the above-referenced address, latitude 41.3277919, longitude -72.9938989. Said monopole is owned by the Town of Woodbridge.

AT&T desires to modify its existing telecommunications facility by swapping (3) three remote-radio heads (“RRHs”). The centerline height of the existing antennas will remain the same.

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 a copy of this letter is being sent to Beth Heller, First Selectman of the Town of Woodbridge as both property owner and as the chief elected official of the municipality in which the facility is located. A copy of this letter is also being sent to Terry Gilbertson, Zoning Enforcement Officer of the Town of Woodbridge, Kristine Sullivan, Land Use Analyst for the Town of Woodbridge and the tower company, Crown Castle.

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 remote-radio heads to be swapped will be installed at the existing height of approximately 101-feet on the 101-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment, 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.

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 Crown Castle dated October 7, 2017).

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

Sincerely,

Jennifer Iliades

Jennifer Iliades
Site Acquisition Specialist

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

cc: Beth Heller, First Selectman, Town of Woodbridge
Terry Gilbertson, Zoning Enforcement Officer, Town of Woodbridge
Kristine Sullivan, Land Use Analyst, Town of Woodbridge
Crown Castle

Exhibit 1

50 WOODFIELD RD

Location 50 WOODFIELD RD

Mblu 3002/ 2040/ 50/ /

Owner TOWN OF WOODBRIDGE

Assessment \$4,032,700

Appraisal \$5,761,000

PID 924

Building Count 6

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2014	\$4,642,900	\$1,118,100	\$5,761,000

Assessment			
Valuation Year	Improvements	Land	Total
2014	\$3,250,030	\$782,670	\$4,032,700

Owner of Record

Owner TOWN OF WOODBRIDGE
Co-Owner
Address 11 MEETINGHOUSE LN
WOODBRIDGE, CT 06525

Sale Price \$6,900,000
Certificate
Book & Page 628/ 294
Sale Date 08/28/2009
Instrument 1E

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
TOWN OF WOODBRIDGE	\$6,900,000		628/ 294	1E	08/28/2009
WOODBRIDGE COUNTRY CLUB	\$0		87/ 003		10/25/1967

Building Information

Building 1 : Section 1

Year Built: 1970
Living Area: 21,951

Building Attributes	
Field	Description
STYLE	Country Club
MODEL	Commercial

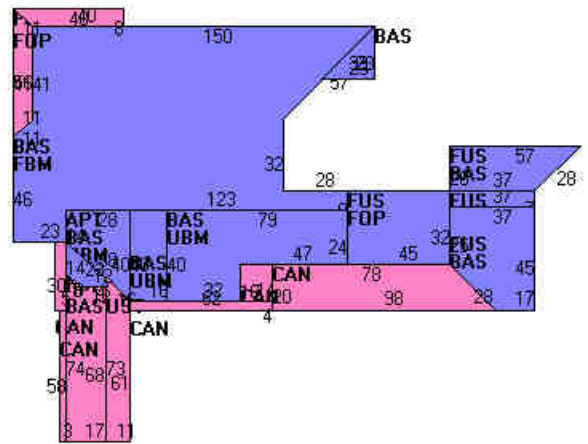
Stories:	2
Occupancy	1
Exterior Wall 1	Wood on Sheath
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	Central
Bldg Use	Golf Course
Total Rooms	
Total Bedrms	00
Total Baths	0
Dormer	
1st Floor Use:	3800
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	12
% Comn Wall	0

Building Photo



(http://images.vgsi.com/photos/WoodbridgeCTPhotos/\00\00\37

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	17,091	17,091
FUS	Upper Story, Finished	4,104	4,104
APT	Apartment	756	756
CAN	Canopy	2,556	0
FBM	Basement, Finished	10,430	0
FOP	Open Porch	3,610	0
UBM	Basement, Unfinished	3,804	0
UST	Utility, Storage, Unfinished	737	0
		43,088	21,951

Building 2 : Section 1

Year Built: 1980
Living Area: 5,000

Building Attributes : Bldg 2 of 6	
Field	Description

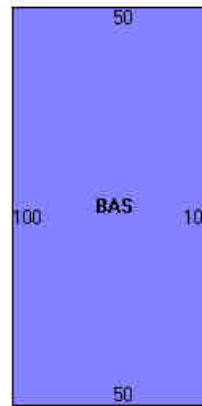
STYLE	Warehouse
MODEL	Industrial
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	Golf Course
Total Rooms	
Total Bedrms	00
Total Baths	0
Dormer	
1st Floor Use:	380I
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	NONE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	14
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\07>)

Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	5,000	5,000
		5,000	5,000

Building 3 : Section 1

Year Built: 1960
Living Area: 2,975

Building Attributes : Bldg 3 of 6	
Field	Description
STYLE	Service Shop
MODEL	Industrial
Stories:	1
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip

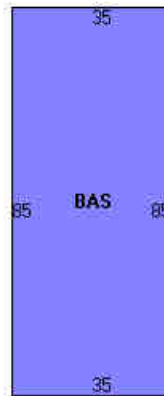
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	Golf Course
Total Rooms	
Total Bedrms	00
Total Baths	0
Dormer	
1st Floor Use:	380I
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	NONE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\07>)

Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	2,975	2,975
		2,975	2,975

Building 4 : Section 1

Year Built: 1960
Living Area: 2,250

Building Attributes : Bldg 4 of 6	
Field	Description
STYLE	Service Shop
MODEL	Industrial
Stories:	1
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip

Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	Golf Course
Total Rooms	
Total Bedrms	00
Total Baths	0
Dormer	
1st Floor Use:	380I
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	12
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\0;>

Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	2,250	2,250
UAT	Attic, Unfinished	2,250	0
		4,500	2,250

Building 5 : Section 1

Year Built: 1950
Living Area: 1,140

Building Attributes : Bldg 5 of 6	
Field	Description
STYLE	Restaurant
MODEL	Commercial
Stories:	1
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	

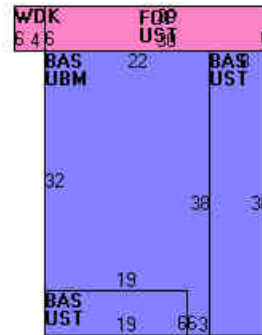
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Knotty Pine
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	None
AC Type	None
Bldg Use	Golf Course
Total Rooms	
Total Bedrms	00
Total Baths	0
Dormer	
1st Floor Use:	3800
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & MIN WL
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	0

Building Photo



(http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\0;

Building Layout



Building Sub-Areas (sq ft)		Legend	
Code	Description	Gross Area	Living Area
BAS	First Floor	1,140	1,140
FOP	Open Porch	180	0
UBM	Basement, Unfinished	722	0
UST	Utility, Storage, Unfinished	598	0
WDK	Wood Deck	24	0
		2,664	1,140

Building 6 : Section 1

Year Built: 1970

Living Area: 180

Building Attributes : Bldg 6 of 6	
Field	Description
STYLE	Store
MODEL	Industrial
Stories:	1

Occupancy	1
Exterior Wall 1	Pre-Fab Wood
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	None
AC Type	None
Bldg Use	SFR OPEN MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
Dormer	
1st Floor Use:	201I
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	NONE
Ceiling/Wall	CEIL & MIN WL
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	0

Building Photo



(<http://images.vgsi.com/photos/WoodbridgeCTPhotos//\00\00\34>)

Building Layout



Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	180	180
		180	180

Extra Features

Extra Features				<u>Legend</u>
Code	Description	Size	Value	Bldg #
SPR1	Sprinklers Wet	36185 S.F.	\$17,400	1
FPL1	Fireplace	1 UNITS	\$1,800	1
MEZ2	Mezzanine Fin.	284 S.F.	\$2,000	1
CLR1	Cooler	128 S.F.	\$5,800	1
CLR2	Freezer	64 S.F.	\$3,100	1
ELCM	Elevator Comm.	1 Floors	\$21,000	1

Land

Land Use

Use Code 903C
Description Municipal 94
Zone A
Neighborhood
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 140.41
Frontage 0
Depth 0
Assessed Value \$782,670
Appraised Value \$1,118,100

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed			112 S.F.	\$200	1
BTH2	Bath House Gd			65 S.F.	\$500	1
SHD2	Shed Good			171 S.F.	\$400	1
TEN	Tennis Court			4 UNIT	\$38,400	1
PAV1	Paving Asphalt			55000 S.F.	\$39,600	1
SPL1	Pool IG Concrct			3158 S.F.	\$80,500	1
SPL1	Pool IG Concrct			314 S.F.	\$7,100	1
GAZ	Gazebo			484 S.F.	\$7,000	1
IMP	Implement Shed			32 S.F.	\$100	1
PAT2	Patio Good			7576 S.F.	\$36,400	1
FOP	Open Porch			484 S.F.	\$4,600	1
WDK	Wood Deck			719 S.F.	\$6,000	1
FOP	Open Porch			175 S.F.	\$1,700	1
LT3	Lights Triple			8 UNITS	\$7,200	1
FOP	Open Porch			880 S.F.	\$8,400	1
BTH1	Bath House			920 S.F.	\$16,100	1
	GREENS			18	\$1,512,000	1

Valuation History

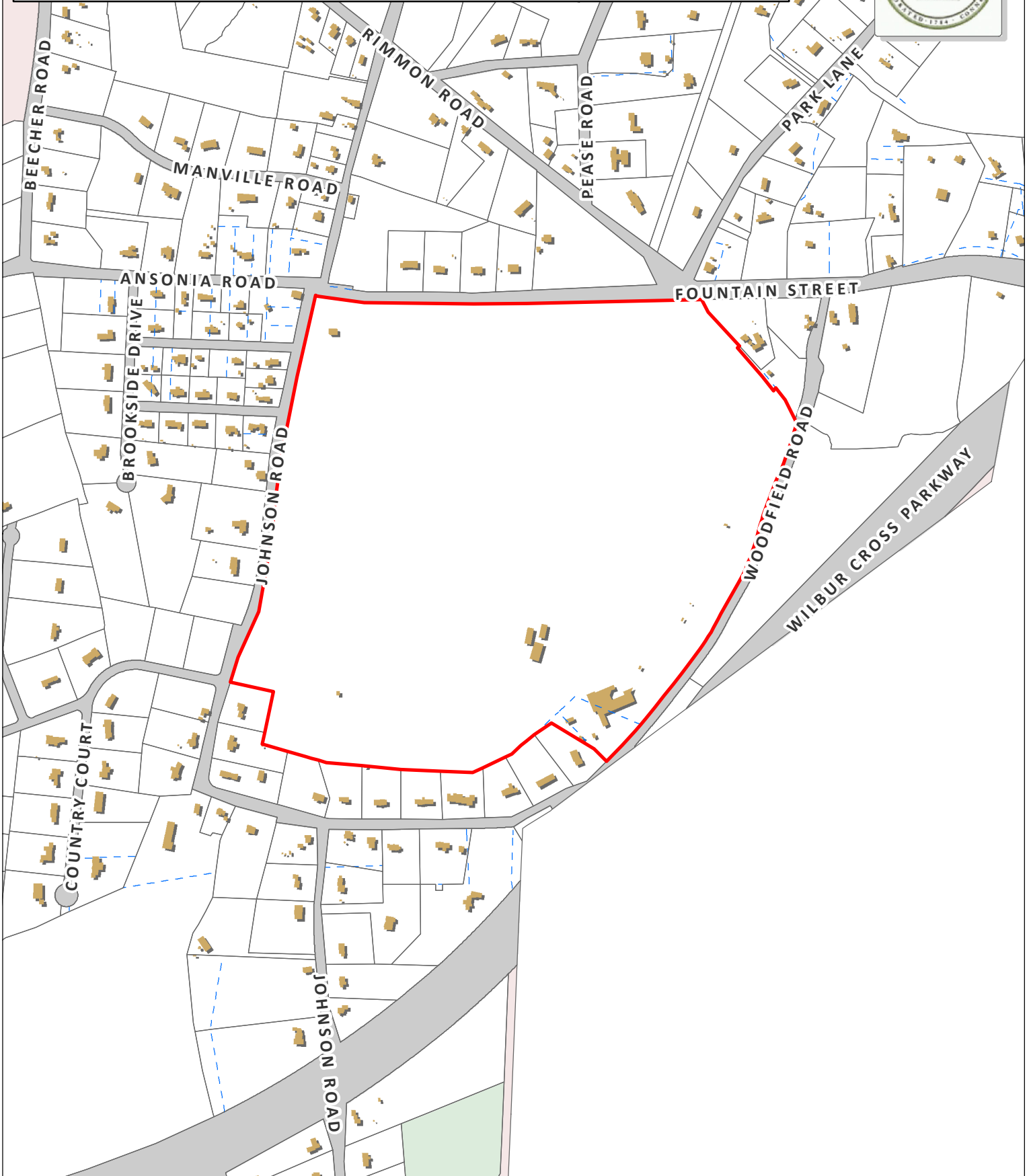
Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$4,642,900	\$1,118,100	\$5,761,000
2013	\$5,662,300	\$950,400	\$6,612,700
2012	\$5,662,300	\$950,400	\$6,612,700

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$3,250,030	\$782,670	\$4,032,700
2013	\$3,963,610	\$665,280	\$4,628,890
2012	\$3,963,610	\$665,280	\$4,628,890

Town of Woodbridge, Connecticut - Assessment Parcel Map

GIS ID: 924

Address:



Approximate Scale: 1 inch = 700 feet

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Woodbridge and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced May 2015

Exhibit 2

PROJECT INFORMATION

SCOPE OF WORK: • REPLACE 1 RRH PER SECTOR (TOTAL OF 3 RRHS TO BE REPLACED)

SITE ADDRESS: 50 WOODFIELD ROAD
WOODBRIDGE, CT 06525

LATITUDE: 41.3277919 41°-19'-40.05084"N
LONGITUDE: -72.9938989 72°-59'-38.03604"W

USID: 14243

TOWER OWNER: TBD

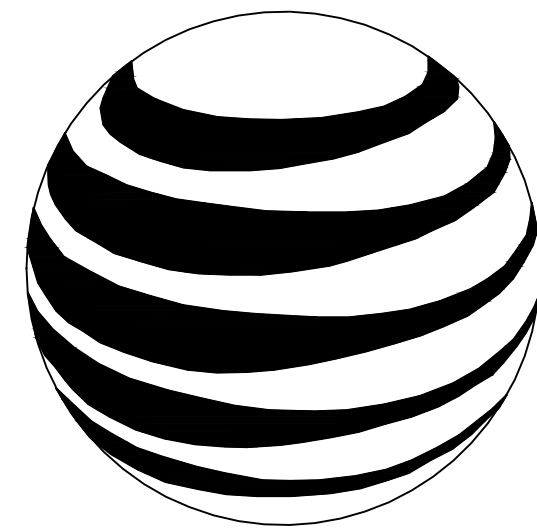
TYPE OF SITE: MONOPOLE/OUTDOOR EQUIPMENT

STRUCTURE HEIGHT: 100'-0"± (TOP OF MONOPOLE)

RAD CENTER: 101'-6"±

CURRENT USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

PROPOSED USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

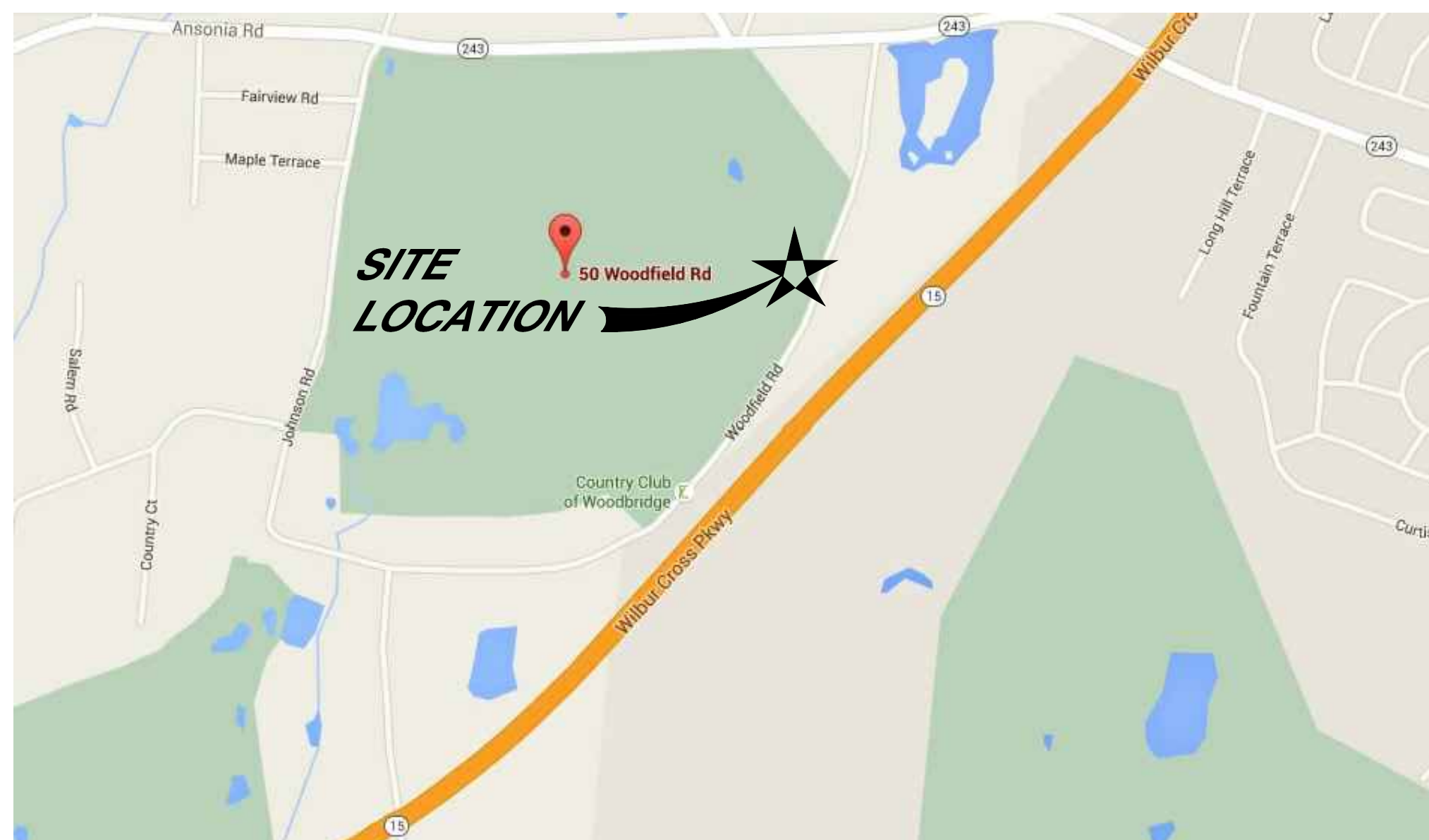


at&t
MOBILITY

FA CODE: 10071344
SITE NUMBER: CTV5163
SITE NAME: WOODBRIDGE
COUNTRY CLUB
CROWN BU# 842879

VICINITY MAP

FROM ROCKY HILL, HEAD SOUTHWEST ON CONCRIB LN. TURN LEFT ONTO SOLO DR. TURN RIGHT ONTO GILBERT AVE. TURN RIGHT ONTO STATE HWY 411. TURN LEFT TO MERGE ONTO I-191 S. TAKE EXIT 17 TO MERGE ONTO CT-15 S. TURN RIGHT ONTO CT-69 S. SLIGHT LEFT ONTO WHALLEY AVE. TURN RIGHT ONTO RAMSDELL ST. TURN RIGHT ONTO CT-243. TURN LEFT ONTO WOODFIELD RD. DRIVE 0.7MI, SITE WILL BE ON RIGHT.



PROJECT TEAM

CLIENT REPRESENTATIVE

COMPANY: EMPIRE TELECOM
ADDRESS: 16 ESQUIRE ROAD
BILLERICA, MA 01821
CONTACT: DAVID COOPER
PHONE: 617-639-4908
EMAIL: dcooper@empiretelecomm.com

SITE ACQUISITION:

COMPANY: EMPIRE TELECOM
ADDRESS: 16 ESQUIRE ROAD
BILLERICA, MA 01821
CONTACT: DAVID COOPER
PHONE: 617-639-4908
EMAIL: dcooper@empiretelecomm.com

ZONING:

COMPANY: EMPIRE TELECOM
ADDRESS: 16 ESQUIRE ROAD
BILLERICA, MA 01821
CONTACT: DAVID COOPER
PHONE: 617-639-4908
EMAIL: dcooper@empiretelecomm.com

ENGINEERING:

COMPANY: COM-EX CONSULTANTS, LLC
ADDRESS: 115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
CONTACT: NICHOLAS D. BARILE, P.E.
PHONE: 862-209-4300
EMAIL: nbarile@comexconsultants.com

RF ENGINEER:

COMPANY: AT&T MOBILITY – NEW ENGLAND
ADDRESS: 550 COCHITUATE ROAD
SUITE 550 13 & 14
FRAMINGHAM, MA 01701
CONTACT: CAMERON SYME
PHONE: 508-596-7146
EMAIL: cs6970@att.com

CONSTRUCTION MANAGEMENT:

COMPANY: EMPIRE TELECOM
ADDRESS: 16 ESQUIRE ROAD
BILLERICA, MA 01821
CONTACT: GRZEGORZ "GREG" DORMAN
PHONE: 484-683-1750
EMAIL: gdorman@empiretelecomm.com

DRAWING INDEX

REV.

T-1	TITLE SHEET	1
GN-1	GROUNDING & GENERAL NOTES	1
A-1	SITE PLAN	1
A-2	EQUIPMENT LAYOUTS	1
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A-4	DETAILS	1
A-5	ANTENNA MOUNTING DETAILS	1
G-1	GROUNDING, ONE-LINE DIAGRAM & DETAILS	1

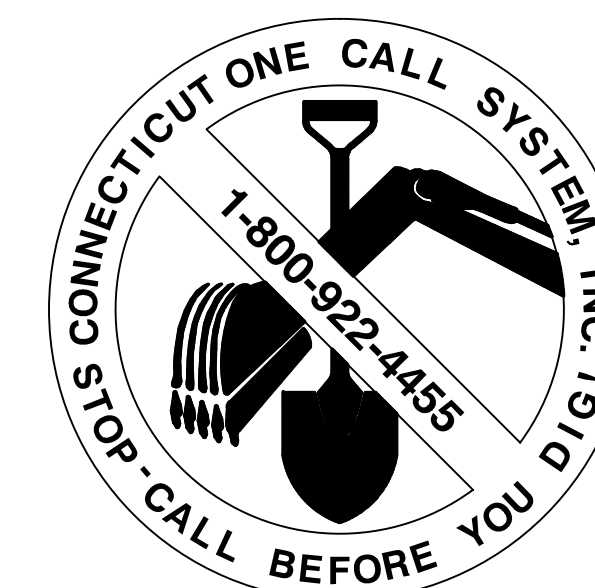
APPROVALS

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

DISCIPLINE:	NAME:	DATE:
SITE ACQUISITION:		
CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY, AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



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

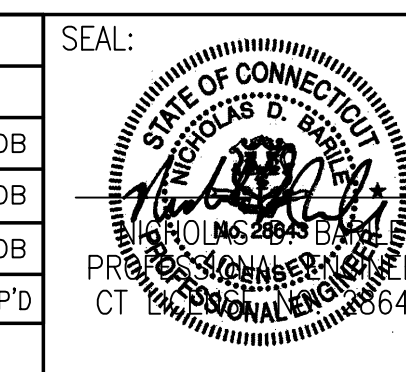


SITE NUMBER: CTV5163
SITE NAME: WOODBRIDGE COUNTRY CLUB
50 WOODFIELD ROAD
WOODBRIDGE, CT 06525
NEW HAVEN COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP'D
2	10/24/17	ISSUED AS FINAL	KCD	NDB	NDB
1	10/20/17	REVISED PER NEW RFDS	KCD	NDB	NDB
0	02/02/16	ISSUED AS FINAL	JW	NDB	NDB

SCALE: AS SHOWN DESIGNED BY: NJM DRAWN BY: NJM



AT&T		
DRAWING TITLE: TITLE SHEET		
JOB NUMBER 15088-EMP	DRAWING NUMBER T-1	REV 2

GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – EMPIRE TELECOM
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
 OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL 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 (EMPIRE TELECOM).
3. 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.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR
9. 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.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy=36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

19. SUBCONTRACTOR'S 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.
 - INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
 - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
 - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
20. 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, THIRTEENTH EDITION
 - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
 - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
 - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
 - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
 - 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
 - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
21. 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.
22. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

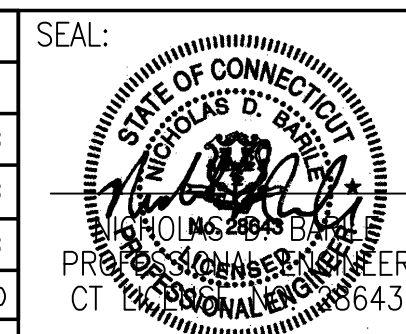


SITE NUMBER: CTV5163
SITE NAME: WOODBRIDGE COUNTRY CLUB
 50 WOODFIELD ROAD
 WOODBRIDGE, CT 06525
 NEW HAVEN COUNTY

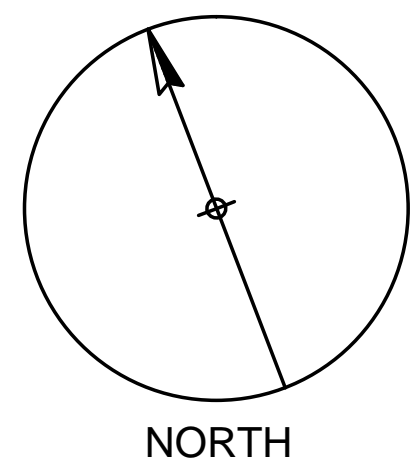
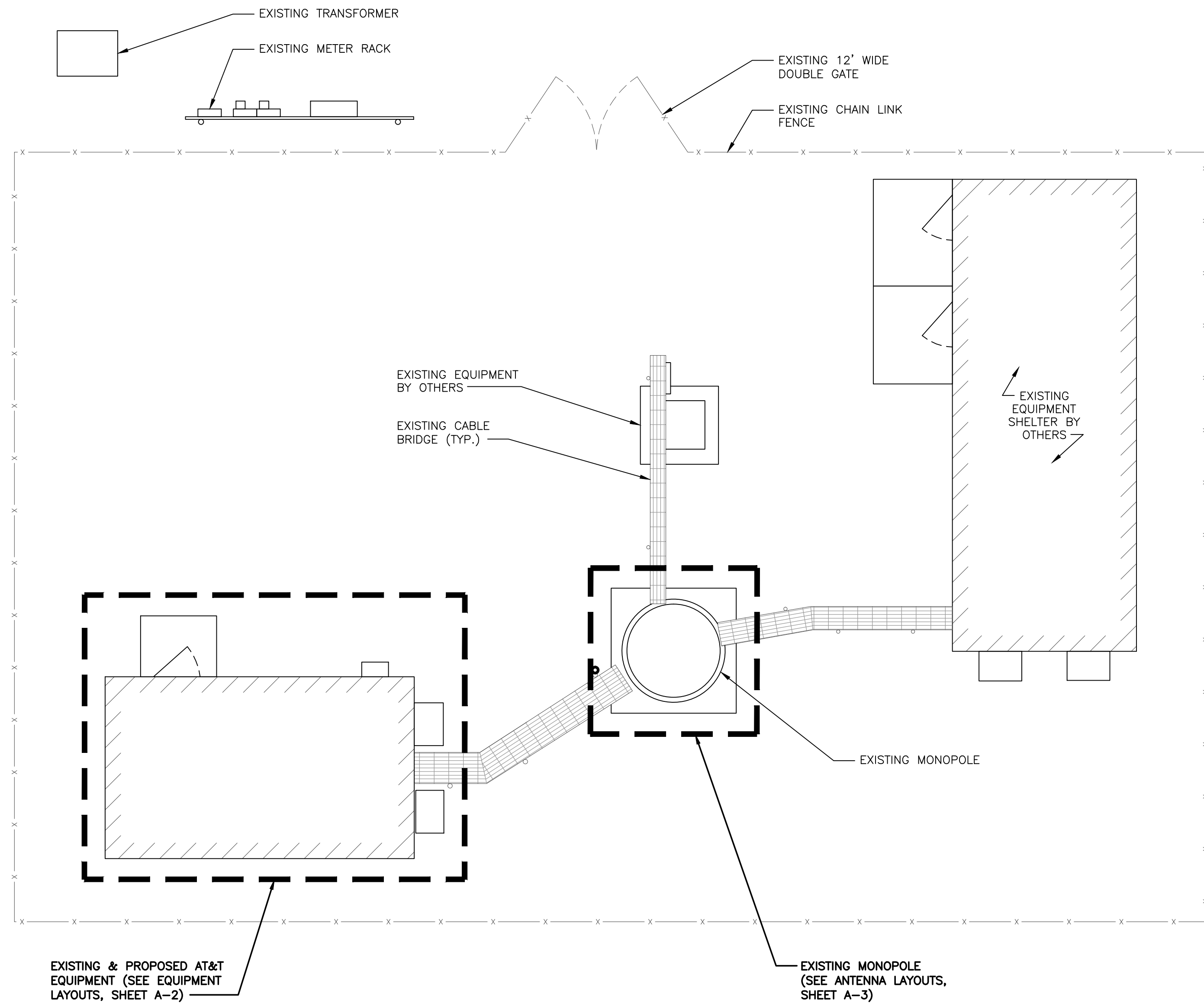


NO.	DATE	REVISIONS	BY	CHK	APP'D
2	10/24/17	ISSUED AS FINAL	KCD	NDB	NDB
1	10/20/17	REVISED PER NEW RFDS	KCD	NDB	NDB
0	02/02/16	ISSUED AS FINAL	JW	NDB	NDB

SCALE: AS SHOWN DESIGNED BY: NJM DRAWN BY: NJM



AT&T		
DRAWING TITLE: GROUNDING & GENERAL NOTES		
JOB NUMBER 15088-EMP	DRAWING NUMBER GN-1	REV 2



SITE PLAN
SCALE: 3/16" = 1'-0"

0 2'-0" 5'-0" 10'-0"

GRAPHIC SCALE: 3/16" = 1'-0"

NOTE:
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

COM-EX
Consultants

115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom

16 ESQUIRE ROAD
BILLERICA, MA 01821

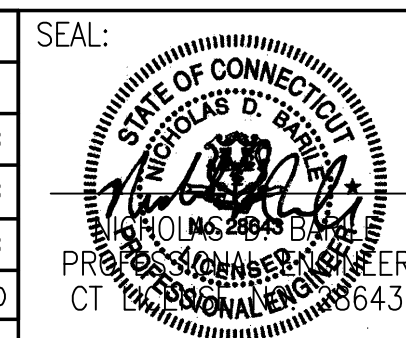
SITE NUMBER: CTV5163
SITE NAME: WOODBRIDGE COUNTRY CLUB
50 WOODFIELD ROAD
WOODBRIDGE, CT 06525
NEW HAVEN COUNTY

at&t
MOBILITY

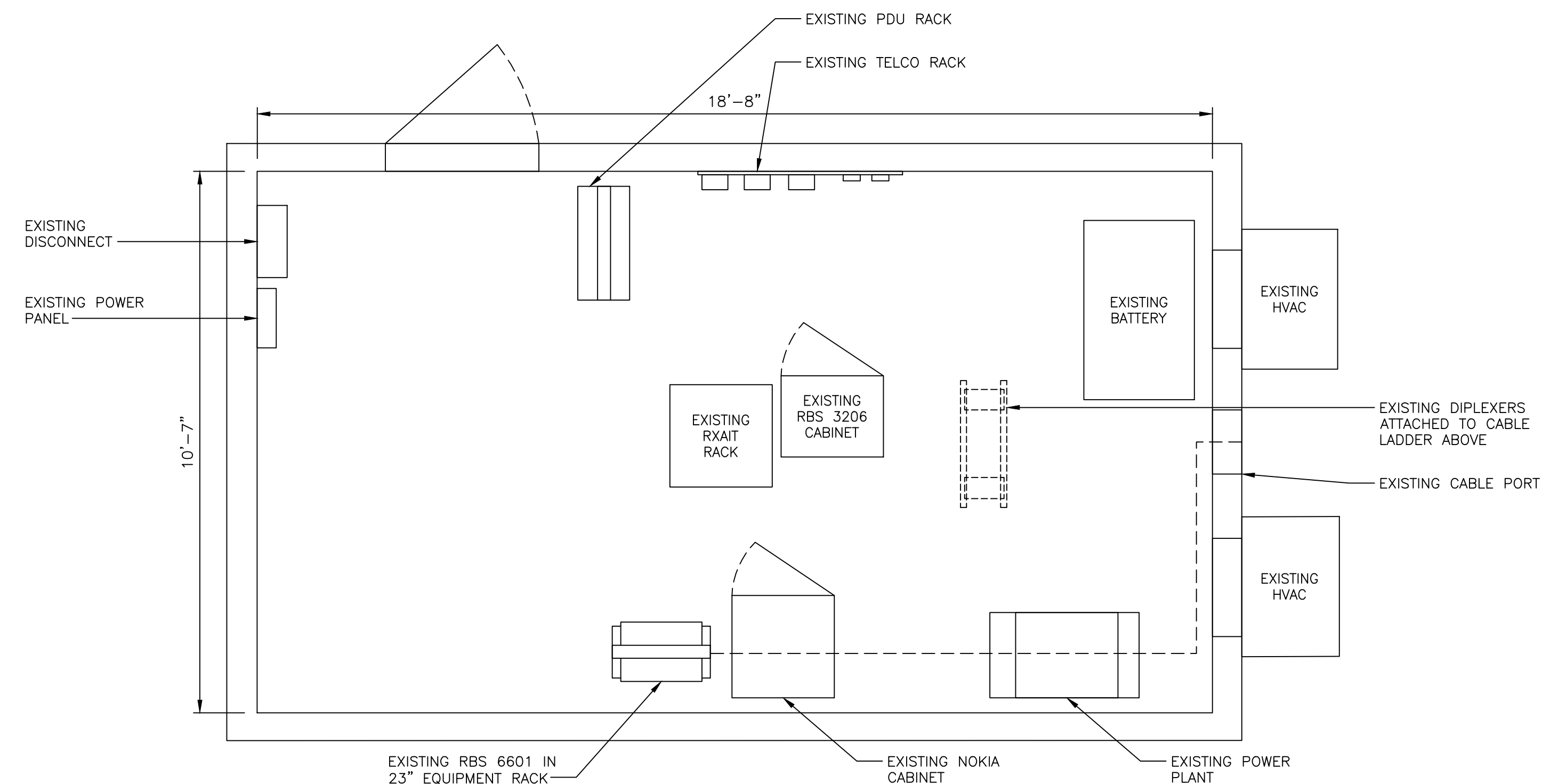
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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SCALE: AS SHOWN DESIGNED BY: NJM DRAWN BY: NJM



AT&T		
DRAWING TITLE:		
ROOFTOP LAYOUT		
JOB NUMBER	DRAWING NUMBER	REV
15088-EMP	A-1	2



PROPOSED EQUIPMENT LAYOUT

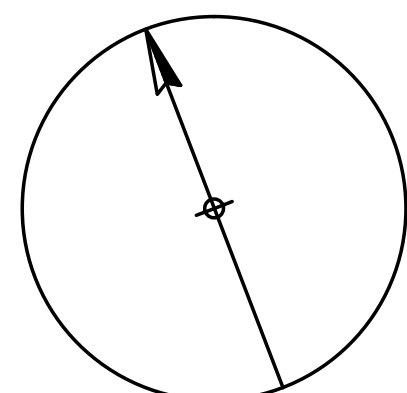
SCALE: 1" = 2'-0"



(IN FEET)

1/2 Inch = 1 Foot

NO GROUND EQUIPMENT MODIFICATIONS ARE BEING MADE AS PART OF THIS SCOPE. EXISTING GROUND EQUIPMENT CONFIGURATION TO REMAIN.



NORTH

COM-EX
Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

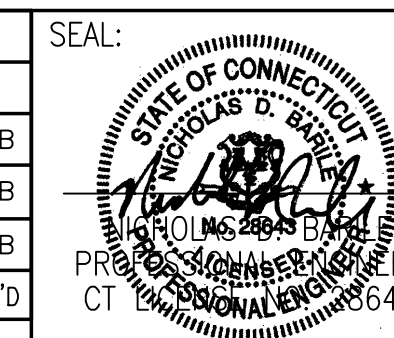
EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CTV5163
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NEW HAVEN COUNTY

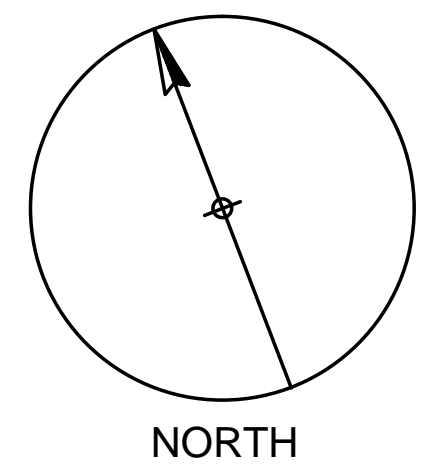
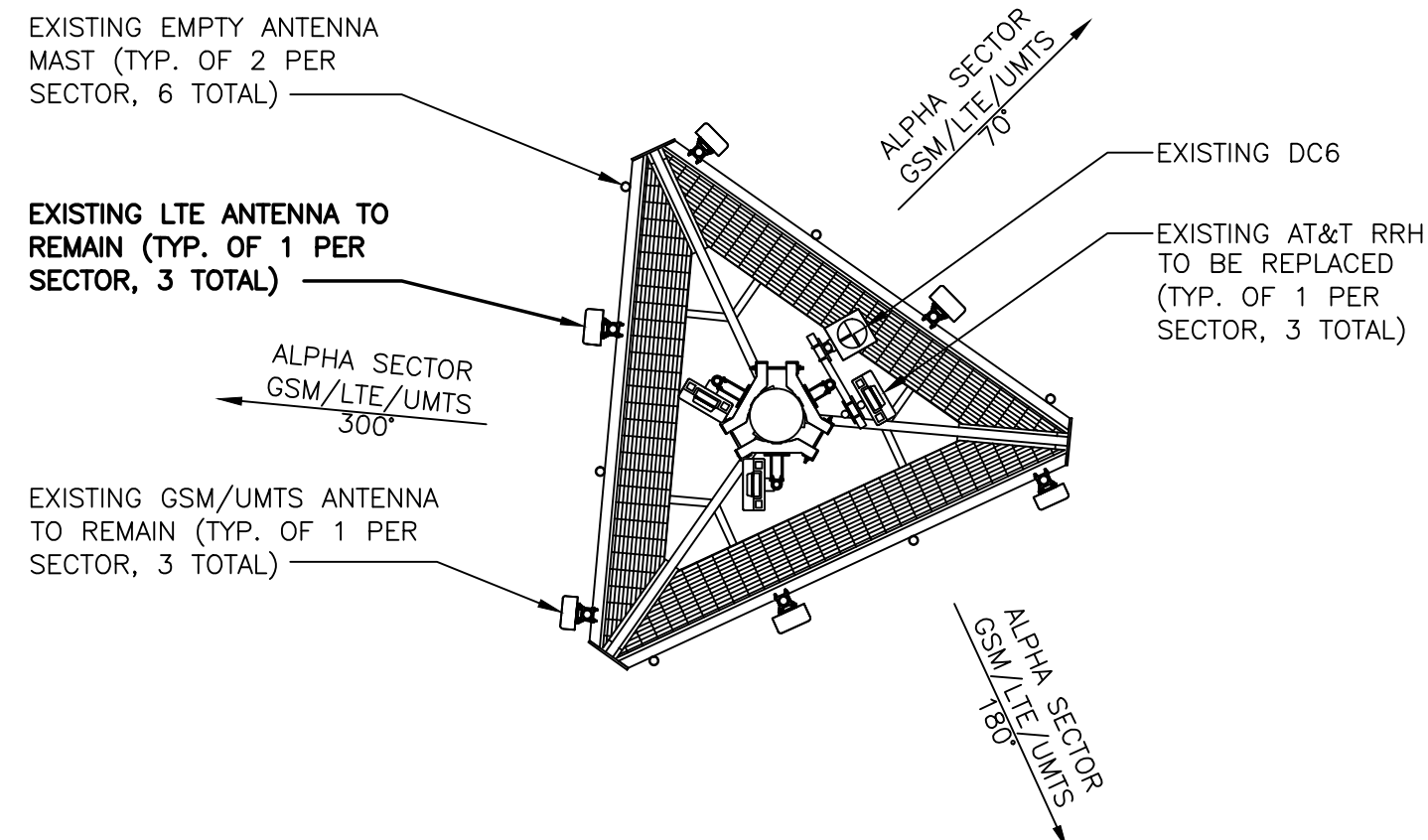
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MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	10/24/17	ISSUED AS FINAL	KCD	NDB	NDB
1	10/20/17	REVISED PER NEW RFDS	KCD	NDB	NDB
0	02/02/16	ISSUED AS FINAL	JW	NDB	NDB

SCALE: AS SHOWN DESIGNED BY: NJM DRAWN BY: NJM

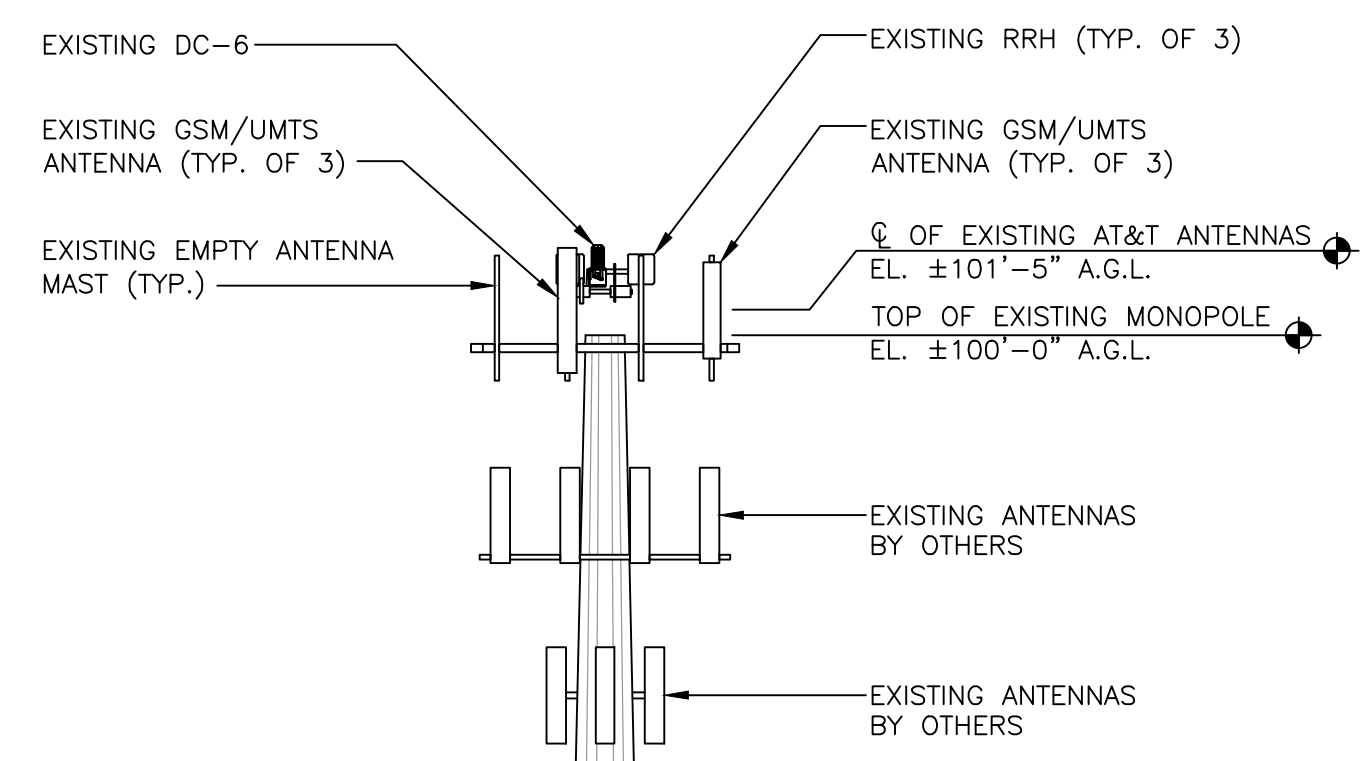


AT&T		
DRAWING TITLE:		
EQUIPMENT LAYOUTS		
JOB NUMBER	DRAWING NUMBER	REV
15088-EMP	A-2	2

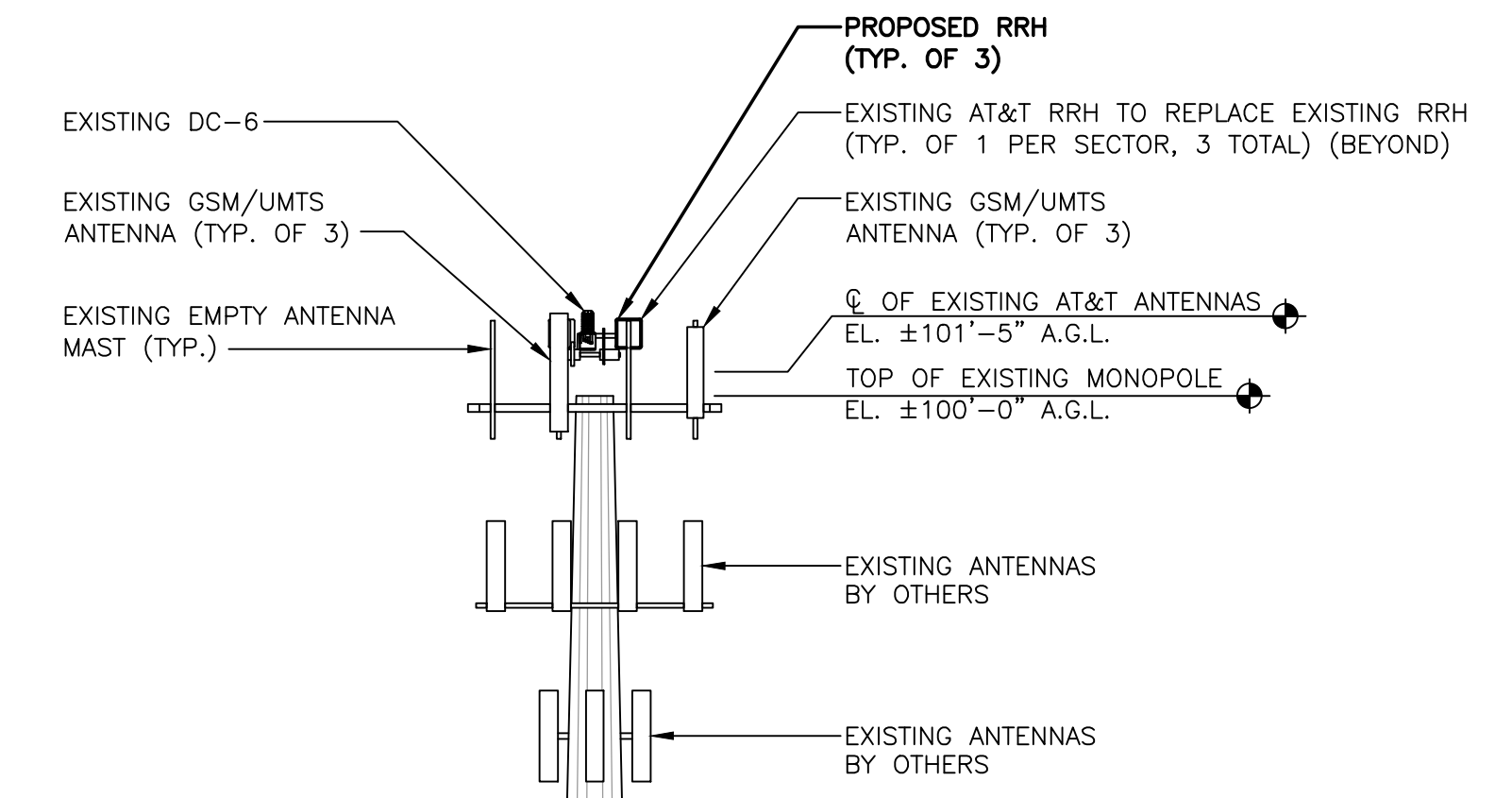


EXISTING ANTENNA LAYOUT
SCALE: N.T.S.

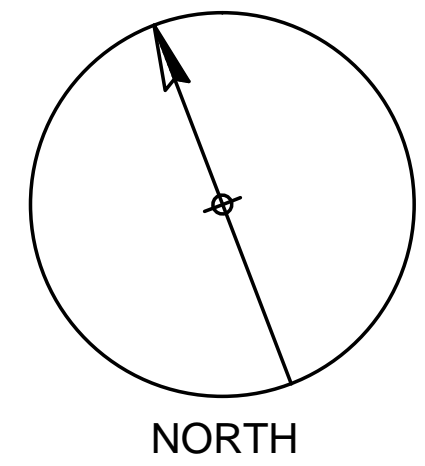
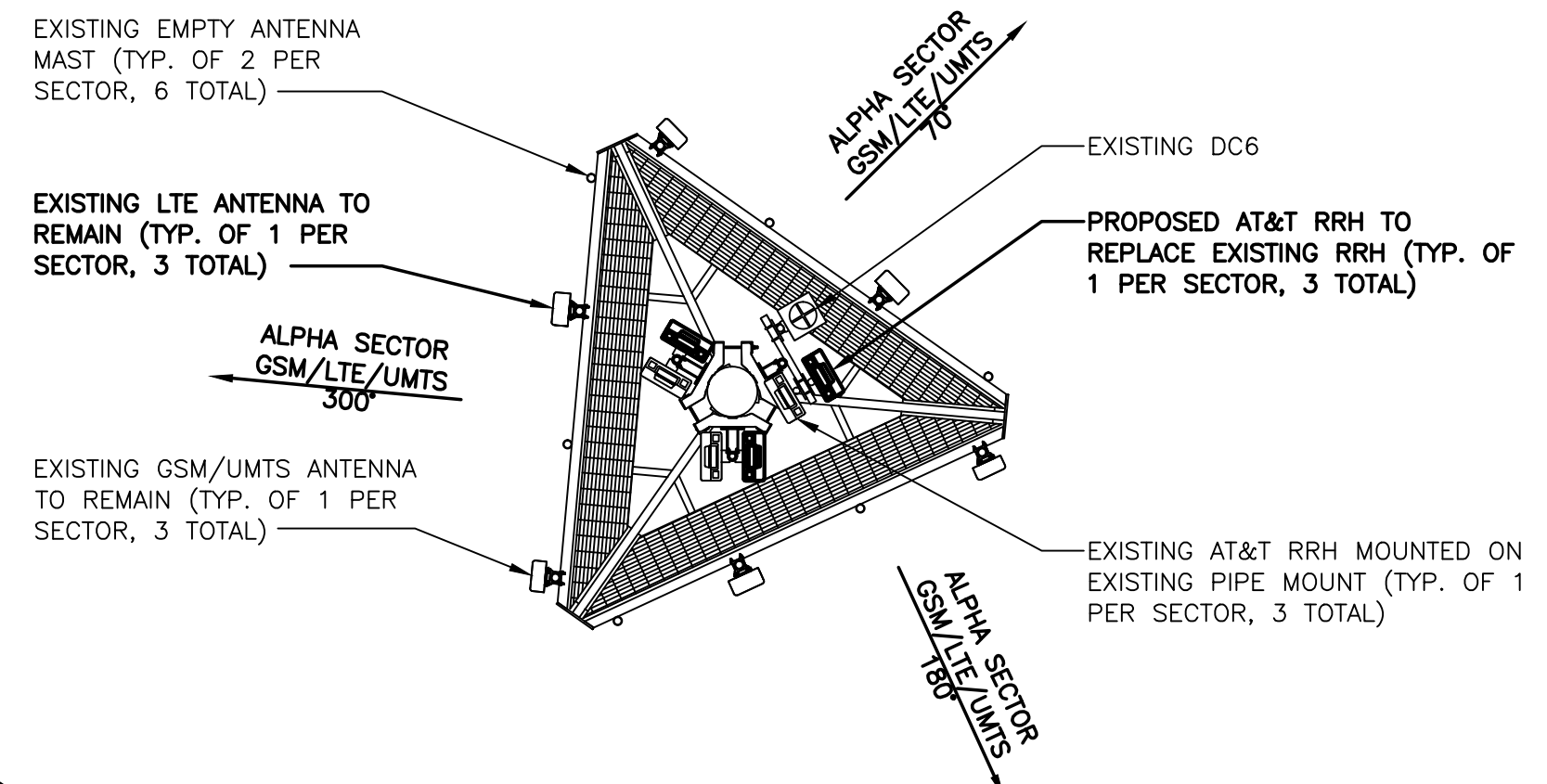
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EXISTING TOWER ELEVATION
SCALE: N.T.S.



PROPOSED TOWER ELEVATION
SCALE: N.T.S.



PROPOSED ANTENNA LAYOUT
SCALE: N.T.S.

EXISTING CABLES TO BE UTILIZED FOR NEW EQUIPMENT (PER RFDS)

COM-EX
Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CTV5163
SITE NAME: WOODBRIDGE COUNTRY CLUB
50 WOODFIELD ROAD
WOODBRIDGE, CT 06525
NEW HAVEN COUNTY

at&t
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	10/24/17	ISSUED AS FINAL	KCD	NDB	NDB
1	10/20/17	REVISED PER NEW RFDS	KCD	NDB	NDB
0	02/02/16	ISSUED AS FINAL	JW	NDB	NDB

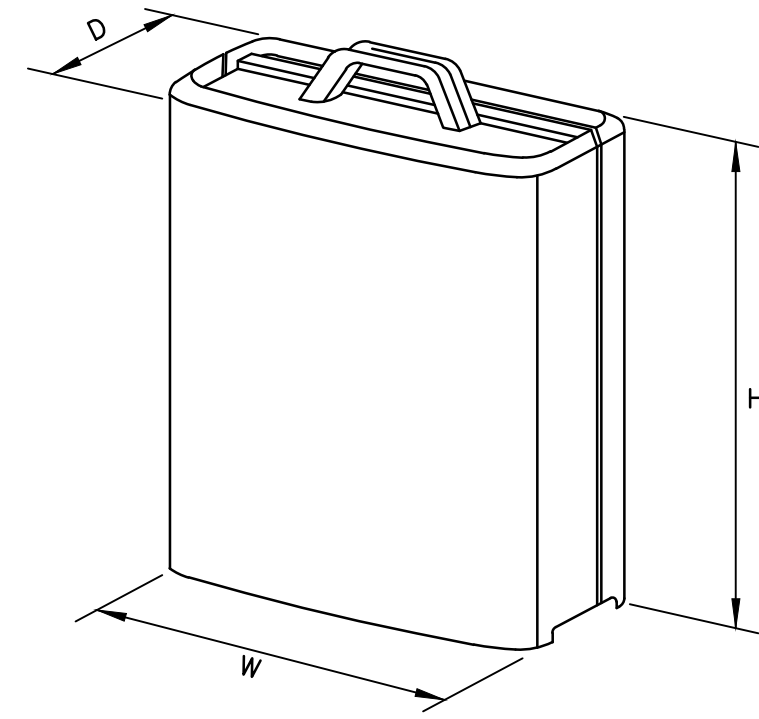
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SEAL:
STATE OF CONNECTICUT
PROFESSIONAL ENGINEER
CT LICENSE NO. 10843

AT&T

DRAWING TITLE:
ANTENNA LAYOUTS & ELEVATIONS

JOB NUMBER 15088-EMP	DRAWING NUMBER A-3	REV 2
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MODEL	L x W x H	WEIGHT
RRUS-11	19.69" x 16.97" x 7.17"	50.7 LBS
RRUS-12	20.4" x 18.5" x 7.5"	58 LBS
A2 MODULE	16.4" x 15.2" x 3.4"	22 LBS

*DENOTES EXISTING.

RRUS DETAIL
SCALE: N.T.S.

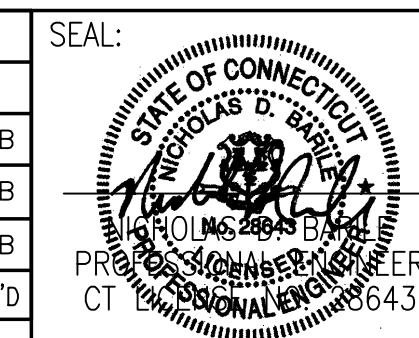
COM-EX
Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

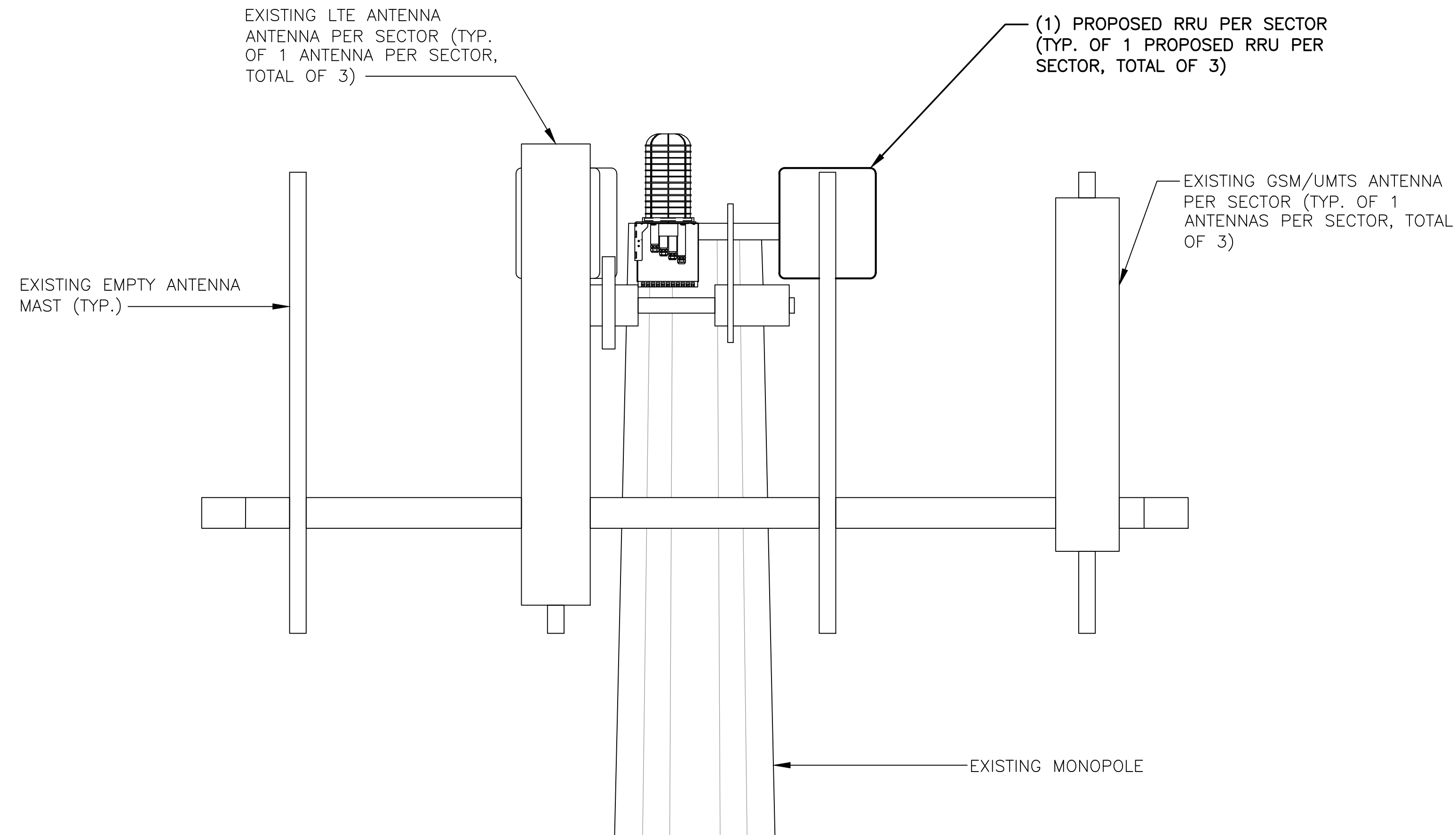
SITE NUMBER: CTV5163
SITE NAME: WOODBRIDGE
COUNTRY CLUB
50 WOODFIELD ROAD
WOODBRIDGE, CT 06525
NEW HAVEN COUNTY

 **at&t**
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

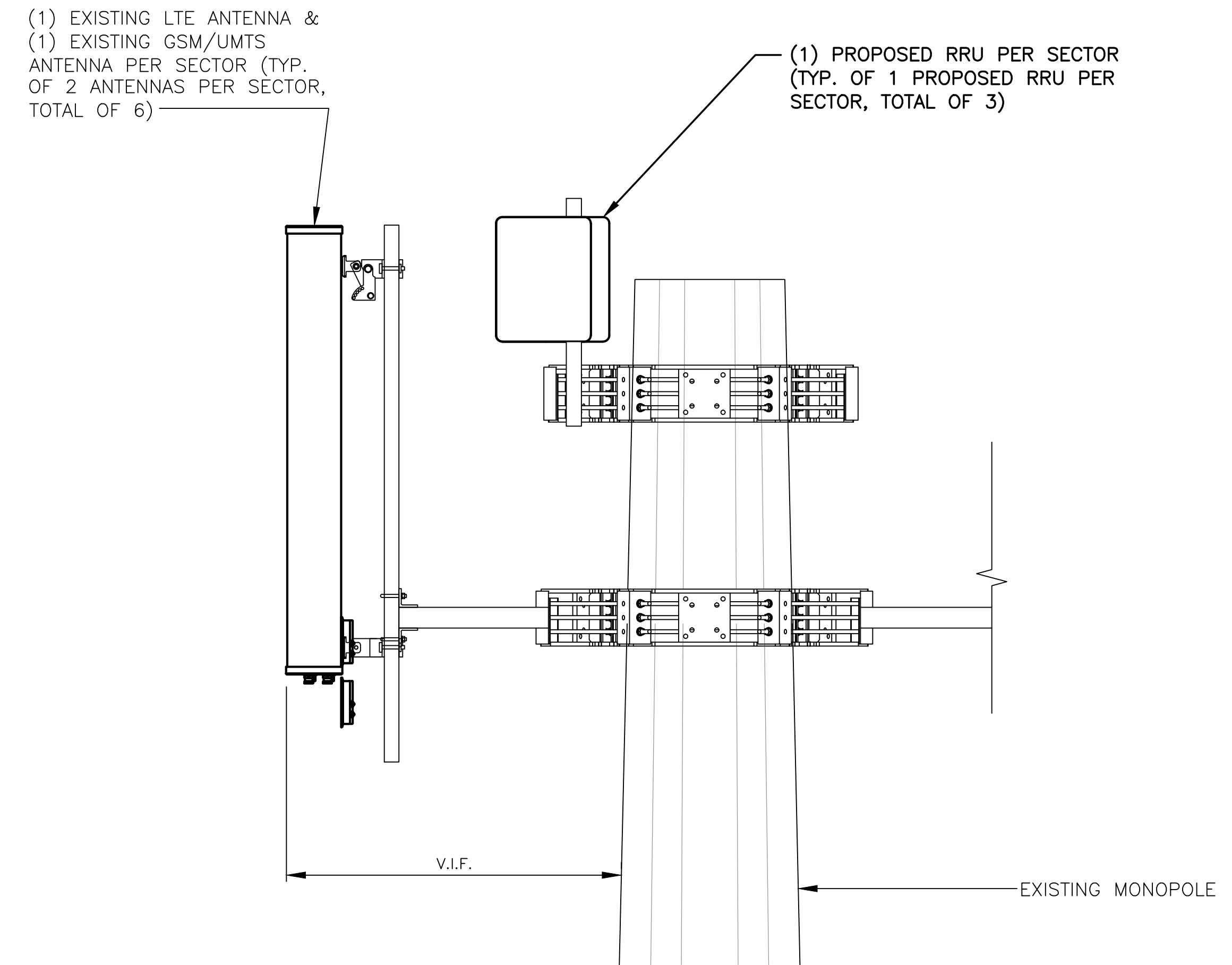
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1	10/20/17	REVISED PER NEW RFDS	KCD	NDB	NDB
0	02/02/16	ISSUED AS FINAL	JW	NDB	NDB
SCALE: AS SHOWN		DESIGNED BY: NJM	DRAWN BY: NJM		



AT&T		
DRAWING TITLE:		
JOB NUMBER	DRAWING NUMBER	REV
15088-EMP	A-4	2



PROPOSED ANTENNA MOUNTING DETAIL (FRONT VIEW)
SCALE: N.T.S.



PROPOSED ANTENNA MOUNTING DETAIL (SIDE VIEW)
SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	-	-	-
	A3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	A4	-	-	-
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	-	-	-
	B3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	B4	-	-	-
GAMMA	G1	POWERWAVE	7770	55"x11"x5"
	G2	-	-	-
	G3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	G4	-	-	-

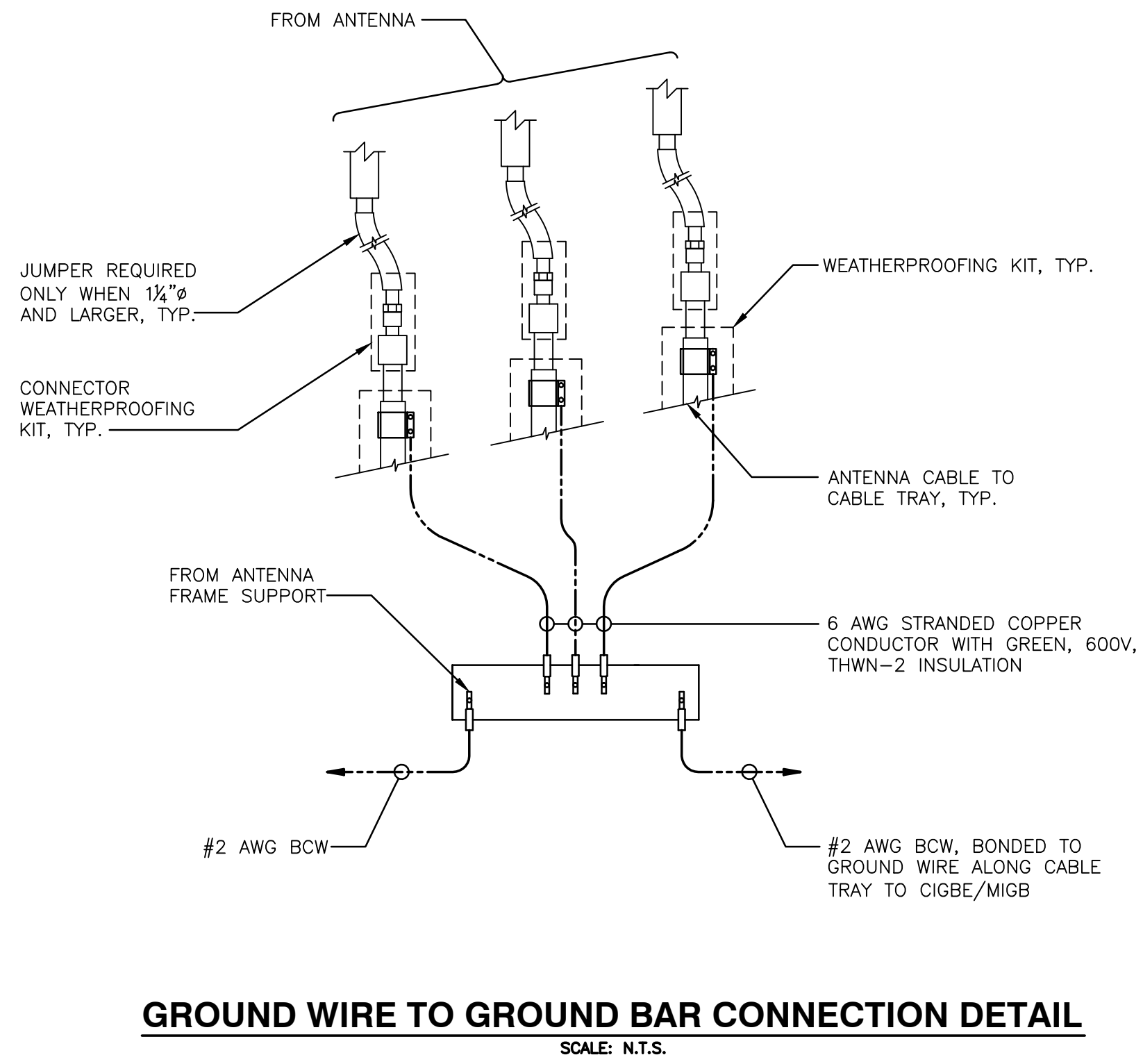
FINAL ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	-	-	-
	A3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	A4	-	-	-
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	-	-	-
	B3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	B4	-	-	-
GAMMA	G1	POWERWAVE	7770	55"x11"x5"
	G2	-	-	-
	G3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	G4	-	-	-

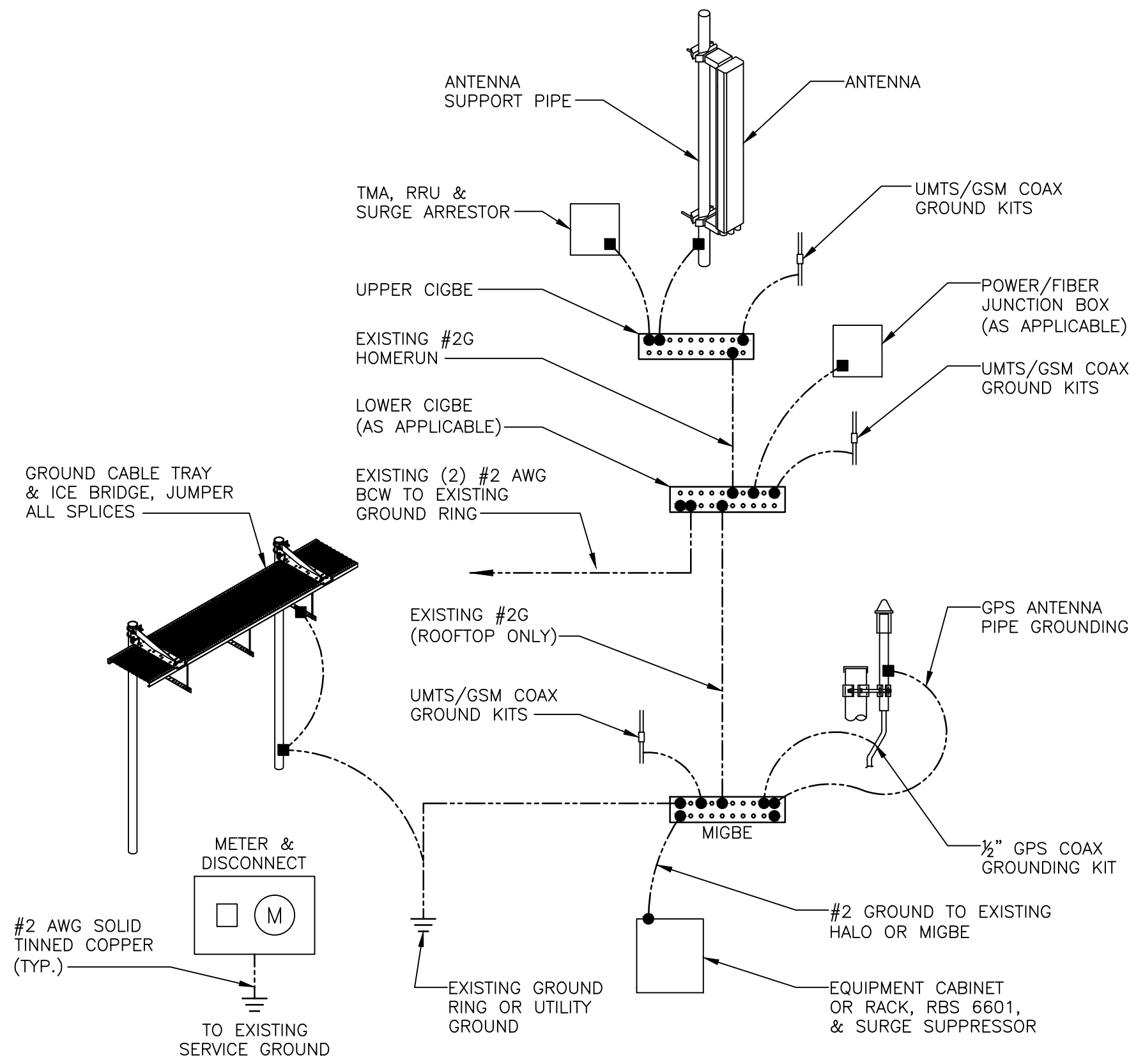
PROPOSED RRU SCHEDULE

SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
BETA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
GAMMA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		

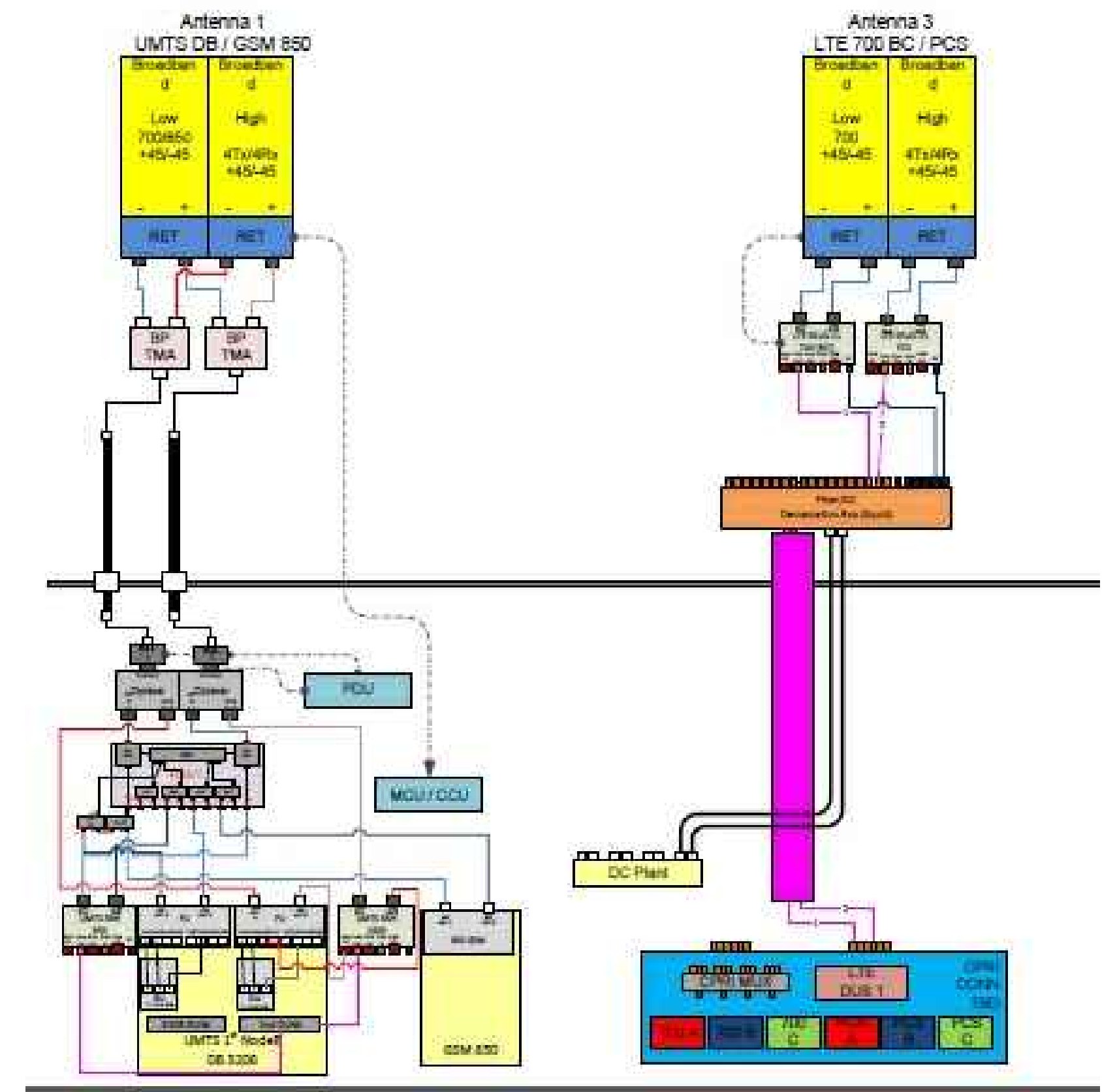
PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.



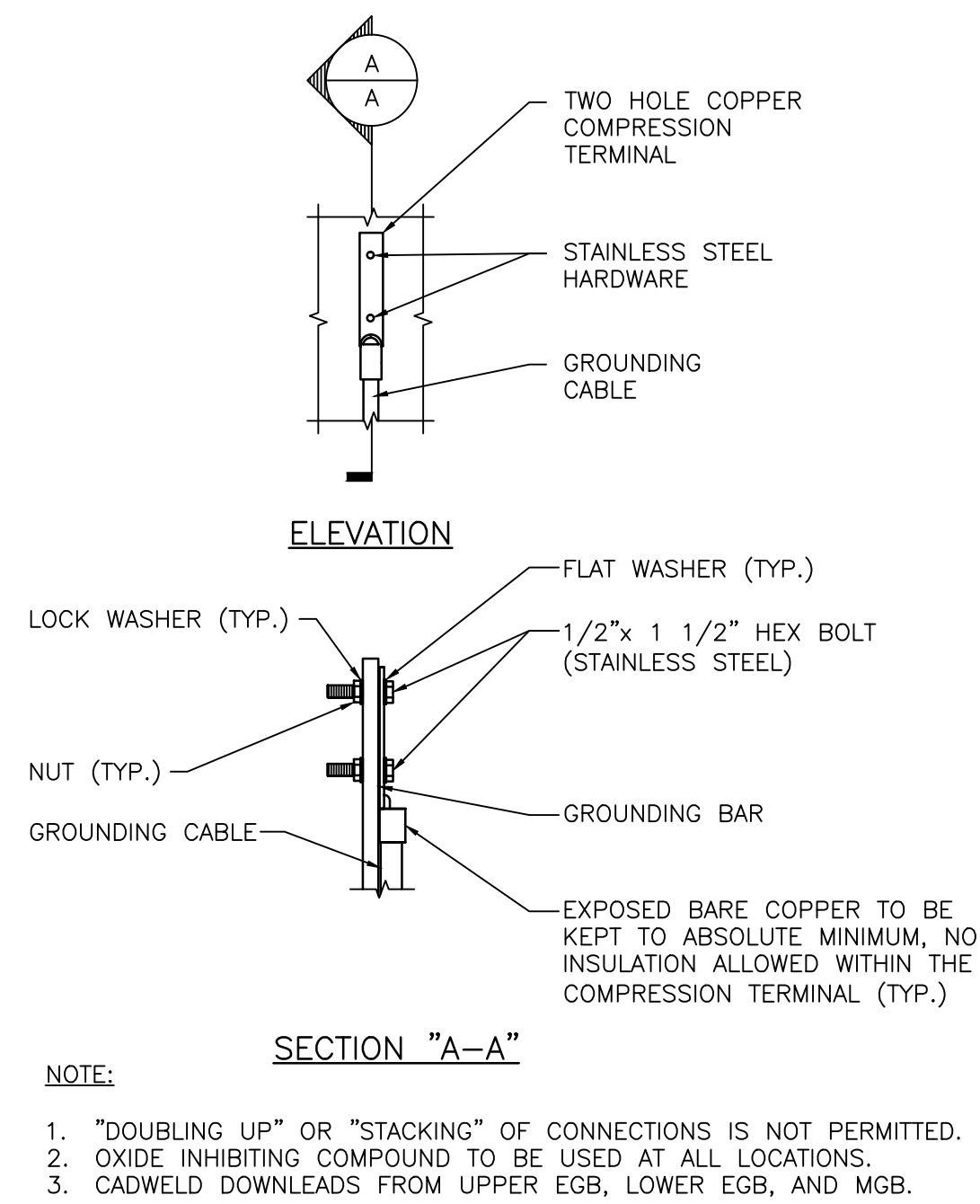
GROUND WIRE TO GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



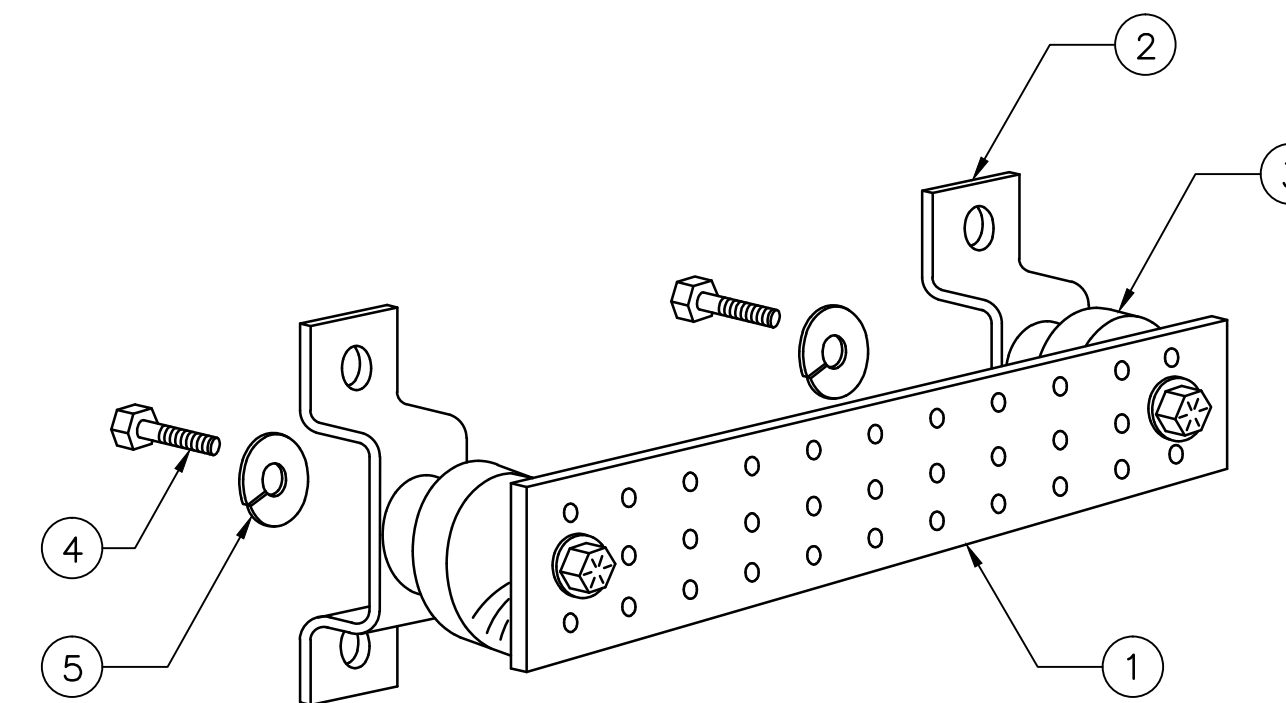
GROUNDING RISER DIAGRAM
SCALE: N.T.S.



TYPICAL PLUMBING DIAGRAM (PER SECTOR)
SCALE: N.T.S.



TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



ITEM NO.	QTY.	DESCRIPTION
1	1	SOLID GROUND BAR (20"x 4"x 1/4")
2	2	WALL MOUNTING BRACKET
3	2	INSULATORS
4	4	5/8"-11x1" H.H.C.S.
5	4	5/8" LOCK WASHER

NOTES:

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- -48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

GROUND BAR DETAIL
SCALE: N.T.S.

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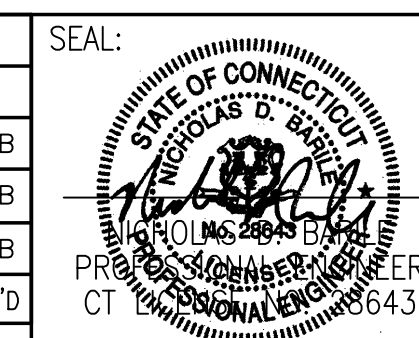


Exhibit 3

Date: **October 07, 2017**

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277



2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Carrier Site Number: CT5163
Carrier Site Name: 2051A05XPX

Crown Castle Designation: **Crown Castle BU Number:** 842879
Crown Castle Site Name: WOODBRIDGE COUNTRY CLUB
Crown Castle JDE Job Number: 465079
Crown Castle Work Order Number: 1471569
Crown Castle Application Number: 410636 Rev. 0

Engineering Firm Designation: **Crown Castle Project Number:** 1471569

Site Data: **50 WOODFIELD ROAD, WOODBRIDGE, New Haven County, CT**
Latitude 41° 19' 39.5", Longitude -72° 59' 36.84"
100 Foot - Monopole Tower

Dear Charles McGuirt,

Crown Castle is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1471569, in accordance with application 410636, revision 0.

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:

LC5: Existing + Proposed Equipment

Sufficient Capacity

Note: See Table I and Table II for the proposed and existing loading, respectively.

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 TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C and Risk Category II were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at Crown Castle appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects, please give us a call.

Structural analysis prepared by: Kenneth Sukitch, E.I.T. / Shan

Respectfully submitted by:

Maham Barimani, P. E.
Senior Project Engineer

10/11/2017

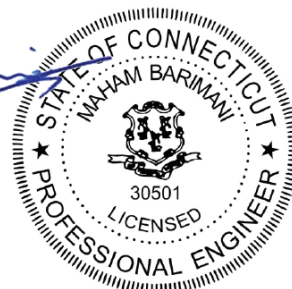


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Table 2 - Existing Antenna and Cable Information

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3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

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3.2) Assumptions

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Table 6 – Tower Component Stresses vs. Capacity – LC5

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

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7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This is a 100-ft monopole tower mapped by BTE Management Group, LLC in April of 2012. The original design standard and wind speed are unavailable.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 97 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category C.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
98.0	99.0	3	ericsson	RRUS 12	-	-	-
		6	powerwave tech	7020.00			

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
98.0	99.0	3	ericsson	RBS 6601	-	-	2
		3	ericsson	RRUS 11	1 1 2 2 9	1/2 3/8 3/4 7/8 1-5/8	1
		3	kmw com	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		6	powerwave tech	LGP21401			
		3	powerwave tech	RA21.7770.00 w/ Mount Pipe			
	1	raycap	DC6-48-60-18-8F				
	98.0	1	tower mounts	Platform Mount [LP 712-1]			
90.0	90.0	3	alcatel lucent	RRH2X40-AWS	13	1-5/8	1
		3	antel	BXA-171063-8BF-2 w/ Mount Pipe			
		3	antel	BXA-171063/8CF w/ Mount Pipe			
		3	antel	BXA-70063/6CF w/ Mount Pipe			
		3	antel	BXA-80063/4CF w/ Mount Pipe			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			
80.0	83.0	2	dragonwave	A-ANT-18G-2-C	4 5	5/16 1/2	1
		2	dragonwave	HORIZON DUO			
	80.0	3	argus tech	LLPX310R w/ Mount Pipe			
		3	Samsung	URAS-FLEXIBLE			
		1	tower mounts	Side Arm Mount [SO 102-3]			

Notes:

- 1) Existing Equipment
- 2) Equipment To Be Removed; Not Considered in This Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
<i>Information Unavailable</i>						

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti	4529495	CCSITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	EEI	4529500	CCSITES
4-TOWER MANUFACTURER DRAWINGS	BTE Management Group	4858948	CCSITES

3.1) Analysis Method

tnxTower (version 7.0.5.1), 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) The existing base plate grout was not considered in this analysis.
- 5) The anchor bolts were assumed to be A615-J and the base plate was assumed to be A572-50.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	100 - 87	Pole	TP33.73x29.78x0.3125	1	-4.08	2351.64	2.6	Pass
L2	87 - 42.96	Pole	TP47.24x31.8228x0.375	2	-16.37	3779.06	15.8	Pass
L3	42.96 - 0	Pole	TP60.43x44.602x0.375	3	-31.65	4510.50	25.2	Pass
							Summary	
						Pole (L3)	25.2	Pass
						Rating =	25.2	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	22.0	Pass
1	Base Plate	0	29.1	Pass
1,2	Base Foundation (Compared w/ Design Loads)	0	43.2	Pass

Structure Rating (max from all components) =	43.2%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Foundation capacity determined by comparing analysis reactions to original design reactions.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lighting Rod 5/8" x 4'	102	BXA-171063/8CF w/ Mount Pipe	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	BXA-70063/6CF w/ Mount Pipe	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	BXA-70063/6CF w/ Mount Pipe	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	BXA-70063/6CF w/ Mount Pipe	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	BXA-171063-8BF-2 w/ Mount Pipe	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	BXA-171063-8BF-2 w/ Mount Pipe	90
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	BXA-171063-8BF-2 w/ Mount Pipe	90
RA21.7770.00 w/ Mount Pipe	98	BXA-80063/4CF w/ Mount Pipe	90
RA21.7770.00 w/ Mount Pipe	98	BXA-80063/4CF w/ Mount Pipe	90
RA21.7770.00 w/ Mount Pipe	98	BXA-80063/4CF w/ Mount Pipe	90
RRUS 11	98	RRH2X40-AWS	90
RRUS 11	98	RRH2X40-AWS	90
RRUS 11	98	RRH2X40-AWS	90
(2) LGP21401	98	DB-T1-6Z-8AB-0Z	90
(2) LGP21401	98	Platform Mount [LP 303-1]	90
(2) LGP21401	98	LLPX310R w/ Mount Pipe	80
DC6-48-60-18-8F	98	LLPX310R w/ Mount Pipe	80
(2) 7020.00	98	LLPX310R w/ Mount Pipe	80
(2) 7020.00	98	URAS-FLEXIBLE	80
(2) 7020.00	98	URAS-FLEXIBLE	80
RRUS 12	98	URAS-FLEXIBLE	80
RRUS 12	98	HORIZON DUO	80
RRUS 12	98	HORIZON DUO	80
Platform Mount [LP 712-1]	98	Side Arm Mount [SO 102-3]	80
(2) 6' x 2" Mount Pipe	98	(2) 6' x 2" Mount Pipe	80
(2) 6' x 2" Mount Pipe	98	(2) 6' x 2" Mount Pipe	80
(2) 6' x 2" Mount Pipe	98	(2) 6' x 2" Mount Pipe	80
Transition Ladder	98	A-ANT-18G-2-C	80
BXA-171063/8CF w/ Mount Pipe	90	A-ANT-18G-2-C	80
BXA-171063/8CF w/ Mount Pipe	90		

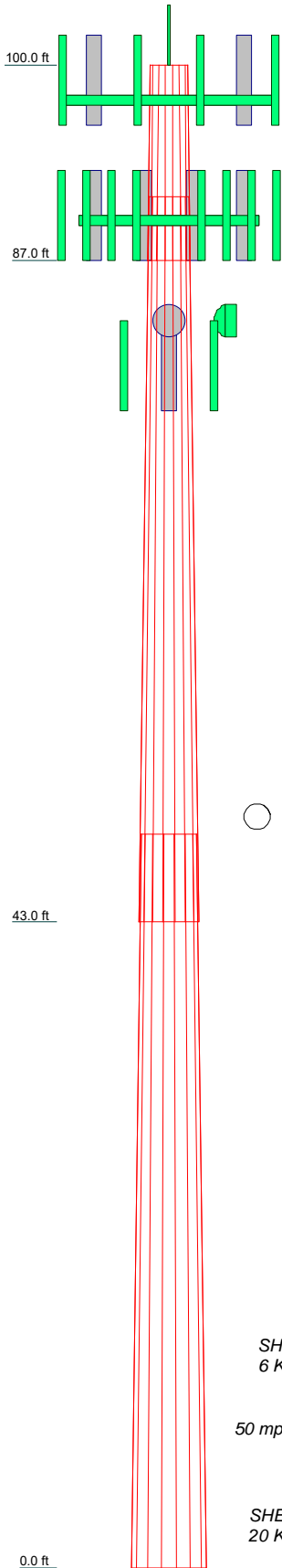
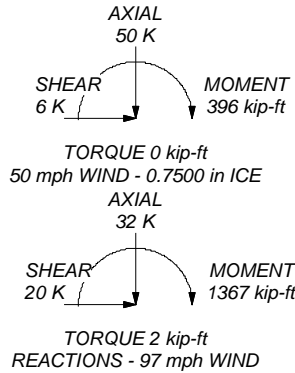
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 25.2%

ALL REACTIONS ARE FACTORED



Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	13.00	18	0.3125	4.22	29.7600	33.7900		1.4
2	48.26	18	0.3750	5.91	31.8228	47.2400	A572-65	7.7
3	48.87	18	0.3750	44.6020	60.4300			10.3

Crown Castle
 2000 Corporate Drive
 Canonsburg, PA 15317
 Phone: (724) 416-2000
 FAX:

Job: **BU# 842879**
 Project: **1471569**
 Client: Crown Castle Drawn by: Kenny Sukitch App'd:
 Code: TIA-222-G Date: 10/06/17 Scale: NTS
 Path: R:\ISA Models - Letters\Work Area\K\Sukitch\WIP\842879.WO.1471569\842879.en
 Dwg No. E-1

Tower Input Data

There is a pole section.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

- 3) Tower is located in New Haven County, Connecticut.
- 4) Basic wind speed of 97 mph.
- 5) Structure Class II.
- 6) Exposure Category C.
- 7) Topographic Category 1.
- 8) Crest Height 0.00 ft.
- 9) Nominal ice thickness of 0.7500 in.
- 10) Ice thickness is considered to increase with height.
- 11) Ice density of 56 pcf.
- 12) A wind speed of 50 mph is used in combination with ice.
- 13) Temperature drop of 50 °F.
- 14) Deflections calculated using a wind speed of 60 mph.
- 15) A non-linear (P-delta) analysis was used.
- 16) Pressures are calculated at each section.
- 17) Stress ratio used in pole design is 1.
- 18) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|--|---|
| Consider Moments - Legs
Consider Moments - Horizontals
Consider Moments - Diagonals
Use Moment Magnification
✓ Use Code Stress Ratios
✓ Use Code Safety Factors - Guys
Escalate Ice
Always Use Max Kz
Use Special Wind Profile

Include Bolts In Member Capacity

Leg Bolts Are At Top Of Section
Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric | Distribute Leg Loads As Uniform
Assume Legs Pinned
✓ Assume Rigid Index Plate
✓ Use Clear Spans For Wind Area
Use Clear Spans For KL/r
Retension Guys To Initial Tension
✓ Bypass Mast Stability Checks
✓ Use Azimuth Dish Coefficients
✓ Project Wind Area of Appurt.

Autocalc Torque Arm Areas

Add IBC .6D+W Combination
✓ Sort Capacity Reports By Component
Triangulate Diamond Inner Bracing
Treat Feed Line Bundles As Cylinder | Use ASCE 10 X-Brace Ly Rules
Calculate Redundant Bracing Forces
Ignore Redundant Members in FEA
SR Leg Bolts Resist Compression
All Leg Panels Have Same Allowable
Offset Girt At Foundation
✓ Consider Feed Line Torque
Include Angle Block Shear Check
Use TIA-222-G Bracing Resist.
Exemption
Use TIA-222-G Tension Splice
Exemption

<div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction
Always Use Sub-Critical Flow
Use Top Mounted Sockets |
|--|--|---|

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	100.00-87.00	13.00	4.22	18	29.7800	33.7300	0.3125	1.2500	A572-65 (65 ksi)
L2	87.00-42.96	48.26	5.91	18	31.8228	47.2400	0.3750	1.5000	A572-65 (65 ksi)
L3	42.96-0.00	48.87		18	44.6020	60.4300	0.3750	1.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	30.2394	29.2281	3206.4485	10.4610	15.1282	211.9512	6417.1162	14.6168	4.6913	15.012
	34.2503	33.1460	4676.4497	11.8632	17.1348	272.9205	9359.0527	16.5761	5.3865	17.237
L2	33.6826	37.4307	4676.7610	11.1640	16.1660	289.2967	9359.6757	18.7189	4.9408	13.175
	47.9688	55.7811	15478.237	16.6371	23.9979	644.9825	30976.841	27.8958	7.6542	20.411
L3	47.2337	52.6412	13008.807	15.7006	22.6578	574.1424	26034.733	26.3256	7.1899	19.173
	61.3622	71.4805	32570.404	21.3195	30.6984	1060.9791	65183.666	35.7470	9.9757	26.602

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 100.00-87.00				1	1	1			
L2 87.00-42.96				1	1	1			
L3 42.96-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement	Total Number	Number Per Row	Clear Spacing	Width or Diameter	Perimeter	Weight
				ft			in	r in	r in	plf

**										
*										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement	Total Number	C _A A _A	Weight
				ft		ft ² /ft	plf
*** 98 ft ***							
LDF4-50A(1/2)	A	No	Inside Pole	98.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.15
2" Flex Conduit	A	No	Inside Pole	98.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.36 0.36
FB-L98B-034-XXX(3/8)	A	No	Inside Pole	98.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.06 0.06
WR-VG86ST-BRD(3/4)	A	No	Inside Pole	98.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.58 0.58
LDF5-50A(7/8)	A	No	Inside Pole	98.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.33 0.33
LDF7-50A(1-5/8)	A	No	Inside Pole	98.00 - 0.00	9	No Ice 1/2" Ice 1" Ice	0.00 0.82 0.82
*** 90 ft ***							
LDF7-50A(1-5/8)	C	No	Inside Pole	90.00 - 0.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.82 0.82
MLE Hybrid	C	No	Inside Pole	90.00 - 0.00	1	No Ice	0.00 1.07

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
9Power/18Fiber RL 2(1-5/8) *** 80 ft ***						1/2" Ice	0.00	1.07
						1" Ice	0.00	1.07
LDF4-50A(1/2)	B	No	Inside Pole	80.00 - 0.00	5	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
9207(5/16)	B	No	Inside Pole	80.00 - 0.00	4	No Ice	0.00	0.60
						1/2" Ice	0.00	0.60
						1" Ice	0.00	0.60
2" Flex Conduit	B	No	Inside Pole	80.00 - 0.00	2	No Ice	0.00	0.36
						1/2" Ice	0.00	0.36
						1" Ice	0.00	0.36

**								
*								

Feed Line/Linear Appurtenances Section Areas

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	100.00-87.00	A	0.000	0.000	0.000	0.000	0.11
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03
L2	87.00-42.96	A	0.000	0.000	0.000	0.000	0.43
		B	0.000	0.000	0.000	0.000	0.14
		C	0.000	0.000	0.000	0.000	0.48
L3	42.96-0.00	A	0.000	0.000	0.000	0.000	0.42
		B	0.000	0.000	0.000	0.000	0.17
		C	0.000	0.000	0.000	0.000	0.47

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Sectio n	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	100.00-87.00	A	1.664	0.000	0.000	0.000	0.000	0.11
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.03
L2	87.00-42.96	A	1.603	0.000	0.000	0.000	0.000	0.43
		B		0.000	0.000	0.000	0.000	0.14
		C		0.000	0.000	0.000	0.000	0.48
L3	42.96-0.00	A	1.436	0.000	0.000	0.000	0.000	0.42
		B		0.000	0.000	0.000	0.000	0.17
		C		0.000	0.000	0.000	0.000	0.47

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	100.00-87.00	0.0000	0.0000	0.0000	0.0000
L2	87.00-42.96	0.0000	0.0000	0.0000	0.0000
L3	42.96-0.00	0.0000	0.0000	0.0000	0.0000

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
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Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
Lighting Rod 5/8" x 4'	C	None		0.0000	102.00	No Ice	0.25	0.25	0.03
						1/2"	0.66	0.66	0.03
						Ice	0.97	0.97	0.04
						1" Ice			
*** 98 ft ***									
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	8.26	6.30	0.07
						1/2"	8.82	7.48	0.14
						Ice	9.35	8.37	0.21
						1" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	8.26	6.30	0.07
						1/2"	8.82	7.48	0.14
						Ice	9.35	8.37	0.21
						1" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	8.26	6.30	0.07
						1/2"	8.82	7.48	0.14
						Ice	9.35	8.37	0.21
						1" Ice			
RA21.7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	6.77	5.00	0.06
						1/2"	7.26	5.96	0.11
						Ice	7.73	6.75	0.18
						1" Ice			
RA21.7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	6.77	5.00	0.06
						1/2"	7.26	5.96	0.11
						Ice	7.73	6.75	0.18
						1" Ice			
RA21.7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	6.77	5.00	0.06
						1/2"	7.26	5.96	0.11
						Ice	7.73	6.75	0.18
						1" Ice			
RRUS 11	A	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	2.78	1.19	0.05
						1/2"	2.99	1.33	0.07
						Ice	3.21	1.49	0.09
						1" Ice			
RRUS 11	B	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	2.78	1.19	0.05
						1/2"	2.99	1.33	0.07
						Ice	3.21	1.49	0.09
						1" Ice			
RRUS 11	C	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	2.78	1.19	0.05
						1/2"	2.99	1.33	0.07
						Ice	3.21	1.49	0.09
						1" Ice			
(2) LGP21401	A	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	1.10	0.21	0.01
						1/2"	1.24	0.27	0.02
						Ice	1.38	0.35	0.03
						1" Ice			
(2) LGP21401	B	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	1.10	0.21	0.01
						1/2"	1.24	0.27	0.02
						Ice	1.38	0.35	0.03
						1" Ice			
(2) LGP21401	C	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice	1.10	0.21	0.01
						1/2"	1.24	0.27	0.02
						Ice	1.38	0.35	0.03
						1" Ice			
DC6-48-60-18-8F	A	From Leg	4.00 0.00	0.0000	98.00	No Ice	0.79	0.79	0.02
						1/2"	1.27	1.27	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			1.00			Ice 1" Ice 1.45	1.45	0.05
(2) 7020.00	A	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice 1/2" Ice 0.10 0.15 0.20	0.17 0.24 0.31	0.00 0.01 0.01
(2) 7020.00	B	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice 1/2" Ice 0.10 0.15 0.20	0.17 0.24 0.31	0.00 0.01 0.01
(2) 7020.00	C	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice 1/2" Ice 0.10 0.15 0.20	0.17 0.24 0.31	0.00 0.01 0.01
RRUS 12	A	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice 1/2" Ice 3.15 3.36 3.59	1.29 1.44 1.60	0.06 0.08 0.11
RRUS 12	B	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice 1/2" Ice 3.15 3.36 3.59	1.29 1.44 1.60	0.06 0.08 0.11
RRUS 12	C	From Leg	4.00 0.00 1.00	0.0000	98.00	No Ice 1/2" Ice 3.15 3.36 3.59	1.29 1.44 1.60	0.06 0.08 0.11
Platform Mount [LP 712-1]	C	None		0.0000	98.00	No Ice 1/2" Ice 1" Ice 24.53 29.94 35.35	24.53 29.94 35.35	1.34 1.65 1.96
(2) 6' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(2) 6' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(2) 6' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
Transition Ladder	A	From Leg	1.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 6.00 8.00 10.00	6.00 8.00 10.00	0.16 0.24 0.32
** BXA-171063/8CF w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice 3.14 3.52 3.89	3.51 4.13 4.76	0.03 0.06 0.10
BXA-171063/8CF w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice 3.14 3.52 3.89	3.51 4.13 4.76	0.03 0.06 0.10
BXA-171063/8CF w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice 3.14 3.52 3.89	3.51 4.13 4.76	0.03 0.06 0.10
BXA-70063/6CF w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice 7.82 8.37 8.89	5.70 6.85 7.71	0.04 0.10 0.17
BXA-70063/6CF w/ Mount Pipe	B	From Leg	4.00 0.00	0.0000	90.00	No Ice 1/2" 7.82 8.37	5.70 6.85	0.04 0.10

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral	Vert						ft
			ft	ft	ft	°	ft	ft ²	ft ²	K	
			0.00				Ice	8.89	7.71	0.17	
BXA-70063/6CF w/ Mount Pipe	C	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	7.82	5.70	0.04
			0.00					1/2"	8.37	6.85	0.10
							Ice	8.89	7.71	0.17	
BXA-171063-8BF-2 w/ Mount Pipe	A	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	3.18	3.35	0.03
			0.00					1/2"	3.56	3.97	0.06
							Ice	3.93	4.60	0.10	
BXA-171063-8BF-2 w/ Mount Pipe	B	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	3.18	3.35	0.03
			0.00					1/2"	3.56	3.97	0.06
							Ice	3.93	4.60	0.10	
BXA-171063-8BF-2 w/ Mount Pipe	C	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	3.18	3.35	0.03
			0.00					1/2"	3.56	3.97	0.06
							Ice	3.93	4.60	0.10	
BXA-80063/4CF w/ Mount Pipe	A	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	4.95	3.42	0.03
			0.00					1/2"	5.32	4.02	0.07
							Ice	5.71	4.64	0.12	
BXA-80063/4CF w/ Mount Pipe	B	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	4.95	3.42	0.03
			0.00					1/2"	5.32	4.02	0.07
							Ice	5.71	4.64	0.12	
BXA-80063/4CF w/ Mount Pipe	C	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	4.95	3.42	0.03
			0.00					1/2"	5.32	4.02	0.07
							Ice	5.71	4.64	0.12	
RRH2X40-AWS	A	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	2.16	1.42	0.04
			0.00					1/2"	2.36	1.59	0.06
							Ice	2.57	1.77	0.08	
RRH2X40-AWS	B	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	2.16	1.42	0.04
			0.00					1/2"	2.36	1.59	0.06
							Ice	2.57	1.77	0.08	
RRH2X40-AWS	C	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	2.16	1.42	0.04
			0.00					1/2"	2.36	1.59	0.06
							Ice	2.57	1.77	0.08	
DB-T1-6Z-8AB-0Z	A	From Leg	4.00			0.0000	90.00	1" Ice			
			0.00					No Ice	4.80	2.00	0.04
			0.00					1/2"	5.07	2.19	0.08
							Ice	5.35	2.39	0.12	
Platform Mount [LP 303-1]	C	None				0.0000	90.00	1" Ice			
								No Ice	14.66	14.66	1.25
								1/2"	18.87	18.87	1.48
							Ice	23.08	23.08	1.71	
**							1" Ice				
LLPX310R w/ Mount Pipe	A	From Leg	2.00			0.0000	80.00	No Ice	4.54	2.98	0.05
			0.00					1/2"	4.89	3.53	0.08
			0.00					Ice	5.25	4.09	0.13
LLPX310R w/ Mount Pipe	B	From Leg	2.00			0.0000	80.00	1" Ice			
			0.00					No Ice	4.54	2.98	0.05
			0.00					1/2"	4.89	3.53	0.08
							Ice	5.25	4.09	0.13	
LLPX310R w/ Mount Pipe	C	From Leg	2.00			0.0000	80.00	1" Ice			
			0.00					No Ice	4.54	2.98	0.05
			0.00					1/2"	4.89	3.53	0.08
							Ice	5.25	4.09	0.13	
URAS-FLEXIBLE	A	From Leg	2.00			0.0000	80.00	1" Ice			
			0.00					No Ice	1.55	0.68	0.03
							1/2"	1.70	0.80	0.04	

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral	Vert						ft
			ft	ft	ft	°	ft	ft ²	ft ²	K	
					0.00						
URAS-FLEXIBLE	B	From Leg			2.00	0.0000	80.00	Ice	1.87	0.92	0.06
					0.00			1" Ice	1.55	0.68	0.03
					0.00			No Ice	1.70	0.80	0.04
					0.00			1/2" Ice	1.87	0.92	0.06
URAS-FLEXIBLE	C	From Leg			2.00	0.0000	80.00	1" Ice	1.55	0.68	0.03
					0.00			No Ice	1.70	0.80	0.04
					0.00			1/2" Ice	1.87	0.92	0.06
					0.00			1" Ice	0.47	0.29	0.01
HORIZON DUO	A	From Leg			2.00	0.0000	80.00	No Ice	0.56	0.37	0.01
					0.00			1/2" Ice	0.65	0.44	0.02
					3.00			1" Ice	0.47	0.29	0.01
HORIZON DUO	B	From Leg			2.00	0.0000	80.00	No Ice	0.56	0.37	0.01
					0.00			1/2" Ice	0.65	0.44	0.02
					3.00			1" Ice	3.00	3.00	0.08
Side Arm Mount [SO 102-3]	C	None				0.0000	80.00	No Ice	3.48	3.48	0.11
								1/2" Ice	3.96	3.96	0.14
								1" Ice	1.43	1.43	0.02
(2) 6' x 2" Mount Pipe	A	From Leg			2.00	0.0000	80.00	No Ice	1.92	1.92	0.03
					0.00			1/2" Ice	2.29	2.29	0.05
					0.00			1" Ice	1.43	1.43	0.02
(2) 6' x 2" Mount Pipe	B	From Leg			2.00	0.0000	80.00	No Ice	1.92	1.92	0.03
					0.00			1/2" Ice	2.29	2.29	0.05
					0.00			1" Ice	1.43	1.43	0.02
(2) 6' x 2" Mount Pipe	C	From Leg			2.00	0.0000	80.00	No Ice	1.92	1.92	0.03
					0.00			1/2" Ice	2.29	2.29	0.05
					0.00			1" Ice			

**

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:			3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz	Lateral	Vert						°
				ft	ft	ft	ft	ft	ft ²	K		
A-ANT-18G-2-C	A	Paraboloid w/Shroud (HP)	From Leg			2.00	0.0000	80.00	2.17	No Ice	3.72	0.03
						0.00				1/2" Ice	4.01	0.03
						3.00				1" Ice	4.30	0.36
A-ANT-18G-2-C	B	Paraboloid w/Shroud (HP)	From Leg			2.00	0.0000	80.00	2.17	No Ice	3.72	0.03
						0.00				1/2" Ice	4.01	0.03
						3.00				1" Ice	4.30	0.36

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice

Comb. No.	Description
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	100 - 87	Pole	Max Tension	2	0.00	0.00	-0.00
			Max. Compression	26	-8.74	-0.00	1.50
			Max. Mx	20	-4.08	37.48	0.55
			Max. My	2	-4.08	0.00	38.04
			Max. Vy	20	-5.41	37.48	0.55
			Max. Vx	2	-5.41	0.00	38.04
			Max. Torque	8			0.88
L2	87 - 42.96	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.34	-0.63	2.87
			Max. Mx	20	-16.37	529.09	4.23
			Max. My	2	-16.37	3.97	534.99
			Max. Vy	20	-14.25	529.09	4.23
			Max. Vx	14	14.41	-2.73	-534.37

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	42.96 - 0	Pole	Max. Torque	20			-1.63
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.72	-0.63	2.87
			Max. M _x	20	-31.65	1353.89	8.97
			Max. M _y	14	-31.65	-6.44	-1366.68
			Max. V _y	20	-19.44	1353.89	8.97
			Max. V _x	14	19.59	-6.44	-1366.68
		Max. Torque	20			-1.63	

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	49.72	0.00	-0.00
	Max. H _x	21	23.74	19.43	0.10
	Max. H _z	3	23.74	0.12	19.55
	Max. M _x	2	1365.60	0.12	19.55
	Max. M _z	8	1350.35	-19.39	-0.04
	Max. Torsion	8	1.62	-19.39	-0.04
	Min. Vert	15	23.74	-0.08	-19.59
	Min. H _x	9	23.74	-19.39	-0.04
	Min. H _z	15	23.74	-0.08	-19.59
	Min. M _x	14	-1366.68	-0.08	-19.59
	Min. M _z	20	-1353.89	19.43	0.10
	Min. Torsion	20	-1.63	19.43	0.10

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	26.38	0.00	0.00	-0.75	-0.11	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	31.65	-0.12	-19.55	-1365.60	9.81	0.26
0.9 Dead+1.6 Wind 0 deg - No Ice	23.74	-0.12	-19.55	-1362.33	9.82	0.26
1.2 Dead+1.6 Wind 30 deg - No Ice	31.65	9.66	-16.91	-1180.80	-672.16	-0.34
0.9 Dead+1.6 Wind 30 deg - No Ice	23.74	9.66	-16.91	-1177.94	-670.63	-0.34
1.2 Dead+1.6 Wind 60 deg - No Ice	31.65	16.78	-9.74	-680.46	-1168.37	-1.13
0.9 Dead+1.6 Wind 60 deg - No Ice	23.74	16.78	-9.74	-678.72	-1165.73	-1.13
1.2 Dead+1.6 Wind 90 deg - No Ice	31.65	19.39	0.04	2.65	-1350.35	-1.62
0.9 Dead+1.6 Wind 90 deg - No Ice	23.74	19.39	0.04	2.87	-1347.31	-1.62
1.2 Dead+1.6 Wind 120 deg - No Ice	31.65	16.78	9.88	690.05	-1168.23	-1.40
0.9 Dead+1.6 Wind 120 deg - No Ice	23.74	16.78	9.88	688.74	-1165.59	-1.39
1.2 Dead+1.6 Wind 150 deg - No Ice	31.65	9.73	16.98	1185.31	-678.58	-0.96
0.9 Dead+1.6 Wind 150 deg - No Ice	23.74	9.73	16.98	1182.89	-677.03	-0.96
1.2 Dead+1.6 Wind 180 deg - No Ice	31.65	0.08	19.59	1366.68	-6.44	-0.35
0.9 Dead+1.6 Wind 180 deg - No Ice	23.74	0.08	19.59	1363.86	-6.40	-0.35

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
1.2 Dead+1.6 Wind 210 deg - No Ice	31.65	-9.63	16.97	1184.53	669.89	0.33
0.9 Dead+1.6 Wind 210 deg - No Ice	23.74	-9.63	16.97	1182.11	668.43	0.33
1.2 Dead+1.6 Wind 240 deg - No Ice	31.65	-16.79	9.75	679.50	1169.59	1.13
0.9 Dead+1.6 Wind 240 deg - No Ice	23.74	-16.79	9.75	678.22	1167.01	1.13
1.2 Dead+1.6 Wind 270 deg - No Ice	31.65	-19.43	-0.10	-8.97	1353.89	1.63
0.9 Dead+1.6 Wind 270 deg - No Ice	23.74	-19.43	-0.10	-8.73	1350.90	1.63
1.2 Dead+1.6 Wind 300 deg - No Ice	31.65	-16.83	-9.86	-690.17	1172.29	1.48
0.9 Dead+1.6 Wind 300 deg - No Ice	23.74	-16.83	-9.86	-688.40	1169.71	1.48
1.2 Dead+1.6 Wind 330 deg - No Ice	31.65	-9.76	-16.97	-1185.96	680.33	0.96
0.9 Dead+1.6 Wind 330 deg - No Ice	23.74	-9.76	-16.97	-1183.09	678.84	0.96
1.2 Dead+1.0 Ice+1.0 Temp	49.72	-0.00	0.00	-2.87	-0.63	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	49.72	-0.02	-5.79	-395.73	1.45	0.06
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	49.72	2.87	-5.01	-342.70	-195.00	-0.13
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	49.72	4.98	-2.89	-198.76	-338.17	-0.35
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	49.72	5.76	0.01	-2.20	-390.66	-0.47
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	49.72	4.98	2.92	195.25	-338.15	-0.41
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	49.72	2.89	5.02	338.12	-196.35	-0.27
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	49.72	0.02	5.80	390.43	-1.97	-0.08
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	49.72	-2.87	5.02	337.96	193.29	0.13
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	49.72	-4.99	2.89	193.03	337.20	0.35
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	49.72	-5.77	-0.02	-4.65	390.17	0.48
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	49.72	-4.99	-2.91	-200.80	337.77	0.43
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	49.72	-2.89	-5.02	-343.78	195.49	0.27
Dead+Wind 0 deg - Service	26.38	-0.03	-4.18	-292.30	2.01	0.06
Dead+Wind 30 deg - Service	26.38	2.07	-3.62	-252.82	-143.68	-0.07
Dead+Wind 60 deg - Service	26.38	3.59	-2.08	-145.93	-249.68	-0.24
Dead+Wind 90 deg - Service	26.38	4.15	0.00	-0.00	-288.56	-0.35
Dead+Wind 120 deg - Service	26.38	3.59	2.11	146.85	-249.65	-0.30
Dead+Wind 150 deg - Service	26.38	2.08	3.63	252.66	-145.05	-0.20
Dead+Wind 180 deg - Service	26.38	0.02	4.19	291.40	-1.46	-0.07
Dead+Wind 210 deg - Service	26.38	-2.06	3.63	252.49	143.03	0.07
Dead+Wind 240 deg - Service	26.38	-3.59	2.09	144.60	249.78	0.24
Dead+Wind 270 deg - Service	26.38	-4.16	-0.02	-2.48	289.15	0.35
Dead+Wind 300 deg - Service	26.38	-3.60	-2.11	-148.00	250.35	0.32
Dead+Wind 330 deg - Service	26.38	-2.09	-3.63	-253.92	145.26	0.20

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-26.38	0.00	0.00	26.38	0.00	0.000%
2	-0.12	-31.65	-19.55	0.12	31.65	19.55	0.001%
3	-0.12	-23.74	-19.55	0.12	23.74	19.55	0.001%
4	9.66	-31.65	-16.91	-9.66	31.65	16.91	0.001%
5	9.66	-23.74	-16.91	-9.66	23.74	16.91	0.001%
6	16.78	-31.65	-9.74	-16.78	31.65	9.74	0.001%
7	16.78	-23.74	-9.74	-16.78	23.74	9.74	0.001%
8	19.39	-31.65	0.04	-19.39	31.65	-0.04	0.001%
9	19.39	-23.74	0.04	-19.39	23.74	-0.04	0.001%
10	16.78	-31.65	9.88	-16.78	31.65	-9.88	0.001%
11	16.78	-23.74	9.88	-16.78	23.74	-9.88	0.001%
12	9.73	-31.65	16.98	-9.73	31.65	-16.98	0.001%
13	9.73	-23.74	16.98	-9.73	23.74	-16.98	0.001%
14	0.08	-31.65	19.59	-0.08	31.65	-19.59	0.001%
15	0.08	-23.74	19.59	-0.08	23.74	-19.59	0.001%
16	-9.63	-31.65	16.97	9.63	31.65	-16.97	0.001%
17	-9.63	-23.74	16.97	9.63	23.74	-16.97	0.001%
18	-16.79	-31.65	9.75	16.79	31.65	-9.75	0.001%
19	-16.79	-23.74	9.75	16.79	23.74	-9.75	0.001%
20	-19.43	-31.65	-0.10	19.43	31.65	0.10	0.001%
21	-19.43	-23.74	-0.10	19.43	23.74	0.10	0.001%
22	-16.83	-31.65	-9.86	16.83	31.65	9.86	0.001%
23	-16.83	-23.74	-9.86	16.83	23.74	9.86	0.001%
24	-9.76	-31.65	-16.97	9.76	31.65	16.97	0.001%
25	-9.76	-23.74	-16.97	9.76	23.74	16.97	0.001%
26	0.00	-49.72	0.00	0.00	49.72	-0.00	0.000%
27	-0.02	-49.72	-5.79	0.02	49.72	5.79	0.000%
28	2.87	-49.72	-5.01	-2.87	49.72	5.01	0.000%
29	4.98	-49.72	-2.89	-4.98	49.72	2.89	0.000%
30	5.76	-49.72	0.01	-5.76	49.72	-0.01	0.000%
31	4.98	-49.72	2.92	-4.98	49.72	-2.92	0.000%
32	2.89	-49.72	5.02	-2.89	49.72	-5.02	0.000%
33	0.02	-49.72	5.80	-0.02	49.72	-5.80	0.000%
34	-2.87	-49.72	5.02	2.87	49.72	-5.02	0.000%
35	-4.99	-49.72	2.89	4.99	49.72	-2.89	0.000%
36	-5.77	-49.72	-0.02	5.77	49.72	0.02	0.000%
37	-4.99	-49.72	-2.91	4.99	49.72	2.91	0.000%
38	-2.89	-49.72	-5.02	2.89	49.72	5.02	0.000%
39	-0.03	-26.38	-4.18	0.03	26.38	4.18	0.001%
40	2.07	-26.38	-3.62	-2.07	26.38	3.62	0.001%
41	3.59	-26.38	-2.08	-3.59	26.38	2.08	0.001%
42	4.15	-26.38	0.01	-4.15	26.38	-0.00	0.018%
43	3.59	-26.38	2.11	-3.59	26.38	-2.11	0.001%
44	2.08	-26.38	3.63	-2.08	26.38	-3.63	0.001%
45	0.02	-26.38	4.19	-0.02	26.38	-4.19	0.001%
46	-2.06	-26.38	3.63	2.06	26.38	-3.63	0.001%
47	-3.59	-26.38	2.09	3.59	26.38	-2.09	0.001%
48	-4.16	-26.38	-0.02	4.16	26.38	0.02	0.001%
49	-3.60	-26.38	-2.11	3.60	26.38	2.11	0.001%
50	-2.09	-26.38	-3.63	2.09	26.38	3.63	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	8	0.00000001	0.00005469
3	Yes	8	0.00000001	0.00004908
4	Yes	8	0.00000001	0.00008325
5	Yes	8	0.00000001	0.00007230
6	Yes	8	0.00000001	0.00012306
7	Yes	8	0.00000001	0.00010724

8	Yes	8	0.00000001	0.00008597
9	Yes	8	0.00000001	0.00007600
10	Yes	8	0.00000001	0.00007995
11	Yes	8	0.00000001	0.00006968
12	Yes	8	0.00000001	0.00011709
13	Yes	8	0.00000001	0.00010197
14	Yes	8	0.00000001	0.00005573
15	Yes	8	0.00000001	0.00004998
16	Yes	8	0.00000001	0.00010071
17	Yes	8	0.00000001	0.00008771
18	Yes	8	0.00000001	0.00007750
19	Yes	8	0.00000001	0.00006756
20	Yes	8	0.00000001	0.00008783
21	Yes	8	0.00000001	0.00007758
22	Yes	8	0.00000001	0.00013408
23	Yes	8	0.00000001	0.00011681
24	Yes	8	0.00000001	0.00007937
25	Yes	8	0.00000001	0.00006890
26	Yes	6	0.00000001	0.00000001
27	Yes	8	0.00000001	0.00013904
28	Yes	8	0.00000001	0.00014103
29	Yes	8	0.00000001	0.00014027
30	Yes	8	0.00000001	0.00013660
31	Yes	8	0.00000001	0.00013819
32	Yes	8	0.00000001	0.00013803
33	Yes	8	0.00000001	0.00013504
34	Yes	8	0.00000001	0.00013705
35	Yes	8	0.00000001	0.00013703
36	Yes	8	0.00000001	0.00013601
37	Yes	8	0.00000001	0.00014024
38	Yes	8	0.00000001	0.00014125
39	Yes	7	0.00000001	0.00007078
40	Yes	7	0.00000001	0.00006927
41	Yes	7	0.00000001	0.00006942
42	Yes	7	0.00000001	0.00012079
43	Yes	7	0.00000001	0.00006914
44	Yes	7	0.00000001	0.00006950
45	Yes	7	0.00000001	0.00007021
46	Yes	7	0.00000001	0.00006893
47	Yes	7	0.00000001	0.00006874
48	Yes	7	0.00000001	0.00007061
49	Yes	7	0.00000001	0.00007002
50	Yes	7	0.00000001	0.00006977

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 87	2.436	50	0.1929	0.0010
L2	91.22 - 42.96	2.082	50	0.1905	0.0009
L3	48.87 - 0	0.646	50	0.1192	0.0003

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
102.00	Lighting Rod 5/8" x 4'	50	2.436	0.1929	0.0010	213086
98.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	50	2.355	0.1926	0.0010	213086
90.00	BXA-171063/8CF w/ Mount Pipe	50	2.034	0.1899	0.0009	103746
83.00	A-ANT-18G-2-C	50	1.759	0.1838	0.0008	57849
80.00	LLPX310R w/ Mount Pipe	50	1.644	0.1802	0.0007	48570

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 87	11.366	24	0.8977	0.0047
L2	91.22 - 42.96	9.721	24	0.8875	0.0041
L3	48.87 - 0	3.018	24	0.5570	0.0013

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
102.00	Lighting Rod 5/8" x 4'	24	11.366	0.8977	0.0047	48197
98.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	24	10.990	0.8964	0.0046	48197
90.00	BXA-171063/8CF w/ Mount Pipe	24	9.494	0.8845	0.0041	23198
83.00	A-ANT-18G-2-C	24	8.212	0.8569	0.0036	12657
80.00	LLPX310R w/ Mount Pipe	24	7.675	0.8403	0.0033	10576

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	100 - 87 (1)	TP33.73x29.78x0.3125	13.00	0.00	0.0	31.874 2	-4.08	2351.64	0.002
L2	87 - 42.96 (2)	TP47.24x31.8228x0.375	48.26	0.00	0.0	53.533 9	-16.37	3779.06	0.004
L3	42.96 - 0 (3)	TP60.43x44.602x0.375	48.87	0.00	0.0	71.480 5	-31.65	4510.50	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{rx} kip-ft	Ratio M _{ux} / φM _{rx}	M _{uy} kip-ft	φM _{ry} kip-ft	Ratio M _{uy} / φM _{ry}
L1	100 - 87 (1)	TP33.73x29.78x0.3125	38.04	1551.11	0.025	0.00	1551.11	0.000
L2	87 - 42.96 (2)	TP47.24x31.8228x0.375	535.44	3493.50	0.153	0.00	3493.50	0.000
L3	42.96 - 0 (3)	TP60.43x44.602x0.375	1367.24	5579.08	0.245	0.00	5579.08	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	100 - 87 (1)	TP33.73x29.78x0.3125	5.41	1175.82	0.005	0.00	3106.01	0.000
L2	87 - 42.96 (2)	TP47.24x31.8228x0.375	14.40	1889.53	0.008	0.96	6995.54	0.000
L3	42.96 - 0 (3)	TP60.43x44.602x0.375	19.58	2255.25	0.009	0.96	11171.83	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 87 (1)	0.002	0.025	0.000	0.005	0.000	0.026	1.000	4.8.2
L2	87 - 42.96 (2)	0.004	0.153	0.000	0.008	0.000	0.158	1.000	4.8.2
L3	42.96 - 0 (3)	0.007	0.245	0.000	0.009	0.000	0.252	1.000	4.8.2

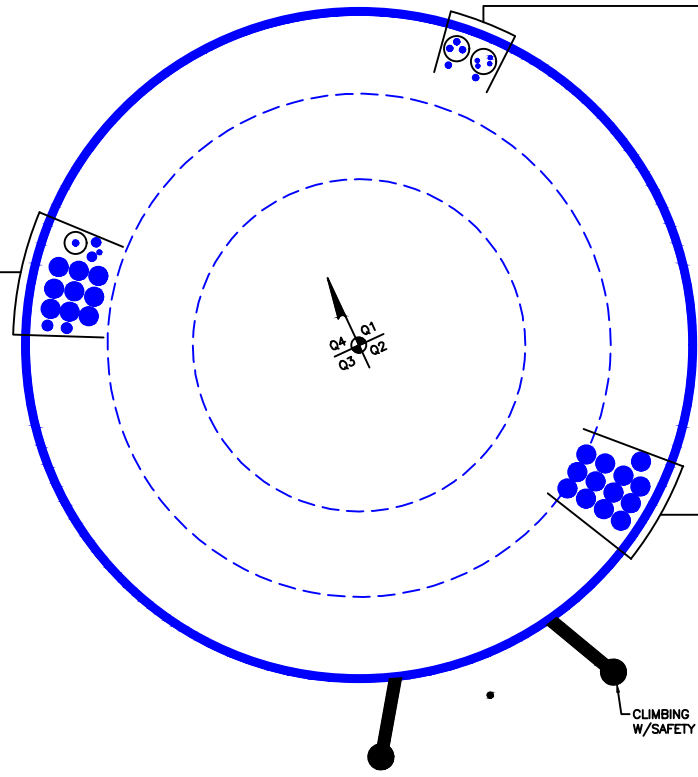
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	100 - 87	Pole	TP33.73x29.78x0.3125	1	-4.08	2351.64	2.6	Pass
L2	87 - 42.96	Pole	TP47.24x31.8228x0.375	2	-16.37	3779.06	15.8	Pass
L3	42.96 - 0	Pole	TP60.43x44.602x0.375	3	-31.65	4510.50	25.2	Pass
Summary								
Pole (L3)							25.2	Pass
RATING =							25.2	Pass

APPENDIX B
BASE LEVEL DRAWING



(INSTALLED-IN CONDUIT)
(1) 1/2" TO 98 FT LEVEL
(INSTALLED)
(1) 3/8" TO 98 FT LEVEL
(2) 3/4" TO 98 FT LEVEL
(2) 7/8" TO 98 FT LEVEL
(9) 1-5/8" TO 98 FT LEVEL



(INSTALLED-IN CONDUIT)
(4) 5/16" TO 80 FT LEVEL
(3) 1/2" TO 80 FT LEVEL
(INSTALLED)
(2) 1/2" TO 80 FT LEVEL

(INSTALLED)
(13) 1 5/8" TO 90 FT LEVEL

CLIMBING PEGS
W/SAFETY CLIMB

APPENDIX C
ADDITIONAL CALCULATIONS

Mapped Pole Dimensions

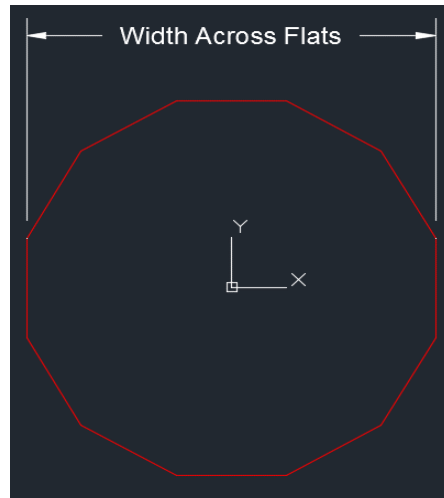
BU #: 842879

Site Name: WOODBRIDGE COUNTRY CLUB

App No.: 410636 - Rev. 0

Dimension Given:	Width Across Flats
Bottom Dimension of Each Section Given?	Yes
Number of Sections:	3

Number of Sides:	18
Width Across Flats at Top (in):	29.78



Dimensions from Mapping			
Section	Mapped Length (ft)	Thickness (in)	Width Across Flats at Bottom of Section (in.)
1	13.00	0.3125	33.73
2	44.04	0.375	47.24
3	42.96	0.375	60.43

tnxTower Geometry Inputs			
Section Length (ft)	Lap Splice Length (ft)	Width Across Flats at Top of Section (in)	Width Across Flats at Bottom of Section (in)
13.00	4.22	29.78	33.73
48.26	5.91	-	47.24
48.87	-	-	60.43

Stiffened or Unstiffened, UngROUTed, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: 842879
Site Name: WOODBRIDGE COUNTRY CLUB
App #: 410636 - Rev. 0
Pole Manufacturer: Other

Anchor Rod Data

Qty:	18	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	68.43	in

Plate Data

Diam:	74.43	in
Thick:	2	in
Grade:	50	ksi
Single-Rod B-eff:	10.66	in

Stiffener Data (Welding at both sides)

Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data

Diam:	60.43	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions

Mu:	1367	ft-kips
Axial, Pu:	32	kips
Shear, Vu:	20	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria: **AISC LRFD** <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/η): 57.2 Kips
 Allowable Axial, Φ*Fu*Anet: 260.0 Kips
 Anchor Rod Stress Ratio: 22.0% **Pass**

Rigid
AISC LRFD
φ*Tn

Base Plate Results

Base Plate Stress: 13.1 ksi
 Allowable Plate Stress: 45.0 ksi
 Base Plate Stress Ratio: 29.1% **Pass**

Flexural Check

Rigid
AISC LRFD
φ*Fy
Y.L. Length:
32.11

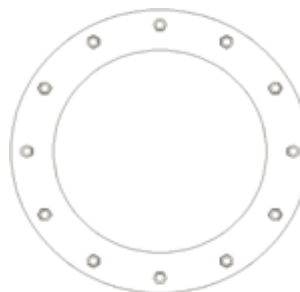
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, fb/Fb+(fv/Fv)^2: n/a
 Plate Tension+Shear, ft/Ft+(fv/Fv)^2: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

FOUNDATION REACTION COMPARISON

BU# 842879
WO# 1471569

REACTIONS	DESIGN REACTIONS	*MODIFIED DESIGN REACTIONS	CURRENT REACTIONS	% CAPACITY
MOMENT (kip-ft)	3770.5	5090.2	1367.0	26.9%
SHEAR (kips)	34.3	46.3	20.0	43.2%

Design loads from: CCIsites Doc #4529500

* Design loads were multiplied by 1.35 for comparison as allowed by TIA-222-G, Section 15.5.

CCISeismic - Design Category

Per 2012/2015 IBC

Site BU: 842879
 Work Order: 1471569
 Application: 410636 Rev. 0



	Degrees	Minutes	Seconds	
Site Latitude =	41	19	39.50	41.3276 degrees
Site Longitude =	-72	59	36.84	-72.9936 degrees
Ground Supported Structure =	Yes			
Structure Class =	II			(Table 2-1)
Site Class =	D - Stiff Soil			(Table 2-11)
Spectral response acceleration short periods, S_s =	0.190			USGS Seismic Tool
Spectral response acceleration 1 s period, S_1 =	0.063			
Importance Factor, I =	1.0			(Table 2-3)
Acceleration-based site coefficient, F_a =	1.6			(Table 2-12)
Velocity-based site coefficient, F_v =	2.4			(Table 2-13)
Design spectral response acceleration short period, S_{DS} =	0.202			(2.7.6)
Design spectral response acceleration 1 s period, S_{D1} =	0.101			(2.7.6)
Seismic Design Category - Short Period Response =	B			ASCE 7-05 Table 11.6-1
Seismic Design Category - 1s Period Response =	B			ASCE 7-05 Table 11.6-2
Worst Case Seismic Design Category =	B			ASCE 7-05 Tables 11.6-1 and 6-2

USGS Design Maps Summary Report

User-Specified Input

Report Title BU# 842879

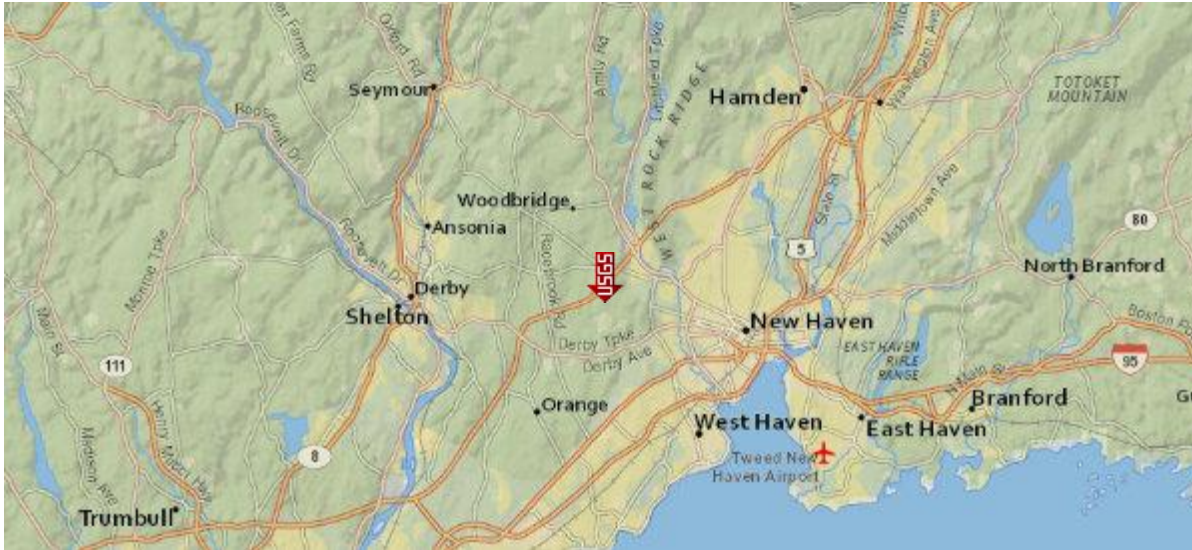
Tue October 10, 2017 20:14:38 UTC

Building Code Reference Document 2012/2015 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 41.3276°N, 72.9936°W

Site Soil Classification Site Class D – “Stiff Soil”

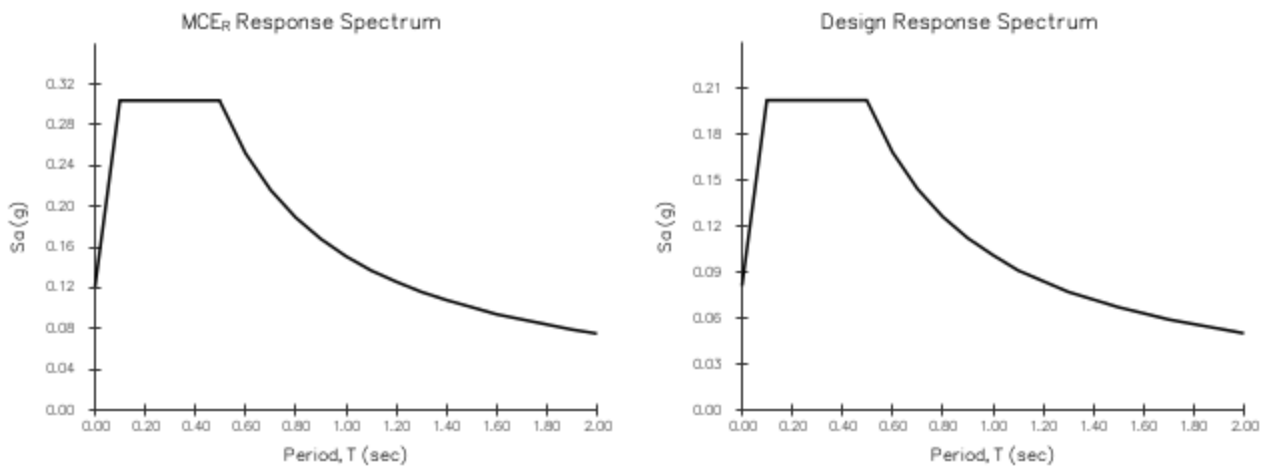
Risk Category I/II/III



USGS-Provided Output

$S_S = 0.190 \text{ g}$	$S_{MS} = 0.304 \text{ g}$	$S_{DS} = 0.202 \text{ g}$
$S_1 = 0.063 \text{ g}$	$S_{M1} = 0.151 \text{ g}$	$S_{D1} = 0.101 \text{ g}$

For information on how the S_S and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the “2009 NEHRP” building code reference document.



Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

Exhibit 4



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5163

Woodbridge Country Club
50 Woodfield Road
Woodbridge, CT 6525

October 26, 2017

Centerline Communications Project Number: 950006-080

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	11.20 %



October 26, 2017

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5163 – Woodbridge Country Club**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **50 Woodfield Road, Woodbridge, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **50 Woodfield Road, Woodbridge, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
UMTS	1900 MHz (PCS)	2	30
GSM	850 MHz	2	30
LTE	700 MHz	2	60
LTE	1900 MHz (PCS)	2	60

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	99
A	2	KMW AM-X-CD-16-65-00T-RET	99
B	1	Powerwave 7770	99
B	2	KMW AM-X-CD-16-65-00T-RET	99
C	1	Powerwave 7770	99
C	2	KMW AM-X-CD-16-65-00T-RET	99

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	6	180	2,969.12	1.76
Antenna A2	KMW AM-X-CD-16-65-00T-RET	700 MHz / 1900 MHz (PCS)	13.35 / 15.25	4	240	6,614.85	3.98
Sector A Composite MPE%							5.74
Antenna B1	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	6	180	2,969.12	1.76
Antenna B2	KMW AM-X-CD-16-65-00T-RET	700 MHz / 1900 MHz (PCS)	13.35 / 15.25	4	240	6,614.85	3.98
Sector B Composite MPE%							5.74
Antenna C1	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	6	180	2,969.12	1.76
Antenna C2	KMW AM-X-CD-16-65-00T-RET	700 MHz / 1900 MHz (PCS)	13.35 / 15.25	4	240	6,614.85	3.98
Sector C Composite MPE%							5.74

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	5.74 %
Clearwire	0.34 %
Verizon Wireless	5.12 %
Site Total MPE %:	11.20 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	5.74 %
AT&T Sector B Total:	5.74 %
AT&T Sector C Total:	5.74 %
Site Total:	11.20 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	99	3.44	850 MHz	567	0.61%
AT&T 1900 MHz (PCS) UMTS	2	656.33	99	5.46	1900 MHz (PCS)	1000	0.55%
AT&T 850 MHz GSM	2	414.12	99	3.44	850 MHz	567	0.61%
AT&T 700 MHz LTE	2	1,297.63	99	10.79	700 MHz	467	2.31%
AT&T 1900 MHz (PCS) LTE	2	2,009.79	99	16.71	1900 MHz (PCS)	1000	1.67%
						Total:	5.74%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	5.74 %
Sector B:	5.74 %
Sector C:	5.74 %
AT&T Maximum Total (per sector):	5.74 %
Site Total:	11.20 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **11.20 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is positioned above the printed name.

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767